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FEB 29 2008

Date: February 29, 2008
Refer To: EP2008-0101

James P. Bearzi
Hazardous Waste Bureau
New Mexico Environment Department
2905 Rodeo Park Drive East, Building 1
Santa Fe, NM 87505 - 6303

Subject: Submittal of the Response to the Notice of Disapproval, Phase II Investigation Report for Material Disposal Area T at Technical Area 21, November 2007

Dear Mr. Bearzi:

Enclosed please find two hard copies with electronic files of the response to the notice of disapproval for the Phase II Investigation Report for Material Disposal Area T at Technical Area 21.

If you have questions, please contact Bruce Wedgeworth at (505) 231-0108 (brucew@lanl.gov) or Woody Woodworth at (505) 665-5820 (lwoodworth@doeal.gov).

Sincerely,

for Susan G. Stiger, Associate Director
Environmental Programs
Los Alamos National Laboratory

Sincerely,

David R. Gregory, Project Director
Department of Energy
Los Alamos Site Office

SS/DG/BW:sm

Enclosure: Two hard copies with electronic files:
1) Response to the Notice of Disapproval for the Phase II Investigation Report for Material Disposal Area T (EP2008-0101)
2) Phase II Investigation Report for Material Disposal Area T, Revision 1 (EP2008-0102)
3) An electronic copy of the redline-strikeout version of the plan that includes all changes and edits to the document
4) Cross-reference table of NMED comments

Cy: (w/enc.)
Bruce Wedgeworth, EP-TA-21, MS C349
RPF, MS M707 (with two CDs)
Public Reading Room, MS M992

Cy: (Letter and CD only)
Laurie King, EPA Region 6, Dallas, TX
Steve Yanicak, NMED-OB, White Rock, NM
Kevin Reid, Terranear-PMC
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Cy: (w/o enc.)
Tom Skibitski, NMED-OB, Santa Fe, NM
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Alison M. Dorries, EP-WES, MS M992
Allan Chaloupka, EP-TA-21, MS C349
Bill Criswell, EP-TA-21, MS C349
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Response to the "Notice of Disapproval for the Phase II Investigation Report for Material Disposal Area (MDA) T at Technical Area (TA) 21, November 2007, Los Alamos National Laboratory EPA ID No: 0890019515, HWB-LANL-07-038," Dated February 29, 2008

INTRODUCTION

To facilitate review of this response, the New Mexico Environment Department's (NMED's) comments are included verbatim. The comments are divided into general and specific categories, as presented in the notice of disapproval. Los Alamos National Laboratory's (LANL's or the Laboratory's) responses follow each NMED comment. This response contains data on radioactive materials, including source, special nuclear, and byproduct material. Information on radioactive materials and radionuclides, including the results of sampling and analysis of radioactive constituents, is voluntarily provided to NMED in accordance with U.S. Department of Energy policy.

GENERAL COMMENTS

NMED Comment

1. *The Permittees proposed, in the approved work plan, to collect subsurface vapor samples at the same depth intervals where samples were collected during previous sampling events in the Phase II Investigation Work Plan (February 15, 2007, LA-UR-07-0930/EP2007-0105). The Permittees did not complete this requirement (e.g., 2005-2006 location ID 21-25263 depth of 79-81 feet versus 2007 sample location 2-603058 depth of 67.5-72.5). The Permittees must provide justification for the differences in sampling depths between sampling events. The Permittees are reminded that subsurface vapor samples must be collected for analysis of Volatile Organic Compounds (VOCs) and tritium using the same methods used in the 2006 sampling events unless prior approval is obtained from NMED. Vapor-monitoring data must continue to be conducted on a quarterly basis to provide a more accurate assessment of vapor-phase contamination at MDA T. The Permittees must submit to NMED periodic monitoring reports within 45 days of completion each of vapor sampling event. The periodic monitoring reports must be prepared in accordance with Section XI.D of the March 1, 2005 Order on Consent (Order).*

LANL Response

1. LANL did complete the requirement to collect subsurface vapor samples at the same depth intervals sampled previously; the sample elevations are the same for borehole locations 21-25263 and 21-603058. The apparent discrepancy arises from the fact that the surface elevation of the replacement borehole is approximately 10 ft lower than the original borehole 21-25263. Text has been added to section 3.6 to explain the different surface elevations of the boreholes. The sample interval was increased to 5 ft. Vapor monitoring will continue as scheduled on a quarterly basis through September 2008. As discussed in the February 22, 2008, meeting with NMED and confirmed by NMED in the August 17, 2007, letter from NMED, the results from the remaining three quarters will be submitted in a single monitoring report 45 d following completion of the last sample round. The schedule also was agreed to in the August 17, 2008, letter. The report will include an analysis of temporal and spatial trends of the four quarters of data collected from the permanent vapor

monitoring wells as well as a comparison to the two rounds of data collected in 2006. At that time, the need for additional quarterly sampling will be evaluated.

NMED Comment

2. *The Phase I Investigation Report (September 2006, LA-UR-06-6506/EP2006-0779) states on page 5 that building 21-257 (SWMU 21-011(a) (Table 2.1-1, September 2006) page 75) "is scheduled for decontamination and decommissioning (D&D) in June 2007." However, this activity is not discussed in the Report. The Permittees must provide documentation that the building was removed. If the building has not been demolished, the Permittees must provide an explanation as to why this information was not included in Section 3.6 of the Report (Deviations).*

LANL Response

2. Decontamination and decommissioning (D&D) of this building is not part of the approved investigation work plan and no report of a deviation is needed. Building 21-257 is still active and D&D has been postponed. The description of the planned D&D of building 21-257 was provided in the report as part of site operational history rather than as an investigation objective.

SPECIFIC COMMENTS

NMED Comment

3. ***Section 3.1, Borehole Abandonment, page 4***

   Permittees' Statement: *"Four boreholes [locations 21-25372, 21-25373, 21-25375, and 21-25376] from the 2005-2006 investigation were to be abandoned. Location 21-25373 was abandoned...[t]he other three boreholes have not been abandoned as of November 15, 2007. Site access issues and operational protocols associated with Consolidated Unit 21-016(a)-99's designation as a NES regulated under 10 CFR 830 prevented the abandonment. These boreholes will be abandoned as soon as operational protocols permit access to the borehole locations."*

   NMED's Comment: *According to Figure 3.2-1 on page 14, the borehole locations are well outside of the NES boundary. The Permittees must properly abandon these wells as previously planned since they are not located within the NES boundary.*

LANL Response

3. The text was incorrect in that the boreholes are not within the nuclear environmental site (NES) boundary but are within the Material Disposal Area (MDA) T nuclear facility boundary. The text has been corrected in section 3.1 and Figure 3.2-1 has been revised to indicate the nuclear facility boundary. Current operational rules and guidelines for work within the nuclear facility require protocols and start-up requirements that are similar to the requirements for work within nuclear environmental site. The boreholes are scheduled to be plugged and abandoned in March or April 2008.

NMED Comment

4. ***Section 3.2, Installation and Sampling of Permanent Vapor-Monitoring Wells, page 5, paragraph 2***

   Permittees' Statement: *"Before sampling, pore gas was purged from each sampling port by pumping; once proper purge of the sampling system was verified, vapor sampling proceeded in accordance with standard operating procedure EP-ERSS-SOP-5074, Sampling for Sub-Atmospheric Air. Subsurface pore-gas samples were collected in SUMMA canisters for VOC analysis and in silica gel samplers for tritium analysis. Sample locations and depths are tabulated in Table 3.2-1."*

   NMED's Comment: *The Permittees reference a Standard Operating Procedure (SOP) in the Report without including a description of the sampling procedures actually used. The Permittees must provide descriptions of the procedures used during sampling. Section IX.A in the Order on Consent (March 1, 2005) specifically states that "[t]he Respondents shall provide a brief description of investigation, sampling or analytical methods and procedures in documents submitted to the Department that includes sufficient detail to evaluate the quality of the acquired data." The Permittees must revise this section to provide adequate descriptions of the methods actually used during the sampling event. In addition, the Permittees must provide detailed vapor monitoring well construction diagrams and the associated boring logs for the newly installed vapor monitoring wells. The boring logs must provide detailed lithologic descriptions of the soils and rock observed during drilling.*

LANL Response

4. Additional text describing the subsurface pore gas SOP has been added to section 3.2. The well construction diagrams (Figures 3.2-2, 3.2-3, and 3.2-4) have been revised to include more details including elevations of sample ports and well construction materials. Borehole logs for locations 21-25262, 21-25263, and 21-25264 have been resubmitted for reference and are included in Appendix A. Boreholes 21-603058 and 21-603059 were moved 40 ft and 35 ft, respectively, and the goal of the replacement boreholes was to install sample ports at identical subsurface elevations as the original boreholes. The two replacement boreholes (21-603058 and 21-603059) were not logged because of their proximity to the original boreholes and text noting this has been added to section 3.6. NMED was notified on October 24, 2007, regarding the replacement boreholes and approved the deviation on October 26, 2007.

NMED Comment

5. ***Section 3.2, Installation and Sampling of Permanent Vapor-Monitoring Wells, page 5, paragraph 2***

   Permittees' Statement: *"One round of pore-gas sampling was collected from all ports in each well, except port 2 at location 21-603059. Port 2 did not produce pore-gas vapor, possibly because the welded formation does not allow the extraction of sub-surface vapor."*

   NMED's Comment: *The Permittees do not explain why Sampling Port 2 was placed at a depth corresponding to a welded interval in the tuff. NMED assumes that the boring log was reviewed prior to construction of the vapor monitoring well and that welded intervals were identified before installation began. Since the Permittees have not abandoned boring 21-25262, both borings must be monitored in the future at all depths corresponding to those sampled during the 2006 sampling events. Based on Table 6.5-2 (page 215) of the Investigation Report for MDA-T (September 2006,*

LA-UR-06-6506), NMED understands port 2 to be at depth 114-116 feet below ground surface (bgs). The Permittees must explain why they were unable to collect a sample at port 2 when two samples were collected at this depth in the 2005-2006 sampling rounds at sample location 21-25262. The Permittees must provide NMED with sufficient justification for not collecting samples from this location when samples were collected previously at that depth.

LANL Response

5. Samples collected previously from this depth were obtained from a different borehole. The 115-ft interval yielded pore gas from the original borehole during Phase I because it was more permeable, possibly because of local features, such as the presence of a fracture within or nearby the sample interval. Several attempts were made to collect a sample from Port #2 (115 ft below ground surface [bgs]) at well 21-603059. As noted in the response to Comment 4, borehole 21-603059 was not logged. Therefore, the borehole log was not reviewed as assumed in the comment. Text has been added to section 3.2 to clarify the sampling process and port placement. The port was surged with nitrogen and suction was applied, but the interval would not yield. The subsurface formation at the replacement location is not permeable enough for the transmission of pore gas.

   As discussed in the February 22, 2008, meeting with NMED, the two rounds of data collected in 2006 show this interval to have similar chemical concentrations as the intervals directly above and below (Port #1 at 80 ft bgs and Port #3 at 190 ft bgs). Using data collected from Port #1 and Port #3, trends and analysis of change in concentrations with depth can still be made without information from Port #2. The need to collect pore-gas data from 115 ft bgs at location 21-25262 will be evaluated following analysis of the four rounds of quarterly data from location 21-603059 and comparison to the first two rounds collected from location 21-25262.

NMED Comment

6. Section 3.4.2, MDA-T Subsurface Vapor Data, Tritium, page 8

Permittees' Statement: *"Tritium activities are substantially lower in the first round of samples collected during the 2007 investigation than in samples collected during the 2005-2006 sampling rounds."*

NMED's Comment: *The Permittees have not provided a rationale for why tritium activities measured in 2007 are significantly lower than the 2005-2006 results. Further, the Report provides no description in Section 3.2 ("Installation and Sampling of Permanent Vapor-Monitoring Wells" page 5) of the type of well the Permittees have installed in the borings. The Permittees did not provide sufficient information to determine whether the reduction in tritium concentrations is the result of the vapor monitoring well installation, a change in the method in which the samples were collected, or a result of some other factor. The as-built diagrams for vapor-monitoring well locations 21-603058, 21-603059, and 21-25264 in Figures 3.2-2 to 3.2-4 (pages 15-17) of the Report indicate that the samples were collected over a larger interval (five feet) than the straddle packer system that isolated a two foot interval within the boreholes (see Phase I Investigation Report for MDA-T, September 2006, LA-UR-06-6506, page 18). Section IX.A in the Order on Consent (March 1, 2005) specifically states that "[t]he Respondents shall provide a brief description of investigation, sampling or analytical methods and procedures in documents submitted to the Department that includes sufficient detail to evaluate the quality of the acquired data" (page 168). The Permittees must revise this section to describe all of the differences between the 2005-2006 sampling events and the November 2007*

sampling event. The description must include an adequate description of all pore-gas sampling methods used during each sampling event.

LANL Response

6. Text summarizing the installation and sampling of the permanent vapor-monitoring wells has been added to section 3.2. Details have also been added to the well completion diagrams (Figures 3.2-2, 3.2-3, and 3.2-4) to provide more information regarding well construction. Use of the permanent ports installed in the vapor-monitoring wells will provide more consistent sampling from event to event than is possible with the packer system. Temporal and spatial trends in data will be addressed in the monitoring report submitted following the collection of the four quarters of pore-gas data. Please note that the requirements of Section IX.A of the Compliance Order on Consent do not apply to radionuclides. As discussed in the February 22 meeting with NMED, MDA A tritium results showed similar variations between 2006 and 2007; in the case of MDA A, the sampling techniques were identical for both rounds. Therefore, we believe different sampling techniques (packer vs. sample port) did not substantially affect analytical results. Further, the inability to obtain a sample from Port #2 in well 21-603059 attests to the ability of the well construction methods to obtain a good annular seal around the sample interval. Therefore, dilution from short-circuiting around the seal is not likely to be the cause of the reduction in tritium activity.

NMED Comment

7. Table 3.4-2, Summary of VOCs Detected in Pore Gas at Consolidate Unit 21-016(a)-99, page 37

NMED's Comment: The information provided in this table is insufficient. The Permittees have included dashes in the table, but did not define the symbol in the table's key. Revise the table accordingly.

LANL Response:

7. A footnote has been added to Table 3.4-2 to define the meaning of the dash.

NMED Comment

8. Table 3.4-2, Summary of VOCs Detected in Pore Gas at Consolidated Unit 21-016(a)-99, page 37

NMED's Comment: *The report indicates that VOCs are present in the subsurface and that concentrations decrease with depth. The soil screening levels for an industrial worker do not include an evaluation of VOC migration to indoor air.*

In reviewing the pore gas data, several volatile organic compounds (VOCs) were detected. It is possible to model pore gas data and evaluate the vapor intrusion pathway for the migration of VOCs from pore gas into buildings. Under an industrial scenario, the vapor migration to indoor air pathway should be identified as a complete exposure route and evaluated using a vapor intrusion model, such as the Johnson and Ettinger model. Unless the Permittees provide additional lines of evidence for determining that the pore gas data are not applicable to the risk assessment as a source for exposure via inhalation, the data should be used in a quantitative evaluation of this pathway. The Permittees must provide an evaluation for vapor intrusion to in the revised Report.

LANL Response

8. The current and reasonably foreseeable future land use for this site is industrial. A comparison was made to TA-54, MDA L, site conditions to address NMED's concern. The concentrations of pore-gas volatile organic compounds (VOCs) detected at MDA T are orders of magnitude lower than those measured at MDA L, which has a well-defined plume (LANL 2006, 091888). The VOCs measured inside buildings at MDA L did not exceed the OSHA permissible explosive levels and the American Conference of Government Industrial Hygienists threshold limit value time-weighted average levels and were in fact orders of magnitude less than these limits. Given the much higher concentrations measured in the pore gas at MDA L, concentrations measured in a building at MDA T are likely to be below these industrial limits. Therefore, an evaluation for vapor intrusion is not necessary. No revisions to the text are needed.

NMED Comment

9. Table 3.4-3, Summary of Tritium Detected in Pore Gas at Consolidate Unit 21-016(a)-99, page 39

NMED's Comment: The information provided in this table is insufficient. It is unclear if the function of Table 3.4-3 is only to identify sample locations or whether other information was omitted. The Permittees must revise the table to indicate all sample locations, depths, and analytical results, including non-detects.

LANL Response

9. Table 3.4-3 has been revised to include all sample numbers and depths collected. Samples with results below detection limit have been noted with a dash.

NMED Comment

10. Table 3.5-1, Summary Statistics, Exposure Point Concentrations, and Calculated Doses for Residential and Recreational Scenarios for the DP Canyon Slope, at Consolidated unit 21-016(a)-99, MDA-T, pages 40-41

NMED's Comment: *The Permittees entitle two columns, "Mean Concentration" and "Screening Level", yet do not provide the units of measure. Revise the table to include the appropriate units of measure.*

LANL Response

10. Table 3.5-1 has been updated to include units of measure for Mean Concentration (pCi/g) and Screening Level (pCi/g). The table previously had incorrect units (mg/kg) for minimum, maximum, mean, standard deviation, and 95% upper confidence level. Because the table only includes radiological results, the labels should have been reported in "activities in picocuries per gram" rather than "concentrations in milligrams per kilogram." The column labels have been corrected. The values in the columns have not changed.

NMED Comment

11. Table 3.5-1, Summary Statistics, Exposure Point Concentrations, and Calculated Doses for Residential and Recreational Scenarios for the DP Canyon Slope, at Consolidated unit 21-016(a)-99, MDA-T, pages 40-41

NMED's Comment: *The Permittees compare the number of samples analyzed from the Phase I IR to that of the Phase II; however, the number of reported analyses is inconsistent. For example, the Permittees have indicated that under residential statistics 58 sampling events were analyzed for plutonium-238 and 87 for plutonium-239/240. Based on a review of the Phase I IR (September 2006), 85 samples were analyzed for plutonium-238 and 87 for plutonium-239/240. The Permittees must explain this discrepancy.*

LANL Response

11. There is no discrepancy; the values that are reported in Table 3.5-1 of the Phase II are correct. The risk analysis presented in the Phase II Report only includes comparisons for the DP Canyon Slope. Table J-2.3-5, " DP Canyon Slope, Residential Scenario COPC Statistics," presented on pages J-39 and J-40 of the Phase I IR (Appendix J), lists the following numbers of analyses for the following chemicals: americium-241(58); plutonium-238 (58), and plutonium-239/240 (56). These values are consistent with the number of analyses reported in Table 3.5-1 of the Phase II Report.

NMED Comment

12. Section 3.6, Deviations, page 9

Permittees' Statement: *"Two of the vapor-monitoring wells were moved outside of the NES boundary*

NMED's Comment: *The Permittees' rationale for drilling two new borehole locations, 21-603058 and 21-603059, to replace borings 21-25262 and 21-25263 is unclear (see Figure 3.2-1, page 14 of the Phase II Investigation Report (IR) (November, 2007)).*

On page 12 of the Phase I Investigation Report for MDA-T (LA-UR-06-6506, September 2006) the Permittees state that boreholes 21-25262, 21-25263, and 21-25264 were, "...drilled to characterize subsurface tritium and VOC pore gas..." This sentence is included in Section 3.1, "Surface and Subsurface Investigation Outside of the Nuclear Environmental Site."

On page 3 of the Permittees "Submittal of the Phase II Investigation Work Plan (IWP) for Consolidated Unit 21-016(a)-99" (LA-UR-07-0930, February 15, 2007), the Permittees propose to abandon borings 21-25263 and 21-25264, rather than clean out the borings by removing residual slough and install a multi-port pore gas monitoring well at location 21-25262. The Permittees rationale was that "location 21-25262 is centrally located with respect to the MDA-T absorption beds and the central axis of DP Mesa..." indicating that there were no access issues with respect to the NES boundary. This document specifically indicates that boreholes 21-25262 and 21-25263 are not located within the NES boundary (Figure 3.2.1).

In NMED's "Approval with Modifications Phase II IWP for Consolidated Unit 21-016(a)-99" dated April 9, 2007, NMED directed the Permittees to "remove the slough from all three pore-gas sampling locations (21-25262, 21-25263, and 21-25264) and install permanent pore-gas monitoring wells" (page 2). The Permittees agreed to do so in

their response, "Submittal of the Response to the Approval with Modifications, Phase II IWP" dated June 22, 2007 (LA-UR-07-3844 (page 2)).

NMED agreed to an October 26, 2007 emailed request from Bruce Wedgeworth of your staff to move borehole locations 21-25262 and 21-25263 "...from within the Solid Waste Management Unit (SWMU) boundaries of MDA-T to outside SWMU boundaries and fence line to assist in getting an immediate start, which is currently not possible because of requirements within nuclear sites." However, this agreement appears to have been based on inaccurate information, since NMED was led to believe that boreholes 21-25262 and 21-25263 were located within the NES boundary. NMED's administrative record indicates otherwise (Report Figure 3.2-1, page 14).

Finally, the earliest figure illustrating the NES boundary at MDA-T dates back to the Permittees June 22, 2005 "Response to the Notice of "Approval with Modifications IWP for MDA-T Solid Waste Management Unit 21-016(a)-99" (LA-UR-05-4548). There is no evidence that the designation of this NES boundary has changed according to the figure in the Report (November 2007).

The Permittees must therefore remove the slough from boreholes 21-25262 and 21-25263, as previously directed by NMED, and continue to conduct quarterly vapor-monitoring for VOCs and tritium at boreholes 21-25262, 21-25263, 21-25264, 21-603058 and 21-603059. The Permittees must submit to NMED periodic monitoring reports within 45 days of completion of each vapor sampling event. The Permittees must prepare the reports in accordance with the applicable procedures included in Section XI.D of the March 1, 2005 Order on Consent.

LANL Response

12. The designation of the NES boundary in previously submitted figures is accurate. As stated in Comment #3, the area outside of the NES, but within the solid waste management unit boundary, is designated as the MDA T nuclear facility. Section 3.1 and Figure 3.2-1 have been revised to note this change. Administrative controls and requirements for work within the MDA T nuclear facility boundary are now the same as those for working within the NES boundary. The work authorization process for work within the MDA T nuclear facility is equivalent to work within the MDA T NES.

    The two new boreholes (21-603059 and 21-603058) are replacements for the boreholes within the MDA T nuclear facility. The replacement boreholes were approved by NMED on October 26, 2007. Boreholes 21-25262 and 21-25263 are scheduled for abandonment in March or April 2008.

    As discussed in Comment #1, the results from the remaining three quarters will be submitted in a single monitoring report 45 d following completion of the last sample round, as confirmed in the August 17, 2007, letter from NMED.

NMED Comment

13. Section 4.0, Conclusions, page 10

Permittees' Statement: *"The 2007 data indicate that the vertical extent of americium-241, plutonium-238, and plutonium-239 on DP Canyon slope is defined...the data also indicate that there has been some redistribution of americium-241, plutonium-238, and plutonium-239 on the DP-Canyon*

slope. There is some potential for the radionuclides to migrate further into DP Canyon. However, as presented in the investigation report for MDA-T, the extent of contamination beyond the toe of the slope into DP Canyon has been defined and presented in the Los Alamos and Pueblo Canyons investigation report."

NMED's Comment: *The Permittees must provide the appropriate information (e.g., sample collection locations, relevant maps, sample analytical results) to support this assertion. Revise the Report to include the appropriate information and specific reference citations.*

LANL Response

13. Page number references for the "Los Alamos and Pueblo Canyon Investigation Report" (LANL 2004, 087390) were omitted. Page numbers and figure references have been included in the text in section 4.0 for clarification. Results from the Los Alamos and Pueblo Canyon investigation report have not been reproduced in this report.

NMED Comment

14. Appendix A, Field Information

NMED's Comment: *Appendix A provides logs for borings 21-01860, 21-01861, 21-01862, 21-02568, 21-02569, 21-25266, and 21-60300. The Appendix does not include logs for borings 21-25264, 21-603058, and 21-603059. The Permittees must provide the logs for these three boreholes. See comment #4.*

LANL Response

14. As stated in Comment #4, borehole logs for locations 21-25262, 21-25263, and 21-25264 were submitted in the 2006 investigation report and have been resubmitted for reference in Appendix A. The two replacement boreholes (21-603058 and 21-603059) were not logged because of their proximity to the existing boreholes. Text noting this has been added to section 3.6.

NMED Comment

15. Section 4.0, Conclusions, page 10

NMED's Comment: *The Permittees must reference concentrations not dose when discussing relative risk. Revise the Report accordingly.*

LANL Response

15. Section 4.0 and Table 3.5-1 have been clarified to indicate that the screening levels and summary statistics are reported in picocuries per gram. The reference for screening levels has also been added to the table. Radiological dose is reported in mrem/year.

REFERENCE

LANL (Los Alamos National Laboratory), April 2004. "Los Alamos and Pueblo Canyons Investigation Report," Los Alamos National Laboratory document LA-UR-04-2714, Los Alamos, New Mexico. (LANL 2004, 087390)

LANL (Los Alamos National Laboratory), March 2006. "Investigation Report for Material Disposal Area L, Solid Waste Management Unit 54-006, at Technical Area 54, Revision 1," Los Alamos National Laboratory document LA-UR-06-1564, Los Alamos, New Mexico. (LANL 2006, 091888)

Cross-Reference of NMED NOD Comments and Revisions to Phase II Investigation Report for Material Disposal Area T at Technical Area 21, Revision 1

NMED Comment No.	Section(s), Table(s), or Figure(s) in Original Report	Page(s) in Original Report	Section(s), Table(s), or Figure(s) in Phase II Investigation Report for MDA T Revision 1	Section(s)/Page(s) in Revised Report 1	Nature of Revision
General Comments					
1	General Comment	All	Sections 3.2 and 3.6	pp. 5, 10	Text has been added to sections 3.2 and 3.6 to explain monitoring well construction and the different surface elevations of the boreholes.
2	General Comment	All	Not applicable	Not applicable	No revision was made.
Specific Comments					
3	Section 3.1	p. 4	Section 3.1, and Figure 3.2-1	pp. 4, 15	The text has been corrected in section 3.1, and Figure 3.2-1 has been revised to note the nuclear facility boundary.
4	Section 3.2	p. 5	Section 3.2; Section 3.6; Figures 3.2-2, 3.2-3, 3.2-4, and Appendix A	pp. 5–6, 10, 16, 17, 18, and Appendix A	Additional text describing the subsurface pore-gas SOP has been added to section 3.2. The well construction diagrams (Figures 3.2-2, 3.2-3, and 3.2-4) have been revised to include more details including elevations of sample ports and well construction materials. Borehole logs for locations 21-25262, 21-25263, and 21-25264 have been resubmitted for reference in Appendix A. The omitted boring logs for the replacement wells are noted in section 3.6.
5	Section 3.2	p. 5	Section 3.2	p. 5–6	Text has been added to section 3.2 to clarify the sampling process.
6	Section 3.4-2	p. 8	Section 3.2, p. 5, Figures 3.2-2, 3.2-3, and 3.2-4	pp. 5, 16, 17, and 18	Text summarizing the installation and sampling of the permanent vapor-monitoring wells has been added to section 3.2. Details have also been added to the well completion diagrams (Figures 3.2-2, 3.2-3, and 3.2-4) to provide more information regarding well construction.
7	Table 3.4-2	p. 37	Table 3.4-2	p. 37	A footnote has been added to Table 3.4-2 that defines the meaning of the dash.
8	Table 3.4-2	p. 37	Section 2.1	p. 2	A brief description of current land use has been added to section 2.1.
9	Table 3.4-3	p. 39	Table 3.4-3	p. 40	Table 3.4-3 has been revised to include all sample numbers and depths collected.

NMED Comment No.	Section(s), Table(s), or Figure(s) in Original Report	Page(s) in Original Report	Section(s), Table(s), or Figure(s) in Phase II Investigation Report for MDA T Revision 1	Section(s)/Page(s) in Revised Report 1	Nature of Revision
10	Table 3.5-1	pp. 40–41	Table 3.5-1	pp. 41–42	Table 3.5-1 has been updated to include units of measure for Mean Concentration (pCi/g) and Screening Level (pCi/g).
11	Table 3.5-1	pp. 40–41	Not applicable	Not applicable	No revision was made.
12	Section 3.6	p. 9	Section 3.1, 3.6, and Figure 3.2-1	pp. 4, 10, and 15	The text has been corrected in section 3.1, and Figure 3.2-1 has been revised to note the nuclear facility boundary. Text has been added to section 3.6 to further clarify the deviation.
13	Section 4.0	p. 10	Section 4.0	p. 11	Page numbers that include figure references have been included in the text in section 4.0 for clarification.
14	Appendix A	Appendix A	Section 3.6; Appendix A.	p. 10, Appendix A	Borehole logs for locations 21-25262, 21-25263, and 21-25264 were resubmitted in Appendix A. Text noting this has been added to section 3.6.
15	Section 4.0	p. 10	Section 4.0, Table 3.5-1	pp. 11, 41–42	Section 4.0 and Table 3.5-1 have been clarified to indicate that the screening levels and summary statistics are reported in picocuries per gram.

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Phase II Investigation Report for Material Disposal Area T at Technical Area 21, Revision 1

Los Alamos
NATIONAL LABORATORY
EST. 1943

Prepared by the Environmental Programs Directorate

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Phase II Investigation Report for Material Disposal Area T at Technical Area 21, Revision 1

February 2008

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EXECUTIVE SUMMARY

This Phase II investigation report presents results from the 2007 environmental investigation of Consolidated Unit 21-016(a)-99, also known as Material Disposal Area (MDA) T, within Technical Area (TA) 21 at Los Alamos National Laboratory. The 2007 investigation of MDA T was conducted as a follow-on to the 2005–2006 implementation of the approved investigation work plan. Specific requirements for the investigation were defined in the approved Phase II investigation work plan and subsequent modifications.

The four objectives of the 2007 investigation were to: (1) continue characterization of tritium and volatile organic compound (VOC) vapors beneath MDA T; (2) define the vertical extent of americium-241, plutonium-238, and plutonium-239 at locations on the Delta Prime (DP) Canyon slope; (3) assess if americium-241, plutonium-238, and plutonium-239 activities in surface soils have been impacted by recent storm runoff and the December 2006 water main leaks at TA-21; and (4) acquire nitrate and supplemental perchlorate data on the DP Canyon slope.

The 2007 field activities included borehole abandonment, installation and sampling of three permanent vapor-monitoring wells, and collection of soil samples from 11 locations on the DP Canyon slope. Results from the DP Canyon slope were used to update the calculated radiological dose for the DP Canyon slope under the recreational user scenario.

Pore-gas results from the first round of quarterly sampling confirm low concentrations of VOCs and low activities of tritium. Three additional quarters of pore-gas monitoring data will be collected in accordance with the approved vapor-monitoring plan. Nature and extent of pore gas will be comprehensively evaluated and presented in a report following completion of planned vapor-monitoring activities.

The DP Canyon slope data indicate the nature and extent of americium-241, plutonium-238, and plutonium-239 have been defined. The 2007 surface-soil activities are less than the surface-soil samples collected from 1992 to 2006, which indicates there has been some redistribution of americium-241, plutonium-238, and plutonium-239 on the DP Canyon slope. Because of the lower activities detected during the 2007 investigation, the exposure point concentrations and associated dose for each radionuclide under the recreational scenario are lower than previously presented in the 2006 investigation report for MDA T. The nature and extent of nitrate and perchlorate have been fully investigated and defined.

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Appendix A Field Information

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Appendix C Waste Management

Acronyms and Abbreviations

AOC	area of concern
COPC	contaminant of potential concern
DOE	Department of Energy [U.S.]
DP	Delta Prime
EPC	exposure point concentration
IDW	investigation-derived waste
LANL	Los Alamos National Laboratory
MDA	material disposal area
NES	nuclear environmental site
NMED	New Mexico Environment Department
QC	quality assurance
RCRA	Resource Conservation and Recovery Act
RFI	RCRA facility investigation
RPF	Records Processing Facility
RWSA	retrievable waste storage area
SWMU	solid waste management unit
TA	technical area
UCL	upper confidence limit
VOC	volatile organic compound
WCSF	waste characterization strategy form
WPF	waste profile form

1.0 INTRODUCTION

This Phase II investigation report presents results from the 2007 environmental investigation of Consolidated Unit 21-016(a)-99, also known as Material Disposal Area (MDA) T, within Technical Area (TA) 21 at Los Alamos National Laboratory (LANL or the Laboratory).

As a result of its operational history, Consolidated Unit 21-016(a)-99 contains both radioactive and hazardous components. The site includes four absorption beds that received treated radioactive liquid waste, 64 buried shafts used for the disposal of cement-treated radioactive mixtures, and the Retrievable waste storage area (RWSA) used for the storage of cement-treated radioactive mixtures. The site also includes two industrial wastewater treatment plants and associated subsurface piping and structures. Information on radioactive materials and radionuclides, including the results of sampling and analysis of radioactive constituents, is voluntarily provided to the New Mexico Environment Department (NMED) in accordance with U. S. Department of Energy (DOE) policy.

The 2007 investigation of Consolidated Unit 21-016(a)-99 was conducted as a follow-on to the 2005–2006 implementation of the approved investigation work plan (LANL 2004, 085641; LANL 2004, 088721), in accordance with the specific requirements for the investigation defined in the approved Phase II investigation work plan (LANL 2007, 095131; NMED 2007, 095725) and subsequent modifications (LANL 2007, 098944; NMED 2007, 098946).

The four objectives of the 2007 investigation were to (1) continue characterization of tritium and volatile organic compound (VOC) vapors beneath MDA T; (2) define the vertical extent of americium-241, plutonium-238, and plutonium-239 at locations on the Delta Prime (DP) Canyon slope where activities increased with depth as identified during previous investigation; (3) assess whether americium-241, plutonium-238, and plutonium-239 activities in surface soil have been impacted by recent storm runoff and the December 2006 water main leaks at TA-21; and (4) acquire nitrate and supplemental perchlorate data on the DP Canyon slope. The 2007 field activities included borehole abandonment, installation and sampling of three permanent vapor-monitoring wells, and collection of soil and tuff samples on the DP Canyon slope.

This report is presented in five sections with three supporting appendixes. Section 1 is the introduction. Section 2 summarizes MDA T operational history. Section 3 describes in detail the field activities conducted during the 2007 investigation; provides an overview of the latest round of vapor data for MDA T; presents a review of the 2007 DP Canyon slope data and an updated evaluation of the nature and extent of radionuclides on the DP Canyon slope; and updates the calculated radiological dose for the DP Canyon slope. Conclusions based on previous and new data are presented in section 4. Section 5 cites all references supporting this report. Appendix A includes field documentation, Appendix B analytical results, and Appendix C waste management.

2.0 SITE HISTORY

Consolidated Unit 21-016(a)-99 is a fenced area located within TA-21 on DP Mesa, east of buildings 21-286 and 21-228; west of MDA A; north of buildings 21-005, 21-150, and 21-361; and south of North Perimeter Road (Figure 2.0-1). The site is slightly larger than 2 acres and is vegetated with grasses, chamisa bushes, and two young ponderosa pines. The following subsections provide a condensed review of Consolidated Unit 21-016(a)-99, its historical operations, and investigation activities conducted at the site. A comprehensive review of the site history and facility investigations are presented in the MDA T investigation report (LANL 2006, 094151).

2.1 Operational History

Consolidated Unit 21-016(a)-99 includes the following 25 solid waste management units (SWMUs) and areas of concern (AOCs): SWMUs 21-007; 21-010(a-h); 21-011(a, c, d, e, f, g, i, j); 21-016(a, b, c); and AOCs 21-001, 21-011(h), 21-028(a), C-21-009, and C-21-012. All of the sites were associated with decommissioned radioactive liquid waste treatment facilities and various storage areas. Detailed descriptions of the SWMUs and AOCs that comprise 21-016(a)-99 are presented in the MDA T investigation report (LANL 2006, 094151).

The operational history of Consolidated Unit 21-016(a)-99 is complex, beginning with waste disposal in 1945 and continuing through the backfilling and grading of the site in 1986. Operational discharges of industrial wastewater from the plutonium processing facility to the absorption beds [SWMU 21-016(a)] began in 1945 and stopped in 1950. An industrial wastewater treatment plant (building 21-035) was constructed in 1952 to remove plutonium and other radionuclides from the liquid waste and to improve the absorption characteristics of the wastewater. The industrial liquid waste treatment facility operated from 1952 to 1967, when it was decontaminated and decommissioned. From 1964 to 1967 and again from 1970 to 1972, high-efficiency particulate air filter-equipped mobile incinerators (the salamanders) were in operation. The incinerators burned contaminated tricresyl phosphate or tributyl phosphate mixed with kerosene waste oil. In 1967, the new wastewater treatment plant (building 21-257) [SWMU 21-011(a)] was completed, replacing building 21-035.

The disposal shafts [SWMU 21-016(c)] were installed between 1968 and 1974. The shafts received treated liquid wastes, some contaminated with americium-241, mixed with cement. Five of the shafts have bathyspheres that contain plutonium-239/240 and other mixed fission products. In addition, some shafts received unspecified volumes of wash water. Once the shafts were filled with the waste cement mixture, they were capped.

In 1974, the RWSA was constructed to store cement-treated transuranic waste temporarily in corrugated metal pipes. Treated wastes from building 21-257 containing plutonium-239/240 and americium-241 were mixed with cement and pumped into the pipes. The pipes were stored on end in the RWSA and were subsequently removed and taken to TA-54 from 1984 to 1986.

The area of the absorption beds, disposal shafts, and RWSA was backfilled with clean fill and the site was graded to drain toward the north. No waste disposal activities took place at Consolidated Unit 21-016(a)-99 after 1986.

Land use at MDA T is anticipated to remain industrial. Building 21-257 is still active on a minimal basis.

2.2 Historical Releases and Discharges

Approximately 18.3 million gallons of wastewater were discharged to the Consolidated Unit 21-016(a)-99 absorption beds between 1945 and 1967.

The tanks and other liquid-holding facilities at building 21-035 had no secondary containment, and the floor sumps and drains were unlined concrete. Leaks may have occurred at joints in buried cast iron and stainless-steel pipes. Although the external tanks at building 21-257 have secondary containment, some of the containment structures include floor drains that extend to the surrounding site grade. No data is available to indicate whether the sludge produced by these two treatment facilities was radioactive. Spills of unknown quantity were reported to have occurred during tanker-truck transfer operations in the americium unloading area (Sagez 2003, 076090).

The RWSA also had operational spills and leaks of unknown quantity. Spills, leaks, and releases were reportedly cleaned up at the time(LANL 1996, 070348, p. 1). Undetected leaks may also have occurred.

Airborne releases from the mobile incinerators were less than releases from stacks at the DP West plutonium processing facility. Building 21-012 released several curies annually of airborne particulate into the atmosphere, and Consolidated Unit 21-016(a)-99 is within the projected deposition area.

2.3 Historical Investigations

The MDA T investigation report provides a comprehensive review of the previous investigations conducted at MDA T (LANL 2006, 094151).

2.3.1 Pre–Resource Conservation and Recovery Act (RCRA) Facility Investigations (RFIs)

Field sampling investigations to characterize the extent and sources of contamination at Consolidated Unit 21-016(a)-99 began in 1946. These investigations included field instrument surveys for alpha and gamma emitters; radioassay for uranium, plutonium, and polonium; and analysis for fluorine.

The first characterization effort for the absorption beds was conducted in 1953 by the U.S. Geological Survey. The results of the study indicated that no appreciable horizontal migration of contamination had occurred and that plutonium had moved vertically to a depth of 20 ft (Rogers 1977, 005707, p. T-19).

From 1959 to 1961, the U.S. Army Corps of Engineers conducted a detailed study of contaminant migration at the absorption beds. A test pit (caisson) was excavated adjacent to absorption bed 1, sidewalls were logged, soil and rock samples were obtained, and instrumentation was installed to sample matrix saturation. Six angled boreholes were drilled under absorption bed 1 (Rogers 1977, 005707, p. T-19).

In 1967, additional borings were drilled at the absorption beds to collect samples for radioassay. Water samples were obtained from the caisson installed in 1959 and from two DP Canyon test holes. The study compared moisture migration with that reported in the previous study. Maximum concentrations of moisture had moved from a depth of 12 ft in 1961 to 40 ft in 1967. Most of the plutonium in the tuff was retained in the upper 20 ft (Purtymun 1967, 001009).

In 1974, additional boreholes were drilled before the excavation of the RWSA. These boreholes encountered paleochannel deposits at depths of 15 ft to 25 ft. Radioassay results from core samples indicated the presence of tritium, plutonium, americium, and cesium (Rogers 1977, 005707, p. T-28).

In 1978, moisture migration was studied in two borings. An inventory of plutonium and americium-241 was obtained during volumetric analysis of core from the boreholes. The distribution of plutonium and moisture was compared with values obtained in 1953 and 1960. Plutonium was detected at a maximum depth of 99.5 ft and americium-241 was detected at 101 ft (Nyhan et al. 1984, 058906).

Shallow soil was sampled and analyzed for radionuclides in 1984 and 1986. The results indicated that low levels of tritium, plutonium-238, plutonium-239, and americium-241 were present across the entire site area and into DP Canyon (Nyhan and Drennon 1993, 023248, p. 3-51).

2.3.2 RFI Investigations

1992 to 1994

The first RFI activity at Consolidated Unit 21-016(a)-99 was a field investigation conducted in 1992 (LANL 1995, 052350, p. 2-1). The investigation included near-surface sampling to evaluate site wide airborne

stack emissions. Surface and shallow-subsurface samples were collected and analyzed for organic chemicals, inorganic chemicals, and radionuclides, including tritium, plutonium-238, plutonium-239, and americium-241. The results indicated widespread presence of radionuclides at low specific activities.

Surface sampling was performed in 1993 and 1994 at areas requiring additional contaminant characterization, including the small drainage into DP Canyon (LANL 1996, 070348). The results of this campaign were presented in an RFI report (LANL 1996, 070348).

1996 to 1997

An investigation was conducted in 1996–1997 to further define the nature and extent of subsurface contamination resulting from past waste disposal practices at Consolidated Unit 21-016(a)-99. The investigation sought to define both the lateral extent of absorption bed contamination and the physical limit of the paleochannel. The 1996–1997 borehole samples were analyzed for target analyte list metals and radionuclides. Organic chemical analyses were also performed to detect the presence of VOCs and semivolatile organic compounds (SVOCs) in tuff. Inorganic chemicals were detected above background. Radionuclides including plutonium-238, plutonium-239, americium-241, strontium-90, cesium-137, uranium-234, uranium-235, and uranium-238 were detected or detected above background in and around the absorption beds (LANL 2004, 085641, p. 12).

2005 to 2006

An investigation was conducted in 2005 and 2006 to complete the characterization of the nature and extent of contamination from Consolidated Unit 21-016(a)-99 (MDA T) and to support the future corrective measures evaluations for the site. The investigation was conducted in accordance with the approved investigation work plan (LANL 2004, 085641; LANL 2004, 088721). The results of the 2005–2006 investigation were presented in the investigation report (LANL 2006, 094151).

3.0 CURRENT ACTIVITIES AT MDA T

This section describes the field activities conducted during the 2007 investigation including borehole abandonment, the installation and sampling of permanent vapor-monitoring wells surrounding MDA T, and drilling and sample collection on the DP Canyon slope. These activities are prescribed in the MDA T Phase II Work Plan (LANL 2007, 095131; NMED 2007, 095725) and subsequent modifications (LANL 2007, 098944; NMED 2007, 098946).

This section presents the 2007 investigation solid media and pore gas data, and discusses updated site dose and associated calculations for radionuclides on the DP Canyon slope. Deviations from planned implementation requirements are also presented in this section.

3.1 Borehole Abandonment

Four boreholes [locations 21-25372 (279 ft), 21-25373 (279 ft), 21-25375 (280 ft), and 21-25376 (283 ft)] from the 2005–2006 investigation were to be abandoned. Location 21-25373 was abandoned. The borehole was redrilled to the original total depth to clear all slough from the borehole and a portland-bentonite grout was tremmied from the total depth to the top of the borehole in accordance with the approved work plan (LANL 2007, 095131; NMED 2007, 095725). The other three boreholes have not been abandoned as of November 15, 2007. Site access issues and operational protocols associated with the designation of Consolidated Unit 21-016(a)-99's as a nuclear facility regulated under 10 CFR 830 prevented the abandonment. These boreholes will be abandoned as soon as operational protocols permit access to the borehole locations.

3.2 Installation and Sampling of Permanent Vapor-monitoring Wells

Permanent vapor-monitoring wells were installed at locations 21-603058 (in place of location 21-25263), 21-603059 (in place of location 21-25262), and 21-25264 (Figure 3.2-1)(Goering 2007, 098861). Because of access issues associated with the site's designation as a nuclear facility, two previously drilled boreholes (locations 21-25262 and 21-25263) could not be reoccupied for completion as vapor wells. Two new locations were selected as replacements and have been assigned new location ID numbers. These boreholes were drilled to the planned total depth without sampling. The third location was recompleted to the original total depth to remove slough from the borehole. A multiport sample system was installed and sampled from October 15 to November 5, 2007. Each well was equipped with multiple sampling ports for pore-gas monitoring. The number of sample ports and sample port elevations above mean sea level were identical to those previously sampled in 2006, i.e., six ports at 21-603059 (in place of location 21-25262), five ports at 21-603058 (in place of location 21-25263), and five ports at 21-25264 (Table 3.2-1). The sample tubing is ¼-in. stainless-steel tubing connected with Swagelok fittings. The 5-ft sampling intervals were filled with 10/20 silica sand. Bentonite chips were tremied into the borehole and hydrated to isolate the sampling intervals. A flush-mount surface completion was installed to protect the well and sample ports. The top tubing of each sample port is capped with an end cap to protect the sample tubing when not in use. As-built diagrams for each vapor-monitoring well are shown in Figures 3.2-2, 3.2-3, and 3.2-4.

One round of pore-gas sampling was collected from all ports in each well, except Port #2 at location 21-603059. Several attempts were made to collect a sample from Port #2 (115 ft bgs). The port was surged with nitrogen and suction was applied. In each attempt, the interval did not allow infiltration or extraction of air. The formation at the new replacement location is not permeable enough for transmission of pore gas. The interval from the original borehole during Phase I may have yielded pore gas because of the presence of a joint or fracture within or nearby the sample interval. This depth corresponds to the cooling unit contact between Bandelier Tuff unit 3 and unit 2. Unit 2 is very densely welded and the intent was to place the port above the densely welded contact. However, it is possible the sample interval of the port is within a welded portion of the tuff, thus making it difficult to yield pore gas.

Vapor was sampled at boreholes 21-603059, 21-603058, and 21-25264 in accordance with LANL-ER-SOP 5074. Samples were analyzed for VOCs and tritium. LANL-ER-SOP 5074 describes the process of sampling subatmospheric air from monitoring wells and boreholes. The procedure covers presampling activities, SUMMA sampling (a passive collection and containment system of laboratory-quality air samples), adsorbent column sampling, packer system sampling, direct port sampling, and postsampling activities.

Samples were collected through permanent sample ports installed in accordance with the approved vapor-monitoring plan for MDA T (LANL 2007, 098944; NMED 2007, 098946). Tritium samples were obtained by pulling subsurface air through a desiccant column filled with degassed silica gel. Moisture in the subsurface air absorbs to the desiccant as it passes through the column. Each desiccant column is connected to an individual pump powered by a 12-volt solar panel trailer with deep cycle battery backup. Columns were arranged in a manifold constructed to allow for up to 10 simultaneous tritium samples. In this manner, multiple ports can be sampled over the same time interval. Columns were allowed to collect soil moisture over a 12–24 h period to obtain the minimum 5 g needed for analysis. The desiccant columns are analyzed for tritium according to EPA Method 906.0.

Samples for volatiles were collected using evacuated SUMMA canisters. Before sampling, each depth interval was purged until measurements of carbon dioxide and oxygen were stable and representative of subsurface conditions. Carbon dioxide and oxygen concentrations are measured using a Landtec gas extraction monitor. Before the SUMMA canister is opened to the subsurface air, a vacuum gauge is used

to verify the canister is under negative pressure. The valve is opened and subsurface air is pulled into the SUMMA canister. The vacuum gauge is monitored to determine when the canister has been completely filled with subsurface air. Subsurface pore-gas samples collected in SUMMA canisters are then submitted for VOC analysis according to EPA Method TO-15.

Sample locations and depths are tabulated in Table 3.2-1.

3.3 DP Canyon Slope Sampling Activities

A total of 11 locations on DP Canyon slope were sampled on October 13 and 14, 2007. Four locations were sampled using a hand auger and seven locations were sampled using a hollow-stem auger-drilling rig (Figure 3.3-1). All samples were analyzed for americium-241, plutonium-238, plutonium-239/240, nitrate, and perchlorate.

Six locations (21-25266, 21-02568, 21-01861, 21-01860, 21-01862, and 21-02569) where americium or plutonium activities increased with sampling depth during previous investigations were resampled during the 2007 investigation. The three locations (21-25274, 21-25272, 21-01642) previously exhibiting the highest surface concentrations of plutonium-239 were also resampled. Finally, two new locations (21-603000 and 21-603001) were selected based on field geomorphic evidence of recent sediment deposition and sampled.

At a minimum, two depths were sampled at each location, one at the surface (generally 0.0 to 0.5 ft) and the second at a minimum of 1 ft into bedrock. In addition, samples were collected from the soil/tuff interface at most locations; however, tuff was exposed at the ground surface at some locations and only surface and 1-ft-into-bedrock samples were collected. Where the soil horizon was much thicker (typically near the toe of the DP Canyon slope) samples were collected at 5-ft intervals through the soil horizon until bedrock was encountered. Sample locations and depths are tabulated in Table 3.2-1.

Locations on the lower section of the DP Canyon slope were sampled using a hollow-stem auger drilling rig. Locations 21-02568 (0.0 to 15.0 ft), 21-02569 (0.0 to 13.0 ft), 21-01860 (0.0 to15.0ft), and 21-01861 (0.0 to 15 ft) were drilled and sampled as planned on October 13, 2007. Locations 21-25266 (0.0 to 14.0 ft), 21-01862 (0.0 to 8.5 ft), and 21-603000 (0.0 to10.0) were drilled and sampled as planned on October 14, 2007.

Continuous core was recovered at each borehole location to collect subsurface environmental screening samples and for off-site analyses. The recovered cores were inspected visually for fractures, staining/discoloration, moisture content, and lithologically logged; borehole logs are presented in Appendix A. Where fracturing was encountered in the recovered core, a detailed physical description of the fracture-fill material and rock matrix was included in the lithologic logs.

Hand auger sampling was completed on October 14, 2007, on the upper portion of the DP Canyon slope at locations 21-6030001 (0.0 to 3.0 ft), 21-25274 (0.0 to 3.0 ft), 21-01642 (0.0 to 2.0 ft), and 21-25272 (0.0 to 4.0 ft). Sampling material was recovered at each hand auger location for subsurface environmental screening samples and off-site analyses.

Rinsate blanks on all drilling and hand auger sampling equipment and field duplicates were collected at a frequency of 10%.

All samples collected were field screened for VOCs and radioactivity for health and safety purposes before collection. VOC screening was performed using a photoionization detector (PID) equipped with an 11.7-eV bulb. Radiological field screening was conducted using an Eberline E600 with a 380AB probe by LANL radiation protection personnel. VOCs were not detected in any of the head-space field-screening

samples; all radiological measurements were less than background. The field-screening results were recorded on the borehole logs and sample collection logs; sample collection logs are also presented in Appendix A.

3.4 Data Review for Solid Media and Vapor

The following sections present the 2007 investigation data for the DP Canyon slope and Consolidated Unit 21-016(a)-99. The sections include updated discussions of the nature and extent of inorganic chemicals and radionuclides in solid media on the DP Canyon slope and a general comparison of the 2007 tritium and VOC vapor data with previous data for the subsurface beneath MDA T. Data are presented in Appendix B, which is on the CD included with this document.

3.4.1 DP Canyon Slope Solid Media Data

Inorganic Chemicals

Table 3.4-1 summarizes the perchlorate and nitrate analytical results for all samples collected during the 2007 investigation. Figure 3.4-1 depicts the spatial distribution of detected inorganic chemicals on the DP Canyon slope.

Perchlorate was not detected in any of the DP Canyon slope samples. The nature and extent of perchlorate is defined.

The highest concentration of nitrate (1.2 mg/kg) occurred in a surface soil sample (collected from a depth of 0.0 to 0.8 ft) at location 21-01861. Nitrate was not detected in deeper samples at this location. Nitrate was detected at lower concentrations in two other samples and was not detected in any of the other DP Canyon slope samples. The nature and extent of nitrate are defined.

Radionuclides

Samples were collected from multiple depths at all locations to define the vertical extent of americium-241, plutonium-238, and plutonium-239/240. Table 3.4-1 summarizes the solid media analytical results in samples collected during the 2007 investigation. Figure 3.4-1 depicts the spatial distribution of americium-241, plutonium-238, and plutonium-239/240 on the DP Canyon slope. In addition, Figures 3.4-2, 3.4-3, 3.4-4, and 3.4-5 depict radionuclide activity-with-depth profiles and comparisons between previous and 2007 data for all 2007 sampling locations.

The data show decreasing activities with depth for all three radionuclides at all locations, with a single exception. At location 21-25272 the 2007 plutonium-238 and plutonium-239 activities increase with depth. Plutonium-239 activities increase from 0.06 pCi/g in the surface to 8.9 pCi/g in the 3.5 to 4.0-ft interval; plutonium-238 activities increase from 0.26 to 1.27 pCi/g. This sample location is located at the base of the DP Canyon slope and could not be accessed with the drill rig. The samples were collected using a hand auger. The hand auger could only advance ~4 ft into unweathered tuff. The surface soil data collected at this location (16-25272) during earlier investigations are greater than the 2007 results. The plutonium-239 activity was 17.6 pCi/g in the surface soil and 13.1 pCi/g in the 0.5- to 1.0-ft interval; the plutonium-238 activity was 9.1 pCi/g in the surface soil and 3.8 pCi/g in the 0.5- to 1.0-ft interval (LANL 2006, 094151). Considering the earlier data and the 2007 data collectively, plutonium-238 and plutonium-239 activities decrease with depth. Adjacent locations 21-02568 and 21-603000 were sampled to 10 ft and 13.5 ft below ground surface (bgs) and reported decreasing trends approaching zero at the total depth. The nature and extent of americium-241, plutonium-238, and plutonium-239 on the DP Canyon slope are defined.

Locations 21-01642, 21-25274, and 21-25272 (previous investigation locations with the three highest plutonium-239 activities in surface soil) were re-sampled during the 2007 investigation to assess the impact of storm runoff and the water main leak on the distribution of americium-241, plutonium-238, and plutonium-239 on the DP Canyon slope. Two new locations (21-603000 and 21-603001) were also sampled to support the assessment.

Activities at nearly all locations are lower in the 2007 data than in the earlier data (see Figures 3.4-2, 3.4-3, 3.4-4, and 3.4-5). For example, at location 21-25272, the 2005–2006 plutonium-239 activity was 17.6 pCi/g compared with 0.60 pCi/g in 2007; americium-241 and plutonium-238 activities are similarly lower in the 2007 data. At location 21-01642, the plutonium-239 activity was 28.5 pCi/g; the 2007 plutonium-239 activity is 5.39 pCi/g.

At two locations (21-02569 and 21-603001), 2007 investigation results for all three radionuclides did not vary significantly from the earlier results. Location 21-01636 (sampled only in an earlier investigation) is very close to new location 21-603001. The plutonium-239 activity at this location was 4.45 pCi/g and the plutonium-239 activity at 21-603001 in the 2007 data is 4.79 pCi/g; activities for the other two radionuclides in the earlier data are similarly close to the 2007 results (LANL 2006, 094151).

Plutonium-239 activities were higher in the 2007 data than in the earlier data for samples collected from two locations. At new sampling location 21-603000, the 2007 plutonium-239 activity is 10.83 pCi/g. Three locations (21-02568, 21-25271, and 21-25270) sampled previously are located near 21-603000 in the middle section of the DP Canyon slope. The plutonium-239 activities at these locations were all approximately 5 pCi/g. Finally, at the toe of the DP Canyon slope, the plutonium-239 activity increased from 6.26 pCi/g at location 21-25266 to 14.38 pCi/g in 2007.

The data indicate there have been some redistribution of americium-241, plutonium-238, and plutonium-239 on the DP Canyon slope, with the possibility that plutonium-239 in particular is being translocated to the toe of the slope. Most of the 2007 sample locations were collected from the incised drainage channel running down the middle of the slope originating directly below the stormwater culverts that discharge onto the slope. This area receives the majority of runoff on the site and soil and sediment in the drainage channel would be expected to migrate during runoff events. In addition, sediment would be expected to accumulate at the toe of the slope because of the change in topographic gradient. This is also indicated by the thicker soil profile observed in the field at the toe of the slope. Locations on the DP Canyon slope outside the drainage channel are more stable; however, activities of americium-241, plutonium-238, and plutonium-239 in these areas are also lower in the 2007 data than in the earlier data. The data further indicate that MDA T is not acting as an ongoing source of americium-241, plutonium-238, and plutonium-239; the 2007 activities at most locations are lower than previously observed, including those locations (21-603000 and 21-603001) specifically targeting recent deposition of sediment on the slope. This is expected based on the results of the radiation walkover surveys and surface soil sampling previously conducted at MDA T and because clean fill was used to backfill the site after operations ended (LANL 2006, 094151).

3.4.2 MDA T Subsurface Vapor Data

One of the planned four quarterly rounds of subsurface vapor sampling has been completed for the Phase II investigation. A summary of general observations for the first quarter VOC and tritium results is presented in the following sections.

VOCs

The analytical results for select VOCs in pore gas for the 2007 investigation of MDA T are presented in Table 3.4-2. The spatial distribution of VOCs in subsurface vapor at MDA T is depicted in Figure 3.4-6 and vertical profiles for each borehole are presented in Figures 3.4-7, 3.4-8, and 3.4-9. More than 20 VOCs have been detected in the 2007 MDA T pore-gas samples. Most results were less than 200 µg/m3, the higher results are discussed in detail.

Vapor concentrations of methylene chloride, tetrachloroethene, and trichloroethene exceeded 1000 µg/m^3; none of the other detected VOCs were at concentrations exceeding this value. The highest concentrations of methylene chloride (1300 µg/m^3 and 1000 µg/m^3) occurred in samples collected from the deepest intervals in borehole locations 21-25264 and 21-603059. The concentrations of methylene chloride detected in the deepest intervals at 21-25264 and 21-603059 exceed the screening level based on groundwater cleanup standards (450 ug/m^3). Methylene chloride was not detected at equivalent concentrations in samples from these boreholes (location 21-25262 is equivalent to location 21-603059) during previous vapor-sampling rounds; however, the maximum concentration of methylene chloride (>2000 µg/m^3) detected previously also occurred at the bottom of a borehole (location 21-25263) (LANL 2006, 094151). The three additional rounds of quarterly monitoring will be used to determine whether these results reflect a one-time occurrence or will continue over time.

The highest concentrations of tetrachloroethene (1500 µg/m^3 and 1300 µg/m^3) occurred in samples collected from shallow intervals in borehole locations 21-25264 and 21-603059. Equivalent concentrations (approximately 800 µg/m^3 and 1500 µg/m^3) were also detected in shallow intervals in these same boreholes during previous rounds of vapor sampling at MDA T (LANL 2006, 094151).

The highest concentrations of trichlorethene (1100 µg/m^3 and 1200 µg/m^3) occurred in samples collected from the deepest two intervals in borehole location 21-603059. Concentrations of trichloroethene were lower (slightly more than 500 µg/m^3) at the equivalent borehole (location 21-25262) during previous rounds; however, the maximum concentration of trichloroethene detected previously was approximately 2000 µg/m^3, which was in a sample from the deepest interval in borehole location 21-25263 (LANL 2006, 094151).

Toluene was detected at a concentration greater than 1900 µg/m^3 in a single previous sample; toluene concentrations did not exceed 25 µg/m^3 in the 2007 samples.

Tritium

Tritium activities are substantially lower in the first round of samples collected during the 2007 investigation than in samples collected during 2005–2006 sampling rounds. The maximum tritium activity (9385.24 pCi/l) in the 2007 vapor samples was detected in a sample collected from borehole location 21-25264 at a depth of 150.5 ft (Figure 3.4-10; Table 3.4-3). The highest tritium activity detected in 2005–2006 was 73,400 pCi/L at a depth of approximately 150 ft in borehole location 21-25264 (LANL 2006, 094151). The change of tritium activities between 2005 to 2006 and 2007 will be evaluated after all four rounds of tritium data have been collected.

3.5 Revised Potential Dose for the DP Canyon Slope

In the investigation report for MDA T (LANL 2006, 094151) human health risk screening assessments were conducted to determine if chemicals of potential concern (COPCs) in soil and tuff on the DP Canyon slope pose a potential unacceptable risk or dose to human receptors. Based on the reasonably foreseeable land use, the recreational scenario was designated as the decision scenario for the

DP Canyon slope. Site risk and dose were also assessed under a residential scenario as required by the Consent Order for comparison purposes. Because further characterization of radionuclides on the DP Canyon slope was required, revised calculations of the radiological dose have been made; inorganic and organic COPCs in solid media on the DP Canyon slope were not part of the 2007 investigation and are not considered further.

The 2007 data were used to calculate 95% upper confidence limits (UCLs) for americium-241, plutonium-238, and plutonium-239. The 95% UCLs are used as the exposure point concentration (EPC) for all scenarios. The radiological dose from americium-241, plutonium-238, and plutonium-239 was calculated using the EPCs following methodologies used in the investigation report (LANL 2006, 094151). In addition, these calculations were performed using the previous data combined with the 2007 data for the DP Canyon slope. Table 3.5-1 presents the results of these calculations for the previous data as presented in the investigation report for MDA T, the new data, and for the combined data set. The table also presents the radionuclide-specific screening action level for each exposure scenario.

For the recreational scenario, the calculated EPCs for american-241, plutonium-238 and plutonium 239/240 for the combined data set are lower than the EPCs calculated using the previous data alone. As a result, the dose for each radionuclide calculated using the combined data set is lower. This result is expected based on the generally lower overall and average activities for all three radionuclides detected in the 2007 DP Canyon slope samples. The plutonium-239 EPCs and dose calculated using only the 2007 data are slightly higher than the EPCs and dose presented in the investigation report; this is a result of the low number of samples used to calculate the 95% UCL, even though the mean activity for plutonium-239 is lower. Because of the lower activities detected during the 2007 investigation, the EPCs and associated dose for each radionuclide under the residential scenario are also lower than presented in the investigation report (LANL 2006, 094151). In addition, the equivalent risk for the recreational and residential scenarios does not change from that presented in the investigation report (LANL 2006, 094151).

3.6 Deviations

The deviations from the planned activities specified in the MDA T Phase II investigation work plan (LANL 2007, 095131) are noted in this section. Three of the four open boreholes could not be abandoned during this field effort; they will be abandoned during a future field effort. Two of the vapor-monitoring wells were moved outside of the nuclear facility boundary.

- Location 21-603058 (formerly 21-25263) was moved 40 ft to the northeast where the surface elevation of the new location was approximately 10 ft lower; sample ports were installed at the same elevations as the original sample intervals collected from 21-25263.
- Location 21-603059 (formerly 21-25262) was moved 35 ft to the southwest where the surface elevation is the same for both locations.

The relocation of the wells was approved by the NMED (Goering 2007, 098861). Continuous core was not retrieved from the replacement boreholes because of their proximity to the original boreholes; however, the drill cuttings were visually inspected and screened for radiation and organic vapors. No radiation measurements above background were detected. No elevated organic vapor measurements were detected. The drill cutting showed no elevated moisture, cobbles, or evidence of a paleochannel. Boreholes 21-25262 and 21-25263 will be abandoned. The tubing for sampling Port 4 in borehole location 21-603058 became entangled in the augers during emplacement and could not be installed at the planned depth of 302 ft bgs. However, a replacement port was installed within the same geologic unit at a depth of 245 ft bgs.

4.0 CONCLUSIONS

The 2007 data indicate that the vertical extent of americium-241, plutonium-238, and plutonium-239 on the DP Canyon slope is defined. In addition, the nature and extent of nitrate and perchlorate are fully investigated and the nature and extent of these inorganic chemicals are defined.

The data also indicate that there has been some redistribution of americium-241, plutonium-238, and plutonium-239 on the DP Canyon slope. There is some potential for the radionuclides to migrate further into DP Canyon. However, as presented in the investigation report for MDA T, the extent of contamination beyond the toe of the slope into DP Canyon has been defined and presented in the Los Alamos and Pueblo Canyons investigation report (LANL 2004, 087390, pp. 7-5, 7-6, 7-44, 7-45, 7-91). Any migration of radionuclides into DP Canyon is being monitored as part of LANL's site wide stormwater and sediment monitoring programs.

Radiological dose (mrem/yr) and mean activities (pCi/g) for americium-241, plutonium-238, and plutonium-239/240 under the recreational and residential scenarios are slightly lower or equivalent to the radiological dose and mean activities presented in the 2006 investigation report. In addition, the total equivalent inorganic and organic chemical risk for each scenario do not change substantially from what were presented in the investigation report.

First round quarterly pore-gas sampling confirms low concentrations of VOCs (i.e., less than 2000 $\mu g/m^3$) and low activities of tritium (i.e., less than 10,000 pCi/L). Three additional quarters of pore-gas monitoring data will be collected in accordance with the current vapor-monitoring plan (LANL 2007, 098944; NMED 2007, 098946). Nature and extent of pore gas will be comprehensively evaluated and presented in a report following completion of planned vapor-monitoring activities.

5.0 REFERENCES

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Copies of the master reference set are maintained at the NMED Hazardous Waste Bureau; the U.S. Department of Energy–Los Alamos Site Office; the U.S. Environmental Protection Agency, Region 6; and the Directorate. The set was developed to ensure that the administrative authority has all material needed to review this document, and it is updated with every document submitted to the administrative authority. Documents previously submitted to the administrative authority are not included.

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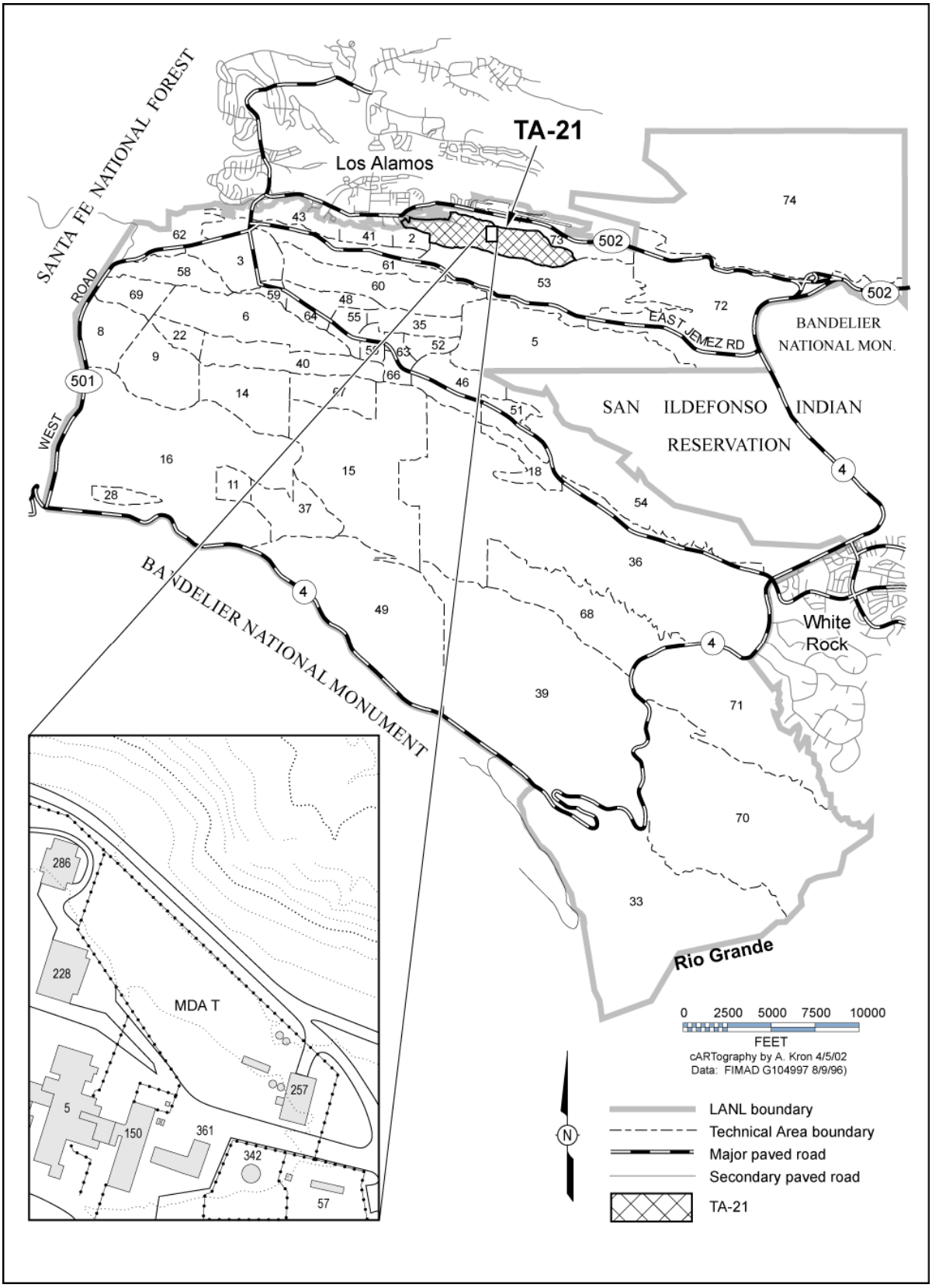

Figure 2.0-1 Location of MDA T at TA-21

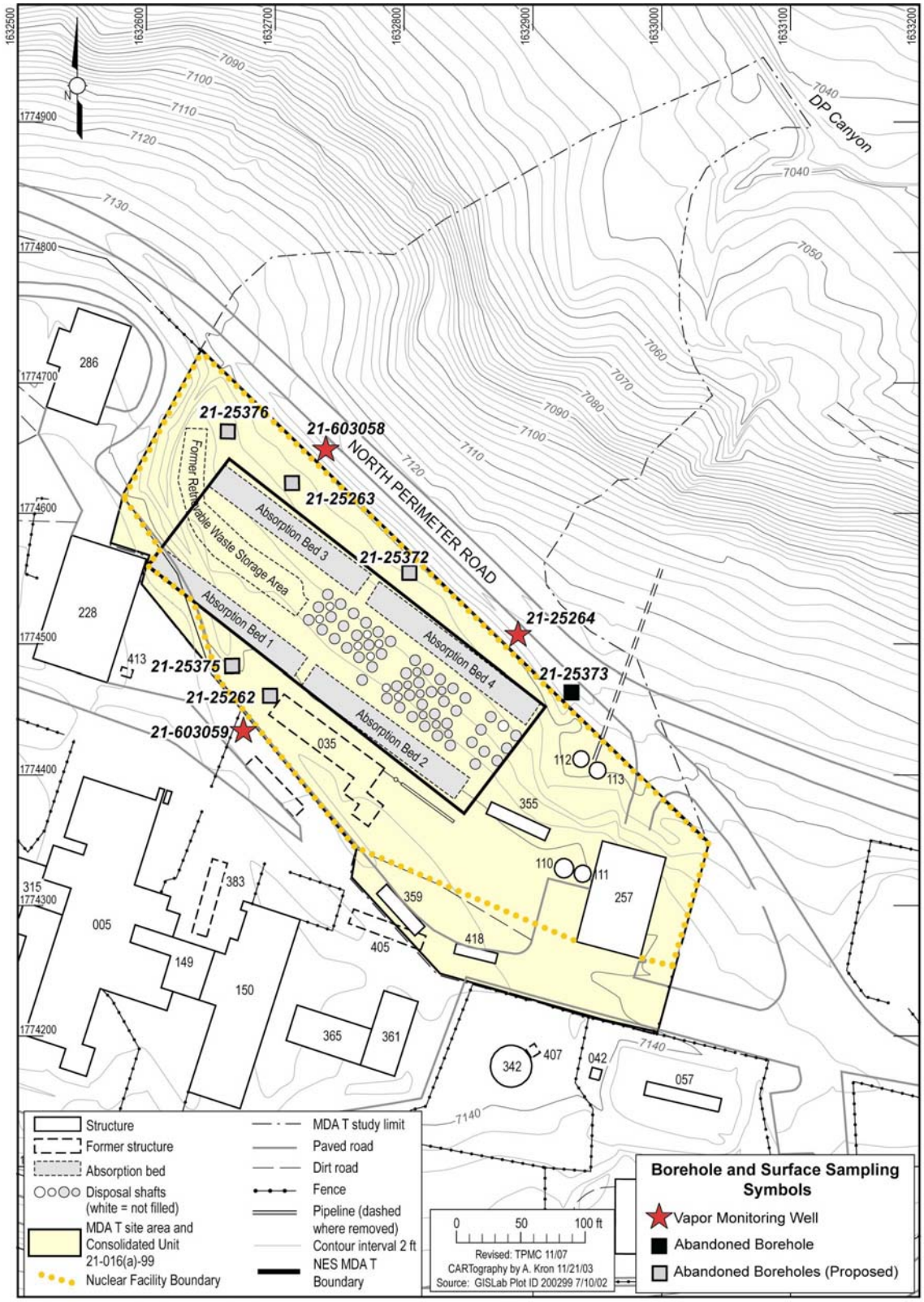

Figure 3.2-1 Location of vapor-monitoring wells and abandoned boreholes at MDA T

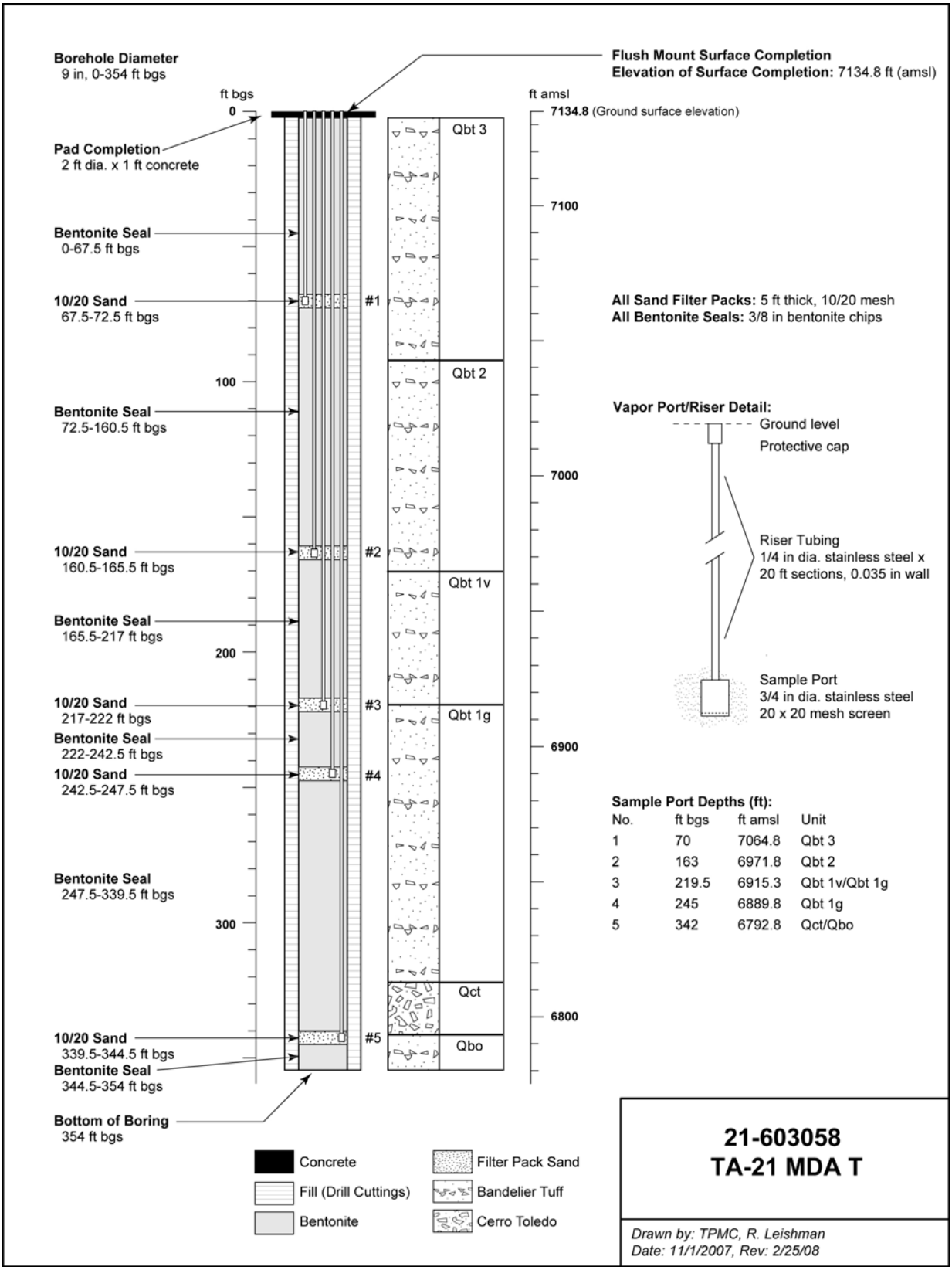

Figure 3.2-2 As-built diagram for vapor-monitoring well location 21-603058

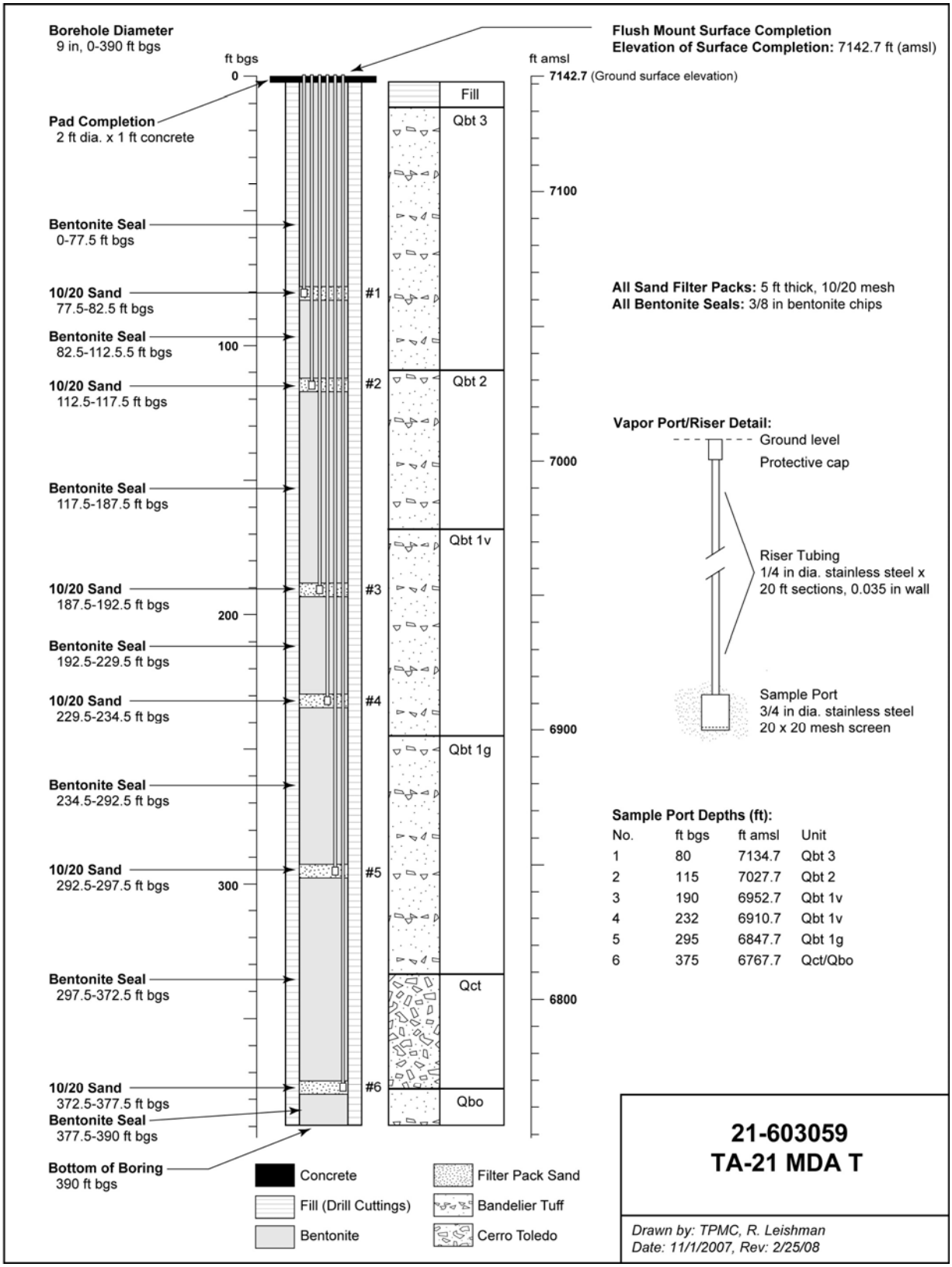

Figure 3.2-3 As-built diagram for vapor-monitoring well location 21-603059

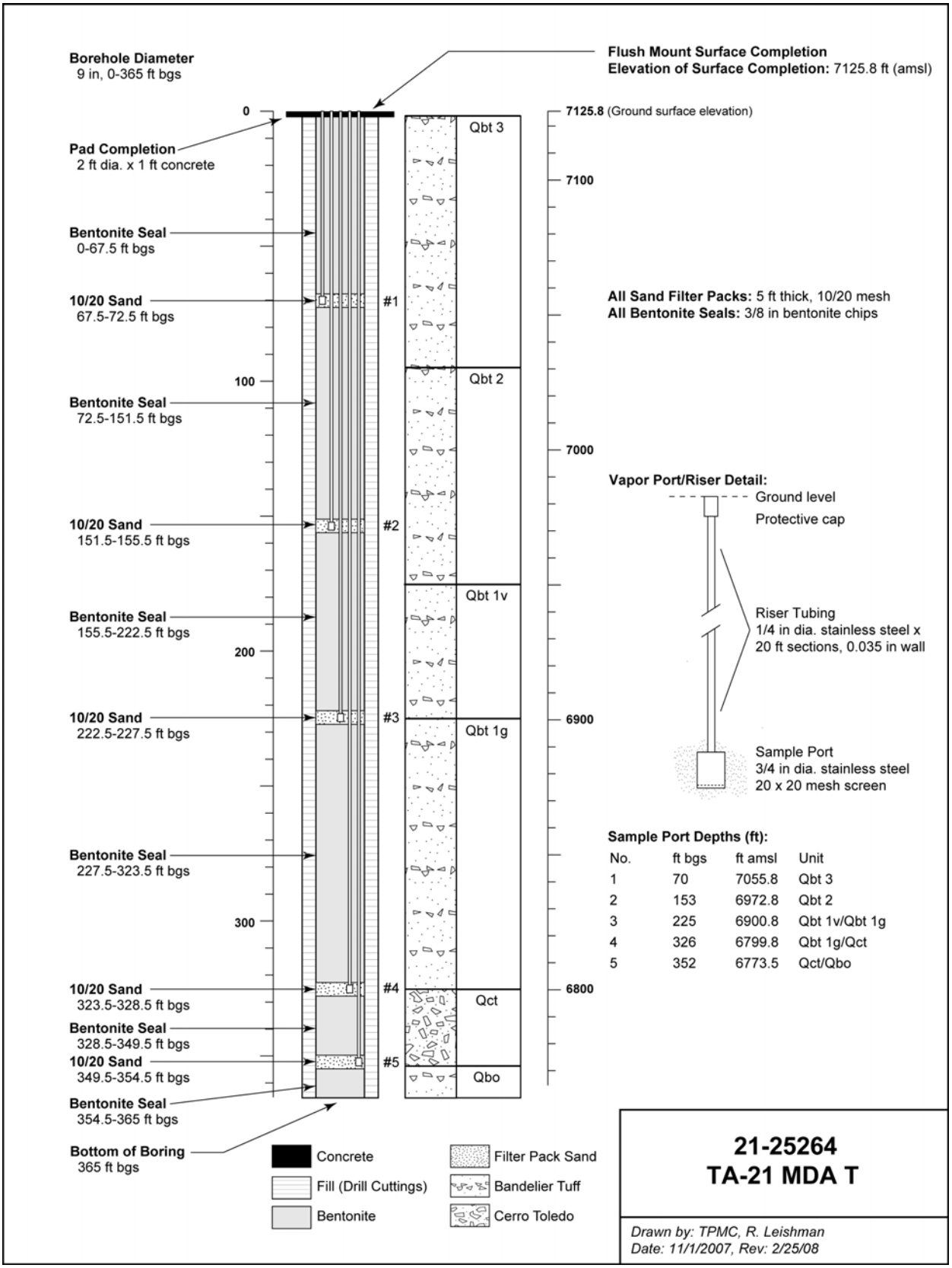

Figure 3.2-4 As-built diagram for vapor-monitoring well location 21-25264

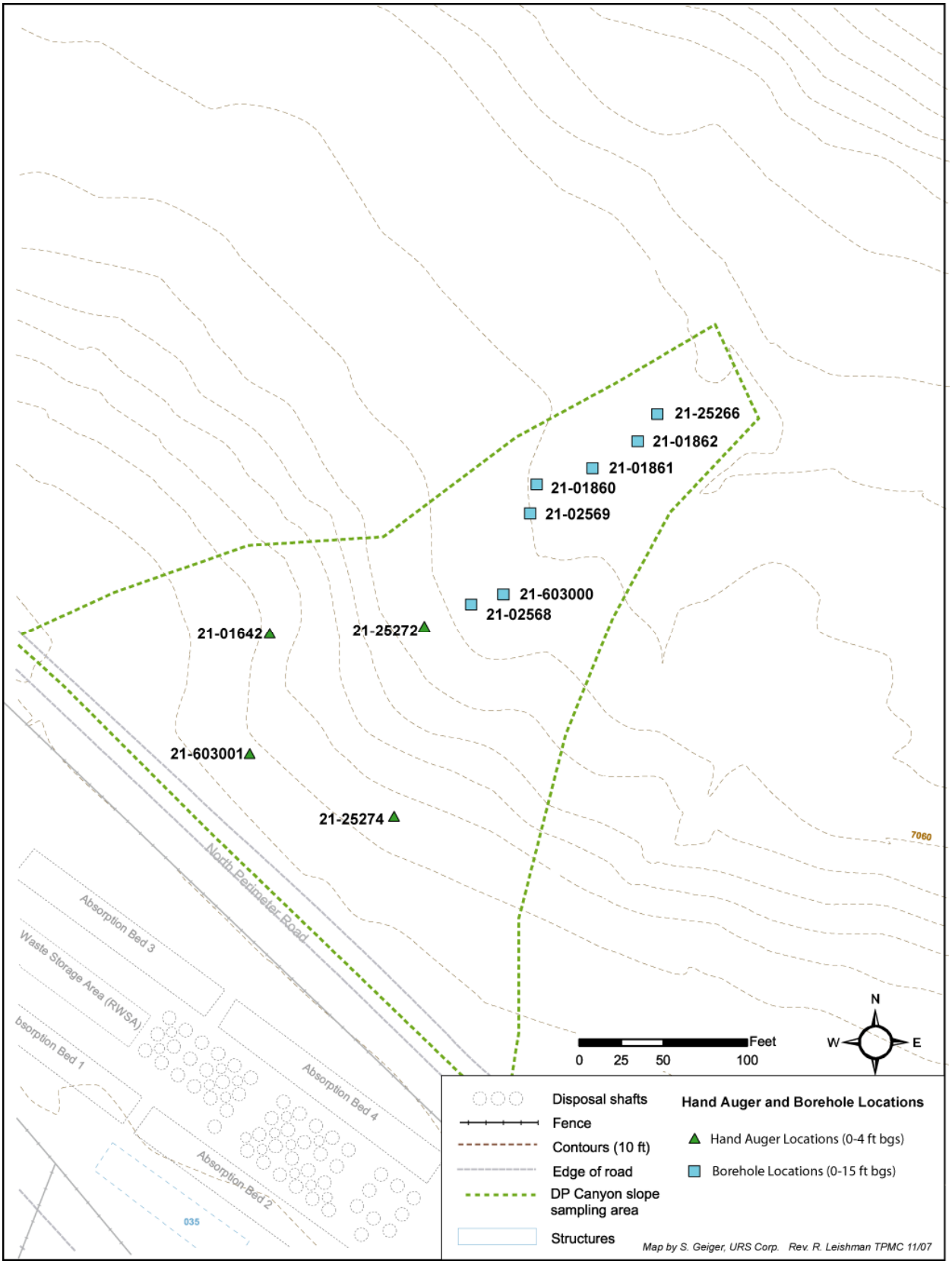

Figure 3.3-1 DP Canyon slope sample locations

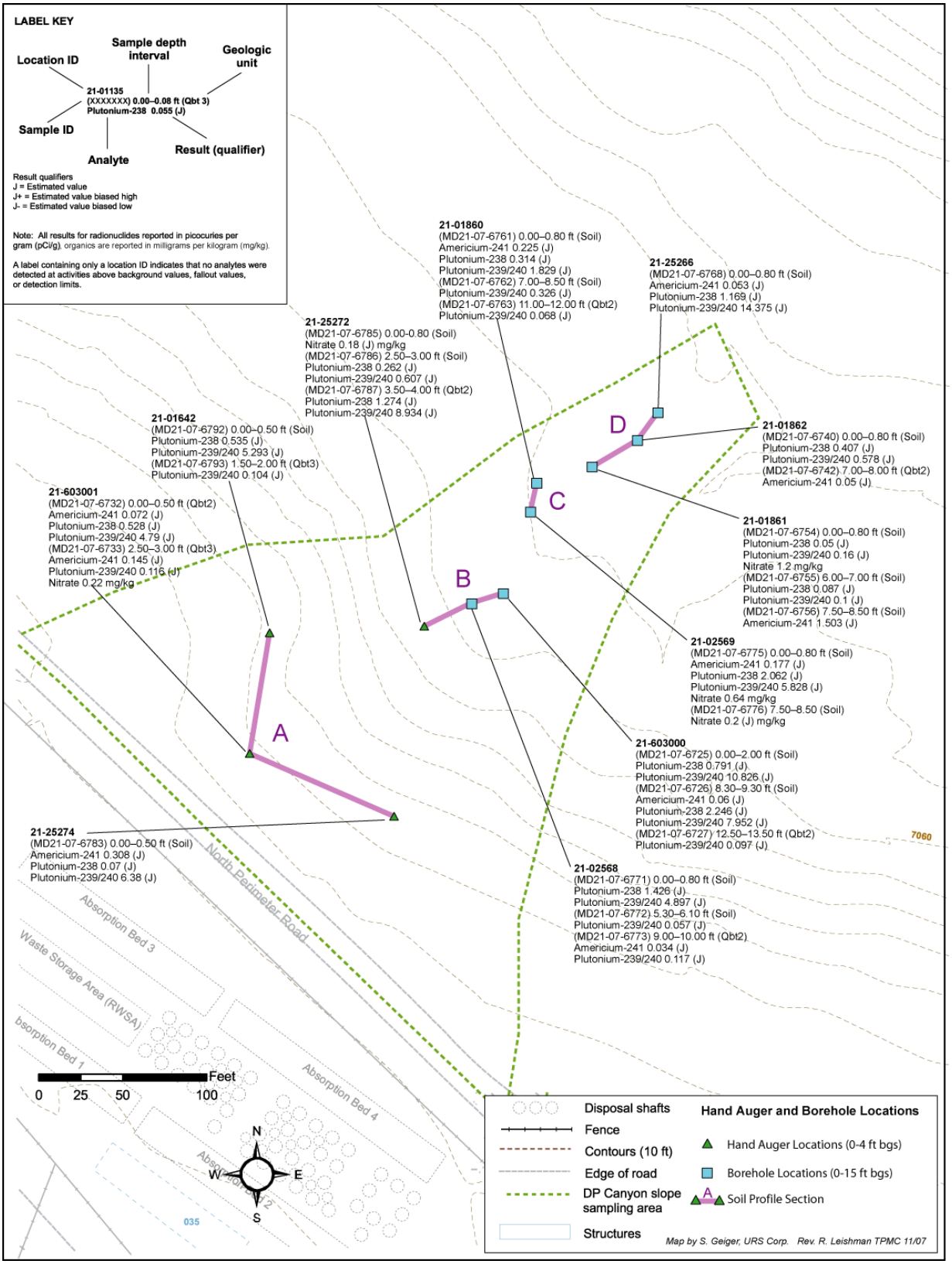

Figure 3.4-1 DP Canyon slope soil and tuff sample results detected or detected above background values and fallout values

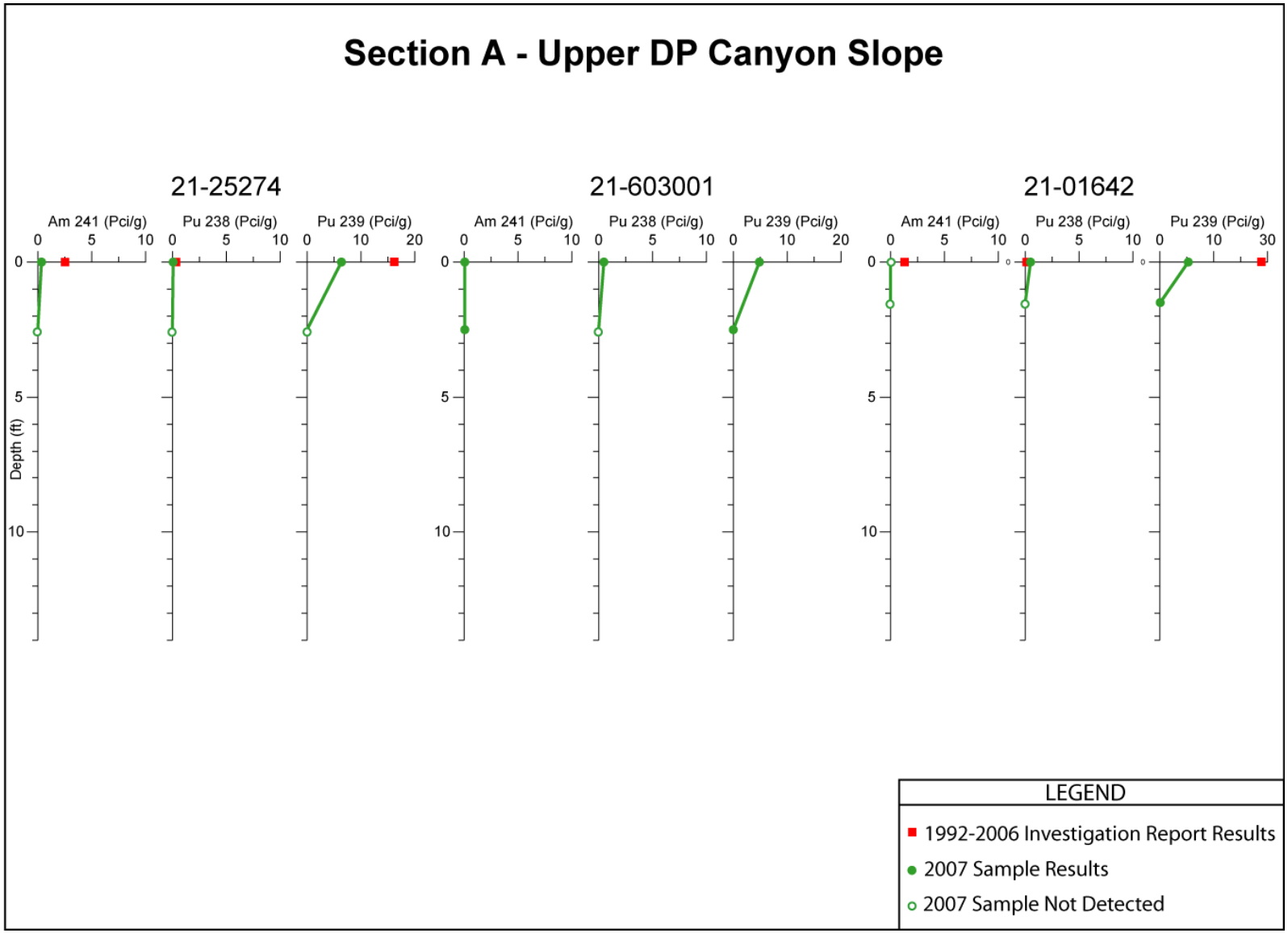

Figure 3.4-2 Upper DP Canyon slope data profile

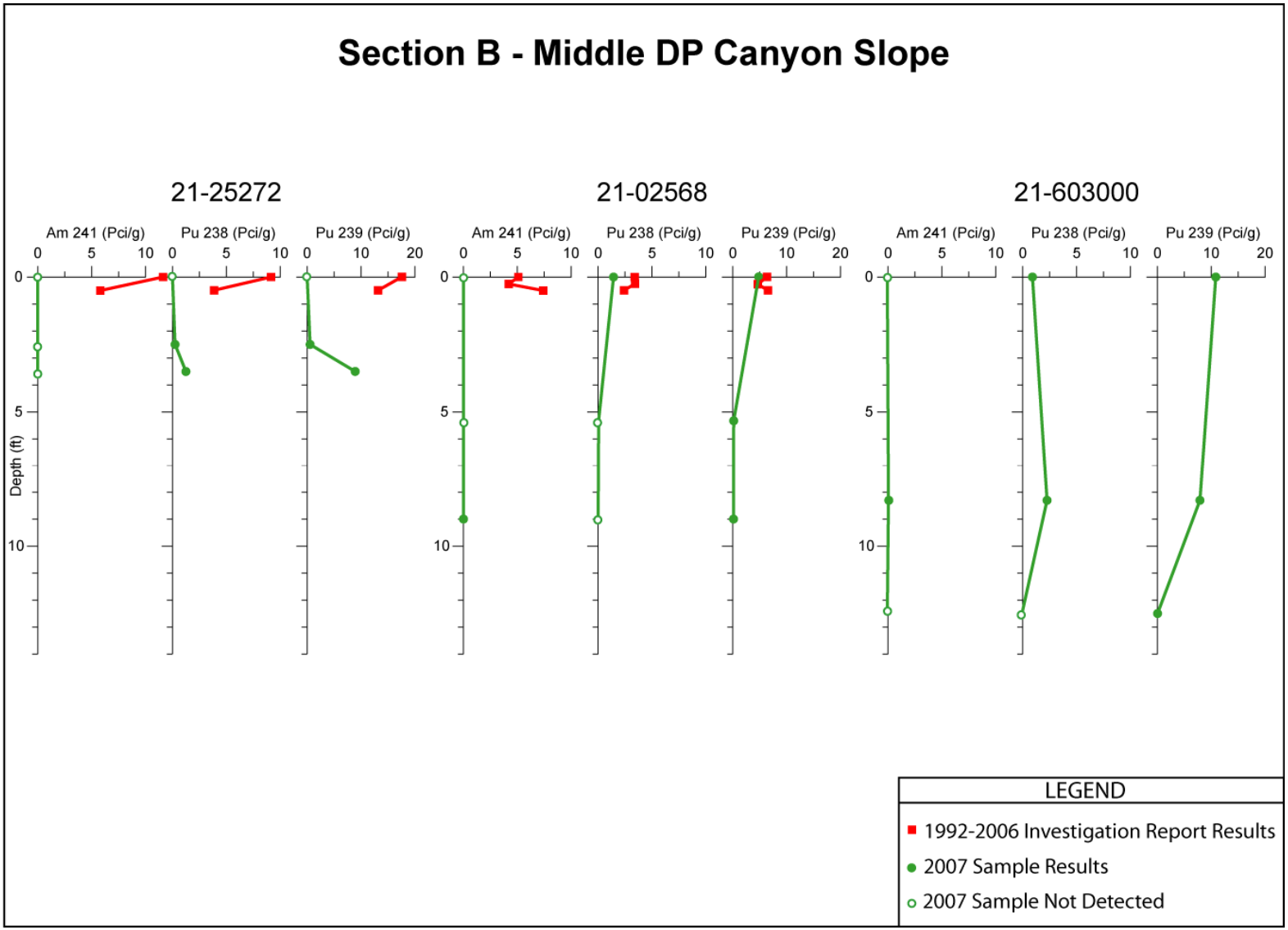

Figure 3.4-3 Middle DP Canyon slope data profile

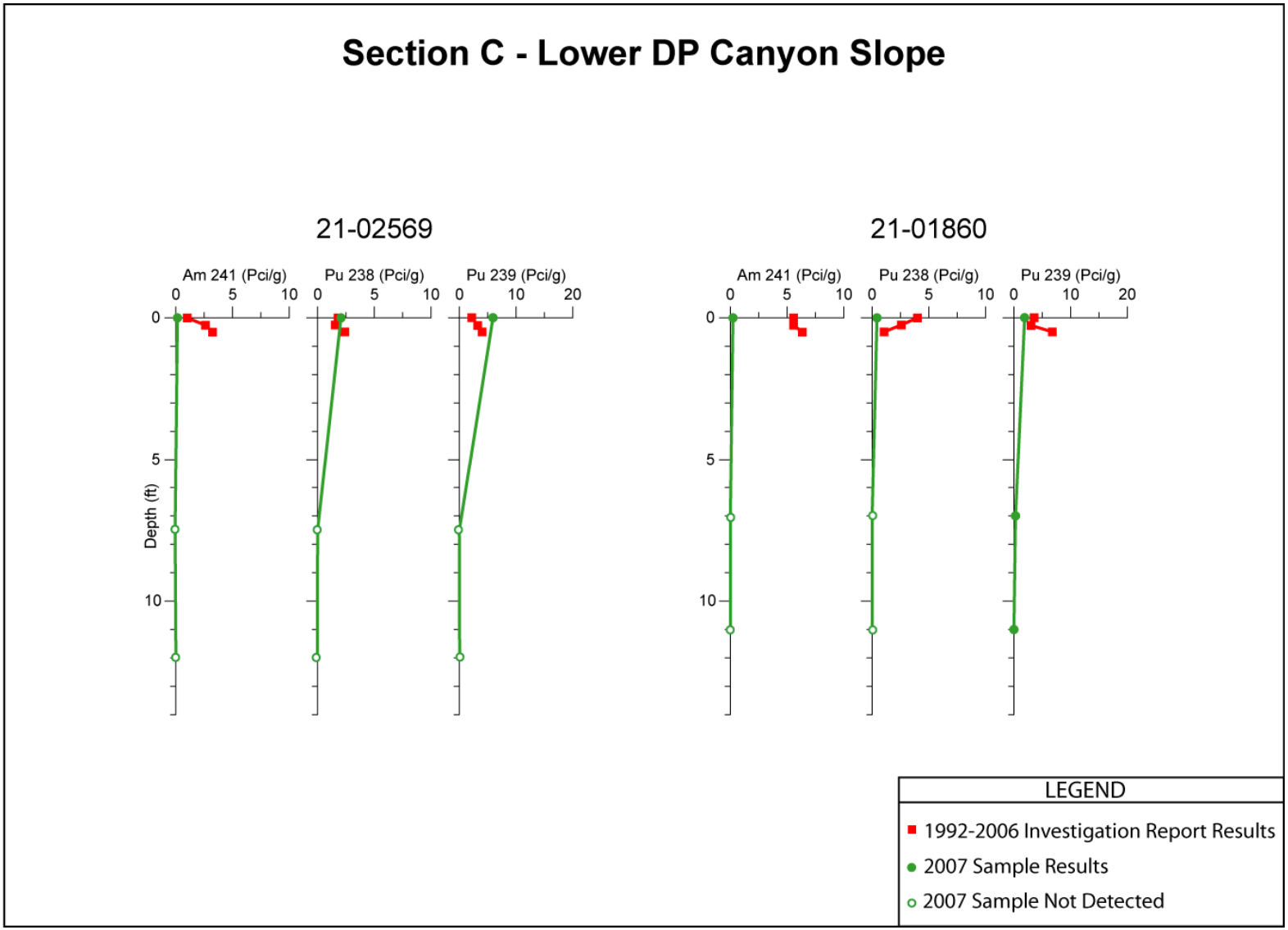

Figure 3.4-4 Lower DP Canyon slope data profile

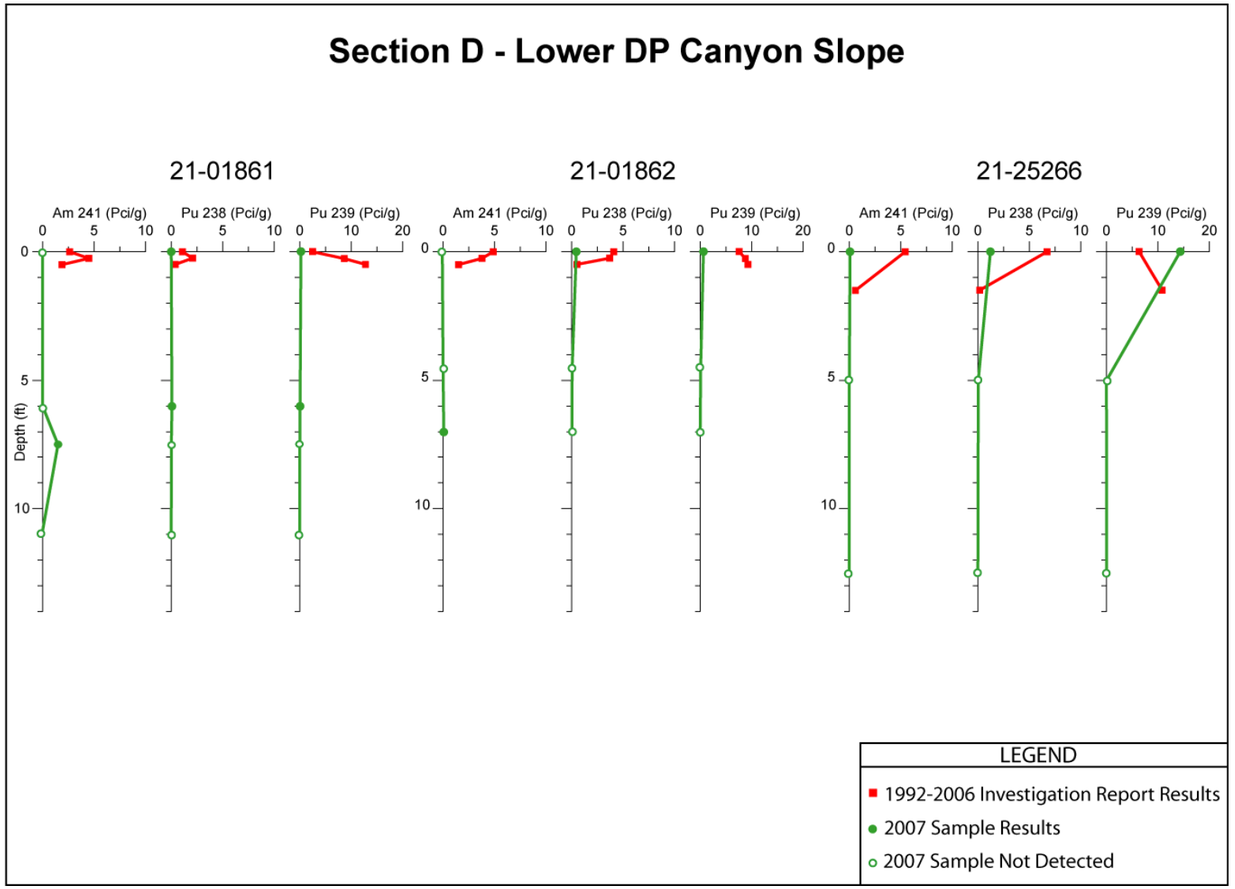

Figure 3.4-5 Bottom DP Canyon slope data profile

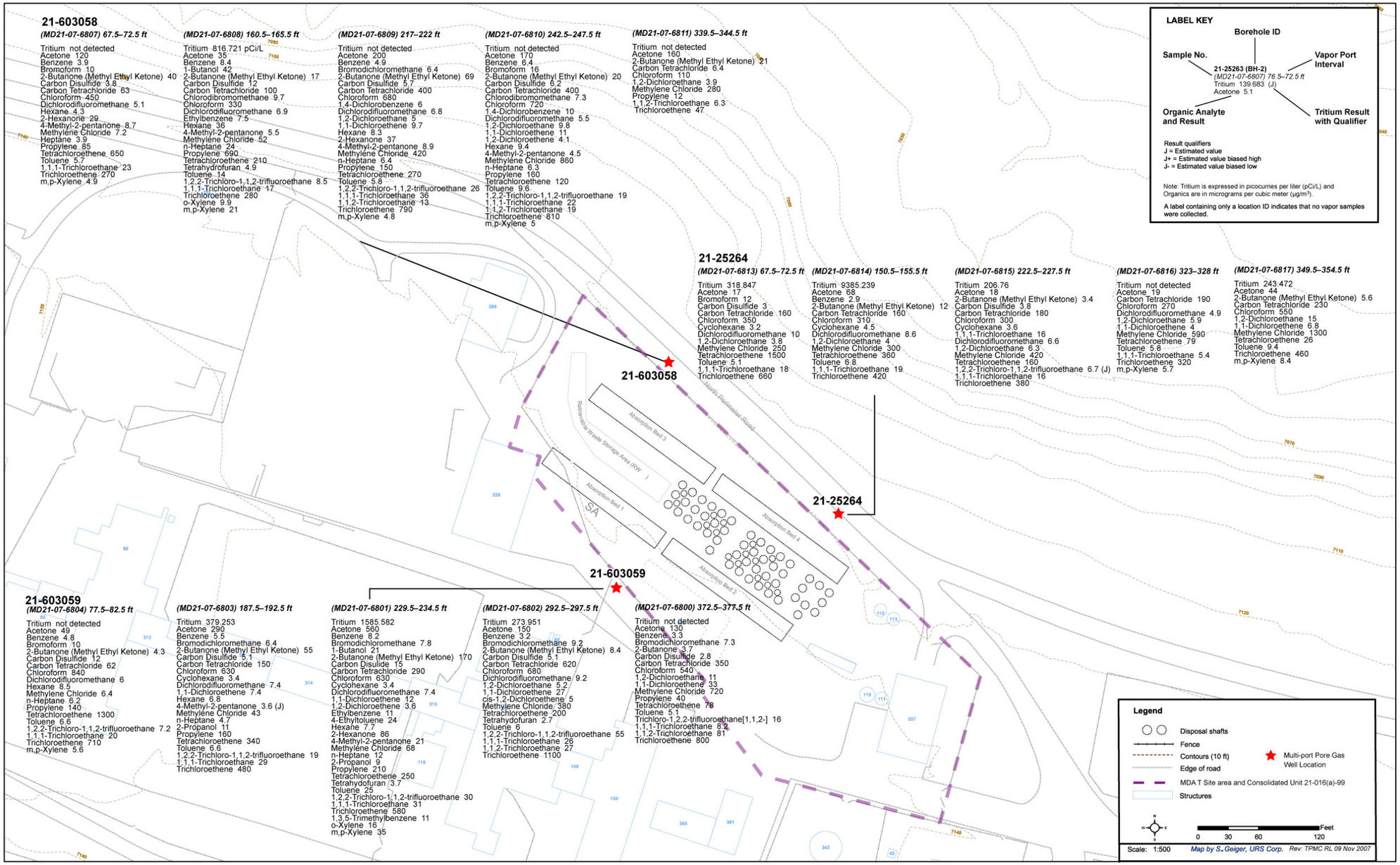

Figure 3.4-6 Tritium and VOCs detected in pore gas

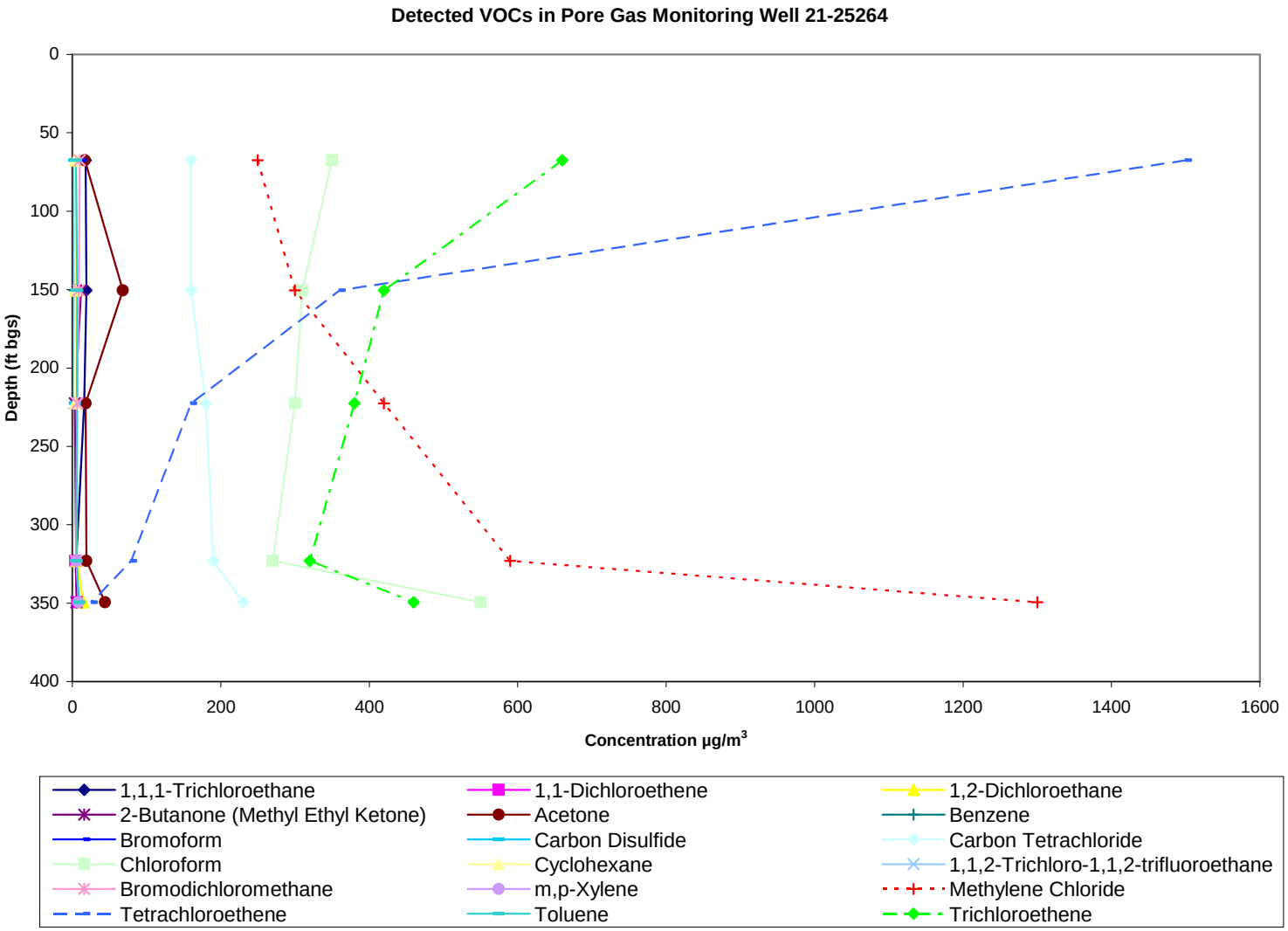

Figure 3.4-7 Vertical profile of detected VOCs in pore gas at well location 21-25264

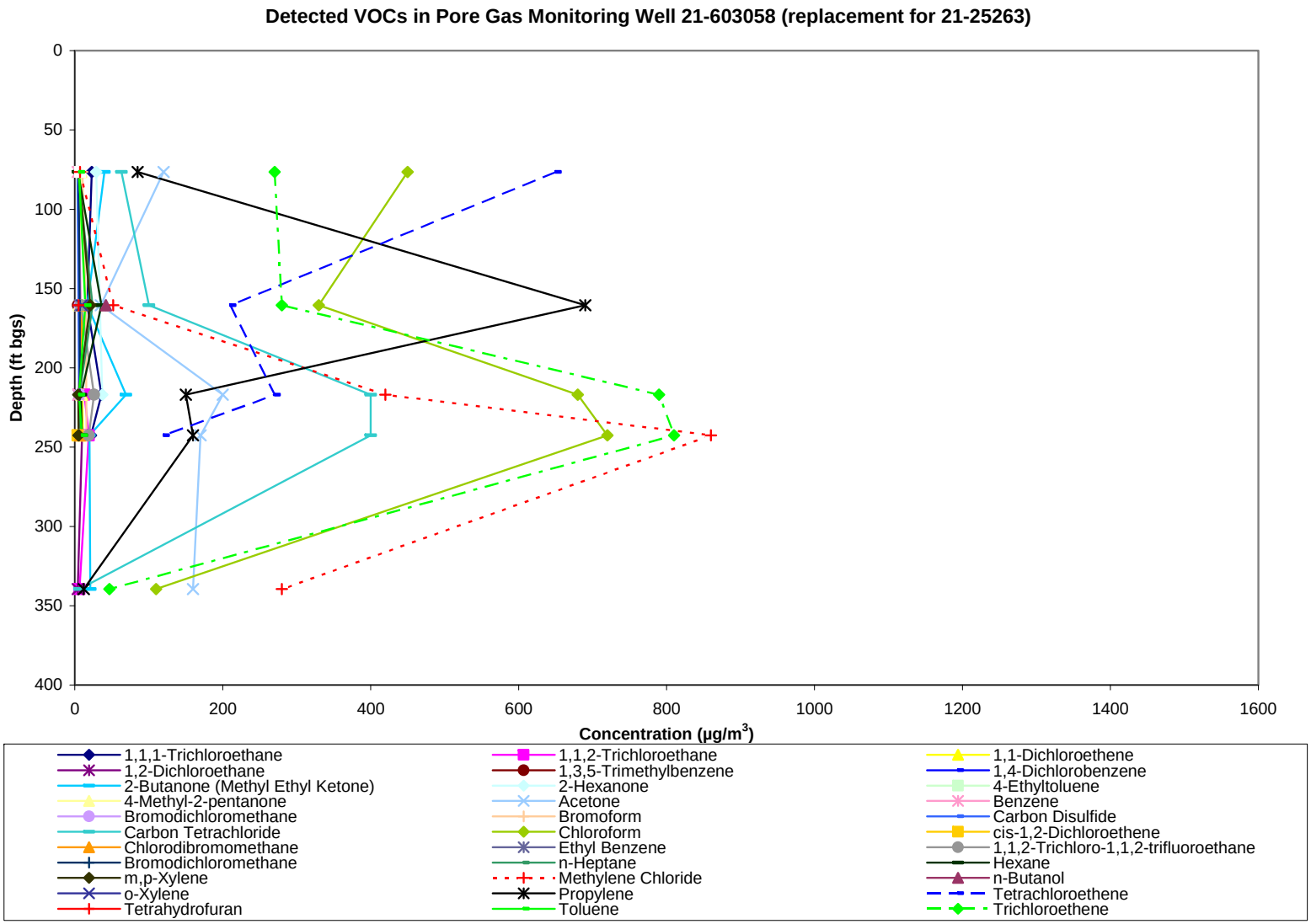

Figure 3.4-8 Vertical profile of detected VOCs in pore gas at well location 21-603058

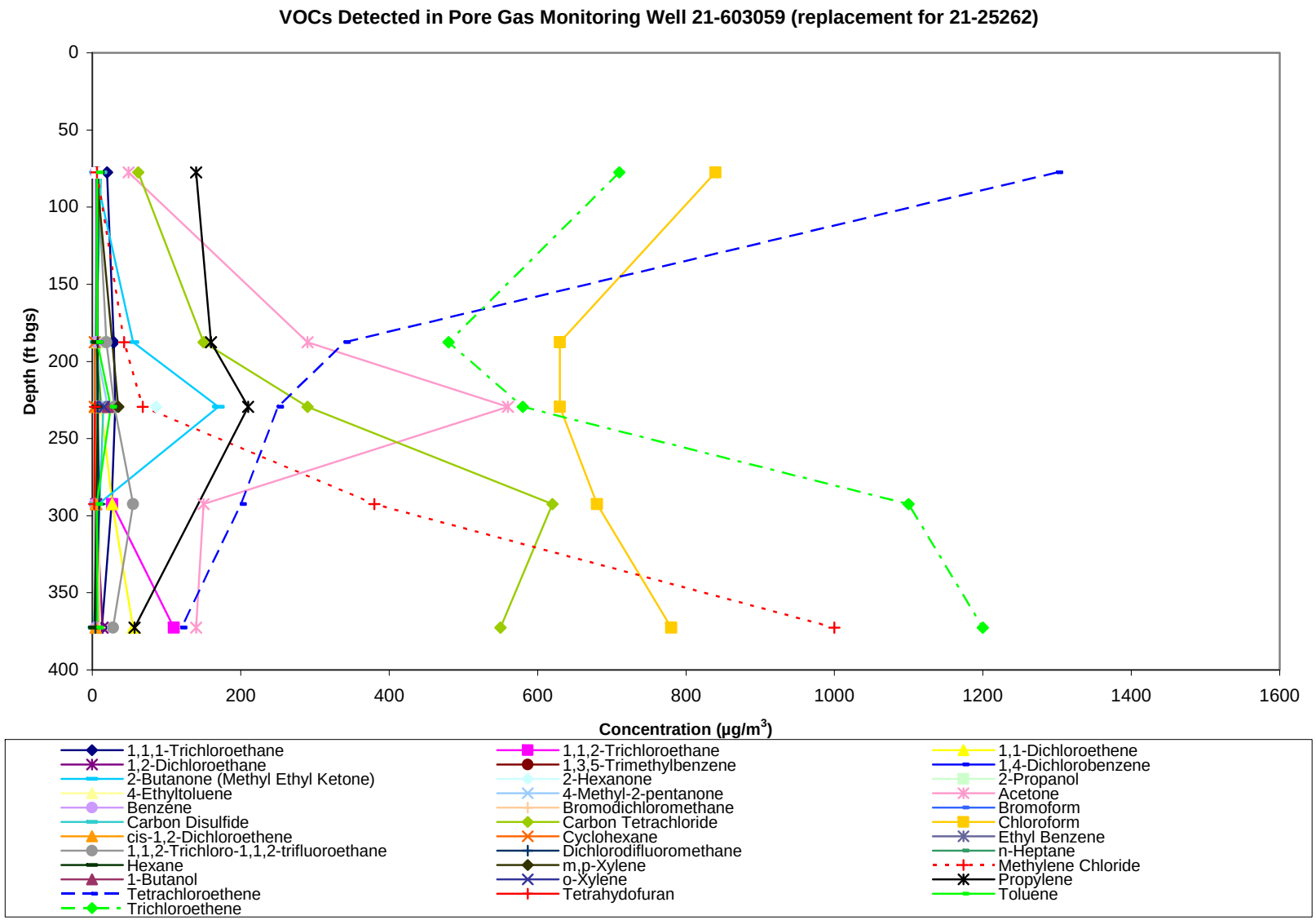

Figure 3.4-9 Vertical profile of detected VOCs in pore gas at well location 21-603059

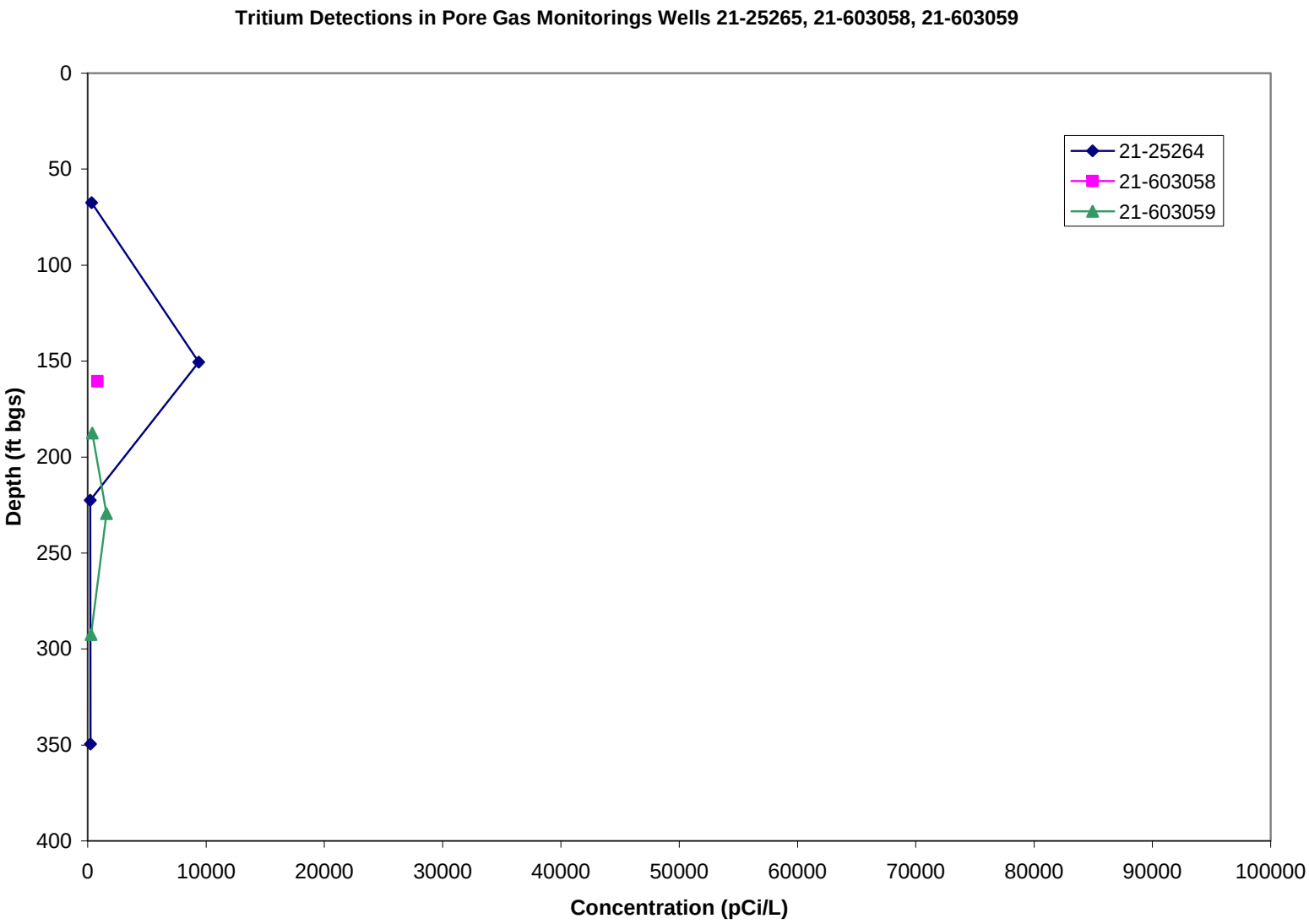

Figure 3.4-10 Vertical profile of tritium in pore gas at well locations 21-25264, 21-603058, and 21-603059

Table 3.2-1
Summary of Samples Collected and Analyses Requested of Soil and Tuff at Consolidated Unit 21-016(a)-99, MDA T

Sample Id	Location Id	Depth (ft)	Media	Collection Date	Field QC Type	Americium 241	Isotopic Plutonium	Perchlorate	Nitrate	NO3NO2	Tritium	VOC
Soil Samples												
MD21-07-6725	21-603000	0.0-2.0	ALLH	10/14/ 07	na	Y	Y	Y	Y	N	N	N
MD21-07-7022	21-603000	0.0-2.0	ALLH	10/14/ 07	FD	Y	Y	Y	Y	N	N	N
MD21-07-6726	21-603000	8.3-9.3	ALLH	10/14/ 07	na	Y	Y	Y	Y	N	N	N
MD21-07-6727	21-603000	12.5-13.5	QBT	10/14/ 07	na	Y	Y	Y	Y	N	N	N
MD21-07-6732	21-603001	0.0-0.5	ALLH	10/14/ 07	na	Y	Y	Y	Y	N	N	N
MD21-07-6733	21-603001	2.5-3.0	QBT	10/14/ 07	na	Y	Y	Y	Y	N	N	N
MD21-07-6740	21-01862	0.0-0.8	ALLH	10/14/ 07	na	Y	Y	Y	Y	N	N	N
MD21-07-6741	21-01862	4.5-6.5	ALLH	10/14/ 07	na	Y	Y	Y	Y	N	N	N
MD21-07-6742	21-01862	7.0-8.0	QBT	10/14/ 07	na	Y	Y	Y	Y	N	N	N
MD21-07-6754	21-01861	0.0-0.8	ALLH	10/13/ 07	na	Y	Y	Y	Y	N	N	N
MD21-07-6755	21-01861	6.0-7.0	ALLH	10/13/ 07	na	Y	Y	Y	Y	N	N	N
MD21-07-6756	21-01861	7.5-8.5	ALLH	10/13/ 07	na	Y	Y	Y	Y	N	N	N
MD21-07-6757	21-01861	11.0-12.0	QBT	10/13/ 07	na	Y	Y	Y	Y	N	N	N
MD21-07-6761	21-01860	0.0-0.8	ALLH	10/13/ 07	na	Y	Y	Y	Y	N	N	N
MD21-07-6762	21-01860	7.0-8.5	ALLH	10/13/ 07	na	Y	Y	Y	Y	N	N	N
MD21-07-6763	21-01860	11.0-12.0	QBT	10/13/ 07	na	Y	Y	Y	Y	N	N	N
MD21-07-6768	21-25266	0.0-0.8	ALLH	10/14/ 07	na	Y	Y	Y	Y	N	N	N
MD21-07-6769	21-25266	5.0-5.7	ALLH	10/14/ 07	na	Y	Y	Y	Y	N	N	N
MD21-07-6770	21-25266	12.5-13.3	QBT	10/14/ 07	na	Y	Y	Y	Y	N	N	N
MD21-07-6771	21-02568	0.0-0.8	ALLH	10/14/ 07	na	Y	Y	Y	Y	N	N	N
MD21-07-6772	21-02568	5.3-6.1	ALLH	10/14/ 07	na	Y	Y	Y	Y	N	N	N

Table 3.2-1 (continued)

Sample Id	Location Id	Depth (ft)	Media	Collection Date	Field QC Type	Americium 241	I Isotopic Plutonium	Perchlorate	Nitrate	NO3NO2	Tritium	VOC
MD21-07-6773	21-02568	9.0-10.0	QBT	10/14/07	na	Y	Y	Y	Y	N	N	N
MD21-07-6775	21-02569	0.0-0.8	ALLH	10/13/07	na	Y	Y	Y	Y	N	N	N
MD21-07-6776	21-02569	7.5-8.5	ALLH	10/13/07	na	Y	Y	Y	Y	N	N	N
MD21-07-6777	21-02569	12.0-13.0	QBT	10/13/07	na	Y	Y	Y	Y	N	N	N
MD21-07-6783	21-25274	0.0-0.5	ALLH	10/14/07	na	Y	Y	Y	Y	N	N	N
MD21-07-6784	21-25274	2.5-3.0	QBT	10/14/07	na	Y	Y	Y	Y	N	N	N
MD21-07-6785	21-25272	0.0-0.8	ALLH	10/14/07	na	Y	Y	Y	Y	N	N	N
MD21-07-6786	21-25272	2.5-3.0	ALLH	10/14/07	na	Y	Y	Y	Y	N	N	N
MD21-07-6787	21-25272	3.5-4.5	QBT	10/14/07	na	Y	Y	Y	Y	N	N	N
MD21-07-6792	21-01642	0.0-0.5	ALLH	10/14/07	na	Y	Y	Y	Y	N	N	N
MD21-07-6797	21-01642	0.0-0.5	ALLH	10/14/07	FD	Y	Y	Y	Y	N	N	N
MD21-07-6793	21-01642	1.5-2.0	QBT	10/14/07	na	Y	Y	Y	Y	N	N	N
MD21-07-6795	21-01862	4.5-6.5	ALLH	10/14/07	FD	Y	Y	Y	Y	N	N	N
MD21-07-6796	21-01642	na	na	10/14/27	FR	N	N	Y	N	Y	N	N
MD21-07-6798	21-01860	7.0-8.5	ALLH	10/13/27	FD	Y	Y	Y	Y	N	N	N
MD21-07-6799	21-603000	na	na	10/14/07	FR	N	N	Y	N	Y	N	N
MD21-07-7053	21-01642	na	na	10/14/07	FR	N	N	Y	N	Y	N	N
Pore-Gas Vapor Samples												
MD21-07-6800	21-603059	372.5-377.5	na	11/3/2007	na	N	N	N	N	N	Y	Y
MD21-07-6801	21-603059	229.5-234.5	na	11/3/2007	na	N	N	N	N	N	Y	Y
MD21-07-6802	21-603059	292.5-297.5	na	11/3/2007	na	N	N	N	N	N	Y	Y
MD21-07-6803	21-603059	187.5-192.5	na	11/3/2007	na	N	N	N	N	N	Y	Y
MD21-07-6804	21-603059	77.5-82.5	na	11/4/2007	na	N	N	N	N	N	Y	Y
MD21-07-6806	21-603059	372.5-377.5	na	11/3/2007	FD	N	N	N	N	N	Y	Y

Table 3.2-1 (Continued)

Sample Id	Location Id	Depth (ft)	Media	Collection Date	Field QC Type	Americium 241	Isotopic Uranium	Perchlorate	Nitrate	NO3NO2	Tritium	VOC
MD21-07-6807	21-603058	67.5-72.5	na	10/30/07	na	N	N	N	N	N	Y	Y
MD21-07-6808	21-603058	160.5-165.5	na	10/30/07	na	N	N	N	N	N	Y	Y
MD21-07-6809	21-603058	217-222	na	10/30/07	na	N	N	N	N	N	Y	Y
MD21-07-6810	21-603058	242.5-247.5	na	10/30/07	na	N	N	N	N	N	Y	Y
MD21-07-6811	21-603058	339.5-344.5	na	10/30/07	na	N	N	N	N	N	Y	Y
MD21-07-6812	21-603058	339.5-344.5	na	10/30/07	FD	N	N	N	N	N	Y	Y
MD21-07-6813	21-25264	67.5-72.5	na	10/19/07	na	N	N	N	N	N	Y	Y
MD21-07-6814	21-25264	150.5-155.5	na	10/19/07	na	N	N	N	N	N	Y	Y
MD21-07-6815	21-25264	222.5-227.5	na	10/19/07	na	N	N	N	N	N	Y	Y
MD21-07-6816	21-25264	323-328	na	10/19/07	na	N	N	N	N	N	Y	Y
MD21-07-6817	21-25264	349.5-354.5	na	10/19/07	na	N	N	N	N	N	Y	Y
MD21-07-6818	21-603058	na	na	10/30/07	FB	N	N	N	N	N	Y	Y
MD21-08-8445	21-603059	na	na	11/3/07	FB	N	N	N	N	N	Y	Y

Notes:
ALLH = Soil all horizons
FD = Field Duplicate
FR = Field Rinsate
na = not applicable
Nitrate= EPA 300.0
NO3NO2 = EPA:353.1 (for rinsate)
Perchlorate = SW-846:6850
QBT = tuff

Table 3.4-1
Summary of Radionuclides and Inorganic Chemicals Dectected or Detected above Background Values/Fallout Values in Soil and Tuff at Consolidated Unit 21-016(a)-99, MDA T

Sample Id	Location Id	Depth (ft)	Media	Americium-241 (pCi/g)	Plutonium-238 (pCi/g)	Plutonium-239/240 (pCi/g)	Nitrate (mg/kg)	Perchlorate (mg/kg)
QBT2, QBT3 Background Value				na	na	na	na	na
Soil Background Value				0.013	0.023	0.054	na	na
MD21-07-6725	21-603000	0.0-2.0	SOIL	–*	0.791 (J)	10.826 (J)	–	–
MD21-07-6726	21-603000	8.3-9.3	SOIL	0.06 (J)	2.246 (J)	7.952 (J)	–	–
MD21-07-6727	21-603000	12.5-13.5	QBT2	–	-	0.097 (J)	–	–
MD21-07-6732	21-603001	0.0-0.5	QBT2	0.072 (J)	0.528 (J)	4.79 (J)	–	–
MD21-07-6733	21-603001	2.5-3.0	QBT3	0.145 (J)	-	0.116 (J)	0.22	–
MD21-07-6740	21-01862	0.0-0.8	SOIL	–	0.407 (J)	0.578 (J)	–	–
MD21-07-6742	21-01862	7.0-8.0	QBT2	0.05 (J)	–	–	–	–
MD21-07-6754	21-01861	0.0-0.8	SOIL	–	0.05 (J)	0.16 (J)	1.2	–
MD21-07-6755	21-01861	6.0-7.0	SOIL	–	0.087 (J)	0.1 (J)	–	–
MD21-07-6756	21-01861	7.5-8.5	SOIL	1.503 (J)	–	–	–	–
MD21-07-6761	21-01860	0.0-0.8	SOIL	0.225 (J)	0.314 (J)	1.829 (J)	–	–
MD21-07-6762	21-01860	7.0-8.5	SOIL	–	–	0.326 (J)	–	–
MD21-07-6763	21-01860	11.0-12.0	QBT2	–	–	0.068 (J)	–	–
MD21-07-6768	21-25266	0.0-0.8	SOIL	0.053 (J)	1.169 (J)	14.375 (J)	–	–
MD21-07-6771	21-02568	0.0-0.8	SOIL	–	1.426 (J)	4.897 (J)	–	–
MD21-07-6772	21-02568	5.3-6.1	SOIL	–	–	0.057 (J)	–	–
MD21-07-6773	21-02568	9.0-10.0	QBT2	0.034 (J)	–	0.117 (J)	–	–
MD21-07-6775	21-02569	0.0-0.8	SOIL	0.177 (J)	2.062 (J)	5.828 (J)	0.64	–
MD21-07-6776	21-02569	7.5-8.5	SOIL	–	–	–	0.2 (J)	–
MD21-07-6783	21-25274	0.0-0.5	SOIL	0.308 (J)	0.07 (J)	6.38 (J)	–	–
MD21-07-6785	21-25272	0.0-0.8	SOIL	–	–	–	0.18 (J)	–

Table 3.4-1 (continued)

Sample Id	Location Id	Depth (ft)	Media	Americium-241 (pCi/g)	Plutonium-238 (pCi/g)	Plutonium-239/240 (pCi/g)	Nitrate (mg/kg)	Perchlorate (mg/kg)
MD21-07-6786	21-25272	2.5-3.0	SOIL	–	0.262 (J)	0.607 (J)	–	–
MD21-07-6787	21-25272	3.5-4.0	QBT2	–	1.274 (J)	8.934 (J)	–	–
MD21-07-6792	21-01642	0.0-0.5	SOIL	–	0.535 (J)	5.293 (J)	–	–
MD21-07-6793	21-01642	1.5-2.0	QBT3	–	–	0.104 (J)	–	–

Notes:
Background values are from LANL (1998, 059730).
na = Not available.
*– = Not detected or not detected above background values or fallout values.
pCi/g = Picocurries per gram.
mg/kg = Milligrams per kilogram.
QBT 2 = Quaternary Bandelier Tuff Unit 2.
QBT 3 = Quaternary Bandelier Tuff Unit 3.

Table 3.4-2
Summary of VOCs Detected in Pore Gas at Consolidated Unit 21-016(a)-99

Sample Id	Location Id	Depth (ft)	Acetone	Benzene	Bromodichloromethane	Bromoform	Butanol[1-]	Butanone[2-]	Carbon Disulfide	Carbon Tetrachloride	Chlorodibromomethane	Chloroform	Cyclohexane	Dichlorobenzene[1,4-]	Dichlorodifluoromethane	Dichloroethane[1,2-]	Dichloroethene[1,1-]	Dichloroethene[cis-1,2-]	Ethylbenzene	Ethyltoluene[4-]	Hexane	Hexanone[2-]	Methyl-2-pentanone[4-]	Methylene Chloride	n-Heptane	Propanol[2-]	Propylene	Tetrachloroethene	Tetrahydrofuran	Toluene	Trichloro-1,2,2-trifluoroethane[1,1,2-]	Trichloroethane[1,1,1-]	Trichloroethane[1,1,2-]	Trichloroethene	Trimethylbenzene[1,3,5-]	Xylene[1,2-]	Xylene[1,3-]+Xylene[1,4-]
MD21-07-6804	21-603059	77.5–82.5	49	4.8	—*	10	—	4.3	12	62	—	840	—	—	6	—	—	—	—	—	8.5	—	—	6.4	6.2	—	140	1300	—	6.6	7.2	20	—	710	—	—	5.6
MD21-07-6803	21-603059	187.5–192.5	290	5.5	6.4	—	—	55	5.1	150	—	630	3.4	—	7.4	—	7.4	—	—	—	6.8	—	3.6 (J)	43	4.7	11	160	340	—	6.6	19	29	—	480	—	—	—
MD21-07-6802	21-603059	292.5–297.5	150	3.2	9.2	—	—	8.4	5.1	620	—	680	—	—	9.2	5.2	27	5	—	—	—	—	—	380	—	—	—	200	2.7	6	55	26	27	1100	—	—	—
MD21-07-6801	21-603059	229.5–234.5	560	8.2	7.8	—	21	170	15	290	—	630	3.4	—	7.4	—	12	3.6	11	24	7.7	86	21	68	12	9	210	250	3.7	25	30	31	—	580	11	16	35
MD21-07-6800	21-603059	372.5–377.5	130	3.3	7.3	—	—	3.7	2.8	350	—	540	—	—	—	11	33	—	—	—	—	—	—	720	—	—	40	78	—	5.1	16	8.2	81	800	—	—	—
MD21-07-6807	21-603058	67.5–72.5	120	3.9	—	10	—	40	3.8	63	—	450	—	—	5.1	—	—	—	—	—	4.3	29	8.7	7.2	3.9	—	85	650	—	5.7	—	23	—	270	—	—	4.9
MD21-07-6808	21-603058	160.5–165.5	35	8.4	—	—	42	17	12	100	9.7	330	—	—	6.9	—	—	—	7.5	—	36	—	5.5	52	24	—	690	210	4.9	14	8.5	17	—	280	—	9.9	21
MD21-07-6809	21-603058	217.0–222.0	200	4.9	6.4	—	—	69	5.7	400	—	680	—	6	6.8	5	9.7	—	—	—	8.3	37	8.9	420	6.4	—	150	270	—	5.8	26	36	13	790	—	—	4.8
MD21-07-6810	21-603058	242.5–247.5	170	6.4	—	16	—	20	6.2	400	7.3	720	—	10	5.5	9.8	11	4.1	—	—	9.4	—	4.5	860	6.3	—	160	120	—	9.6	19	22	19	810	—	—	5
MD21-07-6811	21-603058	339.5–344.5	160	—	—	—	—	21	—	6.4	—	110	—	—	—	3.9	—	—	—	—	—	—	—	280	—	—	12	—	—	—	—	—	6.3	47	—	—	—
MD21-07-6813	21-25264	67.5–72.5	17	—	—	12	—	—	3	160	—	350	3.2	—	10	3.8	—	—	—	—	—	—	—	250	—	—	—	1500	—	5.1	—	18	—	660	—	—	—
MD21-07-6814	21-25264	150.5–155.5	68	2.9	—	—	—	12	—	160	—	310	4.5	—	8.6	4	—	—	—	—	—	—	—	300	—	—	—	360	—	6.8	—	19	—	420	—	—	—
MD21-07-6815	21-25264	222.5–227.5	18	—	—	—	—	3.4	3.8	180	—	300	3.6	—	6.6	6.3	—	—	—	—	—	—	—	420	—	—	—	160	—	—	6.7 (J)	16	—	380	—	—	—
MD21-07-6816	21-25264	323.0–328.0	19	—	—	—	—	—	—	190	—	270	—	—	4.9	5.9	4	—	—	—	—	—	—	590	—	—	—	79	—	5.8	—	5.4	—	320	—	—	5.7
MD21-07-6817	21-25264	349.5–354.5	44	—	—	—	—	5.6	—	230	—	550	—	—	—	15	6.8	—	—	—	—	—	—	1300	—	—	—	26	—	9.4	—	—	—	460	—	—	8.4

Note: Results are in µg/m^3.

* — = Not detected.

Table 3.4-3
Summary of Tritium Detected in Pore Gas
at Consolidated Unit 21-016(a)-99, MDA T

Sample Id	Location Id	Depth (ft)	Tritium
MD21-07-6807	21-603058	67.5-72.5	—*
MD21-07-6808	21-603058	160.5-165.5	816.721
MD21-07-6809	21-603058	217-222	—
MD21-07-6810	21-603058	242.5-247.5	—
MD21-07-6811	21-603058	339.5-344.5	—
MD21-07-6813	21-25264	67.5-72.5	318.847
MD21-07-6814	21-25264	150.5-155.5	9385.24
MD21-07-6815	21-25264	222.5-227.5	206.76
MD21-07-6816	21-25264	323-328	—
MD21-07-6817	21-25264	349.5-354.5	243.472
MD21-07-6804	21-603059	77.5-82.5	—
MD21-07-6803	21-603059	187.5-192.5	379.253
MD21-07-6801	21-603059	229.5-234.5	1585.58
MD21-07-6802	21-603059	292.5-297.5	273.951
MD21-07-6800	21-603059	372.5-377.5	197.9

Note: Results are in pCi/L.
* — = Not detected.

Table 3.5-1
Summary Statistics, Exposure Point Concentrations, and Calculated Doses for Residential and Recreational Scenarios for the DP Canyon Slope, at Consolidated Unit 21-016(a)-99, MDA T

COPC	Sampling Event	Number of Analyses	Distribution Type	Minimum Activity (pCi/g)	Maximum Activity (pCi/g)	Mean Activity (pCi/g)	Standard Deviation (pCi/g)	95% UCL[a] (pCi/g)	95% UCL Method	Screening Level[b] (pCi/g)	Calculated Dose (mrem/yr)
Residential Statistics											
Americium-241	IR report	58	Gamma	0.00494	11.7	2.315	2.317	3.015	Approx. Gamma	30	1.51
Americium-241	New	10	Gamma	0.034	1.503	0.263	0.445	0.587	Approx. Gamma	30	0.29
Americium-241	Combined	68	Gamma	0.00494	11.7	2.013	2.265	2.631	Approx. Gamma	30	1.32
Plutonium-238	IR Report	58	Nonparametric	0.0	9.13	1.433	2.13	2.652	Chebyshev	37	1.04
Plutonium-238	New	14	Normal	0.05	2.246	0.802	0.727	1.145	Student's-t	37	0.46
Plutonium-238	Combined	72	Nonparametric	0.0	9.13	1.311	1.95	2.312	Chebyshev	37	0.94
Plutonium-239/240	IR Report	56	Gamma	0.0127	28.51	5.784	5.097	7.253	Approx. Gamma	33	3.3
Plutonium-239/240	New	20	Nonparametric	0.057	14.38	3.37	4.201	7.465	Chebyshev	33	3.4
Plutonium-239/240	Combined	76	Nonparametric	0.0127	28.51	5.149	4.967	7.632	Chebyshev	33	3.5

Table 3.5-1 (Continued)

COPC	Sampling Event	Number of Analyses	Distribution Type	Minimum Activity (pCi/g)	Maximum Activity (pCi/g)	Mean Activity (pCi/g)	Standard Deviation (pCi/g)	95% UCL[a] (pCi/g)	95% UCL Method	Screening Level[b] (pCi/g)	Calculated Dose (mrem/yr)
Recreational Statistics											
Americium-241	IR Report	51	Gamma	0.035	11.7	2.601	2.328	3.332	Approx. Gamma	280	0.18
Americium-241	New	5	Normal	0.053	0.308	0.167	0.106	0.269	Student's-t	282	0.01
Americium-241	Combined	56	Gamma	0.035	11.7	2.384	2.328	3.089	Approx. Gamma	283	0.16
Plutonium-238	IR Report	51	Nonparametric	0.009	9.13	1.614	2.212	2.964	Chebyshev	330	0.13
Plutonium-238	New	10	Normal	0.05	2.062	0.735	0.642	1.107	Student's-t	332	0.05
Plutonium-238	Combined	61	Gamma	0.009	9.13	1.47	2.061	2.037	Approx. Gamma	333	0.09
Plutonium-239/240	IR Report	49	Gamma	0.324	28.51	6.317	5.058	7.667	Approx. Gamma	300	0.38
Plutonium-239/240	New	10	Normal	0.16	14.38	5.496	4.411	8.053	Student's-t	302	0.40
Plutonium-239/240	Combined	59	Gamma	0.16	28.51	6.178	4.928	7.431	Approx. Gamma	303	0.37

[a] 95% UCL from PROUCL 4.0 (EPA 2007, 096530) or max detection if one detection or ½ the maximum reporting limit, if no detections.

[b] Screening levels from LANL (2005, 088493).

Appendix A

Field Information

BOREHOLE LOG
Material Disposal Area T Phase II Investigation

BH ID: 21-01860	TA-21	Drill Depth: 0-14 ft bgs	Total Pages: 1
Driller: Dave Starnes/Spectrum		Start Date: 10/13/2007	End Date: 10/13/2007
Drilling Equipment/Method: CME 85 Hollow-Stem Auger		Logged By: M.Sandoval, K.Reid	
Sampling Equipment/Method: 3" ID 5' Length Split-Barrel Sampler			

DEPTH (ft bgs)	RECOVERY (ft/ft)	FIELD SCREENING RESULTS: PID (ppm)/RAD	SAMPLE ID	LITHOLOGICAL DESCRIPTION	LITHOLOGY	NOTES
0 1 2 3 4	4/4	PID=0.0 RAD=<MDA	0-0.8 ft bgs MD21-07-6761	0-4' Soil: well developed, dark brown-black 7.5yr4/2; clayey; very moist fades to pale tan at base (3.5-4ft) 7.5yr5/4. Large pumice and tuff clasts in soil	SOIL	1520 1 ft stick-up
5 6 7 8 9	5/5	PID=0.0 RAD=<MDA	7-8.5 ft bgs MD21-07-6762 MD21-07-6798 (FD)	4-8' Soil: well sorted, clay-silt, 7.5yr5.4, some quartz crystals (1-2mm), intermixed with weathered tuff. 8-9' Tuff, weathered, large quartz, sanidine (2-4mm), gray matrix 7.5yr6/1; soil/clay veins	SOIL QBT 2	1525 **Tuff at 8.0 ft bgs**
10 11 12 13 14	5/5	PID=0.0 RAD=<MDA	11-12 ft bgs MD21-07-6763	9-14' Tuff; sugary texture; pinkish gray matrix 5yr7/2; quartz 15-20%; rare sanidine; plagioclase 15%, oxidation on small minerals; some clayey veins (roots?) into tuff.	QBT 2	1530 TD = 14 ft bgs

BOREHOLE LOG
Material Disposal Area T Phase II Investigation

BH ID: 21-01861	TA-21	Drill Depth: 0-14 ft bgs	Total Pages: 1
Driller: Dave Starnes/Spectrum		Start Date: 10/13/2007	End Date: 10/13/2007
Drilling Equipment/Method: CME 85 Hollow-Stem Auger		Logged By: M.Sandoval, K.Reid	
Sampling Equipment/Method: 3" ID 5' Length Split-Barrel Sampler			

DEPTH (ft bgs)	RECOVERY (ft/ft)	FIELD SCREENING RESULTS: PID (ppm)/RAD	SAMPLE ID	LITHOLOGICAL DESCRIPTION	LITHOLOGY	NOTES
0 1 2 3 4	3/4	PID=0.0 RAD=<MDA	0-0.8 ft bgs MD21-07-6754	0-3' Soil: well-developed silty clay, tuff lithics (2-3cm), reddish soil 7.5yr2.5/2, damp. Lower section 7.5yr6/3, drier, well sorted, silty mud, damp 3-4' No Recovery	SOIL	1600 1 ft stick-up
5 6 7 8 9	5/5	PID=0.0 RAD=<MDA	6-7 ft bgs MD21-07-6755 7.5-8.5 ft bgs MD21-07-6756	4-8' very clayey soil, moist, well-sorted, a few roots, no lithics, reddish 5yr4/6. small vertical fracture <2mm aperture, slight (0-1mm) clay in fracture 8-9' Tuff, striped horizontally, gray and red	SOIL QBT 2	1605 **Tuff at 8.0 ft bgs**
10 11 12 13 14	5/5	PID=0.0 RAD=<MDA	11-12 ft bgs MD21-07-6757	9-14' Tuff, 25% quartz; 3% iron-stained plagioclase; rare sanidine; rare semi-flattened, fibrous pumice; grayish 7.5yr7/1	QBT 2	1615 TD = 14 ft bgs

BOREHOLE LOG
Material Disposal Area T Phase II Investigation

BH ID: 21-01862	TA-21	Drill Depth: 0-8.5 ft bgs	Total Pages: 1
Driller: Dave Starnes/Spectrum		Start Date: 10/14/2007	End Date: 10/14/2007
Drilling Equipment/Method: CME 85 Hollow-Stem Auger		Logged By: M.Sandoval, K.Reid	
Sampling Equipment/Method: 3" ID 5' Length Split-Barrel Sampler			

DEPTH (ft bgs)	RECOVERY (ft/ft)	FIELD SCREENING RESULTS: PID (ppm)/RAD	SAMPLE ID	LITHOLOGICAL DESCRIPTION	LITHOLOGY	NOTES
0 1 2 3 4	3.5/3.5	PID=0.0 RAD=<MDA	0-0.8 ft bgs MD21-07-6740	0-1.5' silty loam, 7.5yr5/4 1.5-3.5' silty clay loam, 5yr5/4	SOIL	1010 1 ft stick-up
5 6 7 8 9	5/5	PID=0.0 RAD=<MDA	4.5-6.5 ft bgs MD21-07-6741 MD21-07-6795 (FD) 7-8 ft bgs MD21-07-6742	3.5-4.5' Same as above 4.5-6.5' Tuff, weathered 6.5-8.5' Tuff, unweathered	QBT 2	**Tuff at 4.5 ft bgs** 1015 TD = 8.5 ft bgs

BOREHOLE LOG
Material Disposal Area T Phase II Investigation

BH ID: 21-02568	TA-21	Drill Depth: 0-10ft bgs	Total Pages: 1
Driller: Dave Starnes/Spectrum		Start Date: 10/14/2007	End Date: 10/14/2007
Drilling Equipment/Method: CME 85 Hollow-Stem Auger		Logged By: M.Sandoval, K.Reid	
Sampling Equipment/Method: 3" ID 5' Length Split-Barrel Sampler			

DEPTH (ft bgs)	RECOVERY (ft/ft)	FIELD SCREENING RESULTS: PID (ppm)/RAD	SAMPLE ID	LITHOLOGICAL DESCRIPTION	LITHOLOGY	NOTES
0 1 2 3 4 5	3/5	PID=0.0 RAD=<MDA	0-0.8 ft bgs MD21-07-6771	0-3' sandy clay loam 3-5' No Recovery	SOIL	1110 1 ft stick-up **Tuff at 5.7 ft bgs**
6 7 8 9 10	5/5	PID=0.0 RAD=<MDA	5.3-6.1 ft bgs MD21-07-6772 9-10 ft bgs MD21-07-6773	5-7.5' Tuff, weathered 7.5-10' Tuff, unweathered	QBT 2	1120 TD = 10 ft bgs

BOREHOLE LOG
Material Disposal Area T Phase II Investigation

BH ID: 21-02569	TA-21	Drill Depth: 0-14 ft bgs	Total Pages: 1
Driller: Dave Starnes/Spectrum		Start Date: 10/13/2007	End Date: 10/13/2007
Drilling Equipment/Method: CME 85 Hollow-Stem Auger		Logged By: M.Sandoval, K.Reid	
Sampling Equipment/Method: 3" ID 5' Length Split-Barrel Sampler			

DEPTH (ft bgs)	RECOVERY (ft/ft)	FIELD SCREENING RESULTS: PID (ppm)/RAD	SAMPLE ID	LITHOLOGICAL DESCRIPTION	LITHOLOGY	NOTES
0 1 2 3 4	4/4	PID=0.0 RAD=<MDA	0-0.8 ft bgs MD21-07-6775	0-4' Soil: well-developed , dark 7.5yr3/2; a few rounded quartz/pumice/tuff/pebbles at very base; pebbly horizon at 2.5ft; blackish clay layer just below pebbles. Very damp.	SOIL	1450 1 ft stick-up
5 6 7 8 9	4.5/5	PID=0.0 RAD=<MDA	7.5-8.5 ft bgs MD21-07-6776	4-8' Same as above with organic rooty layer at 4.5-5 ft bgs 8-9' Tuff, weathered, mixed with soil, damp 7.5YR 4/4	SOIL QBT 2	1453 **Tuff at 8.0 ft bgs**
10 11 12 13 14	3/5	PID=0.0 RAD=<MDA	12-13 ft bgs MD21-07-6777	9-12' Tuff; grayish matrix, 7.5yr7/2, disced; 20% quartz, 5% iron oxidized mafics or pyroxene; 5-10% plagioclase; rare sanidine; poorly welded 12-14' No Recovery	QBT 2	1500 TD = 14 ft bgs

BOREHOLE LOG
Material Disposal Area T Phase II Investigation

BH ID: 21-25266	TA-21	Drill Depth: 0-14 ft bgs	Total Pages: 1
Driller: Dave Starnes/Spectrum		Start Date: 10/19/2007	End Date: 10/19/2007
Drilling Equipment/Method: CME 85 Hollow-Stem Auger		Logged By: M.Sandoval, K.Reid	
Sampling Equipment/Method: 3" ID 5' Length Split-Barrel Sampler			

DEPTH (ft bgs)	RECOVERY (ft/ft)	FIELD SCREENING RESULTS: PID (ppm)/RAD	SAMPLE ID	LITHOLOGICAL DESCRIPTION	LITHOLOGY	NOTES
0 1 2 3 4	4/4	PID=0.0 RAD=<MDA	0-0.8 ft bgs MD21-07-6768	0-2' silty loam 5yr4/4, dry 2-4' silty clay 7.5yr4/4, dry	SOIL	915 1 ft stick-up
5 6 7 8 9	4/5	PID=0.0 RAD=<MDA	5-5.7 ft bgs MD21-07-6769	4-5.3' Same as above 5.3-9' Tuff, weathered, 7.5yr6.2, dry. Quartz 15%, sanidine 10%.	SOIL QBT 2	**Tuff at 5.3 ft bgs** 920
10 11 12 13 14	5/5	PID=0.0 RAD=<MDA	12.5-13.3 ft bgs MD21-07-6770	9-11' Same as above 11-14' Unweathered tuff, 10yr8/1,dry, quartz 10%, sanidine 10%, mafic 1%, Iron staining at grain boundaries.	QBT 2	930 TD = 14 ft bgs

BOREHOLE LOG
SWMU 21-016(a)-99 RFI Characterization

BOREHOLE ID: 21-25262 (BH-01)	Technical Area (TA): 21-016(a)-99 (MDA-T)		Page 1 of 19
DRILLING COMPANY: Spectrum Exploration	START DATE/TIME: 12/09/2005:1255	FINISH DATE/TIME: 1/05/2006:1010	
DRILLING EQUIPMENT/METHOD: CME-85 HSA, 4.25" ID, 9" Diameter Bit			
SAMPLING EQUIPMENT/METHOD: 3" Split-Barrel Sampler (5.0' length)			
GROUND ELEVATION: 7142.7'	α/β DAILY BACKGROUND READINGS:	12/09/2005: 42 dpm and 2160 dpm (α and β) 12/12/2005: 28 dpm and 2140 dpm (α and β) 12/13/2005: 57.2 dpm and 1606 dpm (α and β) 12/14/2005: 38 dpm and 2180 dpm (α and β) 12/15/2005: 17.8 dpm and 2130 dpm (α and β) 12/16/2005: 36.8 dpm and 1382 dpm (α and β) 12/19/2005: 32.2 dpm and 1347 dpm (α and β) 12/20/2005: 11.9 dpm and 1800 dpm (α and β) 12/21/2005: 29.4 dpm and 1711 dpm (α and β) 12/22/2005: 35.6 dpm and 1847 dpm (α and β) 01/03/2006: 41.1 dpm and 1788 dpm (α and β) 01/04/2006: 29.6 dpm and 1721 dpm (α and β) 01/05/2006: 29.6 dpm and 1956 dpm (α and β)	TOTAL DEPTH: 380.0'
DRILLER: Steven Tanuz			GEOLOGIST: S. White

Depth (ft bgs)	Recovery (ft)	Field Analytical Sample: Sample ID/Type	Field Screening Results	LITHOLOGY - DESCRIPTION	Graphic Log	Lithologic Symbol	ADDITIONAL COMMENTS
0.0	2.9/5		PID= 0.0 α/β=<MDA	CLAY, SILT, AND GRAVEL FILL: *(0.0-0.6 ft)* Brown (7.5YR, 4/2) mixed fill with roughly equal parts of silt clay and gravel with little fine to medium-grained sand and trace organics (roots and grasses). Slightly damp. CLAY and REWORKED TUFF FILL: *(0.6-2.9 ft)* Variable in color: grey, pink, brown. Dominantly clay and reworked tuff material with trace amounts of fine to medium-grained sand and silt. Slightly damp.		FILL	
	NR						
5.0	5/5		PID= 0.1 α/β=<MDA	SILT AND CLAY FILL: *(5.0-7.8 ft)* Red brown (5YR, 4/4) fill composed primarily of fines (silts and clays), with little fine to medium-grained sand and trace reworked tuff. Slightly damp and soft. REWORKED TUFF: *(7.8-10.9 ft)* (5YR, 6/2) weathered tuff with 15-20% qtz and plagioclase phenocrysts and ~10% pumice clasts (2-4 mm in diameter).			
10.0	5/5		PID= 0.6 α/β=<MDA	UNIT 3 TSHIERGE MEMBER, BANDELIER TUFF: *Poorly-welded crystalline ash flow tuff.* *(10.9-20.0 ft)* Light grey (5YR 6/1) with ~15% of qtz and ~10% plagioclase in a grey ash matrix. Pumice clasts also present (10-15%) and range in size from 6-10 mm, dry.		Qbt3	Fill/tuff contact at 10.9' bgs. Set 12" diameter surface casing 0-12"
15.0	5/5	MD21-06-64011 (15.0 to 16.0' bgs) Moisture	PID= 0.3 α/β=<MDA				
20.0							

BOREHOLE LOG
SWMU 21-016(a)-99 RFI Characterization

BOREHOLE ID: 21-25262 (BH-01)	Technical Area (TA): 21-016(a)-99 (MDA-T)		Page 2 of 19
DRILLING COMPANY: Spectrum Exploration	START DATE/TIME: 12/12/2005:1235	FINISH DATE/TIME: 1/05/2006:1010	
DRILLING EQUIPMENT/METHOD: CME-85 HSA, 4.25" ID, 9" Diameter Bit			
SAMPLING EQUIPMENT/METHOD: 3" Split-Barrel Sampler (5.0' length)			
GROUND ELEVATION: 7142.7'	α/β DAILY BACKGROUND READINGS:	12/09/2005: 42 dpm and 2160 dpm (α and β) 12/12/2005: 28 dpm and 2140 dpm (α and β) 12/13/2005: 57.2 dpm and 1606 dpm (α and β) 12/14/2005: 38 dpm and 2180 dpm (α and β) 12/15/2005: 17.8 dpm and 2130 dpm (α and β) 12/16/2005: 36.8 dpm and 1382 dpm (α and β) 12/19/2005: 32.2 dpm and 1347 dpm (α and β) 12/20/2005: 11.9 dpm and 1800 dpm (α and β) 12/21/2005: 29.4 dpm and 1711 dpm (α and β) 12/22/2005: 35.6 dpm and 1847 dpm (α and β) 01/03/2006: 41.1 dpm and 1788 dpm (α and β) 01/04/2006: 29.6 dpm and 1721 dpm (α and β) 01/05/2006: 29.6 dpm and 1956 dpm (α and β)	TOTAL DEPTH: 380.0'
DRILLER: Steven Tanuz			GEOLOGIST: S. White

Depth (ft bgs)	Recovery (ft)	Field Analytical Sample: Sample ID/Type	Field Screening Results	LITHOLOGY - DESCRIPTION	Graphic Log	Lithologic Symbol	ADDITIONAL COMMENTS
20.0							
		MD21-06-64012 (20.0 to 21.0' bgs) Moisture	PID= 0.4 α/β=<MDA	UNIT 3 TSHIERGE MEMBER, BANDELIER TUFF: *Same As Above (SAA)* *(20.0-40.0 ft)* *Poorly-welded crystalline ash flow tuff.* Minor variations noted below.		Qbt3	
	5/5	MD21-06-63897 (22.0 to 23.5' bgs) Fracture		*Downsection:* *22.7' bgs*: Clay-filled fracture (aperture 6-8 mm) 35-40 degrees relative to ground surface.			
25.0		MD21-06-64013 (25.0 to 26.0' bgs) Moisture	PID= 0.3 α/β=<MDA				
	5/5	MD21-06-64143 (26.0 to 27.0' bgs) Geotechnical					
30.0		MD21-06-64014 (30.0 to 31.0' bgs) Moisture	PID= na α/β=<MDA				
	5/5						
35.0		MD21-06-64015 (35.0 to 36.0' bgs) Moisture	PID= 1.6 α/β=<MDA	35.0-40.0' *bgs*: Degree of welding is increasingly variable, poorly welded to nonwelded.			Degree of welding decreasing.
	5/5						
40.0							

BOREHOLE LOG
SWMU 21-016(a)-99 RFI Characterization

BOREHOLE ID: 21-25262 (BH-01)	Technical Area (TA): 21-016(a)-99 (MDA-T)		Page 3 of 19
DRILLING COMPANY: Spectrum Exploration	START DATE/TIME: 12/12/2005:1545	FINISH DATE/TIME: 1/5/2006:1010	
DRILLING EQUIPMENT/METHOD: CME-85 HSA, 4.25" ID, 9" Diameter Bit			
SAMPLING EQUIPMENT/METHOD: 3" Split-Barrel Sampler (5.0' length)			
GROUND ELEVATION: 7142.7'	α/β DAILY BACKGROUND READINGS:	12/09/2005: 42 dpm and 2160 dpm (α and β) 12/12/2005: 28 dpm and 2140 dpm (α and β) 12/13/2005: 57.2 dpm and 1606 dpm (α and β) 12/14/2005: 38 dpm and 2180 dpm (α and β) 12/15/2005: 17.8 dpm and 2130 dpm (α and β) 12/16/2005: 36.8 dpm and 1382 dpm (α and β) 12/19/2005: 32.2 dpm and 1347 dpm (α and β) 12/20/2005: 11.9 dpm and 1800 dpm (α and β) 12/21/2005: 29.4 dpm and 1711 dpm (α and β) 12/22/2005: 35.6 dpm and 1847 dpm (α and β) 01/03/2006: 41.1 dpm and 1788 dpm (α and β) 01/04/2006: 29.6 dpm and 1721 dpm (α and β) 01/05/2006: 29.6 dpm and 1956 dpm (α and β)	TOTAL DEPTH: 380.0'
DRILLER: Steven Tanuz			GEOLOGIST: S. White

Depth (ft bgs)	Recovery (ft)	Field Analytical Sample: Sample ID/Type	Field Screening Results	LITHOLOGY - DESCRIPTION	Graphic Log	Lithologic Symbol	ADDITIONAL COMMENTS
40.0	4.5/5	MD21-06-64016 (40.0 to 41.0' bgs) Moisture	PID= 2.6 α/β=<MDA	UNIT 3 TSHIERGE MEMBER, BANDELIER TUFF: *Poorly welded to non-welded ash flow tuff.* *(40.0-60.0 ft)* Slightly less welded and more crystalline than above. Tuff is grey (5YR, 6/1) and contains primarily qtz (10-15%) and plagioclase (10-15%) phenocrysts in a grey ash matrix. Pumice clasts also present and range in size 2-6 mm.		Qbt3	
45.0	NR 4.5/5	MD21-06-64017 (45.0 to 46.0' bgs) Moisture	PID= 0.3 α/β=<MDA				
50.0	NR 5/5	MD21-06-64018 (50.0 to 51.0' bgs) Moisture	PID= 0.3 α/β=<MDA				
55.0	5/5	MD21-06-64019 (55.0 to 56.0' bgs) Moisture	PID= 0.3 α/β=<MDA	*55.0-60.0' bgs*: Slight variability in tuff color. At 57.3-57.6' bgs, tuff is a light brown (7.5YR, 6/2) but color is not pervasive and does not continue through the core diameter.			
60.0							

BOREHOLE LOG
SWMU 21-016(a)-99 RFI Characterization

BOREHOLE ID: 21-25262 (BH-01)	Technical Area (TA): 21-016(a)-99 (MDA-T)		Page 4 of 19
DRILLING COMPANY: Spectrum Exploration	START DATE/TIME: 12/13/2005:1100	FINISH DATE/TIME: 1/05/2006:1010	
DRILLING EQUIPMENT/METHOD: CME-85 HSA, 4.25" ID, 9" Diameter Bit			
SAMPLING EQUIPMENT/METHOD: 3" Split-Barrel Sampler (5.0' length)			
GROUND ELEVATION: 7142.7'	α/β DAILY BACKGROUND READINGS:	TOTAL DEPTH: 380.0'	
DRILLER: Steven Tanuz		GEOLOGIST: S. White	

α/β DAILY BACKGROUND READINGS:
12/09/2005: 42 dpm and 2160 dpm (α and β)
12/12/2005: 28 dpm and 2140 dpm (α and β)
12/13/2005: 57.2 dpm and 1606 dpm (α and β)
12/14/2005: 38 dpm and 2180 dpm (α and β)
12/15/2005: 17.8 dpm and 2130 dpm (α and β)
12/16/2005: 36.8 dpm and 1382 dpm (α and β)
12/19/2005: 32.2 dpm and 1347 dpm (α and β)
12/20/2005: 11.9 dpm and 1800 dpm (α and β)
12/21/2005: 29.4 dpm and 1711 dpm (α and β)
12/22/2005: 35.6 dpm and 1847 dpm (α and β)
01/03/2006: 41.1 dpm and 1788 dpm (α and β)
01/04/2006: 29.6 dpm and 1721 dpm (α and β)
01/05/2006: 29.6 dpm and 1956 dpm (α and β)

Depth (ft bgs)	Recovery (ft)	Field Analytical Sample: Sample ID/Type	Field Screening Results	LITHOLOGY - DESCRIPTION	Graphic Log	Lithologic Symbol	ADDITIONAL COMMENTS
60.0	5/5	MD21-06-64020 (60.0 to 61.0' bgs) Moisture	PID= 0.3 α/β=<MDA	UNIT 3 TSHIERGE MEMBER, BANDELIER TUFF: SAA (60.0-75.0 ft) Poorly welded to non-welded crystalline ash flow tuff.		Qbt3	
65.0	5/5	MD21-06-64021 (65.0 to 66.0' bgs) Moisture	PID= 0.1 α/β=<MDA				
70.0	5/5	MD21-06-64022 (70.0 to 71.0' bgs) Moisture	PID= 0.2 α/β=<MDA				
75.0	2/5	MD21-06-64023 (75.0 to 76.0' bgs) Moisture AND MD21-06-63898 (75.0 to 77.0' bgs) Gen. Investigation	PID= 0.2 α/β=<MDA	Non-welded crystalline ash flow tuff. (75.0-80.0 ft) Tuff is non-welded throughout this section. Qtz phenocrysts slightly larger and more abundant (~20%) in unwelded portions.			Sample collected at the inferred base of disposal shaft(s) (75-77' bgs).
	NR	MD21-06-64204 (79.0 to 81.0' bgs) Pore Gas					
80.0							

BOREHOLE LOG
SWMU 21-016(a)-99 RFI Characterization

BOREHOLE ID: 21-25262 (BH-01)	Technical Area (TA): 21-016(a)-99 (MDA-T)		Page 5 of 19
DRILLING COMPANY: Spectrum Exploration	START DATE/TIME: 12/13/2005:1350	FINISH DATE/TIME: 1/5/2006:1010	
DRILLING EQUIPMENT/METHOD: CME-85 HSA, 4.25" ID, 9" Diameter Bit			
SAMPLING EQUIPMENT/METHOD: 3" Split-Barrel Sampler (5.0' length)			
GROUND ELEVATION: 7142.7'	α/β DAILY BACKGROUND READINGS:	TOTAL DEPTH: 380.0'	
DRILLER: Steven Tanuz		GEOLOGIST: S. White	

α/β DAILY BACKGROUND READINGS:
12/09/2005: 42 dpm and 2160 dpm (α and β)
12/12/2005: 28 dpm and 2140 dpm (α and β)
12/13/2005: 57.2 dpm and 1606 dpm (α and β)
12/14/2005: 38 dpm and 2180 dpm (α and β)
12/15/2005: 17.8 dpm and 2130 dpm (α and β)
12/16/2005: 36.8 dpm and 1382 dpm (α and β)
12/19/2005: 32.2 dpm and 1347 dpm (α and β)
12/20/2005: 11.9 dpm and 1800 dpm (α and β)
12/21/2005: 29.4 dpm and 1711 dpm (α and β)
12/22/2005: 35.6 dpm and 1847 dpm (α and β)
01/03/2006: 41.1 dpm and 1788 dpm (α and β)
01/04/2006: 29.6 dpm and 1721 dpm (α and β)
01/05/2006: 29.6 dpm and 1956 dpm (α and β)

Depth (ft bgs)	Recovery (ft)	Field Analytical Sample: Sample ID/Type	Field Screening Results	LITHOLOGY - DESCRIPTION	Graphic Log	Lithologic Symbol	ADDITIONAL COMMENTS
80.0	5/5	MD21-06-64204 (79.0 to 81.0' bgs) Pore Gas AND MD21-06-64024 (80.0 to 81.0' bgs) Moisture	PID= 0.2 α/β=<MDA	UNIT 3 TSHIERGE MEMBER, BANDELIER TUFF: *SAA* *(80.0-100.0 ft)* *Non-welded crystalline ash flow tuff.* Minor variations noted below.		Qbt3	
85.0	5/5	MD21-06-64025 (85.0 to 86.0' bgs) Moisture	PID= 0.1 α/β=<MDA				
90.0	5/5	MD21-06-64026 (90.0 to 91.0' bgs) Moisture	PID= 0.1 α/β=<MDA	*Downsection:* *90.0-99.5' bgs*: Grain size of matrix coarser than sections above and below. Overall non-welded tuff texture granular and sugary. Texture of sections above and below powdery and fine.			
95.0	5/5	MD21-06-64027 (95.0 to 96.0' bgs) Moisture	PID= 0.2 α/β=<MDA				
100.0							

BOREHOLE LOG
SWMU 21-016(a)-99 RFI Characterization

BOREHOLE ID: 21-25262 (BH-01)	Technical Area (TA): 21-016(a)-99 (MDA-T)		Page 6 of 19
DRILLING COMPANY: Spectrum Exploration	START DATE/TIME: 12/13/2005:1525	FINISH DATE/TIME: 1/5/2006:1010	
DRILLING EQUIPMENT/METHOD: CME-85 HSA, 4.25" ID, 9" Diameter Bit			
SAMPLING EQUIPMENT/METHOD: 3" Split-Barrel Sampler (5.0' length)			
GROUND ELEVATION: 7142.7'	α/β DAILY BACKGROUND READINGS:	TOTAL DEPTH: 380.0'	
DRILLER: Steven Tanuz		GEOLOGIST: S. White	

α/β DAILY BACKGROUND READINGS:
12/09/2005: 42 dpm and 2160 dpm (α and β)
12/12/2005: 28 dpm and 2140 dpm (α and β)
12/13/2005: 57.2 dpm and 1606 dpm (α and β)
12/14/2005: 38 dpm and 2180 dpm (α and β)
12/15/2005: 17.8 dpm and 2130 dpm (α and β)
12/16/2005: 36.8 dpm and 1382 dpm (α and β)
12/19/2005: 32.2 dpm and 1347 dpm (α and β)
12/20/2005: 11.9 dpm and 1800 dpm (α and β)
12/21/2005: 29.4 dpm and 1711 dpm (α and β)
12/22/2005: 35.6 dpm and 1847 dpm (α and β)
01/03/2006: 41.1 dpm and 1788 dpm (α and β)
01/04/2006: 29.6 dpm and 1721 dpm (α and β)
01/05/2006: 29.6 dpm and 1956 dpm (α and β)

Depth (ft bgs)	Recovery (ft)	Field Analytical Sample: Sample ID/Type	Field Screening Results	LITHOLOGY - DESCRIPTION	Graphic Log	Lithologic Symbol	ADDITIONAL COMMENTS
100.0	5/5		PID= 0.2 α/β=<MDA	UNIT 3 TSHIERGE MEMBER, BANDELIER TUFF: *SAA* *(100.0-105.0 ft)* *Non-welded crystalline ash flow tuff.* Poorly-welded section occurs at 103.3-104.1' bgs.		Qbt3	
105.0	5/5		PID= 0.2 α/β=<MDA	*Poorly-welded crystalline ash flow tuff.* *(105.0-109.0 ft)* Tuff grades from a grey (5YR, 6/1) to (5YR, 6/2). Qtz and plagioclase phenocrysts and pumice less abundant than above (10-15% and <10%, respectively). Pumice clasts range from 2 to 5 mm in diameter. Several small (20-40 mm) white ash pockets.			
110.0	5/5	MD21-06-63899 (110.0 to 113.0' bgs) Gen. Investigation AND MD21-06-63915 (110.0 to 113.0' bgs) Field Duplicate	PID= 0.2 α/β=<MDA	UNIT 2 TSHIERGE MEMBER, BANDELIER TUFF: *(109.0-117.2 ft)* *Poorly to moderately-welded crystalline ash flow tuff.* (5YR, 5/2) with qtz and plagioclase phenocrysts (15-20%) and pumice clasts (<10%) in a reddish grey ash matrix. Pumice clasts range from 2 to 5 mm in diameter. Tuff is dry and several sections are moderately welded.		Qbt2	Qbt3 / Qbt2 tuff contact at 109.0' bgs. Degree of welding: increasing
115.0	5/5	MD21-06-64206 (114.0 to 116.0' bgs) Pore Gas AND MD21-06-64028 (115.0 to 116.0' bgs) Moisture	PID= 0.5 α/β=<MDA				
120.0	5/5	MD21-06-63900 (116.0 to 118.0' bgs) Gen. Investigation		*Densly-welded crystalline ash flow tuff.* *(117.2-120.0 ft)* All other attributes SAA.			Drilling very slow, 2+ hours per 5 ft.

BOREHOLE LOG
SWMU 21-016(a)-99 RFI Characterization

BOREHOLE ID: 21-25262 (BH-01)	Technical Area (TA): 21-016(a)-99 (MDA-T)		Page 7 of 19
DRILLING COMPANY: Spectrum Exploration	START DATE/TIME: 12/14/2005:1620	FINISH DATE/TIME: 1/05/2006:1010	
DRILLING EQUIPMENT/METHOD: CME-85 HSA, 4.25" ID, 9" Diameter Bit			
SAMPLING EQUIPMENT/METHOD: 3" Split-Barrel Sampler (5.0' length)			
GROUND ELEVATION: 7142.7'	α/β DAILY BACKGROUND READINGS:	12/09/2005: 42 dpm and 2160 dpm (α and β) 12/12/2005: 28 dpm and 2140 dpm (α and β) 12/13/2005: 57.2 dpm and 1606 dpm (α and β) 12/14/2005: 38 dpm and 2180 dpm (α and β) 12/15/2005: 17.8 dpm and 2130 dpm (α and β) 12/16/2005: 36.8 dpm and 1382 dpm (α and β) 12/19/2005: 32.2 dpm and 1347 dpm (α and β) 12/20/2005: 11.9 dpm and 1800 dpm (α and β) 12/21/2005: 29.4 dpm and 1711 dpm (α and β) 12/22/2005: 35.6 dpm and 1847 dpm (α and β) 01/03/2006: 41.1 dpm and 1788 dpm (α and β) 01/04/2006: 29.6 dpm and 1721 dpm (α and β) 01/05/2006: 29.6 dpm and 1956 dpm (α and β)	TOTAL DEPTH: 380.0'
DRILLER: Steven Tanuz			GEOLOGIST: S. White

Depth (ft bgs)	Recovery (ft)	Field Analytical Sample: Sample ID/Type	Field Screening Results	LITHOLOGY - DESCRIPTION	Graphic Log	Lithologic Symbol	ADDITIONAL COMMENTS
120.0	5/5	MD21-06-64144 (124.6 to 125.0' bgs) Geotechnical	PID= 0.4 α/β=<MDA	UNIT 2 TSHIERGE MEMBER, BANDELIER TUFF: *SAA* *Densly-welded crystalline ash flow tuff.*		Qbt2	
125.0	5/5		PID= 0.1 α/β=<MDA	*Moderately-welded crystalline ash flow tuff. (125.0-140.0 ft)* Reddish grey (5YR 5/2) with qtz (15-20%), plagioclase (10-15%), and trace sanidine phenocrysts in a red grey ash matrix. Small (2-4 mm) pumice clasts also present but rare. Tuff is dry and hard. Phenocrysts size decreases with depth.			
130.0	5/5		PID= 0.1 α/β=<MDA				
135.0	5/5		PID= 0.2 α/β=<MDA				
140.0							

BOREHOLE LOG
SWMU 21-016(a)-99 RFI Characterization

BOREHOLE ID: 21-25262 (BH-01)	Technical Area (TA): 21-016(a)-99 (MDA-T)		Page 8 of 19
DRILLING COMPANY: Spectrum Exploration	START DATE/TIME: 12/15/2005:1135	FINISH DATE/TIME: 1/5/2006:1010	
DRILLING EQUIPMENT/METHOD: CME-85 HSA, 4.25" ID, 9" Diameter Bit			
SAMPLING EQUIPMENT/METHOD: 3" Split-Barrel Sampler (5.0' length)			
GROUND ELEVATION: 7142.7'	α/β DAILY BACKGROUND READINGS:	12/09/2005: 42 dpm and 2160 dpm (α and β) 12/12/2005: 28 dpm and 2140 dpm (α and β) 12/13/2005: 57.2 dpm and 1606 dpm (α and β) 12/14/2005: 38 dpm and 2180 dpm (α and β) 12/15/2005: 17.8 dpm and 2130 dpm (α and β) 12/16/2005: 36.8 dpm and 1382 dpm (α and β) 12/19/2005: 32.2 dpm and 1347 dpm (α and β) 12/20/2005: 11.9 dpm and 1800 dpm (α and β) 12/21/2005: 29.4 dpm and 1711 dpm (α and β) 12/22/2005: 35.6 dpm and 1847 dpm (α and β) 01/03/2006: 41.1 dpm and 1788 dpm (α and β) 01/04/2006: 29.6 dpm and 1721 dpm (α and β) 01/05/2006: 29.6 dpm and 1956 dpm (α and β)	TOTAL DEPTH: 380.0'
DRILLER: Steven Tanuz			GEOLOGIST: S. White

Depth (ft bgs)	Recovery (ft)	Field Analytical Sample: Sample ID/Type	Field Screening Results	LITHOLOGY - DESCRIPTION	Graphic Log	Lithologic Symbol	ADDITIONAL COMMENTS
140.0		MD21-06-64029 (140.0 to 141.0' bgs) Moisture	PID= 0.2 α/β=<MDA	UNIT 2 TSHIERGE MEMBER, BANDELIER TUFF: (140.0-155.0 ft) *Moderately-welded crystalline ash flow tuff, SAA.*		Qbt2	
	5/5	MD21-06-63901 (141.9 to 143.4' bgs) Fracture		*141.9-143.4' bgs*: Clay-filled fracture (aperture 8-10 mm) 70-75 degrees relative to the horizontal plane of reference (ground surface).			
145.0			PID= 0.1 α/β=<MDA				
	5/5			*148.1-148.2' bgs*: Thin (0.1' thick) grey (5YR 6/1) ash layer present.			
150.0			PID= 0.5 α/β=<MDA	Tuff becomes progressively less welded towards the base of this section (~150' bgs).			
	5/5						
155.0			PID= 0.1 α/β=<MDA	*Poorly-welded crystalline ash flow tuff.* (155.0-160.0 ft) Otherwise SAA.			
	5/5						
160.0							

BOREHOLE LOG
SWMU 21-016(a)-99 RFI Characterization

BOREHOLE ID: 21-25262 (BH-01)	Technical Area (TA): 21-016(a)-99 (MDA-T)		Page 9 of 19
DRILLING COMPANY: Spectrum Exploration	START DATE/TIME: 12/15/2005:1630	FINISH DATE/TIME: 1/05/2006:1010	
DRILLING EQUIPMENT/METHOD: CME-85 HSA, 4.25" ID, 9" Diameter Bit			
SAMPLING EQUIPMENT/METHOD: 3" Split-Barrel Sampler (5.0' length)			
GROUND ELEVATION: 7142.7'	α/β DAILY BACKGROUND READINGS:	TOTAL DEPTH: 380.0'	
DRILLER: Steven Tanuz		GEOLOGIST: S. White	

α/β DAILY BACKGROUND READINGS:
12/09/2005: 42 dpm and 2160 dpm (α and β)
12/12/2005: 28 dpm and 2140 dpm (α and β)
12/13/2005: 57.2 dpm and 1606 dpm (α and β)
12/14/2005: 38 dpm and 2180 dpm (α and β)
12/15/2005: 17.8 dpm and 2130 dpm (α and β)
12/16/2005: 36.8 dpm and 1382 dpm (α and β)
12/19/2005: 32.2 dpm and 1347 dpm (α and β)
12/20/2005: 11.9 dpm and 1800 dpm (α and β)
12/21/2005: 29.4 dpm and 1711 dpm (α and β)
12/22/2005: 35.6 dpm and 1847 dpm (α and β)
01/03/2006: 41.1 dpm and 1788 dpm (α and β)
01/04/2006: 29.6 dpm and 1721 dpm (α and β)
01/05/2006: 29.6 dpm and 1956 dpm (α and β)

Depth (ft bgs)	Recovery (ft)	Field Analytical Sample: Sample ID/Type	Field Screening Results	LITHOLOGY - DESCRIPTION	Graphic Log	Lithologic Symbol	ADDITIONAL COMMENTS
160.0	5/5	MD21-06-64030 (160.0 to 161.0' bgs) Moisture	PID= 0.1 α/β=<MDA	UNIT 2 TSHIERGE MEMBER, BANDELIER TUFF: *SAA* *(160.0-166.0 ft)* *Poorly-welded crystalline ash flow tuff.* Degree of welding continues to decrease with depth. In addition, tuff matrix grades more reddish in color towards the base of the section.		Qbt2	Degree of welding: decreasing
165.0	5/5		PID= 0.1 α/β=<MDA	UNIT Qbt 1v/Qbt2 TSHIERGE MEMBER *(164.0-168.0 ft)*		Qbt 1v/Qbt2	Qbt1v / Qbt2 Contact gradational.
170.0	5/5	MD21-06-63902 (170.0 to 172.0' bgs) Gen. Investigation; MD21-06-64145 (172.0 to 172.8' bgs) Geotechnical	PID= 0.1 α/β=<MDA	UNIT 1v TSHIERGE MEMBER, BANDELIER TUFF: *Poorly-welded crystalline ash flow tuff.* *(168.0- 170.0 ft)* Reddish brown (2.5YR, 5/3) tuff with ~15% of qtz and plagioclase phenocrysts, small (6-10 mm) trace vitrified pumice clasts (<10%) in a reddish brown ash matrix. Tuff is dry, soft, and contains a few pockets of grey ash and several unwelded sections.		Qbt1v	
175.0	5/5		PID= 0.1 α/β=<MDA	*Non-welded crystalline ash flow tuff.* *(170.0-180.0 ft)* SAA except tuff is non-welded. Pumice up to 20 mm.			
180.0							

BOREHOLE LOG
SWMU 21-016(a)-99 RFI Characterization

BOREHOLE ID: 21-25262 (BH-01)	Technical Area (TA): 21-016(a)-99 (MDA-T)		Page 10 of 19
DRILLING COMPANY: Spectrum Exploration	START DATE/TIME: 12/16/2005:1225	FINISH DATE/TIME: 1/5/2006:1010	
DRILLING EQUIPMENT/METHOD: CME-85 HSA, 4.25" ID, 9" Diameter Bit			
SAMPLING EQUIPMENT/METHOD: 3" Split-Barrel Sampler (5.0' length)			
GROUND ELEVATION: 7142.7'	α/β DAILY BACKGROUND READINGS:	TOTAL DEPTH: 380.0'	
DRILLER: Steven Tanuz		GEOLOGIST: S. White	

α/β DAILY BACKGROUND READINGS:
12/09/2005: 42 dpm and 2160 dpm (α and β)
12/12/2005: 28 dpm and 2140 dpm (α and β)
12/13/2005: 57.2 dpm and 1606 dpm (α and β)
12/14/2005: 38 dpm and 2180 dpm (α and β)
12/15/2005: 17.8 dpm and 2130 dpm (α and β)
12/16/2005: 36.8 dpm and 1382 dpm (α and β)
12/19/2005: 32.2 dpm and 1347 dpm (α and β)
12/20/2005: 11.9 dpm and 1800 dpm (α and β)
12/21/2005: 29.4 dpm and 1711 dpm (α and β)
12/22/2005: 35.6 dpm and 1847 dpm (α and β)
01/03/2006: 41.1 dpm and 1788 dpm (α and β)
01/04/2006: 29.6 dpm and 1721 dpm (α and β)
01/05/2006: 29.6 dpm and 1956 dpm (α and β)

Depth (ft)	Recovery (ft)	Field Analytical Sample: Sample ID/Type	Field Screening Results	LITHOLOGY - DESCRIPTION	Graphic Log	Lithologic Symbol	ADDITIONAL COMMENTS
180.0	5/5	MD21-06-64031 (180.0 to 181.0' bgs) Moisture	PID= 0.1 α/β=<MDA	UNIT 1V TSHIERGE MEMBER, BANDELIER TUFF: *SAA* *(180.0- 200.0 ft)* *Non-welded crystalline ash flow tuff.* Tuff matrix color continues to lighten with depth; grading to light red/grey (5YR 6/3) @ 185-190' bgs to pink/grey (5YR, 6/2) @ 195-200' bgs. Phenocrysts also coarsen with depth. Pumice fragments variable in size throughout section, ranging from 2 to 25 mm in size.		Qbt 1v	Phenocrysts: coarsening
185.0	5/5		PID= 0.1 α/β=<MDA				
190.0	5/5	MD21-06-64202 (189.0 to 191.0' bgs) Pore Gas	PID= 0.3 α/β=<MDA				
195.0	5/5		PID= 0.1 α/β=<MDA				
200.0							

BOREHOLE LOG
SWMU 21-016(a)-99 RFI Characterization

BOREHOLE ID: 21-25262 (BH-01)	Technical Area (TA): 21-016(a)-99 (MDA-T)		Page 11 of 19
DRILLING COMPANY: Spectrum Exploration	START DATE/TIME: 12/16/2005:1505	FINISH DATE/TIME: 1/5/2006:1010	
DRILLING EQUIPMENT/METHOD: CME-85 HSA, 4.25" ID, 9" Diameter Bit			
SAMPLING EQUIPMENT/METHOD: 3" Split-Barrel Sampler (5.0' length)			
GROUND ELEVATION: 7142.7'	α/β DAILY BACKGROUND READINGS:	TOTAL DEPTH: 380.0'	
DRILLER: Steven Tanuz		GEOLOGIST: S. White	

α/β DAILY BACKGROUND READINGS:
12/09/2005: 42 dpm and 2160 dpm (α and β)
12/12/2005: 28 dpm and 2140 dpm (α and β)
12/13/2005: 57.2 dpm and 1606 dpm (α and β)
12/14/2005: 38 dpm and 2180 dpm (α and β)
12/15/2005: 17.8 dpm and 2130 dpm (α and β)
12/16/2005: 36.8 dpm and 1382 dpm (α and β)
12/19/2005: 32.2 dpm and 1347 dpm (α and β)
12/20/2005: 11.9 dpm and 1800 dpm (α and β)
12/21/2005: 29.4 dpm and 1711 dpm (α and β)
12/22/2005: 35.6 dpm and 1847 dpm (α and β)
01/03/2006: 41.1 dpm and 1788 dpm (α and β)
01/04/2006: 29.6 dpm and 1721 dpm (α and β)
01/05/2006: 29.6 dpm and 1956 dpm (α and β)

Depth (ft bgs)	Recovery (ft)	Field Analytical Sample: Sample ID/Type	Field Screening Results	LITHOLOGY - DESCRIPTION	Graphic Log	Lithologic Symbol	ADDITIONAL COMMENTS
200.0	5/5	MD21-06-64032 (200.0 to 201.0' bgs) Moisture	PID= 0.2 α/β=<MDA	UNIT 1V TSHIERGE MEMBER, BANDELIER TUFF: *SAA* *(200.0-220.0 ft)* *Non-welded crystalline ash flow tuff.* Pink/grey (5YR, 6/2). Amount of pumice clasts increase with depth to 205' bgs (20%) and become variable below this depth (5-25%). Pumice size is variable, ranging from 5 to 40 mm.		Qbt1v	Pumice content increases with depth:
205.0	5/5		PID= 0.2 α/β=<MDA				
210.0	5/5		PID= 0.0 α/β=<MDA				
215.0	5/5		PID= 0.0 α/β=<MDA				
220.0							

BOREHOLE LOG
SWMU 21-016(a)-99 RFI Characterization

BOREHOLE ID: 21-25262 (BH-01)	Technical Area (TA): 21-016(a)-99 (MDA-T)		Page 12 of 19
DRILLING COMPANY: Spectrum Exploration	START DATE/TIME: 12/19/2005:1210	FINISH DATE/TIME: 1/05/2006:1010	
DRILLING EQUIPMENT/METHOD: CME-85 HSA, 4.25" ID, 9" Diameter Bit			
SAMPLING EQUIPMENT/METHOD: 3" Split-Barrel Sampler (5.0' length)			
GROUND ELEVATION: 7142.7'	α/β DAILY BACKGROUND READINGS:	TOTAL DEPTH: 380.0'	
DRILLER: Steven Tanuz		GEOLOGIST: S. White	

12/09/2005: 42 dpm and 2160 dpm (α and β)
12/12/2005: 28 dpm and 2140 dpm (α and β)
12/13/2005: 57.2 dpm and 1606 dpm (α and β)
12/14/2005: 38 dpm and 2180 dpm (α and β)
12/15/2005: 17.8 dpm and 2130 dpm (α and β)
12/16/2005: 36.8 dpm and 1382 dpm (α and β)
12/19/2005: 32.2 dpm and 1347 dpm (α and β)
12/20/2005: 11.9 dpm and 1800 dpm (α and β)
12/21/2005: 29.4 dpm and 1711 dpm (α and β)
12/22/2005: 35.6 dpm and 1847 dpm (α and β)
01/03/2006: 41.1 dpm and 1788 dpm (α and β)
01/04/2006: 29.6 dpm and 1721 dpm (α and β)
01/05/2006: 29.6 dpm and 1956 dpm (α and β)

Depth (ft bgs)	Recovery (ft)	Field Analytical Sample: Sample ID/Type	Field Screening Results	LITHOLOGY - DESCRIPTION	Graphic Log	Lithologic Symbol	ADDITIONAL COMMENTS
220.0	5/5		PID= 0.1 α/β=<MDA	UNIT 1V TSHIERGE MEMBER, BANDELIER TUFF: *SAA* *(220.0-235.0 ft)* *Non-welded crystalline ash flow tuff.* Color grades to reddish brown (5YR, 6/4). Pumice content is variable (5-25%). Phenocrysts slightly coarser in lower sections. Other minor variations detailed below.		Qbt 1v	
225.0	5/5		PID= 0.0 α/β=<MDA				
230.0	4.6/5	MD21-06-64033 (230.0 to 231.0' bgs) Moisture	PID= 0.0 α/β=<MDA				
235.0	NR / 5/5	MD21-06-64205 (234.0 to 236.0' bgs) Pore Gas AND MD21-06-64034 (235.0 to 236.0' bgs) Moisture AND MD21-06-63903 (235.0 to 238.0' bgs) Gen. Investigation AND MD21-06-63916 (235.0 to 238.0' bgs) Field Duplicate MD21-06-64146 (238.0 to 238.9' bgs) Geotechnical	PID= 0.3 α/β=<MDA	*232-234.6' bgs*: Degree of welding increasing slightly with depth. Tuff is damp in shoe extracted from the 230-235' run. *Poorly-welded crystalline ash flow tuff.* *(235.0-240.0 ft)* Red yellow (5YR, 6/6). Qtz and plagioclase phenocrysts coarse and 10-15% in a soft damp to dry matrix. Pumice (4-30 mm) remain soft and vary from 5-25%. Trace dacite/rhyolite clasts also present.			Insufficient material for sampling; Base of Qbt1v / Top of Qbt1g
240.0							

BOREHOLE LOG
SWMU 21-016(a)-99 RFI Characterization

BOREHOLE ID: 21-25262 (BH-01)	Technical Area (TA): 21-016(a)-99 (MDA-T)		Page 13 of 19
DRILLING COMPANY: Spectrum Exploration	START DATE/TIME: 12/20/2005:0955	FINISH DATE/TIME: 1/05/2006:1010	
DRILLING EQUIPMENT/METHOD: CME-85 HSA, 4.25" ID, 9" Diameter Bit			
SAMPLING EQUIPMENT/METHOD: 3" Split-Barrel Sampler (5.0' length)			
GROUND ELEVATION: 7142.7'	α/β DAILY BACKGROUND READINGS:	TOTAL DEPTH: 380.0'	
DRILLER: Steven Tanuz		GEOLOGIST: S. White	

α/β DAILY BACKGROUND READINGS:
12/09/2005: 42 dpm and 2160 dpm (α and β)
12/12/2005: 28 dpm and 2140 dpm (α and β)
12/13/2005: 57.2 dpm and 1606 dpm (α and β)
12/14/2005: 38 dpm and 2180 dpm (α and β)
12/15/2005: 17.8 dpm and 2130 dpm (α and β)
12/16/2005: 36.8 dpm and 1382 dpm (α and β)
12/19/2005: 32.2 dpm and 1347 dpm (α and β)
12/20/2005: 11.9 dpm and 1800 dpm (α and β)
12/21/2005: 29.4 dpm and 1711 dpm (α and β)
12/22/2005: 35.6 dpm and 1847 dpm (α and β)
01/03/2006: 41.1 dpm and 1788 dpm (α and β)
01/04/2006: 29.6 dpm and 1721 dpm (α and β)
01/05/2006: 29.6 dpm and 1956 dpm (α and β)

Depth (ft bgs)	Recovery (ft)	Field Analytical Sample: Sample ID/Type	Field Screening Results	LITHOLOGY - DESCRIPTION	Graphic Log	Lithologic Symbol	ADDITIONAL COMMENTS
240.0	3/5		PID= 0.3 α/β=<MDA	UNIT 1V/1G TSHIERGE MEMBER, BANDELIER TUFF: *SAA* *(240.0-243 ft)* *Poorly-welded crystalline ash flow tuff.*		Qbt 1v	
	NR						
245.0	5/5	MD21-06-64035 (245.0 to 246.0' bgs) Moisture	PID= 0.4 α/β=<MDA	UNIT 1G TSHIERGE MEMBER, BANDELIER TUFF: *Non-welded pumaceous ash flow tuff.* *(245-260.0 ft)* Yellow red (5YR, 4/6) with ~10% of coarse qtz and plagioclase phenocrysts and pumice in an ash matrix. Pumice (5-25 mm, 15-20%) are hard and glassy. Black glass shards and dacite pebbles (5-15 mm) present in trace amounts.		Qbt 1g	
250.0	3.3/5	MD21-06-63904 (251.0 to 253.0' bgs) Gen. Investigation AND MD21-06-63917 (251.0 to 253.0' bgs) Field Duplicate	PID= 0.4 α/β=<MDA				
	NR						
255.0	5/5		PID= 0.0 α/β=<MDA				
260.0							

BOREHOLE LOG
SWMU 21-016(a)-99 RFI Characterization

BOREHOLE ID: 21-25262 (BH-01)	Technical Area (TA): 21-016(a)-99 (MDA-T)		Page 14 of 19
DRILLING COMPANY: Spectrum Exploration	START DATE/TIME: 12/20/2005:1215	FINISH DATE/TIME: 1/5/2006:1010	
DRILLING EQUIPMENT/METHOD: CME-85 HSA, 4.25" ID, 9" Diameter Bit			
SAMPLING EQUIPMENT/METHOD: 3" Split-Barrel Sampler (5.0' length)			
GROUND ELEVATION: 7142.7'	α/β DAILY BACKGROUND READINGS:	12/09/2005: 42 dpm and 2160 dpm (α and β) 12/12/2005: 28 dpm and 2140 dpm (α and β) 12/13/2005: 57.2 dpm and 1606 dpm (α and β) 12/14/2005: 38 dpm and 2180 dpm (α and β) 12/15/2005: 17.8 dpm and 2130 dpm (α and β) 12/16/2005: 36.8 dpm and 1382 dpm (α and β) 12/19/2005: 32.2 dpm and 1347 dpm (α and β) 12/20/2005: 11.9 dpm and 1800 dpm (α and β) 12/21/2005: 29.4 dpm and 1711 dpm (α and β) 12/22/2005: 35.6 dpm and 1847 dpm (α and β) 01/03/2006: 41.1 dpm and 1788 dpm (α and β) 01/04/2006: 29.6 dpm and 1721 dpm (α and β) 01/05/2006: 29.6 dpm and 1956 dpm (α and β)	TOTAL DEPTH: 380.0'
DRILLER: Steven Tanuz			GEOLOGIST: S. White

Depth (ft bgs)	Recovery (ft)	Field Analytical Sample: Sample ID/Type	Field Screening Results	LITHOLOGY - DESCRIPTION	Graphic Log	Lithologic Symbol	ADDITIONAL COMMENTS
260.0			PID= 0.2 α/β=<MDA	UNIT 1G TSHIERGE MEMBER, BANDELIER TUFF: *SAA* *(260.0-280.0 ft)* *Non-welded pumaceous ash flow tuff.* Pumice clast size can exceed 50 mm in this interval (greater than width of spilt-barrel sampler) and are hard and glassy. Tuff begins to transition in color to a light reddish brown (5YR, 6/4) below 265' bgs.		Qbt 1g	
	5/5	MD21-06-64036 (265.0 to 266.0' bgs) Moisture AND MD21-06-64051 (265.0 to 266.0' bgs) Moisture FD					
265.0			PID= 0.0 α/β=<MDA				
	5/5						
270.0			PID= 0.1 α/β=<MDA				
	4/5						
	NR						
275.0			PID= 0.1 α/β=<MDA				
	5/5						
280.0							

BOREHOLE LOG
SWMU 21-016(a)-99 RFI Characterization

BOREHOLE ID: 21-25262 (BH-01)	Technical Area (TA): 21-016(a)-99 (MDA-T)		Page 15 of 19
DRILLING COMPANY: Spectrum Exploration	START DATE/TIME: 12/20/2005:1600	FINISH DATE/TIME: 1/05/2006:1010	
DRILLING EQUIPMENT/METHOD: CME-85 HSA 4.25" ID, 9" Diameter Bit			
SAMPLING EQUIPMENT/METHOD: 3" Split-Barrel Sampler (5.0' length)			
GROUND ELEVATION: 7142.7'	α/β DAILY BACKGROUND READINGS:	12/09/2005: 42 dpm and 2160 dpm (α and β) 12/12/2005: 28 dpm and 2140 dpm (α and β) 12/13/2005: 57.2 dpm and 1606 dpm (α and β) 12/14/2005: 38 dpm and 2180 dpm (α and β) 12/15/2005: 17.8 dpm and 2130 dpm (α and β) 12/16/2005: 36.8 dpm and 1382 dpm (α and β) 12/19/2005: 32.2 dpm and 1347 dpm (α and β) 12/20/2005: 11.9 dpm and 1800 dpm (α and β) 12/21/2005: 29.4 dpm and 1711 dpm (α and β) 12/22/2005: 35.6 dpm and 1847 dpm (α and β) 01/03/2006: 41.1 dpm and 1788 dpm (α and β) 01/04/2006: 29.6 dpm and 1721 dpm (α and β) 01/05/2006: 29.6 dpm and 1956 dpm (α and β)	TOTAL DEPTH: 380.0'
DRILLER: Steven Tanuz			GEOLOGIST: S. White

Depth (ft bgs)	Recovery (ft)	Field Analytical Sample: Sample ID/Type	Field Screening Results	LITHOLOGY - DESCRIPTION	Graphic Log	Lithologic Symbol	ADDITIONAL COMMENTS
280.0	5/5		PID= 0.0 α/β=<MDA	UNIT 1g TSHIERGE MEMBER, BANDELIER TUFF: *SAA* *(280.0-300.0 ft)* *Non-welded ash flow tuff.* Color continues to grade lighter with increasing depth. Other minor variations noted below.		Qbt 1g	
285.0	2/5	**MD21-06-64037** *(285.0 to 286.0' bgs)* ***Moisture***	PID= 0.1 α/β=<MDA				
	NR						
290.0	5/5		PID= 0.0 α/β=<MDA	*290.4' bgs:* Sharp color change from 5YR, 6/3 to a pink grey (5YR, 7/2). Other constituents remain the same. *292.8-293.0' bgs:* Color band of 5YR, 6/3 tuff.			
295.0	5/5	**MD21-06-64203** *(294.0 to 296.0' bgs)* ***Pore Gas***	PID= 0.0 α/β=<MDA				
300.0							

BOREHOLE LOG
SWMU 21-016(a)-99 RFI Characterization

BOREHOLE ID: 21-25262 (BH-01)	Technical Area (TA): 21-016(a)-99 (MDA-T)		Page 16 of 19
DRILLING COMPANY: Spectrum Exploration	START DATE/TIME: 12/21/2005:1115	FINISH DATE/TIME: 01/05/2006:1010	
DRILLING EQUIPMENT/METHOD: CME-85 HSA, 4.25" ID, 9" Diameter Bit			
SAMPLING EQUIPMENT/METHOD: 3" Split-Barrel Sampler (5.0' length)			
GROUND ELEVATION: 7142.7'	α/β DAILY BACKGROUND READINGS:	TOTAL DEPTH: 380.0'	
DRILLER: Steven Tanuz		GEOLOGIST: S. White	

12/09/2005: 42 dpm and 2160 dpm (α and β)
12/12/2005: 28 dpm and 2140 dpm (α and β)
12/13/2005: 57.2 dpm and 1606 dpm (α and β)
12/14/2005: 38 dpm and 2180 dpm (α and β)
12/15/2005: 17.8 dpm and 2130 dpm (α and β)
12/16/2005: 36.8 dpm and 1382 dpm (α and β)
12/19/2005: 32.2 dpm and 1347 dpm (α and β)
12/20/2005: 11.9 dpm and 1800 dpm (α and β)
12/21/2005: 29.4 dpm and 1711 dpm (α and β)
12/22/2005: 35.6 dpm and 1847 dpm (α and β)
01/03/2006: 41.1 dpm and 1788 dpm (α and β)
01/04/2006: 29.6 dpm and 1721 dpm (α and β)
01/05/2006: 29.6 dpm and 1956 dpm (α and β)

Depth (ft bgs)	Recovery (ft)	Field Analytical Sample: Sample ID/Type	Field Screening Results	LITHOLOGY - DESCRIPTION	Graphic Log	Lithologic Symbol	ADDITIONAL COMMENTS
300.0	5/5		PID= 0.0 α/β=<MDA	UNIT 1g TSHIERGE MEMBER, BANDELIER TUFF: *SAA* *(300.0-320.0 ft)* *Non-welded ash flow tuff.* Other minor variations noted below.		Qbt 1g	
305.0	5/5	MD21-06-64038 (305.0 to 306.0' bgs) Moisture	PID= 0.0 α/β=<MDA				
310.0	5/5		PID= 0.3 α/β=<MDA	*310.0-320.0' bgs*: Tuff slightly moist, tan beige (7.5YR, 8/2), with 15% qtz, 10% sanidine, and 5% pumice clasts.			
315.0	5/5		α/β=<MDA				
320.0							

BOREHOLE LOG
SWMU 21-016(a)-99 RFI Characterization

BOREHOLE ID: 21-25262 (BH-01)	Technical Area (TA): 21-016(a)-99 (MDA-T)		Page 17 of 19
DRILLING COMPANY: Spectrum Exploration	START DATE/TIME: 01/03/2006:1215	FINISH DATE/TIME: 01/05/2006:1010	
DRILLING EQUIPMENT/METHOD: CME-85 HSA, 4.25" ID, 9" Diameter Bit			
SAMPLING EQUIPMENT/METHOD: 3" Split-Barrel Sampler (5.0' length)			
GROUND ELEVATION: 7142.7'	α/β DAILY BACKGROUND READINGS:	TOTAL DEPTH: 380.0'	
DRILLER: Steven Tanuz		GEOLOGIST: S. White	

α/β DAILY BACKGROUND READINGS:
12/09/2005: 42 dpm and 2160 dpm (α and β)
12/12/2005: 28 dpm and 2140 dpm (α and β)
12/13/2005: 57.2 dpm and 1606 dpm (α and β)
12/14/2005: 38 dpm and 2180 dpm (α and β)
12/15/2005: 17.8 dpm and 2130 dpm (α and β)
12/16/2005: 36.8 dpm and 1382 dpm (α and β)
12/19/2005: 32.2 dpm and 1347 dpm (α and β)
12/20/2005: 11.9 dpm and 1800 dpm (α and β)
12/21/2005: 29.4 dpm and 1711 dpm (α and β)
12/22/2005: 35.6 dpm and 1847 dpm (α and β)
01/03/2006: 41.1 dpm and 1788 dpm (α and β)
01/04/2006: 29.6 dpm and 1721 dpm (α and β)
01/05/2006: 29.6 dpm and 1956 dpm (α and β)

Depth (ft bgs)	Recovery (ft)	Field Analytical Sample: Sample ID/Type	Field Screening Results	LITHOLOGY - DESCRIPTION	Graphic Log	Lithologic Symbol	ADDITIONAL COMMENTS
320.0	5/5		α/β=<MDA	UNIT 1g TSHIERGE MEMBER, BANDELIER TUFF: *SAA* *(320.0-330.3 ft)* *Non-welded ash flow tuff.* Minor variations noted below.		Qbt 1g	
325.0	5/5	MD21-06-64039 (325.0 to 326.0' bgs) Moisture	α/β=<MDA	*Downsection:* *325.0' bgs:* Tuff grades to a light grey (5YR, 7/1). *329.2-329.5' bgs*: A thin pumice-rich horizon present.			
330.0	5/5	MD21-06-64040 (331.0 to 332.0' bgs) Moisture	α/β=<MDA	TSANKAWI PUMICE BED, TSHIERGE MEMBER, BANDELIER TUFF: *Pumice deposit.* *(330.3-333.2 ft)* Grey (5YR, 6/1) granular pumice, fine to coarse-grained.		Qbtt	Qbt1g / Qbtt contact: 330.3' bgs.
335.0	2.5/5	MD21-06-63905 (333.0 to 335.0' bgs) Gen. Investigation MD21-06-64147 (335.0 to 336.0' bgs) Geotechnical	PID= 0.1 α/β=<MDA	CERRO TOLEDO: *Sand.* *(333.2-340.0 ft)* Loose, slightly damp, multi-colored (predominantly [5YR, 5/4]) fine to coarse-grained sand with some silt and pumice gravel. Color dominantly (5YR 6/2) and (5YR 6/1) below 335.0' bgs. A 0.2' thick horizon of non-welded tuff occurs at 337.3 ft.		Qct	Qbtt / Qct contact: 333.2' bgs.
340.0	NR						

BOREHOLE LOG
SWMU 21-016(a)-99 RFI Characterization

BOREHOLE ID: 21-25262 (BH-01)	Technical Area (TA): 21-016(a)-99 (MDA-T)		Page 18 of 19
DRILLING COMPANY: Spectrum Exploration	START DATE/TIME: 01/03/2006:1615	FINISH DATE/TIME: 01/05/2006:1010	
DRILLING EQUIPMENT/METHOD: CME-85 HSA, 4.25" ID, 9" Diameter Bit			
SAMPLING EQUIPMENT/METHOD: 3" Split-Barrel Sampler (5.0' length)			
GROUND ELEVATION: 7142.7'	α/β DAILY BACKGROUND READINGS:	TOTAL DEPTH: 380.0'	
DRILLER: Steven Tanuz		GEOLOGIST: S. White	

12/09/2005: 42 dpm and 2160 dpm (α and β)
12/12/2005: 28 dpm and 2140 dpm (α and β)
12/13/2005: 57.2 dpm and 1606 dpm (α and β)
12/14/2005: 38 dpm and 2180 dpm (α and β)
12/15/2005: 17.8 dpm and 2130 dpm (α and β)
12/16/2005: 36.8 dpm and 1382 dpm (α and β)
12/19/2005: 32.2 dpm and 1347 dpm (α and β)
12/20/2005: 11.9 dpm and 1800 dpm (α and β)
12/21/2005: 29.4 dpm and 1711 dpm (α and β)
12/22/2005: 35.6 dpm and 1847 dpm (α and β)
01/03/2006: 41.1 dpm and 1788 dpm (α and β)
01/04/2006: 29.6 dpm and 1721 dpm (α and β)
01/05/2006: 29.6 dpm and 1956 dpm (α and β)

Depth (ft bgs)	Recovery (ft)	Field Analytical Sample: Sample ID/Type	Field Screening Results	LITHOLOGY - DESCRIPTION	Graphic Log	Lithologic Symbol	ADDITIONAL COMMENTS
340.0	5/5		PID= 0.0 α/β=<MDA	CERRO TOLEDO: *SAA* *(340.0-360.0 ft)* *Sand.* Still slightly damp. Sub-rounded fine to medium-grained dacite gravel present in subordinate amounts. Bedding visible below 343' bgs. Sand appears finer with increasing depth but is heterogeneous.		Qct	
345.0	5/5	MD21-06-64041 (345.0 to 346.0' bgs) Moisture	PID= 0.3 α/β=<MDA	*Downsection:* *347.0' bgs:* Sand color grades from (7.5YR, 5/4) to (7.5YR, 6/3).			
350.0	3.2/5	MD21-06-64148 (352.0 to 353.0' bgs) Geotechnical	PID= 0.0 α/β=<MDA				
	NR						
355.0	5/5	MD21-06-64042 (355.0 to 356.0' bgs) Moisture AND MD21-06-64052 (355.0 to 356.0' bgs) Moisture FD	PID= 0.1 α/β=<MDA				
360.0							

BOREHOLE LOG
SWMU 21-016(a)-99 RFI Characterization

BOREHOLE ID: 21-25262 (BH-01)	Technical Area (TA): 21-016(a)-99 (MDA-T)		Page 19 of 19
DRILLING COMPANY: Spectrum Exploration	START DATE/TIME: 01/04/2006:1245	FINISH DATE/TIME: 01/05/2006:1010	
DRILLING EQUIPMENT/METHOD: CME-85 HSA, 4.25" ID, 9" Diameter Bit			
SAMPLING EQUIPMENT/METHOD: 3" Split-Barrel Sampler (5.0' length)			
GROUND ELEVATION: 7142.7'	α/β DAILY BACKGROUND READINGS:	TOTAL DEPTH: 380.0'	
DRILLER: Steven Tanuz		GEOLOGIST: S. White	

α/β DAILY BACKGROUND READINGS:
12/09/2005: 42 dpm and 2160 dpm (α and β)
12/12/2005: 28 dpm and 2140 dpm (α and β)
12/13/2005: 57.2 dpm and 1606 dpm (α and β)
12/14/2005: 38 dpm and 2180 dpm (α and β)
12/15/2005: 17.8 dpm and 2130 dpm (α and β)
12/16/2005: 36.8 dpm and 1382 dpm (α and β)
12/19/2005: 32.2 dpm and 1347 dpm (α and β)
12/20/2005: 11.9 dpm and 1800 dpm (α and β)
12/21/2005: 29.4 dpm and 1711 dpm (α and β)
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01/03/2006: 41.1 dpm and 1788 dpm (α and β)
01/04/2006: 29.6 dpm and 1721 dpm (α and β)
01/05/2006: 29.6 dpm and 1956 dpm (α and β)

Depth (ft bgs)	Recovery (ft)	Field Analytical Sample: Sample ID/Type	Field Screening Results	LITHOLOGY - DESCRIPTION	Graphic Log	Lithologic Symbol	ADDITIONAL COMMENTS
360.0			PID= 0.2 α/β=<MDA	CERRO TOLEDO: *SAA* *(360.0-375.8 ft)* *Sand* Slightly damp. Pumice, dacite, and volcanic gravel clasts present in trace amounts below 370.0'.		Qct	
	5/5						
365.0		MD21-06-64043 (365.0 to 366.0' bgs) Moisture	PID= 0.1 α/β=<MDA				
	5/5						
370.0			PID= 0.2 α/β=<MDA				
	5/5	MD21-06-64201 (370.0 to 380.0' bgs) Pore Gas AND MD21-06-64231 (370.0 to 380.0' bgs) Pore Gas FD					
		MD21-06-63906 (373.0 to 375.0' bgs) Gen. Investigation AND MD21-06-63918 (373.0 to 375.0' bgs) Field Duplicate					
375.0			PID= 0.1 α/β=<MDA	OTOWI MEMBER, BANDELIER TUFF: *Non-welded tuff* *(375.8-380.0 ft)* Reddish yellow (5YR 6/6) with 10% qtz and sanidine phenocrysts and trace (~5%) soft pumice clasts (2-20 mm). Tuff is slightly damp.		Qbo	Qct / Qbo contact: 375.8' bgs.
	5/5						
		MD21-06-63907 (378.0 to 380.0' bgs) Gen. Investigation					
380.0							Borehole TD

BOREHOLE LOG
SWMU 21-016(a)-99 RFI Characterization

BOREHOLE ID: 21-25263 (BH-02)	Technical Area (TA): 21-016(a)-99 (MDA-T)		Page 1 of 18
DRILLING COMPANY: Spectrum Exploration	START DATE/TIME: 03/14/2006:1150	FINISH DATE/TIME: 04/06/2006:1735	
DRILLING EQUIPMENT/METHOD: CME-85 Hollow Stem Auger, 4.25" ID, 9" Diameter Bit			
SAMPLING EQUIPMENT/METHOD: 3" Split-Barrel Sampler (5.0' length)			
GROUND ELEVATION: 7134.8'	α/β DAILY BACKGROUND READINGS:	TOTAL DEPTH: 354.0'	
DRILLER: Steven Tanuz		GEOLOGIST: S. White	

03/14/2006: 11 dpm and 1521 dpm (α and β)
03/15/2006: 10 dpm and 1438 dpm (α and β)
03/16/2006: 10 dpm and 1448 dpm (α and β)
03/17/2006: ?? dpm and ?? dpm (α and β)
03/21/2006: 29 dpm and 1974 dpm (α and β)
03/23/2006: 10 dpm and 1331 dpm (α and β)
03/24/2006: 23 dpm and 1877 dpm (α and β)
03/27/2006: 31 dpm and 1154 dpm (α and β)
03/28/2006: 5 dpm and 1407 dpm (α and β)
03/29/2006: 21 dpm and 1378 dpm (α and β)
04/04/2006: 10 dpm and 1489 dpm (α and β)
04/05/2006: 15 dpm and 1401 dpm (α and β)
04/06/2006: 15 dpm and 1331 dpm (α and β)

Depth (ft bgs)	Recovery (ft)	Field Analytical Sample: Sample ID/Type	Field Screening Results	LITHOLOGY - DESCRIPTION	Graphic Log	Lithologic Symbol	ADDITIONAL COMMENTS
0.0	0.9/5	MD21-06-64151 (0.3 to 0.9' bgs) Geotechnical Plus Chloride	PID = 0.1 α/β=<MDA	SILT FILL: (0.0-0.9 ft) Brown (7.5YR 4/4) with some clay, subordinate fine to medium sand and trace organics (grass and roots). Fill is dry and moderatly hard.		FILL	First run (0-5 ft) drilled with lexan tubing on 03/14/2006
	NR			NOT RECOVERED			
5.0	5/5	MD21-06-64055 (5.0 to 6.0' bgs) Moisture	PID = 0.2 α/β=<MDA	CRUSHED TUFF FILL: (5.0-9.1 ft) Brown (7.5YR 4/4) with trace silt and trace fine to medium sand. Fill is damp and stiff.			
				UNIT 3 TSHIERGE MEMBER, BANDELIER TUFF: *Poorly welded crystalline ash flow tuff.* (9.1-10.0 ft) Reddish Grey (10R, 6/1) with 10-15% qtz and 5-10% plagioclase phenocrysts and 10% pumice clasts of variable size. Tuff is slightly damp.		Qbt3	Fill/tuff contact at 9.1' bgs. 10-14 ft - First run of 03/15/2006 Set 12" diameter surface casing to 10 ft bgs
10.0	4/4		PID = 0.2 α/β=<MDA	*10.0-20.0' bgs*: Phenocrysts very crystalline and fine to coarse-grained. Pumice fragments range from 2-20 mm and are maroon and fibrous. Phenocryst size lessens slightly towards the base of section (19-22.2 ft bgs).			
		MD21-06-64056 (14.0 to 15.0' bgs) Moisture	PID = 0.1 α/β=<MDA				
15.0	3.1/5						
	NR						
20.0	3.2/5	MD21-06-64057 (19.0 to 20.0' bgs) Moisture	PID = 0.3 α/β=<MDA				

BOREHOLE LOG
SWMU 21-016(a)-99 RFI Characterization

BOREHOLE ID: 21-25263 (BH-02)	Technical Area (TA): 21-016(a)-99 (MDA-T)		Page 2 of 18
DRILLING COMPANY: Spectrum Exploration	START DATE/TIME: 03/14/2006:1150	FINISH DATE/TIME: 04/06/2006:1735	
DRILLING EQUIPMENT/METHOD: CME-85 Hollow Stem Auger, 4.25" ID, 9" Diameter Bit			
SAMPLING EQUIPMENT/METHOD: 3" Split Barrel Sampler (5.0' length)			
GROUND ELEVATION: 7134.8'	α/β DAILY BACKGROUND READINGS:	TOTAL DEPTH: 354.0'	
DRILLER: Steven Tanuz		GEOLOGIST: S. White	

03/14/2006: 11 dpm and 1521 dpm (α and β)
03/15/2006: 10 dpm and 1438 dpm (α and β)
03/16/2006: 10 dpm and 1448 dpm (α and β)
03/17/2006: ?? dpm and ?? dpm (α and β)
03/21/2006: 29 dpm and 1974 dpm (α and β)
03/23/2006: 10 dpm and 1331 dpm (α and β)
03/24/2006: 23 dpm and 1877 dpm (α and β)
03/27/2006: 31 dpm and 1154 dpm (α and β)
03/28/2006: 5 dpm and 1407 dpm (α and β)
03/29/2006: 21 dpm and 1378 dpm (α and β)
04/04/2006: 10 dpm and 1489 dpm (α and β)
04/05/2006: 15 dpm and 1401 dpm (α and β)
04/06/2006: 15 dpm and 1331 dpm (α and β)

Depth (ft bgs)	Recovery (ft)	Field Analytical Sample: Sample ID/Type	Field Screening Results	LITHOLOGY - DESCRIPTION	Graphic Log	Lithologic Symbol	ADDITIONAL COMMENTS
20.0	3.2/5		PID = 0.3 α/β=<MDA	UNIT 3 TSHIERGE MEMBER, BANDELIER TUFF: *Same As Above (SAA)* *(20.0-40.0 ft)* *Poorly welded crystalline ash flow tuff.* Tuff SAA with traces of thin, light brown (7.5YR6/3) bands in ash matrix.		Qbt3	
	NR						
25.0	4/5	MD21-06-64058 (24.0 to 25.0' bgs) Moisture	PID = 0.0 α/β=<MDA				
	NR						
30.0	3.6/5	MD21-06-64059 (29.0 to 30.0' bgs) Moisture	PID = 0.0 α/β=<MDA				
	NR						
35.0	3.2/5	MD21-06-64060 (34.0 to 35.0' bgs) Moisture	PID = 0.2 α/β=<MDA				
	NR						
40.0	4/5	MD21-06-64061 (39.0 to 40.0' bgs) Moisture	PID = 0.1 α/β=<MDA				

BOREHOLE LOG
SWMU 21-016(a)-99 RFI Characterization

BOREHOLE ID: 21-25263 (BH-02)	Technical Area (TA): 21-016(a)-99 (MDA-T)		Page 3 of 18
DRILLING COMPANY: Spectrum Exploration	START DATE/TIME: 03/14/2006:1150	FINISH DATE/TIME: 04/06/2006:1735	
DRILLING EQUIPMENT/METHOD: CME-85 Hollow Stem Auger, 4.25" ID, 9" diameter bit			
SAMPLING EQUIPMENT/METHOD: 3" Split Barrel Sampler (5.0' length)			
GROUND ELEVATION: 7134.8'	α/β DAILY BACKGROUND READINGS:	TOTAL DEPTH: 354.0'	
DRILLER: Steven Tanuz		GEOLOGIST: S. White	

03/14/2006: 11 dpm and 1521 dpm (α and β)
03/15/2006: 10 dpm and 1438 dpm (α and β)
03/16/2006: 10 dpm and 1448 dpm (α and β)
03/17/2006: ?? dpm and ?? dpm (α and β)
03/21/2006: 29 dpm and 1974 dpm (α and β)
03/23/2006: 10 dpm and 1331 dpm (α and β)
03/24/2006: 23 dpm and 1877 dpm (α and β)
03/27/2006: 31 dpm and 1154 dpm (α and β)
03/28/2006: 5 dpm and 1407 dpm (α and β)
03/29/2006: 21 dpm and 1378 dpm (α and β)
04/04/2006: 10 dpm and 1489 dpm (α and β)
04/05/2006: 15 dpm and 1401 dpm (α and β)
04/06/2006: 15 dpm and 1331 dpm (α and β)

Depth (ft bgs)	Recovery (ft)	Field Analytical Sample: Sample ID/Type	Field Screening Results	LITHOLOGY - DESCRIPTION	Graphic Log	Lithologic Symbol	ADDITIONAL COMMENTS
40.0	5/5	MD21-06-63935 (40.0 to 42.0' bgs) Gen. Investigation	PID = 0.1 α/β=<MDA	UNIT 3 TSHIERGE MEMBER, BANDELIER TUFF: *SAA* *(40.0-60.0 ft)* *Poorly welded crystalline tuff.* *40.0-42.0' bgs*: Abundant (25%) sand-sized quartz phenocrysts Ash matrix gray to brown (7.5YR4/4).		Qbt3	
45.0	5/5	MD21-06-64062 (44.0 to 45.0' bgs) Moisture	PID = 0.1 α/β=<MDA				
50.0	2.8/5	MD21-06-64063 (49.0 to 50.0' bgs) Moisture; MD21-06-64152 (50.0 to 51.0' bgs) Geotechnical Plus Chloride	PID = 0.1 α/β=<MDA				49-54 ft - First run of 03/16/2006 Drilled with lexan tubing.
	NR						
55.0	5/5	MD21-06-64064 (54.0 to 55.0' bgs) Moisture	PID = 0.3 α/β=<MDA	*54.0-59.0' bgs*: Traces of iron staining (< 0.5 mm). Tuff is very poorly welded to non welded.			
60.0	5/5	MD21-06-64065 (59.0 to 60.0' bgs) Moisture	PID = 0.2 α/β=<MDA	*Below 59.0' bgs*: Large (> 50 mm) white pumice clasts evident.			

BOREHOLE LOG
SWMU 21-016(a)-99 RFI Characterization

BOREHOLE ID: 21-25263 (BH-02)	Technical Area (TA): 21-016(a)-99 (MDA-T)		Page 4 of 18
DRILLING COMPANY: Spectrum Exploration	START DATE/TIME: 03/14/2006:1150	FINISH DATE/TIME: 04/06/2006:1735	
DRILLING EQUIPMENT/METHOD: CME-85 Hollow Stem Auger, 4.25" ID, 9" Diameter Bit			
SAMPLING EQUIPMENT/METHOD: 3" Split Barrel Sampler (5.0' length)			
GROUND ELEVATION: 7134.8'	α/β DAILY BACKGROUND READINGS:	TOTAL DEPTH: 354.0'	
DRILLER: Steven Tanuz		GEOLOGIST: S. White	

03/14/2006: 11 dpm and 1521 dpm (α and β)
03/15/2006: 10 dpm and 1438 dpm (α and β)
03/16/2006: 10 dpm and 1448 dpm (α and β)
03/17/2006: ?? dpm and ?? dpm (α and β)
03/21/2006: 29 dpm and 1974 dpm (α and β)
03/23/2006: 10 dpm and 1331 dpm (α and β)
03/24/2006: 23 dpm and 1877 dpm (α and β)
03/27/2006: 31 dpm and 1154 dpm (α and β)
03/28/2006: 5 dpm and 1407 dpm (α and β)
03/29/2006: 21 dpm and 1378 dpm (α and β)
04/04/2006: 10 dpm and 1489 dpm (α and β)
04/05/2006: 15 dpm and 1401 dpm (α and β)
04/06/2006: 15 dpm and 1331 dpm (α and β)

Depth (ft bgs)	Recovery (ft)	Field Analytical Sample: Sample ID/Type	Field Screening Results	LITHOLOGY - DESCRIPTION	Graphic Log	Lithologic Symbol	ADDITIONAL COMMENTS
60.0			PID HS= 0.3 α/β=<MDA	UNIT 3 TSHIERGE MEMBER, BANDELIER TUFF: *SAA* *(60.0-74.0 ft)* *Poor to very poorly welded crystalline ash flow tuff.*		Qbt3	
	5/5						
		MD21-06-64066 (64.0 to 65.0' bgs) Moisture	PID HS= 0.2 α/β=<MDA				
65.0							
	5/5						
		MD21-06-64067 (69.0 to 70.0' bgs) Moisture	PID HS= 0.2 α/β=<MDA				
70.0							
	5/5	MD21-06-63936 (70.0 to 73.0' bgs) Gen. Investigation AND MD21-06-63953 (70.0 to 73.0' bgs) Field Duplicate					Sampled inferred base of shafts
		MD21-06-64068 (74.0 to 75.0' bgs) Moisture	PID HS= 0.1 α/β=<MDA	*Non welded crystalline ash flow tuff.* *(74.0-80.0 ft)* Ash matrix slightly coarser and darker (10R5/1) than above. All other attributes SAA.			
75.0							
	5/5						
	5/5	MD21-06-64069 (79.0 to 80.0' bgs) Moisture AND MD21-06-64216 (79.0 to 81.0' bgs) Pore Gas	PID HS= 0.0 α/β=<MDA	*At 79.0' bgs*: Appearance of trace amounts of sanidine.			
80.0							

BOREHOLE LOG
SWMU 21-016(a)-99 RFI Characterization

BOREHOLE ID: 21-25263 (BH-02)	Technical Area (TA): 21-016(a)-99 (MDA-T)		Page 5 of 18
DRILLING COMPANY: Spectrum Exploration	START DATE/TIME: 03/14/2006:1150	FINISH DATE/TIME: 04/06/2006:1735	
DRILLING EQUIPMENT/METHOD: CME-85 Hollow Stem Auger, 4.25" ID, 9" Diameter Bit			
SAMPLING EQUIPMENT/METHOD: 3" Split Barrel Sampler (5.0' length)			
GROUND ELEVATION: 7134.8'	α/β DAILY BACKGROUND READINGS:	TOTAL DEPTH: 354.0'	
DRILLER: Steven Tanuz		GEOLOGIST: S. White	

03/14/2006: 11 dpm and 1521 dpm (α and β)
03/15/2006: 10 dpm and 1438 dpm (α and β)
03/16/2006: 10 dpm and 1448 dpm (α and β)
03/17/2006: ?? dpm and ?? dpm (α and β)
03/21/2006: 29 dpm and 1974 dpm (α and β)
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03/24/2006: 23 dpm and 1877 dpm (α and β)
03/27/2006: 31 dpm and 1154 dpm (α and β)
03/28/2006: 5 dpm and 1407 dpm (α and β)
03/29/2006: 21 dpm and 1378 dpm (α and β)
04/04/2006: 10 dpm and 1489 dpm (α and β)
04/05/2006: 15 dpm and 1401 dpm (α and β)
04/06/2006: 15 dpm and 1331 dpm (α and β)

Depth (ft bgs)	Recovery (ft)	Field Analytical Sample: Sample ID/Type	Field Screening Results	LITHOLOGY - DESCRIPTION	Graphic Log	Lithologic Symbol	NOTES
80.0		MD21-06-64216 (79.0 to 81.0' bgs) Pore Gas AND MD21-06-63937 (80.0 to 82.0' bgs) Gen. Investigation	PID = 0.0 α/β=<MDA	UNIT 3 TSHIERGE MEMBER, BANDELIER TUFF: *SAA* *(80.0-100.0 ft)* *Non welded crystalline tuff; trace sanidine.*		Qbt3	
	5/5						
85.0		MD21-06-64070 (84.0 to 85.0' bgs) Moisture	PID = 0.1 α/β=<MDA	*Below 84.0' bgs*: iron staining present in ash matrix			
	5/5						
90.0		MD21-06-64071 (89.0 to 90.0' bgs) Moisture	PID = 0.9 α/β=<MDA				
	5/5						
95.0		MD21-06-64072 (94.0 to 95.0' bgs) Moisture	PID = 0.2 α/β=<MDA	*94.0-99.0' bgs*: Non-welded tuff with layers of poorly welded tuff (0.2 to 0.4').			
	5/5						
100.0	5/5	MD21-06-64073 (99.0 to 100.0' bgs) Moisture	PID = 0.8 α/β=<MDA				

BOREHOLE LOG
SWMU 21-016(a)-99 RFI Characterization

BOREHOLE ID: 21-25263 (BH-02)	Technical Area (TA): 21-016(a)-99 (MDA-T)		Page 6 of 18
DRILLING COMPANY: Spectrum Exploration	START DATE/TIME: 03/14/2006:1150	FINISH DATE/TIME: 04/06/2006:1735	
DRILLING EQUIPMENT/METHOD: CME-85 Hollow Stem Auger, 4.25" ID, 9" Diameter Bit			
SAMPLING EQUIPMENT/METHOD: 3" Split Barrel Sampler (5.0' length)			
GROUND ELEVATION: 7134.8'	α/β DAILY BACKGROUND READINGS:	TOTAL DEPTH: 354.0'	
DRILLER: Steven Tanuz		GEOLOGIST: S. White	

03/14/2006: 11 dpm and 1521 dpm (α and β)
03/15/2006: 10 dpm and 1438 dpm (α and β)
03/16/2006: 10 dpm and 1448 dpm (α and β)
03/17/2006: ?? dpm and ?? dpm (α and β)
03/21/2006: 29 dpm and 1974 dpm (α and β)
03/23/2006: 10 dpm and 1331 dpm (α and β)
03/24/2006: 23 dpm and 1877 dpm (α and β)
03/27/2006: 31 dpm and 1154 dpm (α and β)
03/28/2006: 5 dpm and 1407 dpm (α and β)
03/29/2006: 21 dpm and 1378 dpm (α and β)
04/04/2006: 10 dpm and 1489 dpm (α and β)
04/05/2006: 15 dpm and 1401 dpm (α and β)
04/06/2006: 15 dpm and 1331 dpm (α and β)

Depth (ft bgs)	Recovery (ft)	Field Analytical Sample: Sample ID/Type	Field Screening Results	LITHOLOGY - DESCRIPTION	Graphic Log	Lithologic Symbol	ADDITIONAL COMMENTS
100.0			PID = 0.8 α/β=<MDA	UNIT 3 TSHIERGE MEMBER, BANDELIER TUFF: *SAA* *(100.0-101.5 ft)* *Non welded to poorly welded crystalline ash flow tuff.*		Qbt3	
	5/5			UNIT 2 TSHIERGE MEMBER, BANDELIER TUFF: *Densly welded crystalline tuff.* *(101.5-114.0 ft)* Weak red (2.5YR 5/2) with 10% qtz and 5-10% plagioclase phenocrysts, 5-10% pumice, and trace sanidine. Quartz phenocrysts are medium-grained and crystalline; plagioclase phenocrysts finer. Pumice clasts are 5-10 mm, light gray and non fibrous. Tuff is slightly damp.		Qbt2	Qbt3 / Qbt2 contact at 101.5' bgs.
			PID = 0.0 α/β=<MDA				104-109 ft - First run of 03/17/2006 Slow drilling
105.0	2/5						
	NR						
			PID = 0.0 α/β=<MDA				109-114 ft - First run of 03/21/2006
110.0	2.2/5						
	NR						
			PID = 0.0 α/β=<MDA	*Below 114.0' bgs:* Quartz phenocrysts and pumice clasts slightly more abundant (~ 5%). Phenocrysts range from fine to coarse grained sand size . Pumice clasts range in size from 10-20 mm. Traces of iron staining (< 1 mm) present throughout.			
115.0	4.4/5						
	NR						
	3.4/5		PID = 0.0 α/β=<MDA				
120.0							

BOREHOLE LOG
SWMU 21-016(a)-99 RFI Characterization

BOREHOLE ID: 21-25263 (BH-02)	Technical Area (TA): 21-016(a)-99 (MDA-T)		Page 7 of 18
DRILLING COMPANY: Spectrum Exploration	START DATE/TIME: 03/14/2006:1150	FINISH DATE/TIME: 04/06/2006:1735	
DRILLING EQUIPMENT/METHOD: CME-85 Hollow Stem Auger, 4.25" ID, 9" Diameter Bit			
SAMPLING EQUIPMENT/METHOD: 3" Split Barrel Sampler (5.0' length)			
GROUND ELEVATION: 7134.8'	α/β DAILY BACKGROUND READINGS:	TOTAL DEPTH: 354.0'	
DRILLER: Steven Tanuz		GEOLOGIST: S. White	

03/14/2006: 11 dpm and 1521 dpm (α and β)
03/15/2006: 10 dpm and 1438 dpm (α and β)
03/16/2006: 10 dpm and 1448 dpm (α and β)
03/17/2006: ?? dpm and ?? dpm (α and β)
03/21/2006: 29 dpm and 1974 dpm (α and β)
03/23/2006: 10 dpm and 1331 dpm (α and β)
03/24/2006: 23 dpm and 1877 dpm (α and β)
03/27/2006: 31 dpm and 1154 dpm (α and β)
03/28/2006: 5 dpm and 1407 dpm (α and β)
03/29/2006: 21 dpm and 1378 dpm (α and β)
04/04/2006: 10 dpm and 1489 dpm (α and β)
04/05/2006: 15 dpm and 1401 dpm (α and β)
04/06/2006: 15 dpm and 1331 dpm (α and β)

Depth (ft bgs)	Recovery (ft)	Field Analytical Sample: Sample ID/Type	Field Screening Results	LITHOLOGY - DESCRIPTION	Graphic Log	Lithologic Symbol	ADDITIONAL COMMENTS
120.0	3.4/5		PID = 0.0 α/β=<MDA	UNIT 2 TSHIERGE MEMBER, BANDELIER TUFF: *SAA* *(119.0-134.0 ft)* *Nonwelded to poorly welded crystalline ash flow tuff.*		Qbt2	
	NR						
125.0	4/5	MD21-06-64074 (124.0 to 125.0' bgs) Moisture; MD21-06-63938 (125.0 to 127.0' bgs) Gen. Investigation	PID = 1.6 α/β=<MDA				
	NR						
130.0	4.4/5		PID = 1.8 α/β=<MDA				
	NR						
135.0	3.8/5		PID = 0.0 α/β=<MDA	UNIT 2 TSHIERGE MEMBER, BANDELIER TUFF: *SAA* *(134.0-137.8 ft)* *Nonwelded to poorly welded crystalline ash flow tuff* Trace light gray to white pumice fragments, some iron staining at grain boundaries.			
	NR						
140.0	3.4/5		PID = 0.1 α/β=<MDA				

BOREHOLE LOG
SWMU 21-016(a)-99 RFI Characterization

BOREHOLE ID: 21-25263 (BH-02)	Technical Area (TA): 21-016(a)-99 (MDA-T)		Page 8 of 18
DRILLING COMPANY: Spectrum Exploration	START DATE/TIME: 03/14/2006:1150	FINISH DATE/TIME: 04/06/2006:1735	
DRILLING EQUIPMENT/METHOD: CME-85 Hollow Stem Auger, 4.25" ID, 9" Diameter Bit			
SAMPLING EQUIPMENT/METHOD: 3" Split Barrel Sampler (5.0' length)			
GROUND ELEVATION: 7134.8'	α/β DAILY BACKGROUND READINGS:	TOTAL DEPTH: 354.0'	
DRILLER: Steven Tanuz		GEOLOGIST: S. White	

03/14/2006: 11 dpm and 1521 dpm (α and β)
03/15/2006: 10 dpm and 1438 dpm (α and β)
03/16/2006: 10 dpm and 1448 dpm (α and β)
03/17/2006: ?? dpm and ?? dpm (α and β)
03/21/2006: 29 dpm and 1974 dpm (α and β)
03/23/2006: 10 dpm and 1331 dpm (α and β)
03/24/2006: 23 dpm and 1877 dpm (α and β)
03/27/2006: 31 dpm and 1154 dpm (α and β)
03/28/2006: 5 dpm and 1407 dpm (α and β)
03/29/2006: 21 dpm and 1378 dpm (α and β)
04/04/2006: 10 dpm and 1489 dpm (α and β)
04/05/2006: 15 dpm and 1401 dpm (α and β)
04/06/2006: 15 dpm and 1331 dpm (α and β)

Depth (ft bgs)	Recovery (ft)	Field Analytical Sample: Sample ID/Type	Field Screening Results	LITHOLOGY - DESCRIPTION	Graphic Log	Lithologic Symbol	ADDITIONAL COMMENTS
140.0	3.4/5		PID = 0.1 α/β=<MDA	UNIT 2 TSHIERGE MEMBER, BANDELIER TUFF: *SAA* *(140.0-154.0 ft)* *Nonwelded to poorly welded crystalline ash flow tuff.*		Qbt2	
	NR						
			PID = 0.4 α/β=<MDA				
145.0	3.6/5	MD21-06-64075 *(144.0 to 149.0' bgs)* ***Moisture***					
	NR						
			PID = 0.3 α/β=<MDA				
150.0	1.2/5						
	NR						
			PID = 0.3 α/β=<MDA	UNIT 2 TSHIERGE MEMBER, BANDELIER TUFF: *SAA* *(154.0-160.0 ft)* Welding decreases with depth and iron staining is more prominent with depth.			
155.0	5/5						
			PID = 0.1 α/β=<MDA				
160.0							

BOREHOLE LOG
SWMU 21-016(a)-99 RFI Characterization

BOREHOLE ID: 21-25263 (BH-02)	Technical Area (TA): 21-016(a)-99 (MDA-T)		Page 9 of 18
DRILLING COMPANY: Spectrum Exploration	START DATE/TIME: 03/15/2006:1010	FINISH DATE/TIME: 04/06/2006:1735	
DRILLING EQUIPMENT/METHOD: CME-85 Hollow Stem Auger, 4.25" ID, 9" Diameter Bit			
SAMPLING EQUIPMENT/METHOD: 3" Split Barrel Sampler (5.0' length)			
GROUND ELEVATION: 7134.8'	α/β DAILY BACKGROUND READINGS:	TOTAL DEPTH: 354.0'	
DRILLER: Steven Tanuz		GEOLOGIST: S. White	

03/14/2006: 11 dpm and 1521 dpm (α and β)
03/15/2006: 10 dpm and 1438 dpm (α and β)
03/16/2006: 10 dpm and 1448 dpm (α and β)
03/17/2006: ?? dpm and ?? dpm (α and β)
03/21/2006: 29 dpm and 1974 dpm (α and β)
03/23/2006: 10 dpm and 1331 dpm (α and β)
03/24/2006: 23 dpm and 1877 dpm (α and β)
03/27/2006: 31 dpm and 1154 dpm (α and β)
03/28/2006: 5 dpm and 1407 dpm (α and β)
03/29/2006: 21 dpm and 1378 dpm (α and β)
04/04/2006: 10 dpm and 1489 dpm (α and β)
04/05/2006: 15 dpm and 1401 dpm (α and β)
04/06/2006: 15 dpm and 1331 dpm (α and β)

Depth (ft bgs)	Recovery (ft)	Field Analytical Sample: Sample ID/Type	Field Screening Results	LITHOLOGY - DESCRIPTION	Graphic Log	Lithologic Symbol	ADDITIONAL COMMENTS
160.0	4.3/5		PID = 0.1 α/β=<MDA	UNIT 2 TSHIERGE MEMBER, BANDELIER TUFF: *SAA* *(160.0-174.0 ft)* *Nonwelded to poorly welded crystalline ash flow tuff.* Pumice are more variable in size and range from 1-50 mm. Pumice are fibrous to nonfibrous and light grey to maroon. Trace iron staining observed along grain boundaries.		Qbt2	
165.0	NR	MD21-06-64076 (164.0 to 165.0' bgs) Moisture	PID = 1.6 α/β=<MDA				
	4.6/5	MD21-06-63939 (165.0 to 167.0' bgs) Gen. Investigation					
170.0	NR		PID = 0.4 α/β=<MDA				
	4.5/5						
175.0	NR		PID = 0.6 α/β=<MDA	*Nonwelded crystalline tuff.* Tuff color grading to reddish gray (5YR 5/2), very poorly welded to nonwelded, 10-15% quartz, 5-10% plagioclase, 10-20% pumice. Phenocrysts are very fine-grained. Tuff is slightly damp to dry. Gradational Contact		Qbt 1v/Qbt 2	Qbt1v / Qbt2 175.0-180.0' bgs'.
	5/5						
180.0			PID = 0.4 α/β=<MDA				

BOREHOLE LOG
SWMU 21-016(a)-99 RFI Characterization

BOREHOLE ID: 21-25263 (BH-02)	Technical Area (TA): 21-016(a)-99 (MDA-T)		Page 10 of 18
DRILLING COMPANY: Spectrum Exploration	START DATE/TIME: 03/15/2006:1010	FINISH DATE/TIME: 04/06/2006:1735	
DRILLING EQUIPMENT/METHOD: CME-85 Hollow Stem Auger, 4.25" ID, 9" Diameter Bit			
SAMPLING EQUIPMENT/METHOD: 3" Split Barrel Sampler (5.0' length)			
GROUND ELEVATION: 7134.8'	α/β DAILY BACKGROUND READINGS:	TOTAL DEPTH: 354.0'	
DRILLER: Steven Tanuz		GEOLOGIST: S. White	

03/14/2006: 11 dpm and 1521 dpm (α and β)
03/15/2006: 10 dpm and 1438 dpm (α and β)
03/16/2006: 10 dpm and 1448 dpm (α and β)
03/17/2006: ?? dpm and ?? dpm (α and β)
03/21/2006: 29 dpm and 1974 dpm (α and β)
03/23/2006: 10 dpm and 1331 dpm (α and β)
03/24/2006: 23 dpm and 1877 dpm (α and β)
03/27/2006: 31 dpm and 1154 dpm (α and β)
03/28/2006: 5 dpm and 1407 dpm (α and β)
03/29/2006: 21 dpm and 1378 dpm (α and β)
04/04/2006: 10 dpm and 1489 dpm (α and β)
04/05/2006: 15 dpm and 1401 dpm (α and β)
04/06/2006: 15 dpm and 1331 dpm (α and β)

Depth (ft bgs)	Recovery (ft)	Field Analytical Sample: Sample ID/Type	Field Screening Results	LITHOLOGY - DESCRIPTION	Graphic Log	Lithologic Symbol	ADDITIONAL COMMENTS
180.0	4.5/5		PID = 0.4 α/β=<MDA	UNIT 1v TSHIERGE MEMBER, BANDELIER TUFF: *(180.0-200.0 ft)* *Poorly to nonwelded crystalline tuff.* Weak Red (2.5YR 6/2) with 10-15% qtz and 5-10% plagioclase phenocrysts and 10-20% pumice. Pumice clasts are grey to purple grey, soft, 5-25 mm, and fibrous. Tuff is predominantly nonwelded and is slightly damp to dry.		Qbt 1v	Top of Qbt1v at 180.0' bgs.
	NR						
		MD21-06-64077 (184 to 185' bgs) Moisture	PID = 0.0 α/β=<MDA				
185.0	3.0/5	MD21-06-64153 (186 to 187 bgs) Geotechnical Plus Chloride					
	NR						
			PID = 0.1 α/β=<MDA				
190.0	5/5						
			PID = 0.1 α/β=<MDA				
195.0	5/5			Tuff, SAA, matrix color is lighter than above (2.5YR 7/2). Pumice content is up to 30% locally.			
			PID = 0.0 α/β=<MDA				
200.0							

BOREHOLE LOG
SWMU 21-016(a)-99 RFI Characterization

BOREHOLE ID: 21-25263 (BH-02)	Technical Area (TA): 21-016(a)-99 (MDA-T)		Page 11 of 18
DRILLING COMPANY: Spectrum Exploration	START DATE/TIME: 03/23/2006:1650	FINISH DATE/TIME: 04/06/2006:1735	
DRILLING EQUIPMENT/METHOD: CME-85 Hollow Stem Auger, 4.25" ID, 9" Diameter Bit			
SAMPLING EQUIPMENT/METHOD: 3" Split Barrel Sampler (5.0' length)			
GROUND ELEVATION:	α/β DAILY BACKGROUND READINGS:	TOTAL DEPTH: 354.0'	
DRILLER: Steven Tanuz		GEOLOGIST: S. White	

α/β DAILY BACKGROUND READINGS:
03/14/2006: 11 dpm and 1521 dpm (α and β)
03/15/2006: 10 dpm and 1438 dpm (α and β)
03/16/2006: 10 dpm and 1448 dpm (α and β)
03/17/2006: ?? dpm and ?? dpm (α and β)
03/21/2006: 29 dpm and 1974 dpm (α and β)
03/23/2006: 10 dpm and 1331 dpm (α and β)
03/24/2006: 23 dpm and 1877 dpm (α and β)
03/27/2006: 31 dpm and 1154 dpm (α and β)
03/28/2006: 5 dpm and 1407 dpm (α and β)
03/29/2006: 21 dpm and 1378 dpm (α and β)
04/04/2006: 10 dpm and 1489 dpm (α and β)
04/05/2006: 15 dpm and 1401 dpm (α and β)
04/06/2006: 15 dpm and 1331 dpm (α and β)

Depth (ft bgs)	Recovery (ft)	Field Analytical Sample: Sample ID/Type	Field Screening Results	LITHOLOGY - DESCRIPTION	Graphic Log	Lithologic Symbol	ADDITIONAL COMMENTS
200.0	5/5		PID = 0.0 α/β=<MDA	UNIT 1v TSHIERGE MEMBER, BANDELIER TUFF: *(200.0-220.0 ft)* *Poorly to nonwelded crystalline tuff.* Weak Red (2.5YR 6/2) with 10-15% qtz and 5-10% plagioclase phenocrysts and 10-20% pumice. Pumice clasts are grey to purple grey, soft, 5-25 mm, and fibrous. Tuff is predominantly nonwelded and is slightly damp to dry. Phenocrysts coarsen with depth and are medium to fine-grained.		Qbt 1v	
205.0	5/5	MD21-06-64078 (204 to 205' bgs) Moisture	PID = 0.0 α/β=<MDA				
210.0	5/5		PID = 0.0 α/β=<MDA				
215.0	5/5	MD21-06-63940 (215 to 217' bgs) Gen. Investigation	PID = 0.2 α/β=<MDA				
220.0			PID = 0.1 α/β=<MDA				

BOREHOLE LOG
SWMU 21-016(a)-99 RFI Characterization

BOREHOLE ID: 21-25263 (BH-02)	Technical Area (TA): 21-016(a)-99 (MDA-T)		Page 12 of 18
DRILLING COMPANY: Spectrum Exploration	START DATE/TIME: 03/24/2006:920	FINISH DATE/TIME: 04/06/2006:1735	
DRILLING EQUIPMENT/METHOD: CME-85 Hollow Stem Auger, 4.25" ID, 9" Diameter Bit			
SAMPLING EQUIPMENT/METHOD: 3" Split Barrel Sampler (5.0' length)			
GROUND ELEVATION: 7134.8'	α/β DAILY BACKGROUND READINGS:	TOTAL DEPTH: 354.0'	
DRILLER: Steven Tanuz		GEOLOGIST: S. White	

03/14/2006: 11 dpm and 1521 dpm (α and β)
03/15/2006: 10 dpm and 1438 dpm (α and β)
03/16/2006: 10 dpm and 1448 dpm (α and β)
03/17/2006: ?? dpm and ?? dpm (α and β)
03/21/2006: 29 dpm and 1974 dpm (α and β)
03/23/2006: 10 dpm and 1331 dpm (α and β)
03/24/2006: 23 dpm and 1877 dpm (α and β)
03/27/2006: 31 dpm and 1154 dpm (α and β)
03/28/2006: 5 dpm and 1407 dpm (α and β)
03/29/2006: 21 dpm and 1378 dpm (α and β)
04/04/2006: 10 dpm and 1489 dpm (α and β)
04/05/2006: 15 dpm and 1401 dpm (α and β)
04/06/2006: 15 dpm and 1331 dpm (α and β)

Depth (ft bgs)	Recovery (ft)	Field Analytical Sample: Sample ID/Type	Field Screening Results	LITHOLOGY - DESCRIPTION	Graphic Log	Lithologic Symbol	ADDITIONAL COMMENTS
220.0	5/5		PID = 0.1 α/β=<MDA	UNIT 1v TSHIERGE MEMBER, BANDELIER TUFF: *(220.0-229.0 ft)* *Poorly to nonwelded crystalline tuff.* SAA, color grades to light red (2.5YR 6/6). Pumice size is variable (2-40 mm). Trace of subrounded dacite lithics present. Some iron staining at grain boundaries.		Qbt 1v	
225.0	5/5	MD21-06-64079 (224 to 225' bgs) Moisture	PID = 0.2 α/β=<MDA				
230.0	5/5		PID = 0.2 α/β=<MDA	*(229.0-240.0 ft)* UNIT 1g TSHIERGE MEMBER, BANDELIER TUFF: *Poorly welded to nonwelded crystalline ash flow tuff.* Light red (2.5YR 6/6) with 10-15% qtz and 5-10% plagioclase phenocrysts, trace sanidine, < 5% lithics, and 15-20% pumice clasts in an orange ash matrix. Pheocrysts are fine to medium grained. Pumice are light to dark grey, 2-25 mm, fibrous and non fibrous, and soft. Black to dark grey glass shards and dacite clasts are also present in trace amounts. Slightly damp to dry.		Qbt 1g	Qbt1v / Qbt1g contact at 229.0' bgs.
235.0	5/5		PID = 0.2 α/β=<MDA				
240.0			PID = 0.5 α/β=<MDA				

BOREHOLE LOG
SWMU 21-016(a)-99 RFI Characterization

BOREHOLE ID: 21-25263 (BH-02)	Technical Area (TA): 21-016(a)-99 (MDA-T)		Page 13 of 18
DRILLING COMPANY: Spectrum Exploration	START DATE/TIME: 03/27/2006:1540	FINISH DATE/TIME: 04/06/2006:1735	
DRILLING EQUIPMENT/METHOD: CME-85 Hollow Stem Auger, 4.25" ID, 9" Diameter Bit			
SAMPLING EQUIPMENT/METHOD: 3" Split Barrel Sampler (5.0' length)			
GROUND ELEVATION: 7134.8'	α/β DAILY BACKGROUND READINGS:	TOTAL DEPTH: 354.0'	
DRILLER: Steven Tanuz		GEOLOGIST: S. White	

03/14/2006: 11 dpm and 1521 dpm (α and β)
03/15/2006: 10 dpm and 1438 dpm (α and β)
03/16/2006: 10 dpm and 1448 dpm (α and β)
03/17/2006: ?? dpm and ?? dpm (α and β)
03/21/2006: 29 dpm and 1974 dpm (α and β)
03/23/2006: 10 dpm and 1331 dpm (α and β)
03/24/2006: 23 dpm and 1877 dpm (α and β)
03/27/2006: 31 dpm and 1154 dpm (α and β)
03/28/2006: 5 dpm and 1407 dpm (α and β)
03/29/2006: 21 dpm and 1378 dpm (α and β)
04/04/2006: 10 dpm and 1489 dpm (α and β)
04/05/2006: 15 dpm and 1401 dpm (α and β)
04/06/2006: 15 dpm and 1331 dpm (α and β)

Depth (ft bgs)	Recovery (ft)	Field Analytical Sample: Sample ID/Type	Field Screening Results	LITHOLOGY - DESCRIPTION	Graphic Log	Lithologic Symbol	ADDITIONAL COMMENTS
240.0	5/5		PID = 0.5 α/β=<MDA	*(240.0-260.0 ft)* UNIT 1g TSHIERGE MEMBER, BANDELIER TUFF: *SAA. Poorly welded to nonwelded crystalline ash flow tuff.* Light red (2.5YR 6/6) to light reddish brown (5YR 6/3) with 10-15% qtz and 5-10% plagioclase phenocrysts, trace sanidine, < 5% lithics, and 15-20% pumice clasts in an orange ash matrix. Pheocrysts are fine to medium grained. Pumice are light to dark grey, 5-20 mm, fibrous and hard. Black to dark grey glass shards and dacite clasts are also present in trace amounts. Slightly damp to dry.		Qbt 1g	
245.0	3.2/5	MD21-06-64080 (244 to 245' bgs) Moisture	PID = 0.4 α/β=<MDA				
250.0	NR		PID = 0.1 α/β=<MDA				
	3.0/5	MD21-06-64154 (251.5 to 252.5' bgs) Geotechnical Plus Chloride					
255.0	NR		PID = 1.4 α/β=<MDA				
	5/5						
260.0			PID = 0.3 α/β=<MDA				

BOREHOLE LOG
SWMU 21-016(a)-99 RFI Characterization

BOREHOLE ID: 21-25263 (BH-02)	Technical Area (TA): 21-016(a)-99 (MDA-T)		Page 14 of 18
DRILLING COMPANY: Spectrum Exploration	START DATE/TIME: 04/04/2006:1045	FINISH DATE/TIME: 04/06/2006:1735	
DRILLING EQUIPMENT/METHOD: CME-85 Hollow Stem Auger, 4.25" ID, 9" Diameter Bit			
SAMPLING EQUIPMENT/METHOD: 3" Split Barrel Sampler (5.0' length)			
GROUND ELEVATION: 7134.8'	α/β DAILY BACKGROUND READINGS:	TOTAL DEPTH: 354.0'	
DRILLER: Steven Tanuz		GEOLOGIST: S. White	

03/14/2006: 11 dpm and 1521 dpm (α and β)
03/15/2006: 10 dpm and 1438 dpm (α and β)
03/16/2006: 10 dpm and 1448 dpm (α and β)
03/17/2006: ?? dpm and ?? dpm (α and β)
03/21/2006: 29 dpm and 1974 dpm (α and β)
03/23/2006: 10 dpm and 1331 dpm (α and β)
03/24/2006: 23 dpm and 1877 dpm (α and β)
03/27/2006: 31 dpm and 1154 dpm (α and β)
03/28/2006: 5 dpm and 1407 dpm (α and β)
03/29/2006: 21 dpm and 1378 dpm (α and β)
04/04/2006: 10 dpm and 1489 dpm (α and β)
04/05/2006: 15 dpm and 1401 dpm (α and β)
04/06/2006: 15 dpm and 1331 dpm (α and β)

Depth (ft bgs)	Recovery (ft)	Field Analytical Sample: Sample ID/Type	Field Screening Results	LITHOLOGY - DESCRIPTION	Graphic Log	Lithologic Symbol	ADDITIONAL COMMENTS
260.0	3.2/5		PID = 0.3 α/β=<MDA	*(260.0-280.0 ft)* UNIT 1g TSHIERGE MEMBER, BANDELIER TUFF: SAA. Tuff welding decreases and matrix is more ashy and lighter in color with depth; Pinkish grey (5YR 6/2).		Qbt 1g	
	NR	MD21-06-64081 (264 to 265' bgs) Moisture	PID = 1.4 α/β=<MDA				
265.0	3.2/5						
		MD21-06-63941 (269 to 270' bgs) Gen. Investigation	PID = 1.0 α/β=<MDA				
270.0	3.0/5						
			PID = 2.0 α/β=<MDA				
275.0	5/5						
			PID = 0.0 α/β=<MDA				
280.0							

BOREHOLE LOG
SWMU 21-016(a)-99 RFI Characterization

BOREHOLE ID: 21-25263 (BH-02)	Technical Area (TA): 21-016(a)-99 (MDA-T)		Page 15 of 18
DRILLING COMPANY: Spectrum Exploration	START DATE/TIME: 04/05/2006:0840	FINISH DATE/TIME: 04/06/2006:1735	
DRILLING EQUIPMENT/METHOD: CME-85 Hollow Stem Auger, 4.25" ID, 9" Diameter Bit			
SAMPLING EQUIPMENT/METHOD: 3" Split Barrel Sampler (5.0' length)			
GROUND ELEVATION: 7134.8'	α/β DAILY BACKGROUND READINGS:	TOTAL DEPTH: 354.0'	
DRILLER: Steven Tanuz		GEOLOGIST: S. White	

03/14/2006: 11 dpm and 1521 dpm (α and β)
03/15/2006: 10 dpm and 1438 dpm (α and β)
03/16/2006: 10 dpm and 1448 dpm (α and β)
03/17/2006: ?? dpm and ?? dpm (α and β)
03/21/2006: 29 dpm and 1974 dpm (α and β)
03/23/2006: 10 dpm and 1331 dpm (α and β)
03/24/2006: 23 dpm and 1877 dpm (α and β)
03/27/2006: 31 dpm and 1154 dpm (α and β)
03/28/2006: 5 dpm and 1407 dpm (α and β)
03/29/2006: 21 dpm and 1378 dpm (α and β)
04/04/2006: 10 dpm and 1489 dpm (α and β)
04/05/2006: 15 dpm and 1401 dpm (α and β)
04/06/2006: 15 dpm and 1331 dpm (α and β)

Depth (ft bgs)	Recovery (ft)	Field Analytical Sample: Sample ID/Type	Field Screening Results	LITHOLOGY - DESCRIPTION	Graphic Log	Lithologic Symbol	ADDITIONAL COMMENTS
280.0	5/5		PID = 0.0 α/β=<MDA	*(280.0-300.0 ft)* UNIT 1g TSHIERGE MEMBER, BANDELIER TUFF: SAA. Tuff welding decreases and matrix is more ashy and lighter in color with depth; Pinkish grey (5YR 7/2).		Qbt 1g	
285.0	5/5	MD21-06-64082 (284 to 285' bgs) Moisture	PID = 0.3 α/β=<MDA				
290.0	5/5		PID = 0.1 α/β=<MDA				
295.0	5/5		PID = 0.2 α/β=<MDA				
300.0			PID = 0.3 α/β=<MDA				

BOREHOLE LOG
SWMU 21-016(a)-99 RFI Characterization

BOREHOLE ID: 21-25263 (BH-02)	Technical Area (TA): 21-016(a)-99 (MDA-T)		Page 16 of 18
DRILLING COMPANY: Spectrum Exploration	START DATE/TIME: 04/05/2006:1250	FINISH DATE/TIME: 04/06/2006:1735	
DRILLING EQUIPMENT/METHOD: CME-85 Hollow Stem Auger, 4.25" ID, 9" Diameter Bit			
SAMPLING EQUIPMENT/METHOD: 3" Split Barrel Sampler (5.0' length)			
GROUND ELEVATION: 7134.8'	α/β DAILY BACKGROUND READINGS:	TOTAL DEPTH: 354.0'	
DRILLER: Steven Tanuz		GEOLOGIST: S. White	

03/14/2006: 11 dpm and 1521 dpm (α and β)
03/15/2006: 10 dpm and 1438 dpm (α and β)
03/16/2006: 10 dpm and 1448 dpm (α and β)
03/17/2006: ?? dpm and ?? dpm (α and β)
03/21/2006: 29 dpm and 1974 dpm (α and β)
03/23/2006: 10 dpm and 1331 dpm (α and β)
03/24/2006: 23 dpm and 1877 dpm (α and β)
03/27/2006: 31 dpm and 1154 dpm (α and β)
03/28/2006: 5 dpm and 1407 dpm (α and β)
03/29/2006: 21 dpm and 1378 dpm (α and β)
04/04/2006: 10 dpm and 1489 dpm (α and β)
04/05/2006: 15 dpm and 1401 dpm (α and β)
04/06/2006: 15 dpm and 1331 dpm (α and β)

Depth (ft bgs)	Recovery (ft)	Field Analytical Sample: Sample ID/Type	Field Screening Results	LITHOLOGY - DESCRIPTION	Graphic Log	Lithologic Symbol	ADDITIONAL COMMENTS
300.0	5/5		PID = 0.3 α/β=<MDA	*(300.0-320.0 ft)* UNIT 1g TSHIERGE MEMBER, BANDELIER TUFF: SAA. Tuff welding decreases and matrix is more ashy and lighter in color with depth; Pinkish grey (5YR 7/2). Pumice content increases with depth. Pumice are softer than above, less fibrous, and light grey to white.		Qbt 1g	
305.0	5/5	MD21-06-64083 (304 to 305' bgs) Moisture	PID = 0.5 α/β=<MDA				
310.0	5/5		PID = 0.2 α/β=<MDA				
315.0	5/5		PID = 0.6 α/β=<MDA				
320.0	5/5		PID = 0.0 α/β=<MDA				

BOREHOLE LOG
SWMU 21-016(a)-99 RFI Characterization

BOREHOLE ID: 21-25263 (BH-02)	Technical Area (TA): 21-016(a)-99 (MDA-T)		Page 17 of 18
DRILLING COMPANY: Spectrum Exploration	START DATE/TIME: 04/06/2006:1105	FINISH DATE/TIME: 04/06/2006:1735	
DRILLING EQUIPMENT/METHOD: CME-85 Hollow Stem Auger, 4.25" ID, 9" Diameter Bit			
SAMPLING EQUIPMENT/METHOD: 3" Split Barrel Sampler (5.0' length)			
GROUND ELEVATION: 7134.8'	α/β DAILY BACKGROUND READINGS:	TOTAL DEPTH: 354.0'	
DRILLER: Steven Tanuz		GEOLOGIST: S. White	

03/14/2006: 11 dpm and 1521 dpm (α and β)
03/15/2006: 10 dpm and 1438 dpm (α and β)
03/16/2006: 10 dpm and 1448 dpm (α and β)
03/17/2006: ?? dpm and ?? dpm (α and β)
03/21/2006: 29 dpm and 1974 dpm (α and β)
03/23/2006: 10 dpm and 1331 dpm (α and β)
03/24/2006: 23 dpm and 1877 dpm (α and β)
03/27/2006: 31 dpm and 1154 dpm (α and β)
03/28/2006: 5 dpm and 1407 dpm (α and β)
03/29/2006: 21 dpm and 1378 dpm (α and β)
04/04/2006: 10 dpm and 1489 dpm (α and β)
04/05/2006: 15 dpm and 1401 dpm (α and β)
04/06/2006: 15 dpm and 1331 dpm (α and β)

Depth (ft bgs)	Recovery (ft)	Field Analytical Sample: Sample ID/Type	Field Screening Results	LITHOLOGY - DESCRIPTION	Graphic Log	Lithologic Symbol	ADDITIONAL COMMENTS
320.0	5/5		PID = 0.0 α/β=<MDA	UNIT 1g TSHIERGE MEMBER, BANDELIER TUFF: *(320.0-330.0 ft)* SAA. Tuff welding decreases and matrix is more ashy and lighter in color with depth; Pinkish grey (5YR 7/2 to 5YR 7/1). Pumice content increases with depth. Pumice are softer than above, less fibrous, and light grey to white.		Qbt 1g	
325.0	5/5	MD21-06-64084 *(324 to 325' bgs)* ***Moisture***	PID = 0.2 α/β=<MDA				
			PID = 0.1 α/β=<MDA				Qbt1g / Qbtt contact: 330.0' bgs.
330.0	5/5	MD21-06-63942 *(330 to 332' bgs)* ***Gen. Investigation***		TSANKAWI PUMICE BED, TSHIERGE MEMBER, BANDELIER TUFF: *(330.0-332.3 ft)* *Pumice fall.* Light grey (5YR, 7/1) granular unconsolidated pumice deposit. Pumice are variable in size up to 20 mm and hard. Trace sand.		Qbtt	Qct contact: 332.3' bgs.
				CERRO TOLEDO: *(332.3-340.0 ft)* *Sand.* Loose, slightly damp to dry, multi-colored brown to grey (5YR 4/4, 5YR 6/4, 5YR 6/1) fine to coarse grained sand with trace silt and fine gravel. Trace angular pumice gravel (2-10 mm).		Qct	
335.0	5/5	MD21-06-64155 *(336 to 337' bgs)* ***Geotechnical*** *Plus* ***Chloride***	PID = 0.0 α/β=<MDA				
340.0			PID = 0.0 α/β=<MDA				

BOREHOLE LOG
SWMU 21-016(a)-99 RFI Characterization

BOREHOLE ID: 21-25263 (BH-02)	Technical Area (TA): 21-016(a)-99 (MDA-T)		Page 18 of 18
DRILLING COMPANY: Spectrum Exploration	START DATE/TIME: 04/06/2006:1540	FINISH DATE/TIME: 04/06/2006:1735	
DRILLING EQUIPMENT/METHOD: CME-85 Hollow Stem Auger, 4.25" ID, 9" Diameter Bit			
SAMPLING EQUIPMENT/METHOD: 3" Split Barrel Sampler (5.0' length)			
GROUND ELEVATION: 7134.8'	α/β DAILY BACKGROUND READINGS:	TOTAL DEPTH: 354.0'	
DRILLER: Steven Tanuz		GEOLOGIST: S. White	

03/14/2006: 11 dpm and 1521 dpm (α and β)
03/15/2006: 10 dpm and 1438 dpm (α and β)
03/16/2006: 10 dpm and 1448 dpm (α and β)
03/17/2006: ?? dpm and ?? dpm (α and β)
03/21/2006: 29 dpm and 1974 dpm (α and β)
03/23/2006: 10 dpm and 1331 dpm (α and β)
03/24/2006: 23 dpm and 1877 dpm (α and β)
03/27/2006: 31 dpm and 1154 dpm (α and β)
03/28/2006: 5 dpm and 1407 dpm (α and β)
03/29/2006: 21 dpm and 1378 dpm (α and β)
04/04/2006: 10 dpm and 1489 dpm (α and β)
04/05/2006: 15 dpm and 1401 dpm (α and β)
04/06/2006: 15 dpm and 1331 dpm (α and β)

Depth (ft bgs)	Recovery (ft)	Field Analytical Sample: Sample ID/Type	Field Screening Results	LITHOLOGY - DESCRIPTION	Graphic Log	Lithologic Symbol	ADDITIONAL COMMENTS
340.0	5/5	MD21-06-63943 (340 to 342' bgs) Gen. Investigation	PID = 0.0 α/β=<MDA	CERRO TOLEDO: (340.0-350.7 ft) *SAA* *Sand.* Grey (7.5YR 6/1), fine to medium grained with trace coarse sand, silt, and gravel. Slightly damp and compact. Sedimentary bedding evident throughout.		Qct	
345.0	5/5	MD21-06-64085 (344 to 345' bgs) Moisture	PID = 0.02 α/β=<MDA				
350.0	5/5	MD21-06-63944 (351 to 354' bgs) Gen. Investigation AND MD21-06-63944 (351 to 354' bgs) Field Duplicate	PID = 0.0 α/β=<MDA	OTOWI MEMBER, BANDELIER TUFF: (350.7-354.0 ft) *Nonwelded Pumaceous Tuff* Light reddish orange (2.5YR 6/6). 5-10% quartz, 5% plagioclase, 10-15% phenocrysts. Pumice are fibrous. Slightly damp.		Qbo	Qct / Qbo contact: 350.7' bgs. Borehole TD
355.0							
360.0							

BOREHOLE LOG
SWMU 21-016(a)-99 RFI Characterization

BOREHOLE ID: 21-25264 (BH-03)	Technical Area (TA): 21-016(a)-99 (MDA-T)		Page 1 of 18
DRILLING COMPANY: Spectrum Exploration	START DATE/TIME: 01/20/2006:1300	FINISH DATE/TIME: 02/2/2006:1450	
DRILLING EQUIPMENT/METHOD: CME-85 HSA, 4.25" ID, 9" Diameter Bit			
SAMPLING EQUIPMENT/METHOD: 3" Split-Barrel Sampler (5.0' length)			
GROUND ELEVATION: 7125.8'	α/β DAILY BACKGROUND READINGS:	01/20/2006: 46.5 dpm and 2700 dpm (α and β) 01/24/2006: 41.6 dpm and 1699 dpm (α and β) 01/26/2006: 53.4 dpm and 1774 dpm (α and β) 01/27/2006: 23.7 dpm and 1654 dpm (α and β) 01/30/2006: 41.3 dpm and 1634 dpm (α and β) 01/31/2006: 23.0 dpm and 1541 dpm (α and β) 02/01/2006: 23.0 dpm and 1621 dpm (α and β) 02/02/2006: 15.8 dpm and 1454 dpm (α and β)	TOTAL DEPTH: 354.0'
DRILLER: Steven Tanuz			GEOLOGIST: S. White

Depth (ft bgs)	Recovery (ft)	Field Analytical Sample: Sample ID/Type	Field Screening Results	LITHOLOGY - DESCRIPTION	Graphic Log	Lithologic Symbol	ADDITIONAL COMMENTS
0.0	3/4	MD21-06-64159 (0.0 to 1.0' bgs) Geotechnical	PID = 0.0 α/β=<MDA	SILT FILL: (0.0-1.1 ft) Dark brown (7.5YR 3/4) with trace fine to coarse sand, clay, subrounded gravel, and organics (grass and roots). Fill is damp and soft.		FILL	(First run (0-4 ft) drilled with lexan tubing.) Fill/tuff contact at 1.1' bgs.
		MD21-06-64099 (3.0 to 4.0' bgs) Moisture		UNIT 3 TSHIERGE MEMBER, BANDELIER TUFF: *Poorly welded crystalline tuff.* (1.1-9.0 ft) Pinkish grey (5YR, 6/2) with 10% qtz and 5% plagioclase phenocrysts and 15% pumice clasts, 5-15 mm. Pumices are soft. Tuff is slightly damp to dry.		Qbt3	
	NR		PID = 0.0 α/β=<MDA				
5.0	5/5						Set 12 in diameter surface casing 0-6 ft
		MD21-06-64100 (8.0 to 9.0' bgs) Moisture					
		MD21-06-64101 (9.0 to 10.0' bgs) Moisture	PID = 1.0 α/β=<MDA	*9.0-20.0' bgs*: 15-20% qtz and 5-10% plagioclase phenocrysts and 10-15% pumice clasts. Phenocrysts are fine to coarse-grained. Pumice are soft and light grey.			
10.0	2.7/5						
	NR						
		MD21-06-64102 (14.0 to 15.0' bgs) Moisture	PID = 0.2 α/β=<MDA				
15.0	3.7/5			*15.5-17.7' bgs*: Tuff is not welded.			
	NR						
20.0	3.8/5	MD21-06-64103 (19.0 to 20.0' bgs) Moisture	PID = 0.9 α/β=<MDA				

BOREHOLE LOG
SWMU 21-016(a)-99 RFI Characterization

BOREHOLE ID: 21-25264 (BH-03)	Technical Area (TA): 21-016(a)-99 (MDA-T)		Page 2 of 18
DRILLING COMPANY: Spectrum Exploration	START DATE/TIME: 01/24/2006:1040	FINISH DATE/TIME: 02/02/2006:1450	
DRILLING EQUIPMENT/METHOD: CME-85 HSA, 4.25" ID, 9" Diameter Bit			
SAMPLING EQUIPMENT/METHOD: 3" Split-Barrel Sampler (5.0' length)			
GROUND ELEVATION: 7125.8'	α/β DAILY BACKGROUND READINGS:	01/20/2006: 46.5 dpm and 2700 dpm (α and β) 01/24/2006: 41.6 dpm and 1699 dpm (α and β) 01/26/2006: 53.4 dpm and 1774 dpm (α and β) 01/27/2006: 23.7 dpm and 1654 dpm (α and β) 01/30/2006: 41.3 dpm and 1634 dpm (α and β) 01/31/2006: 23.0 dpm and 1541 dpm (α and β) 02/01/2006: 23.0 dpm and 1621 dpm (α and β) 02/02/2006: 15.8 dpm and 1454 dpm (α and β)	TOTAL DEPTH: 354.0'
DRILLER: Steven Tanuz			GEOLOGIST: S. White

Depth (ft bgs)	Recovery (ft)	Field Analytical Sample: Sample ID/Type	Field Screening Results	LITHOLOGY - DESCRIPTION	Graphic Log	Lithologic Symbol	ADDITIONAL COMMENTS
20.0	3.8/5		PID = 0.9 α/β=<MDA	UNIT 3 TSHIERGE MEMBER, BANDELIER TUFF: *Same As Above (SAA)* *(20.0-29.0 ft)* *Poorly welded crystalline tuff.* *Downsection:* *22.0-22.8' bgs*: Thin, light brown (7.5YR6/3) layers in ash matrix		Qbt3	
	NR						
25.0	4/5	MD21-06-64104 (24.0 to 25.0' bgs) Moisture	PID = 0.4 α/β=<MDA	*24.0-38.5' bgs*: Light brown ash layers throughout section.			
	NR						
30.0	5/5	MD21-06-64105 (29.0 to 30.0' bgs) Moisture MD21-06-63973 (30.0 to 31.5' bgs) Fracture	PID = 0.3 α/β=<MDA	*30.4-31.0 bgs*: Presence of a small fracture area, ~ 75-80 degrees, aperture 1-3 mm with trace clay fill.			Paired fracture not collected because of poor recovery.
35.0	4.5/5	MD21-06-64106 (34.0 to 35.0' bgs) Moisture	PID = 0.9 α/β=<MDA				
	NR						
40.0	5/5	MD21-06-64107 (39.0 to 40.0' bgs) Moisture	PID = 0.4 α/β=<MDA	*39.0-40.0' bgs*: Tuff is less welded than above.			

BOREHOLE LOG
SWMU 21-016(a)-99 RFI Characterization

BOREHOLE ID: 21-25264 (BH-03)	Technical Area (TA): 21-016(a)-99 (MDA-T)		Page 3 of 18
DRILLING COMPANY: Spectrum Exploration	START DATE/TIME: 01/24/2006:1215	FINISH DATE/TIME: 2/2/2006:1450	
DRILLING EQUIPMENT/METHOD: CME-85 HSA, 4.25" ID, 9" Diameter Bit			
SAMPLING EQUIPMENT/METHOD: 3" Split-Barrel Sampler (5.0' length)			
GROUND ELEVATION: 7125.8'	α/β DAILY BACKGROUND READINGS:	01/20/2006: 46.5 dpm and 2700 dpm (α and β) 01/24/2006: 41.6 dpm and 1699 dpm (α and β) 01/26/2006: 53.4 dpm and 1774 dpm (α and β) 01/27/2006: 23.7 dpm and 1654 dpm (α and β) 01/30/2006: 41.3 dpm and 1634 dpm (α and β) 01/31/2006: 23.0 dpm and 1541 dpm (α and β) 02/01/2006: 23.0 dpm and 1621 dpm (α and β) 02/02/2006: 15.8 dpm and 1454 dpm (α and β)	TOTAL DEPTH: 354.0'
DRILLER: Steven Tanuz			GEOLOGIST: S. White

Depth (ft bgs)	Recovery (ft)	Field Analytical Sample: Sample ID/Type	Field Screening Results	LITHOLOGY - DESCRIPTION	Graphic Log	Lithologic Symbol	ADDITIONAL COMMENTS
40.0	5/5		PID = 0.4 α/β=<MDA	UNIT 3 TSHIERGE MEMBER, BANDELIER TUFF: *SAA* *(40.0-49.0 ft)* *Poorly to non welded crystalline tuff.*		Qbt3	
		MD21-06-64108 (44.0 to 45.0' bgs) Moisture	α/β=<MDA				
45.0	3.2/5						
	NR						
		MD21-06-64109 (49.0 to 50.0' bgs) Moisture	PID = 0.1 α/β=<MDA	*49.0-60.0' bgs*: Tuff light grey (5YR 7/1) with 10-15% qtz and 5% plagioclase phenocrysts. Phenocrysts finer than above sections. Light to dark grey soft pumice (10-20%, 2-20 mm). Pumice are fibrous. Light brown ash bands still present but only trace amounts in matrix. Degree of welding continues to decrease with depth.			
50.0	5/5						
		MD21-06-64110 (54.0 to 55.0' bgs) Moisture	PID = 0.7 α/β=<MDA				
55.0	3.9/5						
	NR						
	4.5/5	MD21-06-64111 (59.0 to 60.0' bgs) Moisture	PID = 0.4 α/β=<MDA				
60.0							

BOREHOLE LOG
SWMU 21-016(a)-99 RFI Characterization

BOREHOLE ID: 21-25264 (BH-03)	Technical Area (TA): 21-016(a)-99 (MDA-T)		Page 4 of 18
DRILLING COMPANY: Spectrum Exploration	START DATE/TIME: 01/24/2006:1500	FINISH DATE/TIME: 02/2/2006:1450	
DRILLING EQUIPMENT/METHOD: CME-85 HSA, 4.25" ID, 9" Diameter Bit			
SAMPLING EQUIPMENT/METHOD: 3" Split-Barrel Sampler (5.0' length)			
GROUND ELEVATION: 7125.8'	α/β DAILY BACKGROUND READINGS:	01/20/2006: 46.5 dpm and 2700 dpm (α and β) 01/24/2006: 41.6 dpm and 1699 dpm (α and β) 01/26/2006: 53.4 dpm and 1774 dpm (α and β) 01/27/2006: 23.7 dpm and 1654 dpm (α and β) 01/30/2006: 41.3 dpm and 1634 dpm (α and β) 01/31/2006: 23.0 dpm and 1541 dpm (α and β) 02/01/2006: 23.0 dpm and 1621 dpm (α and β) 02/02/2006: 15.8 dpm and 1454 dpm (α and β)	TOTAL DEPTH: 354.0'
DRILLER: Steven Tanuz			GEOLOGIST: S. White

Depth (ft bgs)	Recovery (ft)	Field Analytical Sample: Sample ID/Type	Field Screening Results	LITHOLOGY - DESCRIPTION	Graphic Log	Lithologic Symbol	ADDITIONAL COMMENTS
60.0	4.5/5	**MD21-06-63974** (60.0 to 63.0' bgs) *Gen. Investigation* AND **MD21-06-63991** (60.0 to 63.0' bgs) *Field Duplicate*	PID= 0.4 α/β=<MDA	UNIT 3 TSHIERGE MEMBER, BANDELIER TUFF: *SAA* *(60.0-64.0 ft)* *Poorly to nonwelded crystalline tuff.*		Qbt3	Sampled inferred base of shafts
	NR	**MD21-06-64112** (64.0 to 65.0' bgs) *Moisture*	PID= 0.2 α/β=<MDA	*Non welded crystalline tuff.* *(64.0-80.0 ft)*			
65.0	5/5						
70.0	5/5	**MD21-06-64113** (69.0 to 70.0' bgs) *Moisture* AND **MD21-06-63991** (69.0 to 71.0' bgs) *Pore Gas*	PID= 0.1 α/β=<MDA				
75.0	2.5/5	**MD21-06-64114** (74.0 to 75.0' bgs) *Moisture*	PID=0.0 α/β=<MDA				Run #16 (74-79') drilled with lexan tubing for geotechnical sample
	NR	**MD21-06-64160** (75.5 to 76.5' bgs) *Geotechnical Plus Chloride*					
80.0	5/5	**MD21-06-64115** (79.0 to 80.0' bgs) *Moisture*	PID= 0.1 α/β=<MDA				

BOREHOLE LOG
SWMU 21-016(a)-99 RFI Characterization

BOREHOLE ID: 21-25264 (BH-03)	Technical Area (TA): 21-016(a)-99 (MDA-T)		Page 5 of 18
DRILLING COMPANY: Spectrum Exploration	START DATE/TIME: 01/24/2006:1615	FINISH DATE/TIME: 02/2/2006:1450	
DRILLING EQUIPMENT/METHOD: CME-85 HSA, 4.25" ID, 9" Diameter Bit			
SAMPLING EQUIPMENT/METHOD: 3" Split-Barrel Sampler (5.0' length)			
GROUND ELEVATION: 7125.8'	α/β DAILY BACKGROUND READINGS:	TOTAL DEPTH: 354.0'	
DRILLER: Steven Tanuz		GEOLOGIST: S. White	

α/β DAILY BACKGROUND READINGS:
01/20/2006: 46.5 dpm and 2700 dpm (α and β)
01/24/2006: 41.6 dpm and 1699 dpm (α and β)
01/26/2006: 53.4 dpm and 1774 dpm (α and β)
01/27/2006: 23.7 dpm and 1654 dpm (α and β)
01/30/2006: 41.3 dpm and 1634 dpm (α and β)
01/31/2006: 23.0 dpm and 1541 dpm (α and β)
02/01/2006: 23.0 dpm and 1621 dpm (α and β)
02/02/2006: 15.8 dpm and 1454 dpm (α and β)

Depth (ft bgs)	Recovery (ft)	Field Analytical Sample: Sample ID/Type	Field Screening Results	LITHOLOGY - DESCRIPTION	Graphic Log	Lithologic Symbol	ADDITIONAL COMMENTS
80.0	5/5		PID=0.1 α/β=<MDA	UNIT 3 TSHIERGE MEMBER, BANDELIER TUFF: *Non welded crystalline ash flow tuff.* *(80.0-89.0 ft)* Degree of welding increasees with depth and is poorly welded at 89.0'.		Qbt3	
85.0	5/5	MD21-06-64116 (84.0 to 85.0' bgs) Moisture	PID=0.0 α/β=<MDA				
90.0	5/5	MD21-06-64117 (89.0 to 90.0' bgs) Moisture	PID=0.0 α/β=<MDA	*Partly welded crystalline ash flow tuff.* *(89.0-95.0 ft)* Phenocrysts are slightly coarser and pumice slightly darker grey. All other attributes SAA.			
95.0	4.2/5		PID= 0.0 α/β=<MDA	UNIT 2 TSHIERGE MEMBER, BANDELIER TUFF: *Densly welded crystalline ash flow tuff.* *(95.0-100.0 ft)* Pale red (2.5YR 6/2) with 10-15% qtz and 5-10% plagioclase phenocrysts and 10% pumice. Phenocrysts are coarse and granular; pumice clasts are moderately hard and grey (5YR 6/1). Tuff is slightly damp to dry and mostly pulverized due to drilling.		Qbt2	Qbt3 / Qbt2 contact at 95.0' bgs. Drilled Run #20 (94-99') on 01/25/06 but logged core on 01/26/06 due to snow. No sample was collected due to the 24-hr layover.
100.0	NR 1.7/5		PID=0.0 α/β=<MDA				

BOREHOLE LOG
SWMU 21-016(a)-99 RFI Characterization

BOREHOLE ID: 21-25264 (BH-03)	Technical Area (TA): 21-016(a)-99 (MDA-T)		Page 6 of 18
DRILLING COMPANY: Spectrum Exploration	START DATE/TIME: 01/26/2006:1210	FINISH DATE/TIME: 02/02/2006:1450	
DRILLING EQUIPMENT/METHOD: CME-85 HSA 4.25" ID, 9" Diameter Bit			
SAMPLING EQUIPMENT/METHOD: 3" Split-Barrel Sampler (5.0' length)			
GROUND ELEVATION: 7125.8'	α/β DAILY BACKGROUND READINGS:	01/20/2006: 46.5 dpm and 2700 dpm (α and β) 01/24/2006: 41.6 dpm and 1699 dpm (α and β) 01/26/2006: 53.4 dpm and 1774 dpm (α and β) 01/27/2006: 23.7 dpm and 1654 dpm (α and β) 01/30/2006: 41.3 dpm and 1634 dpm (α and β) 01/31/2006: 23.0 dpm and 1541 dpm (α and β) 02/01/2006: 23.0 dpm and 1621 dpm (α and β) 02/02/2006: 15.8 dpm and 1454 dpm (α and β)	TOTAL DEPTH: 354.0'
DRILLER: Steven Tanuz			GEOLOGIST: S. White

Depth (ft bgs)	Recovery (ft)	Field Analytical Sample: Sample ID/Type	Field Screening Results	LITHOLOGY - DESCRIPTION	Graphic Log	Lithologic Symbol	ADDITIONAL COMMENTS
100.0	1.7/5		PID=0.1 α/β=<MDA	UNIT 2 TSHIERGE MEMBER, BANDELIER TUFF: *SAA* *(100.0-120.0 ft)* *Densly welded crystalline ash flow tuff.* Tuff mostly rock flour due to drilling pulverization. Core recovery very poor.		Qbt2	
	NR						
	2.6/5	**MD21-06-64118** *(104.0 to 105.0' bgs)* ***Moisture***	PID=0.2 α/β=<MDA	*104.0-114.0' bgs:* Phenocrysts are very coarse sand size. Pumice clasts are crystalline and hard.			
105.0	NR						
	0.8/5		PID=1.3 α/β=<MDA				
110.0	NR						
	3.3/5	**MD21-06-63975** *(114.0 to 117.0' bgs)* ***Gen. Investigation*** *AND* **MD21-06-63992** *(114.0 to 117.0' bgs)* ***Field Duplicate***	PID= 0.7 α/β=<MDA	*114.0-117.3' bgs:* Phenocrysts smaller than above.			Sampled top of Qbt2.
115.0	NR						
	2.6/5		PID=0.3 α/β=<MDA				
120.0							

BOREHOLE LOG
SWMU 21-016(a)-99 RFI Characterization

BOREHOLE ID: 21-25264 (BH-03)	Technical Area (TA): 21-016(a)-99 (MDA-T)		Page 7 of 18
DRILLING COMPANY: Spectrum Exploration	START DATE/TIME: 01/26/2006:1605	FINISH DATE/TIME: 02/02/2006:1450	
DRILLING EQUIPMENT/METHOD: CME-85 HSA, 4.25" ID, 9" Diameter Bit			
SAMPLING EQUIPMENT/METHOD: 3" Split-Barrel Sampler (5.0' length)			
GROUND ELEVATION: 7125.8'	α/β DAILY BACKGROUND READINGS:	01/20/2006: 46.5 dpm and 2700 dpm (α and β) 01/24/2006: 41.6 dpm and 1699 dpm (α and β) 01/26/2006: 53.4 dpm and 1774 dpm (α and β) 01/27/2006: 23.7 dpm and 1654 dpm (α and β) 01/30/2006: 41.3 dpm and 1634 dpm (α and β) 01/31/2006: 23.0 dpm and 1541 dpm (α and β) 02/01/2006: 23.0 dpm and 1621 dpm (α and β) 02/02/2006: 15.8 dpm and 1454 dpm (α and β)	TOTAL DEPTH: 354.0'
DRILLER: Steven Tanuz			GEOLOGIST: S. White

Depth (ft bgs)	Recovery (ft)	Field Analytical Sample: Sample ID/Type	Field Screening Results	LITHOLOGY - DESCRIPTION	Graphic Log	Lithologic Symbol	ADDITIONAL COMMENTS
120.0	2.6/5		PID=0.3 α/β=<MDA	UNIT 2 TSHIERGE MEMBER, BANDELIER TUFF: *SAA* *(120.0-140.0 ft)* *Densly welded crystalline ash flow tuff.* Red grey (2.5YR 5/1) with 10-15% qtz and 5-10% plagioclase crystalline phenocrysts and 15% hard grey pumice, 5-15 mm. Tuff remains slightly damp to dry and densly welded.		Qbt2	
	NR						
		MD21-06-64119 (124.0 to 125.0' bgs) Moisture	PID=0.3 α/β=<MDA	*124.0-128.5' bgs*: Ash matrix slightly less red than intervals above.			
125.0	4.5/5						
	NR		PID= 0.0 α/β=<MDA	*129.0-139.0' bgs*: Ash matrix red (weak red, 2.5YR 5/2). Traces of iron staining (<1 mm spots). Overall pumice size increases to >40 mm.			
130.0	5/5						
			PID=0.1 α/β=<MDA				
135.0	5/5						
	5/5		PID= 0.1 α/β=<MDA				
140.0							

BOREHOLE LOG
SWMU 21-016(a)-99 RFI Characterization

BOREHOLE ID: 21-25264 (BH-03)	Technical Area (TA): 21-016(a)-99 (MDA-T)		Page 8 of 18
DRILLING COMPANY: Spectrum Exploration	START DATE/TIME: 01/27/2006:1030	FINISH DATE/TIME: 02/02/2006:1450	
DRILLING EQUIPMENT/METHOD: CME-85 HSA, 4.25" ID, 9" Diameter Bit			
SAMPLING EQUIPMENT/METHOD: 3" Split-Barrel Sampler (5.0' length)			
GROUND ELEVATION: 7125.8'	α/β DAILY BACKGROUND READINGS:	01/20/2006: 46.5 dpm and 2700 dpm (α and β) 01/24/2006: 41.6 dpm and 1699 dpm (α and β) 01/26/2006: 53.4 dpm and 1774 dpm (α and β) 01/27/2006: 23.7 dpm and 1654 dpm (α and β) 01/30/2006: 41.3 dpm and 1634 dpm (α and β) 01/31/2006: 23.0 dpm and 1541 dpm (α and β) 02/01/2006: 23.0 dpm and 1621 dpm (α and β) 02/02/2006: 15.8 dpm and 1454 dpm (α and β)	TOTAL DEPTH: 354.0'
DRILLER: Steven Tanuz			GEOLOGIST: S. White

Depth (ft bgs)	Recovery (ft)	Field Analytical Sample: Sample ID/Type	Field Screening Results	LITHOLOGY - DESCRIPTION	Graphic Log	Lithologic Symbol	ADDITIONAL COMMENTS
140.0	5/5		PID=0.1 α/β=<MDA	UNIT 2 TSHIERGE MEMBER, BANDELIER TUFF: *SAA* *(140.0-154.0 ft)* *Densly to moderately welded crystalline tuff.* Average pumice clast size range is 5-20 mm. Degree of welding decreases with depth.		Qbt2	Degree of welding: decreasing
		MD21-06-64120 (144.0 to 145.0' bgs) Moisture	PID=0.0 α/β=<MDA	*144.0-149.0' bgs*: Ash matrix increasingly more red (Pale red:10R 6/2).			
145.0	5/5						
		MD21-06-63976 (149.0 to 150.5' bgs) Paired Fracture	PID=0.0 α/β=<MDA				
150.0	5/5	MD21-06-63977 (152.5 to 154.0 bgs) Fracture AND MD21-06-64225 (152.0 to 154.0 bgs) Pore Gas		*153.1-153.8 bgs*: Small, mostly open fracture, ~ 70-75 degrees, aperture 2-4 mm, trace clay fill.			
			PID=0.1 α/β=<MDA	*Partly welded crystalline ash flow tuff.* *(154.0-160.0 ft)* Weak red (10R 5/3) with 10-15% qtz and 5-10% plagioclase phenocrysts and 15-20% pumice. Phenocrysts are coarse and granular; pumice clasts are soft, 2-20 mm. Slightly damp to dry.			
155.0	5/5						
	1.3/5	MD21-06-64161 (159.0 to 160.0' bgs) Geotechnical	PID=0.2 α/β=<MDA				Run #33 (159-164') drilled with lexan tubing for geotechnical sample.
160.0							

BOREHOLE LOG
SWMU 21-016(a)-99 RFI Characterization

BOREHOLE ID: 21-25264 (BH-03)	Technical Area (TA): 21-016(a)-99 (MDA-T)		Page 9 of 18
DRILLING COMPANY: Spectrum Exploration	START DATE/TIME: 01/27/2006:1345	FINISH DATE/TIME: 02/02/2006:1450	
DRILLING EQUIPMENT/METHOD: CME-85 HSA, 4.25" ID, 9" Diameter Bit			
SAMPLING EQUIPMENT/METHOD: 3" Split-Barrel Sampler (5.0' length)			
GROUND ELEVATION: 7125.8'	α/β DAILY BACKGROUND READINGS:	01/20/2006: 46.5 dpm and 2700 dpm (α and β) 01/24/2006: 41.6 dpm and 1699 dpm (α and β) 01/26/2006: 53.4 dpm and 1774 dpm (α and β) 01/27/2006: 23.7 dpm and 1654 dpm (α and β) 01/30/2006: 41.3 dpm and 1634 dpm (α and β) 01/31/2006: 23.0 dpm and 1541 dpm (α and β) 02/01/2006: 23.0 dpm and 1621 dpm (α and β) 02/02/2006: 15.8 dpm and 1454 dpm (α and β)	TOTAL DEPTH: 354.0'
DRILLER: Steven Tanuz			GEOLOGIST: S. White

Depth (ft bgs)	Recovery (ft)	Field Analytical Sample: Sample ID/Type	Field Screening Results	LITHOLOGY - DESCRIPTION	Graphic Log	Lithologic Symbol	ADDITIONAL COMMENTS
160.0	1.3/5		PID=0.2 α/β=<MDA	UNIT 2 TSHIERGE MEMBER, BANDELIER TUFF: *SAA* *(160.0-175.5 ft)* *Partly welded crystalline tuff.*		Qbt2	Degree of welding: decreasing
	NR						
		MD21-06-64121 (164.0 to 165.0' bgs) Moisture	PID=0.3 α/β=<MDA				
165.0	5/5						
			PID=0.1 α/β=<MDA	*169.0-174.0' bgs*: Ash matrix color increasingly lighter (weak red:2.5YR 5/2).			
170.0	5/5			*173.0'-175.5 bgs*: Tuff starts gradational transition to Qbt1v (inferred base of Qbt2, top of Qbt1v)			Qbt2 / Qbt1v transition: 173.0 -175.5'.
			PID=0.1 α/β=<MDA				
175.0	5/5			UNIT 1v TSHIERGE MEMBER, BANDELIER TUFF: *Non welded crystalline ash flow tuff.* *(175.5-180.0 ft)* Pale red (2.5R 6/2) with 10-15% qtz and 5-10% plagioclase phenocrysts and 15-20% pumice. Phenocrysts are crystalline and fine grained; pumice clasts are light to dark grey, soft, 2-20 mm, fibrous to non fibrous. Trace iron-staining is evident. Tuff is slightly damp to dry.		Qbt 1v	Top of Qbt1v at 175.5' bgs.
	5/5		PID=0.0 α/β=<MDA				
180.0							

BOREHOLE LOG
SWMU 21-016(a)-99 RFI Characterization

BOREHOLE ID: 21-25264 (BH-03)	Technical Area (TA): 21-016(a)-99 (MDA-T)		Page 10 of 18
DRILLING COMPANY: Spectrum Exploration	START DATE/TIME: 01/30/2006:0925	FINISH DATE/TIME: 02/022006:1450	
DRILLING EQUIPMENT/METHOD: CME-85 HSA, 4.25" ID, 9" Diameter Bit			
SAMPLING EQUIPMENT/METHOD: 3" Split-Barrel Sampler (5.0' length)			
GROUND ELEVATION: 7125.8'	α/β DAILY BACKGROUND READINGS:	01/20/2006: 46.5 dpm and 2700 dpm (α and β) 01/24/2006: 41.6 dpm and 1699 dpm (α and β) 01/26/2006: 53.4 dpm and 1774 dpm (α and β) 01/27/2006: 23.7 dpm and 1654 dpm (α and β) 01/30/2006: 41.3 dpm and 1634 dpm (α and β) 01/31/2006: 23.0 dpm and 1541 dpm (α and β) 02/01/2006: 23.0 dpm and 1621 dpm (α and β) 02/02/2006: 15.8 dpm and 1454 dpm (α and β)	TOTAL DEPTH: 354.0'
DRILLER: Steven Tanuz			GEOLOGIST: S. White

Depth (ft bgs)	Recovery (ft)	Field Analytical Sample: Sample ID/Type	Field Screening Results	LITHOLOGY - DESCRIPTION	Graphic Log	Lithologic Symbol	ADDITIONAL COMMENTS
180.0	5/5		PID= 0.0 α/β=<MDA	UNIT 1v TSHIERGE MEMBER, BANDELIER TUFF: *SAA* *(180.0-200.0 ft)* *Non welded crystalline ash flow tuff.* Pumice content has increased to 20-25% and tuff color change to a pink grey (5YR 7/2).		Qbt 1v	
185.0	5/5	**MD21-06-64122** *(184.0 to 185.0' bgs)* ***Moisture***	PID= 0.0 α/β=<MDA				
190.0	5/5		PID= 0.0 α/β=<MDA				
195.0	5/5	**MD21-06-63978** *(196.0 to 199.0' bgs)* ***Gen. Investigation*** *AND* **MD21-06-63993** *(196.0 to 199.0' bgs)* ***Field Duplicate***	PID= 0.0 α/β=<MDA	*194.0-199.0' bgs*: Pumice content is 20-25% and clast size is variable (2-80+mm). Pumice are grey to purple grey and fibrous.			
200.0	5/5		PID= 0.0 α/β=<MDA				

BOREHOLE LOG
SWMU 21-016(a)-99 RFI Characterization

BOREHOLE ID: 21-25264 (BH-03)	Technical Area (TA): 21-016(a)-99 (MDA-T)		Page 11 of 18
DRILLING COMPANY: Spectrum Exploration	START DATE/TIME: 01/30/2006:1145	FINISH DATE/TIME: 02/02/2006:1450	
DRILLING EQUIPMENT/METHOD: CME-85 HSA, 4.25" ID, 9" Diameter Bit			
SAMPLING EQUIPMENT/METHOD: 3" Split-Barrel Sampler (5.0' length)			
GROUND ELEVATION: 7125.8'	α/β DAILY BACKGROUND READINGS:	01/20/2006: 46.5 dpm and 2700 dpm (α and β) 01/24/2006: 41.6 dpm and 1699 dpm (α and β) 01/26/2006: 53.4 dpm and 1774 dpm (α and β) 01/27/2006: 23.7 dpm and 1654 dpm (α and β) 01/30/2006: 41.3 dpm and 1634 dpm (α and β) 01/31/2006: 23.0 dpm and 1541 dpm (α and β) 02/01/2006: 23.0 dpm and 1621 dpm (α and β) 02/02/2006: 15.8 dpm and 1454 dpm (α and β)	TOTAL DEPTH: 354.0'
DRILLER: Steven Tanuz			GEOLOGIST: S. White

Depth (ft bgs)	Recovery (ft)	Field Analytical Sample: Sample ID/Type	Field Screening Results	LITHOLOGY - DESCRIPTION	Graphic Log	Lithologic Symbol	ADDITIONAL COMMENTS
200.0	5/5		PID= 0.0 α/β=<MDA	UNIT 1v TSHIERGE MEMBER, BANDELIER TUFF: *SAA* *(200.0-204.0 ft)* *Non welded crystalline tuff.* Color continues to grade lighter to an orange, red-brown (2.5YR 6/3). Degree of welding also increasing slightly with depth to poorly welded.		Qbt 1v	
205.0	5/5	MD21-06-64123 (204.0 to 205.0' bgs) Moisture	PID=0.0 α/β=<MDA	*Poorly welded crystalline tuff.* *(204.0-220.0 ft)* Light reddish brown (2.5R 6/4) with 10-15% qtz and plagioclase phenocrysts, trace sanidine, and 20-25% brown to purple grey pumice clasts. Pumice, 2-40 mm, are soft and fibrous. Tuff remains slightly damp to dry.			
210.0	5/5		PID=0.0 α/β=<MDA	*209.0-219.0' bgs*: Trace subrounded small (dominantly < 2mm, up to 15-20 mm) dacite clasts. Phenocrysts size increases with depth.			
215.0	5/5		PID=0.0 α/β=<MDA				
220.0	5/5		PID=0.0 α/β=<MDA	*219.0-220.0' bgs*: Tuff light red orange (2.5YR 6/6). Pumice are hard.			

BOREHOLE LOG
SWMU 21-016(a)-99 RFI Characterization

BOREHOLE ID: 21-25264 (BH-03)	Technical Area (TA): 21-016(a)-99 (MDA-T)		Page 12 of 18
DRILLING COMPANY: Spectrum Exploration	START DATE/TIME: 01/30/2006:1510	FINISH DATE/TIME: 00/02/2006:1450	
DRILLING EQUIPMENT/METHOD: CME-85 HSA, 4.25" ID, 9" Diameter Bit			
SAMPLING EQUIPMENT/METHOD: 3" Split-Barrel Sampler (5.0' length)			
GROUND ELEVATION: 7125.8'	α/β DAILY BACKGROUND READINGS:	01/20/2006: 46.5 dpm and 2700 dpm (α and β) 01/24/2006: 41.6 dpm and 1699 dpm (α and β) 01/26/2006: 53.4 dpm and 1774 dpm (α and β) 01/27/2006: 23.7 dpm and 1654 dpm (α and β) 01/30/2006: 41.3 dpm and 1634 dpm (α and β) 01/31/2006: 23.0 dpm and 1541 dpm (α and β) 02/01/2006: 23.0 dpm and 1621 dpm (α and β) 02/02/2006: 15.8 dpm and 1454 dpm (α and β)	TOTAL DEPTH: 354.0'
DRILLER: Steven Tanuz			GEOLOGIST: S. White

Depth (ft bgs)	Recovery (ft)	Field Analytical Sample: Sample ID/Type	Field Screening Results	LITHOLOGY - DESCRIPTION	Graphic Log	Lithologic Symbol	ADDITIONAL COMMENTS
220.0	5/5	MD21-06-64124 (224.0 to 225.0' bgs) Moisture AND MD21-06-64139 (224.0 to 225.0' bgs) Moisture FD AND MD21-06-64223 (224.0 to 226.0' bgs) Pore Gas	PID=0.0 α/β=<MDA	UNIT 1v TSHIERGE MEMBER, BANDELIER TUFF: *SAA* *(220.0-225.3 ft)* *Poorly welded crystalline tuff.*		Qbt 1v	
			PID=0.0 α/β=<MDA				
225.0	5/5			UNIT 1g TSHIERGE MEMBER, BANDELIER TUFF: *Pooly to nonwelded crystalline ash flow tuff.* *(225.3-229.0 ft)* Light reddish brown (2.5R 6/4) with 10-15% qtz and 5-10% plagioclase phenocrysts, trace sanidine, and 15-20% pumice clasts. Light grey pumice are 5-20 mm and moderately hard. Black glass shards also present. Tuff is slightly damp to dry.		Qbt 1g	Qbt1v / Qbt1g contact at 225.3' bgs. Degree of welding: decreasing
			PID=0.0 α/β=<MDA				
230.0	5/5			*232.0-234.0' bgs*: Tuff is nonwelded.			
			PID=0.2 α/β=<MDA				
235.0	5/5						
	3/5		PID=0.0 α/β=<MDA				
240.0							

BOREHOLE LOG
SWMU 21-016(a)-99 RFI Characterization

BOREHOLE ID: 21-25264 (BH-03)	Technical Area (TA): 21-016(a)-99 (MDA-T)		Page 13 of 18
DRILLING COMPANY: Spectrum Exploration	START DATE/TIME: 01/31/2006:0955	FINISH DATE/TIME: 00/02/2006:1450	
DRILLING EQUIPMENT/METHOD: CME-85 HSA, 4.25" ID, 9" Diameter Bit			
SAMPLING EQUIPMENT/METHOD: 3" Split-Barrel Sampler (5.0' length)			
GROUND ELEVATION: 7125.8'	α/β DAILY BACKGROUND READINGS:	01/20/2006: 46.5 dpm and 2700 dpm (α and β) 01/24/2006: 41.6 dpm and 1699 dpm (α and β) 01/26/2006: 53.4 dpm and 1774 dpm (α and β) 01/27/2006: 23.7 dpm and 1654 dpm (α and β) 01/30/2006: 41.3 dpm and 1634 dpm (α and β) 01/31/2006: 23.0 dpm and 1541 dpm (α and β) 02/01/2006: 23.0 dpm and 1621 dpm (α and β) 02/02/2006: 15.8 dpm and 1454 dpm (α and β)	TOTAL DEPTH: 354.0'
DRILLER: Steven Tanuz			GEOLOGIST: S. White

Depth (ft bgs)	Recovery (ft)	Field Analytical Sample: Sample ID/Type	Field Screening Results	LITHOLOGY - DESCRIPTION	Graphic Log	Lithologic Symbol	ADDITIONAL COMMENTS
240.0	3/5	MD21-06-64162 (241.0 to 242.0' bgs) Geotechnical	PID=0.0 α/β=<MDA	UNIT 1g TSHIERGE MEMBER, BANDELIER TUFF: *SAA* *(240.0-260.0 ft)* *Non welded crystalline ash flow tuff.* Pumice size and distribution variable (10-25%, 2-50 mm) throughout interval.		Qbt 1g	Run #49 (239-244') drilled with lexan tubing for geotechnical sample.
	NR						
		MD21-06-64125 (244.0 to 245.0' bgs) Moisture	PID=0.1 α/β=<MDA				
245.0	5/5						
			PID=0.1 α/β=<MDA				
250.0	3/5						
	NR						
			PID=0.3 α/β=<MDA				
255.0	5/5						
		MD21-06-63979 (257.0 to 259.0' bgs) Gen. Investigation					
	5/5		PID=0.4 α/β=<MDA				
260.0							

BOREHOLE LOG
SWMU 21-016(a)-99 RFI Characterization

BOREHOLE ID: 21-25264 (BH-03)	Technical Area (TA): 21-016(a)-99 (MDA-T)		Page 14 of 18
DRILLING COMPANY: Spectrum Exploration	START DATE/TIME: 01/31/2006:1405	FINISH DATE/TIME: 02/02/2006:1450	
DRILLING EQUIPMENT/METHOD: CME-85 HSA, 4.25" ID, 9" Diameter Bit			
SAMPLING EQUIPMENT/METHOD: 3" Split-Barrel Sampler (5.0' length)			
GROUND ELEVATION: 7125.8'	α/β DAILY BACKGROUND READINGS:	01/20/2006: 46.5 dpm and 2700 dpm (α and β) 01/24/2006: 41.6 dpm and 1699 dpm (α and β) 01/26/2006: 53.4 dpm and 1774 dpm (α and β) 01/27/2006: 23.7 dpm and 1654 dpm (α and β) 01/30/2006: 41.3 dpm and 1634 dpm (α and β) 01/31/2006: 23.0 dpm and 1541 dpm (α and β) 02/01/2006: 23.0 dpm and 1621 dpm (α and β) 02/02/2006: 15.8 dpm and 1454 dpm (α and β)	TOTAL DEPTH: 354.0'
DRILLER: Steven Tanuz			GEOLOGIST: S. White

Depth (ft)	Recovery (ft)	Field Analytical Sample: Sample ID/Type	Field Screening Results	LITHOLOGY - DESCRIPTION	Graphic Log	Lithologic Symbol	ADDITIONAL COMMENTS
260.0	5/5		PID= 0.4 α/β=<MDA	UNIT 1g TSHIERGE MEMBER, BANDELIER TUFF: *SAA* *(260.0-274.0 ft)* *Nonwelded crystalline tuff.*		Qbt 1g	
265.0	5/5	MD21-06-64126 (264.0 to 265.0' bgs) Moisture	PID= 0.4 α/β=<MDA				
270.0	5/5		PID= 0.2 α/β=<MDA				
				272.5-273.0' bgs: Presence of a small light red (2.5YR 7/6) layer in the ash matrix. Matrix is slightly lighter (2.5YR 7/4) below this layer.			
275.0	5/5		PID= 0.1 α/β=<MDA	*274.0-304.0' bgs*: Tuff; nonwelded. Pale red (2.5YR 7/2) with 10-15% qtz and 5-10% plagioclase phenocrysts and 10-15% light grey pumice. Phenocrysts are fine grained; pumice are 5-30 mm, fibrous, and softer than in above sections. Tuff is slightly damp to dry.			
280.0	5/5		PID= 0.1 α/β=<MDA				

BOREHOLE LOG
SWMU 21-016(a)-99 RFI Characterization

BOREHOLE ID: 21-25264 (BH-03)	Technical Area (TA): 21-016(a)-99 (MDA-T)		Page 15 of 18
DRILLING COMPANY: Spectrum Exploration	START DATE/TIME: 01/31/2006:1710	FINISH DATE/TIME: 02/02/2006:1450	
DRILLING EQUIPMENT/METHOD: CME-85 HSA, 4.25" ID, 9" Diameter Bit			
SAMPLING EQUIPMENT/METHOD: 3" Split-Barrel Sampler (5.0' length)			
GROUND ELEVATION: 7125.8'	α/β DAILY BACKGROUND READINGS:	01/20/2006: 46.5 dpm and 2700 dpm (α and β) 01/24/2006: 41.6 dpm and 1699 dpm (α and β) 01/26/2006: 53.4 dpm and 1774 dpm (α and β) 01/27/2006: 23.7 dpm and 1654 dpm (α and β) 01/30/2006: 41.3 dpm and 1634 dpm (α and β) 01/31/2006: 23.0 dpm and 1541 dpm (α and β) 02/01/2006: 23.0 dpm and 1621 dpm (α and β) 02/02/2006: 15.8 dpm and 1454 dpm (α and β)	TOTAL DEPTH: 354.0'
DRILLER: Steven Tanuz			GEOLOGIST: S. White

Depth (ft bgs)	Recovery (ft)	Field Analytical Sample: Sample ID/Type	Field Screening Results	LITHOLOGY - DESCRIPTION	Graphic Log	Lithologic Symbol	ADDITIONAL COMMENTS
280.0	5/5		PID=0.0 α/β=<MDA	UNIT 1g TSHIERGE MEMBER, BANDELIER TUFF: *SAA* *(280.0-304.0 ft)* *Non welded crystalline ash flow tuff.* Pumice are moderately hard to soft.		Qbt 1g	
285.0	5/5	**MD21-06-64127** *(284.0 to 285.0' bgs)* ***Moisture***	PID=0.2 α/β=<MDA				
290.0	5/5		PID=0.1 α/β=<MDA				
295.0	5/5		PID=0.1 α/β=<MDA				
300.0	5/5		PID=0.4 α/β=<MDA				

BOREHOLE LOG
SWMU 21-016(a)-99 RFI Characterization

BOREHOLE ID: 21-25264 (BH-03)	Technical Area (TA): 21-016(a)-99 (MDA-T)		Page 16 of 18
DRILLING COMPANY: Spectrum Exploration	START DATE/TIME: 02/01/2006:1245	FINISH DATE/TIME: 02/01/2006:1600	
DRILLING EQUIPMENT/METHOD: CME-85 HSA, 4.25" ID, 9" Diameter Bit			
SAMPLING EQUIPMENT/METHOD: 3" Split-Barrel Sampler (5.0' length)			
GROUND ELEVATION: 7125.8'	α/β DAILY BACKGROUND READINGS:	01/20/2006: 46.5 dpm and 2700 dpm (α and β) 01/24/2006: 41.6 dpm and 1699 dpm (α and β) 01/26/2006: 53.4 dpm and 1774 dpm (α and β) 01/27/2006: 23.7 dpm and 1654 dpm (α and β) 01/30/2006: 41.3 dpm and 1634 dpm (α and β) 01/31/2006: 23.0 dpm and 1541 dpm (α and β) 02/01/2006: 23.0 dpm and 1621 dpm (α and β) 02/02/2006: 15.8 dpm and 1454 dpm (α and β)	TOTAL DEPTH: 354.0'
DRILLER: Steven Tanuz			GEOLOGIST: S. White

Depth (ft bgs)	Recovery (ft)	Field Analytical Sample: Sample ID/Type	Field Screening Results	LITHOLOGY - DESCRIPTION	Graphic Log	Lithologic Symbol	ADDITIONAL COMMENTS
300.0			PID=0.4 α/β=<MDA			Qbt 1g	
	5/5	MD21-06-63980 (301.0 to 304.0' bgs) Gen. Investigation AND MD21-06-63994 (301.0 to 304.0' bgs) Field Duplicate		UNIT 1G TSHIERGE MEMBER, BANDELIER TUFF: *SAA* *(304.0-320.0 ft)* *Non welded crystalline tuff.* Tuff matrix color grading to a light red grey (2.5YR 7/1). Pumice are light grey to white.			
		MD21-06-64128 (304.0 to 305.0' bgs) Moisture	PID=0.3 α/β=<MDA				
305.0	5/5						
			PID=0.4 α/β=<MDA				
310.0	5/5						
			PID=0.1 α/β=<MDA				
315.0	5/5						
	5/5		PID=0.0 α/β=<MDA				
320.0							

BOREHOLE LOG
SWMU 21-016(a)-99 RFI Characterization

BOREHOLE ID: 21-25264 (BH-03)	Technical Area (TA): 21-016(a)-99 (MDA-T)		Page 17 of 18
DRILLING COMPANY: Spectrum Exploration	START DATE/TIME: 02/01/2006:1600	FINISH DATE/TIME: 02/02/2006:1450	
DRILLING EQUIPMENT/METHOD: CME-85 HSA, 4.25" ID, 9" Diameter Bit			
SAMPLING EQUIPMENT/METHOD: 3" Split-Barrel Sampler (5.0' length)			
GROUND ELEVATION: 7125.8'	α/β DAILY BACKGROUND READINGS:	01/20/2006: 46.5 dpm and 2700 dpm (α and β) 01/24/2006: 41.6 dpm and 1699 dpm (α and β) 01/26/2006: 53.4 dpm and 1774 dpm (α and β) 01/27/2006: 23.7 dpm and 1654 dpm (α and β) 01/30/2006: 41.3 dpm and 1634 dpm (α and β) 01/31/2006: 23.0 dpm and 1541 dpm (α and β) 02/01/2006: 23.0 dpm and 1621 dpm (α and β) 02/02/2006: 15.8 dpm and 1454 dpm (α and β)	TOTAL DEPTH: 354.0'
DRILLER: Steven Tanuz			GEOLOGIST: S. White

Depth (ft)	Recovery (ft)	Field Analytical Sample: Sample ID/Type	Field Screening Results	LITHOLOGY - DESCRIPTION	Graphic Log	Lithologic Symbol	ADDITIONAL COMMENTS
320.0	5/5		PID=0.0 α/β=<MDA	UNIT 1g TSHIERGE MEMBER, BANDELIER TUFF: *SAA* *(320.0-324.6 ft)* *Non welded crystalline ash flow tuff.*		Qbt 1g	
		MD21-06-64129 (324.0 to 325.0' bgs) Moisture MD21-06-64222 (325.0 to 327.0' bgs) Pore Gas AND MD21-06-63981 (325.8 to 327.0' bgs) Gen. Investigation	PID=0.1 α/β=<MDA	*324.0-324.6' bgs*: Tuff damp.			Qbt1g / Qbtt contact: 324.6' bgs.
325.0	5/5			TSANKAWI PUMICE BED, TSHIERGE MEMBER, BANDELIER TUFF: *Pumice Deposit* *(324.6-325.8 ft)* Light grey (5YR, 7/1) granular unconsolidated pumice bed. Pumice are variable in size up to 20 mm and hard.		Qbtt Qct	Qct contact: 325.8' bgs.
				CERRO TOLEDO: *Sand.* *(325.8-340.0 ft)* Loose, slightly damp to dry, multi-colored brown to grey (5YR 4/4, 5YR 6/4, 5YR 6/1) fine to coarse grained sand with trace silt and fine gravel.			
		MD21-06-64163 (329.0 to 330.0' bgs) Geotechnical	PID=0.2 α/β=<MDA				Run #67 (329-334') drilled with lexan tubing for geotechnical sample
330.0	3/5						
	NR						
		MD21-06-64130 (334.0 to 335.0' bgs) Moisture AND MD21-06-64140 (334.0 to 335.0' bgs) Moisture FD	PID= 0.4 α/β=<MDA	*334.0-340.0' bgs*: Color predominantly brown (7.5YR 5/2, 5/3).			
335.0	5/5						
340.0	5/5		PID=0.1 α/β=<MDA	*339.6-340.1' bgs*: Thin gravel layer.			

BOREHOLE LOG
SWMU 21-016(a)-99 RFI Characterization

BOREHOLE ID: 21-25264 (BH-03)	Technical Area (TA): 21-016(a)-99 (MDA-T)		Page 18 of 18
DRILLING COMPANY: Spectrum Exploration	START DATE/TIME: 02/02/2006:1200	FINISH DATE/TIME: 02/02/2006:1450	
DRILLING EQUIPMENT/METHOD: CME-85 HSA, 4.25" ID, 9" Diameter Bit			
SAMPLING EQUIPMENT/METHOD: 3" Split-Barrel Sampler (5.0' length)			
GROUND ELEVATION: 7125.8'	α/β DAILY BACKGROUND READINGS:	01/20/2006: 46.5 dpm and 2700 dpm (α and β) 01/24/2006: 41.6 dpm and 1699 dpm (α and β) 01/26/2006: 53.4 dpm and 1774 dpm (α and β) 01/27/2006: 23.7 dpm and 1654 dpm (α and β) 01/30/2006: 41.3 dpm and 1634 dpm (α and β) 01/31/2006: 23.0 dpm and 1541 dpm (α and β) 02/01/2006: 23.0 dpm and 1621 dpm (α and β) 02/02/2006: 15.8 dpm and 1454 dpm (α and β)	TOTAL DEPTH: 354.0'
DRILLER: Steven Tanuz			GEOLOGIST: S. White

Depth (ft bgs)	Recovery (ft)	Field Analytical Sample: Sample ID/Type	Field Screening Results	LITHOLOGY - DESCRIPTION	Graphic Log	Lithologic Symbol	ADDITIONAL COMMENTS
340.0	5/5		PID=0.1 α/β=<MDA	CERRO TOLEDO: *SAA* (340.1-353.2 ft) *Sand.* Grey (7.5YR 6/1), fine to medium grained with trace coarse sand and silt. Thin sedimentary bedding visible (brown and grey in color).		Qct	
345.0	5/5	**MD21-06-64131** *(344.0 to 345.0' bgs)* ***Moisture***	PID=0.1 α/β=<MDA	*347.0-349.0' bgs*: Several thin beds of fine subrounded gravel.			
350.0	5/5	**MD21-06-64221** *(350.0 to 354.0' bgs)* ***Pore Gas*** *AND* **MD21-06-64233** *(350.0 to 354.0' bgs)* ***Pore Gas FD*** *AND* **MD21-06-63982** *(351.0 to 354.0' bgs)* ***Gen. Investigation*** *AND* **MD21-06-63995** *(351.0 to 354.0' bgs)* ***Field Duplicate***	PID=0.1 α/β=<MDA	*349.0-350.6' bgs*: Grey white pumice bed present. OTOWI MEMBER, BANDELIER TUFF: *Pumaceous Tuff* (353.2-354.0 ft) Light reddish orange (2.5YR 6/8).		Qbo	Qct / Qbo contact: 353.2' bgs. *Borehole TD*
355.0							
360.0							

Appendix B

Analytical Data Results
(on CD included with this document)

Air Toxics LTD.

Laboratory Services Since 1989

Electronic Comprehensive Validation Package (eCVP)

AN ENVIRONMENTAL ANALYTICAL LABORATORY

COMPREHENSIVE VALIDATION PACKAGE

Modified TO-15

INVENTORY SHEET

Work Order #: 0710567

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b. Target Compound Raw Data		
-Internal Standard Area and Retention Time Summary		
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-Chromatogram(s) and Ion Profiles (If Applicable)		
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Comments:

Completed by:

Kara McKiernan	Kara McKiernan / Document Control	11/5/07
(Signature)	(Print Name & Title)	(Date)

AN ENVIRONMENTAL ANALYTICAL LABORATORY

WORK ORDER #: 0710567

Work Order Summary

CLIENT:	Mr. Keith Greene Los Alamos National Laboratories Mail Stop 240 P.O. Box 1663 Los Alamos, NM 87545	**BILL TO:**	Accounts Payable Los Alamos National Laboratories P.O. Box 1663 Mail Stop P240 Los Alamos, NM 87545
PHONE:	505-665-9966	**P.O. #**	47247-001-07
FAX:	505-665-8855	**PROJECT #**	08-79
DATE RECEIVED:	10/23/2007	**CONTACT:**	Brandon Dunmore
DATE COMPLETED:	11/01/2007		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.
01A	MD21-07-6813	Modified TO-15	7.5 "Hg
02A	MD21-07-6814	Modified TO-15	6.5 "Hg
03A	MD21-07-6815	Modified TO-15	7.0 "Hg
04A	MD21-07-6816	Modified TO-15	8.0 "Hg
05A	MD21-07-6817	Modified TO-15	7.0 "Hg
06A	Lab Blank	Modified TO-15	NA
06B	Lab Blank	Modified TO-15	NA
07A	CCV	Modified TO-15	NA
07B	CCV	Modified TO-15	NA
08A	LCS	Modified TO-15	NA
08B	LCS	Modified TO-15	NA

CERTIFIED BY: Linda L. Freeman

Laboratory Director

DATE: 11/01/07

Certfication numbers: CA NELAP - 02110CA, LA NELAP/LELAP- AI 30763, NJ NELAP - CA004
NY NELAP - 11291, UT NELAP - 9166389892
Name of Accrediting Agency: NELAP/Florida Department of Health, Scope of Application: Clean Air Act,
Accreditation number: E87680, Effective date: 07/01/07, Expiration date: 06/30/08
Air Toxics Ltd. certifies that the test results contained in this report meet all requirements of the NELAC standards

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(916) 985-1000 . (800) 985-5955 . FAX (916) 985-1020

AN ENVIRONMENTAL ANALYTICAL LABORATORY

LABORATORY NARRATIVE
Modified TO-15
Los Alamos National Laboratories
Workorder# 0710567

Five 6 Liter Summa Canister samples were received on October 23, 2007. The laboratory performed analysis via modified EPA Method TO-15 using GC/MS in the full scan mode. The method involves concentrating up to 0.2 liters of air. The concentrated aliquot is then flash vaporized and swept through a water management system to remove water vapor. Following dehumidification, the sample passes directly into the GC/MS for analysis.

This workorder was independently validated prior to submittal using 'USEPA National Functional Guidelines' as generally applied to the analysis of volatile organic compounds in air. A rules-based, logic driven, independent validation engine was employed to assess completeness, evaluate pass/fail of relevant project quality control requirements and verification of all quantified amounts.

Method modifications taken to run these samples are summarized in the table below. Specific project requirements may over-ride the ATL modifications.

Requirement	***TO-15***	***ATL Modifications***
Daily CCV	+- 30% Difference	</= 30% Difference with two allowed out up to </=40%.; flag and narrate outliers
Sample collection media	Summa canister	ATL recommends use of summa canisters to insure data defensibility, but will report results from Tedlar bags at client request
Method Detection Limit	Follow 40CFR Pt.136 App. B	The MDL met all relevant requirements in Method TO-15 (statistical MDL less than the LOQ). The concentration of the spiked replicate may have exceeded 10X the calculated MDL in some cases

Receiving Notes

The Chain of Custody (COC) was not relinquished properly. An incorrect date was provided by the field sampler.

Analytical Notes

The reported CCV for each daily batch may be derived from more than one analytical file due to the client's request for non-standard compounds.

Non-standard compounds may have different acceptance criteria than the standard TO-14A/TO-15 compound list as per contract or verbal agreement.

Definition of Data Qualifying Flags

Eight qualifiers may have been used on the data analysis sheets and indicates as follows:

B - Compound present in laboratory blank greater than reporting limit (background subtraction no performed).

J - Estimated value.

E - Exceeds instrument calibration range.

S - Saturated peak.

Q - Exceeds quality control limits.

U - Compound analyzed for but not detected above the reporting limit.

UJ- Non-detected compound associated with low bias in the CCV

N - The identification is based on presumptive evidence.

File extensions may have been used on the data analysis sheets and indicates as follows:

a-File was requantified

b-File was quantified by a second column and detector

r1-File was requantified for the purpose of reissue

Table 1

Client Sample ID	Lab Sample ID	Date Collected	Date Received	Date Extracted	Sample Holding Time (Days)	Date Analyzed	Sample Extract Holding Time (Days)	Sample Condition
MD21-07-6813	0710567-01A	10/19/2007	10/23/2007	NA	11	10/30/2007	NA	Good
MD21-07-6814	0710567-02A	10/19/2007	10/23/2007	NA	11	10/30/2007	NA	Good
MD21-07-6815	0710567-03A	10/19/2007	10/23/2007	NA	11	10/30/2007	NA	Good
MD21-07-6816	0710567-04A	10/19/2007	10/23/2007	NA	12	10/31/2007	NA	Good
MD21-07-6817	0710567-05A	10/19/2007	10/23/2007	NA	12	10/31/2007	NA	Good
Lab Blank	0710567-06A	NA	NA	NA	NA	10/30/2007	NA	Good
Lab Blank	0710567-06B	NA	NA	NA	NA	10/31/2007	NA	Good
CCV	0710567-07A	NA	NA	NA	NA	10/30/2007	NA	Good
CCV	0710567-07B	NA	NA	NA	NA	10/31/2007	NA	Good
LCS	0710567-08A	NA	NA	NA	NA	10/30/2007	NA	Good
LCS	0710567-08B	NA	NA	NA	NA	10/31/2007	NA	Good

Sample Results and Raw Data

AN ENVIRONMENTAL ANALYTICAL LABORATORY

Summary of Detected Compounds
MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

Client Sample ID: MD21-07-6813

Lab ID#: 0710567-01A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Freon 12	0.90	2.1	4.4	10
1,3-Butadiene	0.90	1.5	2.0	3.4
Acetone	3.6	7.0	8.5	17
Carbon Disulfide	0.90	0.98	2.8	3.0
Methylene Chloride	0.90	72	3.1	250
Chloroform	0.90	71	4.4	350
1,1,1-Trichloroethane	0.90	3.4	4.9	18
Cyclohexane	0.90	0.93	3.1	3.2
Carbon Tetrachloride	0.90	25	5.6	160
1,2-Dichloroethane	0.90	0.94	3.6	3.8
Trichloroethene	0.90	120	4.8	660
Toluene	0.90	1.3	3.4	5.1
Tetrachloroethene	0.90	220	6.1	1500
Bromoform	0.90	1.1	9.2	12

AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: MD21-07-6813

Lab ID#: 0710567-01A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**7103018**	**Date of Collection:**	**10/19/07**
Dil. Factor:	**1.79**	**Date of Analysis:**	**10/30/07 09:08 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Freon 12	0.90	2.1	4.4	10
Freon 114	0.90	Not Detected	6.2	Not Detected
Chloromethane	3.6	Not Detected	7.4	Not Detected
Vinyl Chloride	0.90	Not Detected	2.3	Not Detected
1,3-Butadiene	0.90	1.5	2.0	3.4
Bromomethane	0.90	Not Detected	3.5	Not Detected
Chloroethane	0.90	Not Detected	2.4	Not Detected
Freon 11	0.90	Not Detected	5.0	Not Detected
Ethanol	3.6	Not Detected	6.7	Not Detected
Freon 113	0.90	Not Detected	6.8	Not Detected
1,1-Dichloroethene	0.90	Not Detected	3.5	Not Detected
Acetone	3.6	7.0	8.5	17
2-Propanol	3.6	Not Detected	8.8	Not Detected
Carbon Disulfide	0.90	0.98	2.8	3.0
Methylene Chloride	0.90	72	3.1	250
Methyl tert-butyl ether	0.90	Not Detected	3.2	Not Detected
trans-1,2-Dichloroethene	0.90	Not Detected	3.5	Not Detected
Hexane	0.90	Not Detected	3.2	Not Detected
1,1-Dichloroethane	0.90	Not Detected	3.6	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.90	Not Detected	2.6	Not Detected
cis-1,2-Dichloroethene	0.90	Not Detected	3.5	Not Detected
Tetrahydrofuran	0.90	Not Detected	2.6	Not Detected
Chloroform	0.90	71	4.4	350
1,1,1-Trichloroethane	0.90	3.4	4.9	18
Cyclohexane	0.90	0.93	3.1	3.2
Carbon Tetrachloride	0.90	25	5.6	160
Benzene	0.90	Not Detected	2.8	Not Detected
1,2-Dichloroethane	0.90	0.94	3.6	3.8
Heptane	0.90	Not Detected	3.7	Not Detected
Trichloroethene	0.90	120	4.8	660
1,2-Dichloropropane	0.90	Not Detected	4.1	Not Detected
1,4-Dioxane	3.6	Not Detected	13	Not Detected
Bromodichloromethane	0.90	Not Detected	6.0	Not Detected
cis-1,3-Dichloropropene	0.90	Not Detected	4.1	Not Detected
4-Methyl-2-pentanone	0.90	Not Detected	3.7	Not Detected
Toluene	0.90	1.3	3.4	5.1
trans-1,3-Dichloropropene	0.90	Not Detected	4.1	Not Detected
1,1,2-Trichloroethane	0.90	Not Detected	4.9	Not Detected
Tetrachloroethene	0.90	220	6.1	1500

AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: MD21-07-6813

Lab ID#: 0710567-01A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**7103018**	**Date of Collection:**	**10/19/07**
Dil. Factor:	**1.79**	**Date of Analysis:**	**10/30/07 09:08 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
2-Hexanone	3.6	Not Detected	15	Not Detected
Dibromochloromethane	0.90	Not Detected	7.6	Not Detected
1,2-Dibromoethane (EDB)	0.90	Not Detected	6.9	Not Detected
Chlorobenzene	0.90	Not Detected	4.1	Not Detected
Ethyl Benzene	0.90	Not Detected	3.9	Not Detected
m,p-Xylene	0.90	Not Detected	3.9	Not Detected
o-Xylene	0.90	Not Detected	3.9	Not Detected
Styrene	0.90	Not Detected	3.8	Not Detected
Bromoform	0.90	1.1	9.2	12
1,1,2,2-Tetrachloroethane	0.90	Not Detected	6.1	Not Detected
4-Ethyltoluene	0.90	Not Detected	4.4	Not Detected
1,3,5-Trimethylbenzene	0.90	Not Detected	4.4	Not Detected
1,2,4-Trimethylbenzene	0.90	Not Detected	4.4	Not Detected
1,3-Dichlorobenzene	0.90	Not Detected	5.4	Not Detected
1,4-Dichlorobenzene	0.90	Not Detected	5.4	Not Detected
alpha-Chlorotoluene	0.90	Not Detected	4.6	Not Detected
1,2-Dichlorobenzene	0.90	Not Detected	5.4	Not Detected
1,2,4-Trichlorobenzene	3.6	Not Detected	26	Not Detected
Hexachlorobutadiene	3.6	Not Detected	38	Not Detected
Chlorodifluoromethane	3.6	Not Detected	13	Not Detected
Methanol	90	Not Detected	120	Not Detected
n-Butanol	3.6	Not Detected	11	Not Detected
Propylene	3.6	Not Detected	6.2	Not Detected

Container Type: 6 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	93	70-130
1,2-Dichloroethane-d4	109	70-130
4-Bromofluorobenzene	100	70-130

Air Toxics Ltd.

AMBIENT AIR METHOD TO14

Data file : /chem/msd7.i/7-30oct.b/7103018.d
Lab Smp Id: 0710567-01A
Inj Date : 30-OCT-2007 21:08
Operator : srs Inst ID: msd7.i
Smp Info : 200mL #20940
Misc Info : 7.5"Hg -> 5psi Los Alamos
Comment :
Method : /chem/msd7.i/7-30oct.b/t14qO18c.m
Meth Date : 31-Oct-2007 14:54 ctaylor Quant Type: ISTD
Cal Date : 30-OCT-2007 11:10 Cal File: 7103005.d
Als bottle: 1
Dil Factor: 1.79000
Integrator: HP RTE Compound Sublist: Los2153.sub
Target Version: 3.50 Sample Matrix: AIR
Processing Host: eeyore

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

RT	EXP RT (REL RT)	MASS	RESPONSE	CONCENTRATIONS ON-COL (PPBV)	FINAL (PPBV)	TARGET RANGE	RATIO
* 81 Bromochloromethane					CAS #: 74-97-5		
14.416	14.388 (1.000)	130	359556	25.0000		80.00- 120.00	100.00
14.416	14.388 (1.000)	128	279421			26.27- 126.27	77.71
14.416	14.388 (1.000)	49	672451			132.02- 232.02	187.02
* 97 1,4-Difluorobenzene					CAS #: 540-36-3		
16.185	16.158 (1.000)	114	1198965	25.0000		80.00- 120.00	100.00
16.185	16.158 (1.000)	88	183583			0.00- 64.88	15.31
* 126 Chlorobenzene-d5					CAS #: 3114-55-4		
21.356	21.356 (1.000)	117	954007	25.0000		80.00- 120.00	100.00
21.356	21.356 (1.000)	82	512652			4.45- 104.45	53.74
$ 90 1,2-Dichloroethane-d4					CAS #: 17060-07-0		
15.494	15.494 (1.075)	65	526727	27.2690	27.269	80.00- 120.00	100.00
15.494	15.494 (1.075)	67	253004			2.91- 102.91	48.03
$ 113 Toluene-d8					CAS #: 2037-26-5		
18.785	18.757 (1.161)	98	987007	23.1901	23.190	80.00- 120.00	100.00
18.757	18.757 (1.159)	70	108896			0.00- 61.46	11.03

RT	EXP RT (REL RT)	MASS	RESPONSE	CONCENTRATIONS ON-COL (PPBV)	FINAL (PPBV)	TARGET RANGE	RATIO
$ 113 Toluene-d8 (continued)							
18.785	18.757 (1.161)	100	669081			19.18- 119.18	67.79
$ 137 Bromofluorobenzene						CAS #: 460-00-4	
23.347	23.347 (1.093)	174	570239	25.1192	25.119	80.00- 120.00	100.00
23.319	23.319 (1.092)	95	683914			67.21- 167.21	119.93
23.347	23.347 (1.093)	176	557687			47.52- 147.52	97.80
12 Dichlorodifluoromethane/Fr12						CAS #: 75-71-8	
5.729	5.729 (0.397)	85	65694	1.15619	2.070	80.00- 120.00	100.00
5.729	5.729 (0.397)	87	21873			0.00- 83.07	33.30
22 1,3-Butadiene						CAS #: 106-99-0	
6.940	6.912 (0.481)	54	14159	0.84733	1.517	80.00- 120.00	100.00
6.743	6.912 (0.468)	39	98832			55.97- 155.97	698.02
45 Acetone						CAS #: 67-64-1	
10.517	10.462 (0.730)	58	37970	3.91577	7.009	80.00- 120.00	100.00
10.517	10.462 (0.730)	43	166676			247.10- 347.10	438.97
47 Carbon Disulfide						CAS #: 75-15-0	
10.904	10.877 (0.756)	76	32617	0.54495	0.9754	80.00- 120.00	100.00
54 Methylene Chloride						CAS #: 75-09-2	
11.485	11.457 (0.797)	49	934879	40.5335	72.555	80.00- 120.00	100.00
11.485	11.457 (0.797)	84	587103			18.75- 118.75	62.80
11.485	11.457 (0.797)	51	274305			0.00- 80.85	29.34
82 Chloroform						CAS #: 67-66-3	
14.471	14.471 (1.004)	83	1442495	39.8458	71.324	80.00- 120.00	100.00
14.471	14.471 (1.004)	85	940785			14.87- 114.87	65.22
83 1,1,1-Trichloroethane						CAS #: 71-55-6	
14.831	14.831 (1.029)	97	69120	1.89598	3.394	80.00- 120.00	100.00
14.831	14.831 (1.029)	99	44900			14.34- 114.34	64.96
85 Cyclohexane						CAS #: 110-82-7	
14.858	14.831 (1.031)	84	10856	0.51991	0.9306	80.00- 120.00	100.00
14.831	14.831 (1.029)	56	20929			77.34- 177.34	192.79
14.831	14.831 (1.029)	41	14347			23.26- 123.26	132.16
87 Carbon Tetrachloride						CAS #: 56-23-5	
15.107	15.080 (1.048)	119	480988	14.0749	25.194	80.00- 120.00	100.00
15.107	15.080 (1.048)	117	492500			53.20- 153.20	102.39
93 1,2-Dichloroethane						CAS #: 107-06-2	
15.632	15.633 (0.966)	62	13260	0.52388	0.9377	80.00- 120.00	100.00

RT	EXP RT (REL RT)	MASS	RESPONSE	CONCENTRATIONS ON-COL (PPBV)	FINAL (PPBV)	TARGET RANGE	RATIO
93 1,2-Dichloroethane (continued)							
15.660	15.633 (0.968)	64	4230			0.00- 82.89	31.90
101 Trichloroethene						CAS #: 79-01-6	
16.656	16.628 (1.029)	95	1464502	69.2069	123.88	80.00- 120.00	100.00
16.656	16.628 (1.029)	130	1492406			52.84- 152.84	101.91
16.656	16.628 (1.029)	97	957909			15.58- 115.58	65.41
114 Toluene						CAS #: 108-88-3	
18.895	18.895 (1.167)	91	39178	0.75085	1.344	80.00- 120.00	100.00
18.895	18.895 (1.167)	92	22233			13.85- 113.85	56.75
120 Tetrachloroethene						CAS #: 127-18-4	
19.835	19.835 (0.929)	166	3168889	123.650	221.33	80.00- 120.00	100.00
19.835	19.835 (0.929)	129	2280124			20.11- 120.11	71.95
19.835	19.835 (0.929)	131	2190211			17.39- 117.39	69.12
133 Bromoform						CAS #: 75-25-2	
22.849	22.821 (1.070)	173	19558	0.63617	1.139	80.00- 120.00	100.00
22.821	22.821 (1.069)	171	9820			1.85- 101.85	50.21

Report Date: 01-Nov-2007 11:12

Air Toxics Ltd.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd7.i
Lab File ID: 7103018.d
Lab Smp Id: 0710567-01A
Analysis Type: VOA
Quant Type: ISTD
Operator: srs
Method File: /chem/msd7.i/7-30oct.b/t14qO18c.m
Misc Info: 7.5"Hg -> 5psi Los Alamos

Calibration Date: 30-OCT-2007
Calibration Time: 12:15

Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
81 Bromochloromethan	537758	322655	752861	359556	-33.14
97 1,4-Difluorobenze	1771565	1062939	2480191	1198965	-32.32
126 Chlorobenzene-d5	1414884	848930	1980838	954007	-32.57

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
81 Bromochloromethan	14.39	14.06	14.72	14.42	0.19
97 1,4-Difluorobenze	16.16	15.83	16.49	16.19	0.17
126 Chlorobenzene-d5	21.36	21.03	21.69	21.36	0.00

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Report Date: 01-Nov-2007 11:12

Air Toxics Ltd.

RECOVERY REPORT

Client Name: Client SDG: 7-30oct
Sample Matrix: GAS Fraction: VOA
Lab Smp Id: 0710567-01A
Level: LOW Operator: srs
Data Type: MS DATA SampleType: SAMPLE
SpikeList File: 2926spectra.spk Quant Type: ISTD
Sublist File: Los2153.sub
Method File: /chem/msd7.i/7-30oct.b/t14qO18c.m
Misc Info: 7.5"Hg -> 5psi Los Alamos

SURROGATE COMPOUND	CONC ADDED PPBV	CONC RECOVERED PPBV	% RECOVERED	LIMITS
$ 90 1,2-Dichloroethane	25.000	27.269	109.08	70-130
$ 113 Toluene-d8	25.000	23.190	92.76	70-130
$ 137 Bromofluorobenzene	25.000	25.119	100.48	70-130

Data File: /chem/msd7.i/7-30oct.b/7103018.d

Date : 30-OCT-2007 21:08

Client ID:

Sample Info: 200mL #20940

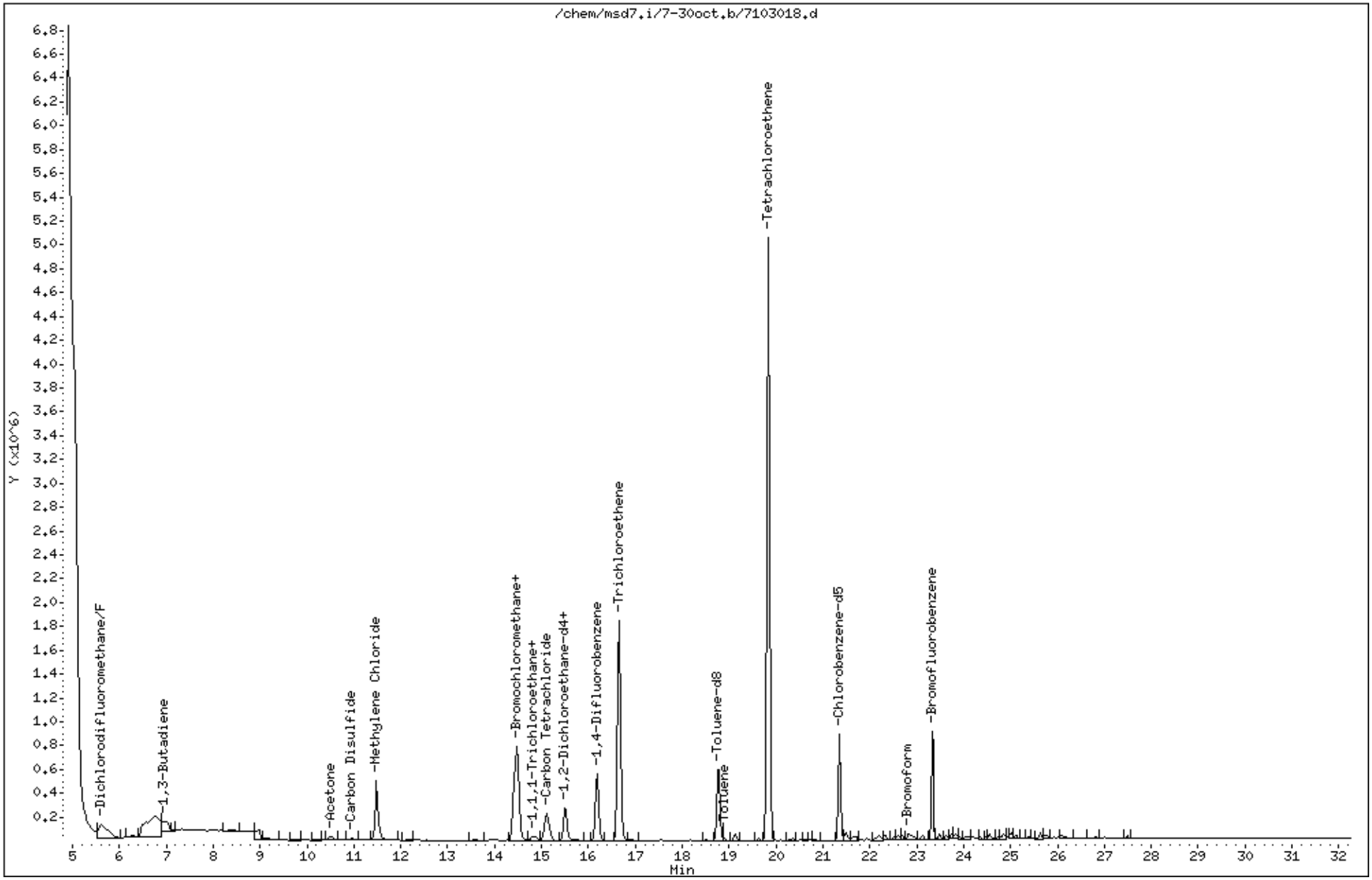
Column phase: RTx-624

Instrument: msd7.i

Operator: srs

Column diameter: 0.53

0014



Data File: /chem/msd7.i/7-30oct.b/7103018.d

Date : 30-OCT-2007 21:08

Client ID:

Instrument: msd7.i

Sample Info: 200mL #20940

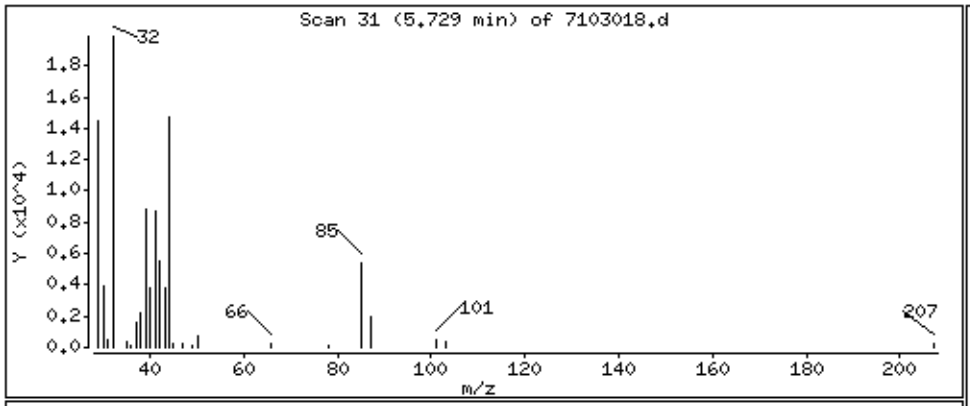
Operator: srs

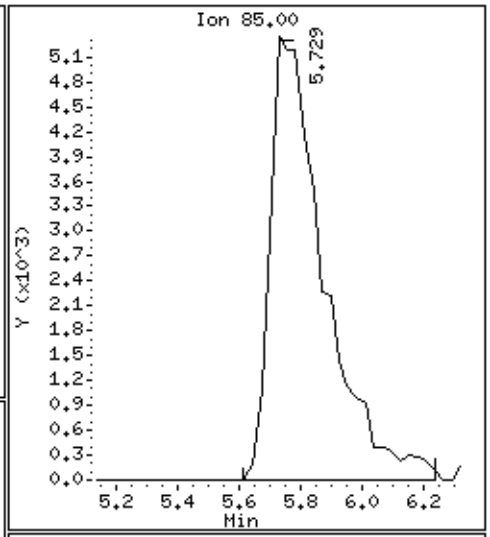
Column phase: RTx-624

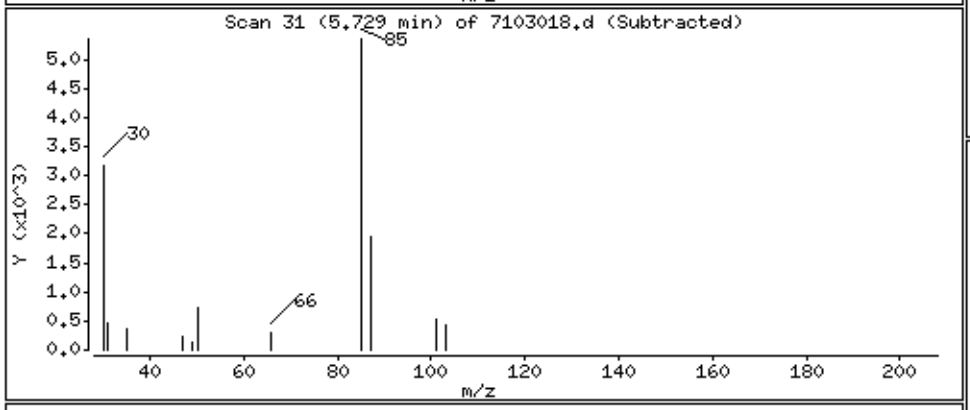
Column diameter: 0.53

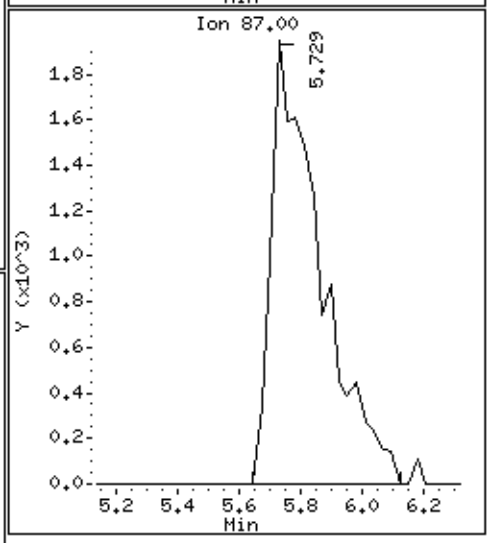
12 Dichlorodifluoromethane/Fr12

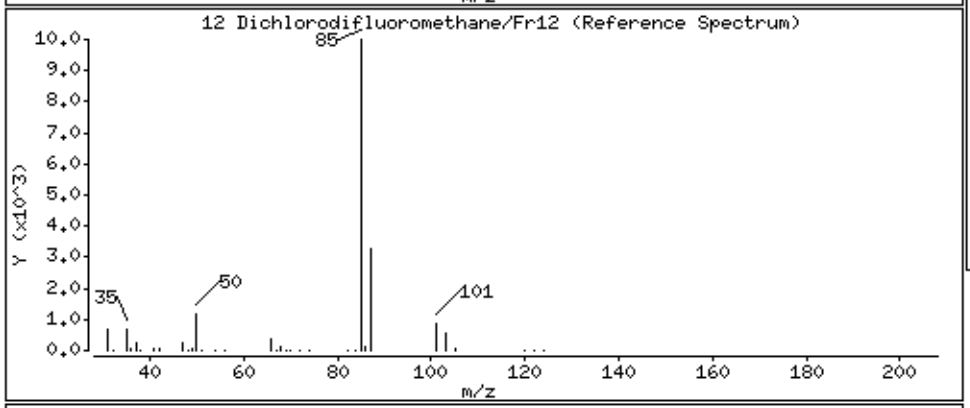
Concentration: 2.070 PPBV

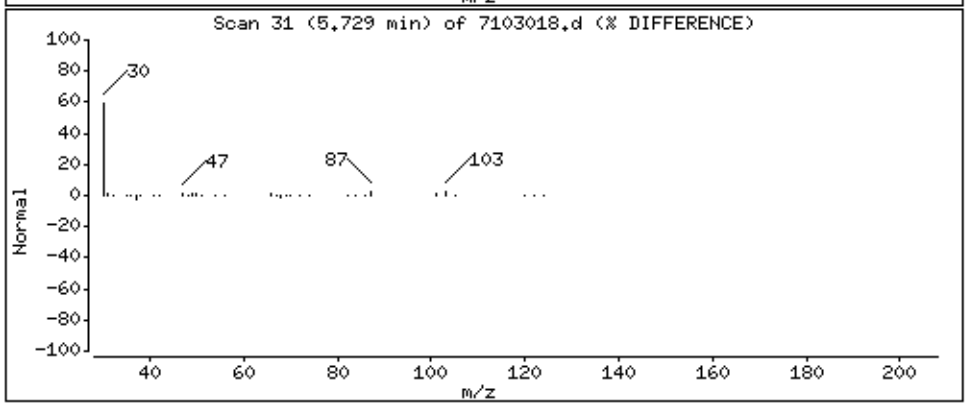












Data File: /chem/msd7.i/7-30oct.b/7103018.d

Date : 30-OCT-2007 21:08

Client ID:

Instrument: msd7.i

Sample Info: 200mL #20940

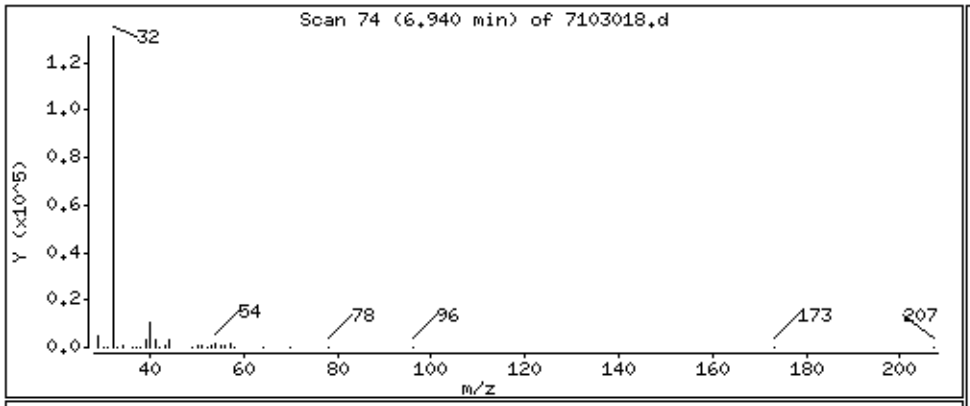
Operator: srs

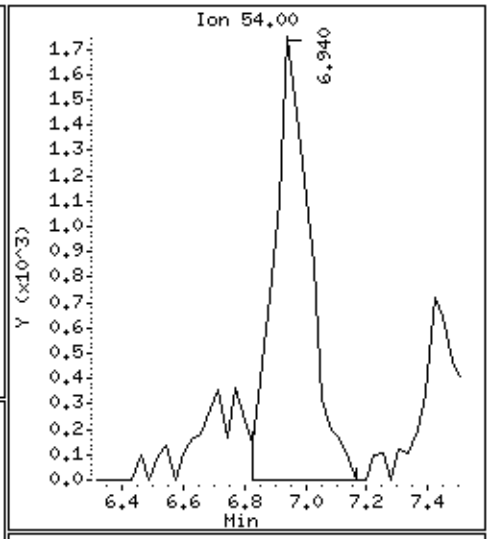
Column phase: RTx-624

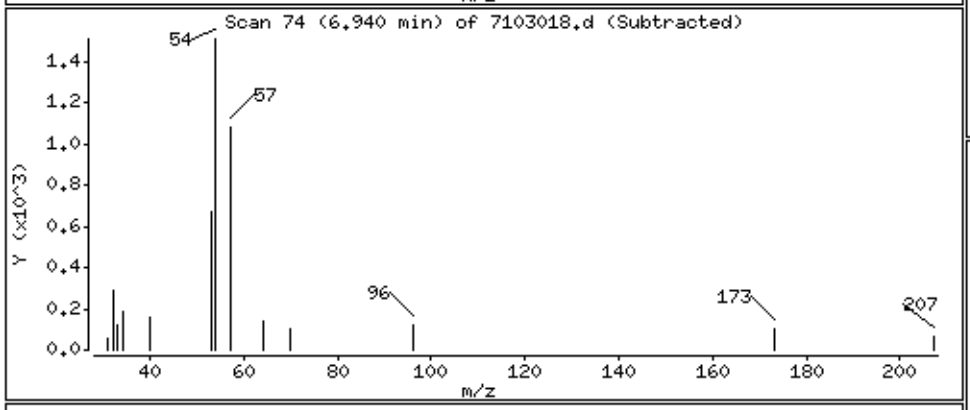
Column diameter: 0.53

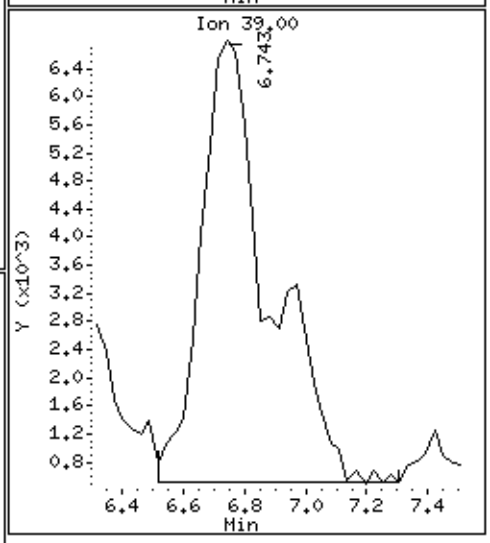
22 1,3-Butadiene

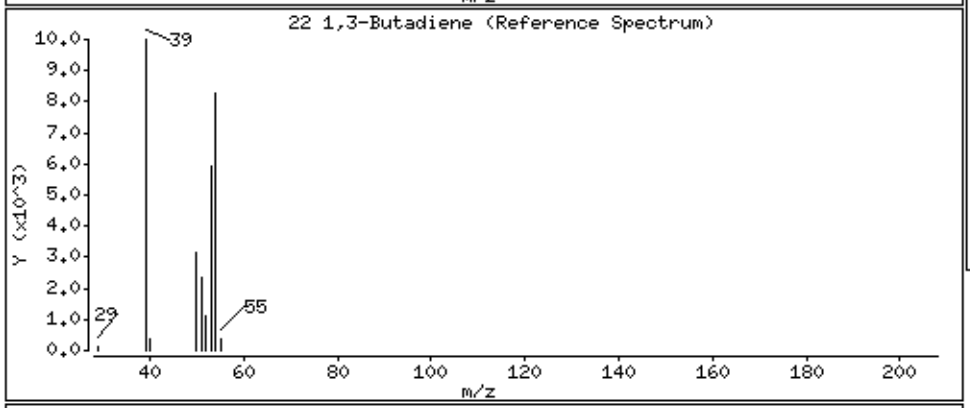
Concentration: 1.517 PPBV

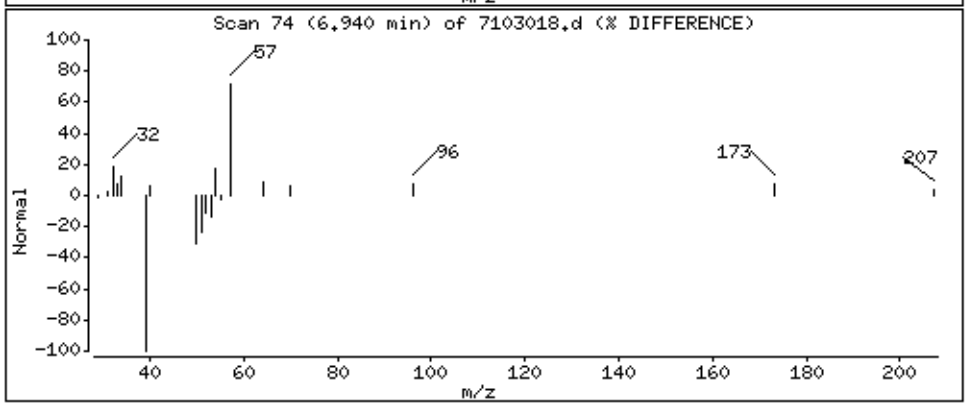












Data File: /chem/msd7.i/7-30oct.b/7103018.d

Date : 30-OCT-2007 21:08

Client ID:

Instrument: msd7.i

Sample Info: 200mL #20940

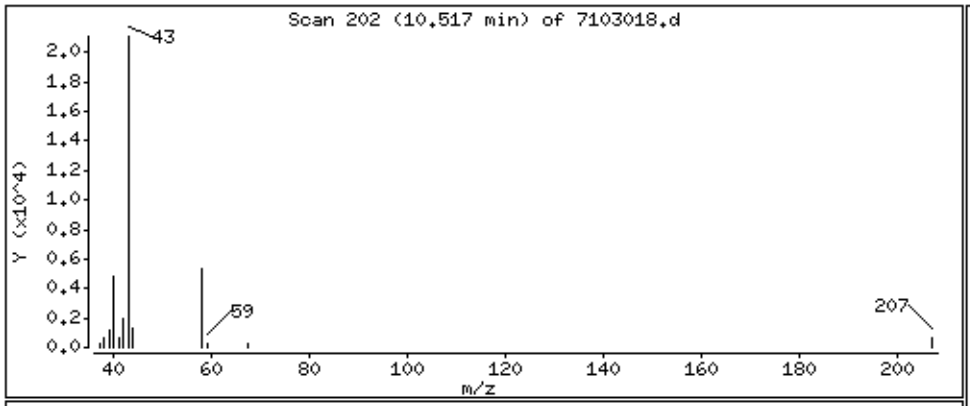
Operator: srs

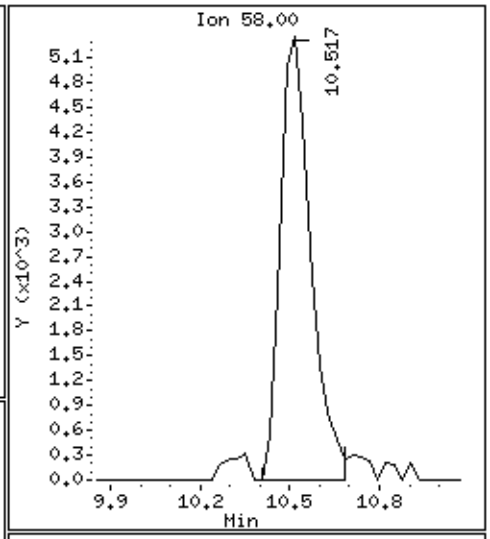
Column phase: RTx-624

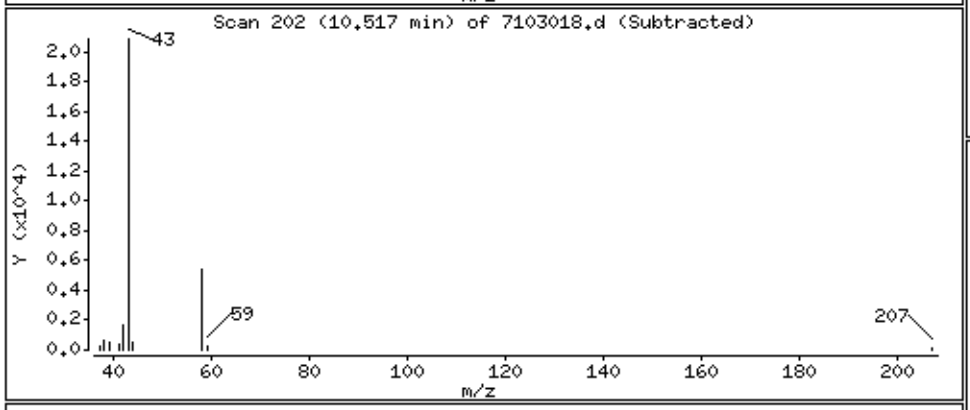
Column diameter: 0.53

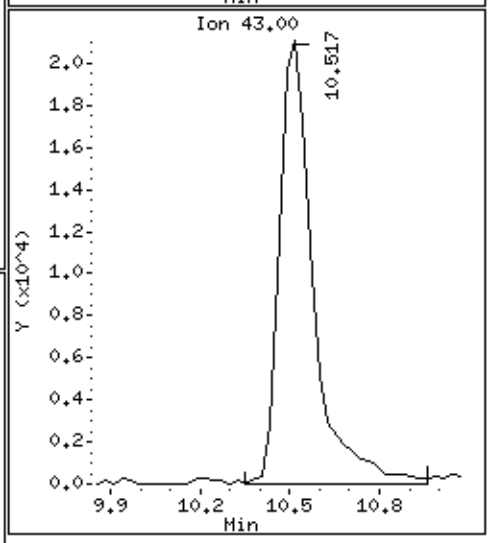
45 Acetone

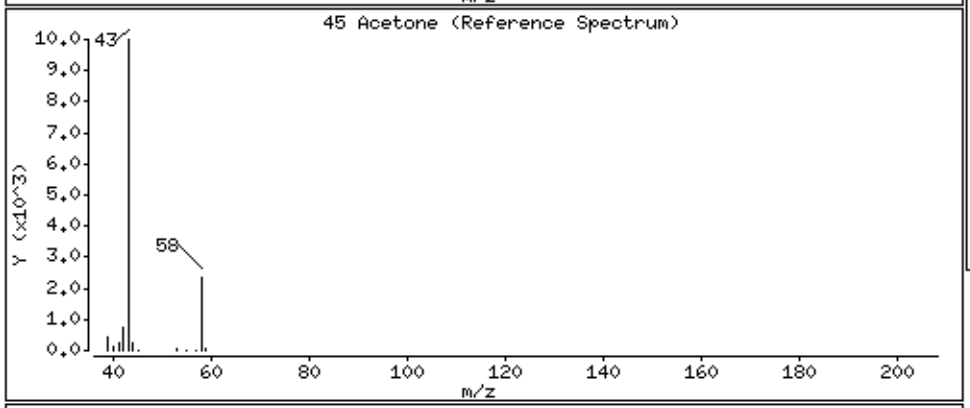
Concentration: 7.009 PPBV

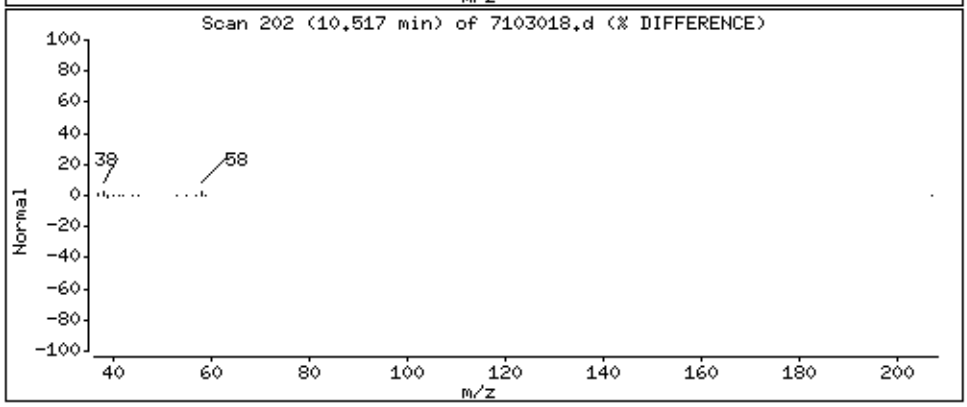












Data File: /chem/msd7.i/7-30oct.b/7103018.d

Date : 30-OCT-2007 21:08

Client ID:

Instrument: msd7.i

Sample Info: 200mL #20940

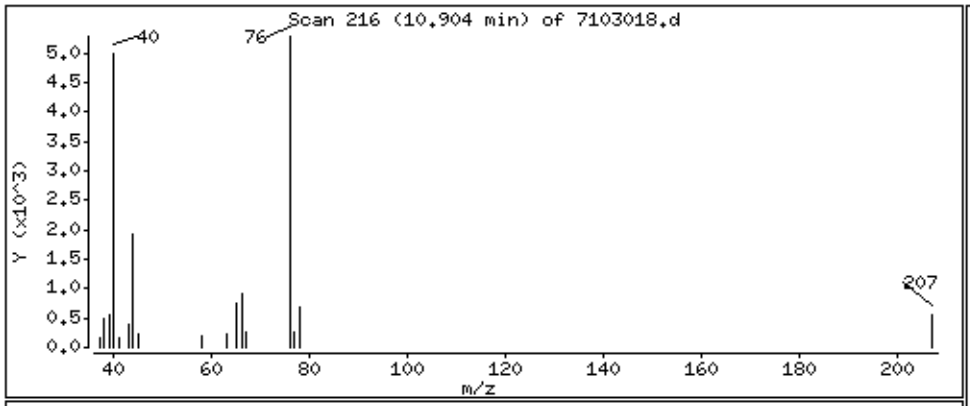
Operator: srs

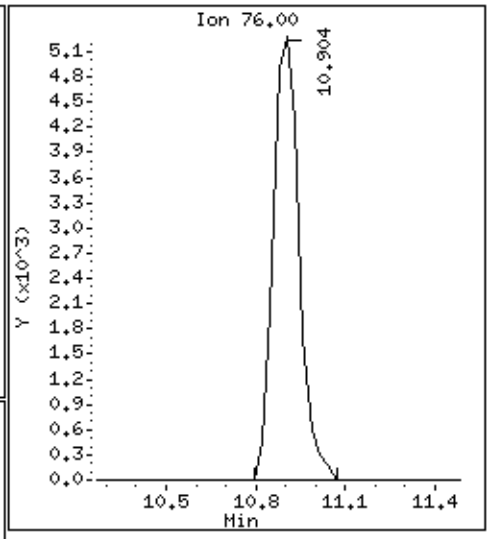
Column phase: RTx-624

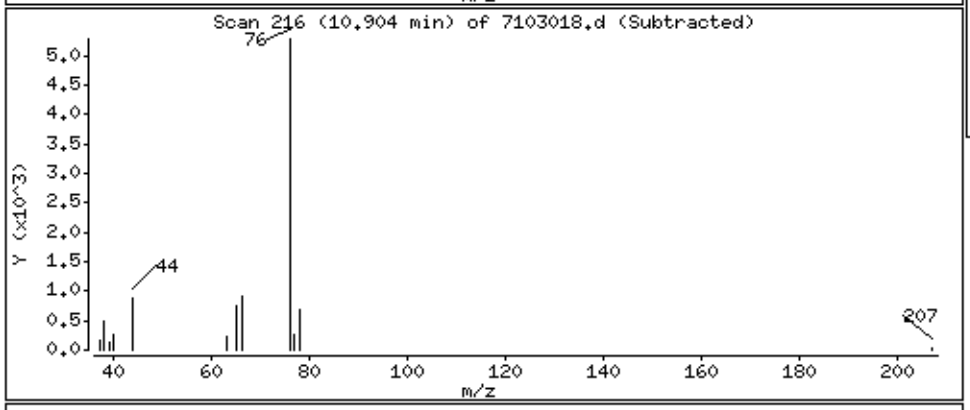
Column diameter: 0.53

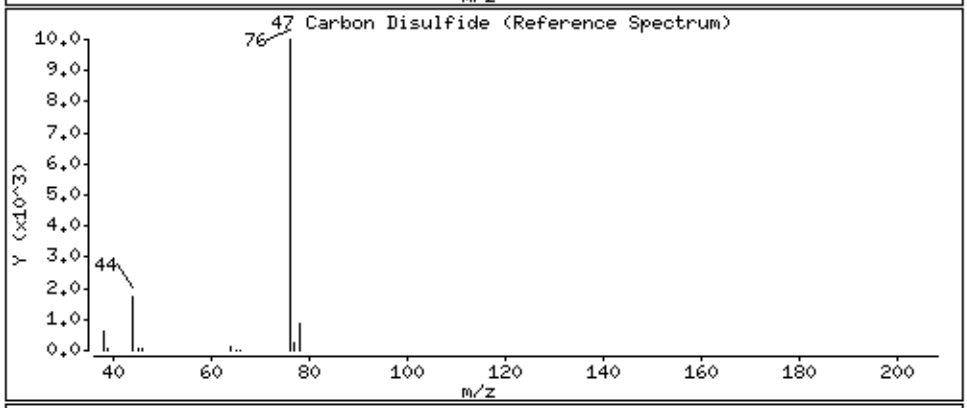
47 Carbon Disulfide

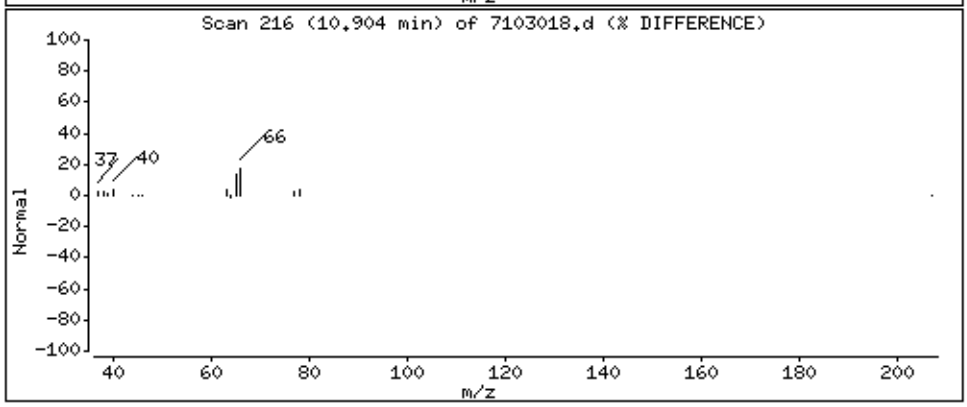
Concentration: 0.9754 PPBV











Data File: /chem/msd7.i/7-30oct.b/7103018.d

Date : 30-OCT-2007 21:08

Client ID:

Instrument: msd7.i

Sample Info: 200mL #20940

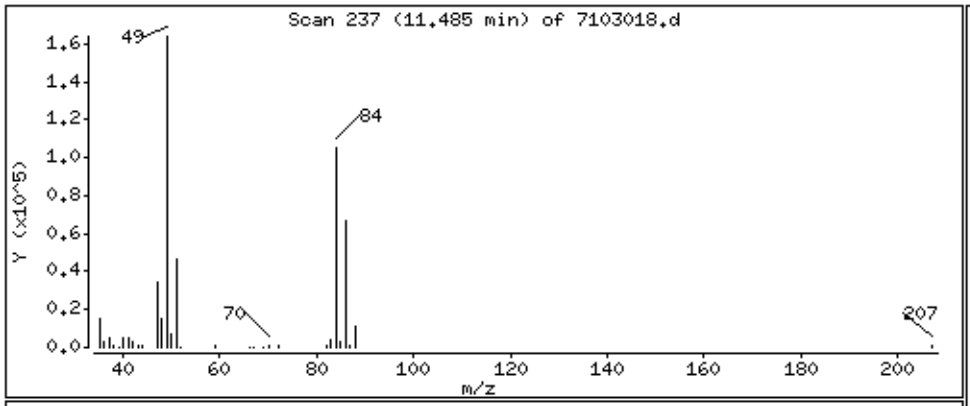
Operator: srs

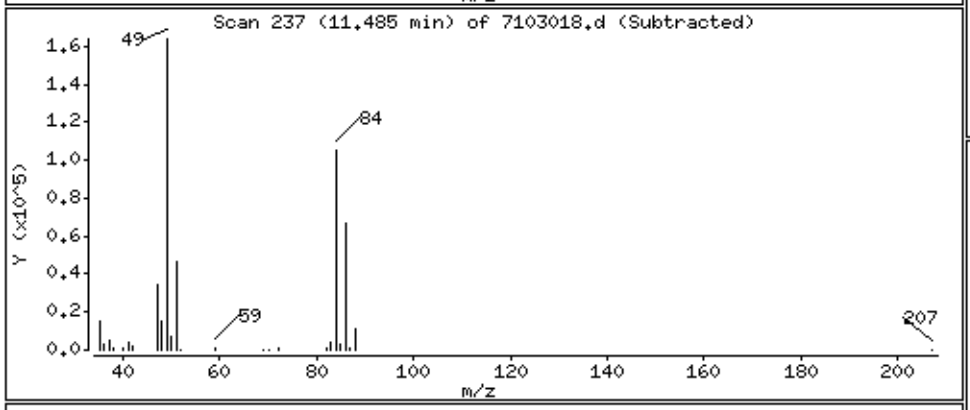
Column phase: RTx-624

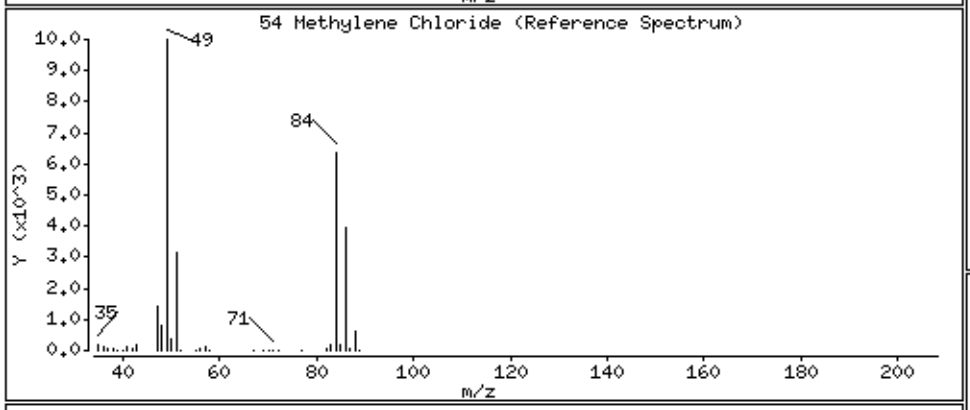
Column diameter: 0.53

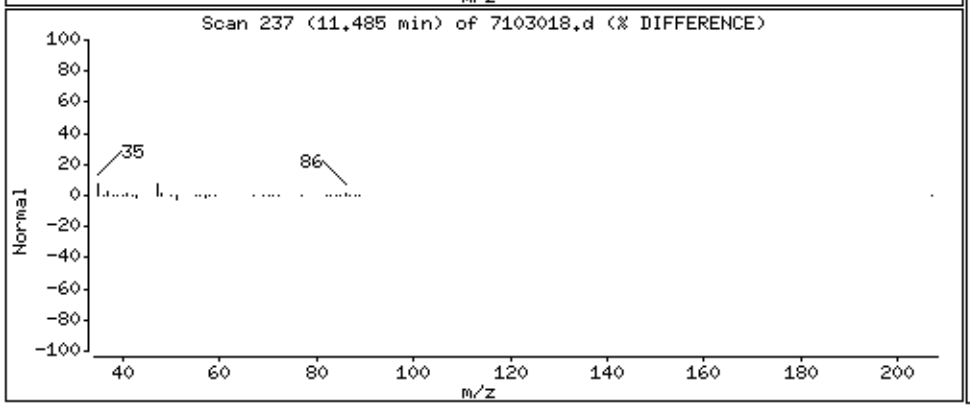
54 Methylene Chloride

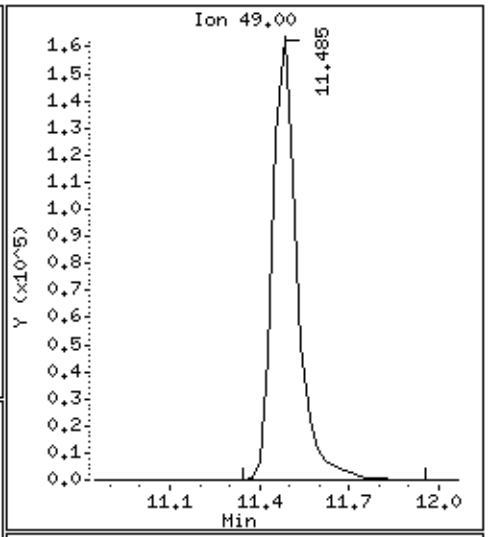
Concentration: 72.555 PPBV

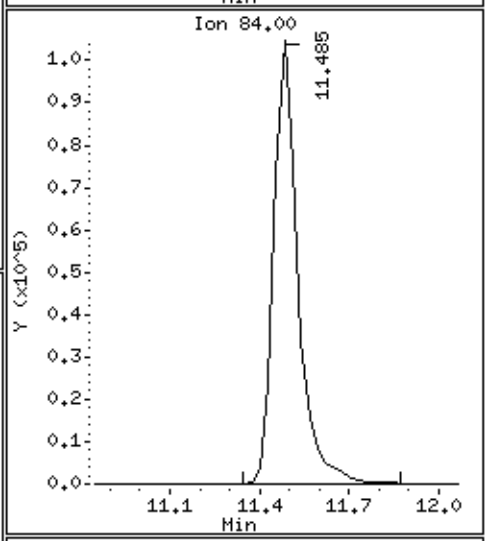


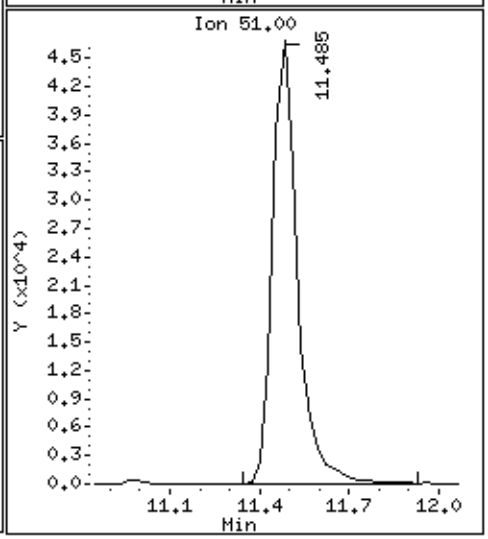












Data File: /chem/msd7.i/7-30oct.b/7103018.d

Date : 30-OCT-2007 21:08

Client ID:

Instrument: msd7.i

Sample Info: 200mL #20940

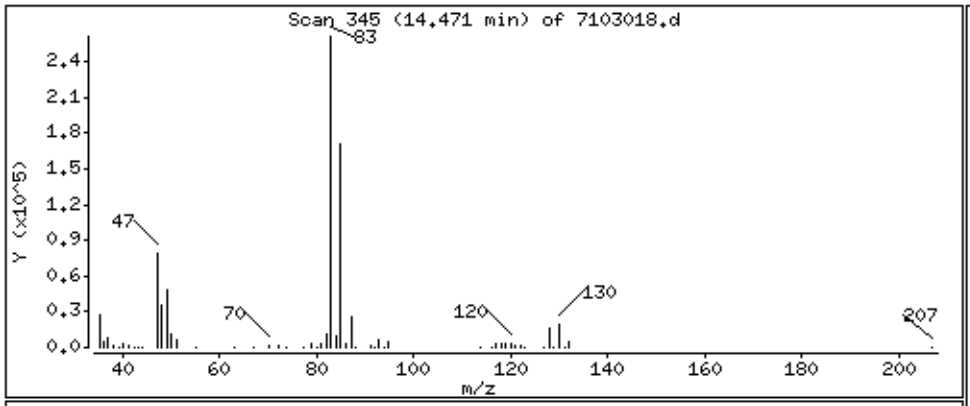
Operator: srs

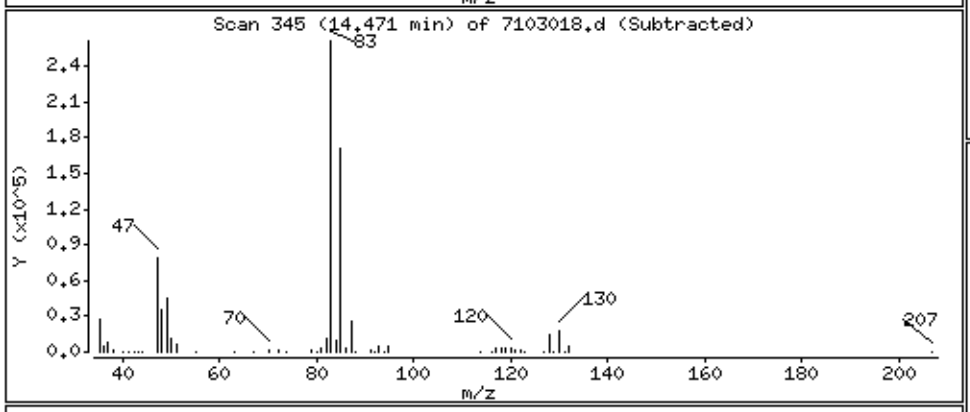
Column phase: RTx-624

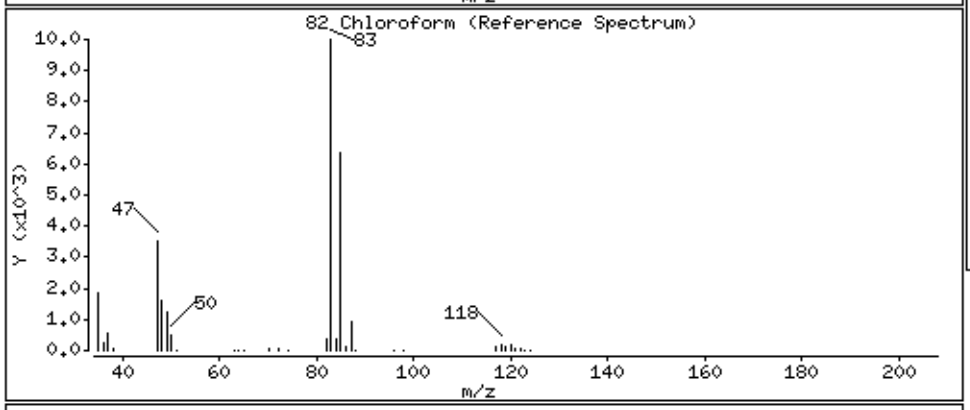
Column diameter: 0.53

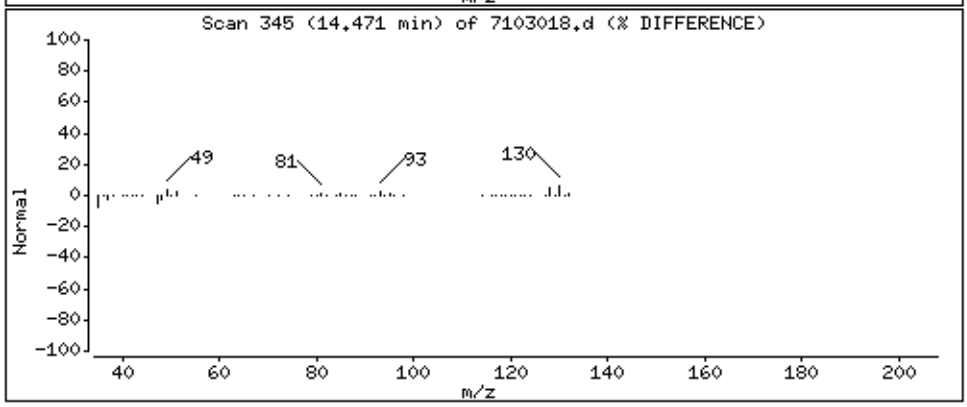
82 Chloroform

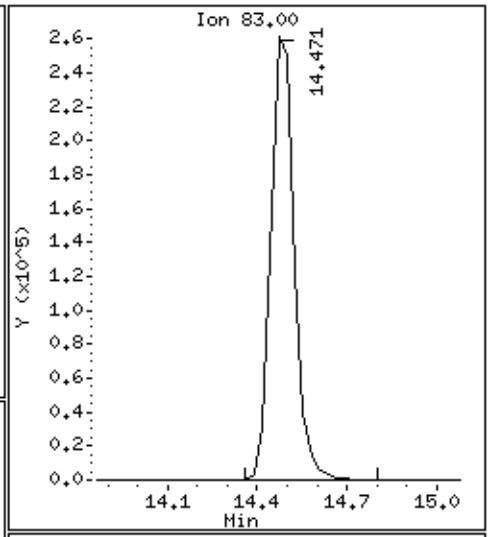
Concentration: 71.324 PPBV

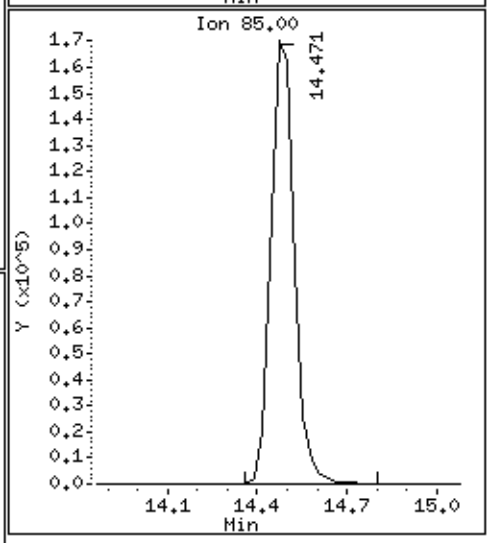












Data File: /chem/msd7.i/7-30oct.b/7103018.d

Date : 30-OCT-2007 21:08

Client ID:

Instrument: msd7.i

Sample Info: 200mL #20940

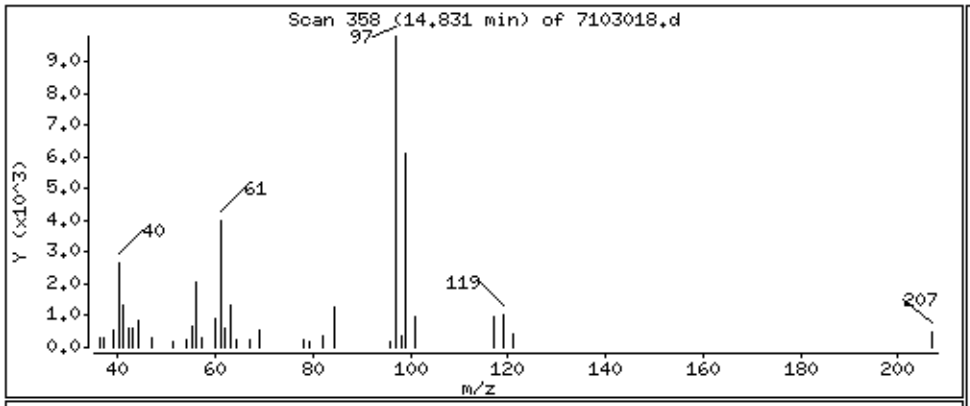
Operator: srs

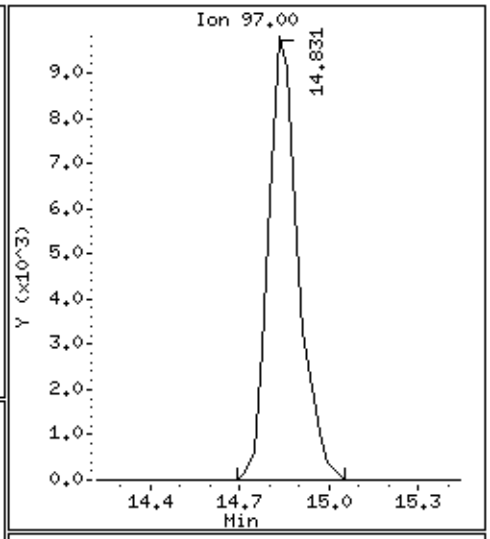
Column phase: RTx-624

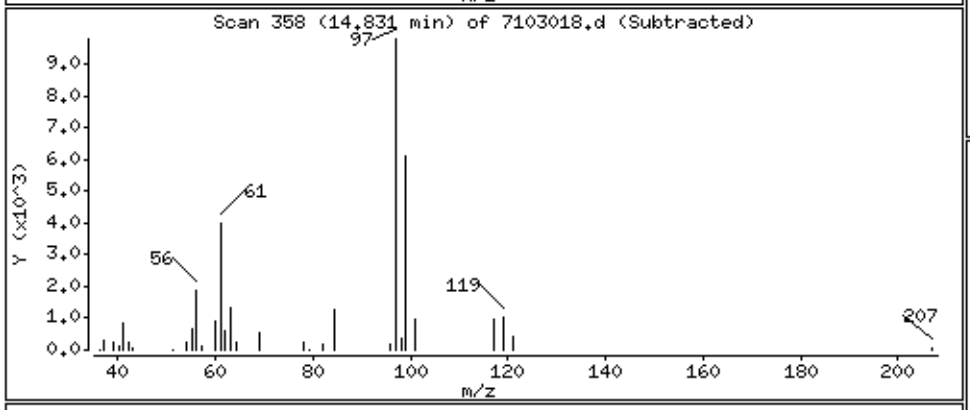
Column diameter: 0.53

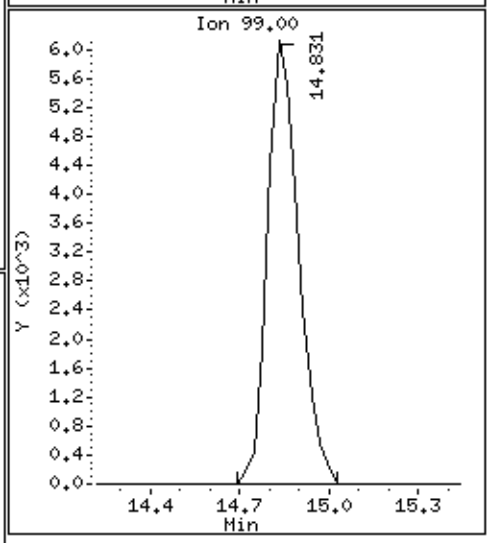
83 1,1,1-Trichloroethane

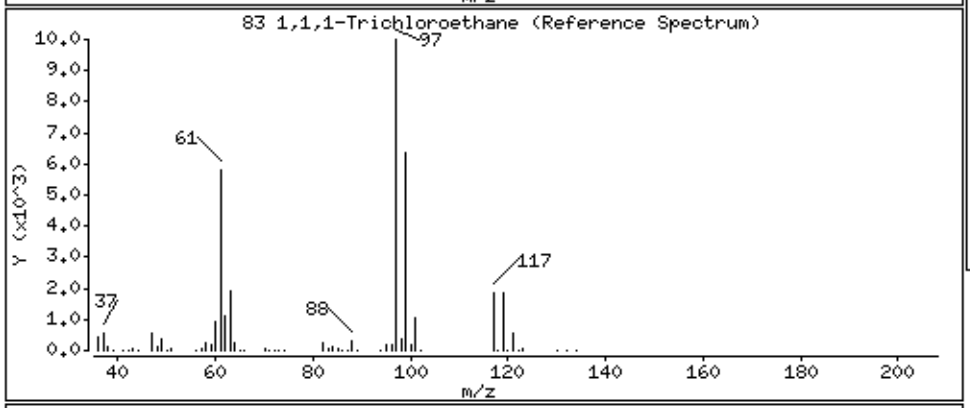
Concentration: 3.394 PPBV

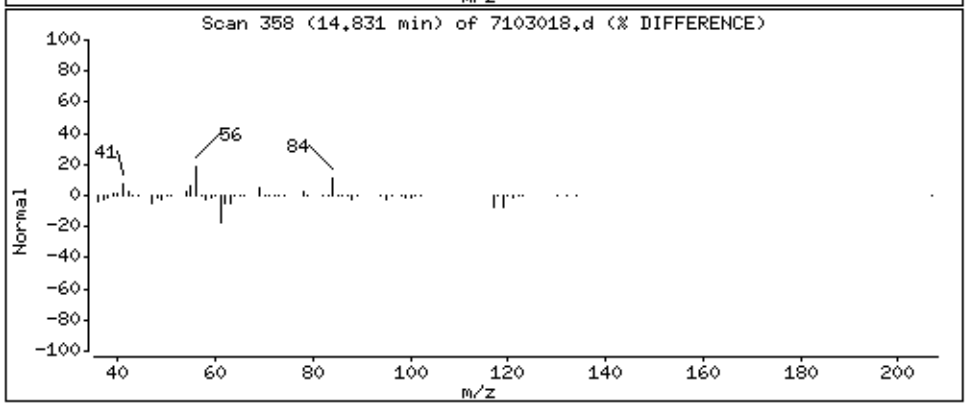












Data File: /chem/msd7.i/7-30oct.b/7103018.d

Date : 30-OCT-2007 21:08

Client ID:

Instrument: msd7.i

Sample Info: 200mL #20940

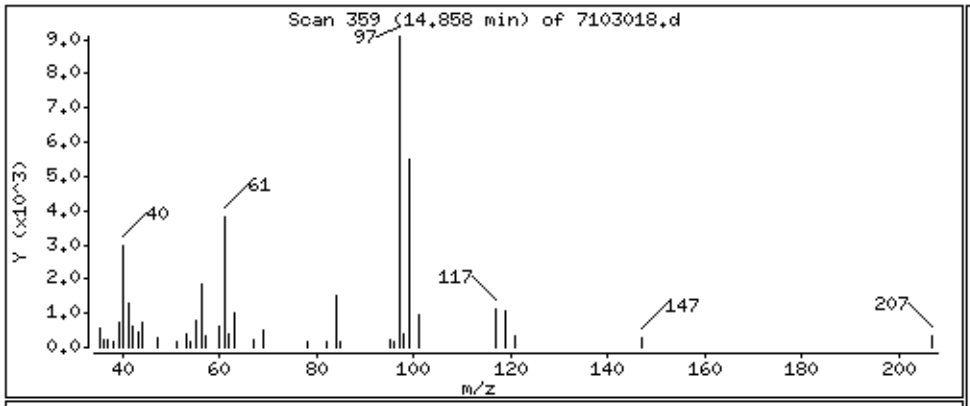
Operator: srs

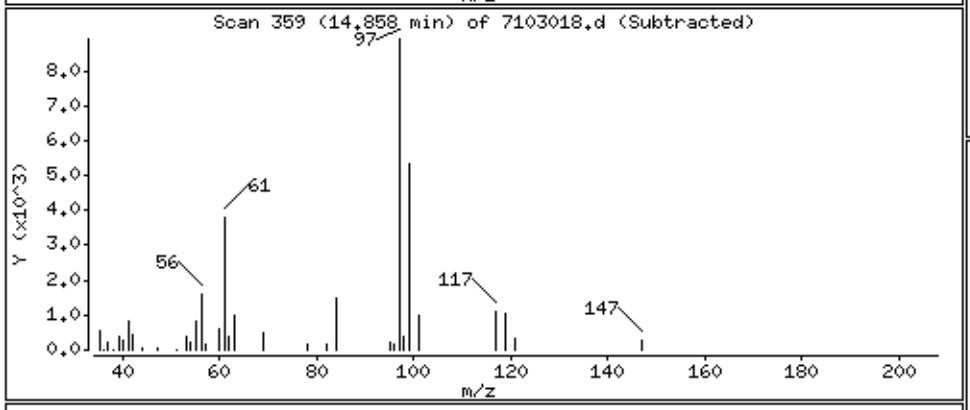
Column phase: RTx-624

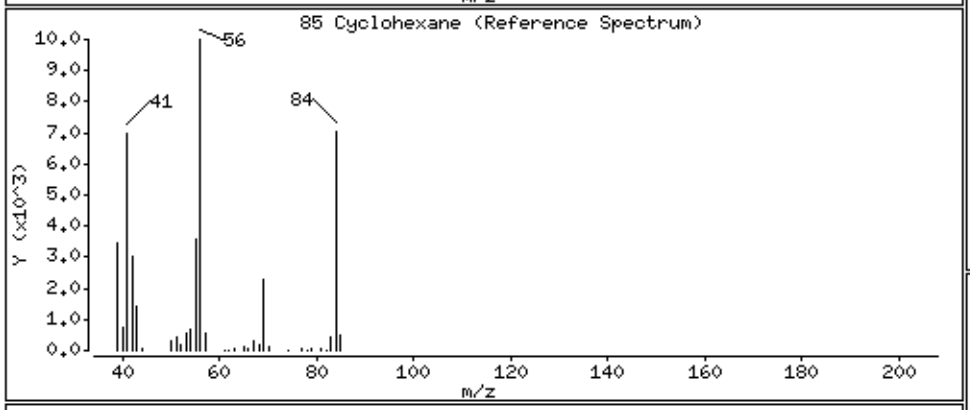
Column diameter: 0.53

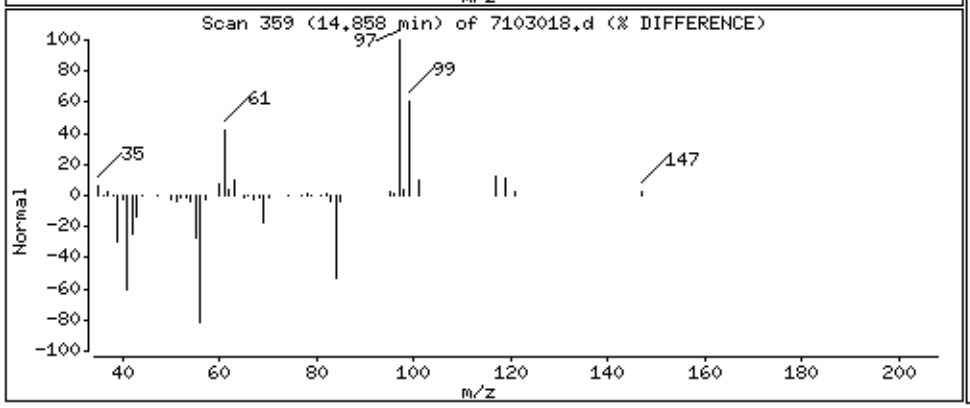
85 Cyclohexane

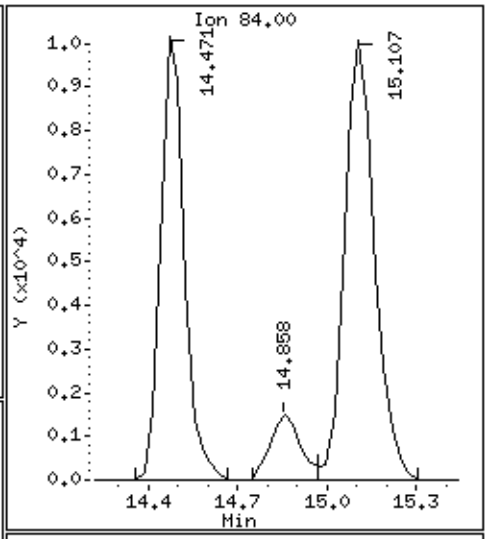
Concentration: 0.9306 PPBV

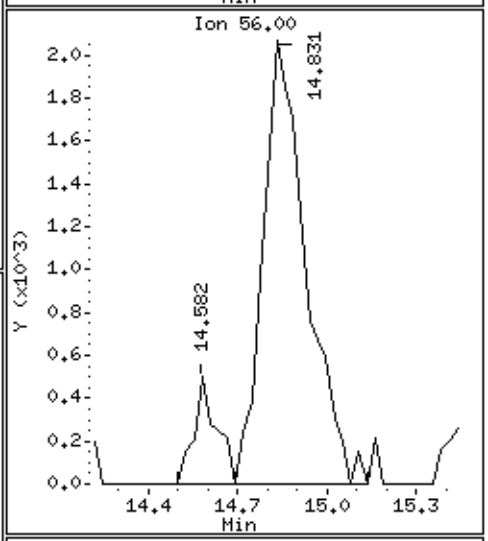


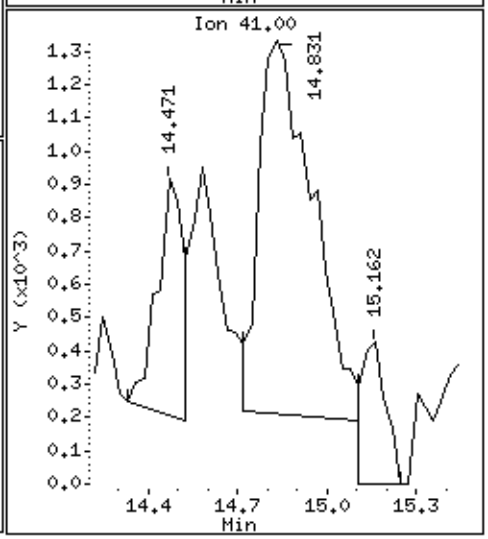












Data File: /chem/msd7.i/7-30oct.b/7103018.d

Date : 30-OCT-2007 21:08

Client ID:

Instrument: msd7.i

Sample Info: 200mL #20940

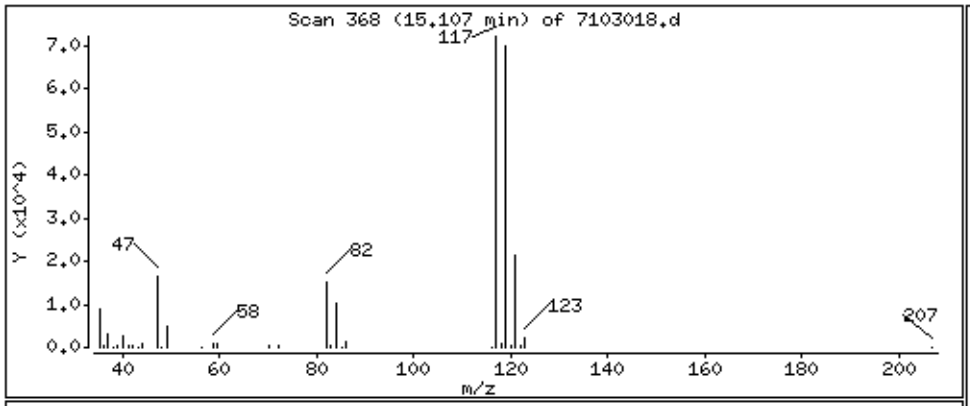
Operator: srs

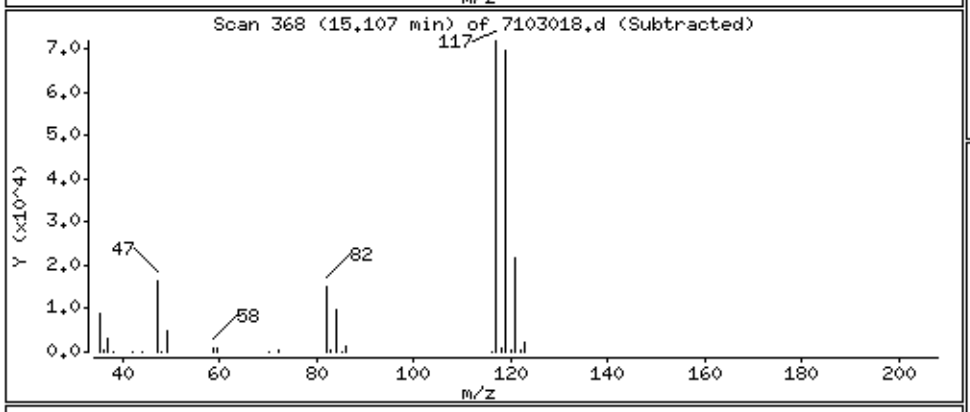
Column phase: RTx-624

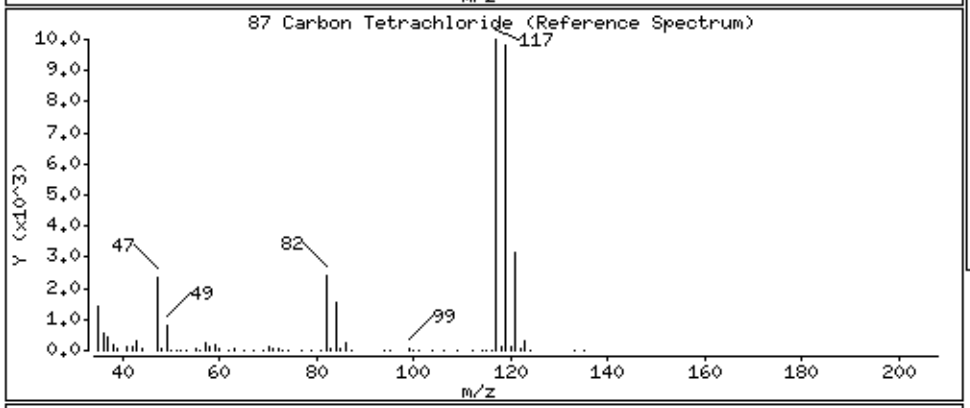
Column diameter: 0.53

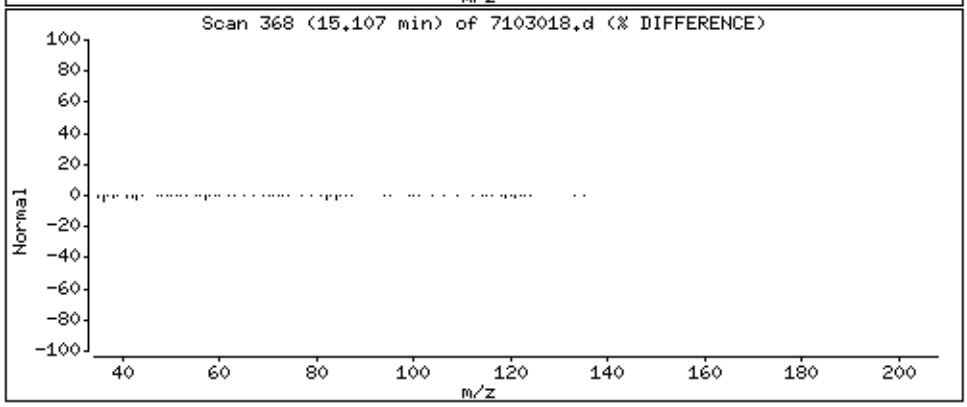
87 Carbon Tetrachloride

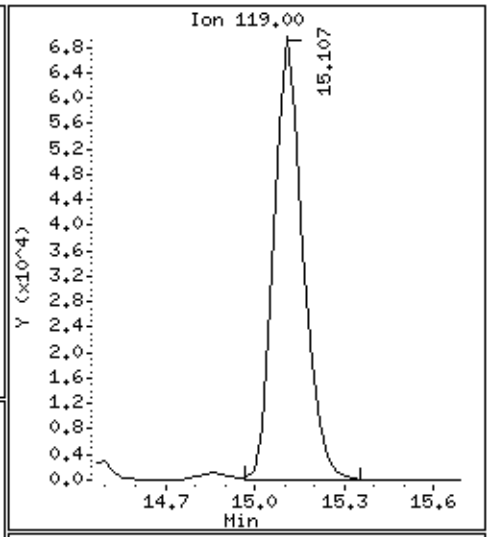
Concentration: 25.194 PPBV

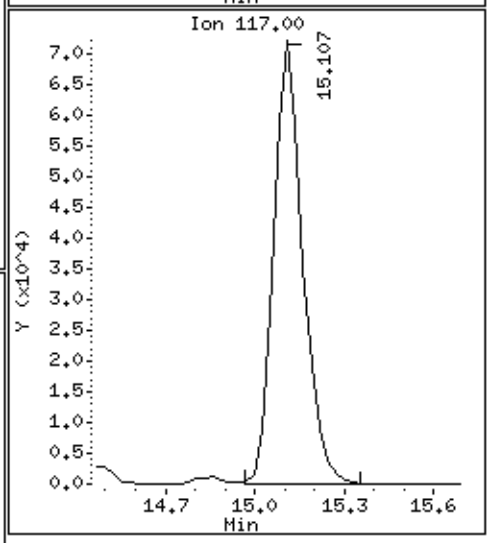












Data File: /chem/msd7.i/7-30oct.b/7103018.d

Date : 30-OCT-2007 21:08

Client ID:

Instrument: msd7.i

Sample Info: 200mL #20940

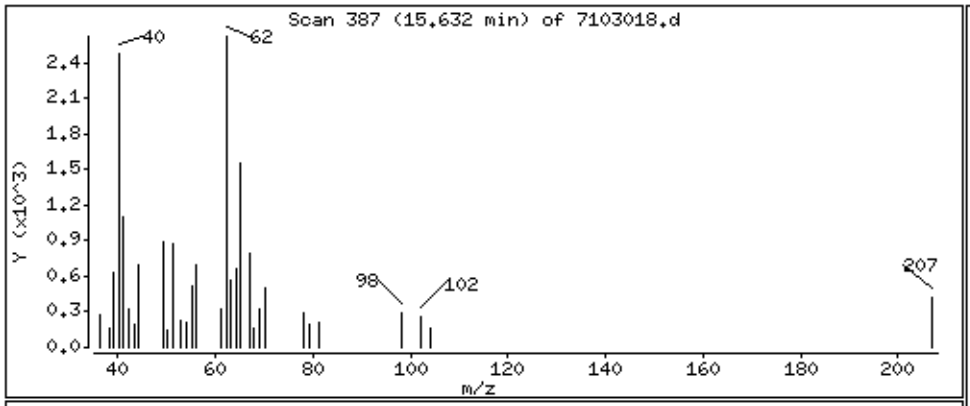
Operator: srs

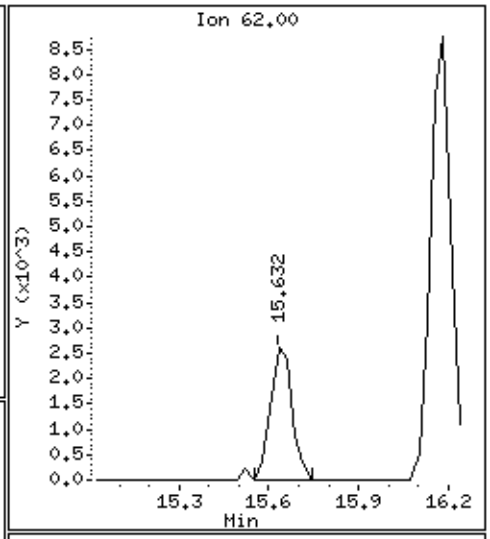
Column phase: RTx-624

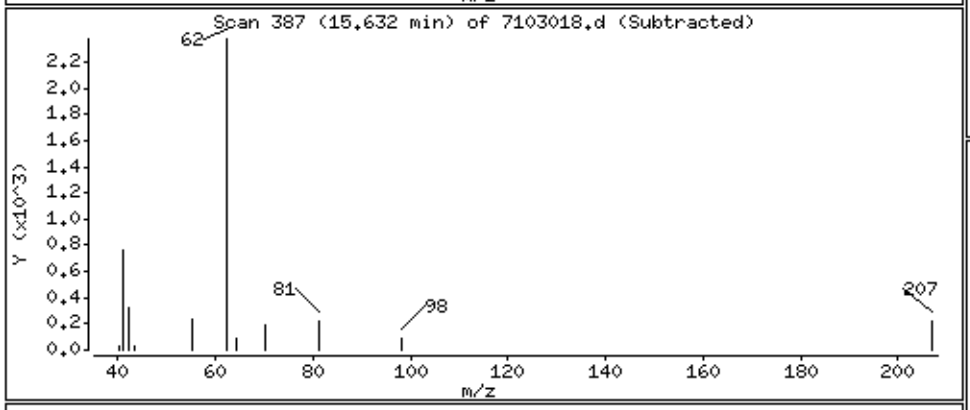
Column diameter: 0.53

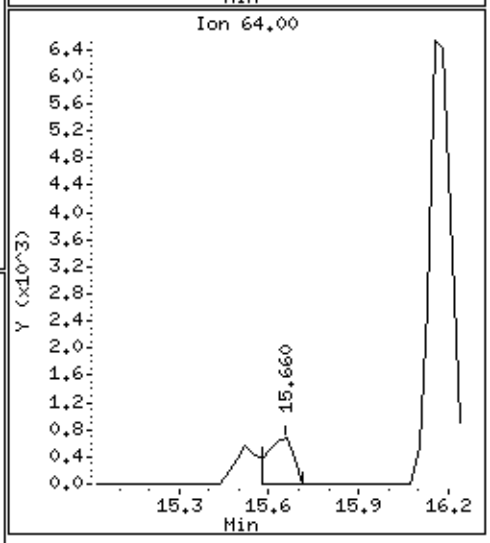
93 1,2-Dichloroethane

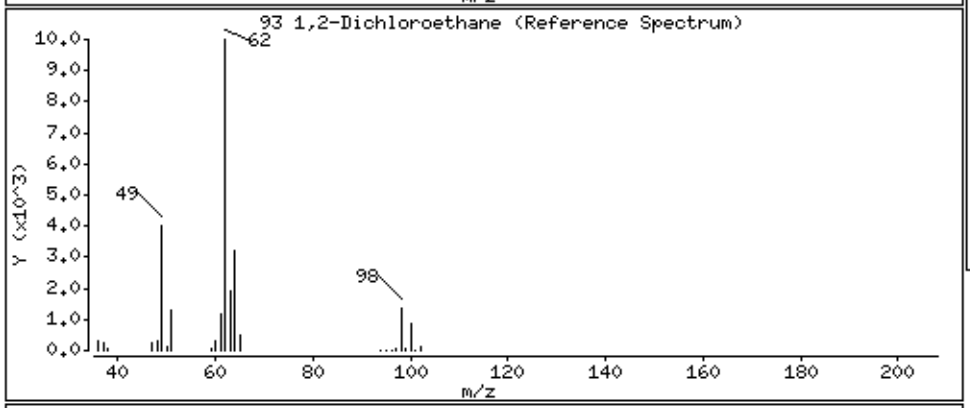
Concentration: 0.9377 PPBV

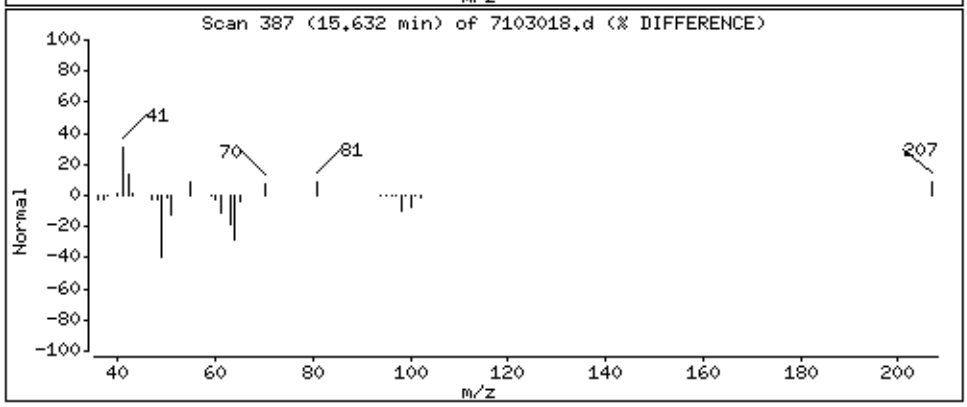












Data File: /chem/msd7.i/7-30oct.b/7103018.d

Date : 30-OCT-2007 21:08

Client ID:

Instrument: msd7.i

Sample Info: 200mL #20940

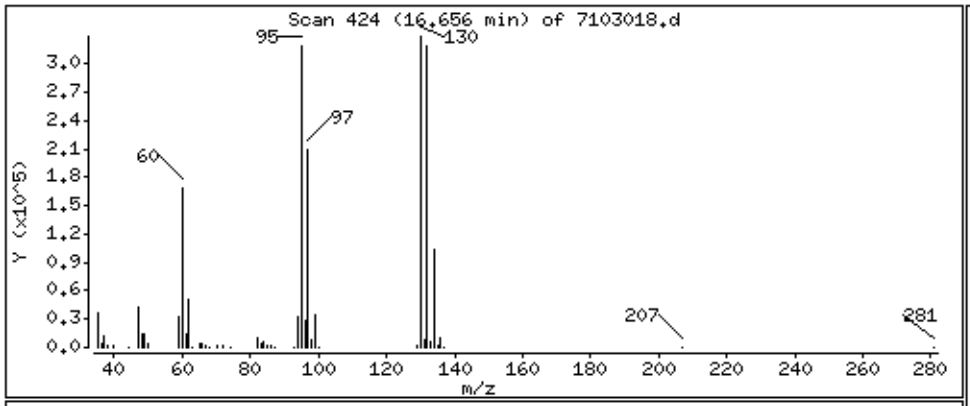
Operator: srs

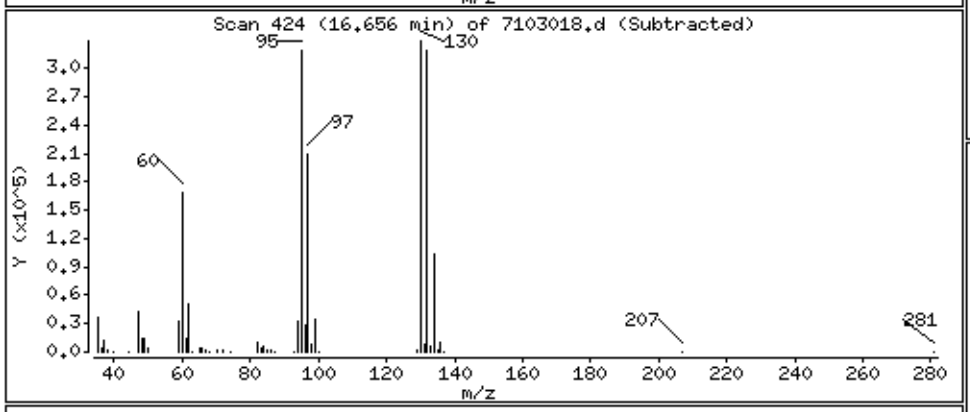
Column phase: RTx-624

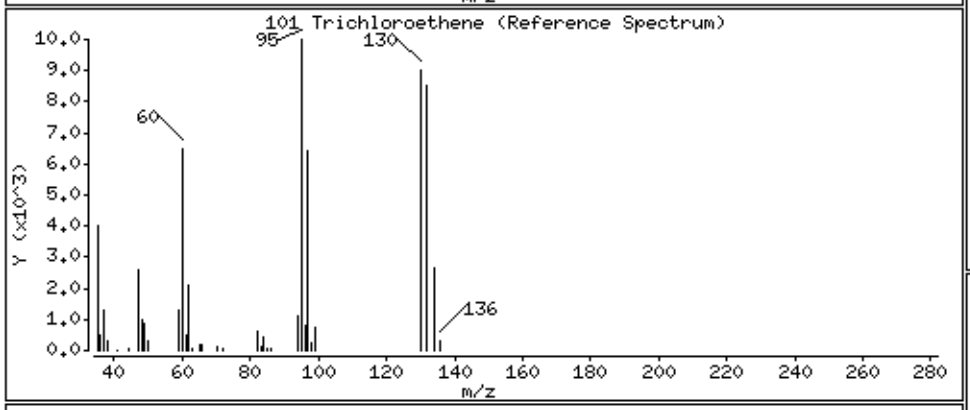
Column diameter: 0.53

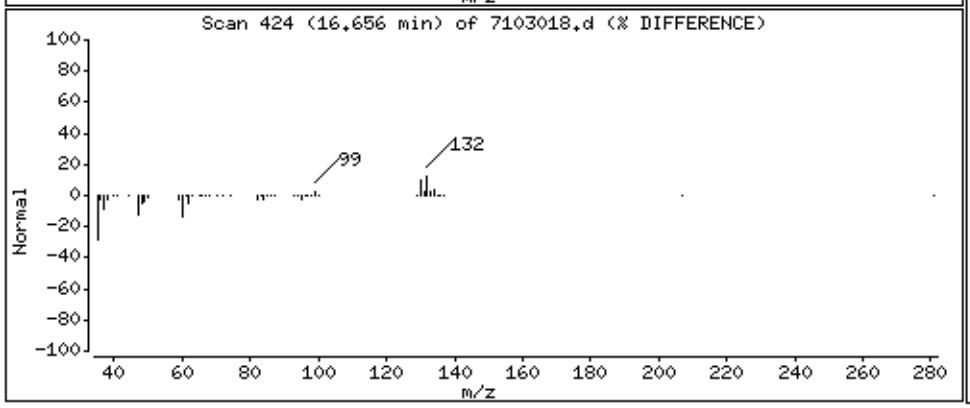
101 Trichloroethene

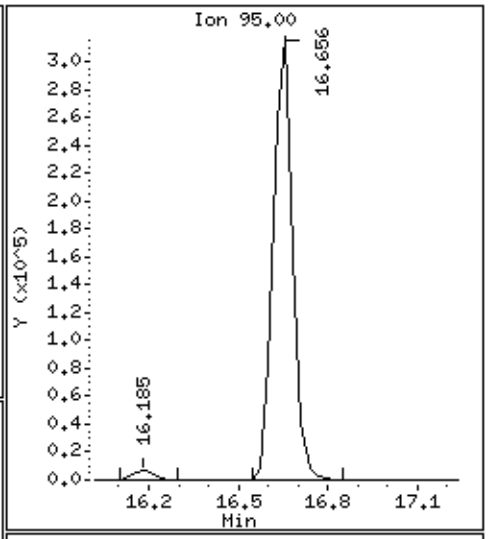
Concentration: 123.88 PPBV

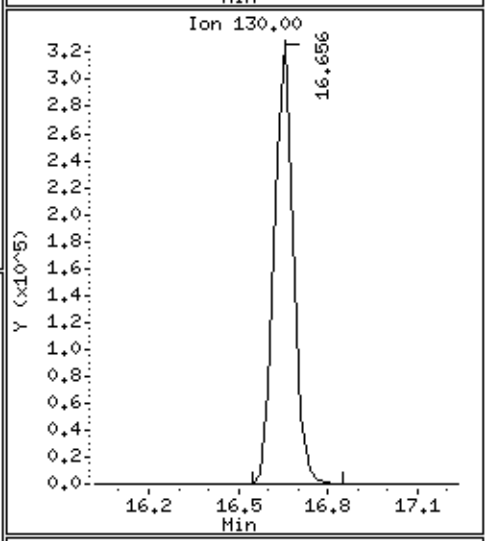


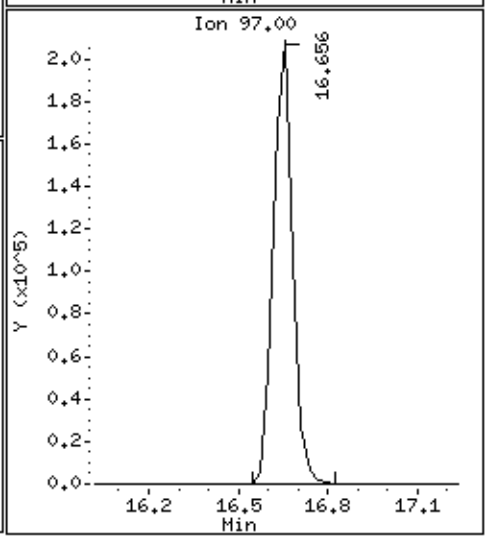












Data File: /chem/msd7.i/7-30oct.b/7103018.d

Date : 30-OCT-2007 21:08

Client ID:

Instrument: msd7.i

Sample Info: 200mL #20940

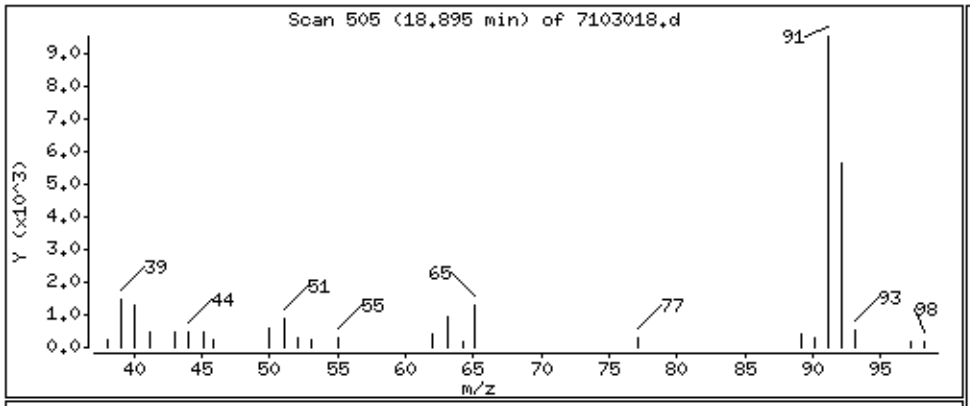
Operator: srs

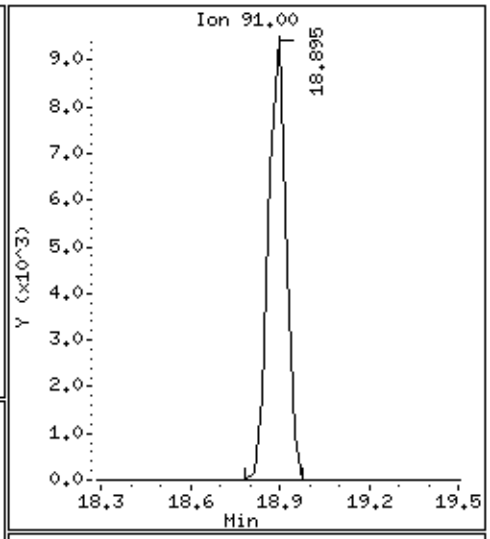
Column phase: RTx-624

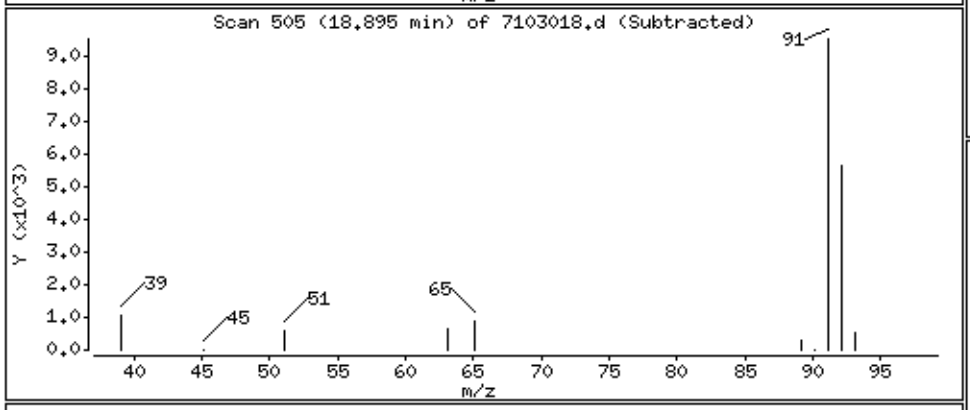
Column diameter: 0.53

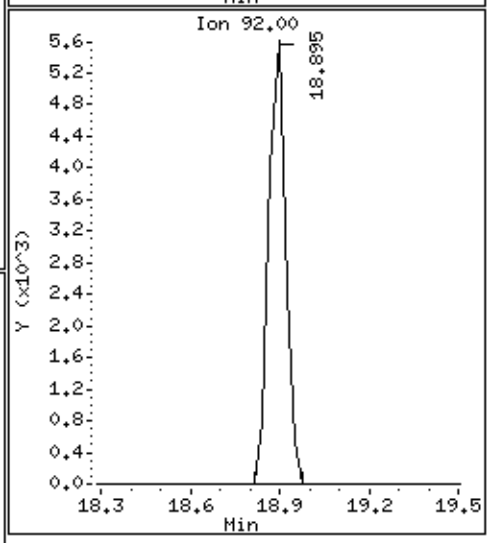
114 Toluene

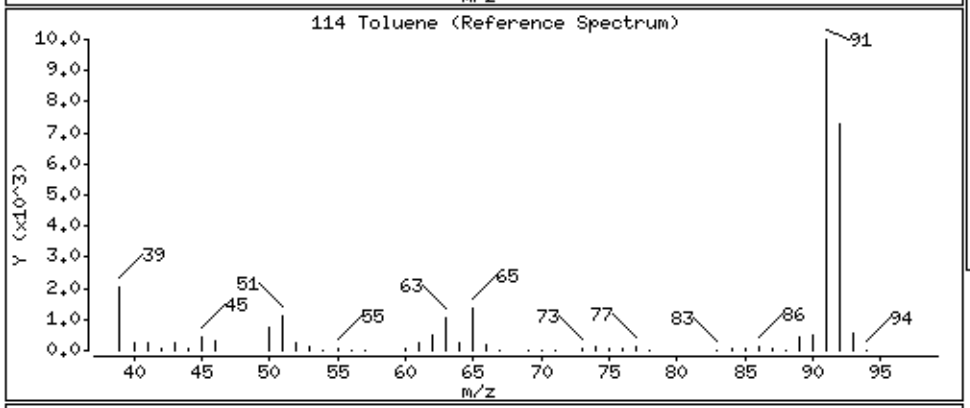
Concentration: 1.344 PPBV

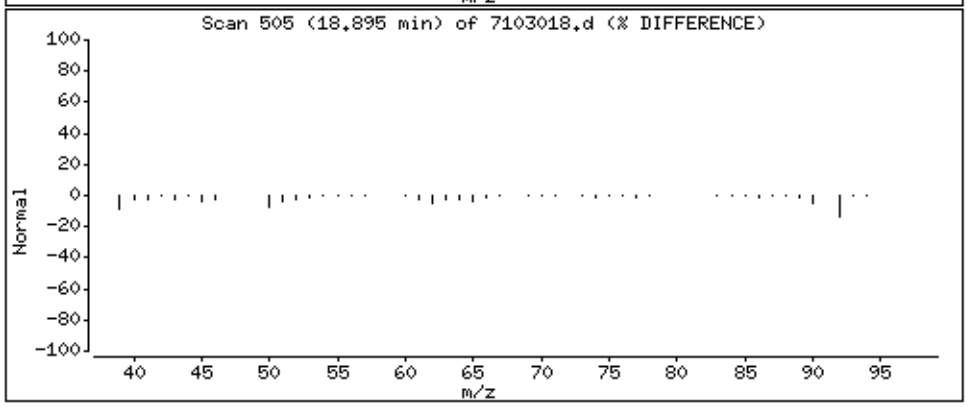












Data File: /chem/msd7.i/7-30oct.b/7103018.d

Date : 30-OCT-2007 21:08

Client ID:

Instrument: msd7.i

Sample Info: 200mL #20940

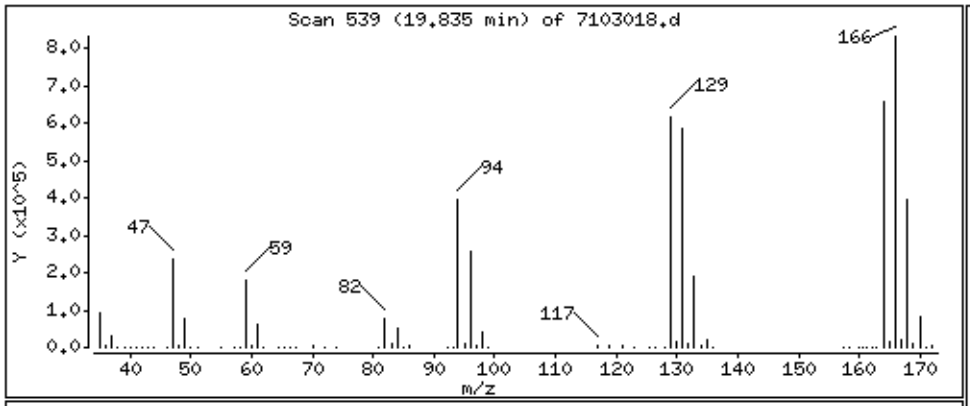
Operator: srs

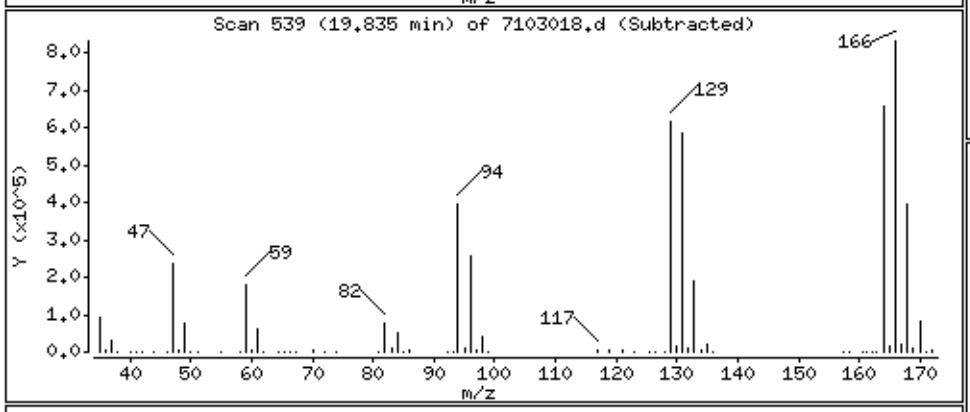
Column phase: RTx-624

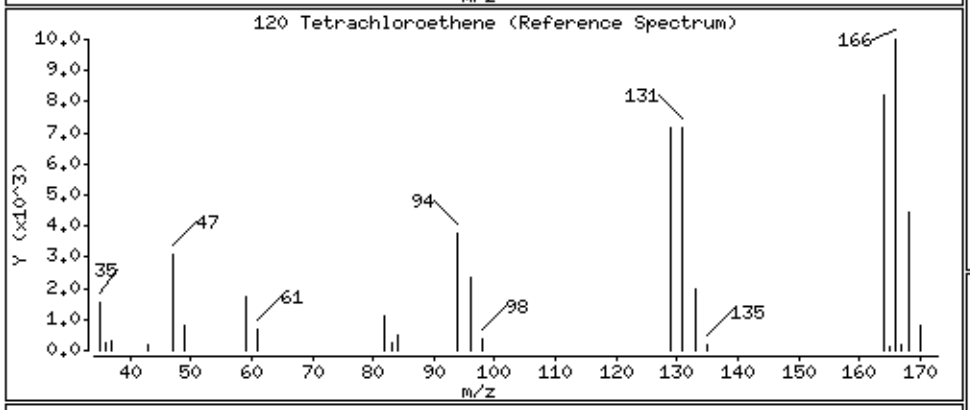
Column diameter: 0.53

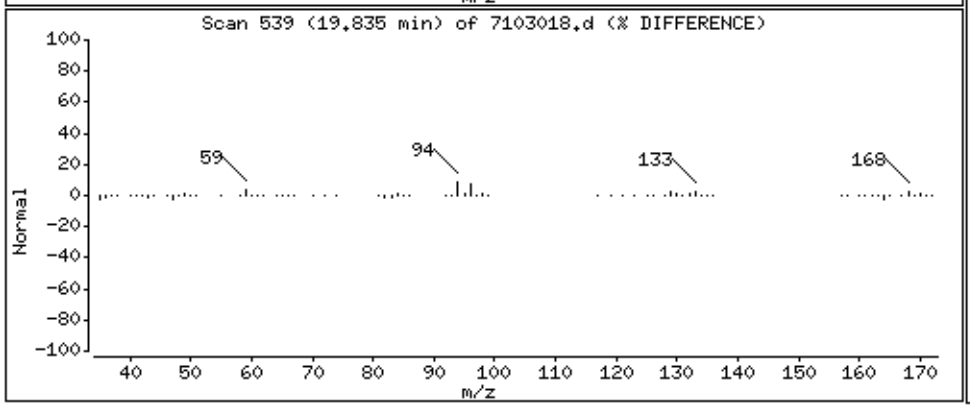
120 Tetrachloroethene

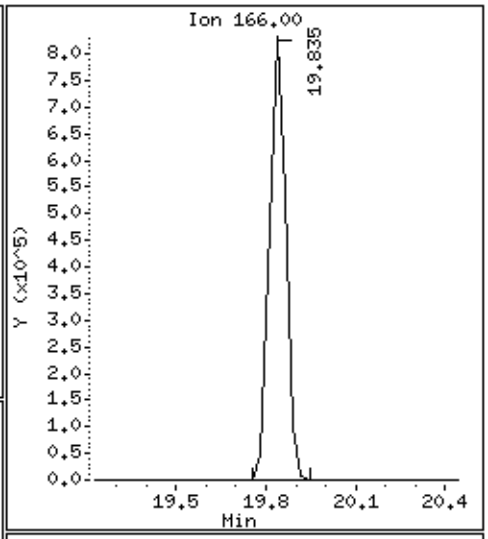
Concentration: 221.33 PPBV

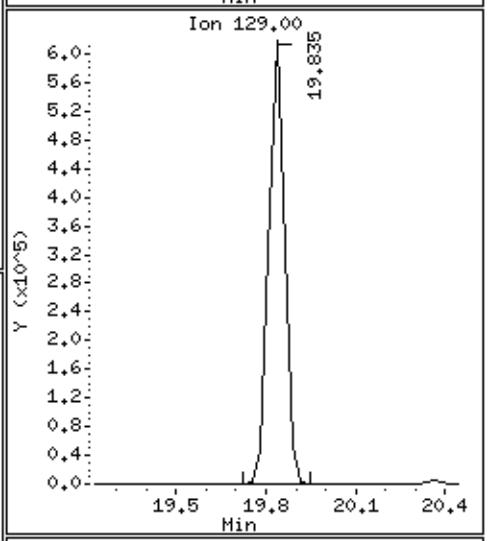


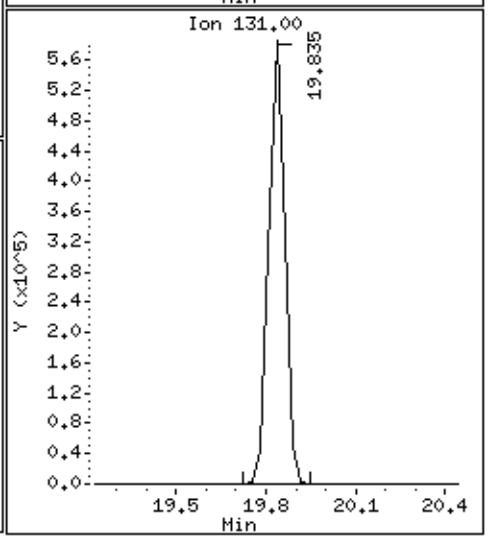












Data File: /chem/msd7.i/7-30oct.b/7103018.d

Date : 30-OCT-2007 21:08

Client ID:

Instrument: msd7.i

Sample Info: 200mL #20940

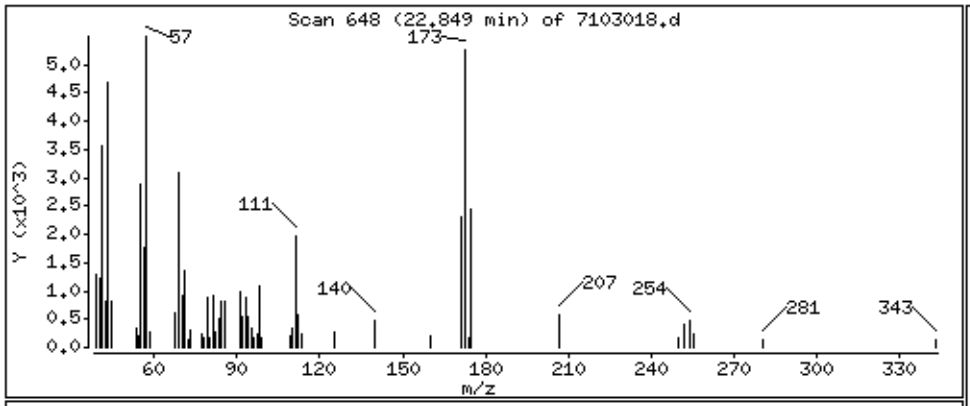
Operator: srs

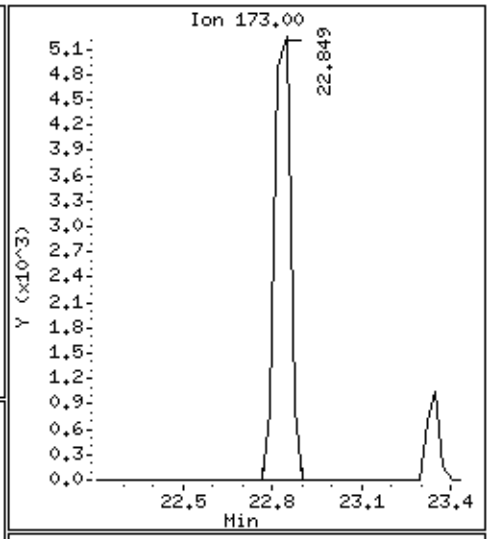
Column phase: RTx-624

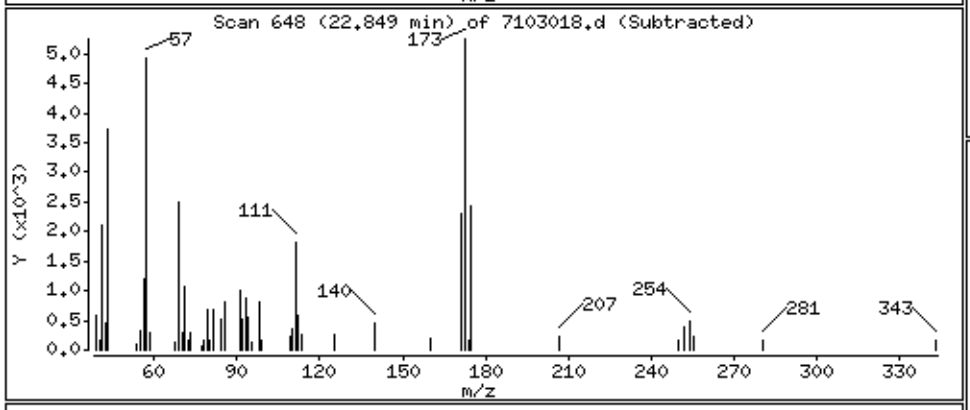
Column diameter: 0.53

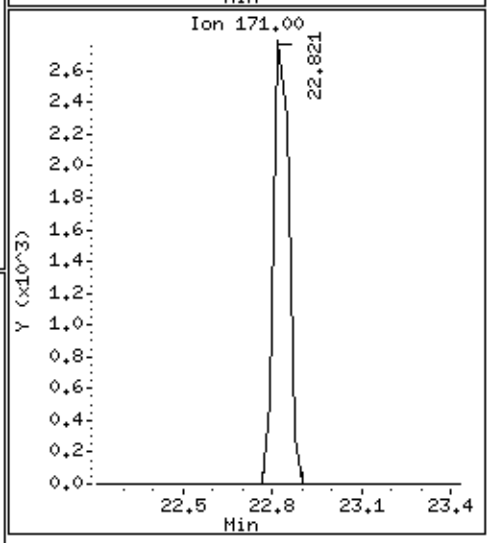
133 Bromoform

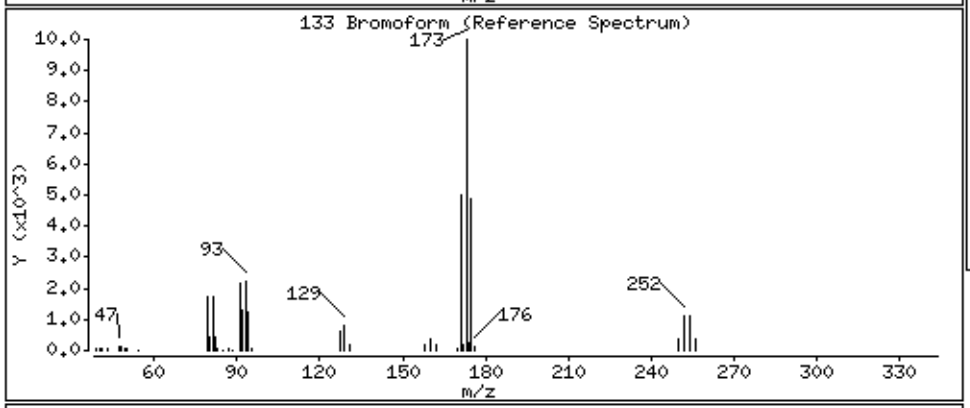
Concentration: 1.139 PPBV

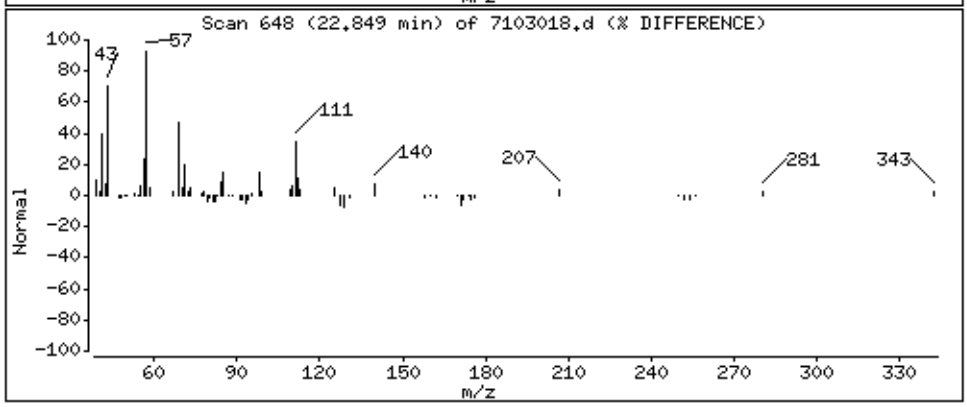












AN ENVIRONMENTAL ANALYTICAL LABORATORY

Summary of Detected Compounds
MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

Client Sample ID: MD21-07-6814

Lab ID#: 0710567-02A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Freon 12	0.86	1.7	4.2	8.6
1,3-Butadiene	0.86	1.3	1.9	2.8
Acetone	3.4	29	8.1	68
Methylene Chloride	0.86	87	3.0	300
2-Butanone (Methyl Ethyl Ketone)	0.86	4.1	2.5	12
Chloroform	0.86	64	4.2	310
1,1,1-Trichloroethane	0.86	3.5	4.7	19
Cyclohexane	0.86	1.3	2.9	4.5
Carbon Tetrachloride	0.86	26	5.4	160
Benzene	0.86	0.92	2.7	2.9
1,2-Dichloroethane	0.86	0.99	3.5	4.0
Trichloroethene	0.86	78	4.6	420
Toluene	0.86	1.8	3.2	6.8
Tetrachloroethene	0.86	52	5.8	360

AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: MD21-07-6814

Lab ID#: 0710567-02A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**7103019**	**Date of Collection:**	**10/19/07**
Dil. Factor:	**1.71**	**Date of Analysis:**	**10/30/07 09:47 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Freon 12	0.86	1.7	4.2	8.6
Freon 114	0.86	Not Detected	6.0	Not Detected
Chloromethane	3.4	Not Detected	7.1	Not Detected
Vinyl Chloride	0.86	Not Detected	2.2	Not Detected
1,3-Butadiene	0.86	1.3	1.9	2.8
Bromomethane	0.86	Not Detected	3.3	Not Detected
Chloroethane	0.86	Not Detected	2.2	Not Detected
Freon 11	0.86	Not Detected	4.8	Not Detected
Ethanol	3.4	Not Detected	6.4	Not Detected
Freon 113	0.86	Not Detected	6.6	Not Detected
1,1-Dichloroethene	0.86	Not Detected	3.4	Not Detected
Acetone	3.4	29	8.1	68
2-Propanol	3.4	Not Detected	8.4	Not Detected
Carbon Disulfide	0.86	Not Detected	2.7	Not Detected
Methylene Chloride	0.86	87	3.0	300
Methyl tert-butyl ether	0.86	Not Detected	3.1	Not Detected
trans-1,2-Dichloroethene	0.86	Not Detected	3.4	Not Detected
Hexane	0.86	Not Detected	3.0	Not Detected
1,1-Dichloroethane	0.86	Not Detected	3.5	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.86	4.1	2.5	12
cis-1,2-Dichloroethene	0.86	Not Detected	3.4	Not Detected
Tetrahydrofuran	0.86	Not Detected	2.5	Not Detected
Chloroform	0.86	64	4.2	310
1,1,1-Trichloroethane	0.86	3.5	4.7	19
Cyclohexane	0.86	1.3	2.9	4.5
Carbon Tetrachloride	0.86	26	5.4	160
Benzene	0.86	0.92	2.7	2.9
1,2-Dichloroethane	0.86	0.99	3.5	4.0
Heptane	0.86	Not Detected	3.5	Not Detected
Trichloroethene	0.86	78	4.6	420
1,2-Dichloropropane	0.86	Not Detected	4.0	Not Detected
1,4-Dioxane	3.4	Not Detected	12	Not Detected
Bromodichloromethane	0.86	Not Detected	5.7	Not Detected
cis-1,3-Dichloropropene	0.86	Not Detected	3.9	Not Detected
4-Methyl-2-pentanone	0.86	Not Detected	3.5	Not Detected
Toluene	0.86	1.8	3.2	6.8
trans-1,3-Dichloropropene	0.86	Not Detected	3.9	Not Detected
1,1,2-Trichloroethane	0.86	Not Detected	4.7	Not Detected
Tetrachloroethene	0.86	52	5.8	360

AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: MD21-07-6814

Lab ID#: 0710567-02A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**7103019**	**Date of Collection:**	**10/19/07**
Dil. Factor:	**1.71**	**Date of Analysis:**	**10/30/07 09:47 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
2-Hexanone	3.4	Not Detected	14	Not Detected
Dibromochloromethane	0.86	Not Detected	7.3	Not Detected
1,2-Dibromoethane (EDB)	0.86	Not Detected	6.6	Not Detected
Chlorobenzene	0.86	Not Detected	3.9	Not Detected
Ethyl Benzene	0.86	Not Detected	3.7	Not Detected
m,p-Xylene	0.86	Not Detected	3.7	Not Detected
o-Xylene	0.86	Not Detected	3.7	Not Detected
Styrene	0.86	Not Detected	3.6	Not Detected
Bromoform	0.86	Not Detected	8.8	Not Detected
1,1,2,2-Tetrachloroethane	0.86	Not Detected	5.9	Not Detected
4-Ethyltoluene	0.86	Not Detected	4.2	Not Detected
1,3,5-Trimethylbenzene	0.86	Not Detected	4.2	Not Detected
1,2,4-Trimethylbenzene	0.86	Not Detected	4.2	Not Detected
1,3-Dichlorobenzene	0.86	Not Detected	5.1	Not Detected
1,4-Dichlorobenzene	0.86	Not Detected	5.1	Not Detected
alpha-Chlorotoluene	0.86	Not Detected	4.4	Not Detected
1,2-Dichlorobenzene	0.86	Not Detected	5.1	Not Detected
1,2,4-Trichlorobenzene	3.4	Not Detected	25	Not Detected
Hexachlorobutadiene	3.4	Not Detected	36	Not Detected
Chlorodifluoromethane	3.4	Not Detected	12	Not Detected
Methanol	86	Not Detected	110	Not Detected
n-Butanol	3.4	Not Detected	10	Not Detected
Propylene	3.4	Not Detected	5.9	Not Detected

Container Type: 6 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	92	70-130
1,2-Dichloroethane-d4	106	70-130
4-Bromofluorobenzene	104	70-130

Air Toxics Ltd.

AMBIENT AIR METHOD TO14

Data file : /chem/msd7.i/7-30oct.b/7103019.d
Lab Smp Id: 0710567-02A
Inj Date : 30-OCT-2007 21:47
Operator : srs Inst ID: msd7.i
Smp Info : 200mL #4216
Misc Info : 6.5"Hg -> 5psi Los Alamos
Comment :
Method : /chem/msd7.i/7-30oct.b/t14qO18c.m
Meth Date : 31-Oct-2007 14:54 ctaylor Quant Type: ISTD
Cal Date : 30-OCT-2007 11:10 Cal File: 7103005.d
Als bottle: 1
Dil Factor: 1.71000
Integrator: HP RTE Compound Sublist: Los2153.sub
Target Version: 3.50 Sample Matrix: AIR
Processing Host: eeyore

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

RT	EXP RT (REL RT)	MASS	RESPONSE	CONCENTRATIONS ON-COL (PPBV)	FINAL (PPBV)	TARGET RANGE	RATIO
* 81 Bromochloromethane					CAS #: 74-97-5		
14.416	14.388 (1.000)	130	387796	25.0000		80.00- 120.00	100.00
14.416	14.388 (1.000)	128	293848			26.27- 126.27	75.77
14.416	14.388 (1.000)	49	694255			132.02- 232.02	179.03
* 97 1,4-Difluorobenzene					CAS #: 540-36-3		
16.185	16.158 (1.000)	114	1266199	25.0000		80.00- 120.00	100.00
16.185	16.158 (1.000)	88	191151			0.00- 64.88	15.10
* 126 Chlorobenzene-d5					CAS #: 3114-55-4		
21.356	21.356 (1.000)	117	957513	25.0000		80.00- 120.00	100.00
21.356	21.356 (1.000)	82	508418			4.45- 104.45	53.10
$ 90 1,2-Dichloroethane-d4					CAS #: 17060-07-0		
15.494	15.494 (1.075)	65	550795	26.4385	26.438	80.00- 120.00	100.00
15.494	15.494 (1.075)	67	260499			2.91- 102.91	47.30
$ 113 Toluene-d8					CAS #: 2037-26-5		
18.785	18.757 (1.161)	98	1035007	23.0267	23.027	80.00- 120.00	100.00
18.757	18.757 (1.159)	70	111334			0.00- 61.46	10.76

RT	EXP RT (REL RT)	MASS	RESPONSE	CONCENTRATIONS ON-COL (PPBV)	FINAL (PPBV)	TARGET RANGE	RATIO
$ 113 Toluene-d8 (continued)							
18.785	18.757 (1.161)	100	713540			19.18- 119.18	68.94
$ 137 Bromofluorobenzene					CAS #: 460-00-4		
23.347	23.347 (1.093)	174	592483	26.0035	26.003	80.00- 120.00	100.00
23.319	23.319 (1.092)	95	692664			67.21- 167.21	116.91
23.347	23.347 (1.093)	176	579385			47.52- 147.52	97.79
12 Dichlorodifluoromethane/Fr12					CAS #: 75-71-8		
5.729	5.729 (0.397)	85	62651	1.02234	1.748	80.00- 120.00	100.00
5.758	5.729 (0.399)	87	19431			0.00- 83.07	31.01
22 1,3-Butadiene					CAS #: 106-99-0		
6.940	6.912 (0.481)	54	13316	0.73885	1.263	80.00- 120.00	100.00
6.715	6.912 (0.466)	39	99136			55.97- 155.97	744.49
45 Acetone					CAS #: 67-64-1		
10.517	10.462 (0.730)	58	176595	16.8857	28.874	80.00- 120.00	100.00
10.490	10.462 (0.728)	43	661709			247.10- 347.10	374.70
54 Methylene Chloride					CAS #: 75-09-2		
11.485	11.457 (0.797)	49	1263332	50.7854	86.843	80.00- 120.00	100.00
11.485	11.457 (0.797)	84	791822			18.75- 118.75	62.68
11.485	11.457 (0.797)	51	376310			0.00- 80.85	29.79
75 2-Butanone					CAS #: 78-93-3		
13.918	13.891 (0.965)	72	20173	2.40182	4.107	80.00- 120.00	100.00
13.891	13.891 (0.964)	43	115222			440.65- 540.65	571.17
13.918	13.891 (0.965)	57	9278			0.00- 86.57	45.99
82 Chloroform					CAS #: 67-66-3		
14.471	14.471 (1.004)	83	1451250	37.1684	63.558	80.00- 120.00	100.00
14.471	14.471 (1.004)	85	945772			14.87- 114.87	65.17
83 1,1,1-Trichloroethane					CAS #: 71-55-6		
14.858	14.831 (1.031)	97	80731	2.05322	3.511	80.00- 120.00	100.00
14.831	14.831 (1.029)	99	50762			14.34- 114.34	62.88
85 Cyclohexane					CAS #: 110-82-7		
14.858	14.831 (1.031)	84	17381	0.77178	1.320	80.00- 120.00	100.00
14.858	14.831 (1.031)	56	33286			77.34- 177.34	191.51
14.831	14.831 (1.029)	41	28236			23.26- 123.26	162.45
87 Carbon Tetrachloride					CAS #: 56-23-5		
15.107	15.080 (1.048)	119	559990	15.1934	25.981	80.00- 120.00	100.00
15.107	15.080 (1.048)	117	574239			53.20- 153.20	102.54

RT	EXP RT (REL RT)	MASS	RESPONSE	CONCENTRATIONS ON-COL (PPBV)	FINAL (PPBV)	TARGET RANGE	RATIO
91 Benzene					CAS #: 71-43-2		
15.522	15.522 (0.959)	78	26963	0.53594	0.9164	80.00- 120.00	100.00
15.522	15.522 (0.959)	77	6507			0.00- 71.87	24.13
93 1,2-Dichloroethane					CAS #: 107-06-2		
15.632	15.633 (0.966)	62	15521	0.58065	0.9929	80.00- 120.00	100.00
15.632	15.633 (0.966)	64	6841			0.00- 82.89	44.08
101 Trichloroethene					CAS #: 79-01-6		
16.656	16.628 (1.029)	95	1017801	45.5435	77.879	80.00- 120.00	100.00
16.656	16.628 (1.029)	130	1044410			52.84- 152.84	102.61
16.656	16.628 (1.029)	97	650882			15.58- 115.58	63.95
114 Toluene					CAS #: 108-88-3		
18.895	18.895 (1.167)	91	57857	1.04995	1.795	80.00- 120.00	100.00
18.895	18.895 (1.167)	92	37149			13.85- 113.85	64.21
120 Tetrachloroethene					CAS #: 127-18-4		
19.835	19.835 (0.929)	166	789380	30.6887	52.478	80.00- 120.00	100.00
19.835	19.835 (0.929)	129	557994			20.11- 120.11	70.69
19.835	19.835 (0.929)	131	535083			17.39- 117.39	67.79

Report Date: 01-Nov-2007 11:12

Air Toxics Ltd.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd7.i
Lab File ID: 7103019.d
Lab Smp Id: 0710567-02A
Analysis Type: VOA
Quant Type: ISTD
Operator: srs
Method File: /chem/msd7.i/7-30oct.b/t14qO18c.m
Misc Info: 6.5"Hg -> 5psi Los Alamos

Calibration Date: 30-OCT-2007
Calibration Time: 12:15

Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
81 Bromochloromethan	537758	322655	752861	387796	-27.89
97 1,4-Difluorobenze	1771565	1062939	2480191	1266199	-28.53
126 Chlorobenzene-d5	1414884	848930	1980838	957513	-32.33

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
81 Bromochloromethan	14.39	14.06	14.72	14.42	0.19
97 1,4-Difluorobenze	16.16	15.83	16.49	16.19	0.17
126 Chlorobenzene-d5	21.36	21.03	21.69	21.36	0.00

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Report Date: 01-Nov-2007 11:12

Air Toxics Ltd.

RECOVERY REPORT

Client Name:
Client SDG: 7-30oct
Sample Matrix: GAS
Fraction: VOA
Lab Smp Id: 0710567-02A
Level: LOW
Operator: srs
Data Type: MS DATA
SampleType: SAMPLE
SpikeList File: 2926spectra.spk
Quant Type: ISTD
Sublist File: Los2153.sub
Method File: /chem/msd7.i/7-30oct.b/t14qO18c.m
Misc Info: 6.5"Hg -> 5psi Los Alamos

SURROGATE COMPOUND	CONC ADDED PPBV	CONC RECOVERED PPBV	% RECOVERED	LIMITS
$ 90 1,2-Dichloroethane	25.000	26.438	105.75	70-130
$ 113 Toluene-d8	25.000	23.027	92.11	70-130
$ 137 Bromofluorobenzene	25.000	26.003	104.01	70-130

Data File: /chem/msd7.i/7-30oct.b/7103019.d

Date : 30-OCT-2007 21:47

Client ID:

Sample Info: 200mL #4216

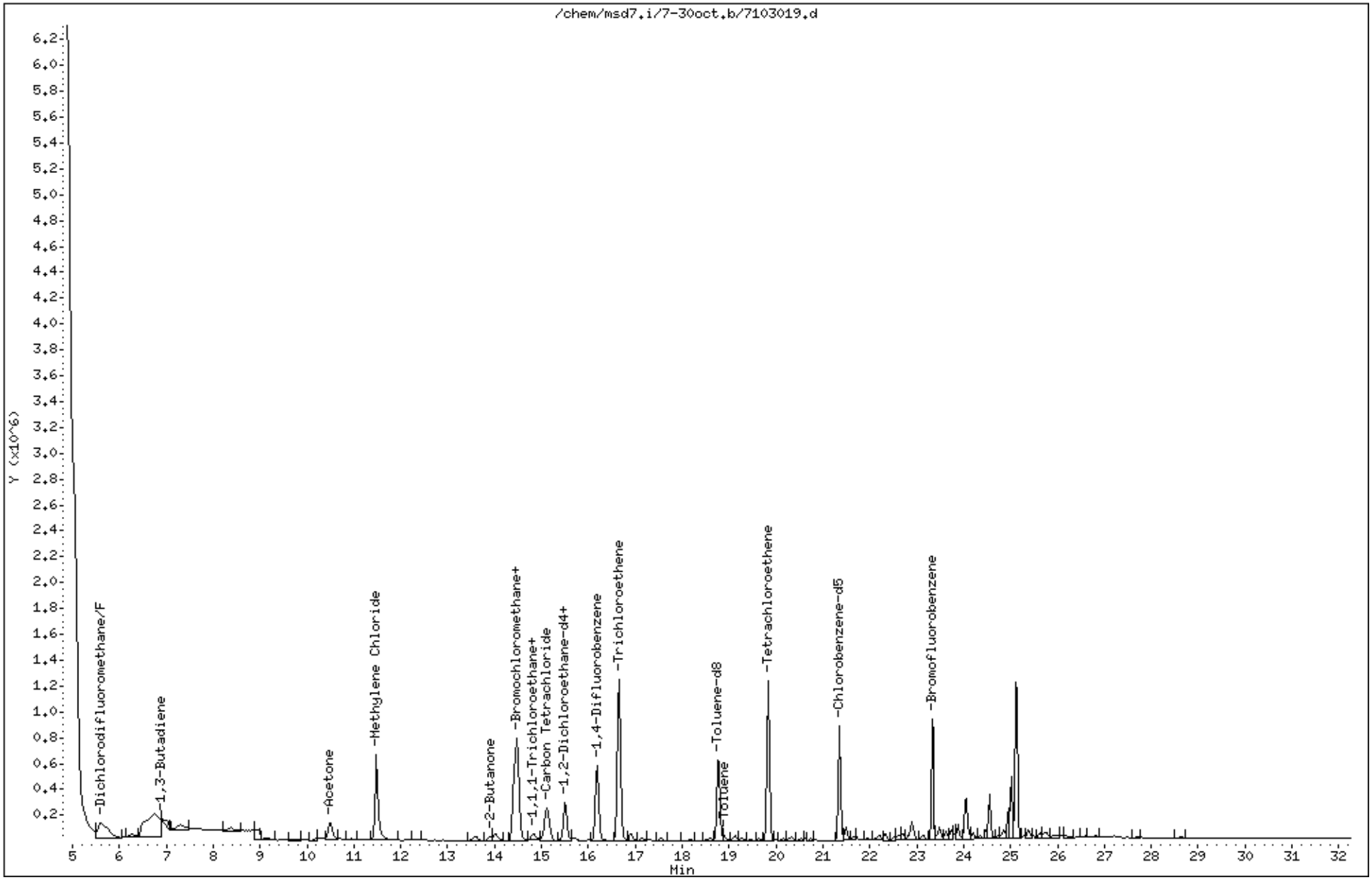
Column phase: RTx-624

Instrument: msd7.i

Operator: srs

Column diameter: 0.53

0037



Data File: /chem/msd7.i/7-30oct.b/7103019.d

Date : 30-OCT-2007 21:47

Client ID:

Instrument: msd7.i

Sample Info: 200mL #4216

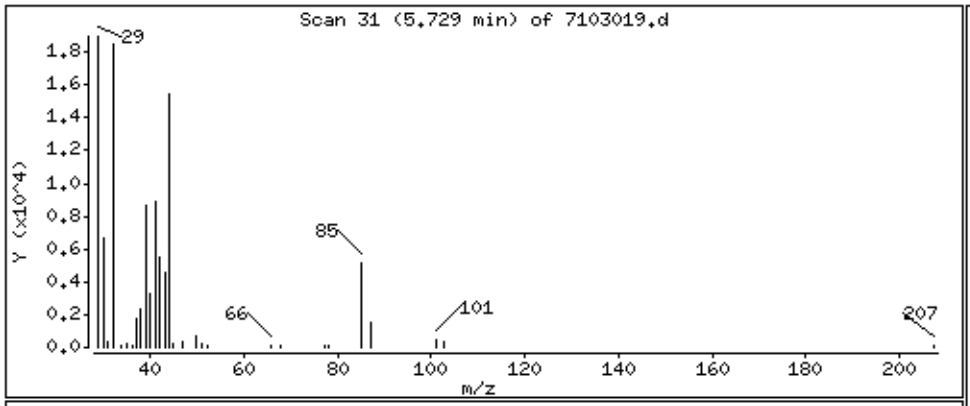
Operator: srs

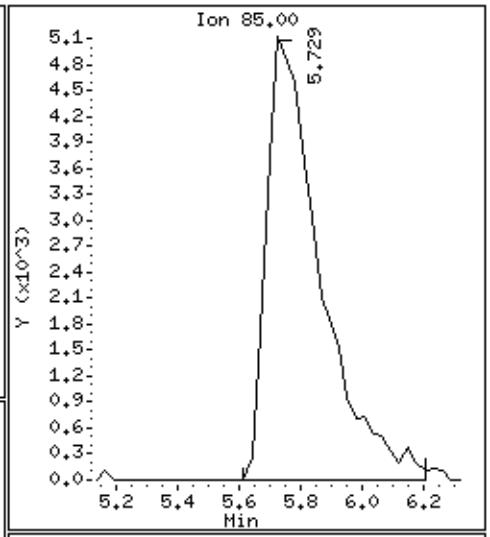
Column phase: RTx-624

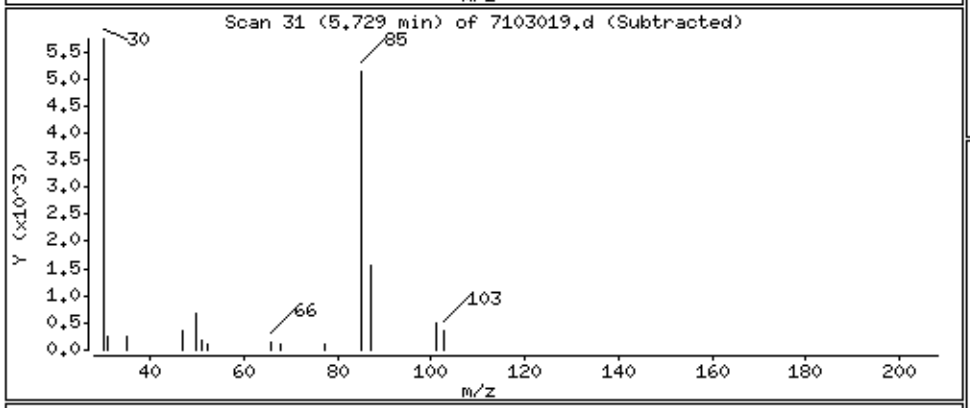
Column diameter: 0.53

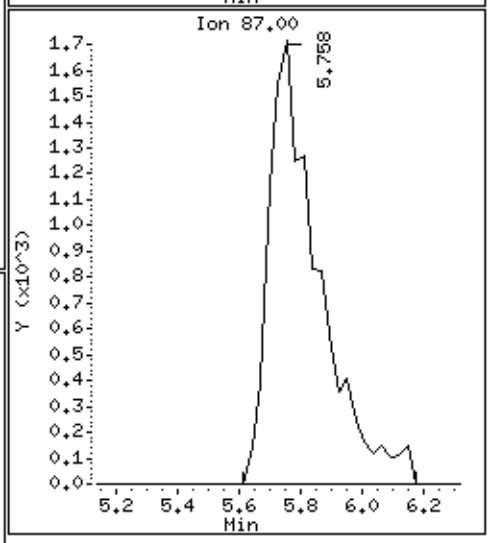
12 Dichlorodifluoromethane/Fr12

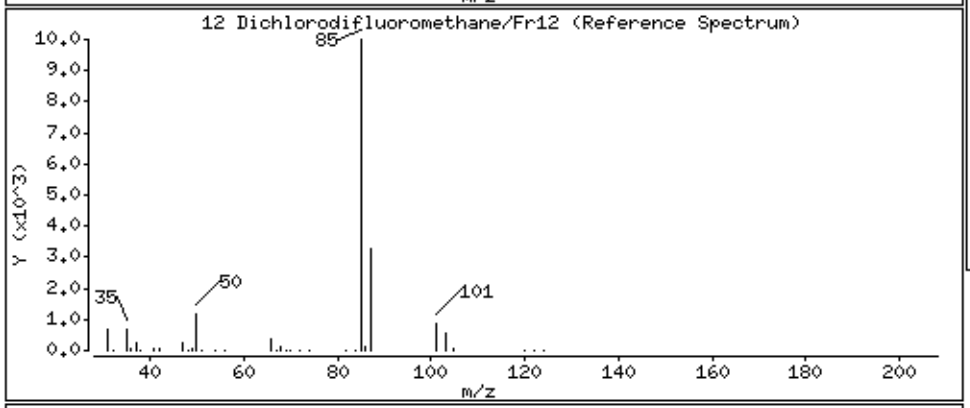
Concentration: 1.748 PPBV

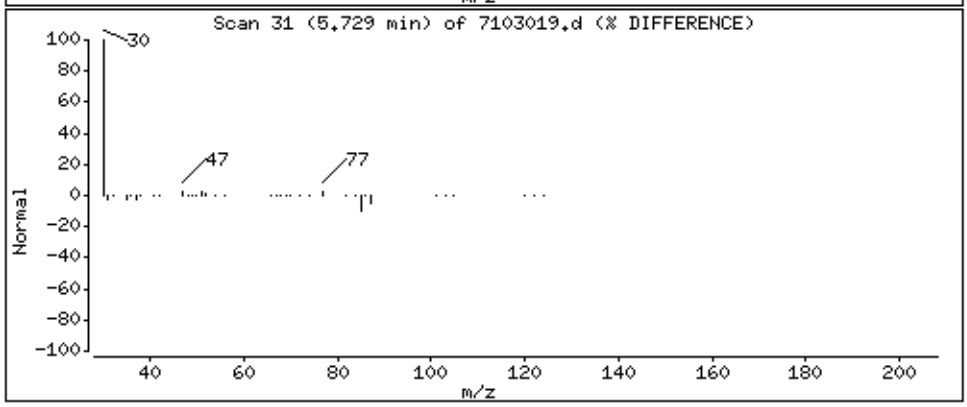












Data File: /chem/msd7.i/7-30oct.b/7103019.d

Date : 30-OCT-2007 21:47

Client ID:

Instrument: msd7.i

Sample Info: 200mL #4216

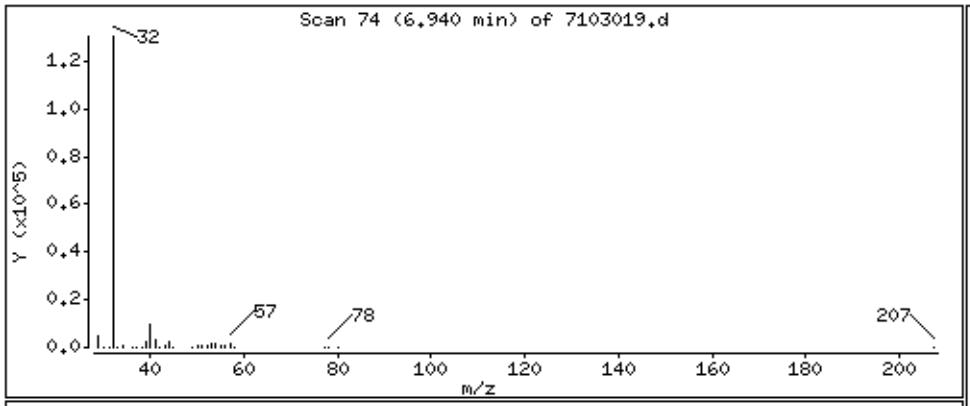
Operator: srs

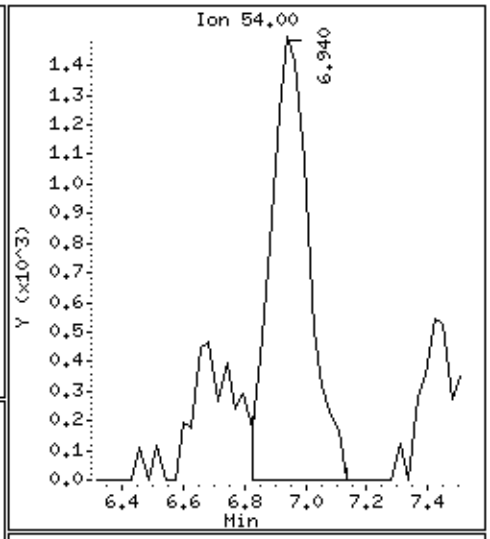
Column phase: RTx-624

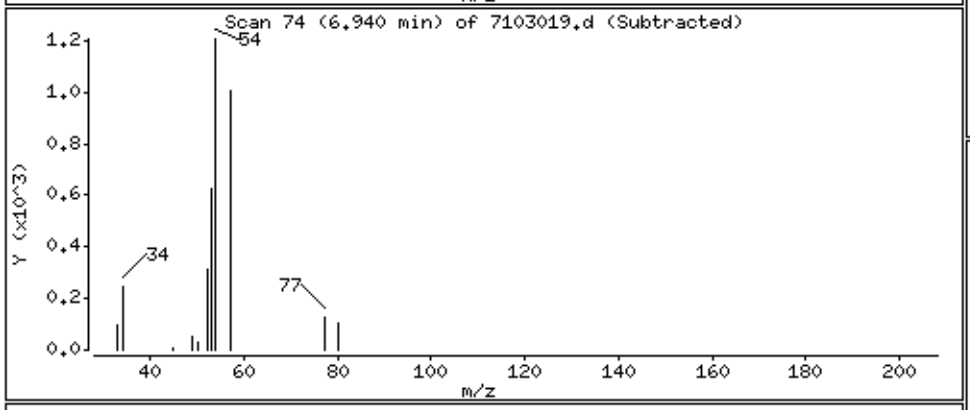
Column diameter: 0.53

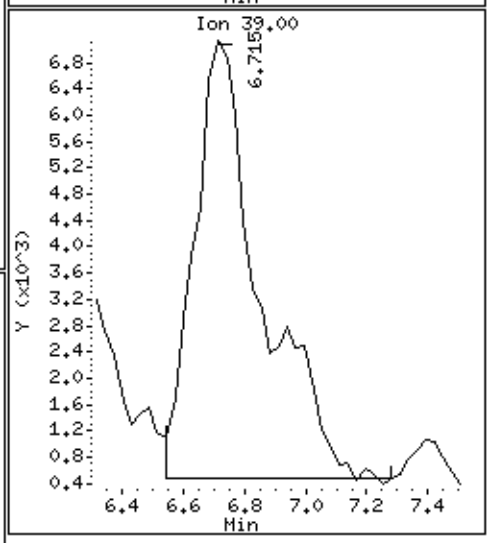
22 1,3-Butadiene

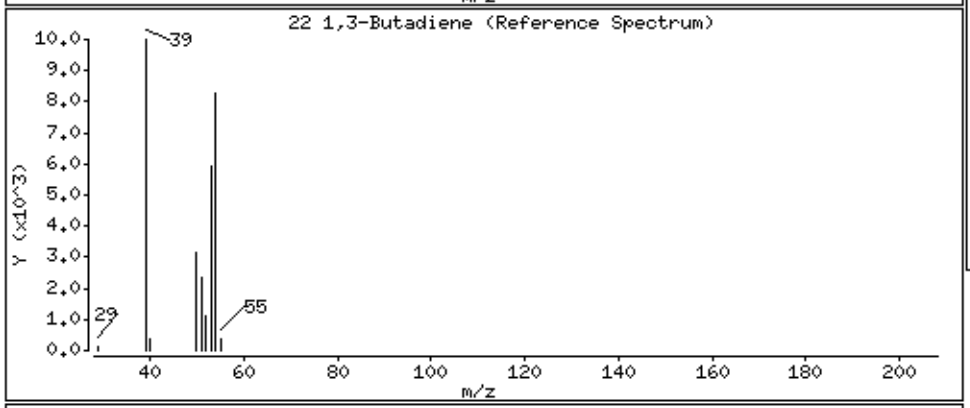
Concentration: 1.263 PPBV

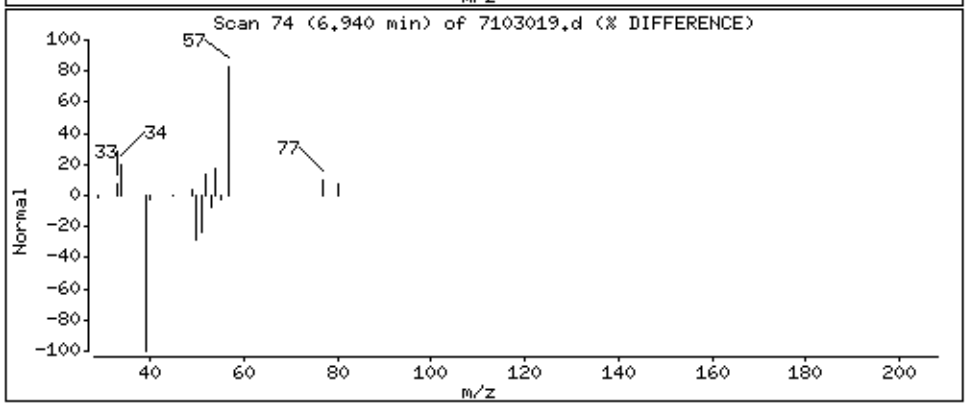












Data File: /chem/msd7.i/7-30oct.b/7103019.d

Date : 30-OCT-2007 21:47

Client ID:

Instrument: msd7.i

Sample Info: 200mL #4216

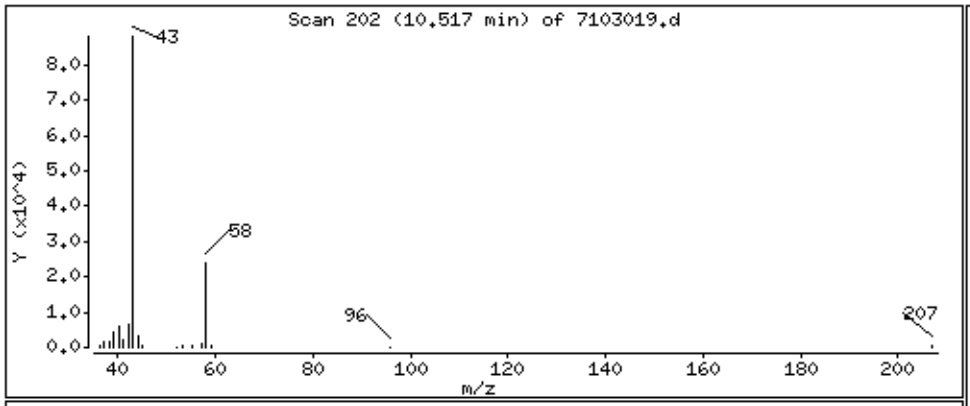
Operator: srs

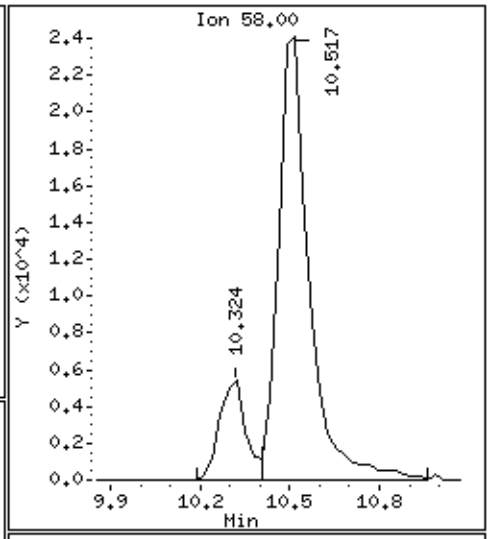
Column phase: RTx-624

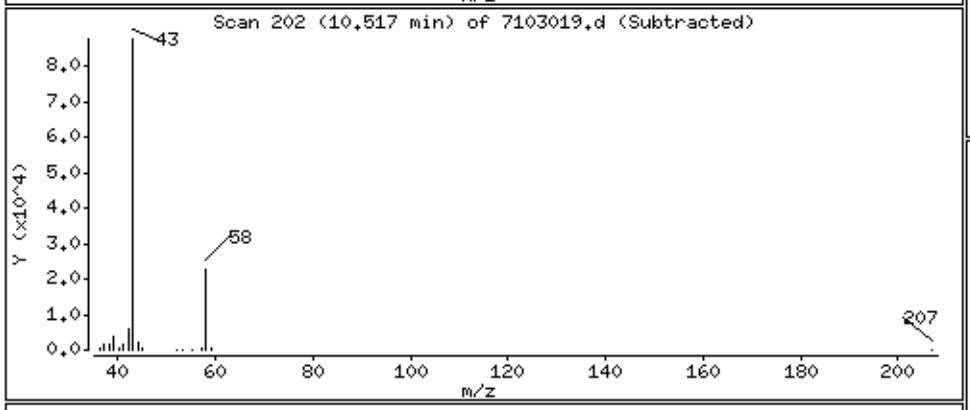
Column diameter: 0.53

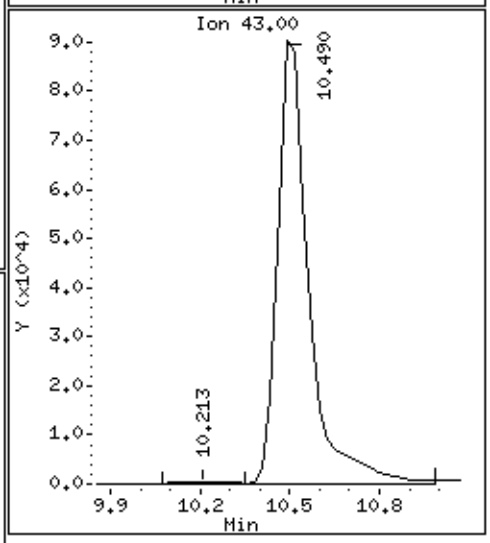
45 Acetone

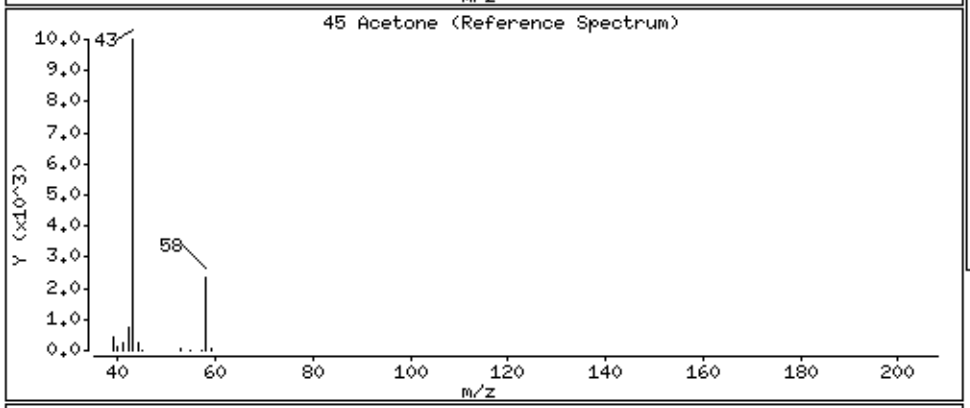
Concentration: 28.874 PPBV

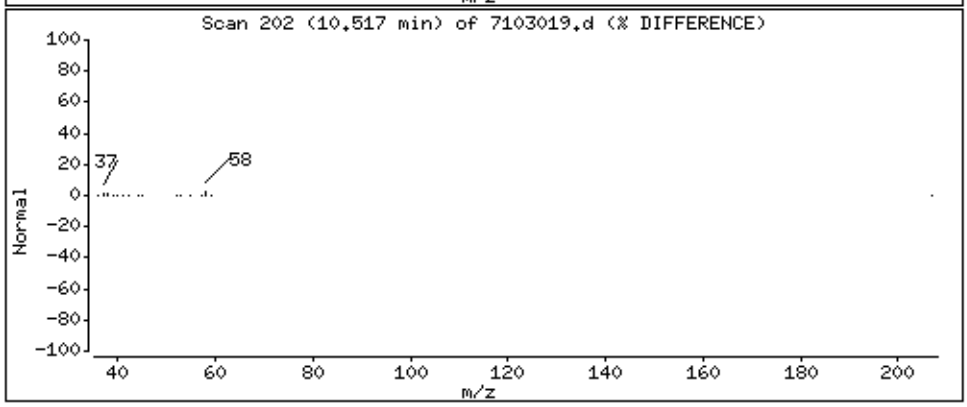












Data File: /chem/msd7.i/7-30oct.b/7103019.d

Date : 30-OCT-2007 21:47

Client ID:

Instrument: msd7.i

Sample Info: 200mL #4216

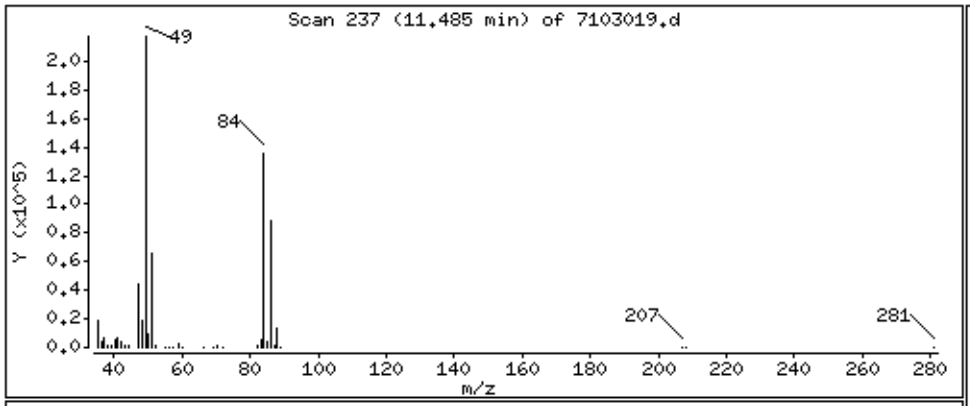
Operator: srs

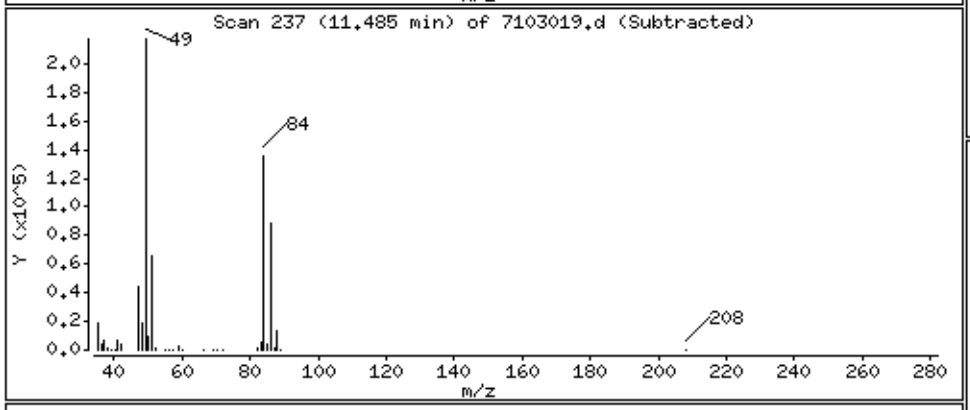
Column phase: RTx-624

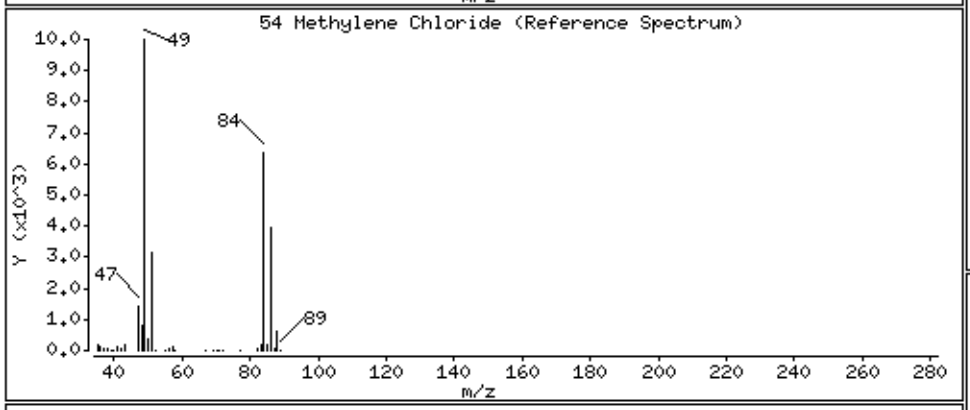
Column diameter: 0.53

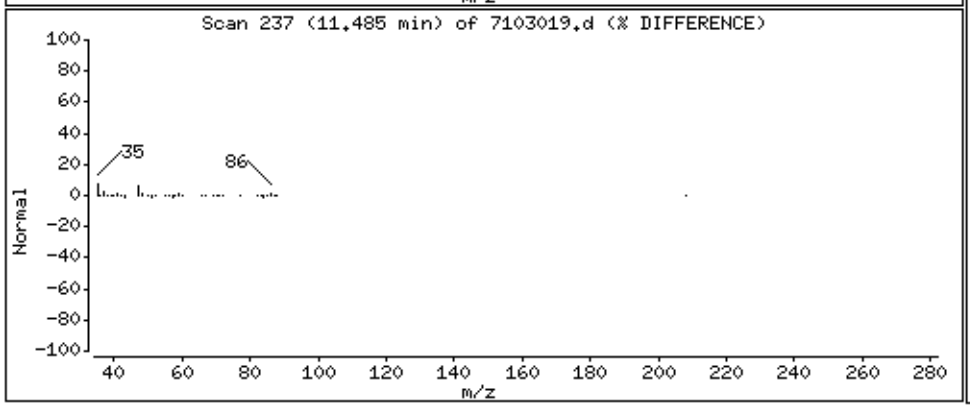
54 Methylene Chloride

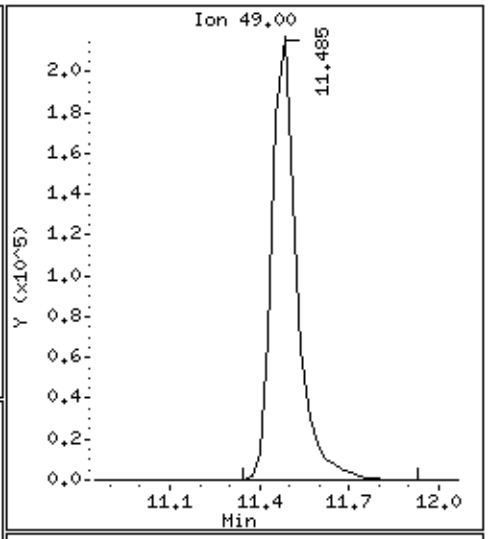
Concentration: 86.843 PPBV

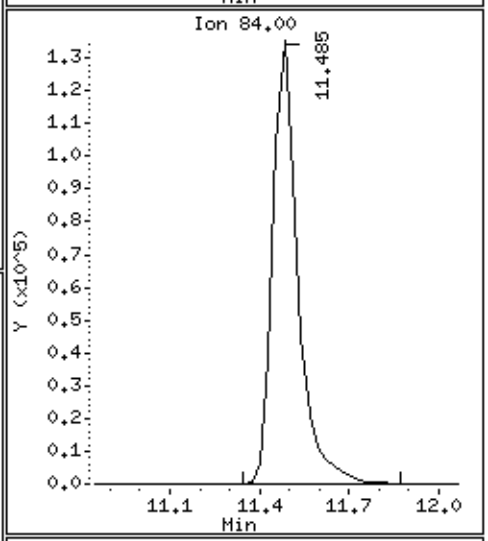


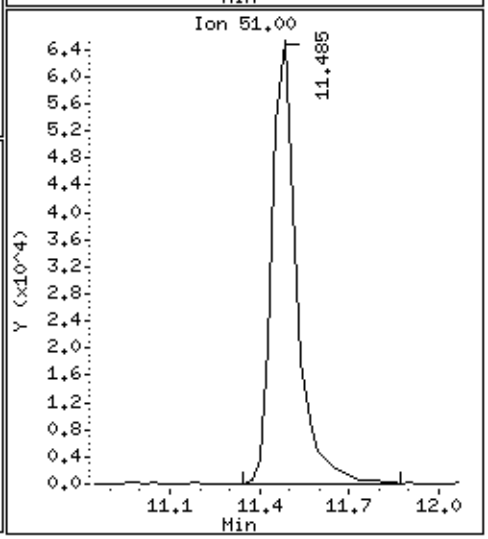












Data File: /chem/msd7.i/7-30oct.b/7103019.d

Date : 30-OCT-2007 21:47

Client ID:

Instrument: msd7.i

Sample Info: 200mL #4216

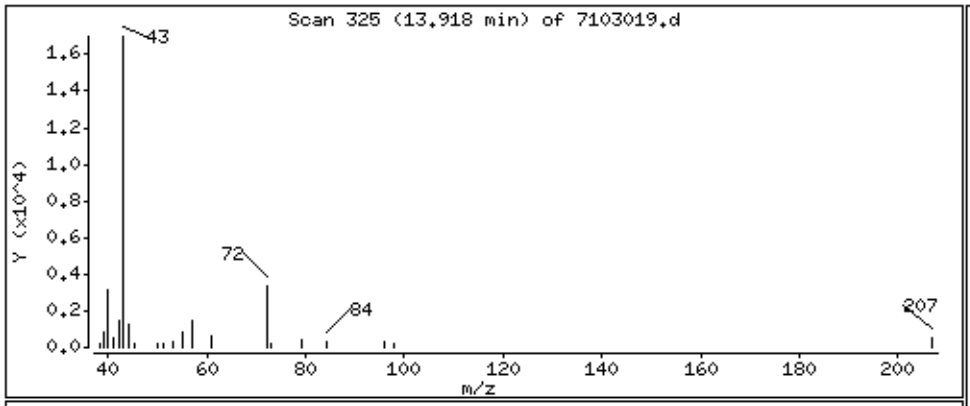
Operator: srs

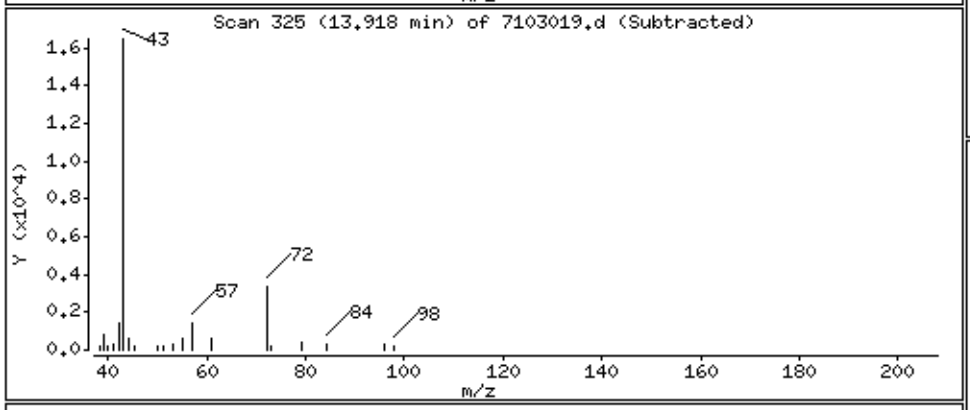
Column phase: RTx-624

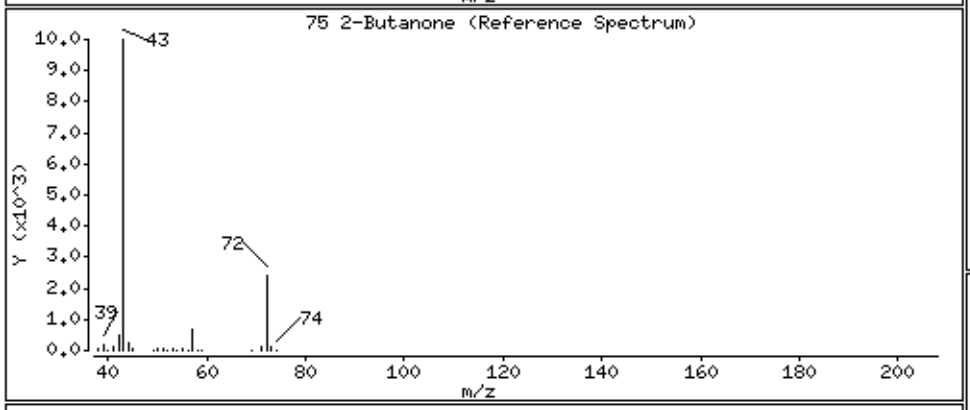
Column diameter: 0.53

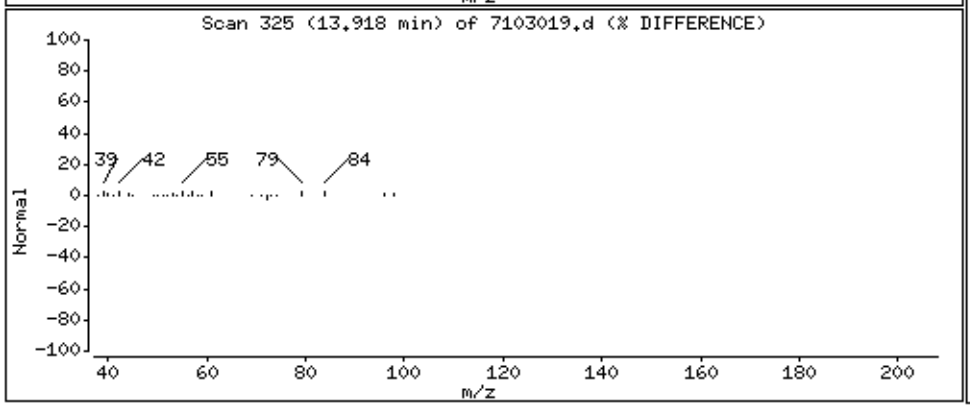
75 2-Butanone

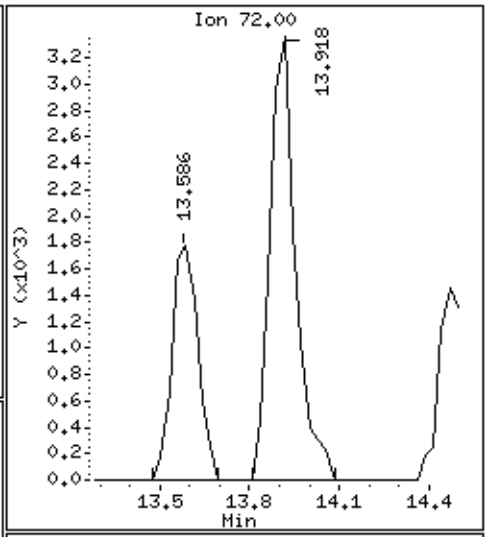
Concentration: 4.107 PPBV

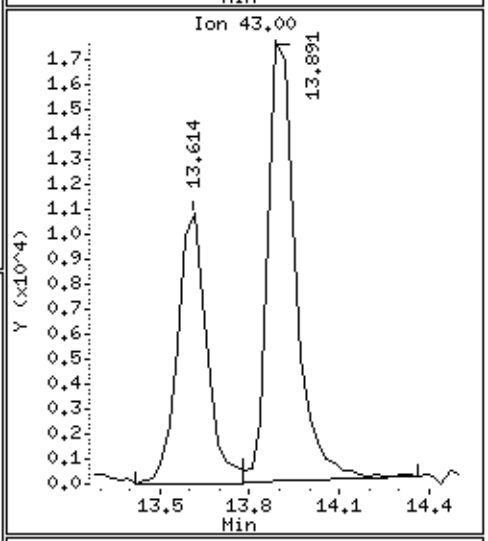


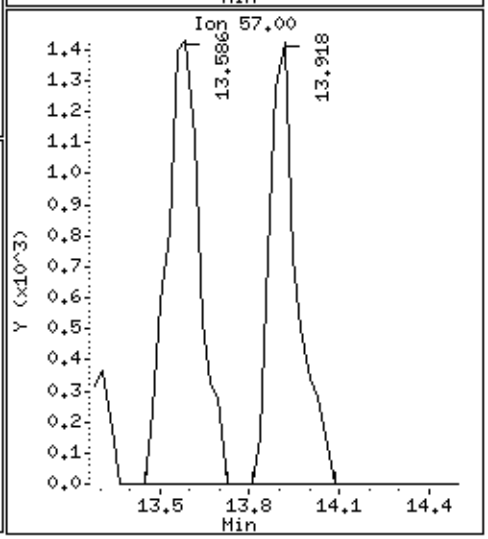












Data File: /chem/msd7.i/7-30oct.b/7103019.d

Date : 30-OCT-2007 21:47

Client ID:

Instrument: msd7.i

Sample Info: 200mL #4216

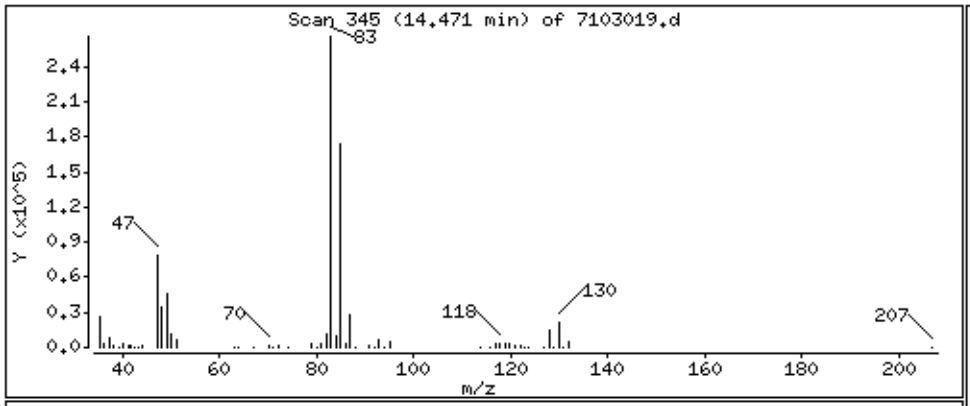
Operator: srs

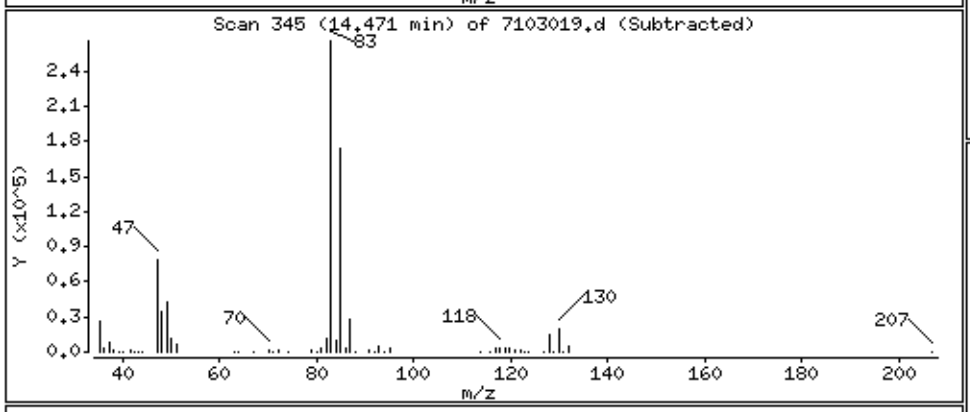
Column phase: RTx-624

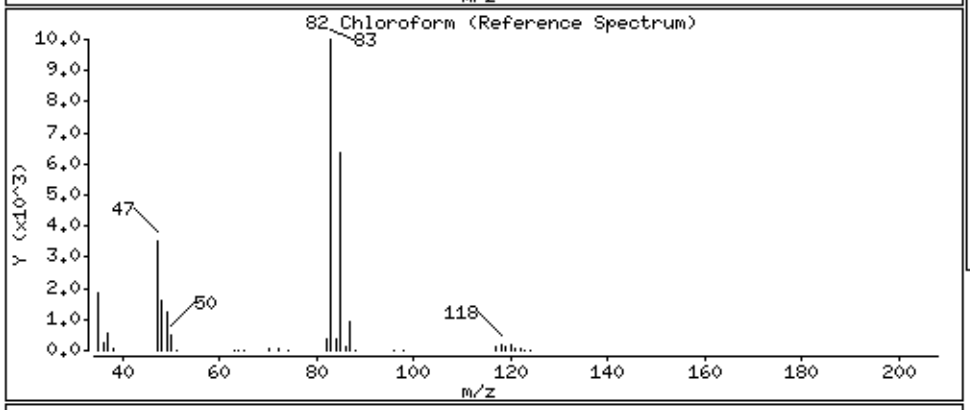
Column diameter: 0.53

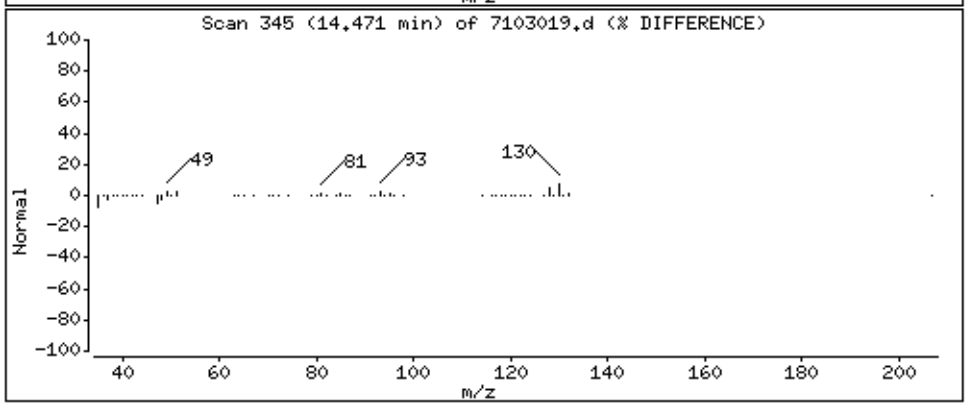
82 Chloroform

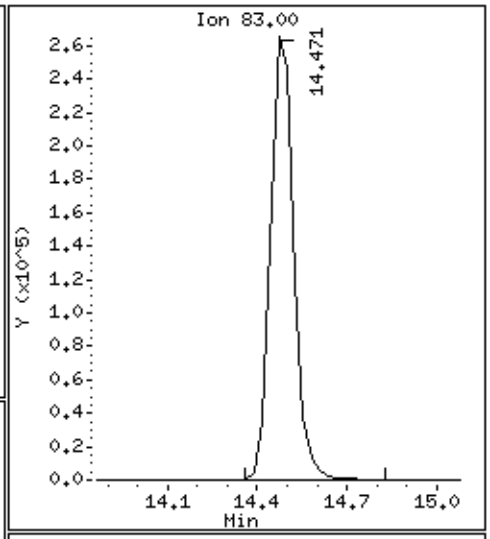
Concentration: 63.558 PPBV

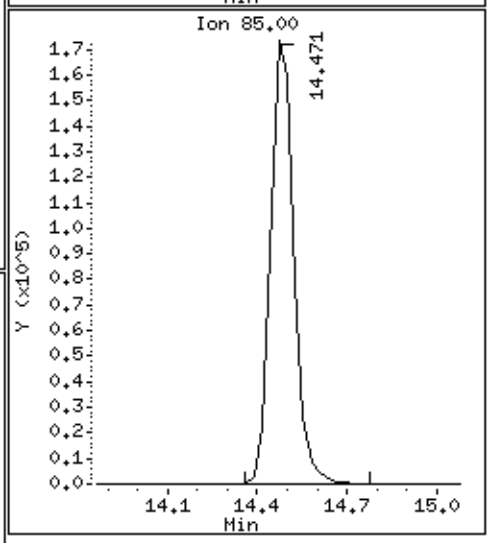












Data File: /chem/msd7.i/7-30oct.b/7103019.d

Date : 30-OCT-2007 21:47

Client ID:

Instrument: msd7.i

Sample Info: 200mL #4216

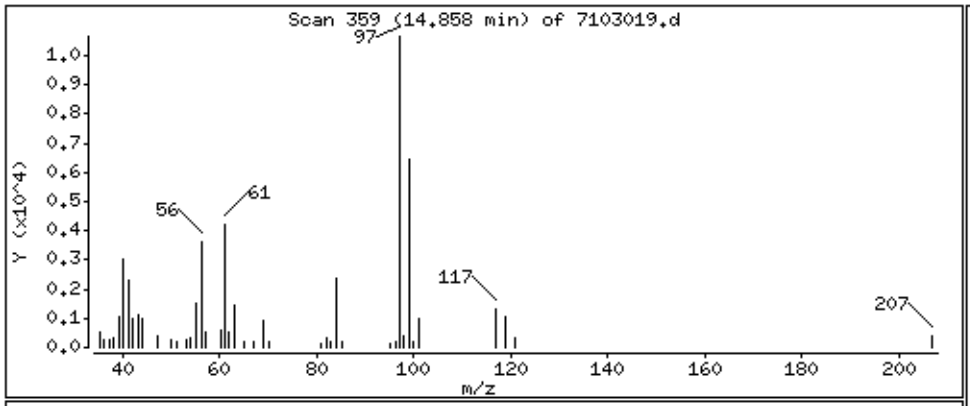
Operator: srs

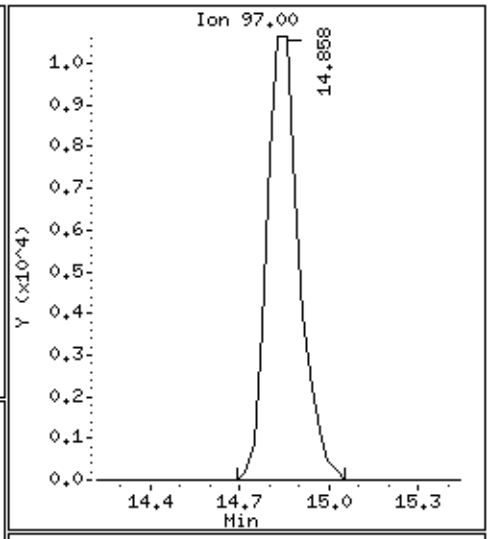
Column phase: RTx-624

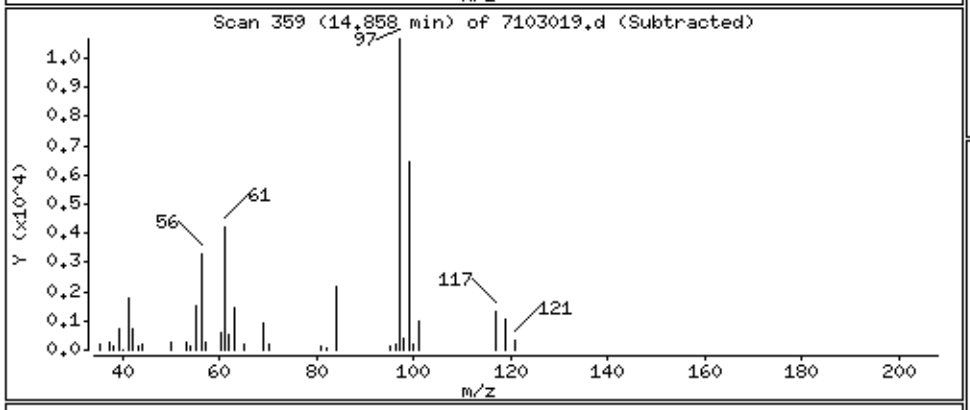
Column diameter: 0.53

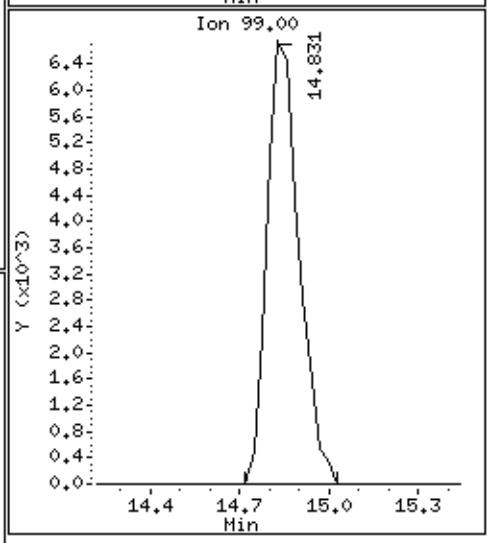
83 1,1,1-Trichloroethane

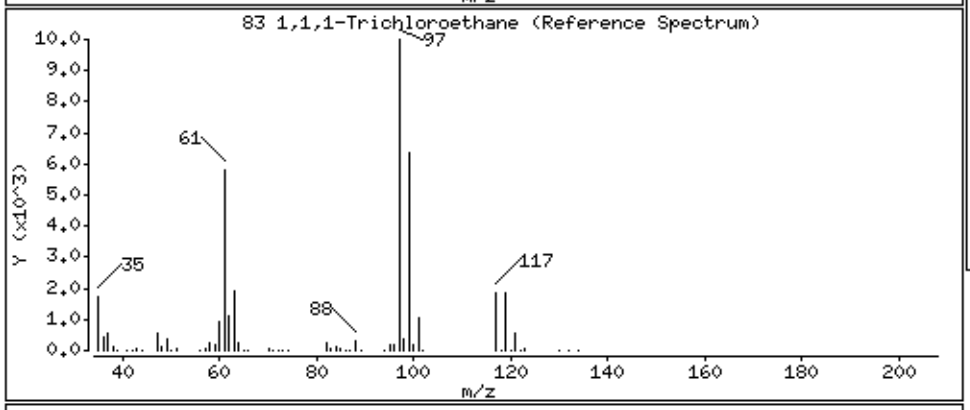
Concentration: 3.511 PPBV

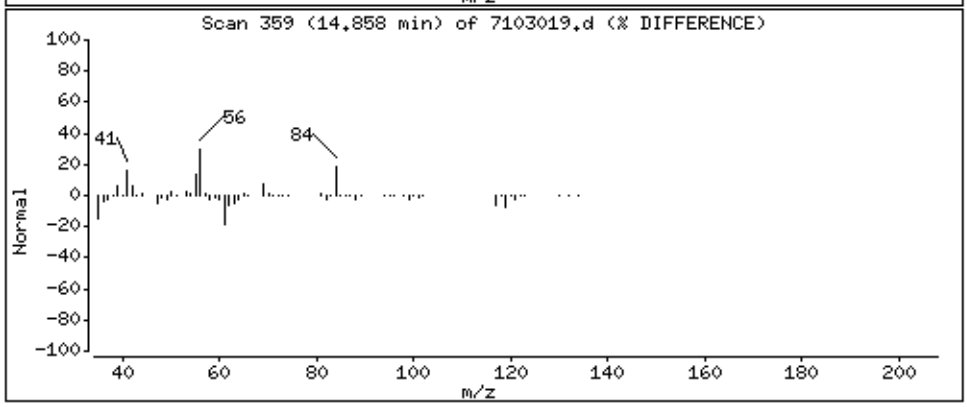












Data File: /chem/msd7.i/7-30oct.b/7103019.d

Date : 30-OCT-2007 21:47

Client ID:

Instrument: msd7.i

Sample Info: 200mL #4216

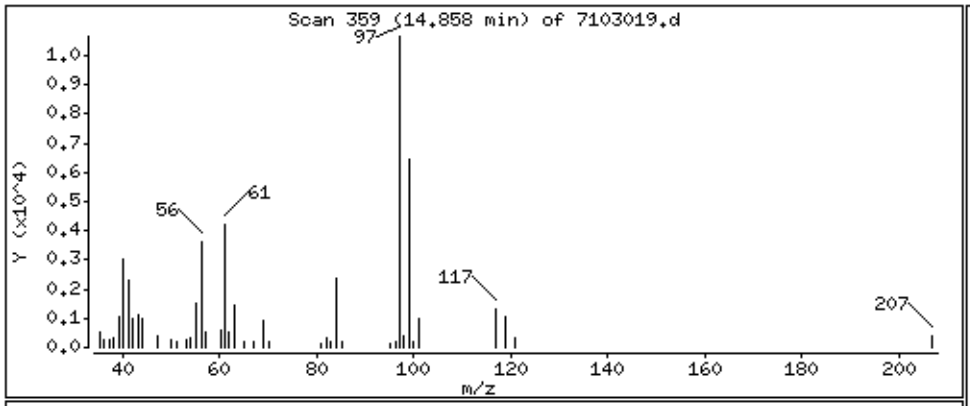
Operator: srs

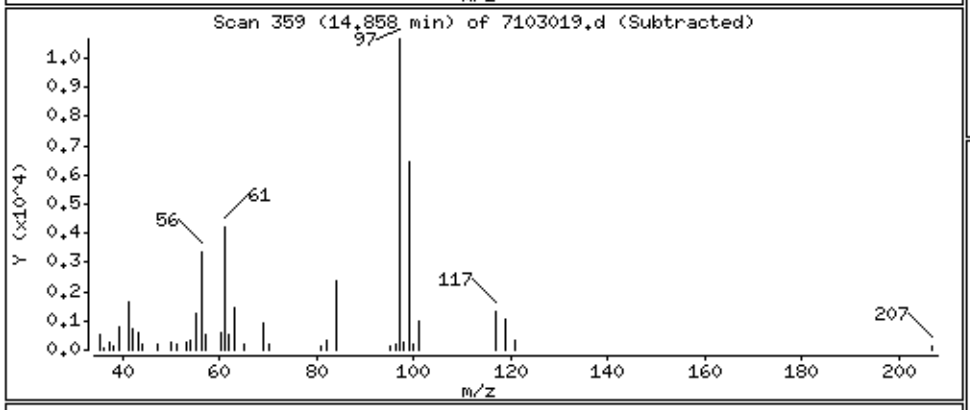
Column phase: RTx-624

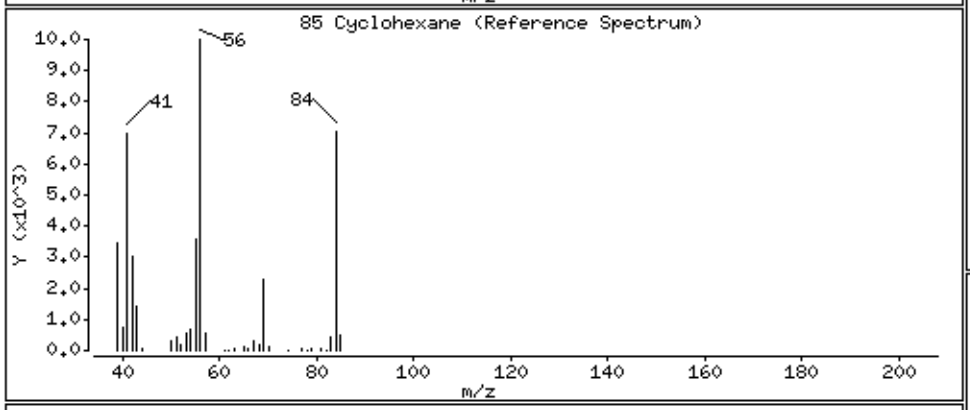
Column diameter: 0.53

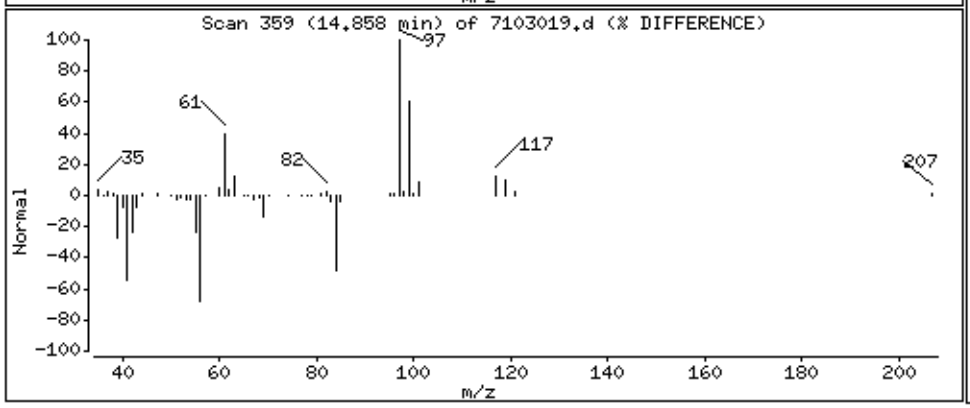
85 Cyclohexane

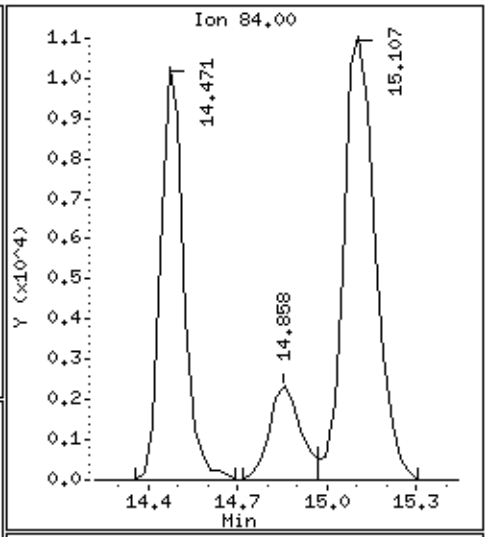
Concentration: 1.320 PPBV

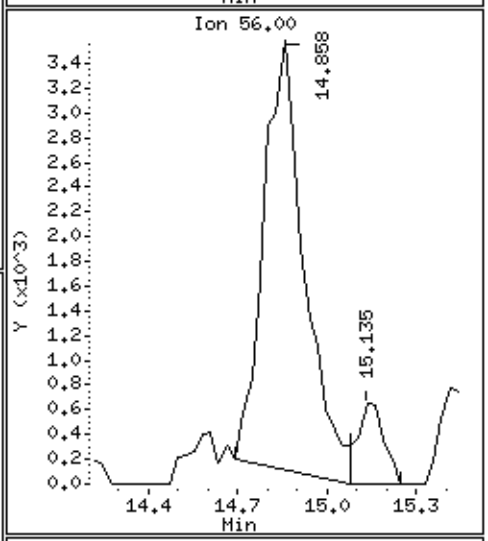


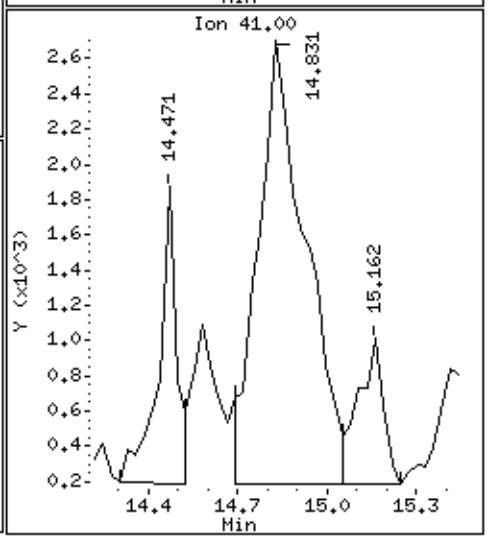












Data File: /chem/msd7.i/7-30oct.b/7103019.d

Date : 30-OCT-2007 21:47

Client ID:

Instrument: msd7.i

Sample Info: 200mL #4216

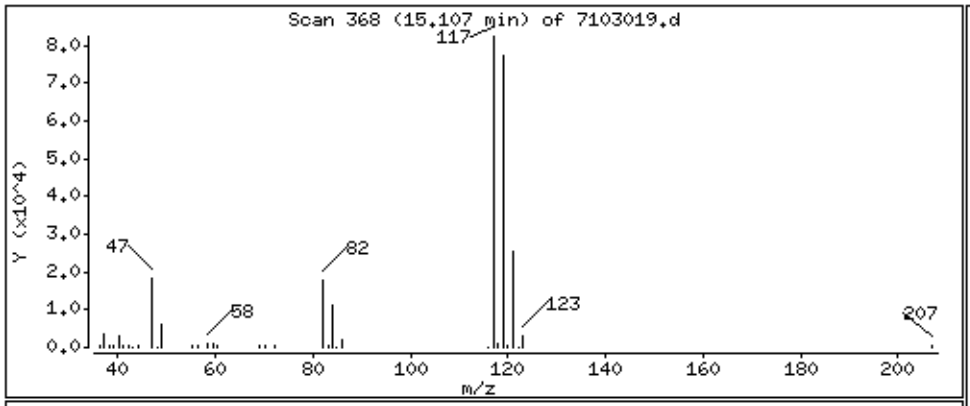
Operator: srs

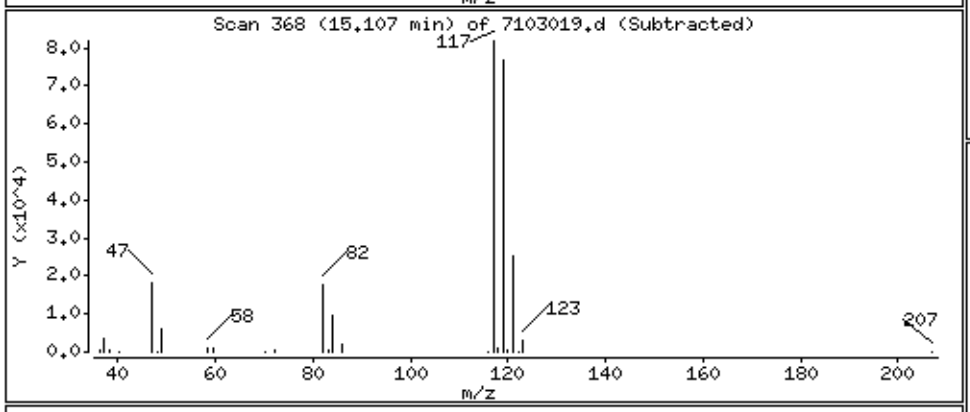
Column phase: RTx-624

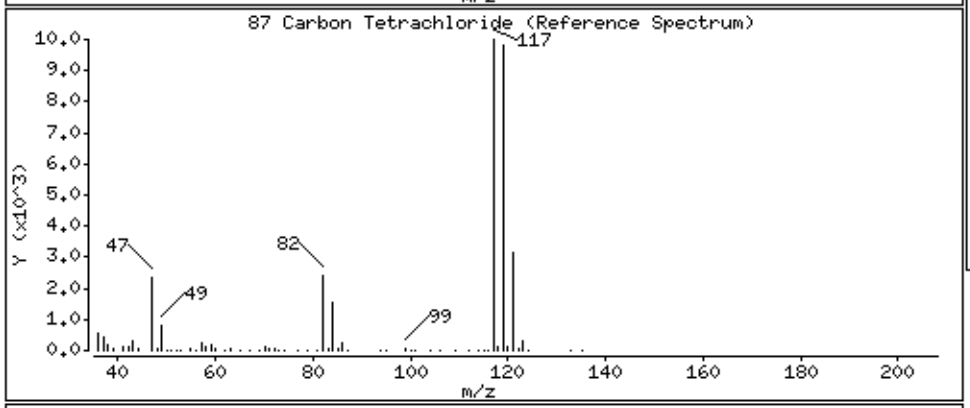
Column diameter: 0.53

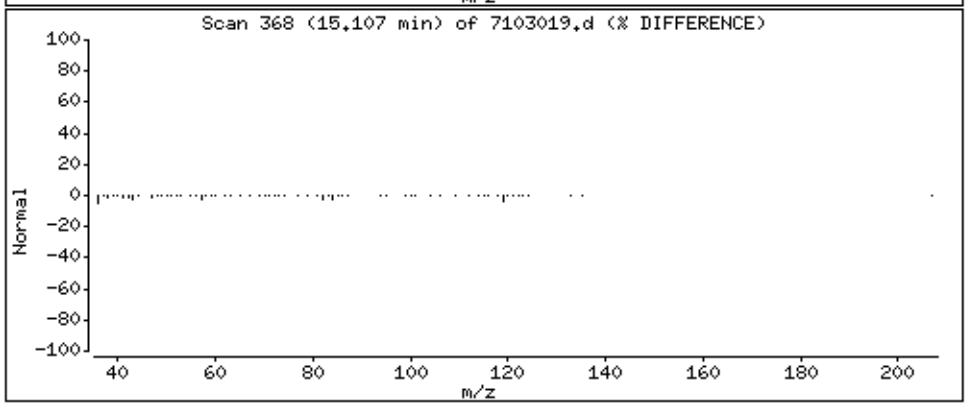
87 Carbon Tetrachloride

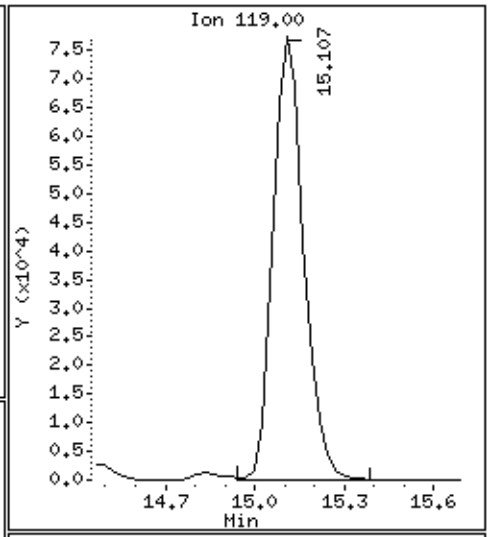
Concentration: 25.981 PPBV

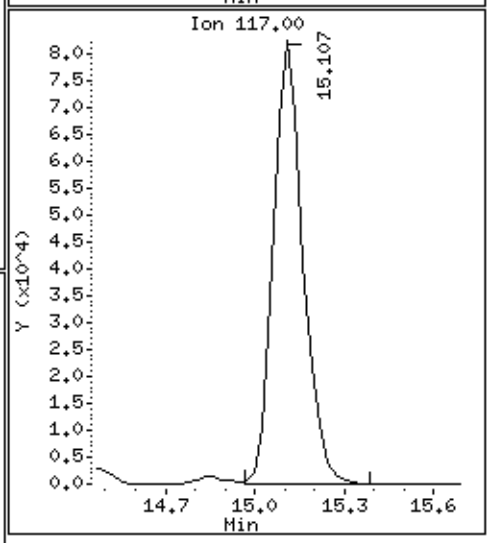












Data File: /chem/msd7.i/7-30oct.b/7103019.d

Date : 30-OCT-2007 21:47

Client ID:

Instrument: msd7.i

Sample Info: 200mL #4216

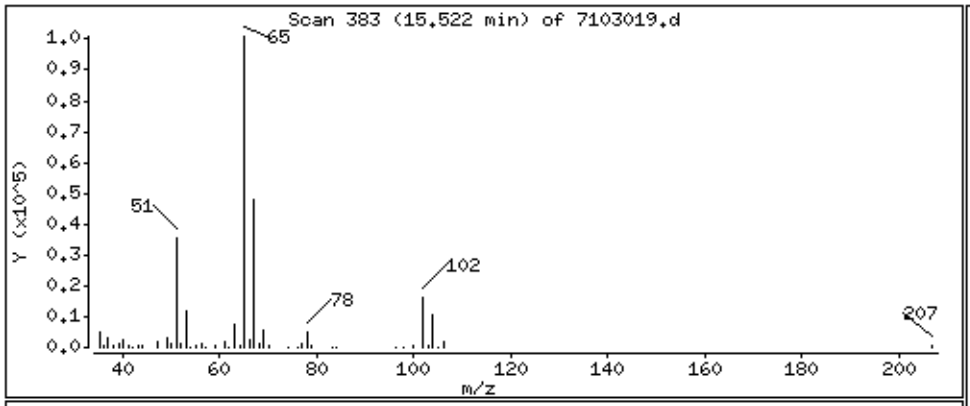
Operator: srs

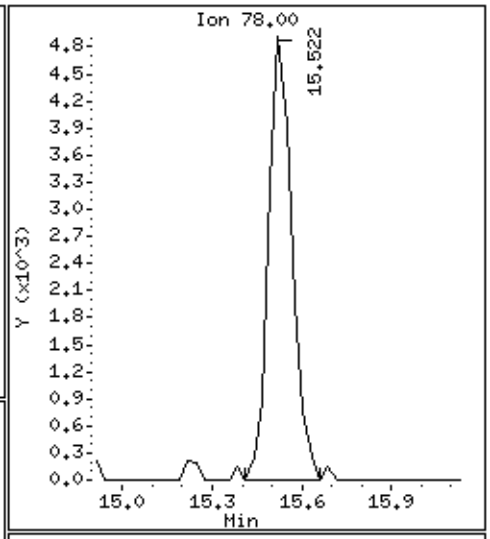
Column phase: RTx-624

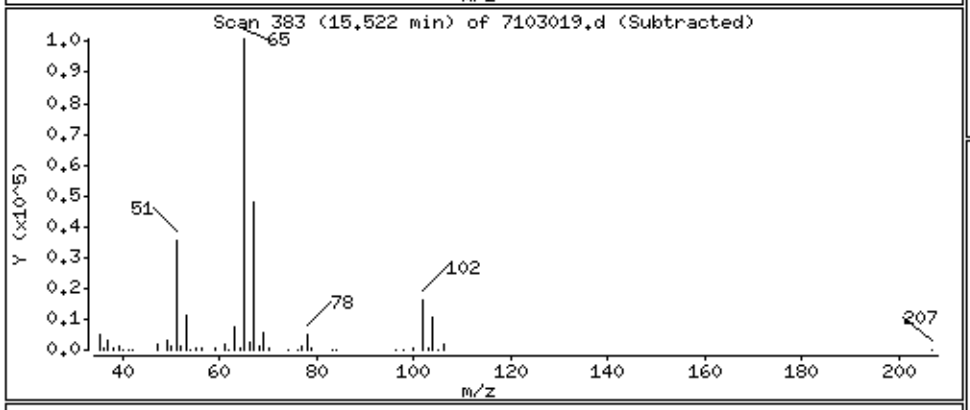
Column diameter: 0.53

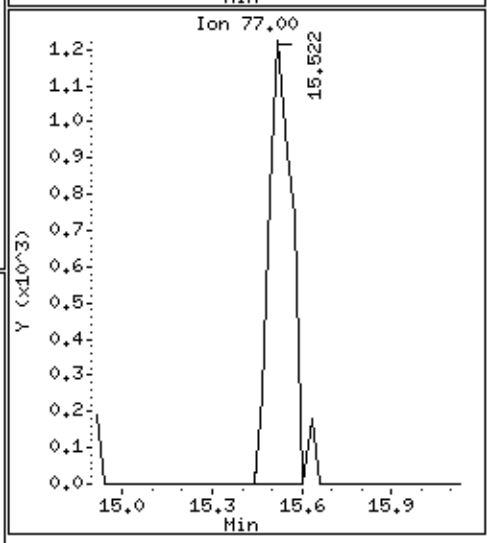
91 Benzene

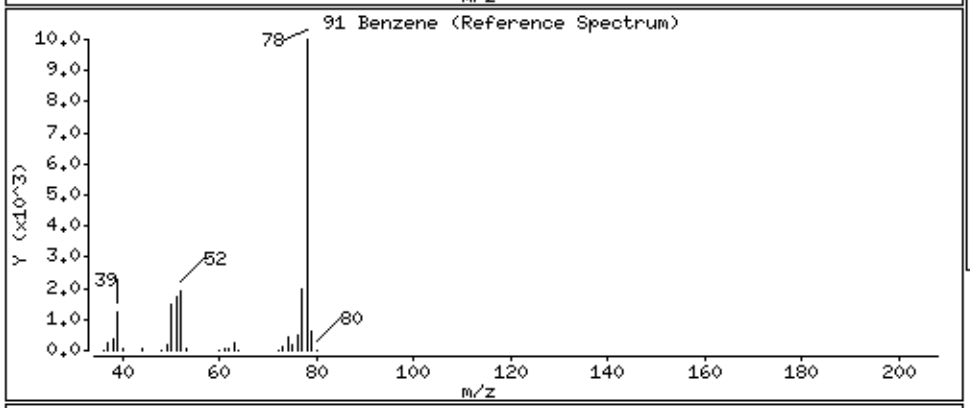
Concentration: 0.9164 PPBV

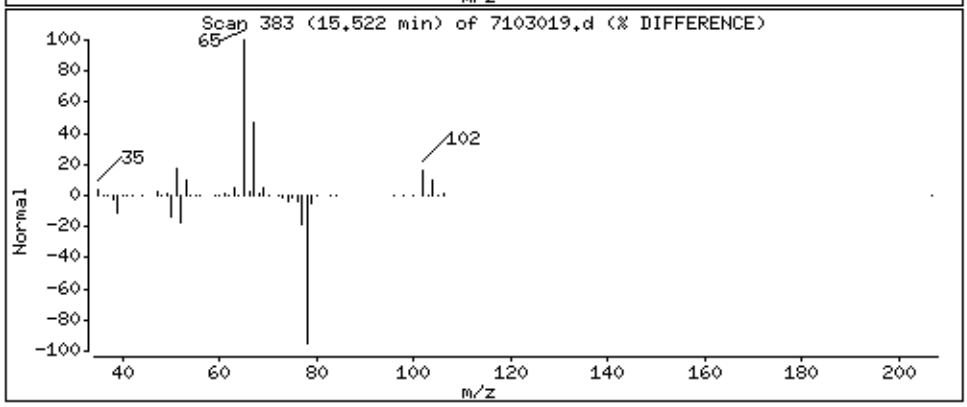












Data File: /chem/msd7.i/7-30oct.b/7103019.d

Date : 30-OCT-2007 21:47

Client ID:

Instrument: msd7.i

Sample Info: 200mL #4216

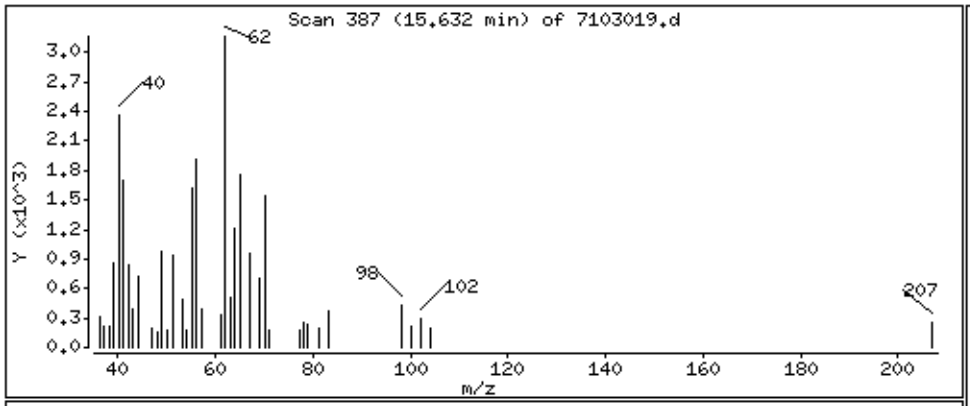
Operator: srs

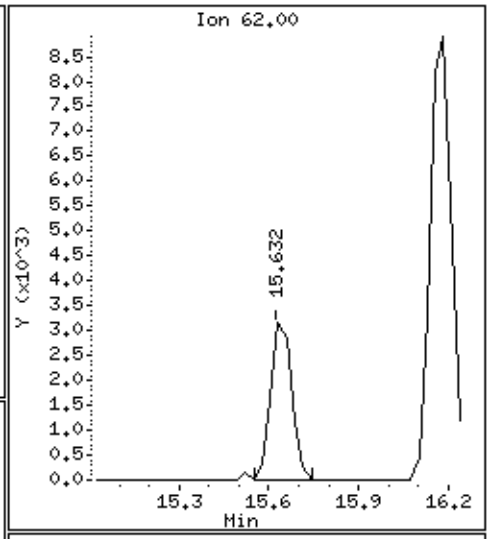
Column phase: RTx-624

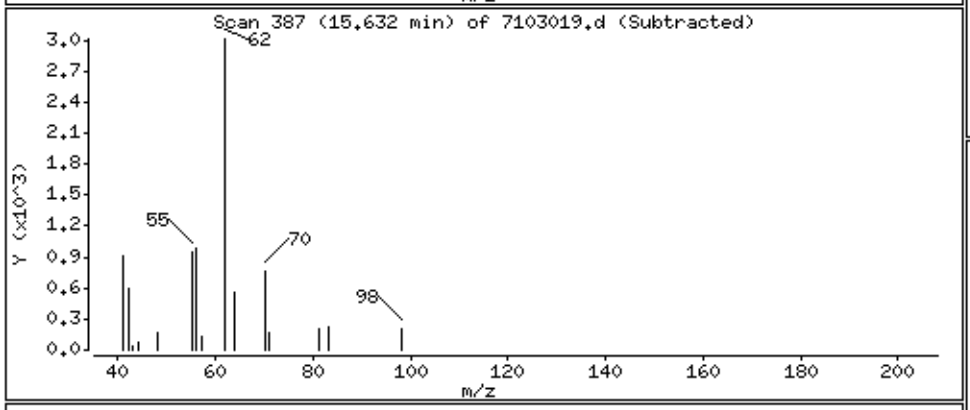
Column diameter: 0.53

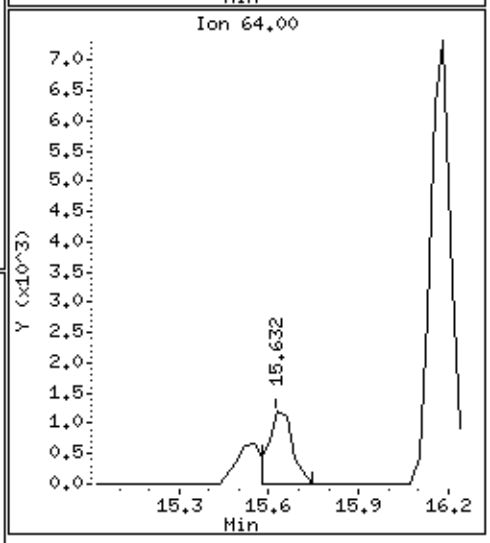
93 1,2-Dichloroethane

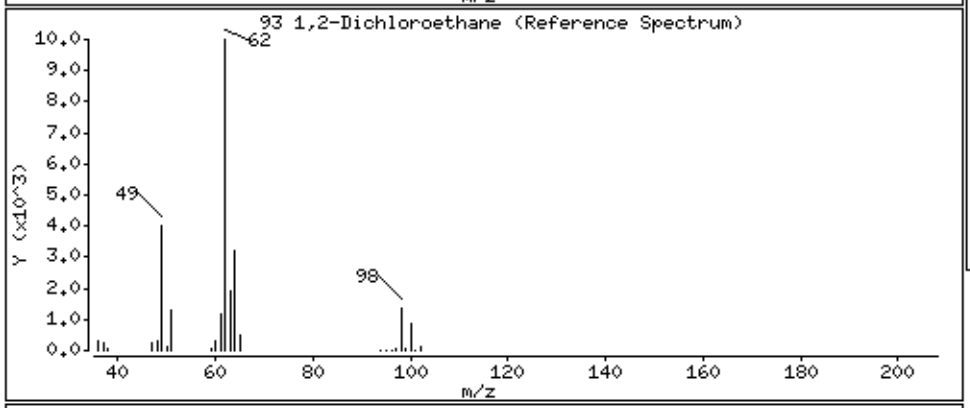
Concentration: 0.9929 PPBV

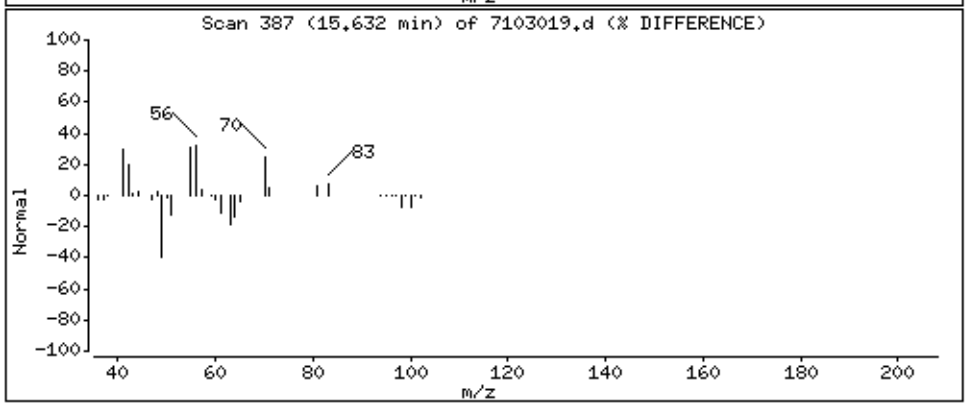












Data File: /chem/msd7.i/7-30oct.b/7103019.d

Date : 30-OCT-2007 21:47

Client ID:

Instrument: msd7.i

Sample Info: 200mL #4216

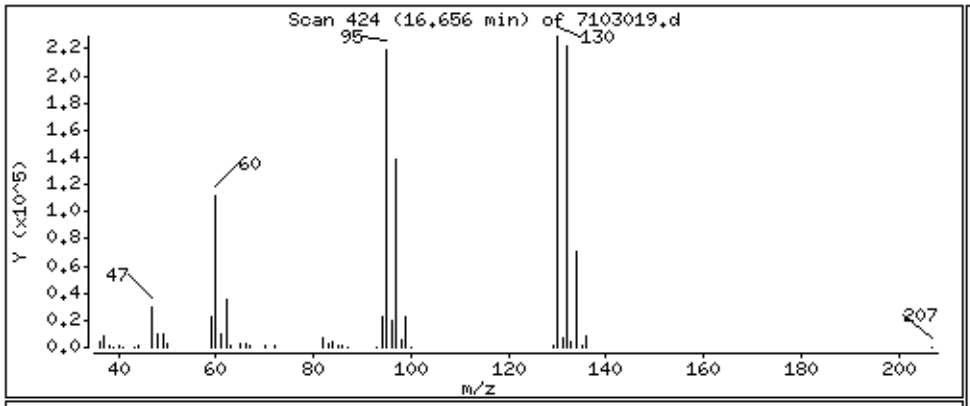
Operator: srs

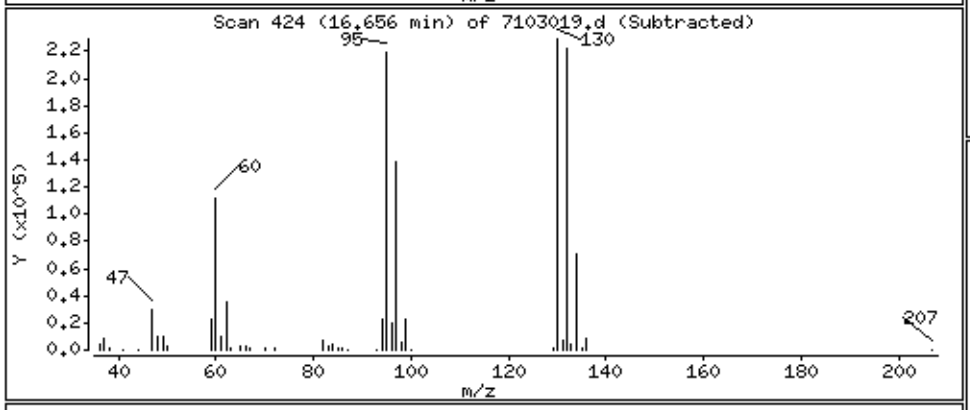
Column phase: RTx-624

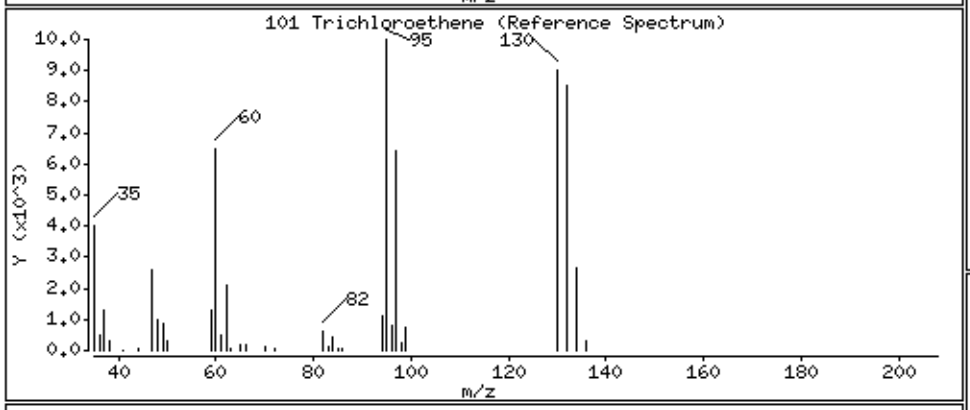
Column diameter: 0.53

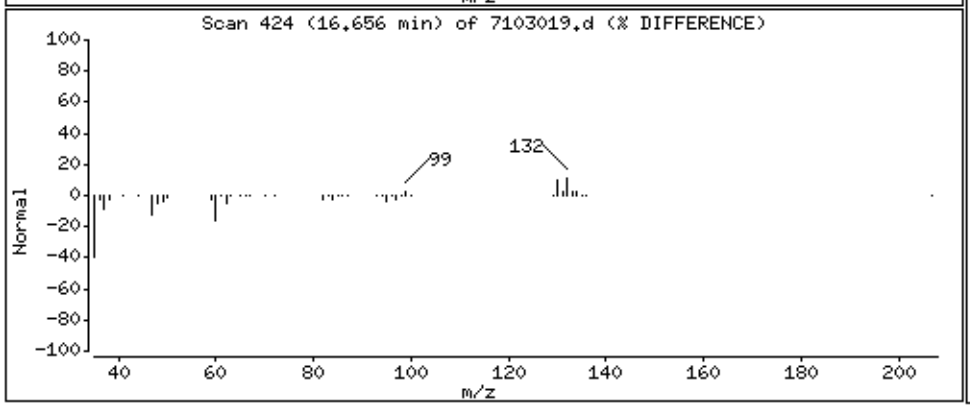
101 Trichloroethene

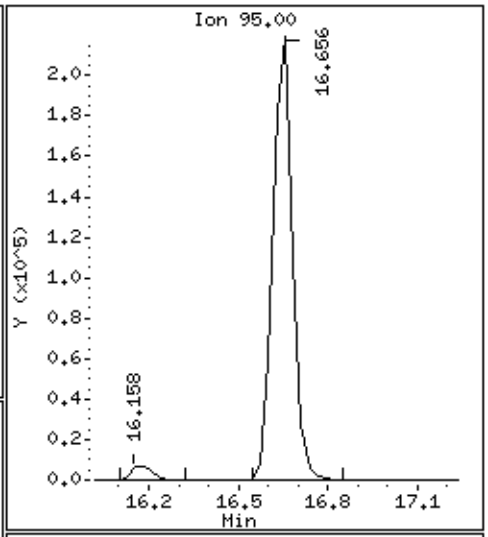
Concentration: 77.879 PPBV

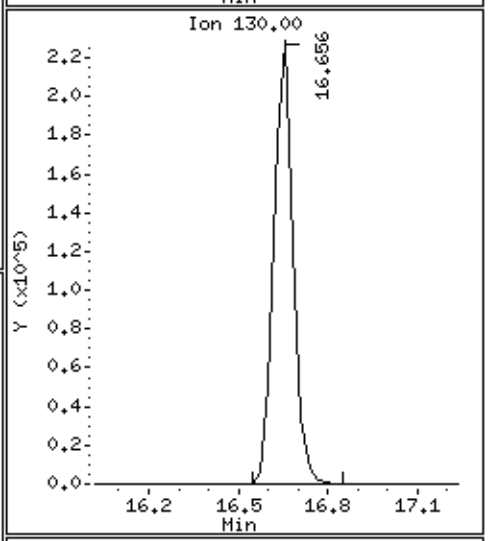


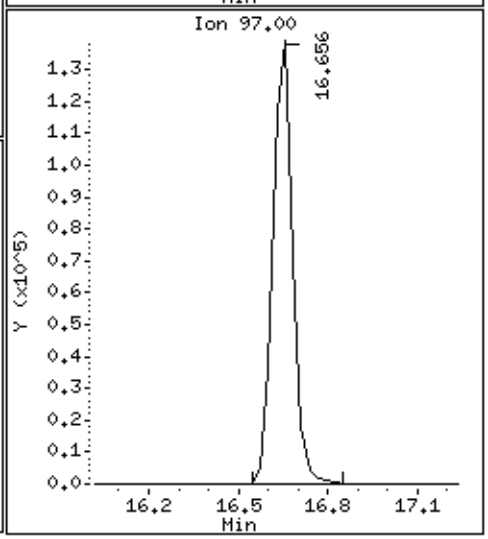












Data File: /chem/msd7.i/7-30oct.b/7103019.d

Date : 30-OCT-2007 21:47

Client ID:

Instrument: msd7.i

Sample Info: 200mL #4216

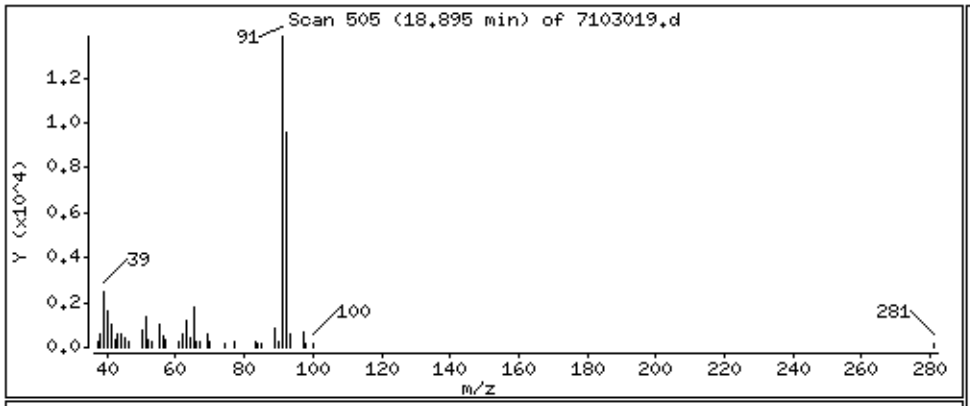
Operator: srs

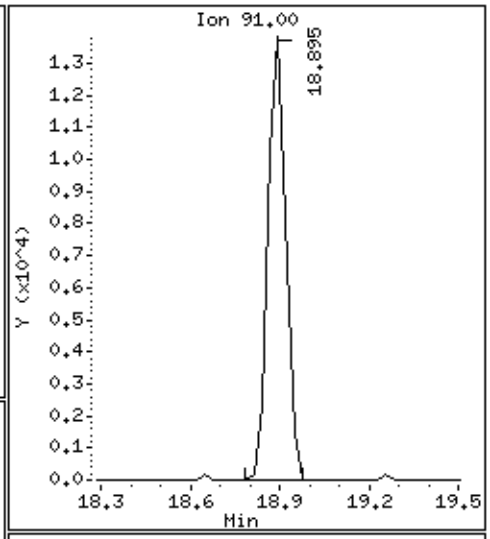
Column phase: RTx-624

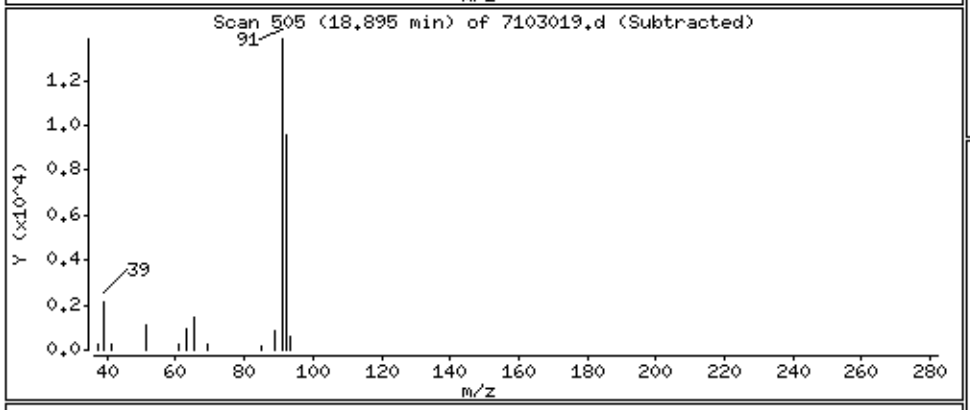
Column diameter: 0.53

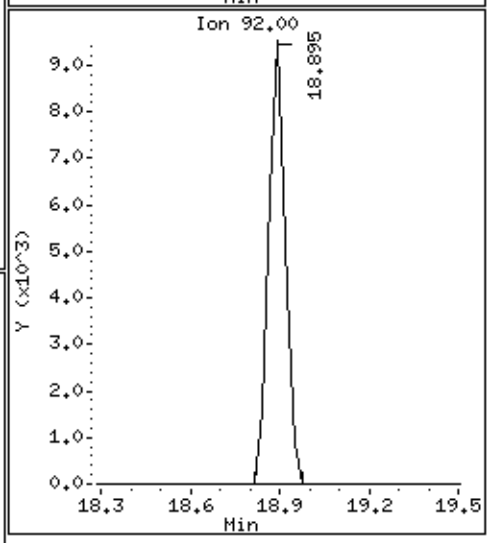
114 Toluene

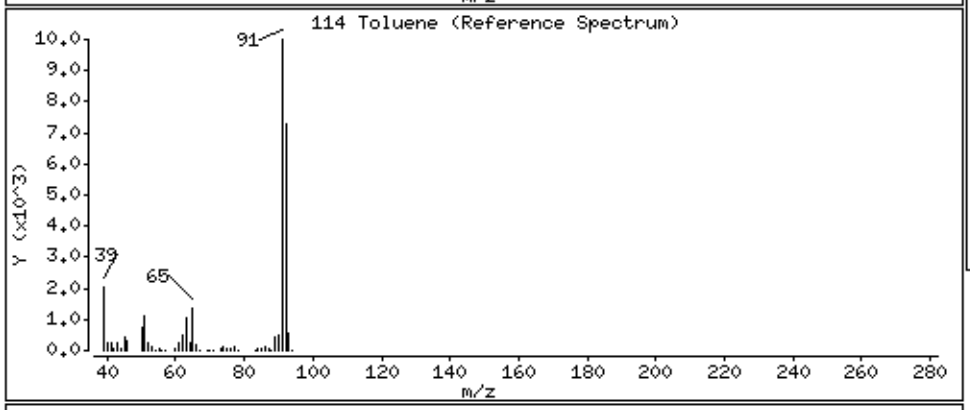
Concentration: 1.795 PPBV

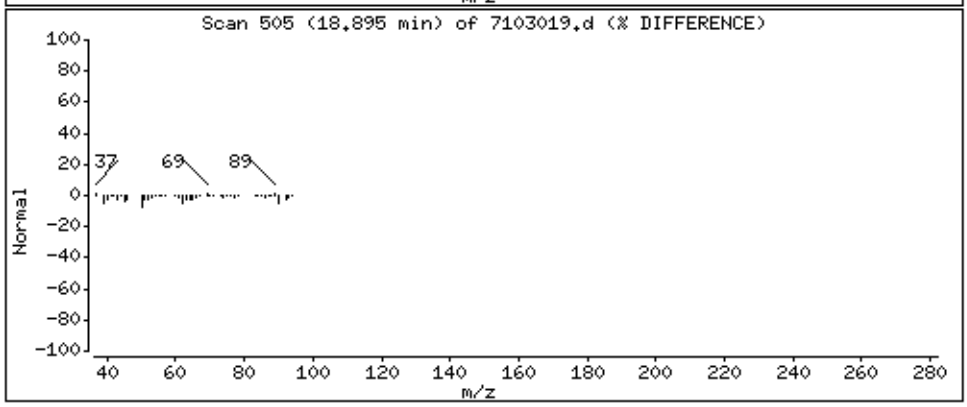












Data File: /chem/msd7.i/7-30oct.b/7103019.d

Date : 30-OCT-2007 21:47

Client ID:

Instrument: msd7.i

Sample Info: 200mL #4216

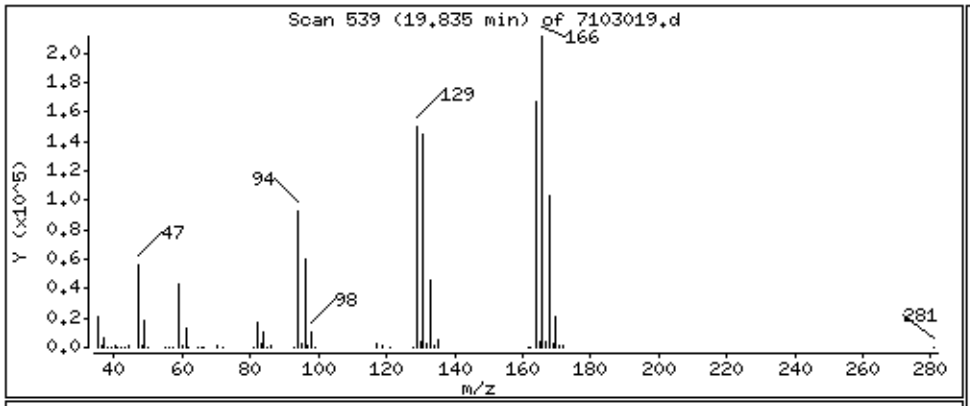
Operator: srs

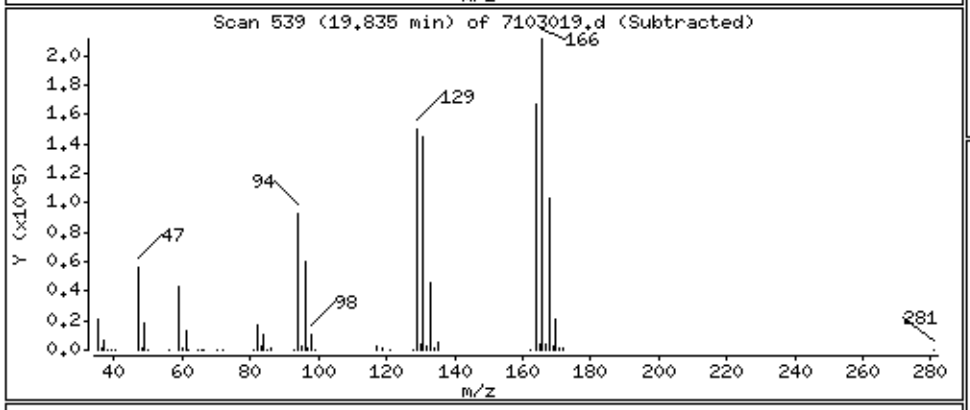
Column phase: RTx-624

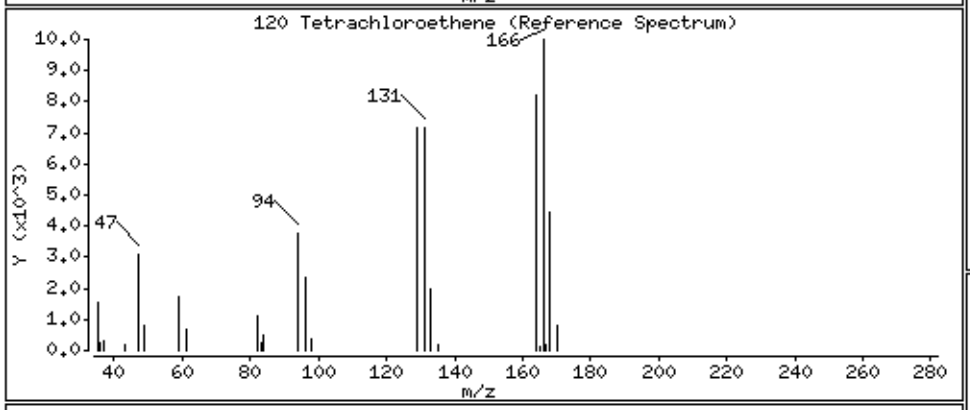
Column diameter: 0.53

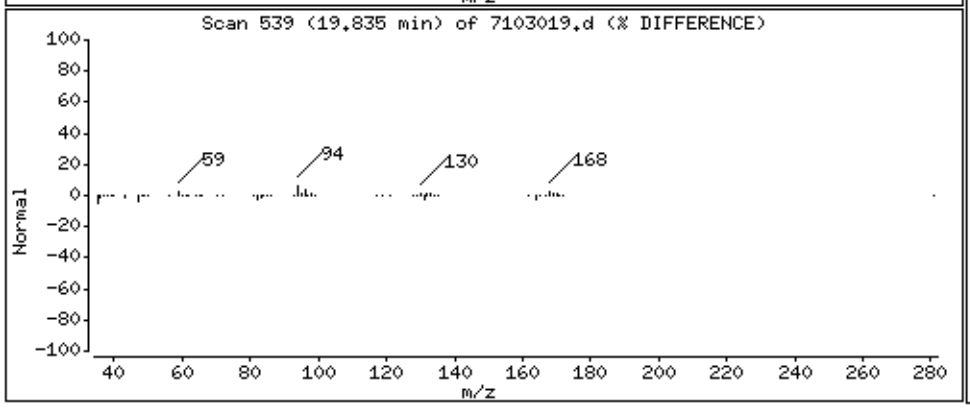
120 Tetrachloroethene

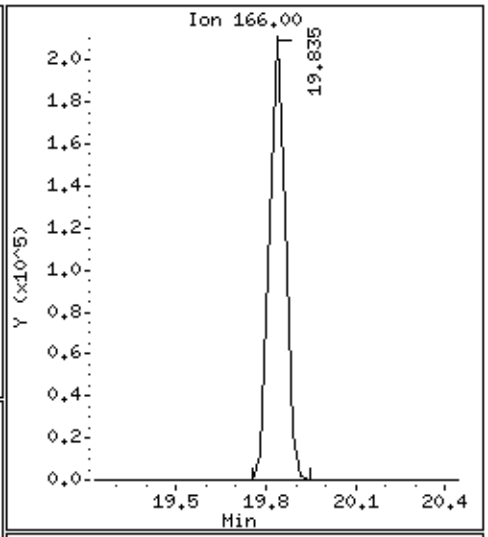
Concentration: 52.478 PPBV

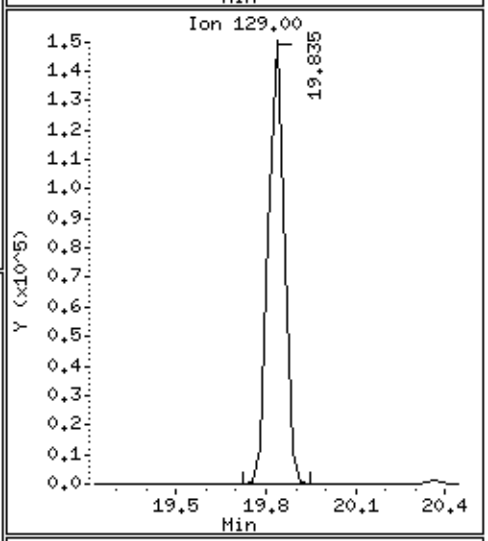


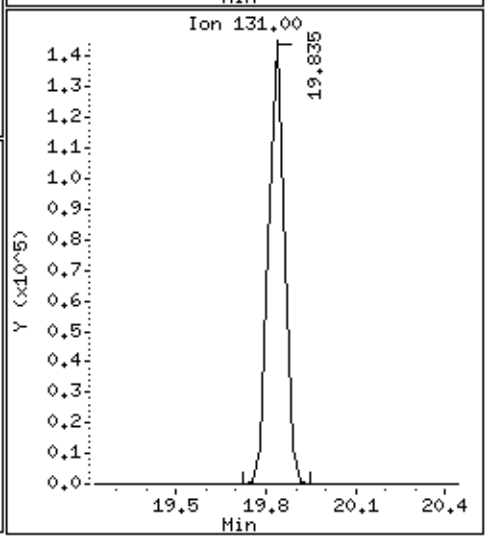












AN ENVIRONMENTAL ANALYTICAL LABORATORY

Summary of Detected Compounds
MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

Client Sample ID: MD21-07-6815

Lab ID#: 0710567-03A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Freon 12	0.88	1.3	4.3	6.6
Freon 113	0.88	0.87 J	6.7	6.7
Acetone	3.5	7.5	8.3	18
Carbon Disulfide	0.88	1.2	2.7	3.8
Methylene Chloride	0.88	120	3.0	420
2-Butanone (Methyl Ethyl Ketone)	0.88	1.1	2.6	3.4
Chloroform	0.88	61	4.3	300
1,1,1-Trichloroethane	0.88	2.8	4.8	16
Cyclohexane	0.88	1.0	3.0	3.6
Carbon Tetrachloride	0.88	29	5.5	180
1,2-Dichloroethane	0.88	1.6	3.5	6.3
Trichloroethene	0.88	72	4.7	380
Tetrachloroethene	0.88	23	5.9	160

AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: MD21-07-6815

Lab ID#: 0710567-03A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**7103020**	**Date of Collection:**	**10/19/07**
Dil. Factor:	**1.75**	**Date of Analysis:**	**10/30/07 10:45 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Freon 12	0.88	1.3	4.3	6.6
Freon 114	0.88	Not Detected	6.1	Not Detected
Chloromethane	3.5	Not Detected	7.2	Not Detected
Vinyl Chloride	0.88	Not Detected	2.2	Not Detected
1,3-Butadiene	0.88	Not Detected	1.9	Not Detected
Bromomethane	0.88	Not Detected	3.4	Not Detected
Chloroethane	0.88	Not Detected	2.3	Not Detected
Freon 11	0.88	Not Detected	4.9	Not Detected
Ethanol	3.5	Not Detected	6.6	Not Detected
Freon 113	0.88	0.87 J	6.7	6.7
1,1-Dichloroethene	0.88	Not Detected	3.5	Not Detected
Acetone	3.5	7.5	8.3	18
2-Propanol	3.5	Not Detected	8.6	Not Detected
Carbon Disulfide	0.88	1.2	2.7	3.8
Methylene Chloride	0.88	120	3.0	420
Methyl tert-butyl ether	0.88	Not Detected	3.2	Not Detected
trans-1,2-Dichloroethene	0.88	Not Detected	3.5	Not Detected
Hexane	0.88	Not Detected	3.1	Not Detected
1,1-Dichloroethane	0.88	Not Detected	3.5	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.88	1.1	2.6	3.4
cis-1,2-Dichloroethene	0.88	Not Detected	3.5	Not Detected
Tetrahydrofuran	0.88	Not Detected	2.6	Not Detected
Chloroform	0.88	61	4.3	300
1,1,1-Trichloroethane	0.88	2.8	4.8	16
Cyclohexane	0.88	1.0	3.0	3.6
Carbon Tetrachloride	0.88	29	5.5	180
Benzene	0.88	Not Detected	2.8	Not Detected
1,2-Dichloroethane	0.88	1.6	3.5	6.3
Heptane	0.88	Not Detected	3.6	Not Detected
Trichloroethene	0.88	72	4.7	380
1,2-Dichloropropane	0.88	Not Detected	4.0	Not Detected
1,4-Dioxane	3.5	Not Detected	13	Not Detected
Bromodichloromethane	0.88	Not Detected	5.9	Not Detected
cis-1,3-Dichloropropene	0.88	Not Detected	4.0	Not Detected
4-Methyl-2-pentanone	0.88	Not Detected	3.6	Not Detected
Toluene	0.88	Not Detected	3.3	Not Detected
trans-1,3-Dichloropropene	0.88	Not Detected	4.0	Not Detected
1,1,2-Trichloroethane	0.88	Not Detected	4.8	Not Detected
Tetrachloroethene	0.88	23	5.9	160

AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: MD21-07-6815

Lab ID#: 0710567-03A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**7103020**	**Date of Collection:**	**10/19/07**
Dil. Factor:	**1.75**	**Date of Analysis:**	**10/30/07 10:45 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
2-Hexanone	3.5	Not Detected	14	Not Detected
Dibromochloromethane	0.88	Not Detected	7.4	Not Detected
1,2-Dibromoethane (EDB)	0.88	Not Detected	6.7	Not Detected
Chlorobenzene	0.88	Not Detected	4.0	Not Detected
Ethyl Benzene	0.88	Not Detected	3.8	Not Detected
m,p-Xylene	0.88	Not Detected	3.8	Not Detected
o-Xylene	0.88	Not Detected	3.8	Not Detected
Styrene	0.88	Not Detected	3.7	Not Detected
Bromoform	0.88	Not Detected	9.0	Not Detected
1,1,2,2-Tetrachloroethane	0.88	Not Detected	6.0	Not Detected
4-Ethyltoluene	0.88	Not Detected	4.3	Not Detected
1,3,5-Trimethylbenzene	0.88	Not Detected	4.3	Not Detected
1,2,4-Trimethylbenzene	0.88	Not Detected	4.3	Not Detected
1,3-Dichlorobenzene	0.88	Not Detected	5.3	Not Detected
1,4-Dichlorobenzene	0.88	Not Detected	5.3	Not Detected
alpha-Chlorotoluene	0.88	Not Detected	4.5	Not Detected
1,2-Dichlorobenzene	0.88	Not Detected	5.3	Not Detected
1,2,4-Trichlorobenzene	3.5	Not Detected	26	Not Detected
Hexachlorobutadiene	3.5	Not Detected	37	Not Detected
Chlorodifluoromethane	3.5	Not Detected	12	Not Detected
Methanol	88	Not Detected	110	Not Detected
n-Butanol	3.5	Not Detected	11	Not Detected
Propylene	3.5	Not Detected	6.0	Not Detected

J = Estimated value.

Container Type: 6 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	92	70-130
1,2-Dichloroethane-d4	103	70-130
4-Bromofluorobenzene	100	70-130

Air Toxics Ltd.

AMBIENT AIR METHOD TO14

Data file : /chem/msd7.i/7-30oct.b/7103020.d
Lab Smp Id: 0710567-03A
Inj Date : 30-OCT-2007 22:45
Operator : ab Inst ID: msd7.i
Smp Info : 200mL #13863
Misc Info : 7.0"Hg -> 5psi Los Alamos
Comment :
Method : /chem/msd7.i/7-30oct.b/t14qO18c.m
Meth Date : 31-Oct-2007 14:54 ctaylor Quant Type: ISTD
Cal Date : 30-OCT-2007 11:10 Cal File: 7103005.d
Als bottle: 1
Dil Factor: 1.75000
Integrator: HP RTE Compound Sublist: Los2153.sub
Target Version: 3.50 Sample Matrix: AIR
Processing Host: eeyore

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

RT	EXP RT (REL RT)	MASS	RESPONSE	CONCENTRATIONS ON-COL (PPBV)	FINAL (PPBV)	TARGET RANGE	RATIO
* 81 Bromochloromethane						CAS #: 74-97-5	
14.416	14.388 (1.000)	130	426965	25.0000		80.00- 120.00	100.00
14.416	14.388 (1.000)	128	328820			26.27- 126.27	77.01
14.416	14.388 (1.000)	49	749458			132.02- 232.02	175.53
* 97 1,4-Difluorobenzene						CAS #: 540-36-3	
16.158	16.158 (1.000)	114	1414753	25.0000		80.00- 120.00	100.00
16.158	16.158 (1.000)	88	212375			0.00- 64.88	15.01
* 126 Chlorobenzene-d5						CAS #: 3114-55-4	
21.356	21.356 (1.000)	117	1013801	25.0000		80.00- 120.00	100.00
21.356	21.356 (1.000)	82	535059			4.45- 104.45	52.78
$ 90 1,2-Dichloroethane-d4						CAS #: 17060-07-0	
15.494	15.494 (1.075)	65	593327	25.8674	25.867	80.00- 120.00	100.00
15.494	15.494 (1.075)	67	283259			2.91- 102.91	47.74
$ 113 Toluene-d8						CAS #: 2037-26-5	
18.757	18.757 (1.161)	98	1150206	22.9026	22.902	80.00- 120.00	100.00
18.757	18.757 (1.161)	70	126608			0.00- 61.46	11.01

RT	EXP RT (REL RT)	MASS	RESPONSE	CONCENTRATIONS ON-COL (PPBV)	FINAL (PPBV)	TARGET RANGE	RATIO
$ 113 Toluene-d8 (continued)							
18.757	18.757 (1.161)	100	779241			19.18- 119.18	67.75
$ 137 Bromofluorobenzene					CAS #: 460-00-4		
23.347	23.347 (1.093)	174	605654	25.1057	25.106	80.00- 120.00	100.00
23.319	23.319 (1.092)	95	711779			67.21- 167.21	117.52
23.347	23.347 (1.093)	176	589723			47.52- 147.52	97.37
12 Dichlorodifluoromethane/Fr12					CAS #: 75-71-8		
5.758	5.729 (0.399)	85	51737	0.76679	1.342	80.00- 120.00	100.00
5.758	5.729 (0.399)	87	17572			0.00- 83.07	33.96
42 Freon 113					CAS #: 76-13-1		
10.213	10.186 (0.708)	151	17391	0.49676	0.8693	80.00- 120.00	100.00(a)
10.213	10.186 (0.708)	153	10050			13.32- 113.32	57.79
10.213	10.186 (0.708)	101	19070			65.00- 165.00	109.65
45 Acetone					CAS #: 67-64-1		
10.517	10.462 (0.730)	58	49381	4.28855	7.505	80.00- 120.00	100.00
10.490	10.462 (0.728)	43	179887			247.10- 347.10	364.28
47 Carbon Disulfide					CAS #: 75-15-0		
10.904	10.877 (0.756)	76	50037	0.70401	1.232	80.00- 120.00	100.00
54 Methylene Chloride					CAS #: 75-09-2		
11.485	11.457 (0.797)	49	1902901	69.4782	121.59	80.00- 120.00	100.00
11.485	11.457 (0.797)	84	1221355			18.75- 118.75	64.18
11.485	11.457 (0.797)	51	574301			0.00- 80.85	30.18
75 2-Butanone					CAS #: 78-93-3		
13.891	13.891 (0.964)	72	6069	0.65629	1.148	80.00- 120.00	100.00
13.891	13.891 (0.964)	43	39291			440.65- 540.65	647.40
13.891	13.891 (0.964)	57	2924			0.00- 86.57	48.18
82 Chloroform					CAS #: 67-66-3		
14.471	14.471 (1.004)	83	1506862	35.0523	61.341	80.00- 120.00	100.00
14.471	14.471 (1.004)	85	978275			14.87- 114.87	64.92
83 1,1,1-Trichloroethane					CAS #: 71-55-6		
14.831	14.831 (1.029)	97	70442	1.62719	2.848	80.00- 120.00	100.00
14.831	14.831 (1.029)	99	46125			14.34- 114.34	65.48
85 Cyclohexane					CAS #: 110-82-7		
14.831	14.831 (1.029)	84	14833	0.59822	1.047	80.00- 120.00	100.00
14.831	14.831 (1.029)	56	28049			77.34- 177.34	189.10
14.858	14.831 (1.031)	41	23474			23.26- 123.26	158.26

RT	EXP RT (REL RT)	MASS	RESPONSE	CONCENTRATIONS ON-COL (PPBV)	FINAL (PPBV)	TARGET RANGE	RATIO
87 Carbon Tetrachloride					CAS #: 56-23-5		
15.107	15.080 (1.048)	119	677353	16.6917	29.210	80.00- 120.00	100.00
15.107	15.080 (1.048)	117	703643			53.20- 153.20	103.88
93 1,2-Dichloroethane					CAS #: 107-06-2		
15.633	15.633 (0.967)	62	26460	0.88594	1.550	80.00- 120.00	100.00
15.633	15.633 (0.967)	64	8769			0.00- 82.89	33.14
101 Trichloroethene					CAS #: 79-01-6		
16.628	16.628 (1.029)	95	1021524	40.9104	71.593	80.00- 120.00	100.00
16.656	16.628 (1.031)	130	1046241			52.84- 152.84	102.42
16.628	16.628 (1.029)	97	662385			15.58- 115.58	64.84
120 Tetrachloroethene					CAS #: 127-18-4		
19.835	19.835 (0.929)	166	356651	13.0957	22.917	80.00- 120.00	100.00
19.835	19.835 (0.929)	129	247288			20.11- 120.11	69.34
19.835	19.835 (0.929)	131	234640			17.39- 117.39	65.79

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).

Report Date: 01-Nov-2007 11:12

Air Toxics Ltd.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd7.i
Lab File ID: 7103020.d
Lab Smp Id: 0710567-03A
Analysis Type: VOA
Quant Type: ISTD
Operator: ab
Method File: /chem/msd7.i/7-30oct.b/t14qO18c.m
Misc Info: 7.0"Hg -> 5psi Los Alamos

Calibration Date: 30-OCT-2007
Calibration Time: 12:15

Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
81 Bromochloromethan	537758	322655	752861	426965	-20.60
97 1,4-Difluorobenze	1771565	1062939	2480191	1414753	-20.14
126 Chlorobenzene-d5	1414884	848930	1980838	1013801	-28.35

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
81 Bromochloromethan	14.39	14.06	14.72	14.42	0.19
97 1,4-Difluorobenze	16.16	15.83	16.49	16.16	0.00
126 Chlorobenzene-d5	21.36	21.03	21.69	21.36	0.00

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Report Date: 01-Nov-2007 11:12

Air Toxics Ltd.

RECOVERY REPORT

Client Name: Client SDG: 7-30oct
Sample Matrix: GAS Fraction: VOA
Lab Smp Id: 0710567-03A
Level: LOW Operator: ab
Data Type: MS DATA SampleType: SAMPLE
SpikeList File: 2926spectra.spk Quant Type: ISTD
Sublist File: Los2153.sub
Method File: /chem/msd7.i/7-30oct.b/t14qO18c.m
Misc Info: 7.0"Hg -> 5psi Los Alamos

SURROGATE COMPOUND	CONC ADDED PPBV	CONC RECOVERED PPBV	% RECOVERED	LIMITS
$ 90 1,2-Dichloroethane	25.000	25.867	103.47	70-130
$ 113 Toluene-d8	25.000	22.902	91.61	70-130
$ 137 Bromofluorobenzene	25.000	25.106	100.42	70-130

Data File: /chem/msd7.i/7-30oct.b/7103020.d

Date : 30-OCT-2007 22:45

Client ID:

Sample Info: 200mL #13863

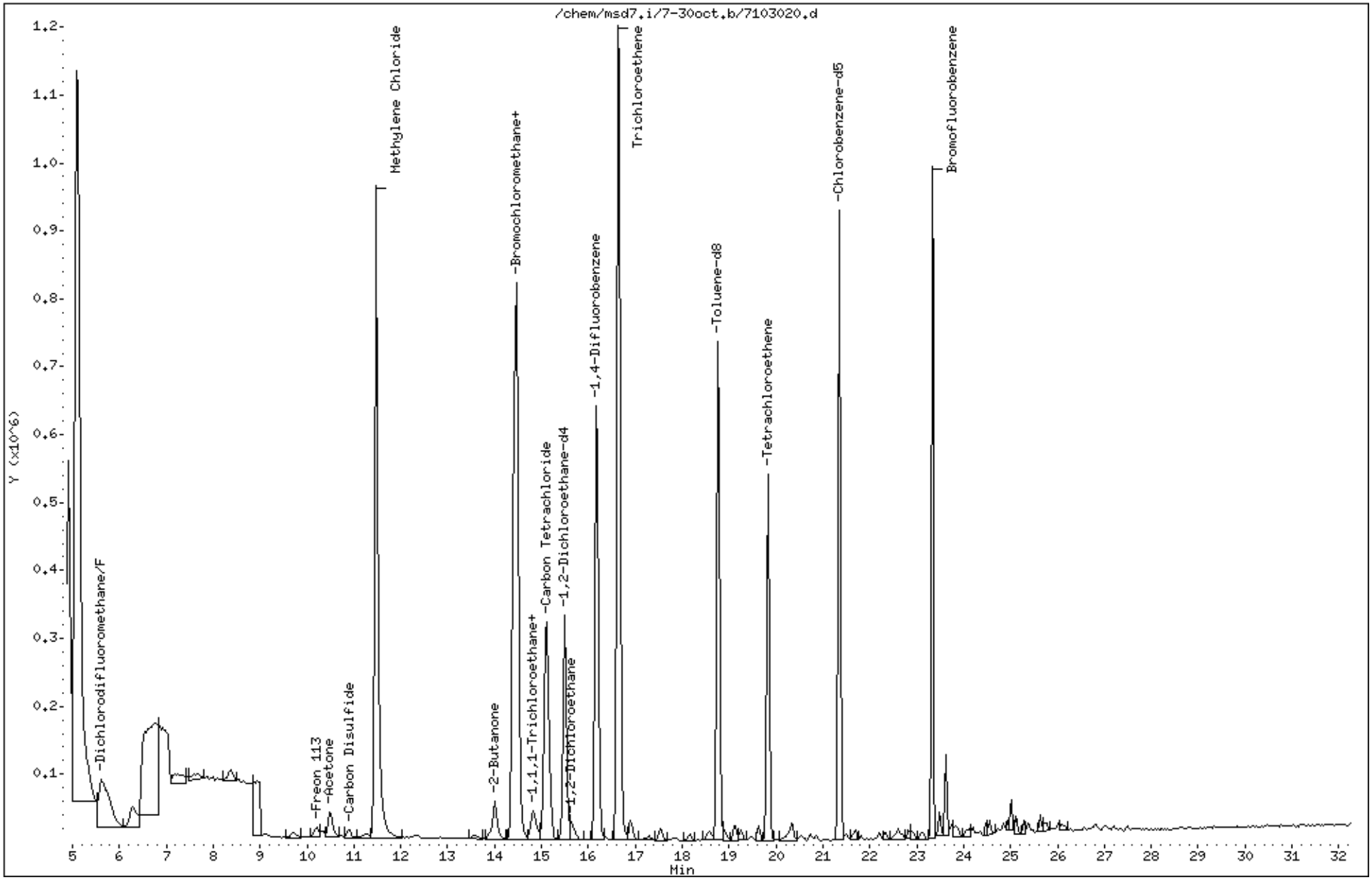
Column phase: RTx-624

Instrument: msd7.i

Operator: ab

Column diameter: 0.53

0900



Data File: /chem/msd7.i/7-30oct.b/7103020.d

Date : 30-OCT-2007 22:45

Client ID:

Instrument: msd7.i

Sample Info: 200mL #13863

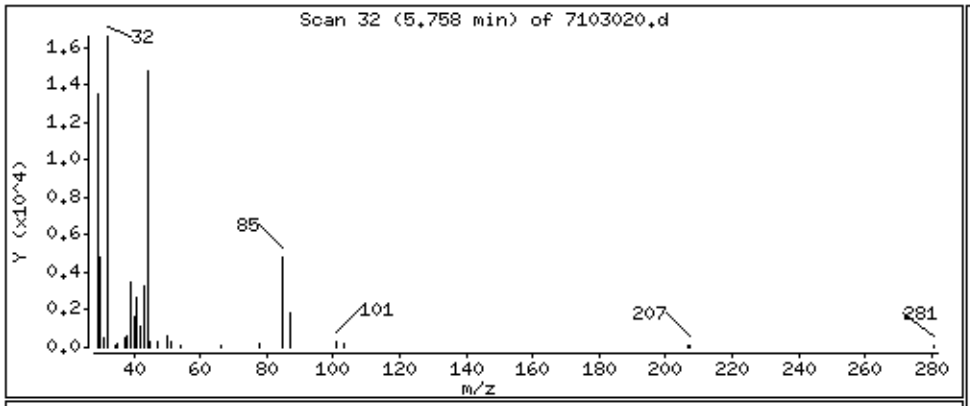
Operator: ab

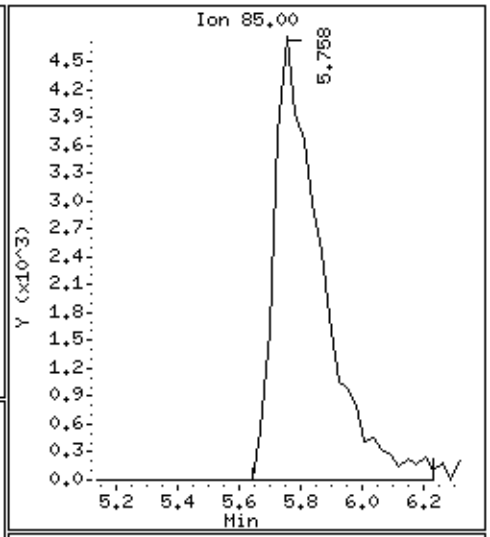
Column phase: RTx-624

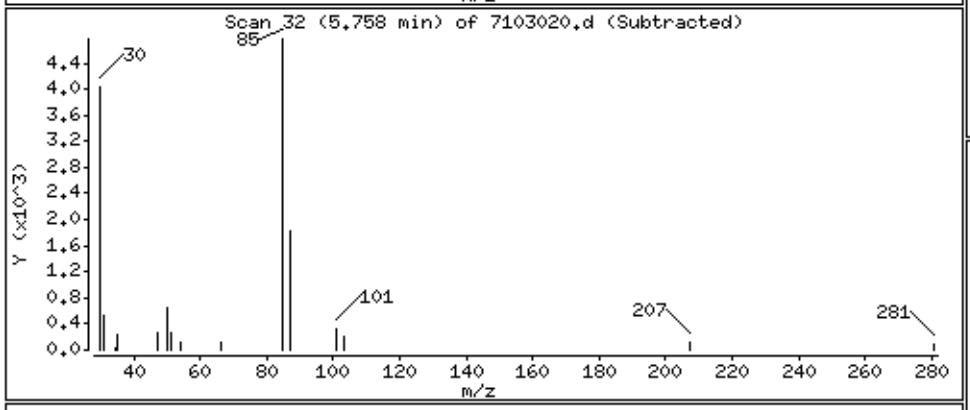
Column diameter: 0.53

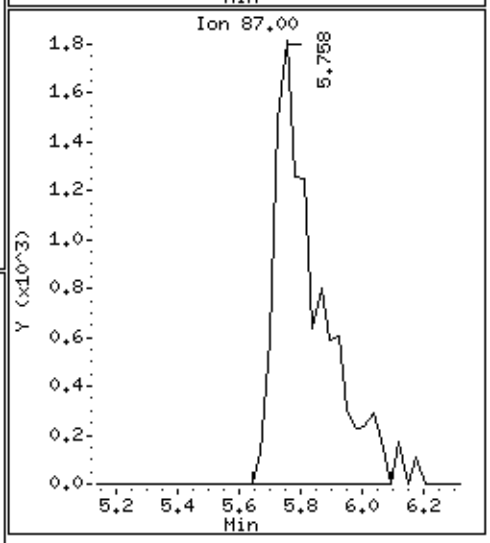
12 Dichlorodifluoromethane/Fr12

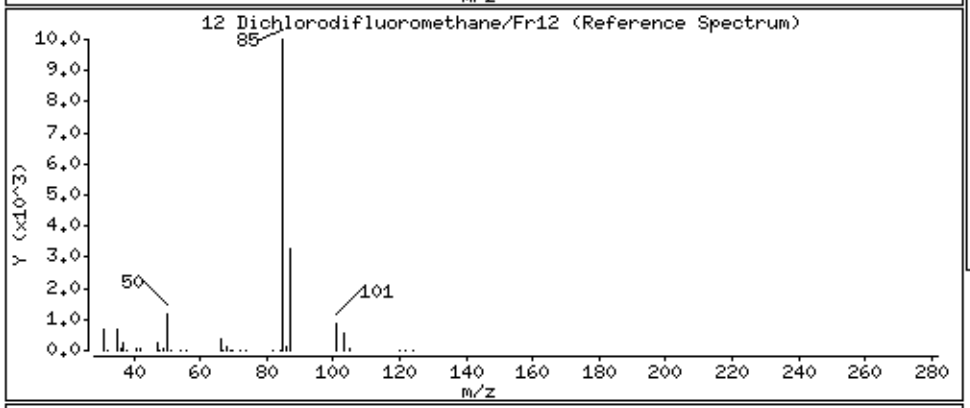
Concentration: 1.342 PPBV

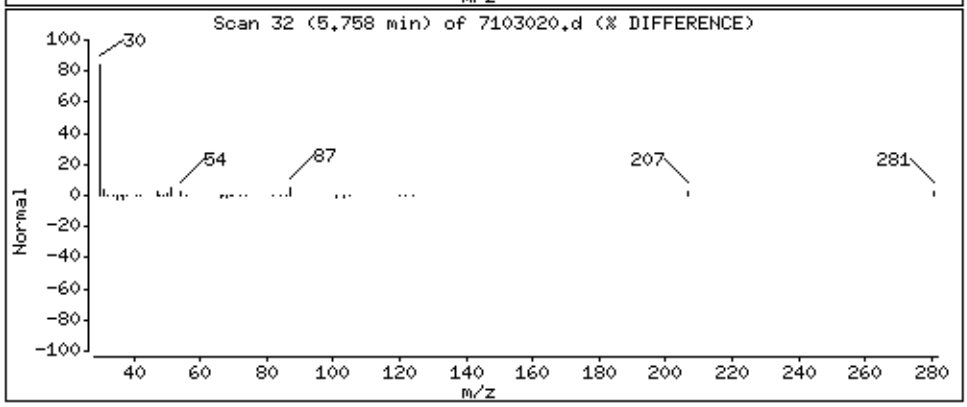












Data File: /chem/msd7.i/7-30oct.b/7103020.d

Date : 30-OCT-2007 22:45

Client ID:

Instrument: msd7.i

Sample Info: 200mL #13863

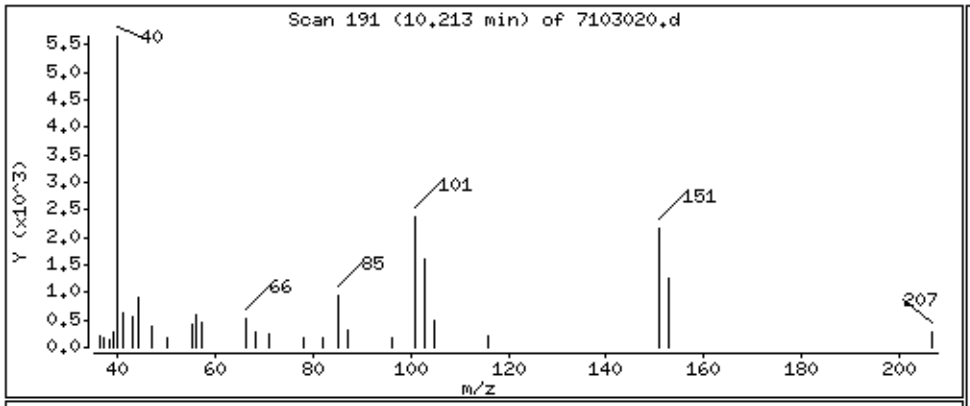
Operator: ab

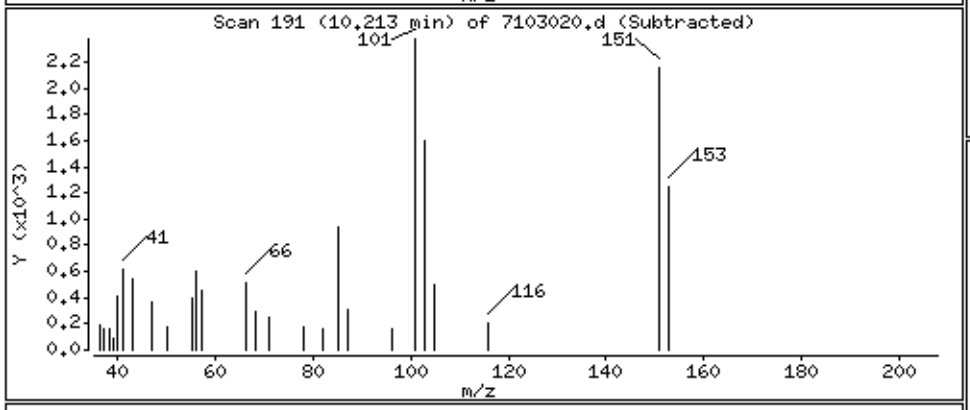
Column phase: RTx-624

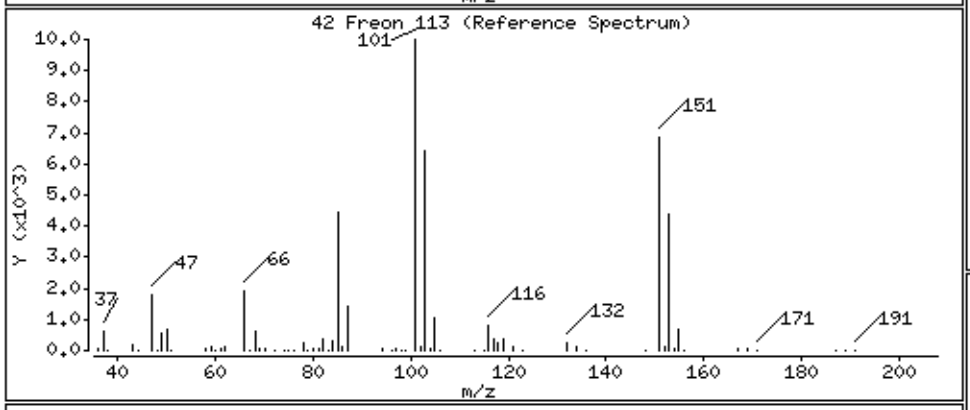
Column diameter: 0.53

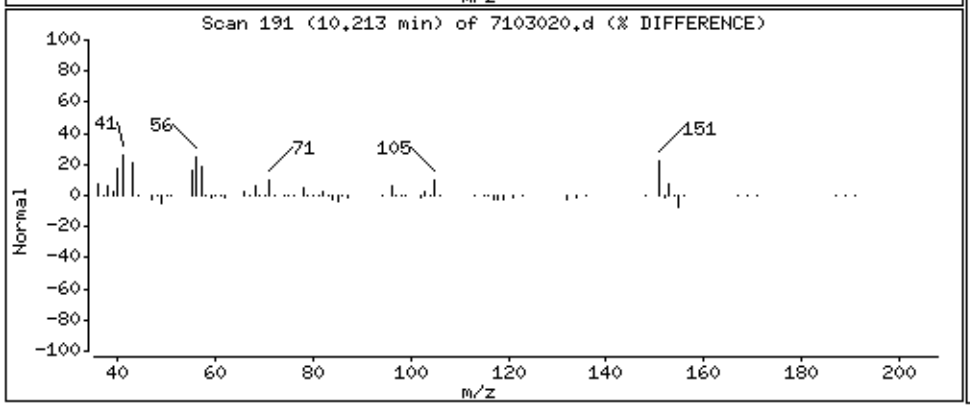
42 Freon 113

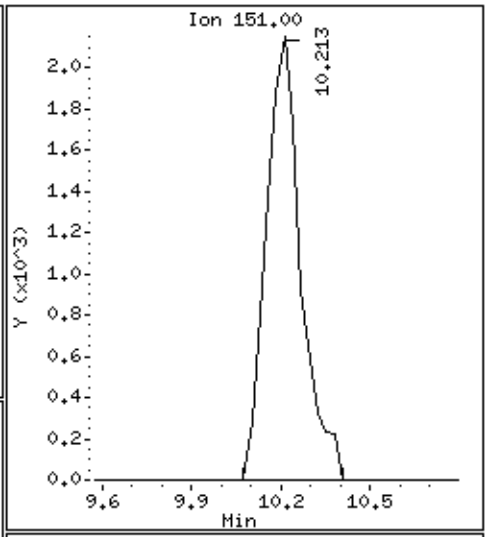
Concentration: 0.8693 PPBV

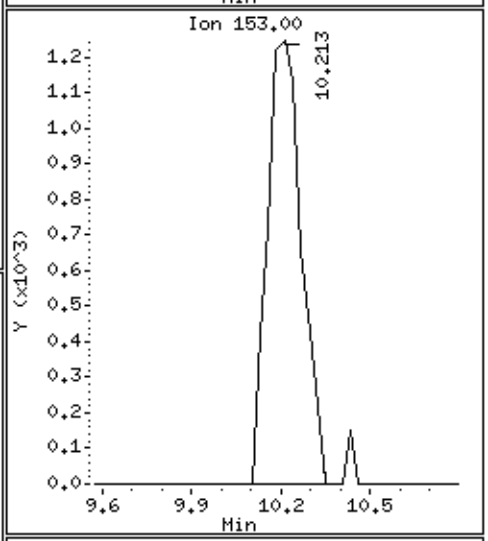


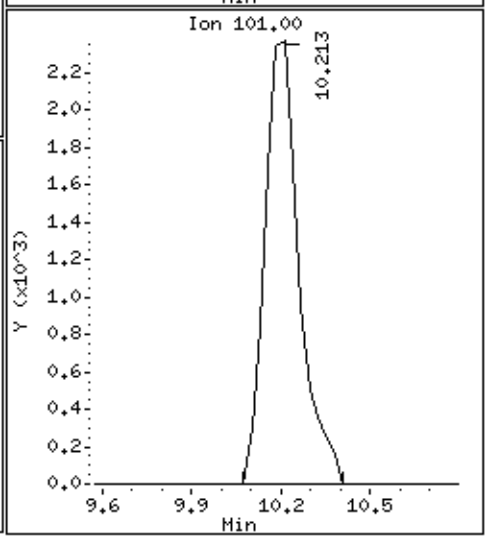












Data File: /chem/msd7.i/7-30oct.b/7103020.d

Date : 30-OCT-2007 22:45

Client ID:

Instrument: msd7.i

Sample Info: 200mL #13863

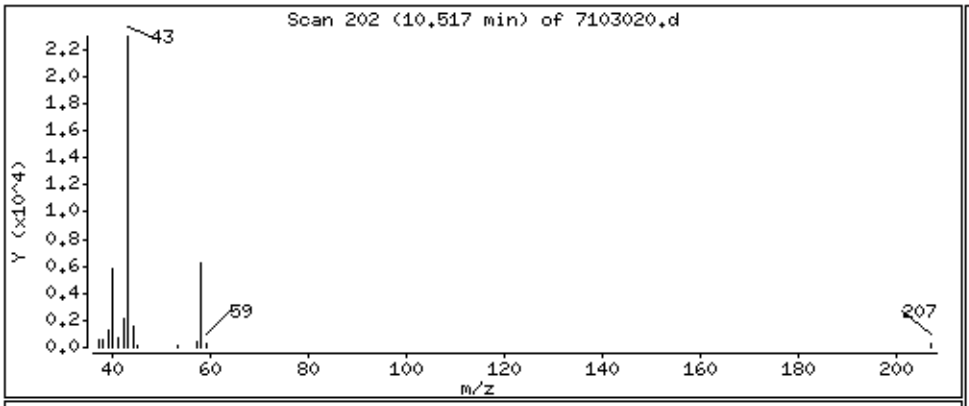
Operator: ab

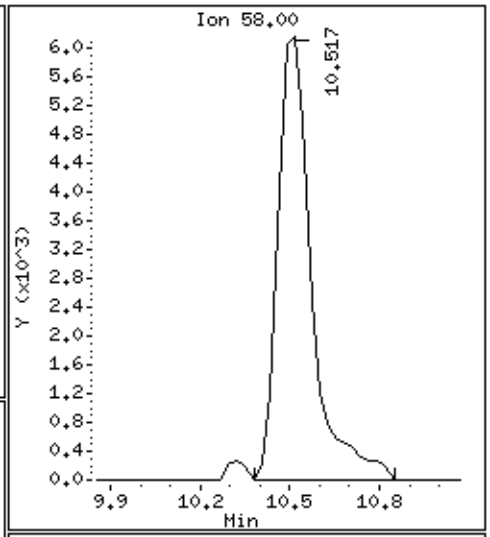
Column phase: RTx-624

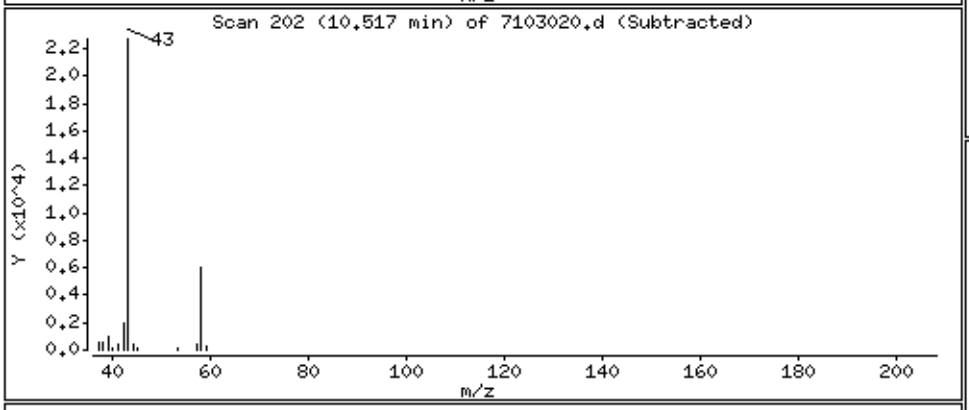
Column diameter: 0.53

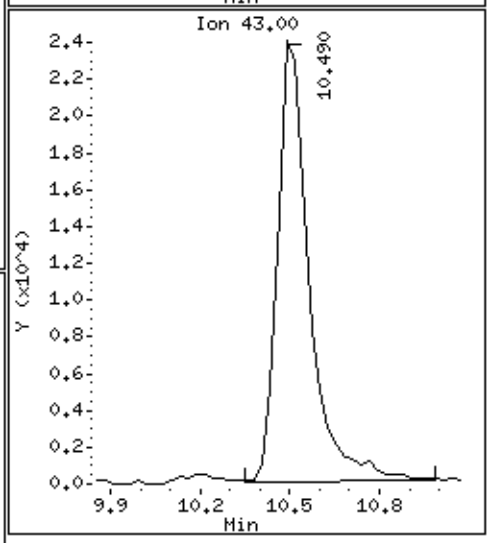
45 Acetone

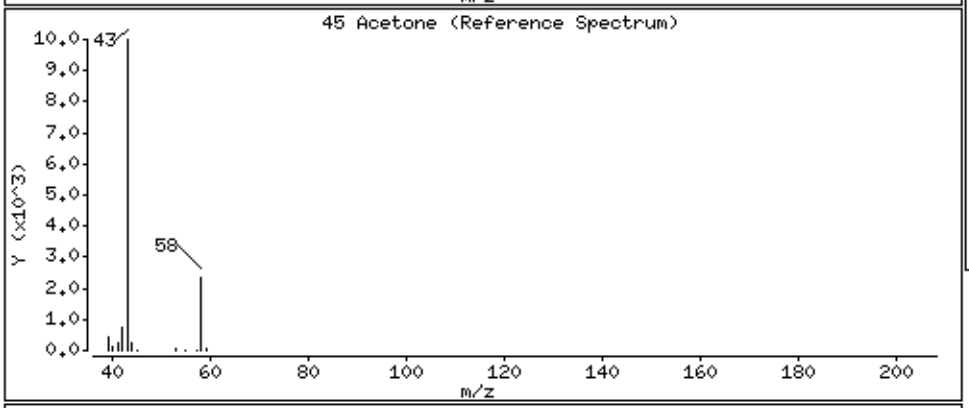
Concentration: 7.505 PPBV

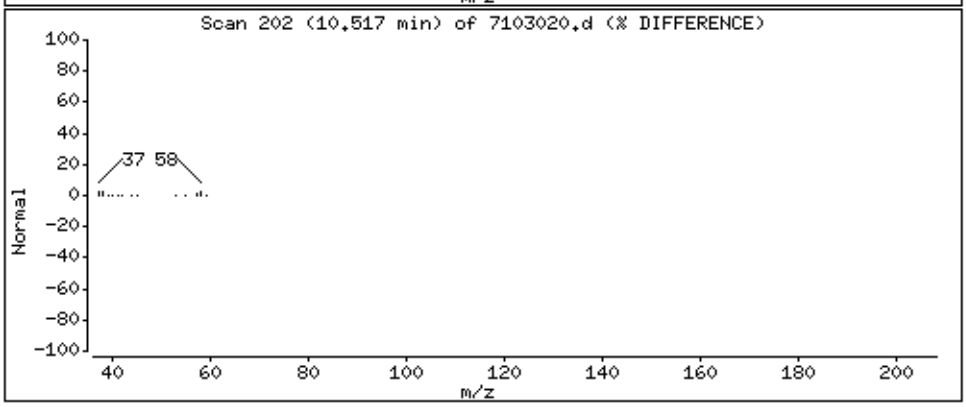












Data File: /chem/msd7.i/7-30oct.b/7103020.d

Date : 30-OCT-2007 22:45

Client ID:

Instrument: msd7.i

Sample Info: 200mL #13863

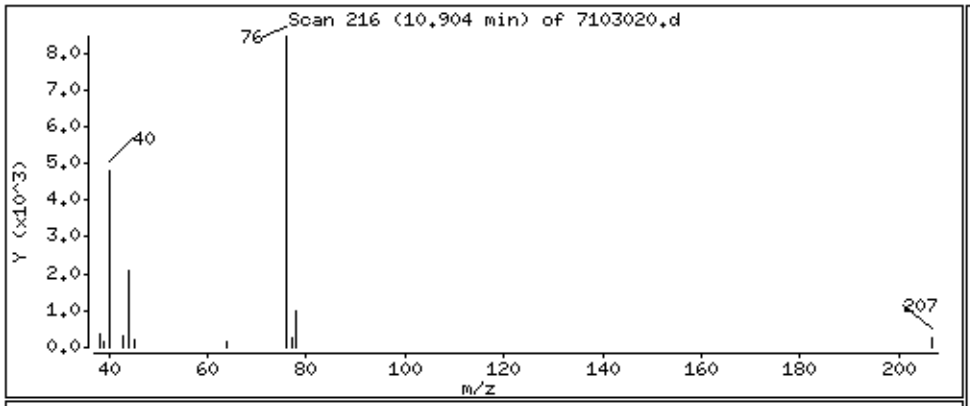
Operator: ab

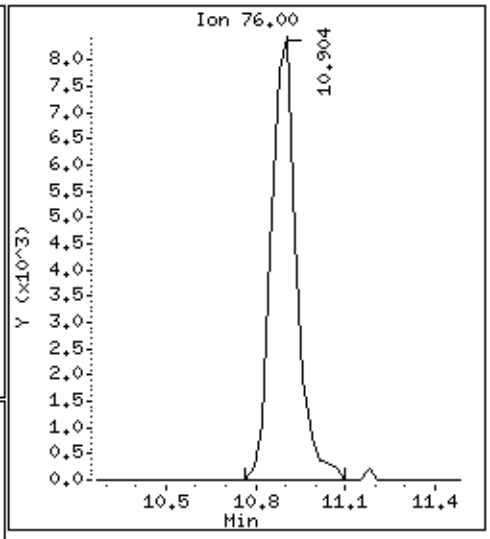
Column phase: RTx-624

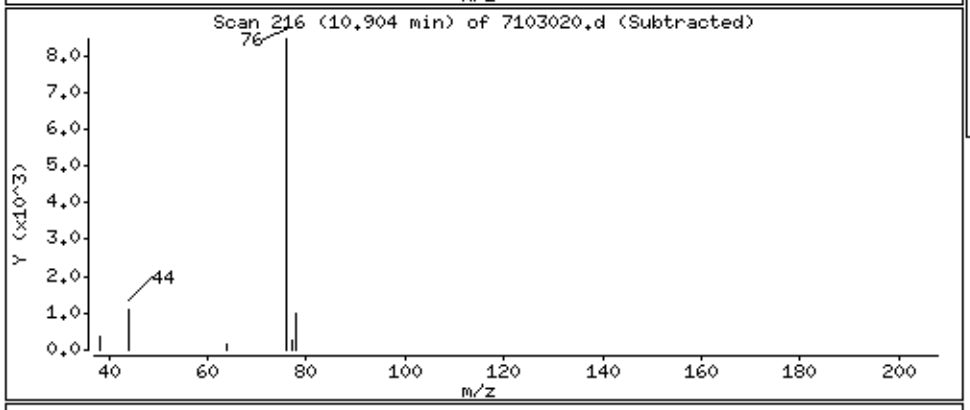
Column diameter: 0.53

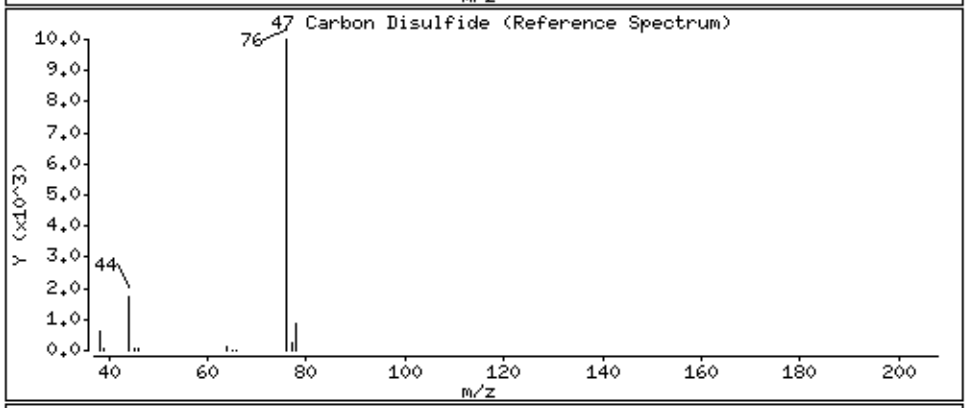
47 Carbon Disulfide

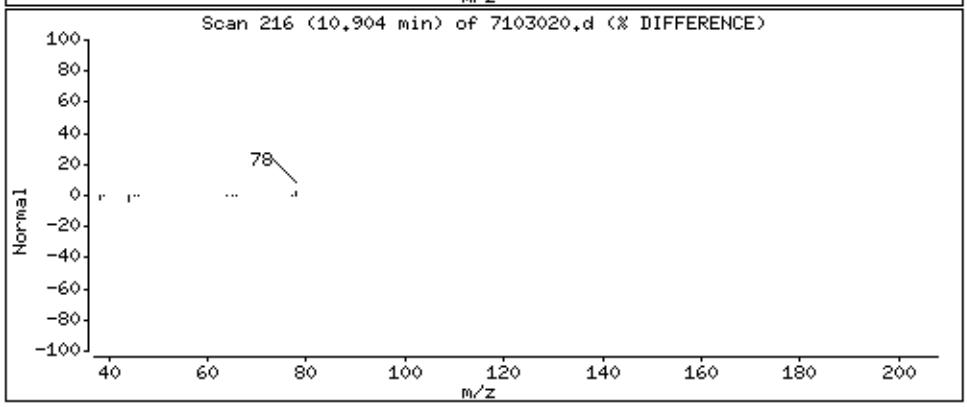
Concentration: 1.232 PPBV











Data File: /chem/msd7.i/7-30oct.b/7103020.d

Date : 30-OCT-2007 22:45

Client ID:

Instrument: msd7.i

Sample Info: 200mL #13863

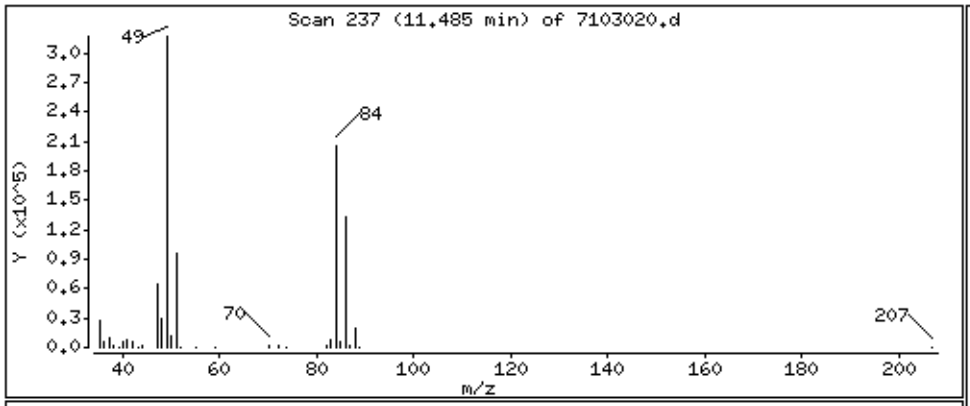
Operator: ab

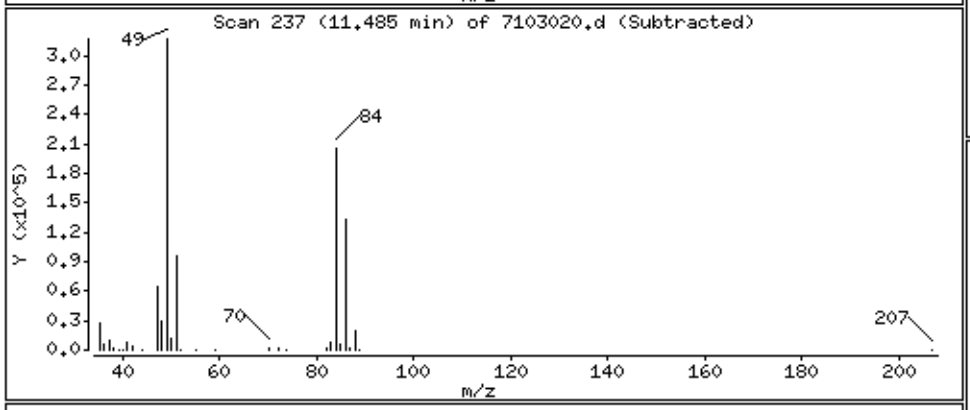
Column phase: RTx-624

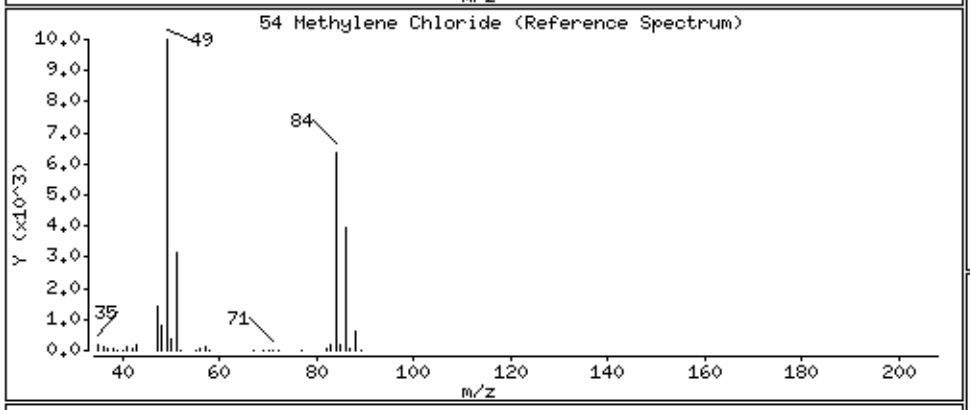
Column diameter: 0.53

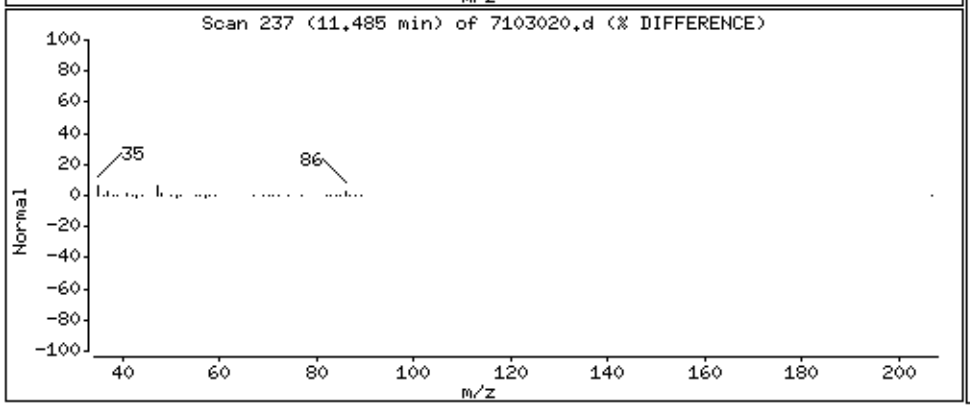
54 Methylene Chloride

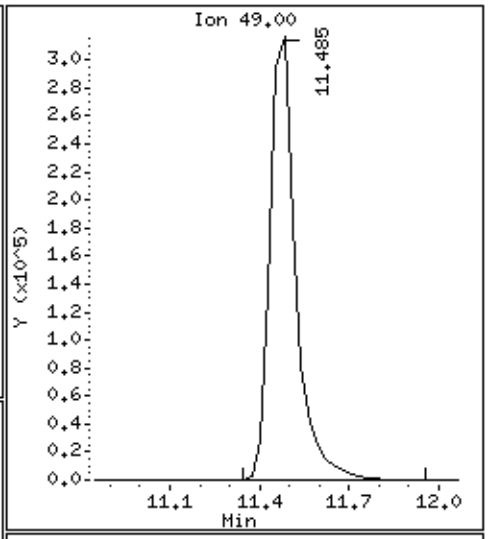
Concentration: 121.59 PPBV

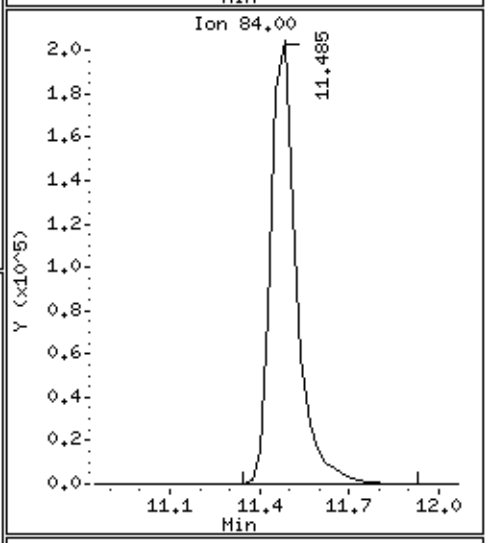


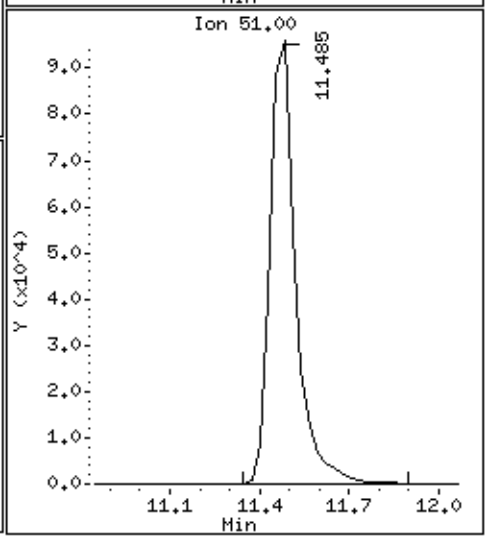












Data File: /chem/msd7.i/7-30oct.b/7103020.d

Date : 30-OCT-2007 22:45

Client ID:

Instrument: msd7.i

Sample Info: 200mL #13863

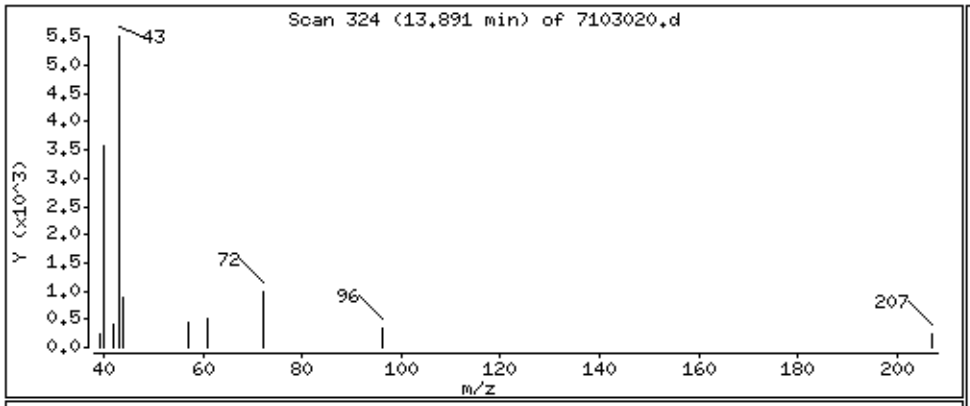
Operator: ab

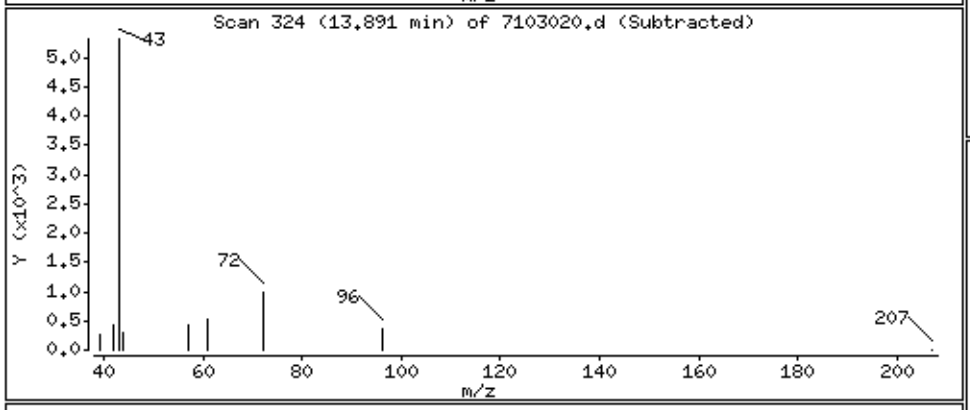
Column phase: RTx-624

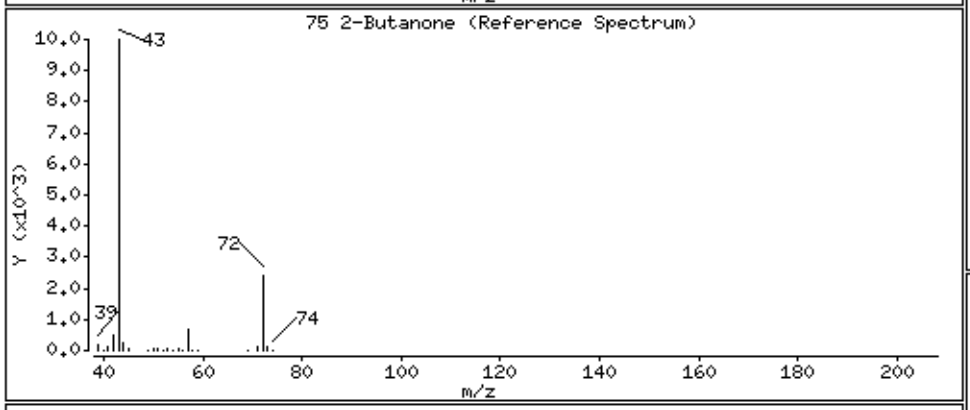
Column diameter: 0.53

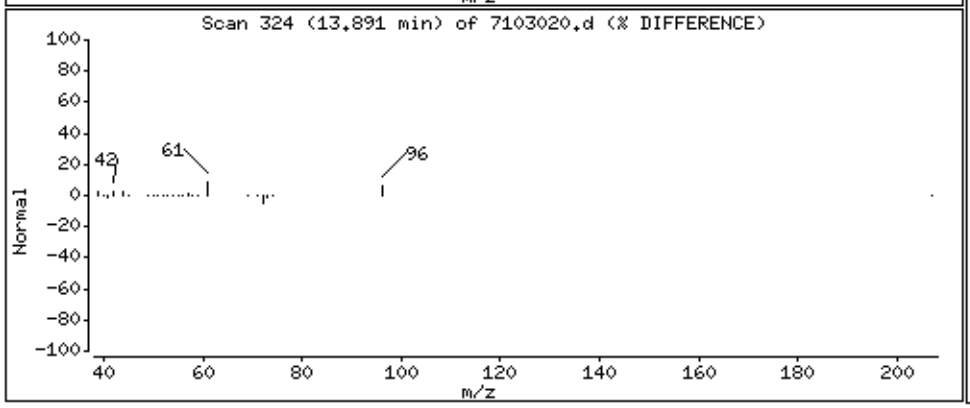
75 2-Butanone

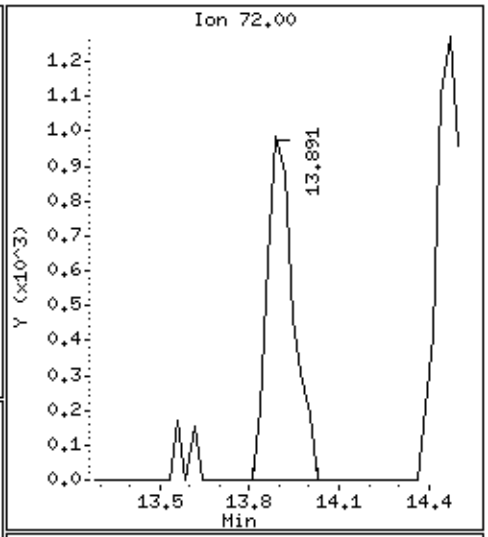
Concentration: 1.148 PPBV

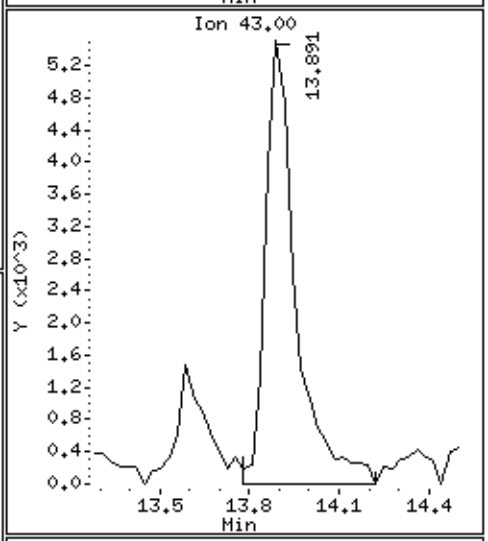


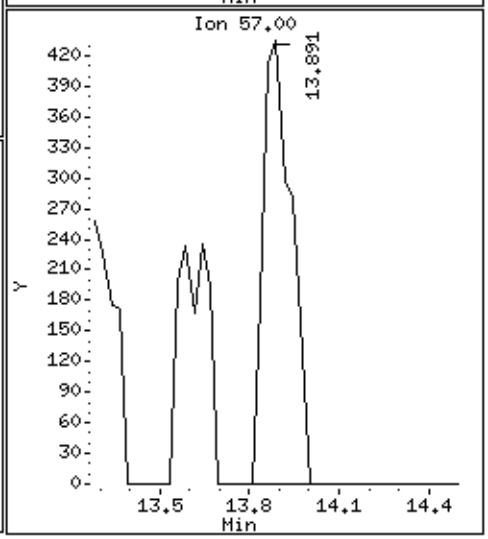












Data File: /chem/msd7.i/7-30oct.b/7103020.d

Date : 30-OCT-2007 22:45

Client ID:

Instrument: msd7.i

Sample Info: 200mL #13863

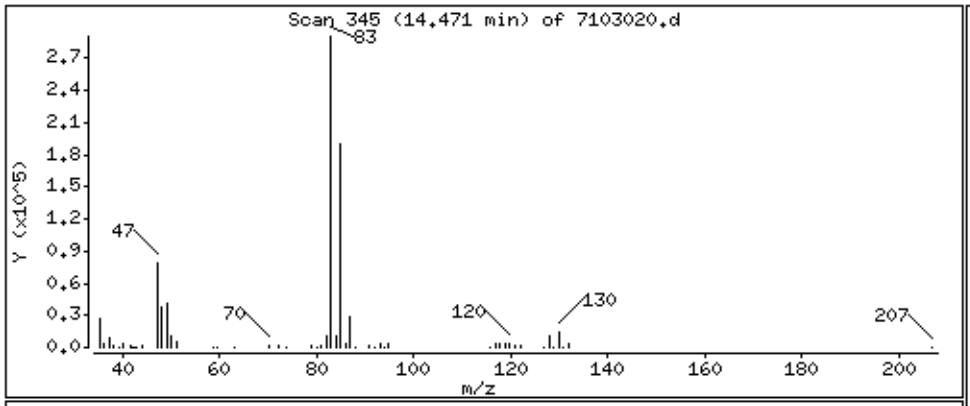
Operator: ab

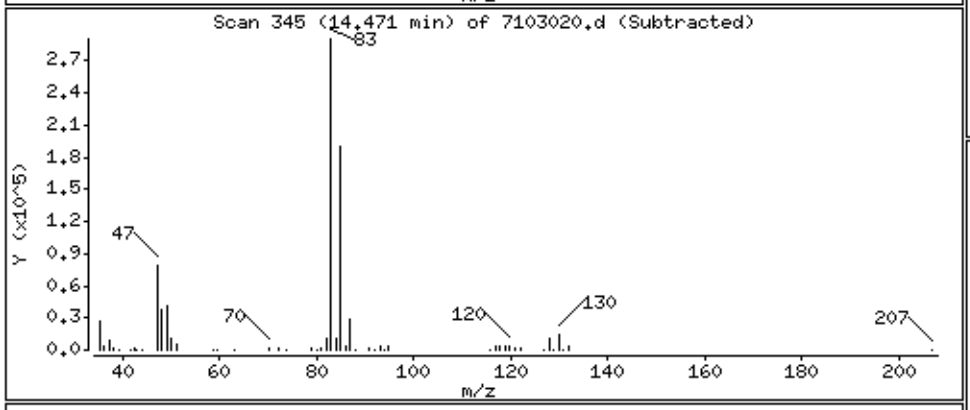
Column phase: RTx-624

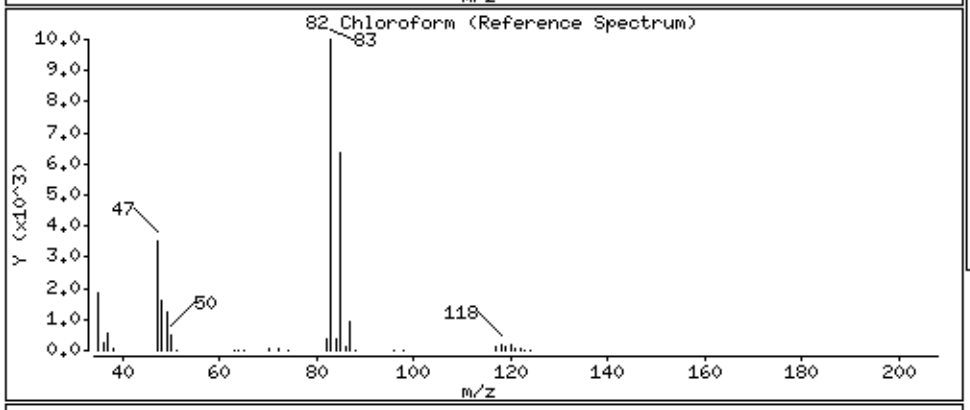
Column diameter: 0.53

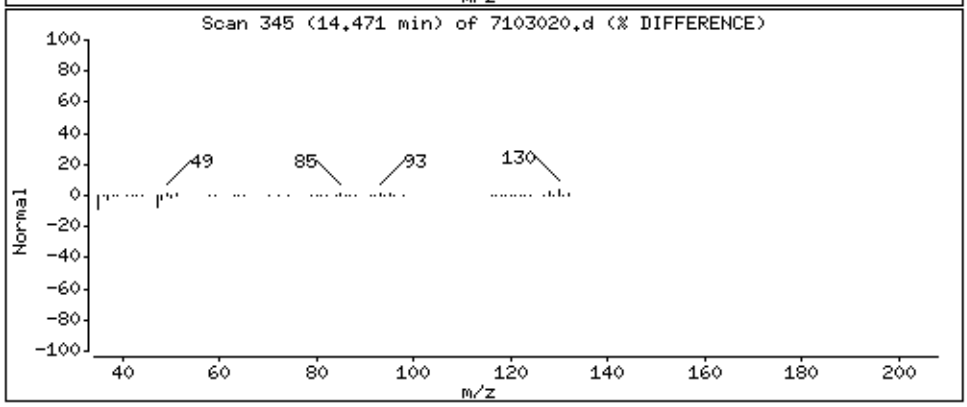
82 Chloroform

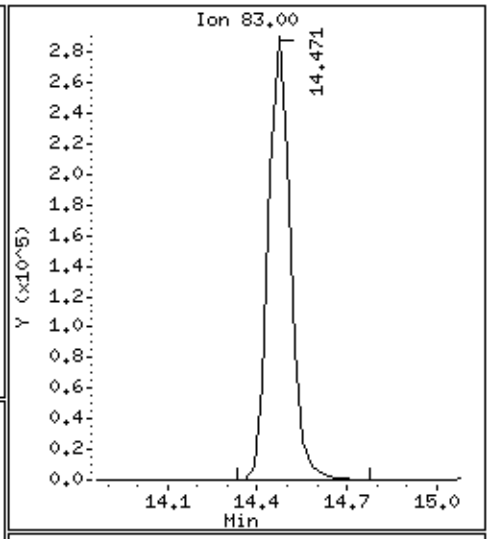
Concentration: 61.341 PPBV

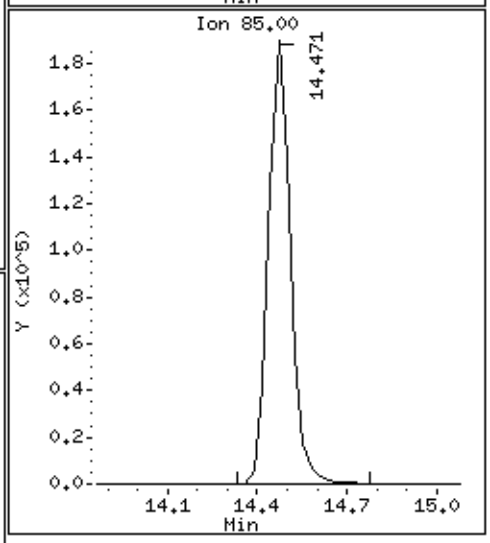












Data File: /chem/msd7.i/7-30oct.b/7103020.d

Date : 30-OCT-2007 22:45

Client ID:

Instrument: msd7.i

Sample Info: 200mL #13863

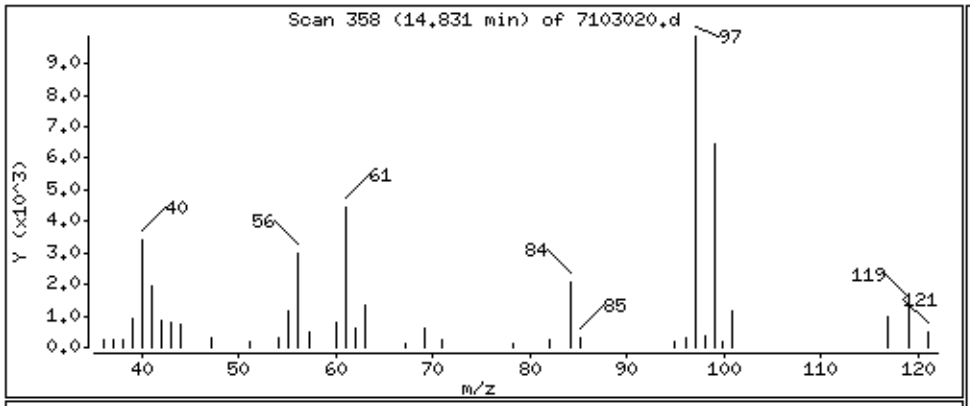
Operator: ab

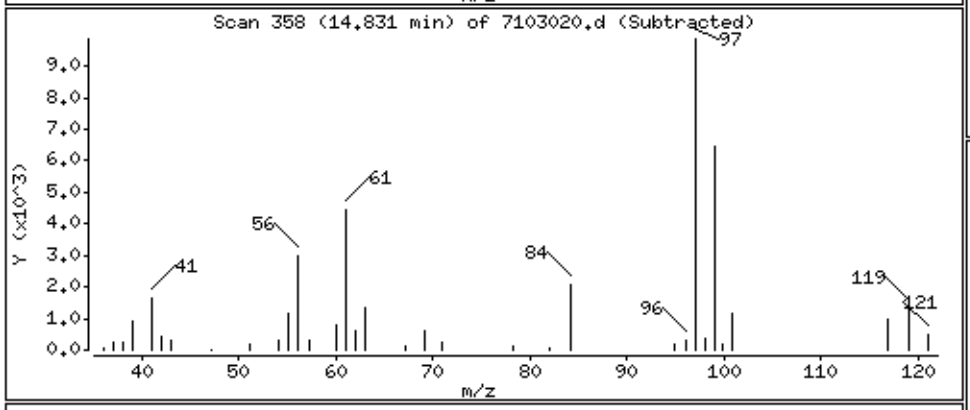
Column phase: RTx-624

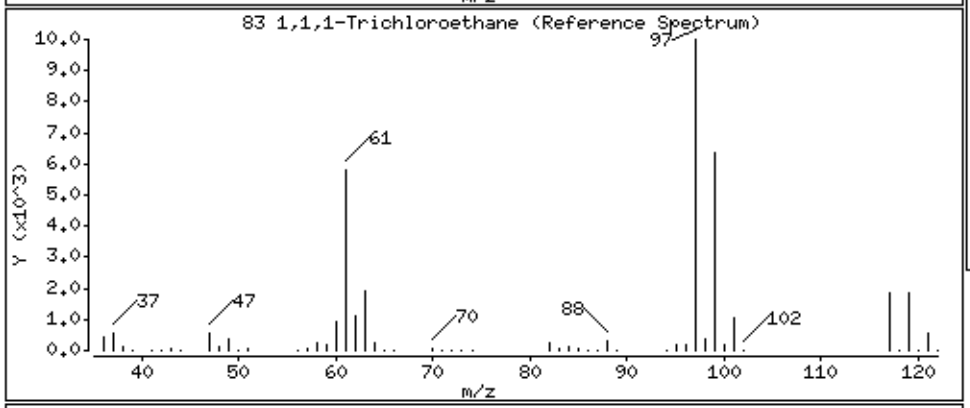
Column diameter: 0.53

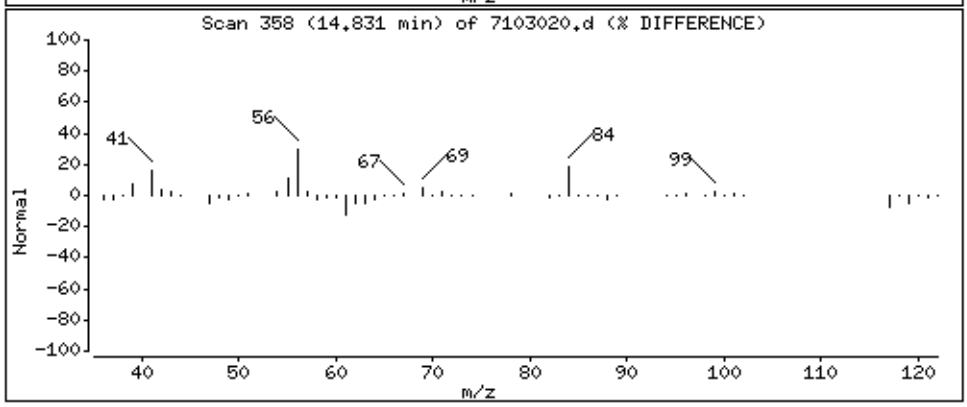
83 1,1,1-Trichloroethane

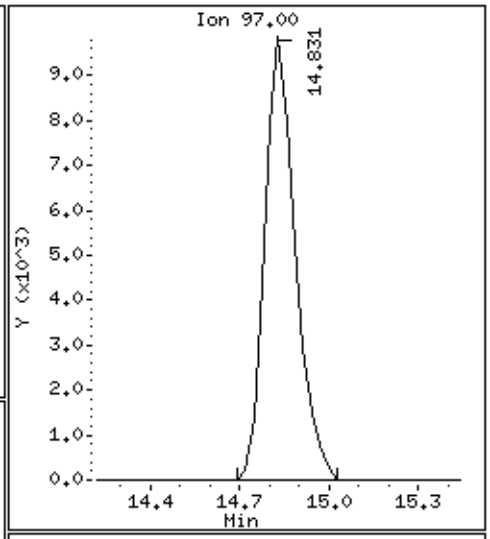
Concentration: 2.848 PPBV

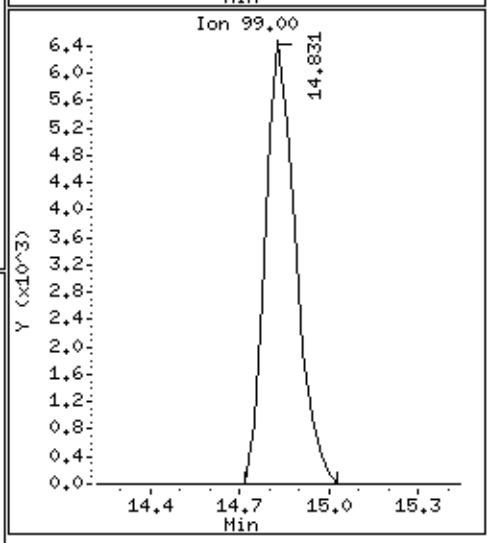












Data File: /chem/msd7.i/7-30oct.b/7103020.d

Date : 30-OCT-2007 22:45

Client ID:

Instrument: msd7.i

Sample Info: 200mL #13863

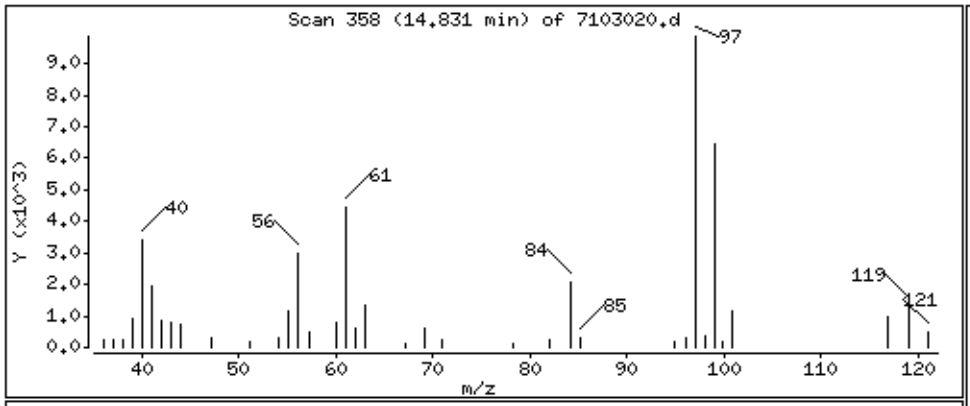
Operator: ab

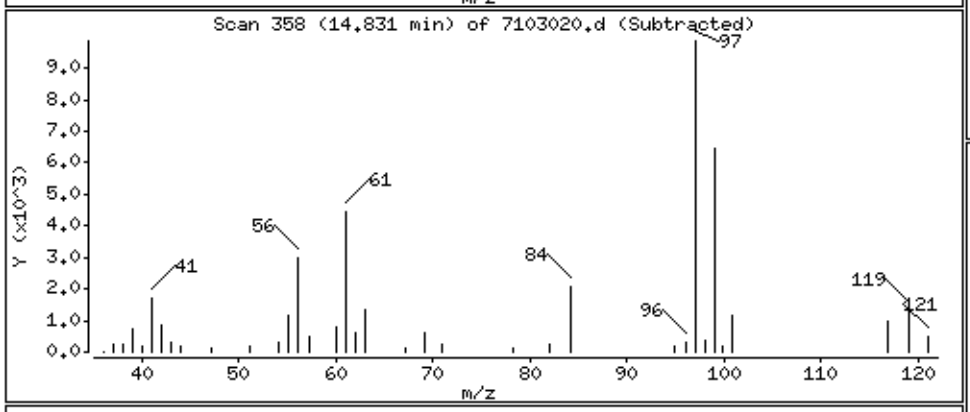
Column phase: RTx-624

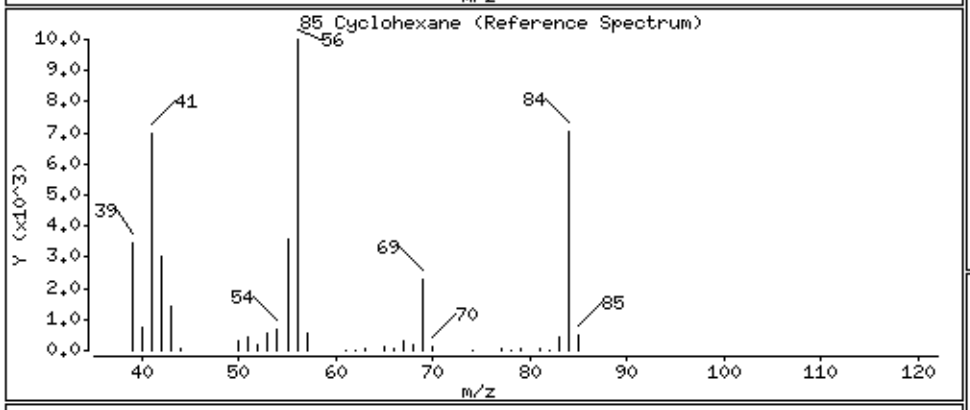
Column diameter: 0.53

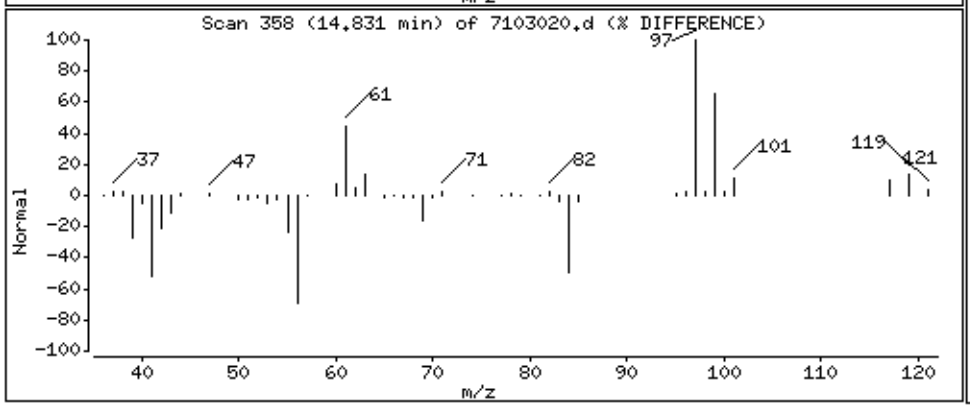
85 Cyclohexane

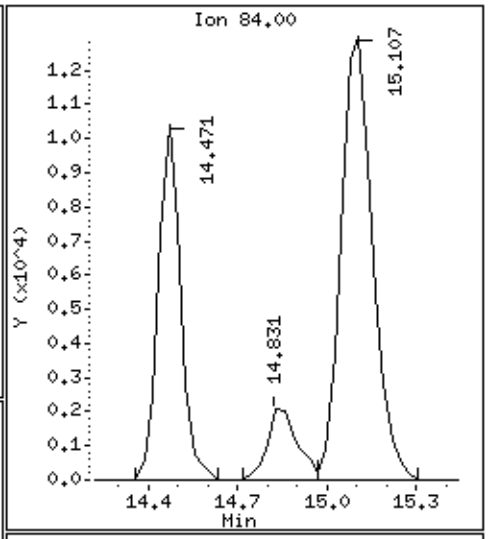
Concentration: 1.047 PPBV

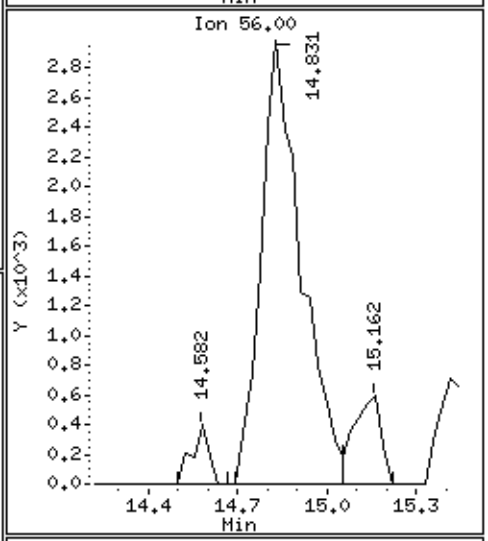


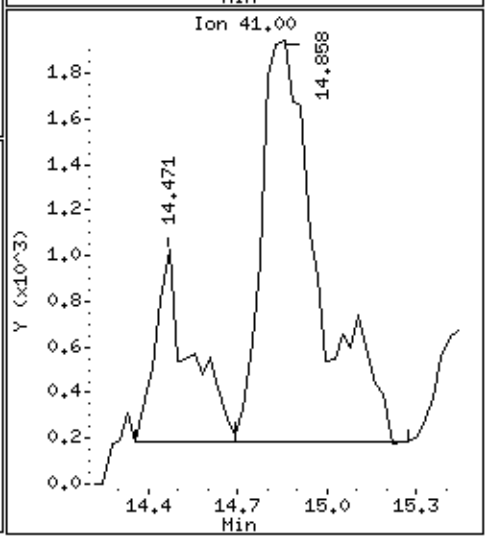












Data File: /chem/msd7.i/7-30oct.b/7103020.d

Date : 30-OCT-2007 22:45

Client ID:

Instrument: msd7.i

Sample Info: 200mL #13863

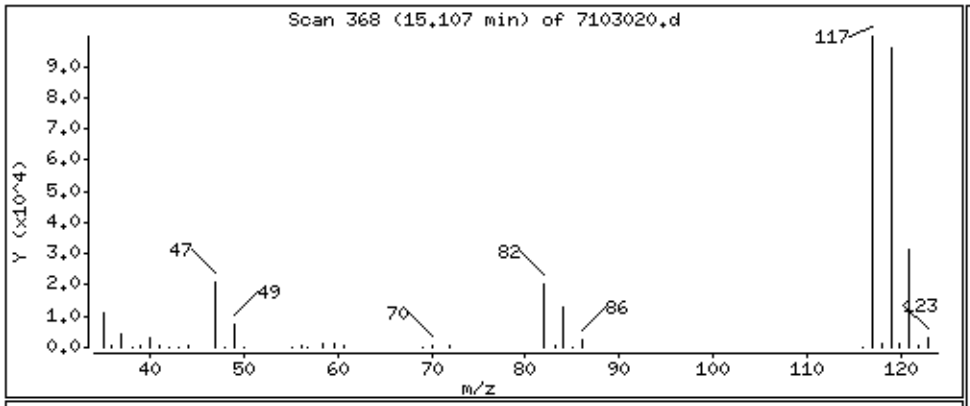
Operator: ab

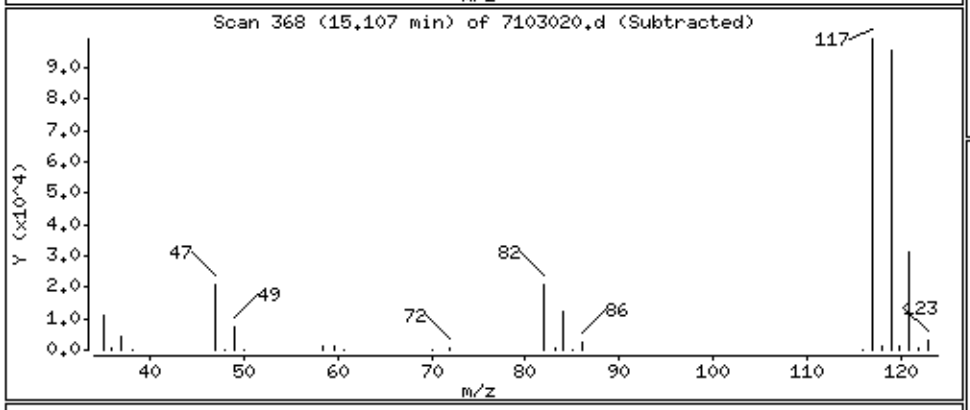
Column phase: RTx-624

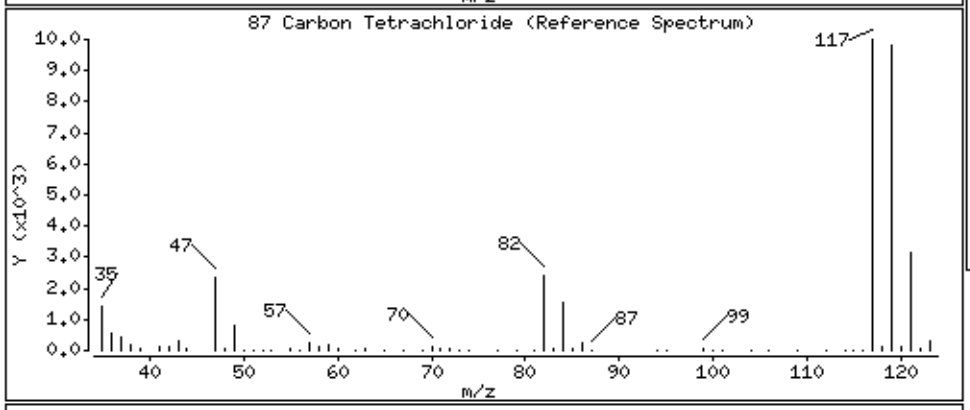
Column diameter: 0.53

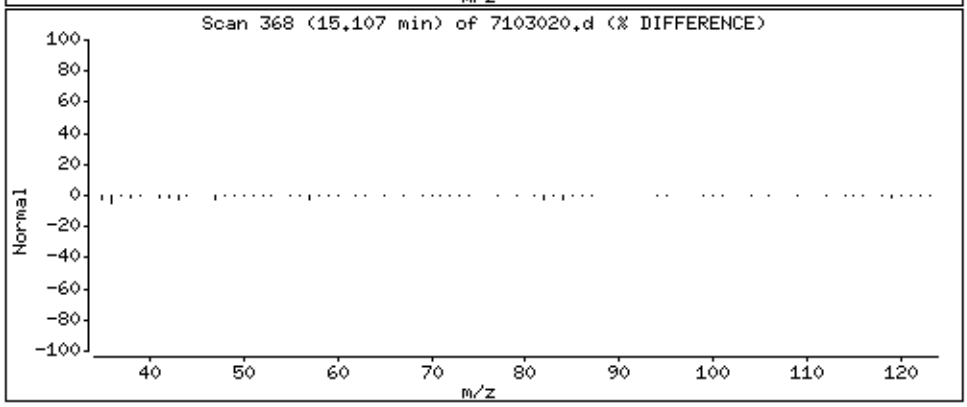
87 Carbon Tetrachloride

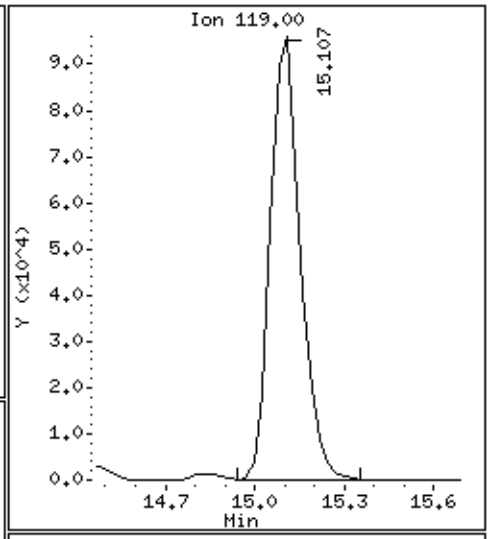
Concentration: 29.210 PPBV

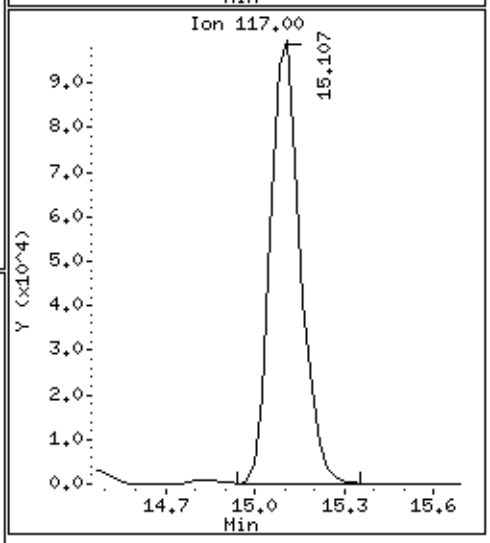












Data File: /chem/msd7.i/7-30oct.b/7103020.d

Date : 30-OCT-2007 22:45

Client ID:

Instrument: msd7.i

Sample Info: 200mL #13863

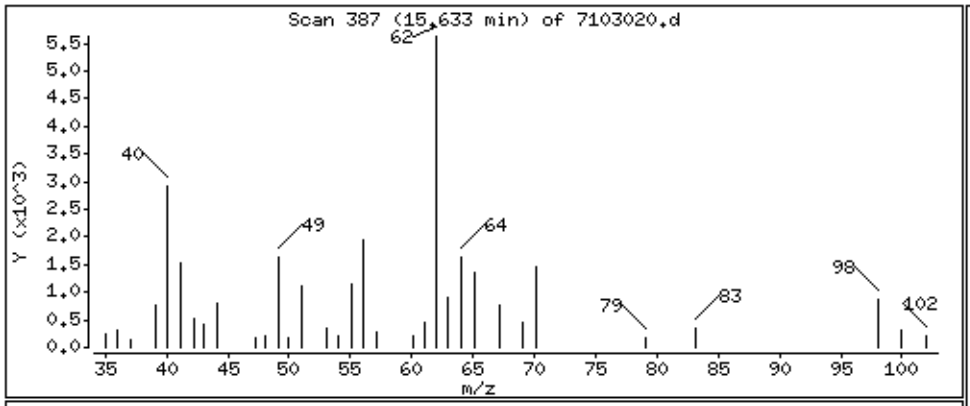
Operator: ab

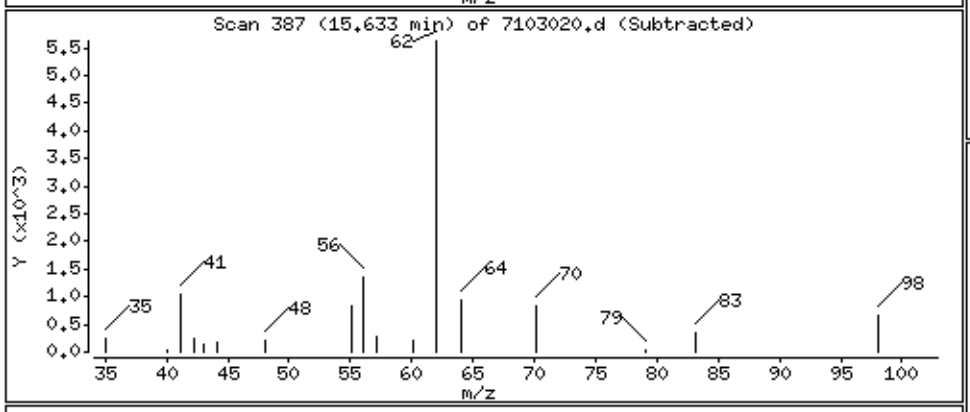
Column phase: RTx-624

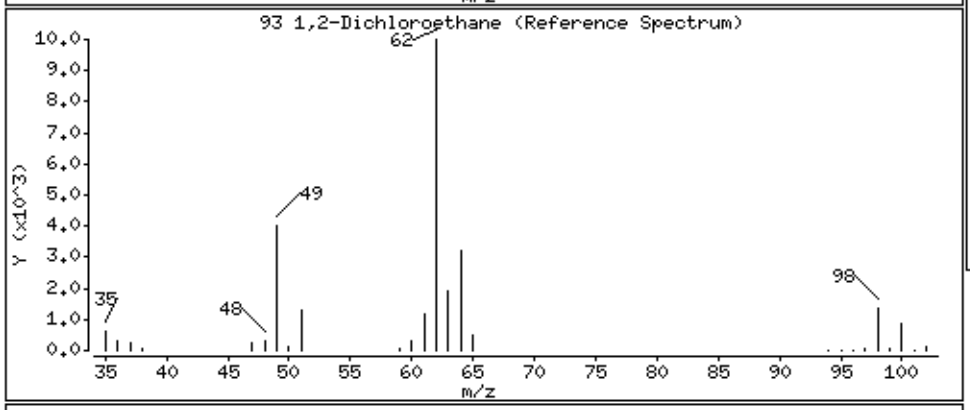
Column diameter: 0.53

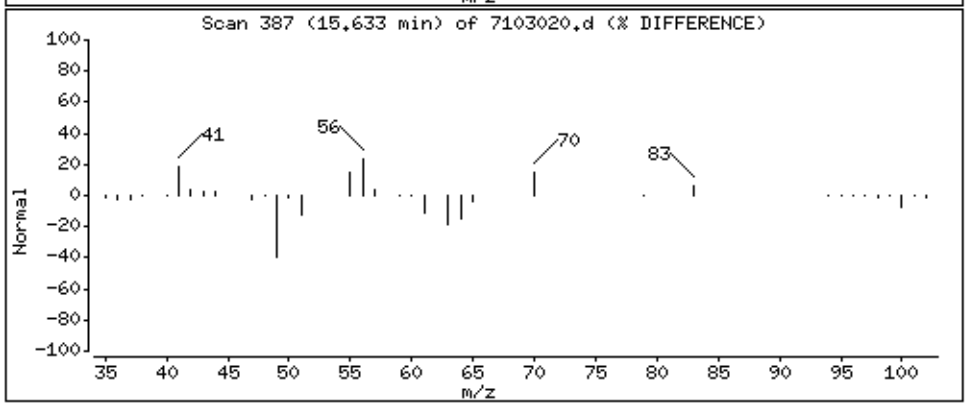
93 1,2-Dichloroethane

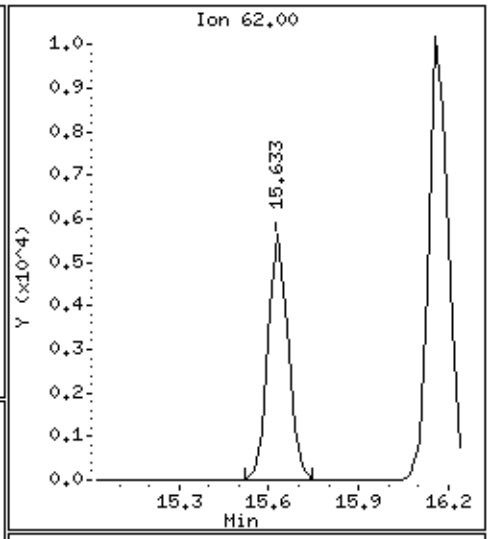
Concentration: 1.550 PPBV

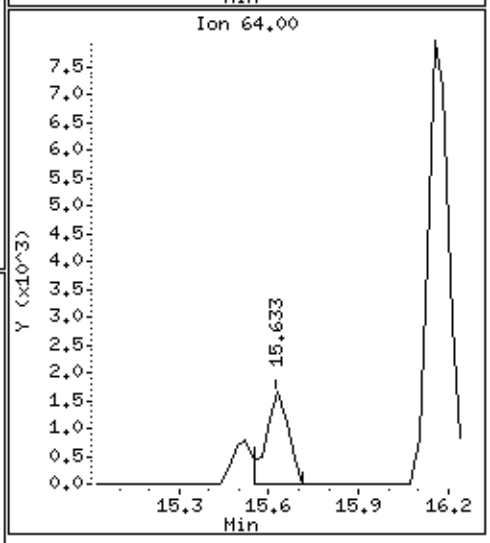












Data File: /chem/msd7.i/7-30oct.b/7103020.d

Date : 30-OCT-2007 22:45

Client ID:

Instrument: msd7.i

Sample Info: 200mL #13863

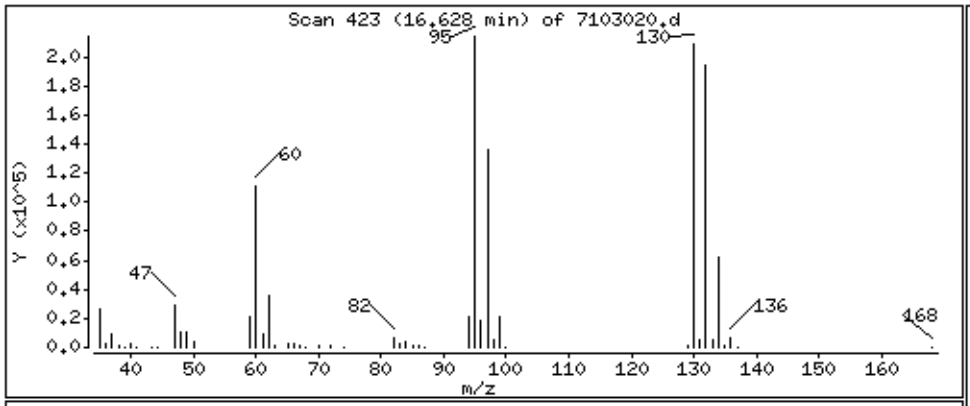
Operator: ab

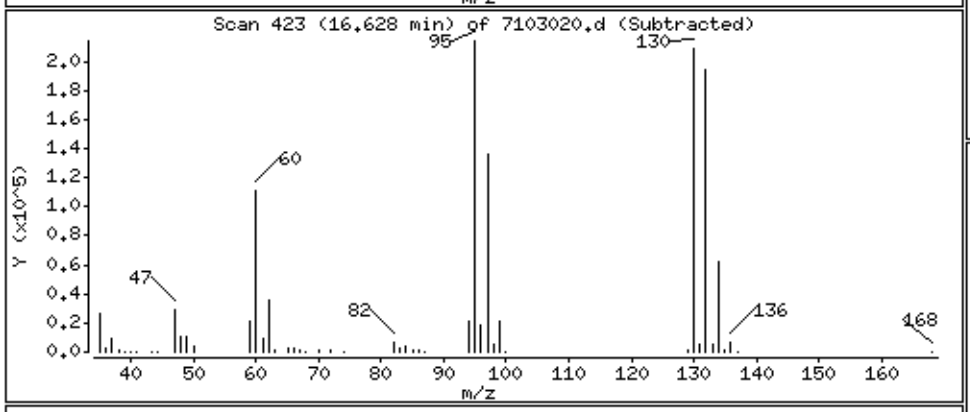
Column phase: RTx-624

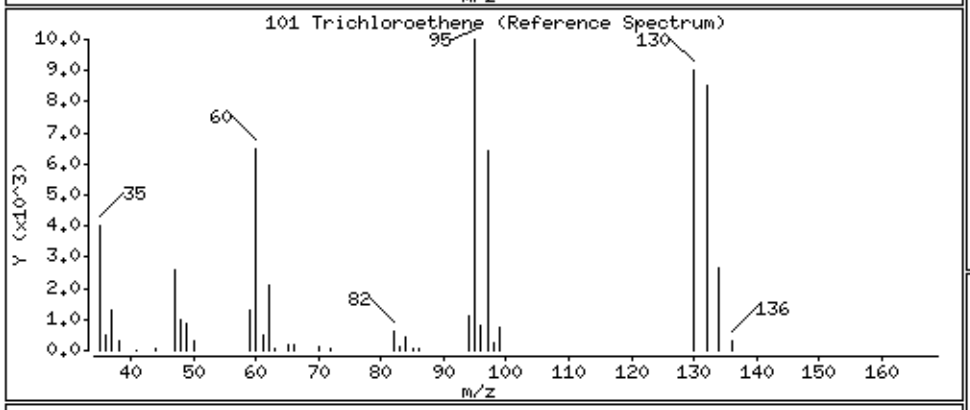
Column diameter: 0.53

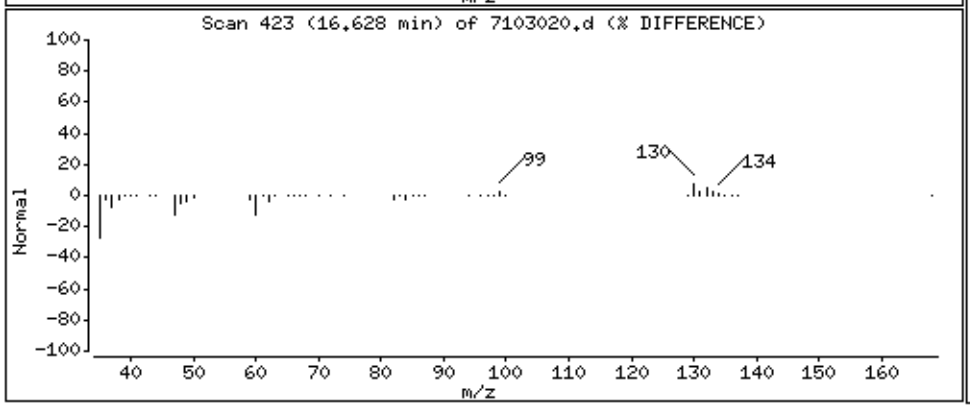
101 Trichloroethene

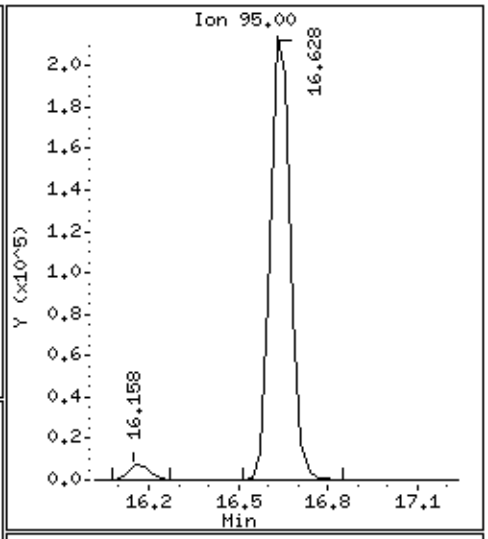
Concentration: 71.593 PPBV

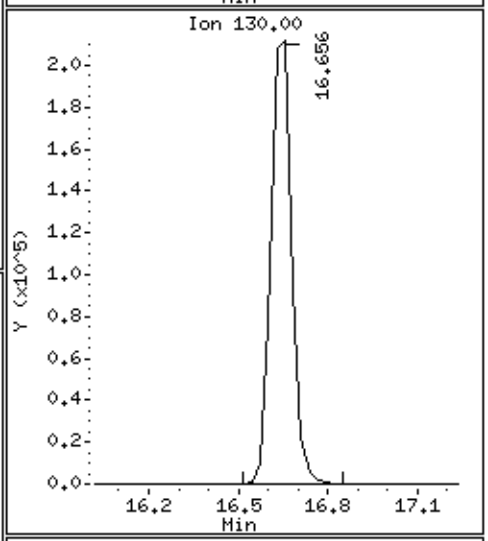


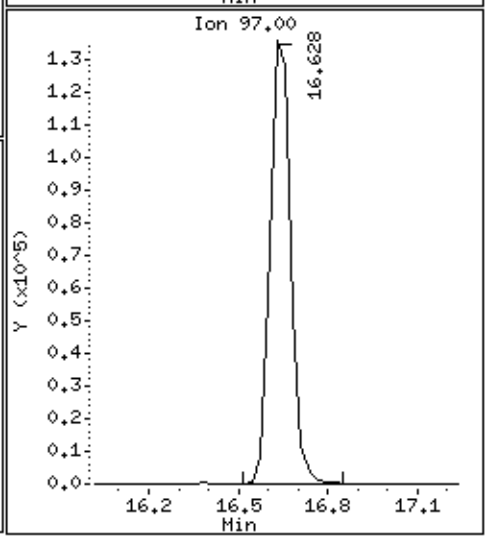












Data File: /chem/msd7.i/7-30oct.b/7103020.d

Date : 30-OCT-2007 22:45

Client ID:

Instrument: msd7.i

Sample Info: 200mL #13863

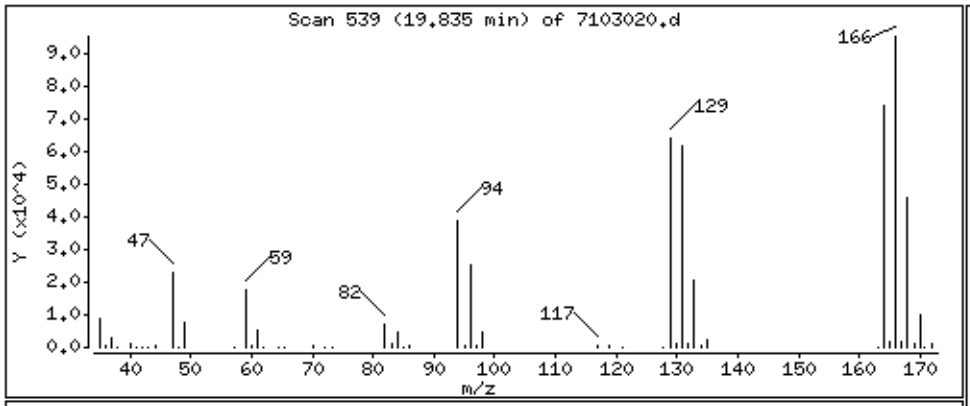
Operator: ab

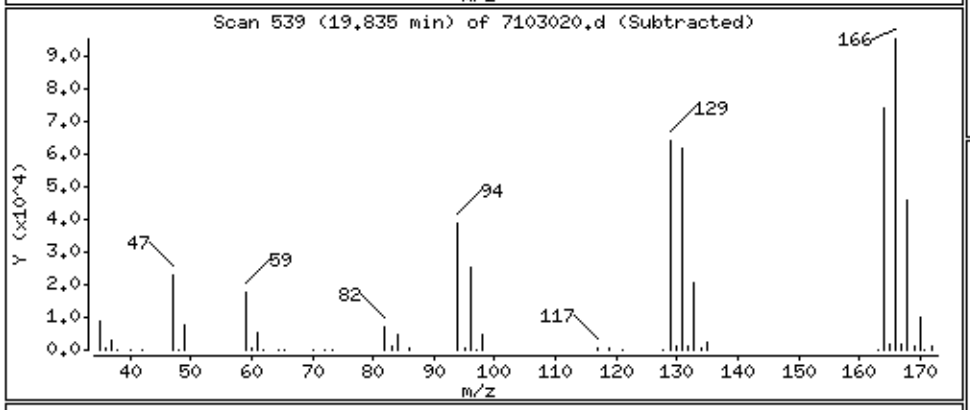
Column phase: RTx-624

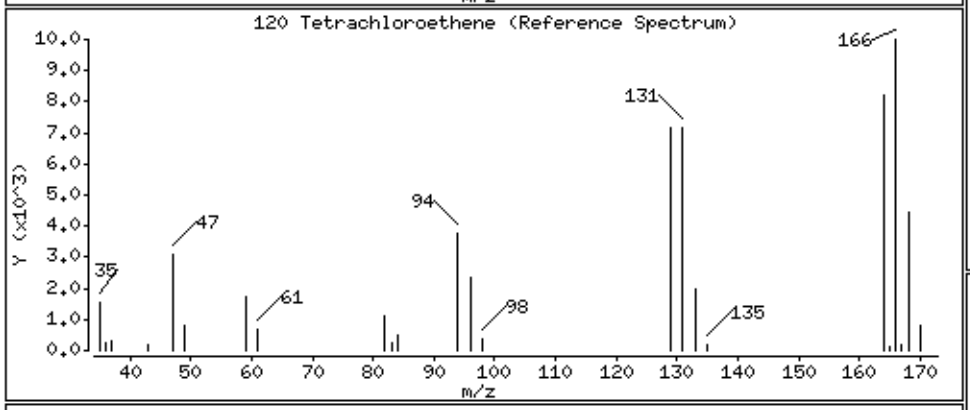
Column diameter: 0.53

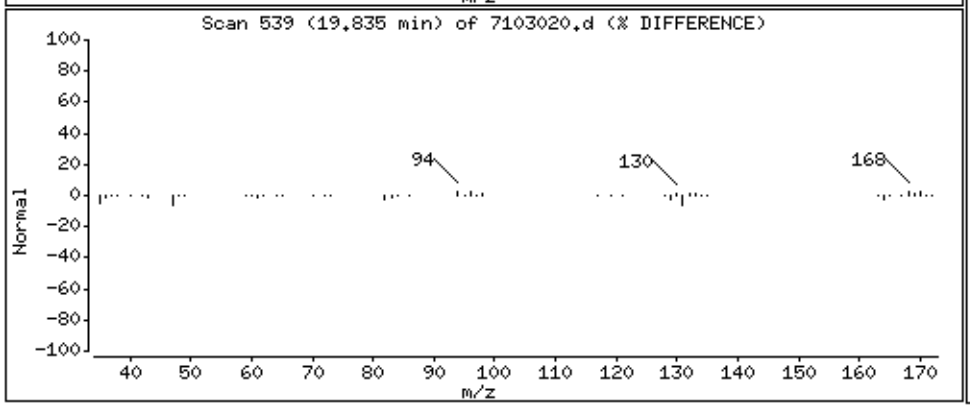
120 Tetrachloroethene

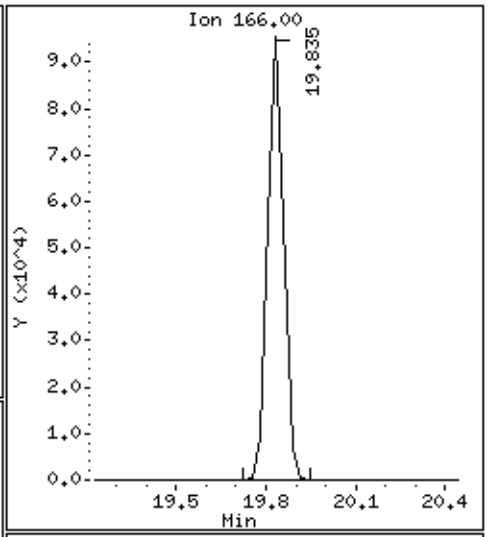
Concentration: 22.917 PPBV

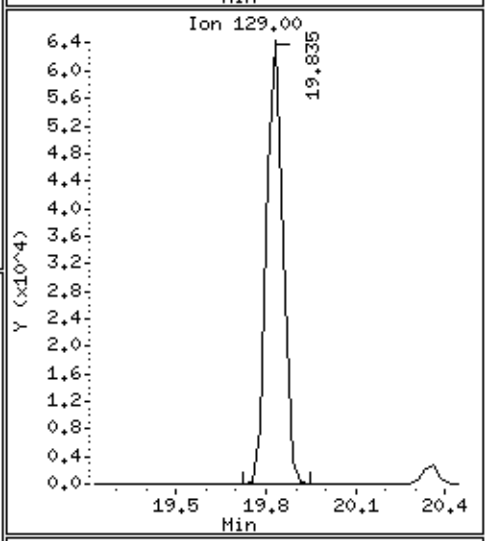


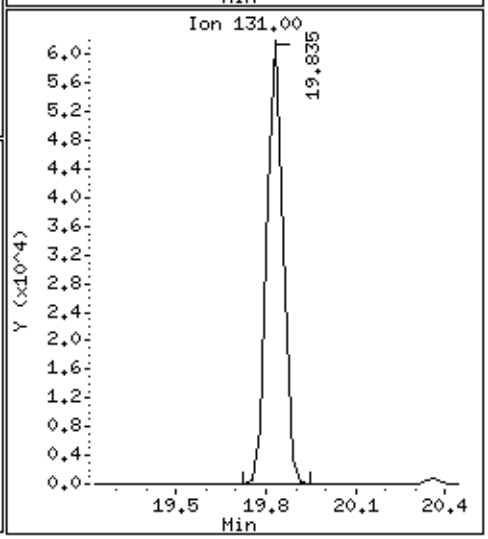












AN ENVIRONMENTAL ANALYTICAL LABORATORY

Summary of Detected Compounds
MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

Client Sample ID: MD21-07-6816

Lab ID#: 0710567-04A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Freon 12	0.92	0.98	4.5	4.9
1,1-Dichloroethene	0.92	1.0	3.6	4.0
Acetone	3.7	8.1	8.7	19
Methylene Chloride	0.92	170	3.2	590
Chloroform	0.92	55	4.5	270
1,1,1-Trichloroethane	0.92	0.99	5.0	5.4
Carbon Tetrachloride	0.92	30	5.8	190
1,2-Dichloroethane	0.92	1.4	3.7	5.9
Trichloroethene	0.92	59	4.9	320
Toluene	0.92	1.6	3.4	5.8
Tetrachloroethene	0.92	12	6.2	79
m,p-Xylene	0.92	1.3	4.0	5.7

AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: MD21-07-6816

Lab ID#: 0710567-04A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**7103106**	**Date of Collection:**	**10/19/07**
Dil. Factor:	**1.83**	**Date of Analysis:**	**10/31/07 12:19 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Freon 12	0.92	0.98	4.5	4.9
Freon 114	0.92	Not Detected	6.4	Not Detected
Chloromethane	3.7	Not Detected	7.6	Not Detected
Vinyl Chloride	0.92	Not Detected	2.3	Not Detected
1,3-Butadiene	0.92	Not Detected	2.0	Not Detected
Bromomethane	0.92	Not Detected	3.6	Not Detected
Chloroethane	0.92	Not Detected	2.4	Not Detected
Freon 11	0.92	Not Detected	5.1	Not Detected
Ethanol	3.7	Not Detected	6.9	Not Detected
Freon 113	0.92	Not Detected	7.0	Not Detected
1,1-Dichloroethene	0.92	1.0	3.6	4.0
Acetone	3.7	8.1	8.7	19
2-Propanol	3.7	Not Detected	9.0	Not Detected
Carbon Disulfide	0.92	Not Detected	2.8	Not Detected
Methylene Chloride	0.92	170	3.2	590
Methyl tert-butyl ether	0.92	Not Detected	3.3	Not Detected
trans-1,2-Dichloroethene	0.92	Not Detected	3.6	Not Detected
Hexane	0.92	Not Detected	3.2	Not Detected
1,1-Dichloroethane	0.92	Not Detected	3.7	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.92	Not Detected	2.7	Not Detected
cis-1,2-Dichloroethene	0.92	Not Detected	3.6	Not Detected
Tetrahydrofuran	0.92	Not Detected	2.7	Not Detected
Chloroform	0.92	55	4.5	270
1,1,1-Trichloroethane	0.92	0.99	5.0	5.4
Cyclohexane	0.92	Not Detected	3.1	Not Detected
Carbon Tetrachloride	0.92	30	5.8	190
Benzene	0.92	Not Detected	2.9	Not Detected
1,2-Dichloroethane	0.92	1.4	3.7	5.9
Heptane	0.92	Not Detected	3.7	Not Detected
Trichloroethene	0.92	59	4.9	320
1,2-Dichloropropane	0.92	Not Detected	4.2	Not Detected
1,4-Dioxane	3.7	Not Detected	13	Not Detected
Bromodichloromethane	0.92	Not Detected	6.1	Not Detected
cis-1,3-Dichloropropene	0.92	Not Detected	4.2	Not Detected
4-Methyl-2-pentanone	0.92	Not Detected	3.7	Not Detected
Toluene	0.92	1.6	3.4	5.8
trans-1,3-Dichloropropene	0.92	Not Detected	4.2	Not Detected
1,1,2-Trichloroethane	0.92	Not Detected	5.0	Not Detected
Tetrachloroethene	0.92	12	6.2	79

AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: MD21-07-6816

Lab ID#: 0710567-04A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**7103106**	**Date of Collection:**	**10/19/07**
Dil. Factor:	**1.83**	**Date of Analysis:**	**10/31/07 12:19 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
2-Hexanone	3.7	Not Detected	15	Not Detected
Dibromochloromethane	0.92	Not Detected	7.8	Not Detected
1,2-Dibromoethane (EDB)	0.92	Not Detected	7.0	Not Detected
Chlorobenzene	0.92	Not Detected	4.2	Not Detected
Ethyl Benzene	0.92	Not Detected	4.0	Not Detected
m,p-Xylene	0.92	1.3	4.0	5.7
o-Xylene	0.92	Not Detected	4.0	Not Detected
Styrene	0.92	Not Detected	3.9	Not Detected
Bromoform	0.92	Not Detected	9.4	Not Detected
1,1,2,2-Tetrachloroethane	0.92	Not Detected	6.3	Not Detected
4-Ethyltoluene	0.92	Not Detected	4.5	Not Detected
1,3,5-Trimethylbenzene	0.92	Not Detected	4.5	Not Detected
1,2,4-Trimethylbenzene	0.92	Not Detected	4.5	Not Detected
1,3-Dichlorobenzene	0.92	Not Detected	5.5	Not Detected
1,4-Dichlorobenzene	0.92	Not Detected	5.5	Not Detected
alpha-Chlorotoluene	0.92	Not Detected	4.7	Not Detected
1,2-Dichlorobenzene	0.92	Not Detected	5.5	Not Detected
1,2,4-Trichlorobenzene	3.7	Not Detected	27	Not Detected
Hexachlorobutadiene	3.7	Not Detected	39	Not Detected
Chlorodifluoromethane	3.7	Not Detected	13	Not Detected
Methanol	92	Not Detected	120	Not Detected
n-Butanol	3.7	Not Detected	11	Not Detected
Propylene	3.7	Not Detected	6.3	Not Detected

Container Type: 6 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	90	70-130
1,2-Dichloroethane-d4	102	70-130
4-Bromofluorobenzene	103	70-130

Air Toxics Ltd.

AMBIENT AIR METHOD TO14

Data file : /chem/msd7.i/7-31oct.b/7103106.d
Lab Smp Id: 0710567-04A
Inj Date : 31-OCT-2007 12:19
Operator : cb Inst ID: msd7.i
Smp Info : 200mL #434
Misc Info : 8.0"Hg --> 5psi
Comment :
Method : /chem/msd7.i/7-31oct.b/t14qO18c.m
Meth Date : 31-Oct-2007 16:21 cbond Quant Type: ISTD
Cal Date : 30-OCT-2007 11:10 Cal File: 7103005.d
Als bottle: 1
Dil Factor: 1.83000
Integrator: HP RTE Compound Sublist: Los2153.sub
Target Version: 3.50 Sample Matrix: AIR
Processing Host: eeyore

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

RT	EXP RT (REL RT)	MASS	RESPONSE	CONCENTRATIONS ON-COL (PPBV)	FINAL (PPBV)	TARGET RANGE	RATIO
* 81 Bromochloromethane						CAS #: 74-97-5	
14.416	14.388 (1.000)	130	422872	25.0000		80.00- 120.00	100.00
14.416	14.388 (1.000)	128	317411			26.85- 126.85	75.06
14.416	14.388 (1.000)	49	726897			148.03- 248.03	171.90
* 97 1,4-Difluorobenzene						CAS #: 540-36-3	
16.158	16.158 (1.000)	114	1364399	25.0000		80.00- 120.00	100.00
16.158	16.158 (1.000)	88	203731			0.00- 65.22	14.93
* 126 Chlorobenzene-d5						CAS #: 3114-55-4	
21.356	21.356 (1.000)	117	964783	25.0000		80.00- 120.00	100.00
21.356	21.356 (1.000)	82	512539			4.45- 104.45	53.12
$ 90 1,2-Dichloroethane-d4						CAS #: 17060-07-0	
15.494	15.494 (1.075)	65	581601	25.6016	25.602	80.00- 120.00	100.00
15.494	15.494 (1.075)	67	273457			2.91- 102.91	47.02
$ 113 Toluene-d8						CAS #: 2037-26-5	
18.757	18.757 (1.161)	98	1095882	22.6262	22.626	80.00- 120.00	100.00
18.757	18.757 (1.161)	70	119162			0.00- 61.46	10.87

RT	EXP RT (REL RT)	MASS	RESPONSE	CONCENTRATIONS ON-COL (PPBV)	FINAL (PPBV)	TARGET RANGE	RATIO
$ 113 Toluene-d8 (continued)							
18.757	18.757 (1.161)	100	749834			19.18- 119.18	68.42
$ 137 Bromofluorobenzene					CAS #: 460-00-4		
23.347	23.347 (1.093)	174	591896	25.7819	25.782	80.00- 120.00	100.00
23.319	23.347 (1.092)	95	690535			66.59- 166.59	116.66
23.347	23.347 (1.093)	176	575223			46.44- 146.44	97.18
12 Dichlorodifluoromethane/Fr12					CAS #: 75-71-8		
5.786	5.729 (0.401)	85	35927	0.53763	0.9838	80.00- 120.00	100.00
5.786	5.729 (0.401)	87	11620			0.00- 83.07	32.34
43 1,1-Dichloroethene					CAS #: 75-35-4		
10.324	10.324 (0.716)	61	20447	0.55419	1.014	80.00- 120.00	100.00
10.351	10.324 (0.718)	96	11647			7.00- 107.00	56.97
10.324	10.324 (0.716)	98	7747			0.00- 86.85	37.89
45 Acetone					CAS #: 67-64-1		
10.517	10.490 (0.730)	58	50572	4.43450	8.115	80.00- 120.00	100.00
10.517	10.490 (0.730)	43	188843			247.10- 347.10	373.41
54 Methylene Chloride					CAS #: 75-09-2		
11.485	11.457 (0.797)	49	2530295	93.2797	170.70	80.00- 120.00	100.00
11.485	11.457 (0.797)	84	1614610			13.10- 113.10	63.81
11.485	11.457 (0.797)	51	761841			0.00- 80.85	30.11
82 Chloroform					CAS #: 67-66-3		
14.471	14.471 (1.004)	83	1282586	30.1240	55.127	80.00- 120.00	100.00
14.471	14.471 (1.004)	85	846572			14.74- 114.74	66.01
83 1,1,1-Trichloroethane					CAS #: 71-55-6		
14.831	14.831 (1.029)	97	23193	0.54094	0.9899	80.00- 120.00	100.00
14.803	14.831 (1.027)	99	14656			14.60- 114.60	63.19
87 Carbon Tetrachloride					CAS #: 56-23-5		
15.107	15.107 (1.048)	119	657325	16.3550	29.930	80.00- 120.00	100.00
15.107	15.107 (1.048)	117	685483			53.94- 153.94	104.28
93 1,2-Dichloroethane					CAS #: 107-06-2		
15.633	15.632 (0.967)	62	22877	0.79424	1.453	80.00- 120.00	100.00
15.633	15.632 (0.967)	64	7346			0.00- 82.89	32.11
101 Trichloroethene					CAS #: 79-01-6		
16.628	16.628 (1.029)	95	781457	32.4511	59.386	80.00- 120.00	100.00
16.656	16.628 (1.031)	130	801192			52.82- 152.82	102.53
16.628	16.628 (1.029)	97	504674			14.78- 114.78	64.58

RT	EXP RT	(REL RT)	MASS	RESPONSE	CONCENTRATIONS ON-COL (PPBV)	FINAL (PPBV)	TARGET RANGE	RATIO
114 Toluene						CAS #: 108-88-3		
18.895	18.895	(1.169)	91	50318	0.84742	1.551	80.00- 120.00	100.00
18.895	18.895	(1.169)	92	33278			12.87- 112.87	66.14
120 Tetrachloroethene						CAS #: 127-18-4		
19.835	19.835	(0.929)	166	164391	6.34286	11.607	80.00- 120.00	100.00
19.835	19.835	(0.929)	129	111656			19.71- 119.71	67.92
19.835	19.835	(0.929)	131	108502			17.66- 117.66	66.00
129 m,p-Xylene						CAS #: 108-38-3		
21.688	21.688	(1.016)	106	20161	0.72297	1.323	80.00- 120.00	100.00
21.688	21.688	(1.016)	91	41677			145.05- 245.05	206.71

Report Date: 01-Nov-2007 11:32

Air Toxics Ltd.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd7.i
Lab File ID: 7103106.d
Lab Smp Id: 0710567-04A
Analysis Type: VOA
Quant Type: ISTD
Operator: cb
Method File: /chem/msd7.i/7-31oct.b/t14qO18c.m
Misc Info: 8.0"Hg --> 5psi

Calibration Date: 31-OCT-2007
Calibration Time: 09:03

Level: LOW
Sample Type: AIR

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
81 Bromochloromethan	419527	251716	587338	422872	0.80
97 1,4-Difluorobenze	1400939	840563	1961315	1364399	-2.61
126 Chlorobenzene-d5	1205049	723029	1687069	964783	-19.94

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
81 Bromochloromethan	14.39	14.06	14.72	14.42	0.19
97 1,4-Difluorobenze	16.16	15.83	16.49	16.16	0.00
126 Chlorobenzene-d5	21.36	21.03	21.69	21.36	0.00

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Report Date: 01-Nov-2007 11:32

Air Toxics Ltd.

RECOVERY REPORT

Client Name: Client SDG: 7-31oct
Sample Matrix: GAS Fraction: VOA
Lab Smp Id: 0710567-04A
Level: LOW Operator: cb
Data Type: MS DATA SampleType: SAMPLE
SpikeList File: 2926spectra.spk Quant Type: ISTD
Sublist File: Los2153.sub
Method File: /chem/msd7.i/7-31oct.b/t14qO18c.m
Misc Info: 8.0"Hg --> 5psi

SURROGATE COMPOUND	CONC ADDED PPBV	CONC RECOVERED PPBV	% RECOVERED	LIMITS
$ 90 1,2-Dichloroethane	25.000	25.602	102.41	70-130
$ 113 Toluene-d8	25.000	22.626	90.50	70-130
$ 137 Bromofluorobenzene	25.000	25.782	103.13	70-130

Data File: /chem/msd7.i/7-31oct.b/7103106.d

Date : 31-OCT-2007 12:19

Client ID:

Sample Info: 200mL #434

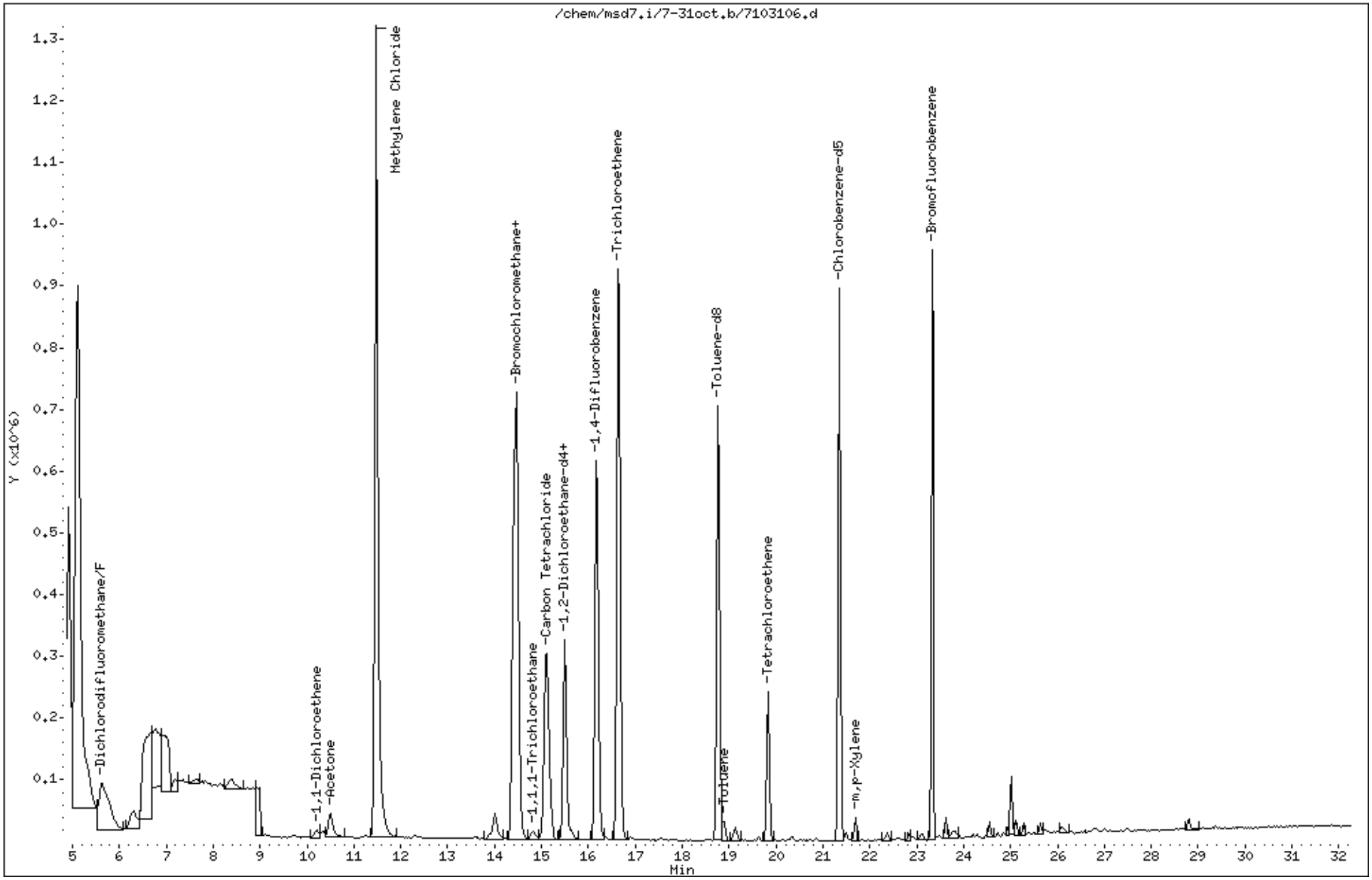
Column phase: RTx-624

Instrument: msd7.i

Operator: cb

Column diameter: 0.53

0082



Data File: /chem/msd7.i/7-31oct.b/7103106.d

Date : 31-OCT-2007 12:19

Client ID:

Instrument: msd7.i

Sample Info: 200mL #434

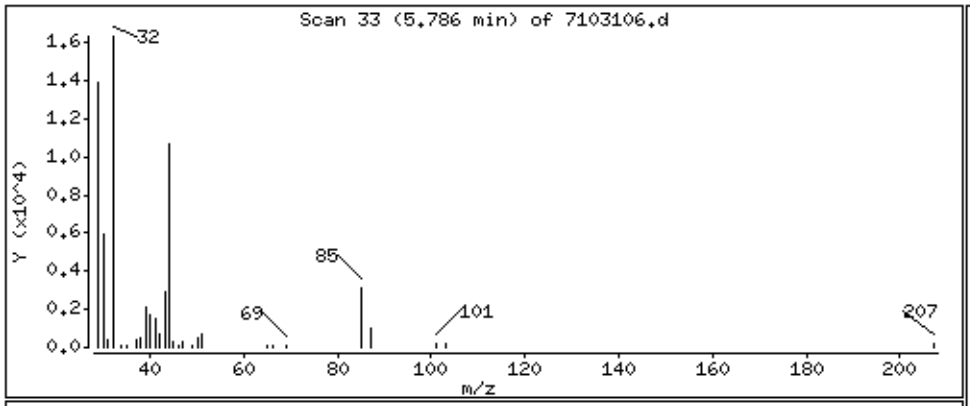
Operator: cb

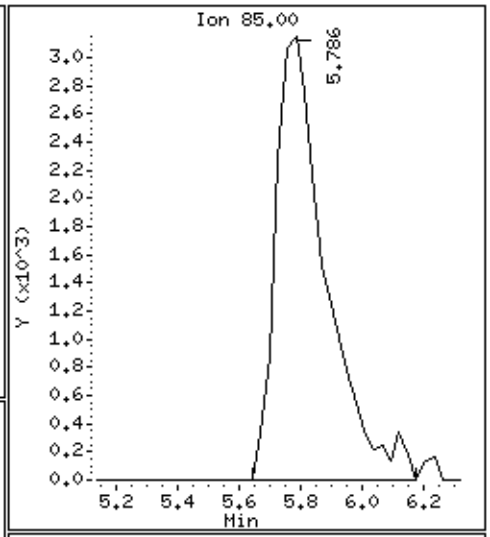
Column phase: RTx-624

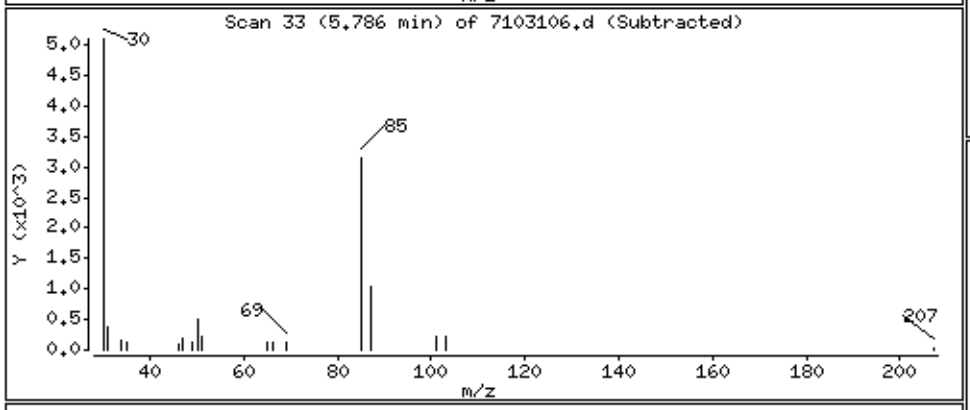
Column diameter: 0.53

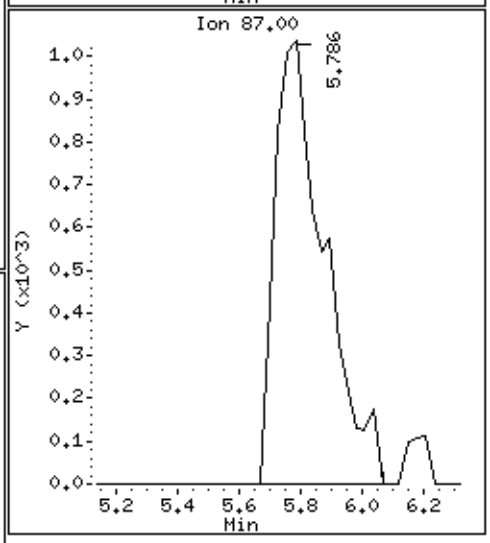
12 Dichlorodifluoromethane/Fr12

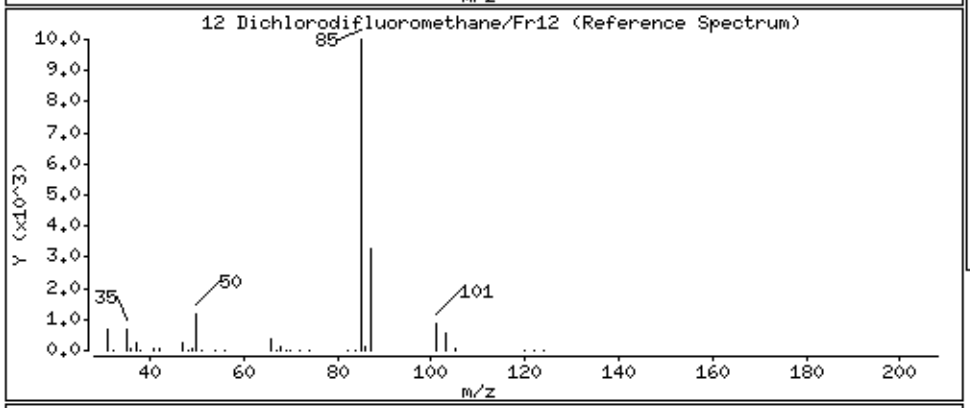
Concentration: 0.9838 PPBV

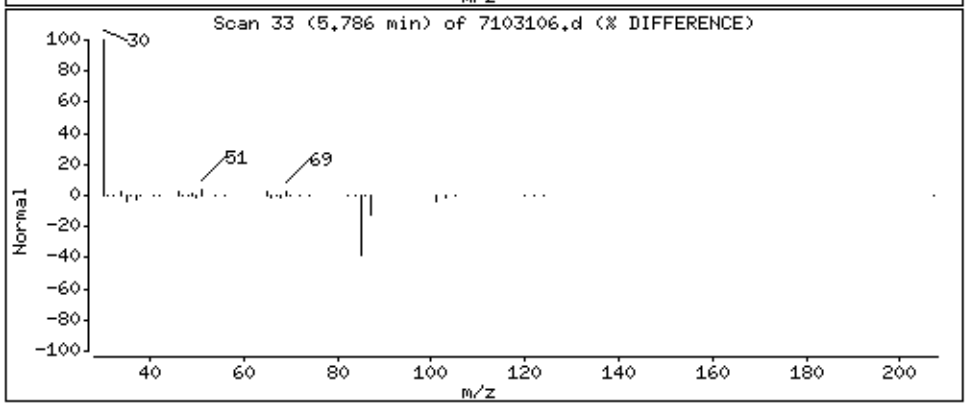












Data File: /chem/msd7.i/7-31oct.b/7103106.d

Date : 31-OCT-2007 12:19

Client ID:

Instrument: msd7.i

Sample Info: 200mL #434

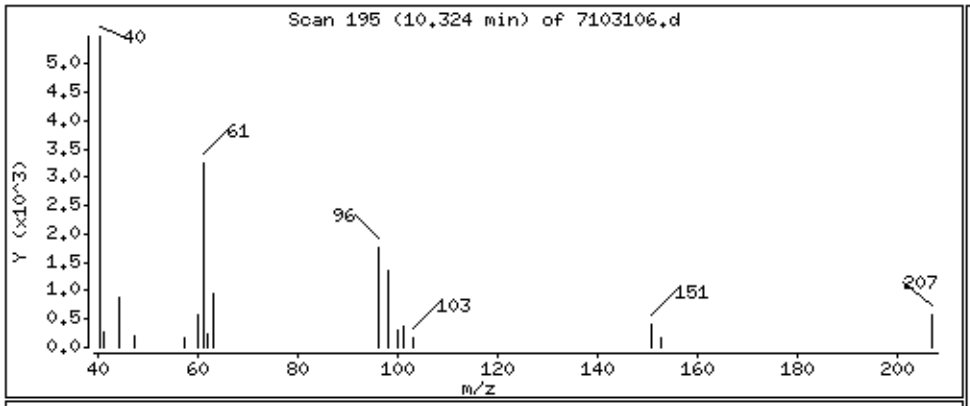
Operator: cb

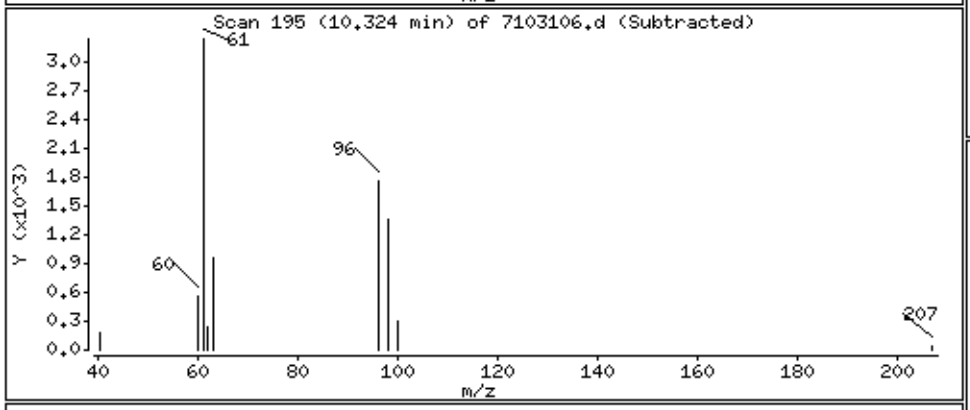
Column phase: RTx-624

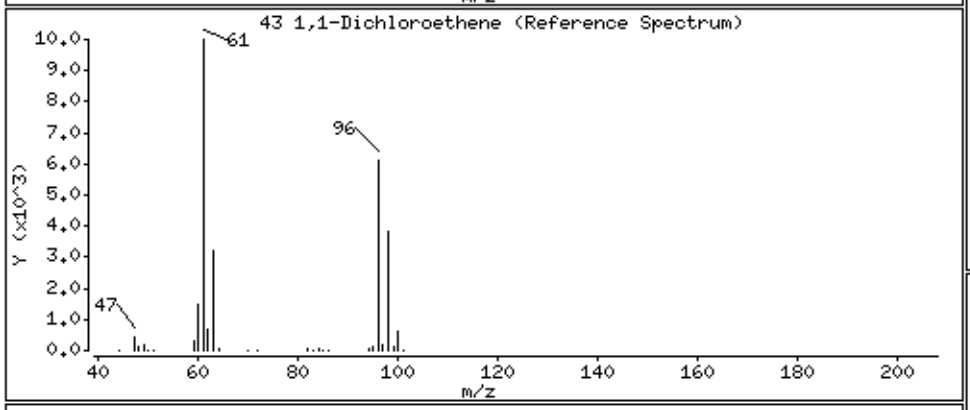
Column diameter: 0.53

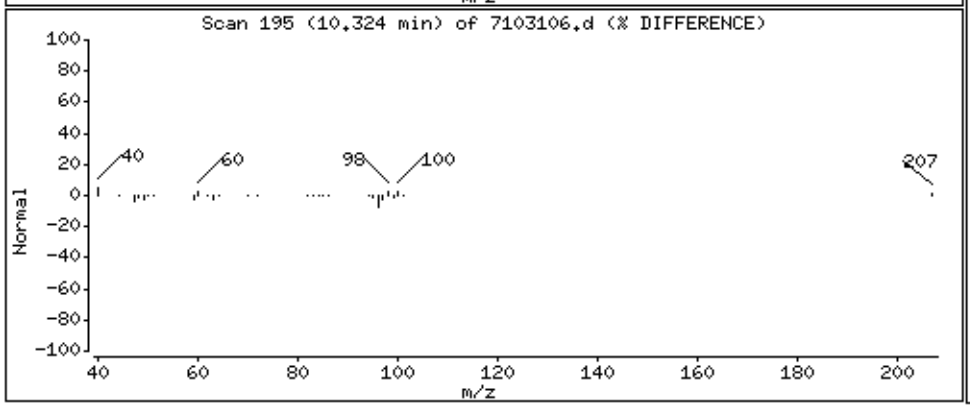
43 1,1-Dichloroethene

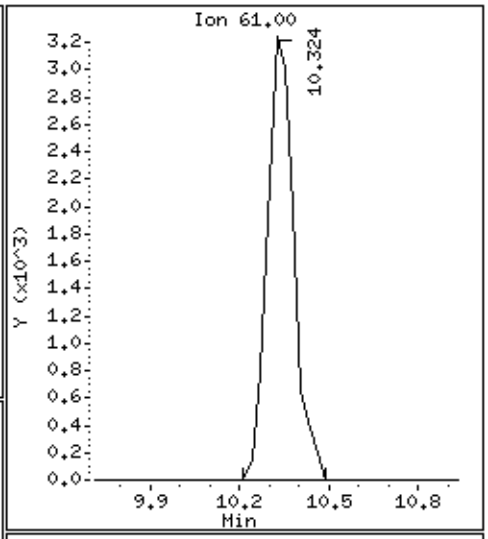
Concentration: 1.014 PPBV

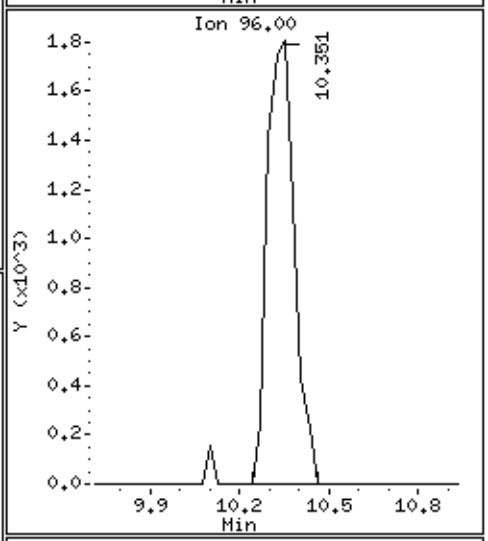


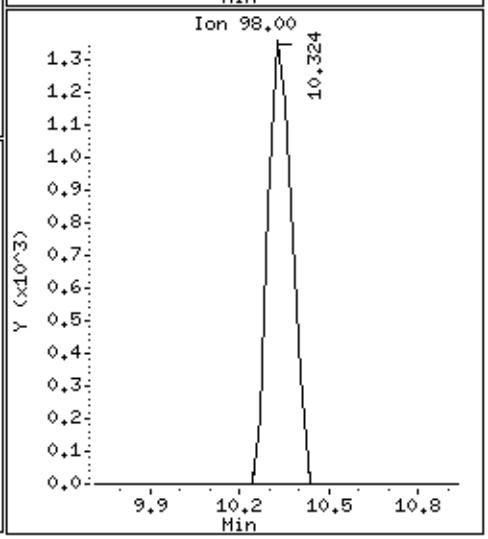












Data File: /chem/msd7.i/7-31oct.b/7103106.d

Date : 31-OCT-2007 12:19

Client ID:

Instrument: msd7.i

Sample Info: 200mL #434

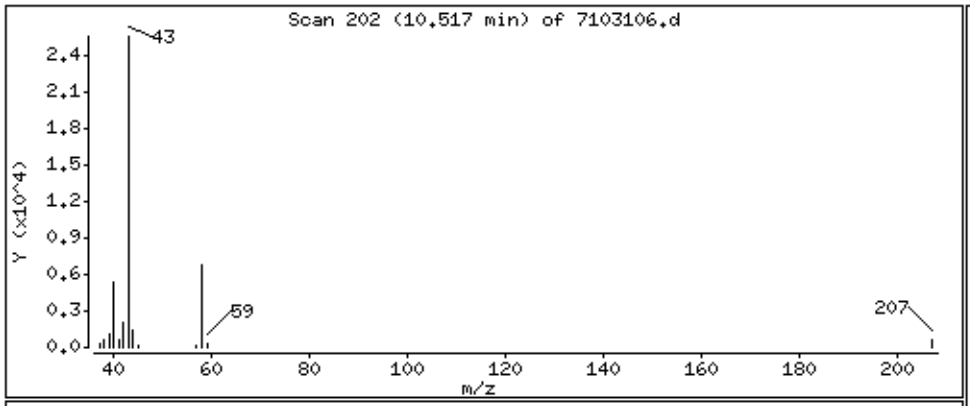
Operator: cb

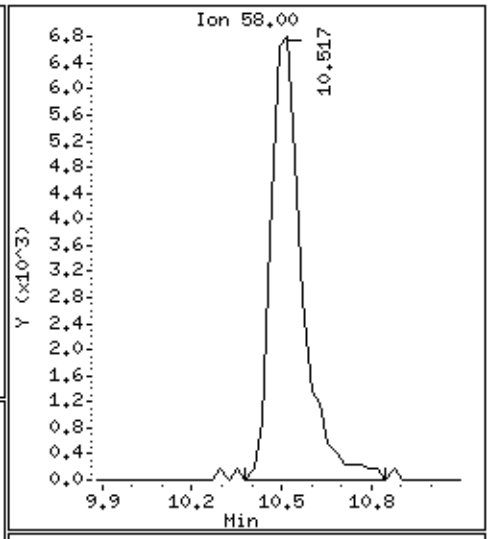
Column phase: RTx-624

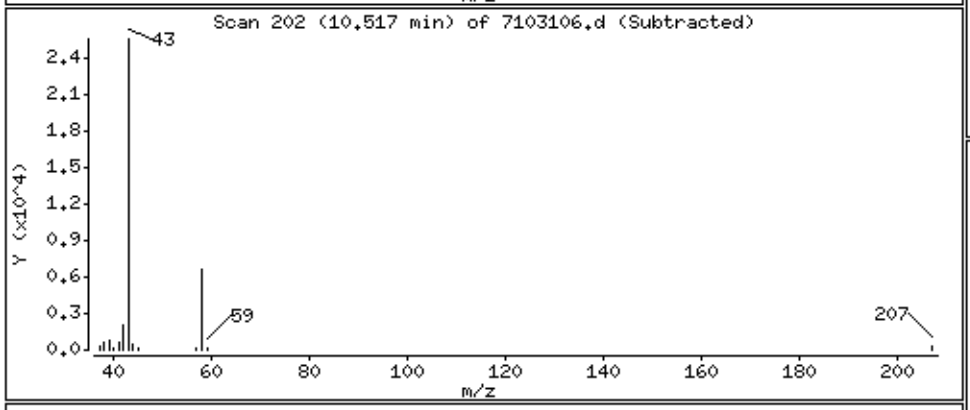
Column diameter: 0.53

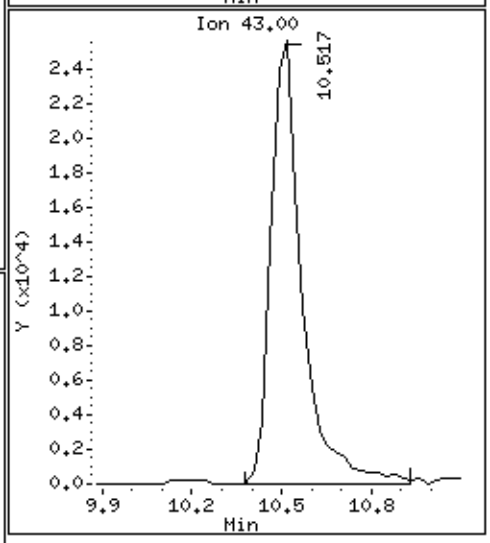
45 Acetone

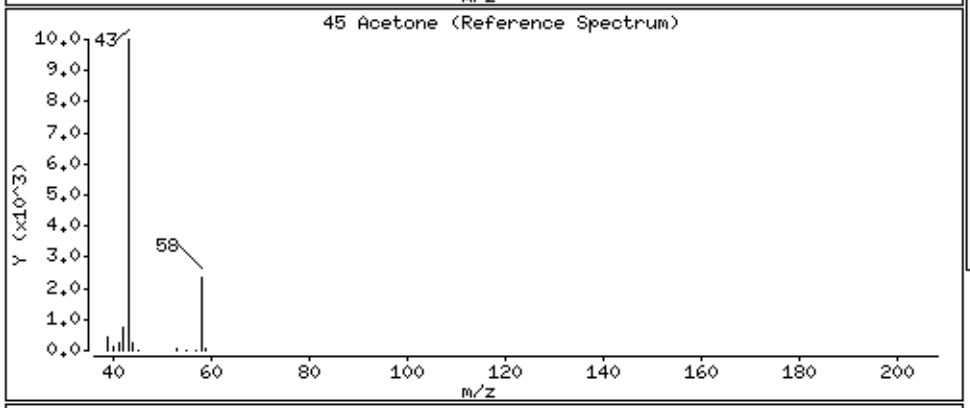
Concentration: 8.115 PPBV

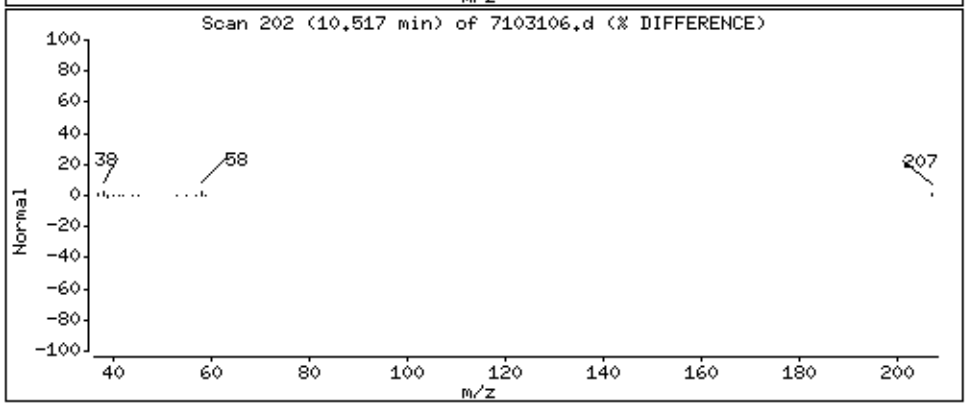












Data File: /chem/msd7.i/7-31oct.b/7103106.d

Date : 31-OCT-2007 12:19

Client ID:

Instrument: msd7.i

Sample Info: 200mL #434

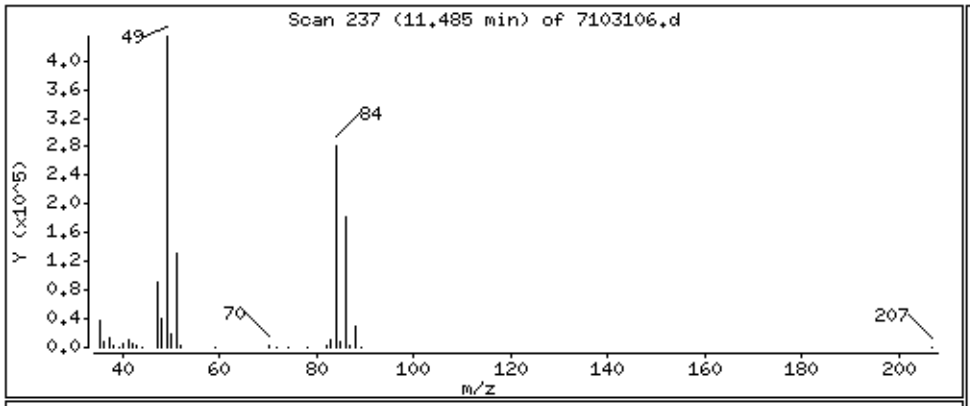
Operator: cb

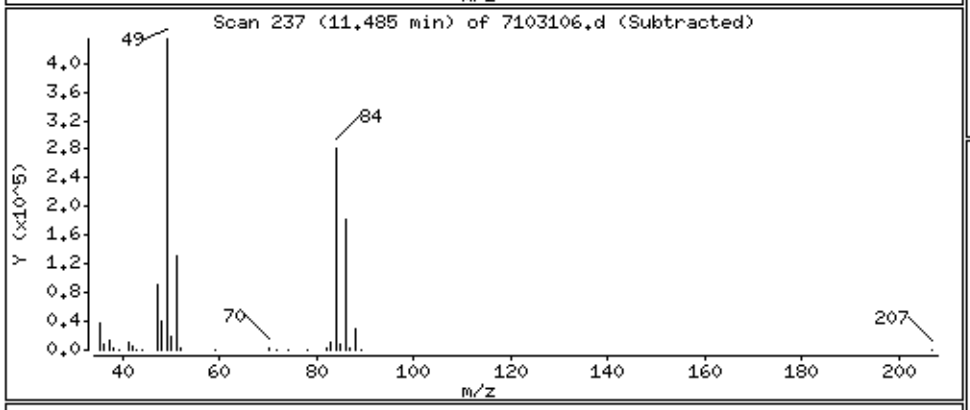
Column phase: RTx-624

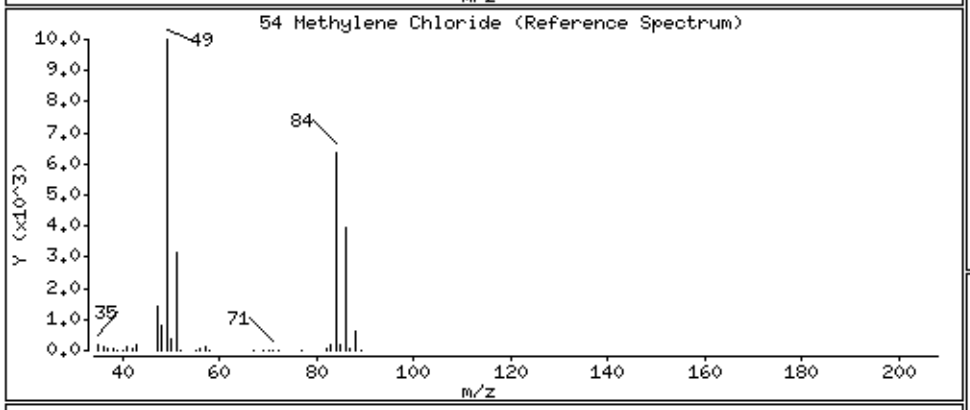
Column diameter: 0.53

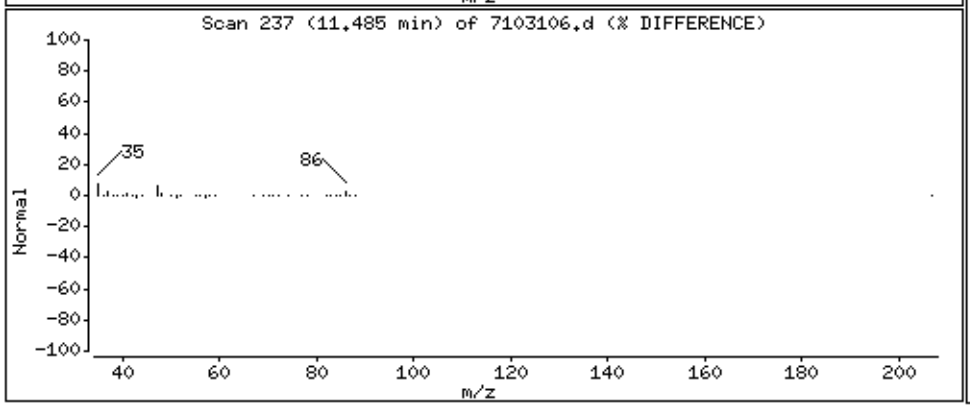
54 Methylene Chloride

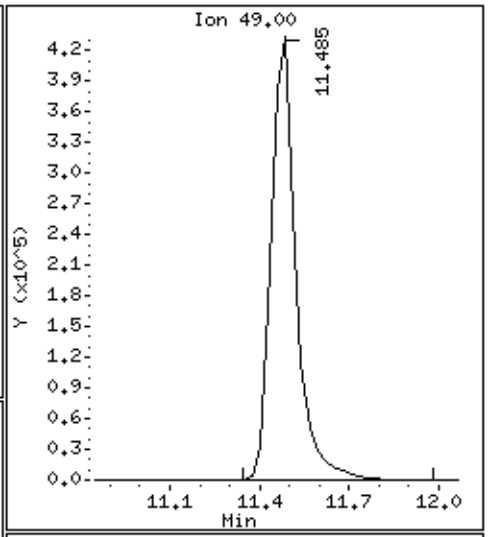
Concentration: 170.70 PPBV

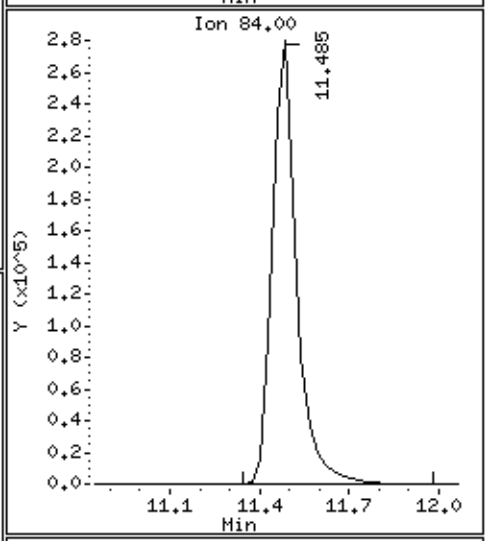


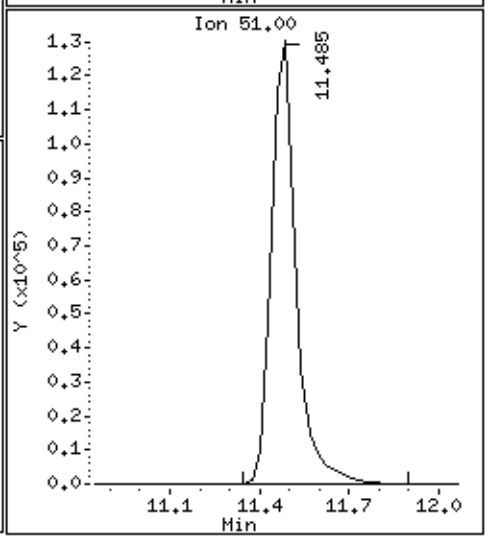












Data File: /chem/msd7.i/7-31oct.b/7103106.d

Date : 31-OCT-2007 12:19

Client ID:

Instrument: msd7.i

Sample Info: 200mL #434

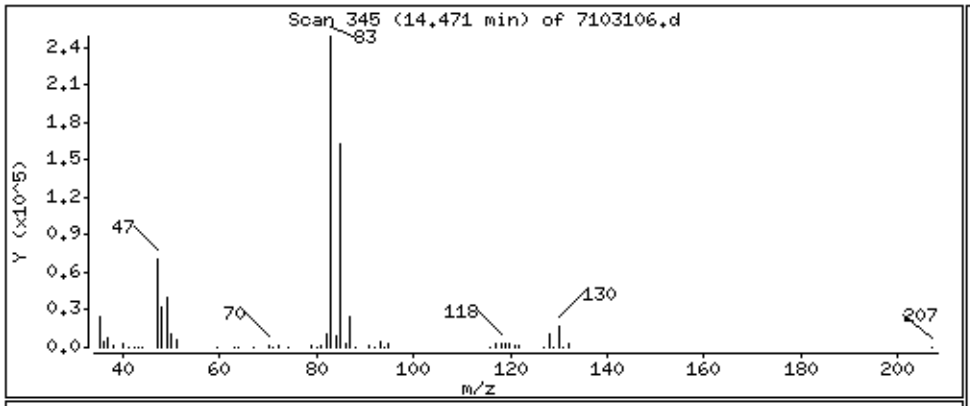
Operator: cb

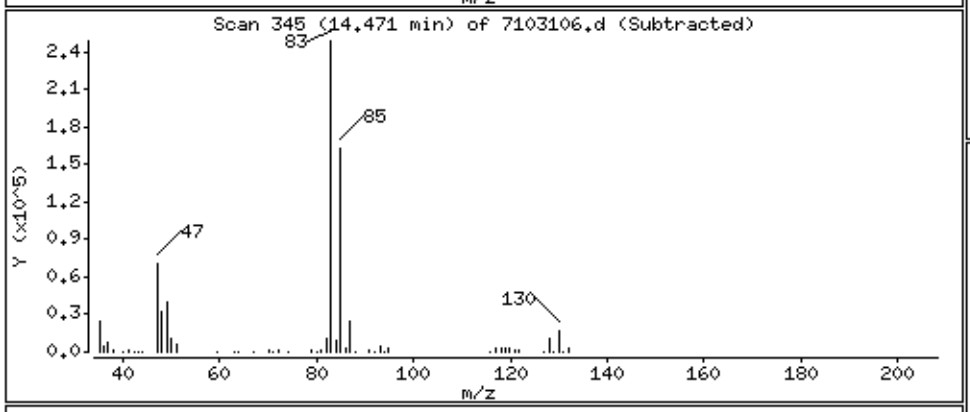
Column phase: RTx-624

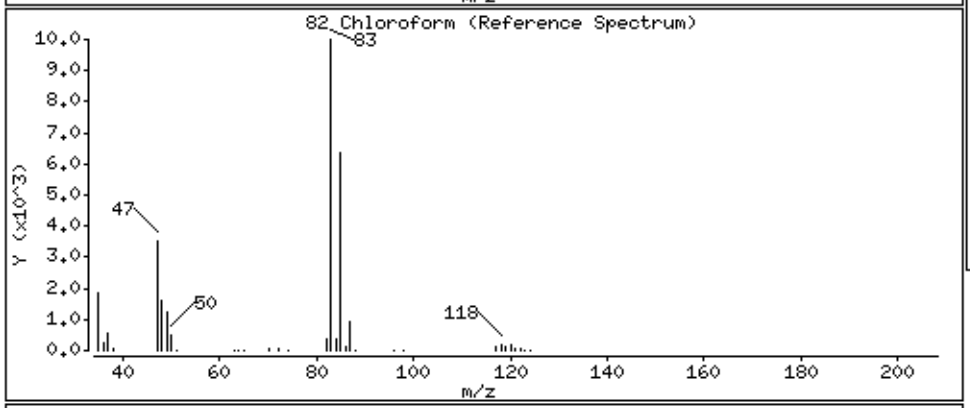
Column diameter: 0.53

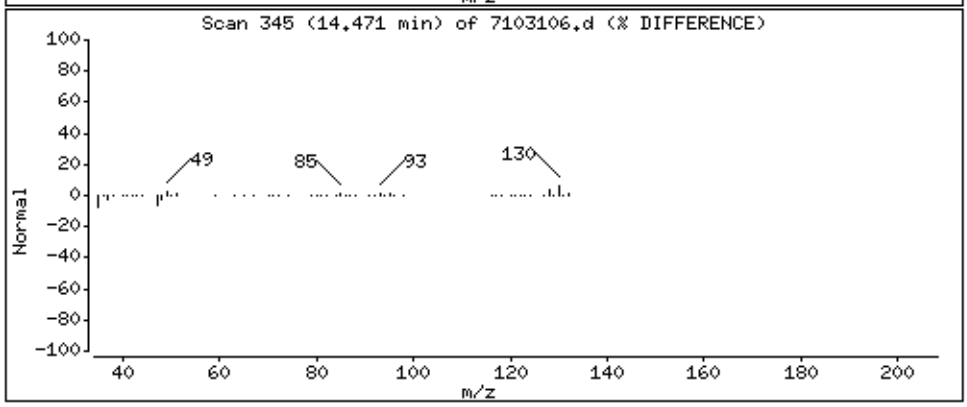
82 Chloroform

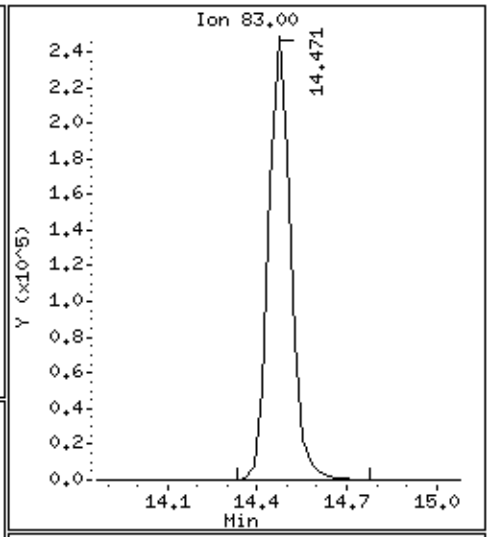
Concentration: 55.127 PPBV

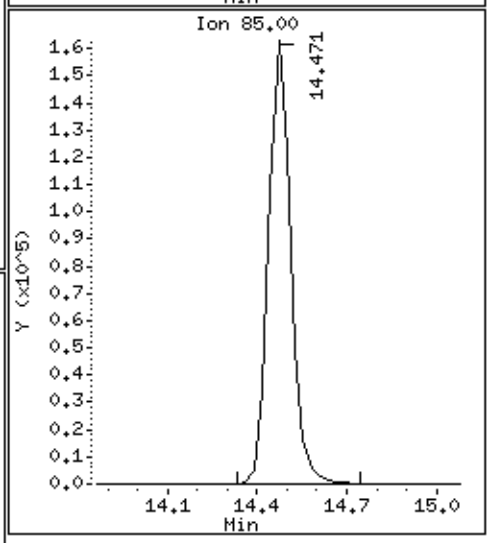












Data File: /chem/msd7.i/7-31oct.b/7103106.d

Date : 31-OCT-2007 12:19

Client ID:

Instrument: msd7.i

Sample Info: 200mL #434

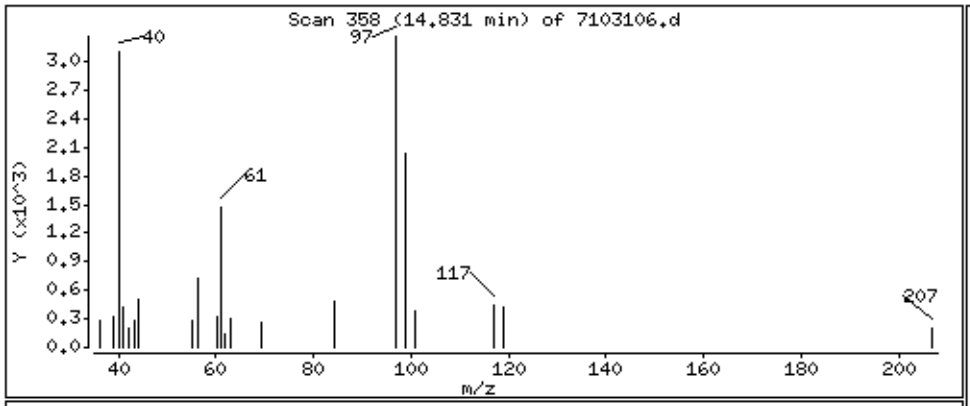
Operator: cb

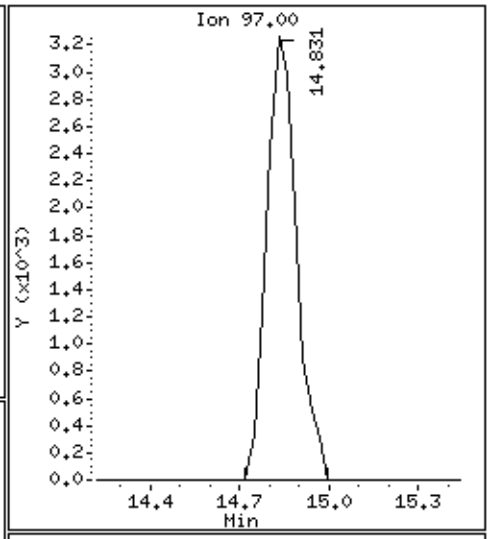
Column phase: RTx-624

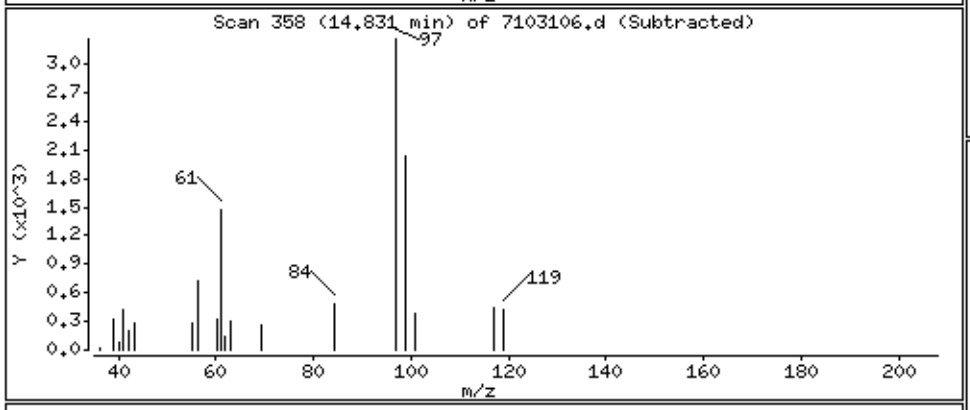
Column diameter: 0.53

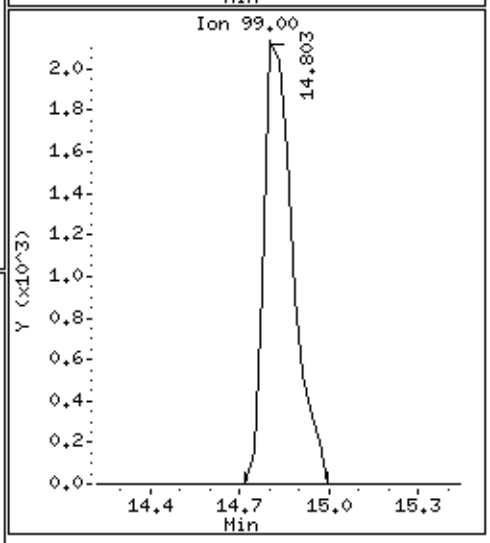
83 1,1,1-Trichloroethane

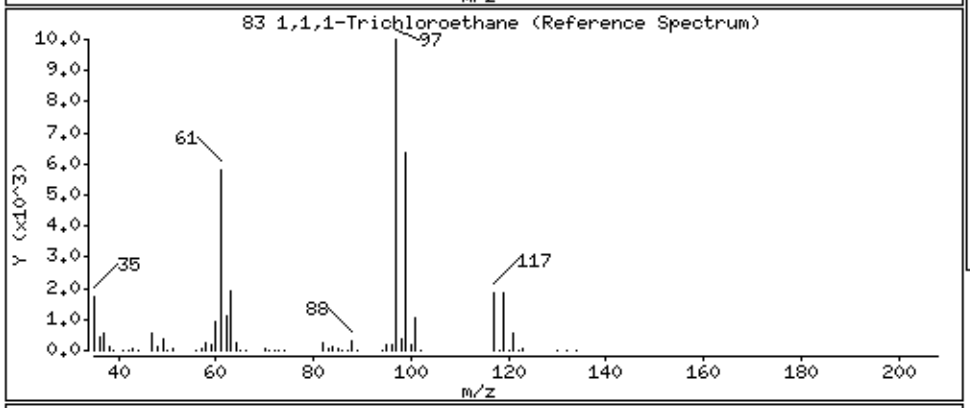
Concentration: 0.9899 PPBV

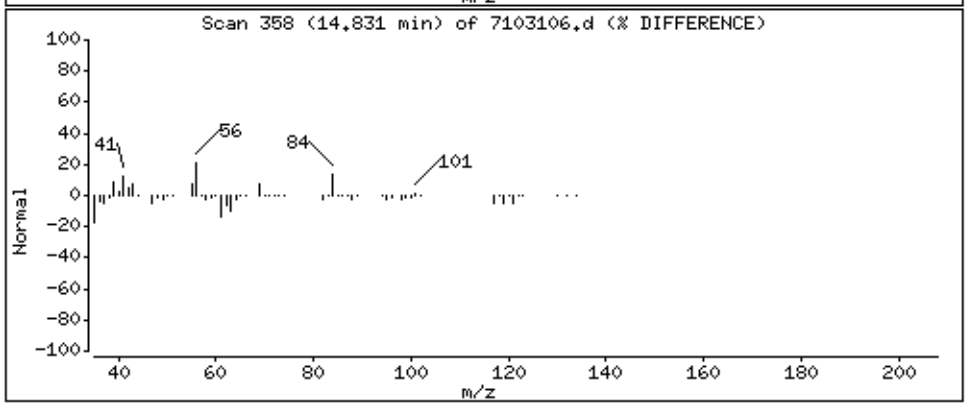












Data File: /chem/msd7.i/7-31oct.b/7103106.d

Date : 31-OCT-2007 12:19

Client ID:

Instrument: msd7.i

Sample Info: 200mL #434

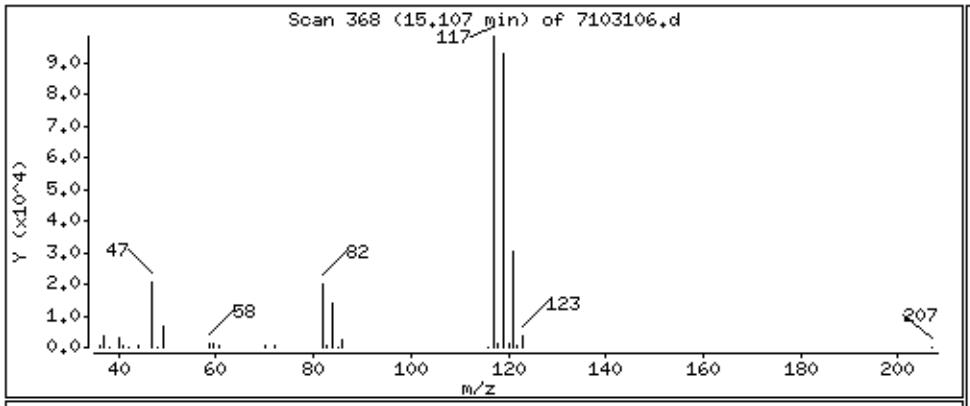
Operator: cb

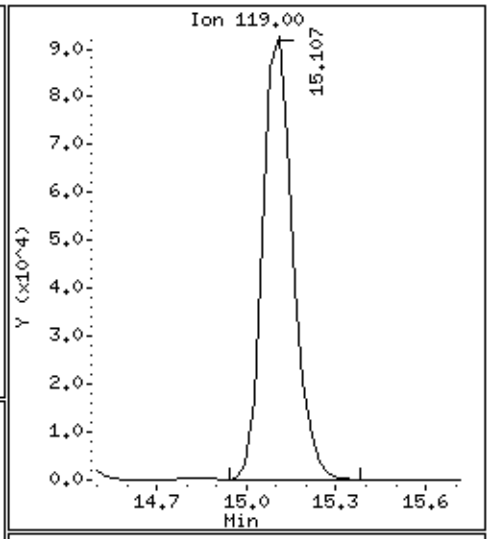
Column phase: RTx-624

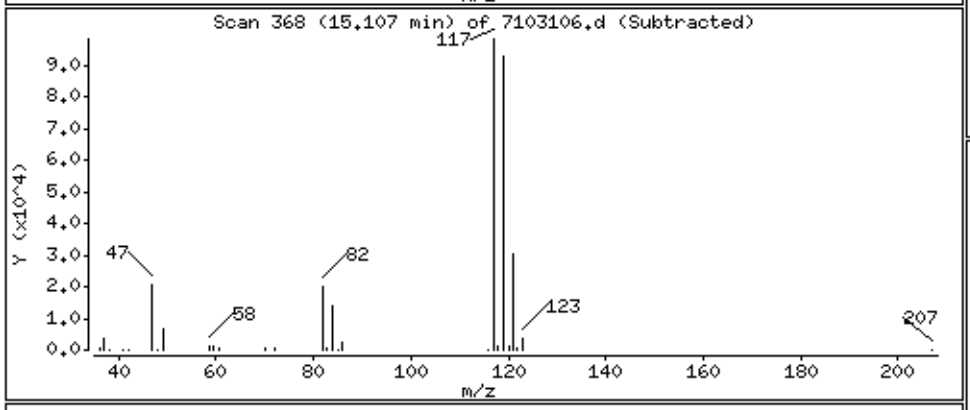
Column diameter: 0.53

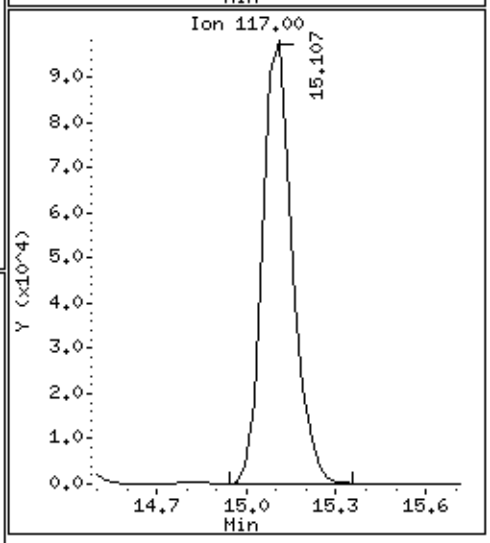
87 Carbon Tetrachloride

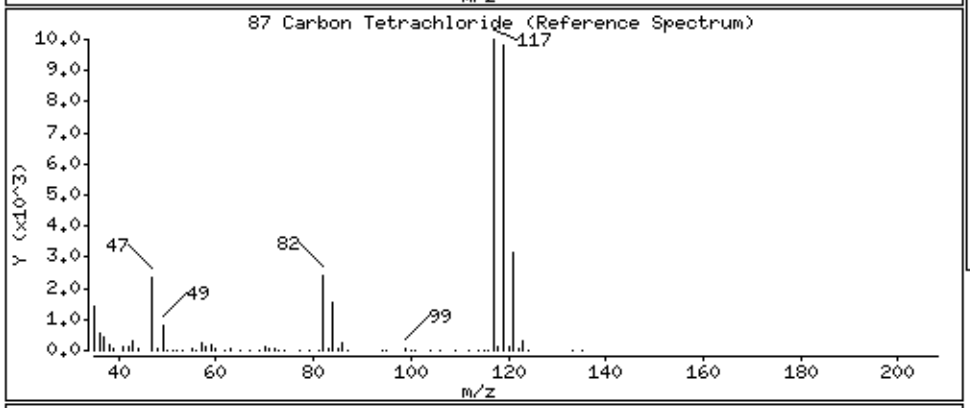
Concentration: 29.930 PPBV

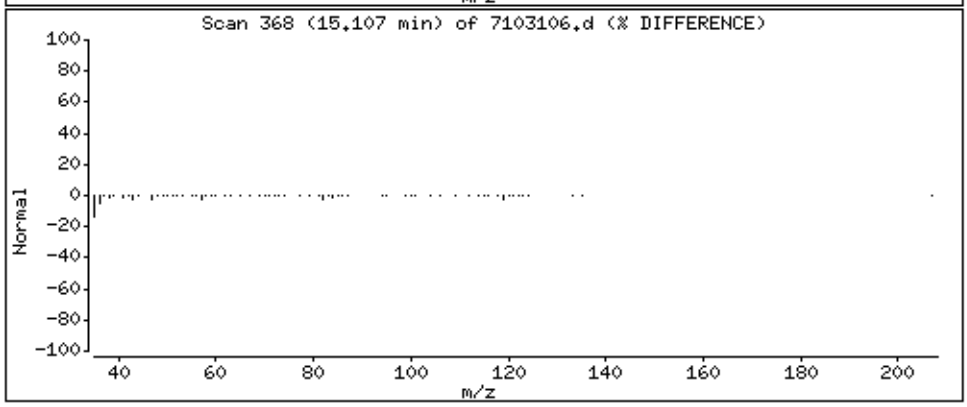












Data File: /chem/msd7.i/7-31oct.b/7103106.d

Date : 31-OCT-2007 12:19

Client ID:

Instrument: msd7.i

Sample Info: 200mL #434

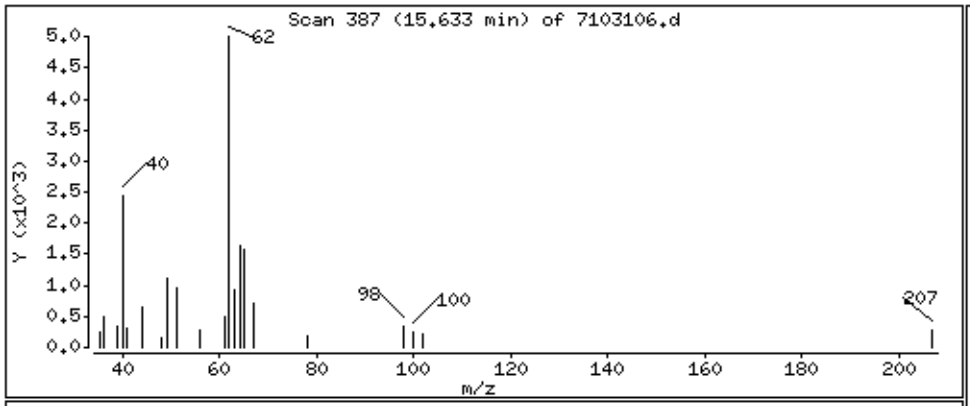
Operator: cb

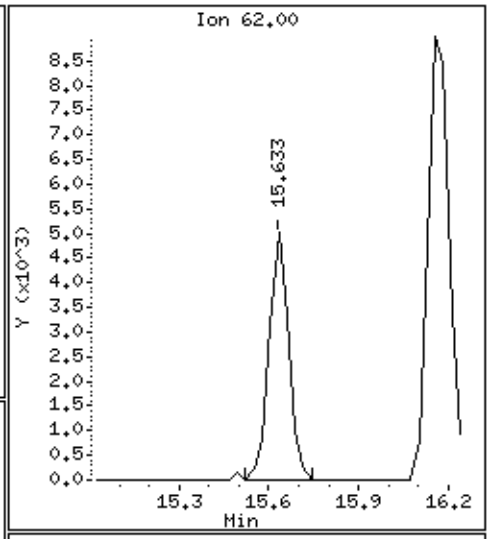
Column phase: RTx-624

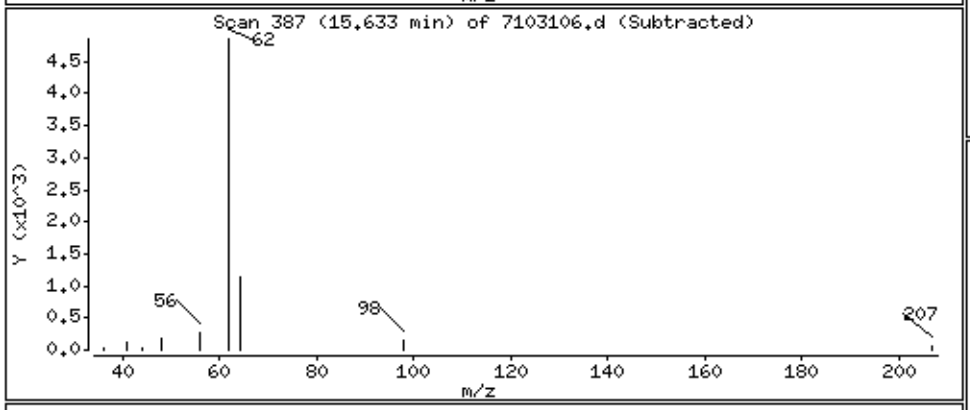
Column diameter: 0.53

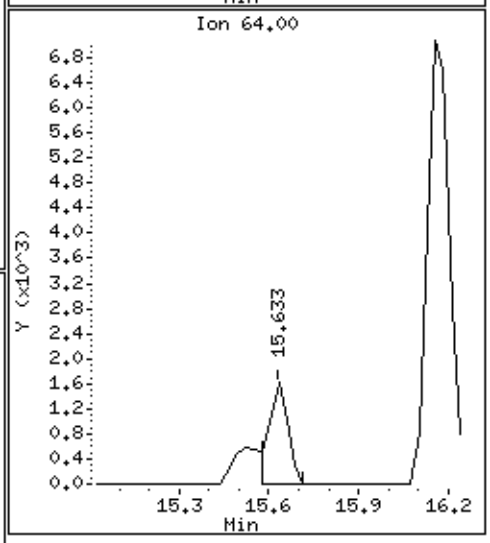
93 1,2-Dichloroethane

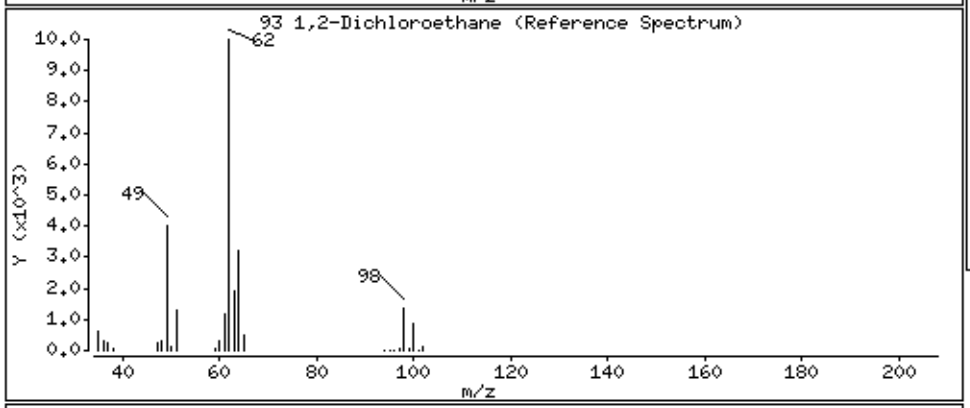
Concentration: 1.453 PPBV

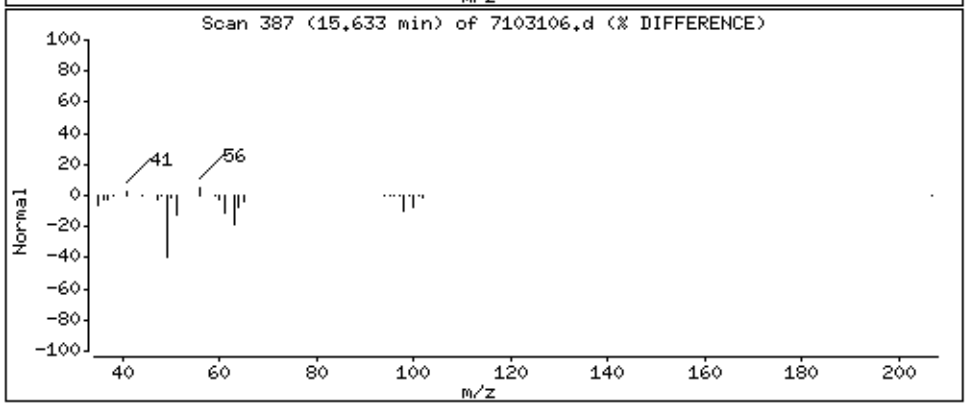












Data File: /chem/msd7.i/7-31oct.b/7103106.d

Date : 31-OCT-2007 12:19

Client ID:

Instrument: msd7.i

Sample Info: 200mL #434

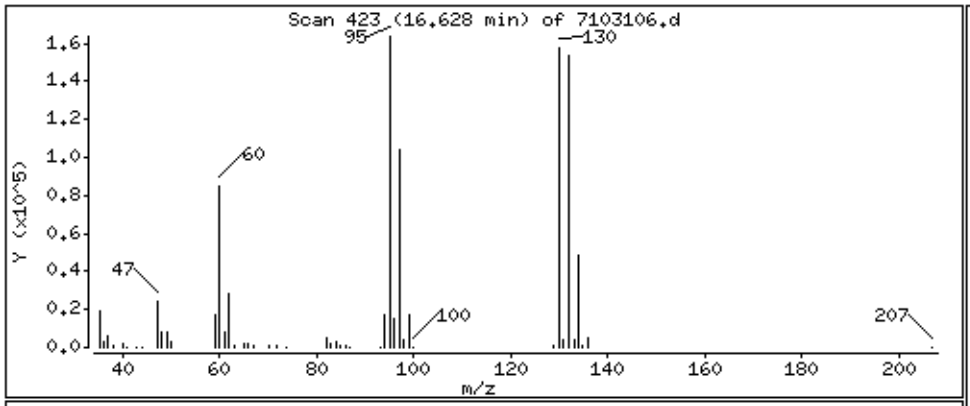
Operator: cb

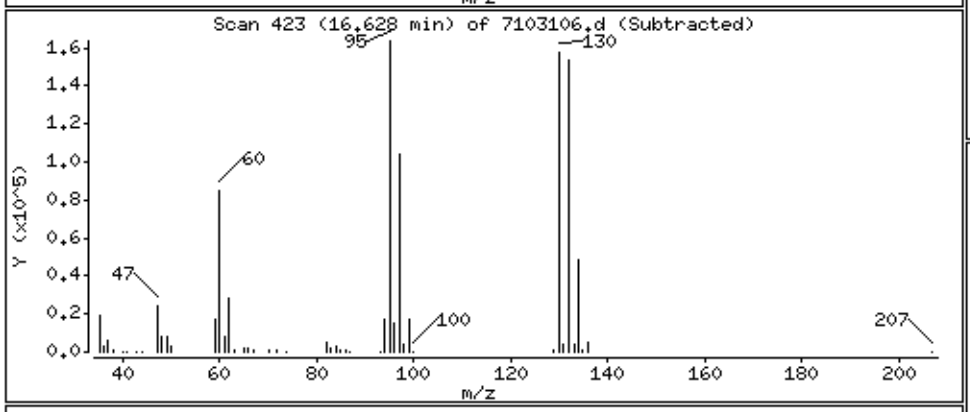
Column phase: RTx-624

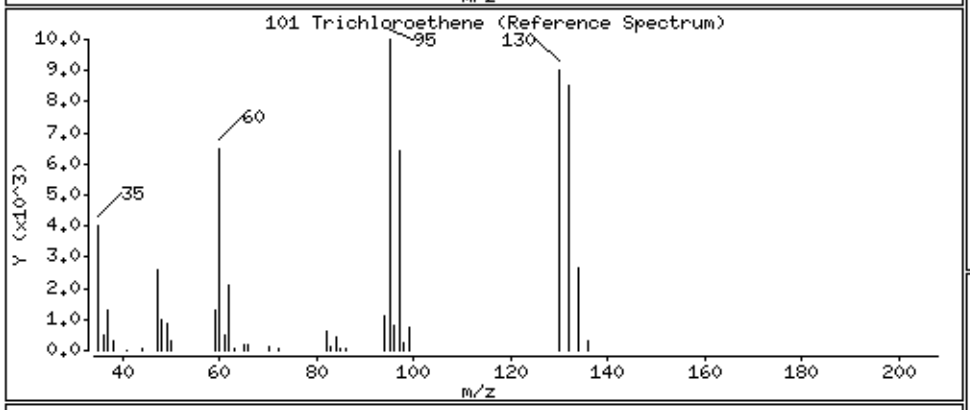
Column diameter: 0.53

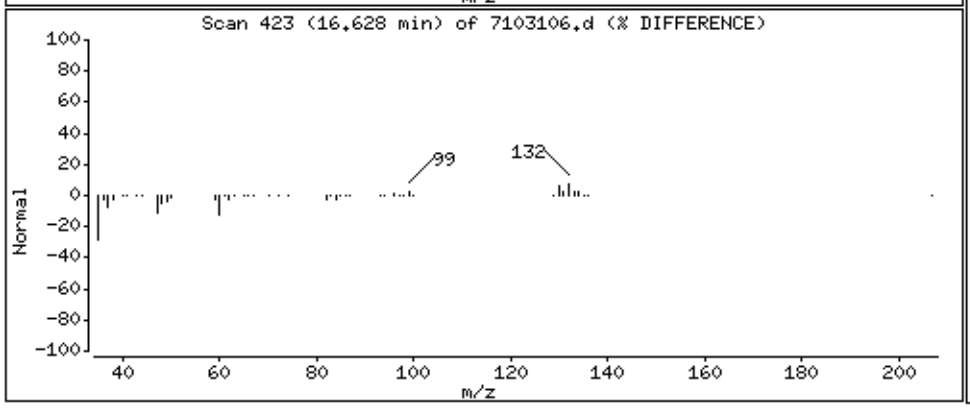
101 Trichloroethene

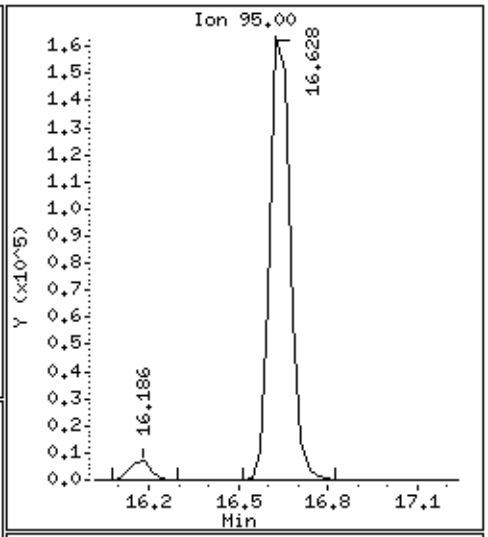
Concentration: 59.386 PPBV

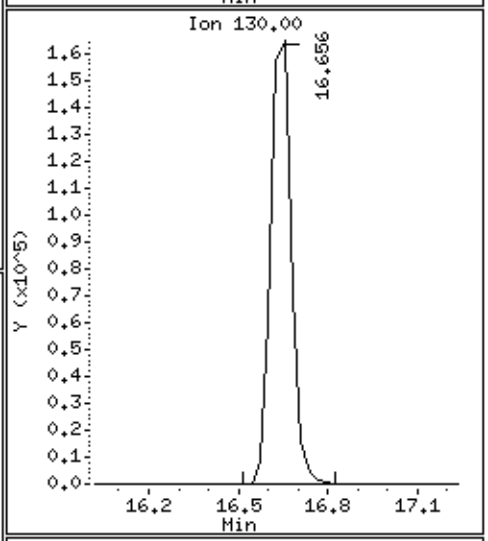


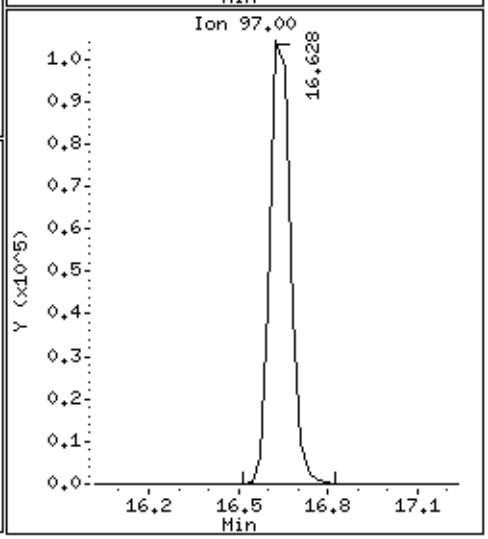












Data File: /chem/msd7.i/7-31oct.b/7103106.d

Date : 31-OCT-2007 12:19

Client ID:

Instrument: msd7.i

Sample Info: 200mL #434

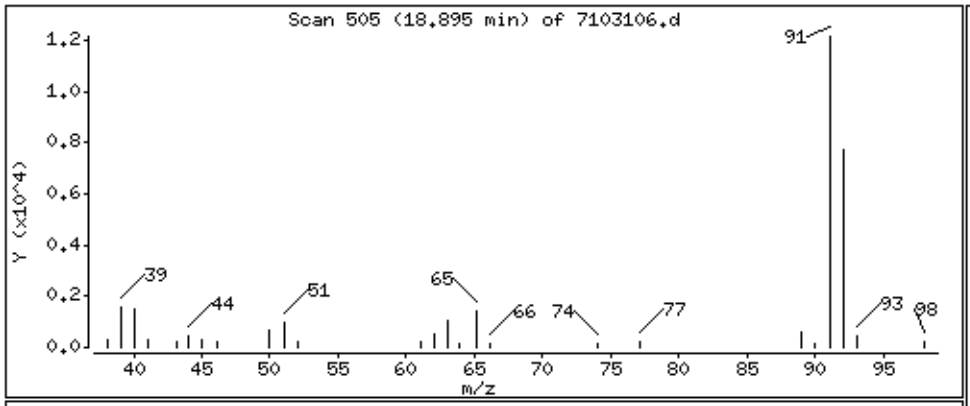
Operator: cb

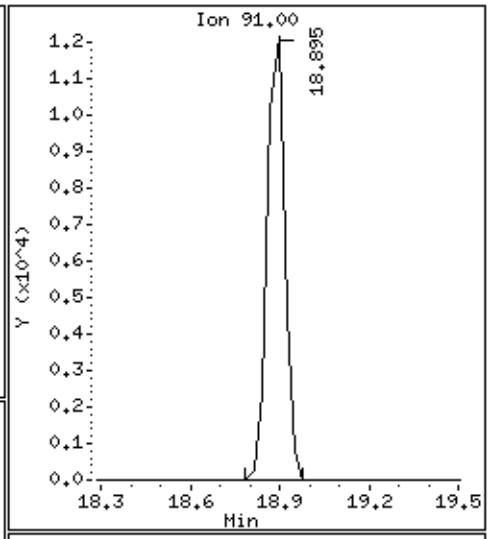
Column phase: RTx-624

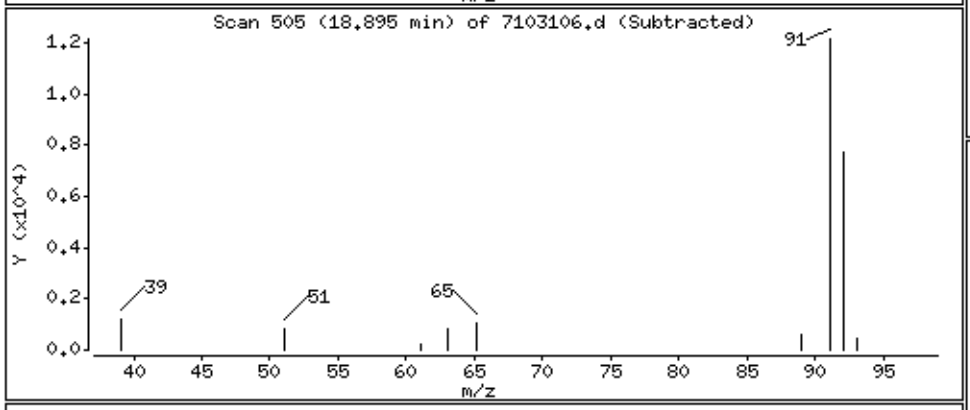
Column diameter: 0.53

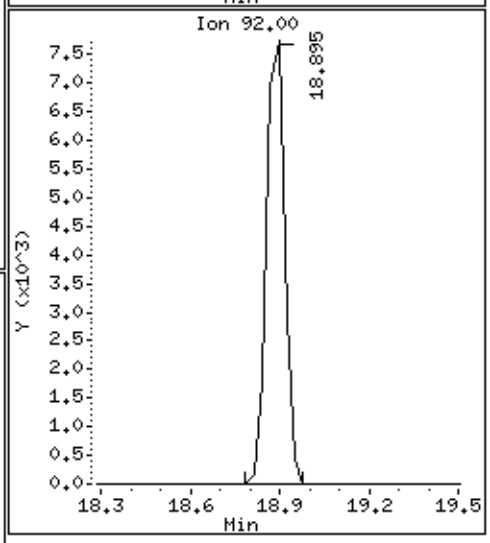
114 Toluene

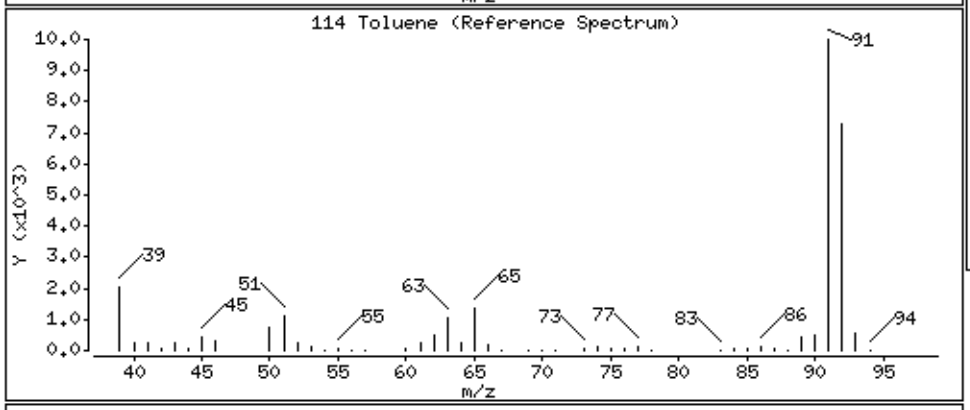
Concentration: 1.551 PPBV

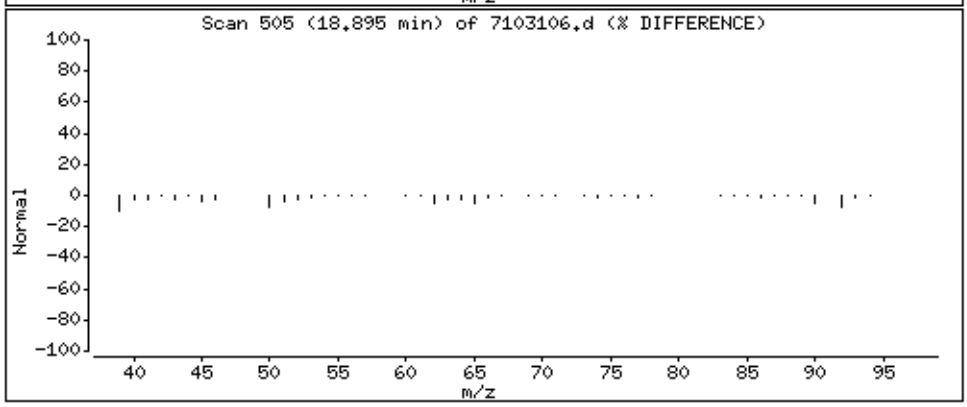












Data File: /chem/msd7.i/7-31oct.b/7103106.d

Date : 31-OCT-2007 12:19

Client ID:

Instrument: msd7.i

Sample Info: 200mL #434

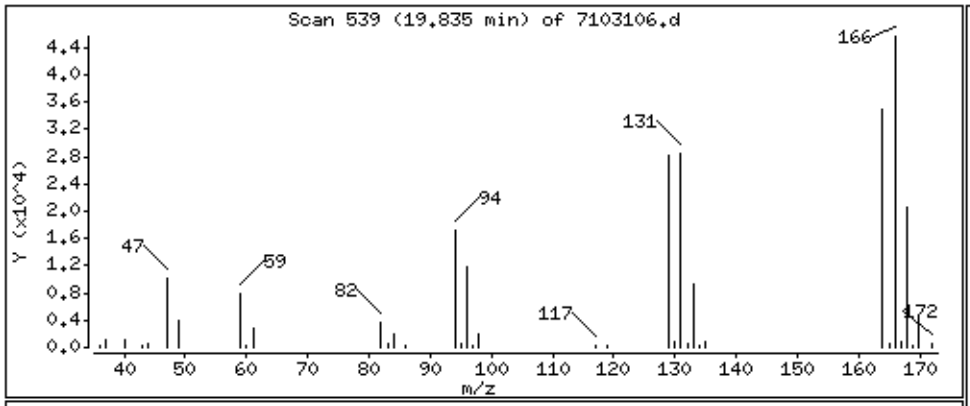
Operator: cb

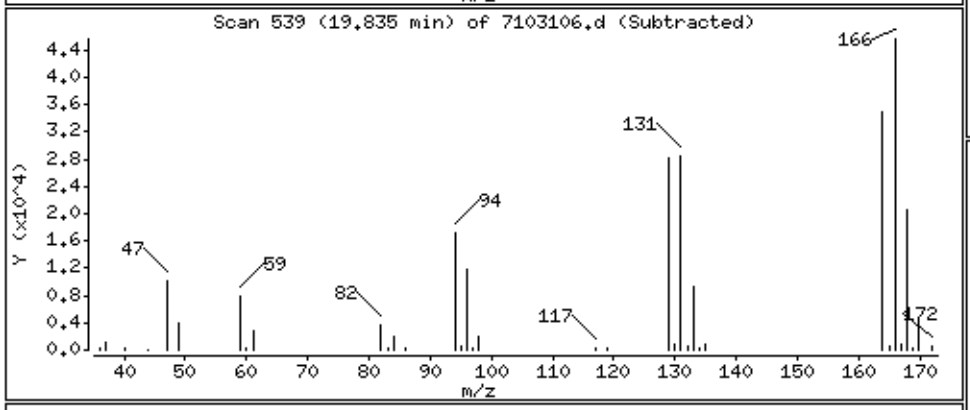
Column phase: RTx-624

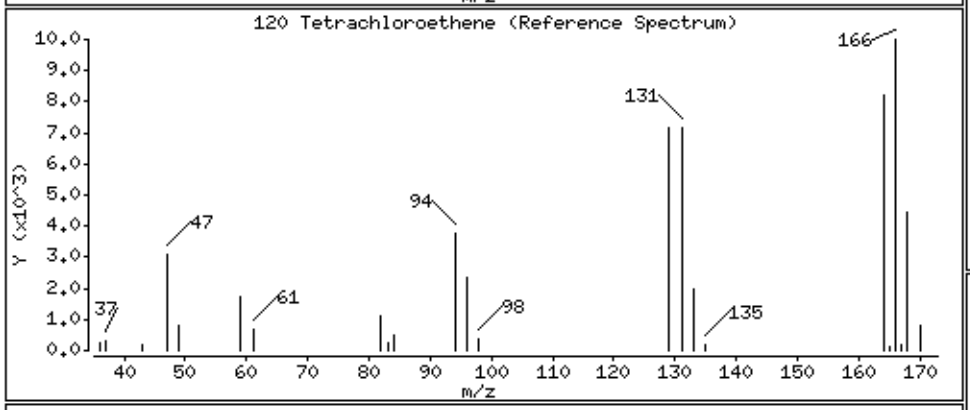
Column diameter: 0.53

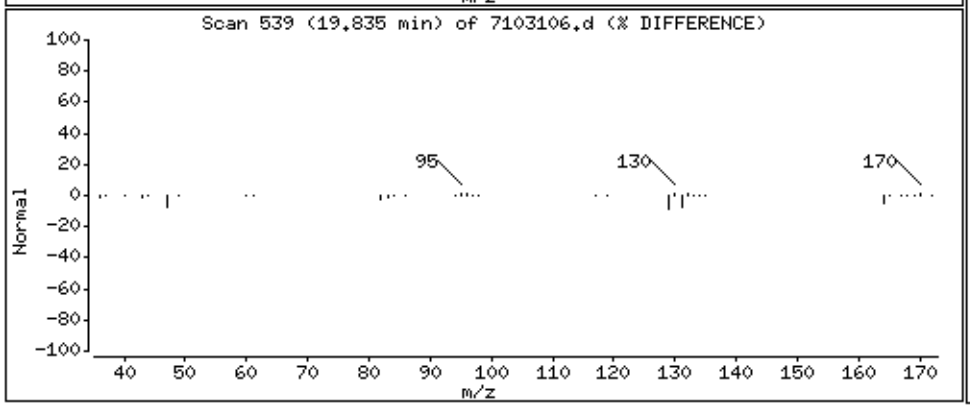
120 Tetrachloroethene

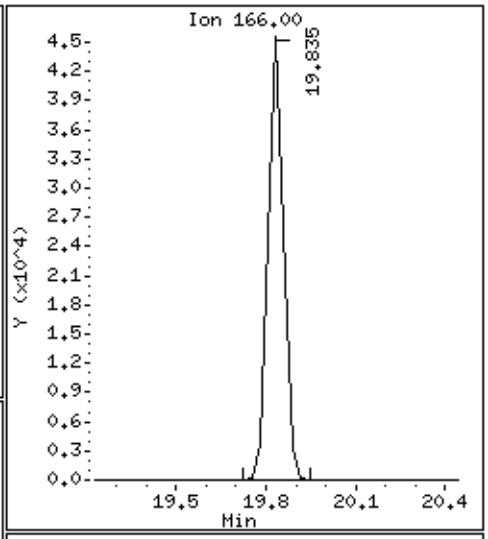
Concentration: 11.607 PPBV

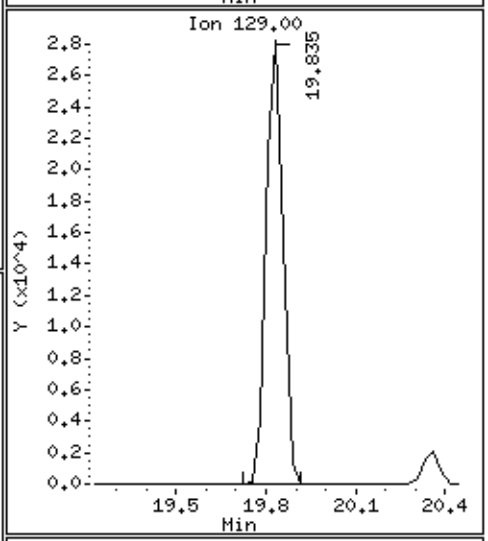


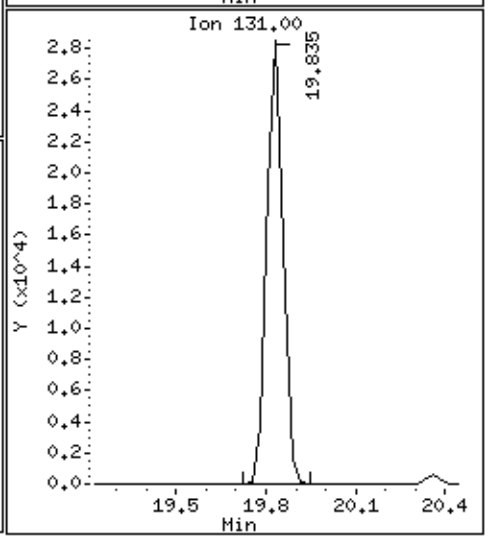












Data File: /chem/msd7.i/7-31oct.b/7103106.d

Date : 31-OCT-2007 12:19

Client ID:

Instrument: msd7.i

Sample Info: 200mL #434

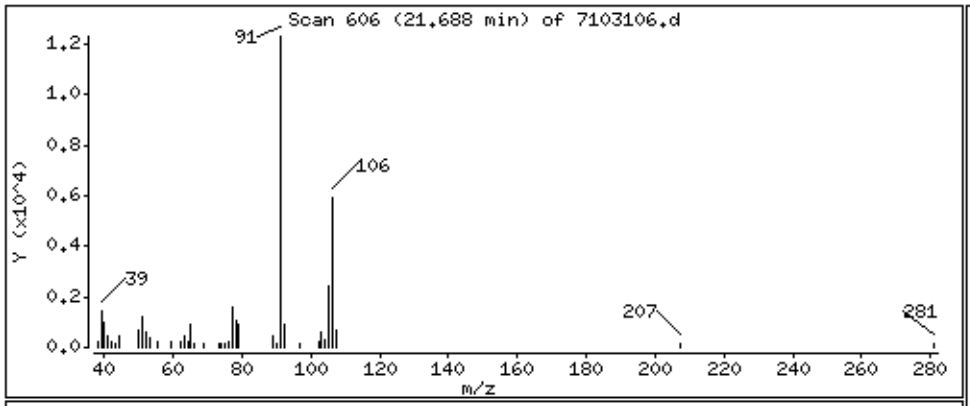
Operator: cb

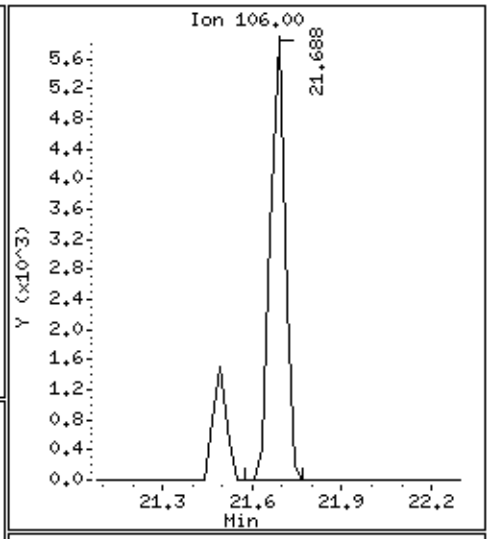
Column phase: RTx-624

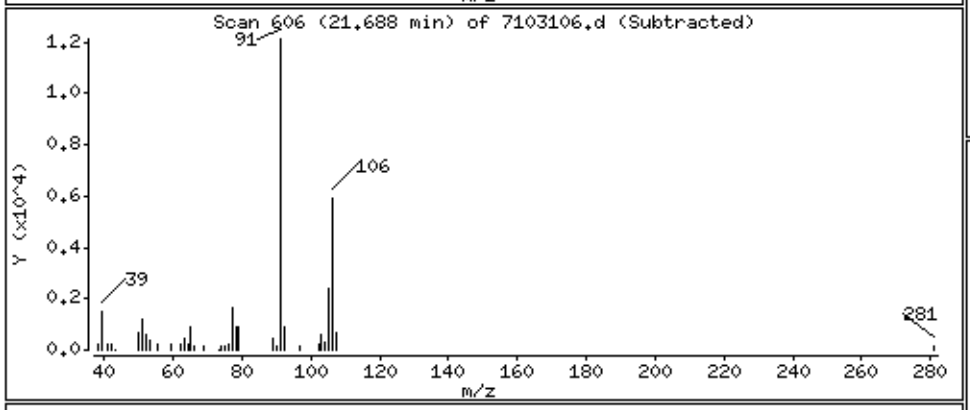
Column diameter: 0.53

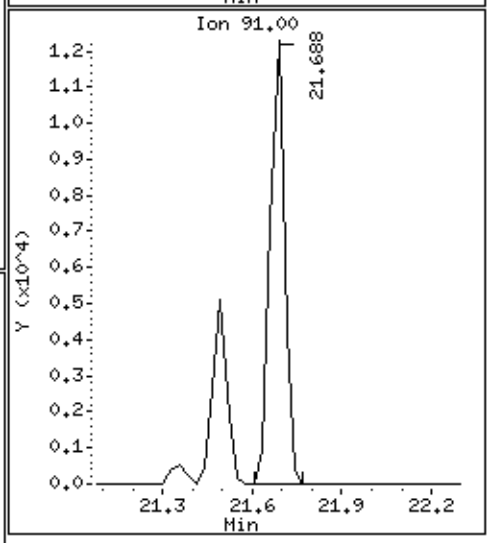
129 m,p-Xylene

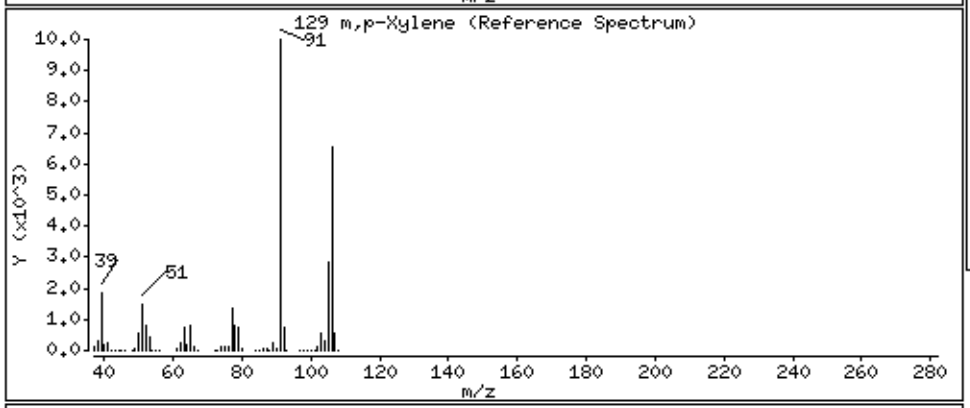
Concentration: 1.323 PPBV

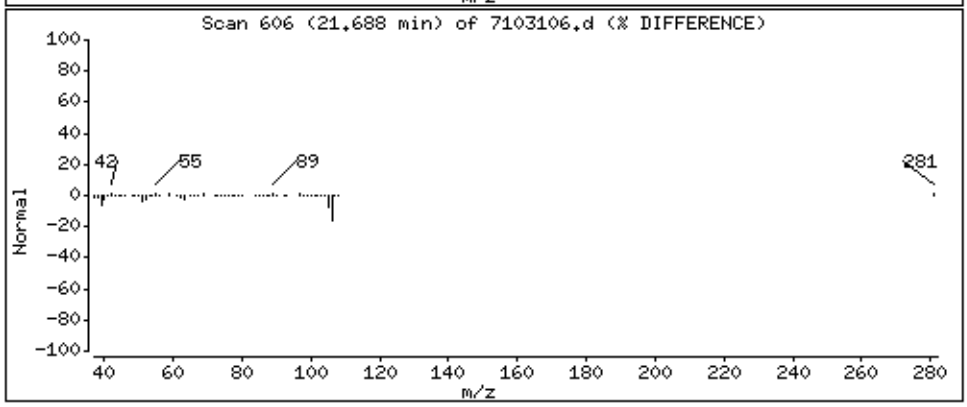












AN ENVIRONMENTAL ANALYTICAL LABORATORY

Summary of Detected Compounds
MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

Client Sample ID: MD21-07-6817

Lab ID#: 0710567-05A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
1,1-Dichloroethene	1.4	1.7	5.6	6.8
Acetone	5.6	18	13	44
Methylene Chloride	1.4	370	4.9	1300
2-Butanone (Methyl Ethyl Ketone)	1.4	1.9	4.1	5.6
Chloroform	1.4	110	6.8	550
Carbon Tetrachloride	1.4	37	8.8	230
1,2-Dichloroethane	1.4	3.6	5.7	15
Trichloroethene	1.4	85	7.5	460
Toluene	1.4	2.5	5.3	9.4
Tetrachloroethene	1.4	3.8	9.5	26
m,p-Xylene	1.4	1.9	6.1	8.4

AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: MD21-07-6817

Lab ID#: 0710567-05A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**7103108**	**Date of Collection:**	**10/19/07**
Dil. Factor:	**2.80**	**Date of Analysis:**	**10/31/07 01:55 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Freon 12	1.4	Not Detected	6.9	Not Detected
Freon 114	1.4	Not Detected	9.8	Not Detected
Chloromethane	5.6	Not Detected	12	Not Detected
Vinyl Chloride	1.4	Not Detected	3.6	Not Detected
1,3-Butadiene	1.4	Not Detected	3.1	Not Detected
Bromomethane	1.4	Not Detected	5.4	Not Detected
Chloroethane	1.4	Not Detected	3.7	Not Detected
Freon 11	1.4	Not Detected	7.9	Not Detected
Ethanol	5.6	Not Detected	10	Not Detected
Freon 113	1.4	Not Detected	11	Not Detected
1,1-Dichloroethene	1.4	1.7	5.6	6.8
Acetone	5.6	18	13	44
2-Propanol	5.6	Not Detected	14	Not Detected
Carbon Disulfide	1.4	Not Detected	4.4	Not Detected
Methylene Chloride	1.4	370	4.9	1300
Methyl tert-butyl ether	1.4	Not Detected	5.0	Not Detected
trans-1,2-Dichloroethene	1.4	Not Detected	5.6	Not Detected
Hexane	1.4	Not Detected	4.9	Not Detected
1,1-Dichloroethane	1.4	Not Detected	5.7	Not Detected
2-Butanone (Methyl Ethyl Ketone)	1.4	1.9	4.1	5.6
cis-1,2-Dichloroethene	1.4	Not Detected	5.6	Not Detected
Tetrahydrofuran	1.4	Not Detected	4.1	Not Detected
Chloroform	1.4	110	6.8	550
1,1,1-Trichloroethane	1.4	Not Detected	7.6	Not Detected
Cyclohexane	1.4	Not Detected	4.8	Not Detected
Carbon Tetrachloride	1.4	37	8.8	230
Benzene	1.4	Not Detected	4.5	Not Detected
1,2-Dichloroethane	1.4	3.6	5.7	15
Heptane	1.4	Not Detected	5.7	Not Detected
Trichloroethene	1.4	85	7.5	460
1,2-Dichloropropane	1.4	Not Detected	6.5	Not Detected
1,4-Dioxane	5.6	Not Detected	20	Not Detected
Bromodichloromethane	1.4	Not Detected	9.4	Not Detected
cis-1,3-Dichloropropene	1.4	Not Detected	6.4	Not Detected
4-Methyl-2-pentanone	1.4	Not Detected	5.7	Not Detected
Toluene	1.4	2.5	5.3	9.4
trans-1,3-Dichloropropene	1.4	Not Detected	6.4	Not Detected
1,1,2-Trichloroethane	1.4	Not Detected	7.6	Not Detected
Tetrachloroethene	1.4	3.8	9.5	26

AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: MD21-07-6817

Lab ID#: 0710567-05A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**7103108**	**Date of Collection:**	**10/19/07**
Dil. Factor:	**2.80**	**Date of Analysis:**	**10/31/07 01:55 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
2-Hexanone	5.6	Not Detected	23	Not Detected
Dibromochloromethane	1.4	Not Detected	12	Not Detected
1,2-Dibromoethane (EDB)	1.4	Not Detected	11	Not Detected
Chlorobenzene	1.4	Not Detected	6.4	Not Detected
Ethyl Benzene	1.4	Not Detected	6.1	Not Detected
m,p-Xylene	1.4	1.9	6.1	8.4
o-Xylene	1.4	Not Detected	6.1	Not Detected
Styrene	1.4	Not Detected	6.0	Not Detected
Bromoform	1.4	Not Detected	14	Not Detected
1,1,2,2-Tetrachloroethane	1.4	Not Detected	9.6	Not Detected
4-Ethyltoluene	1.4	Not Detected	6.9	Not Detected
1,3,5-Trimethylbenzene	1.4	Not Detected	6.9	Not Detected
1,2,4-Trimethylbenzene	1.4	Not Detected	6.9	Not Detected
1,3-Dichlorobenzene	1.4	Not Detected	8.4	Not Detected
1,4-Dichlorobenzene	1.4	Not Detected	8.4	Not Detected
alpha-Chlorotoluene	1.4	Not Detected	7.2	Not Detected
1,2-Dichlorobenzene	1.4	Not Detected	8.4	Not Detected
1,2,4-Trichlorobenzene	5.6	Not Detected	42	Not Detected
Hexachlorobutadiene	5.6	Not Detected	60	Not Detected
Chlorodifluoromethane	5.6	Not Detected	20	Not Detected
Methanol	140	Not Detected	180	Not Detected
n-Butanol	5.6	Not Detected	17	Not Detected
Propylene	5.6	Not Detected	9.6	Not Detected

Container Type: 6 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	88	70-130
1,2-Dichloroethane-d4	107	70-130
4-Bromofluorobenzene	104	70-130

Air Toxics Ltd.

AMBIENT AIR METHOD TO14

Data file : /chem/msd7.i/7-31oct.b/7103108.d
Lab Smp Id: 0710567-05A
Inj Date : 31-OCT-2007 13:55
Operator : cb Inst ID: msd7.i
Smp Info : 125mL #4175
Misc Info : 7.0"Hg --> 5psi
Comment :
Method : /chem/msd7.i/7-31oct.b/t14qO18c.m
Meth Date : 31-Oct-2007 16:21 cbond Quant Type: ISTD
Cal Date : 30-OCT-2007 11:10 Cal File: 7103005.d
Als bottle: 1
Dil Factor: 2.80000
Integrator: HP RTE Compound Sublist: Los2153.sub
Target Version: 3.50 Sample Matrix: AIR
Processing Host: eeyore

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

RT	EXP RT (REL RT)	MASS	RESPONSE	CONCENTRATIONS ON-COL (PPBV)	FINAL (PPBV)	TARGET RANGE	RATIO
* 81 Bromochloromethane						CAS #: 74-97-5	
14.416	14.388 (1.000)	130	385389	25.0000		80.00- 120.00	100.00
14.416	14.388 (1.000)	128	295650			26.85- 126.85	76.71
14.416	14.388 (1.000)	49	717748			148.03- 248.03	186.24
* 97 1,4-Difluorobenzene						CAS #: 540-36-3	
16.158	16.158 (1.000)	114	1282407	25.0000		80.00- 120.00	100.00
16.158	16.158 (1.000)	88	193077			0.00- 65.22	15.06
* 126 Chlorobenzene-d5						CAS #: 3114-55-4	
21.356	21.356 (1.000)	117	914211	25.0000		80.00- 120.00	100.00
21.356	21.356 (1.000)	82	479726			4.45- 104.45	52.47
$ 90 1,2-Dichloroethane-d4						CAS #: 17060-07-0	
15.494	15.494 (1.075)	65	554263	26.7711	26.771	80.00- 120.00	100.00
15.494	15.494 (1.075)	67	261604			2.91- 102.91	47.20
$ 113 Toluene-d8						CAS #: 2037-26-5	
18.757	18.757 (1.161)	98	1007109	22.1228	22.123	80.00- 120.00	100.00
18.757	18.757 (1.161)	70	111423			0.00- 61.46	11.06

RT	EXP RT (REL RT)	MASS	RESPONSE	CONCENTRATIONS ON-COL (PPBV)	FINAL (PPBV)	TARGET RANGE	RATIO
$ 113 Toluene-d8 (continued)							
18.757	18.757 (1.161)	100	692604			19.18- 119.18	68.77
$ 137 Bromofluorobenzene					CAS #: 460-00-4		
23.347	23.347 (1.093)	174	562948	25.8775	25.877	80.00- 120.00	100.00
23.319	23.347 (1.092)	95	654069			66.59- 166.59	116.19
23.347	23.347 (1.093)	176	546824			46.44- 146.44	97.14
43 1,1-Dichloroethene					CAS #: 75-35-4		
10.324	10.324 (0.716)	61	20493	0.60945	1.706	80.00- 120.00	100.00
10.324	10.324 (0.716)	96	10395			7.00- 107.00	50.72
10.351	10.324 (0.718)	98	6740			0.00- 86.85	32.89
45 Acetone					CAS #: 67-64-1		
10.490	10.490 (0.728)	58	68088	6.55110	18.343	80.00- 120.00	100.00
10.490	10.490 (0.728)	43	256107			247.10- 347.10	376.14
54 Methylene Chloride					CAS #: 75-09-2		
11.485	11.457 (0.797)	49	3305749	133.720	374.42	80.00- 120.00	100.00
11.485	11.457 (0.797)	84	2074734			13.10- 113.10	62.76
11.485	11.457 (0.797)	51	987654			0.00- 80.85	29.88
75 2-Butanone					CAS #: 78-93-3		
13.890	13.890 (0.964)	72	5657	0.67773	1.898	80.00- 120.00	100.00
13.890	13.890 (0.964)	43	34880			526.71- 626.71	616.58
13.918	13.890 (0.965)	57	1816			0.00- 86.57	32.11
82 Chloroform					CAS #: 67-66-3		
14.471	14.471 (1.004)	83	1569778	40.4552	113.27	80.00- 120.00	100.00
14.471	14.471 (1.004)	85	1038447			14.74- 114.74	66.15
87 Carbon Tetrachloride					CAS #: 56-23-5		
15.107	15.107 (1.048)	119	482232	13.1654	36.863	80.00- 120.00	100.00
15.107	15.107 (1.048)	117	491770			53.94- 153.94	101.98
93 1,2-Dichloroethane					CAS #: 107-06-2		
15.632	15.632 (0.967)	62	34895	1.28894	3.609	80.00- 120.00	100.00
15.632	15.632 (0.967)	64	13464			0.00- 82.89	38.59
101 Trichloroethene					CAS #: 79-01-6		
16.628	16.628 (1.029)	95	687334	30.3674	85.029	80.00- 120.00	100.00
16.655	16.628 (1.031)	130	705539			52.82- 152.82	102.65
16.628	16.628 (1.029)	97	443086			14.78- 114.78	64.46
114 Toluene					CAS #: 108-88-3		
18.895	18.895 (1.169)	91	49952	0.89504	2.506	80.00- 120.00	100.00

RT	EXP RT (REL RT)	MASS	RESPONSE	CONCENTRATIONS ON-COL (PPBV)	FINAL (PPBV)	TARGET RANGE	RATIO
114 Toluene (continued)							
18.895	18.895 (1.169)	92	30215			12.87- 112.87	60.49
120 Tetrachloroethene					CAS #: 127-18-4		
19.835	19.835 (0.929)	166	33627	1.36924	3.834	80.00- 120.00	100.00
19.835	19.835 (0.929)	129	23852			19.71- 119.71	70.93
19.835	19.835 (0.929)	131	23449			17.66- 117.66	69.73
129 m,p-Xylene					CAS #: 108-38-3		
21.688	21.688 (1.016)	106	18177	0.68788	1.926	80.00- 120.00	100.00
21.688	21.688 (1.016)	91	35447			145.05- 245.05	195.01

Report Date: 01-Nov-2007 11:32

Air Toxics Ltd.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd7.i
Lab File ID: 7103108.d
Lab Smp Id: 0710567-05A
Analysis Type: VOA
Quant Type: ISTD
Operator: cb
Method File: /chem/msd7.i/7-31oct.b/t14qO18c.m
Misc Info: 7.0"Hg --> 5psi

Calibration Date: 31-OCT-2007
Calibration Time: 09:03

Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
81 Bromochloromethan	419527	251716	587338	385389	-8.14
97 1,4-Difluorobenze	1400939	840563	1961315	1282407	-8.46
126 Chlorobenzene-d5	1205049	723029	1687069	914211	-24.13

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
81 Bromochloromethan	14.39	14.06	14.72	14.42	0.19
97 1,4-Difluorobenze	16.16	15.83	16.49	16.16	0.00
126 Chlorobenzene-d5	21.36	21.03	21.69	21.36	0.00

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Report Date: 01-Nov-2007 11:32

Air Toxics Ltd.

RECOVERY REPORT

Client Name:
Client SDG: 7-31oct
Sample Matrix: GAS
Fraction: VOA
Lab Smp Id: 0710567-05A
Level: LOW
Operator: cb
Data Type: MS DATA
SampleType: SAMPLE
SpikeList File: 2926spectra.spk
Quant Type: ISTD
Sublist File: Los2153.sub
Method File: /chem/msd7.i/7-31oct.b/t14qO18c.m
Misc Info: 7.0"Hg --> 5psi

SURROGATE COMPOUND	CONC ADDED PPBV	CONC RECOVERED PPBV	% RECOVERED	LIMITS
$ 90 1,2-Dichloroethane	25.000	26.771	107.08	70-130
$ 113 Toluene-d8	25.000	22.123	88.49	70-130
$ 137 Bromofluorobenzene	25.000	25.877	103.51	70-130

Data File: /chem/msd7.i/7-31oct.b/7103108.d

Date : 31-OCT-2007 13:55

Client ID:

Sample Info: 125mL #4175

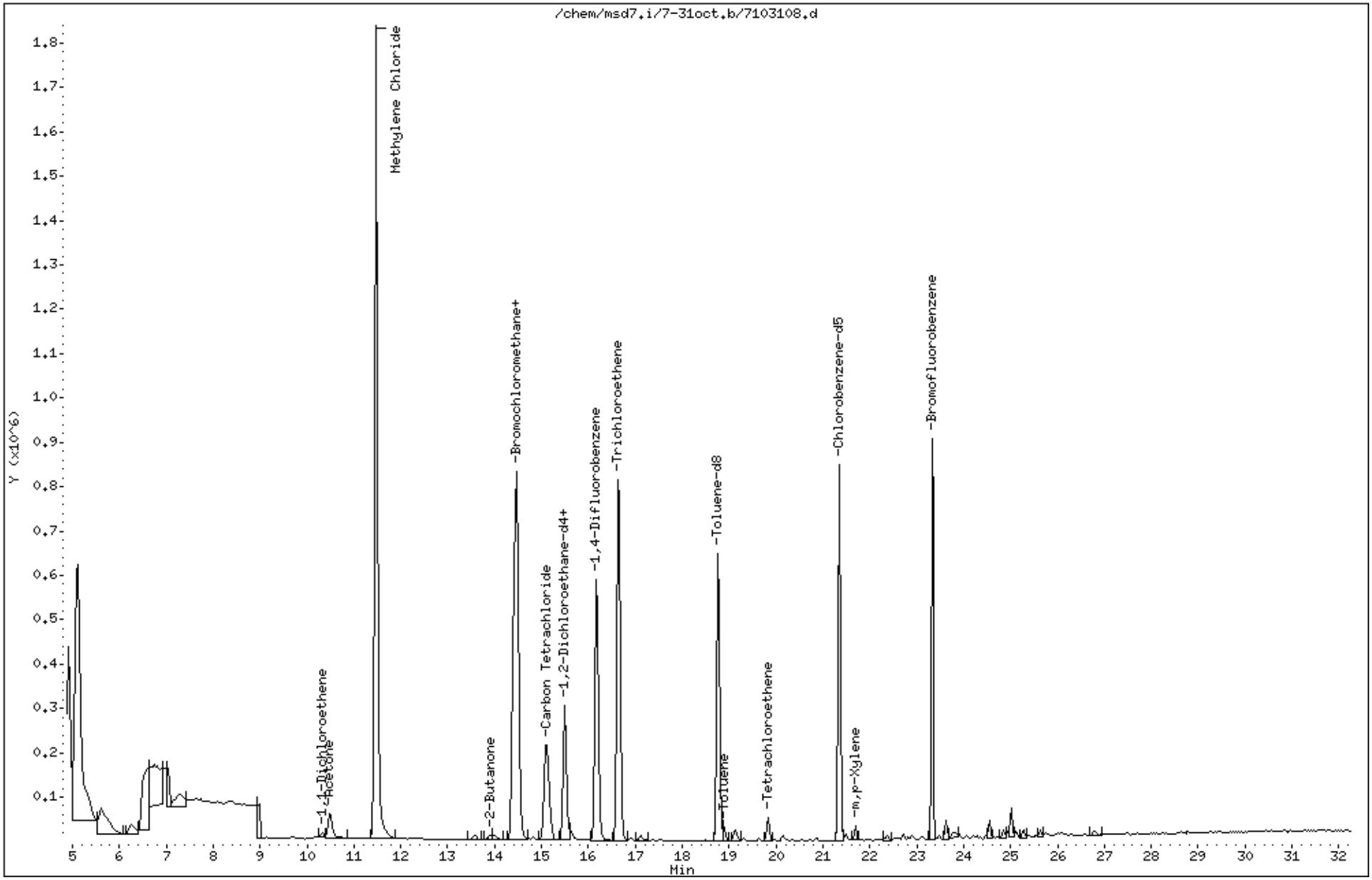
Column phase: RTx-624

Instrument: msd7.i

Operator: cb

Column diameter: 0.53

0103



Data File: /chem/msd7.i/7-31oct.b/7103108.d

Date : 31-OCT-2007 13:55

Client ID:

Instrument: msd7.i

Sample Info: 125mL #4175

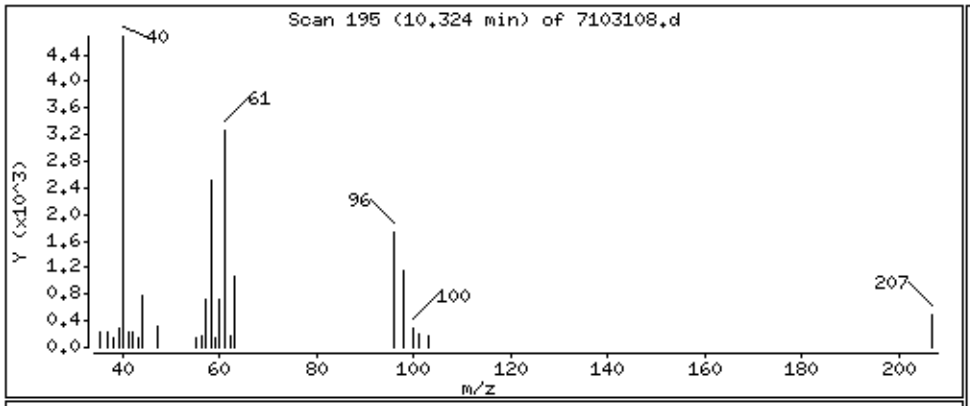
Operator: cb

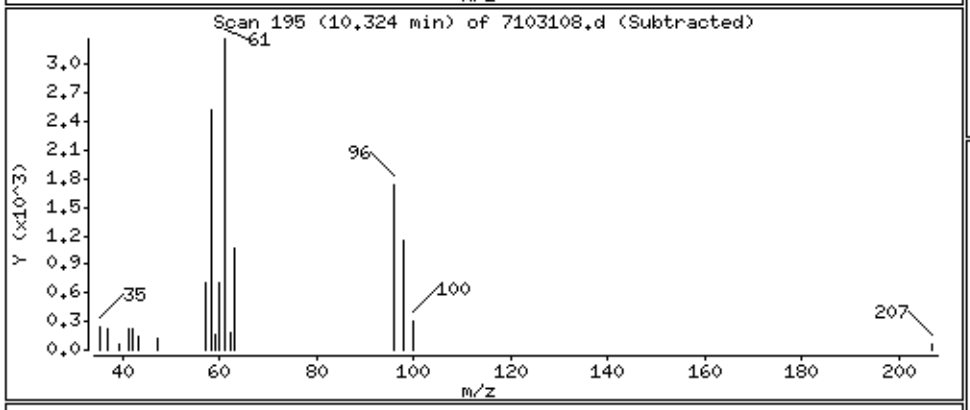
Column phase: RTx-624

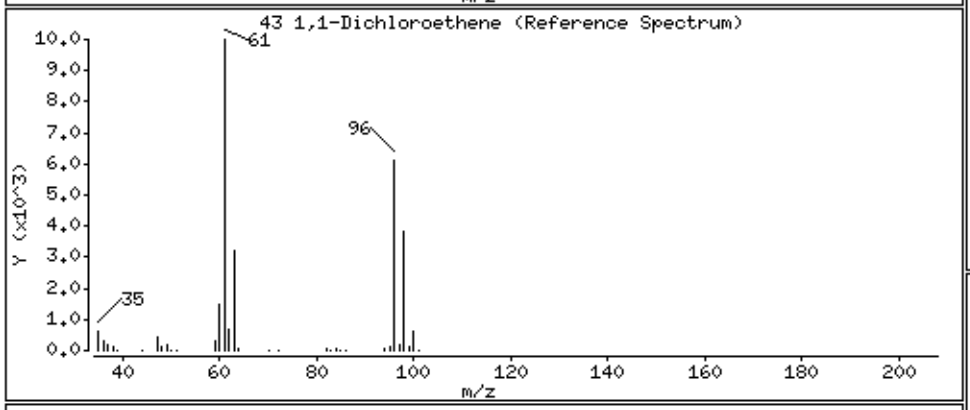
Column diameter: 0.53

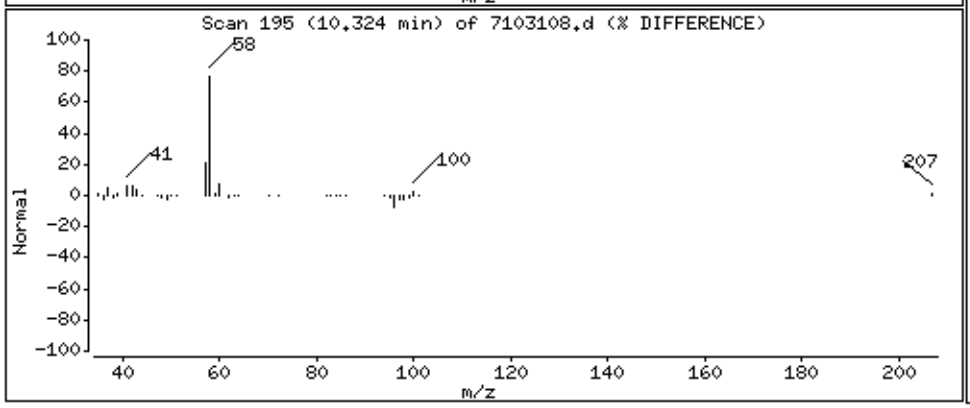
43 1,1-Dichloroethene

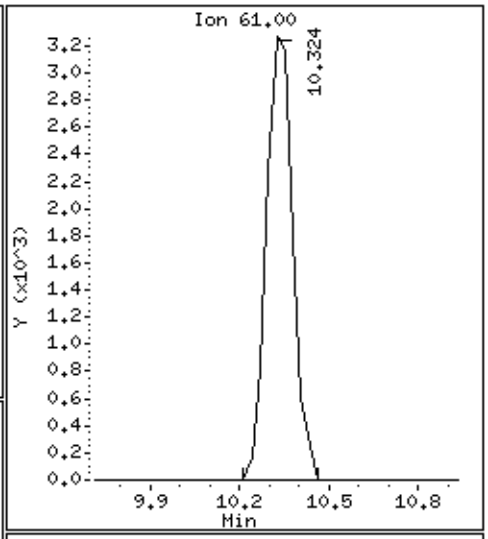
Concentration: 1.706 PPBV

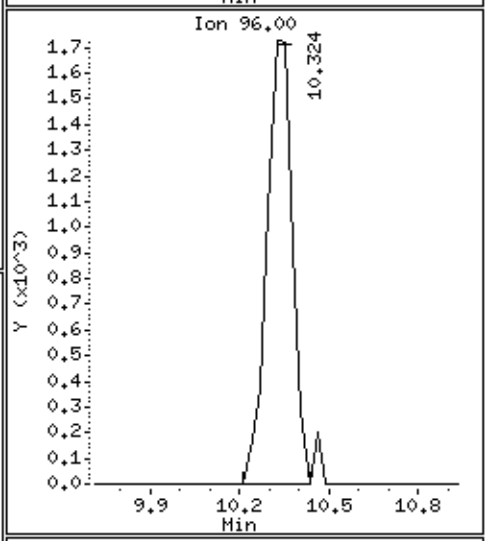


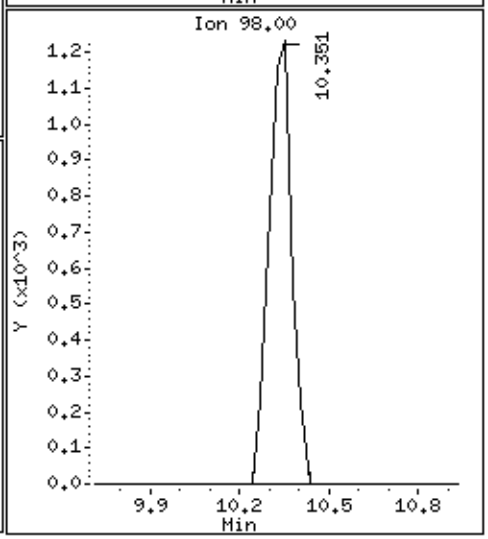












Data File: /chem/msd7.i/7-31oct.b/7103108.d

Date : 31-OCT-2007 13:55

Client ID:

Instrument: msd7.i

Sample Info: 125mL #4175

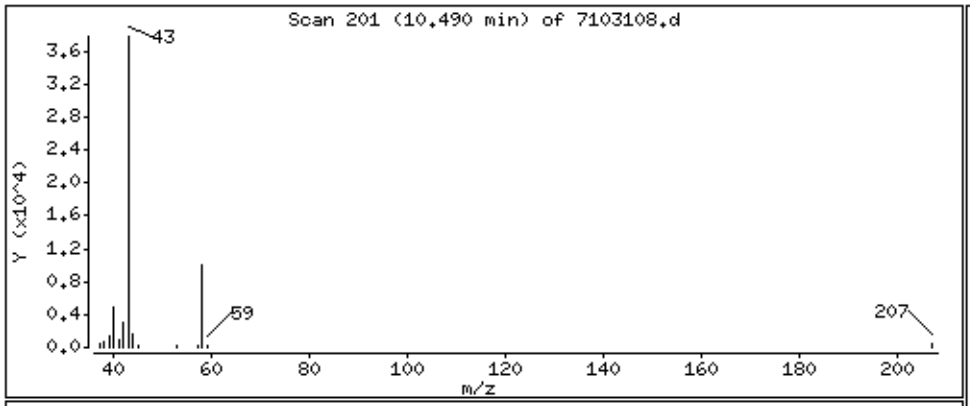
Operator: cb

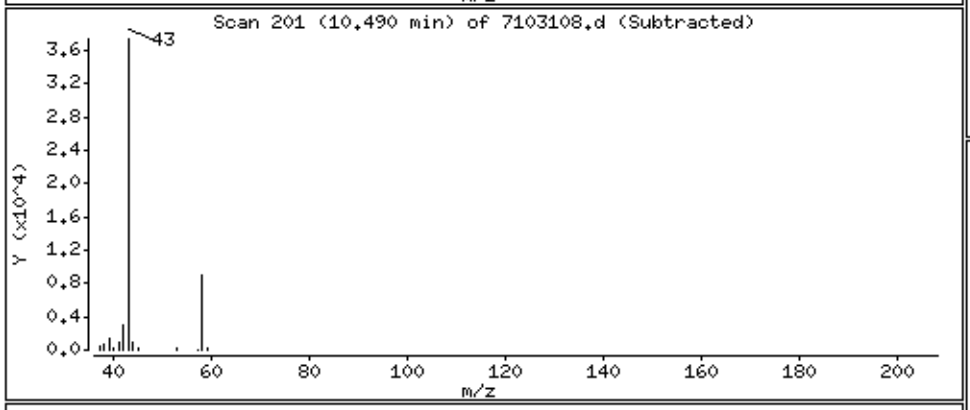
Column phase: RTx-624

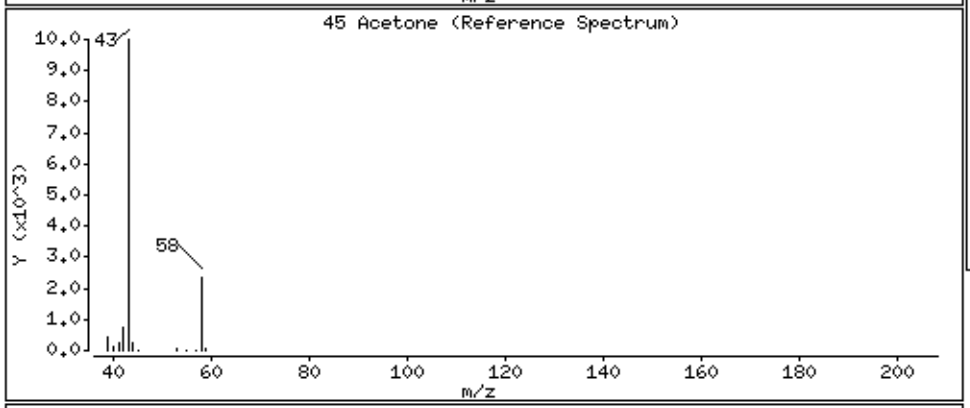
Column diameter: 0.53

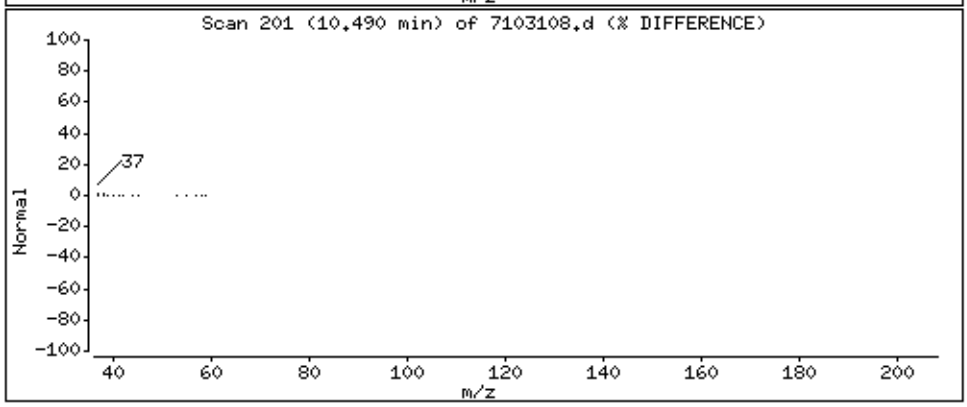
45 Acetone

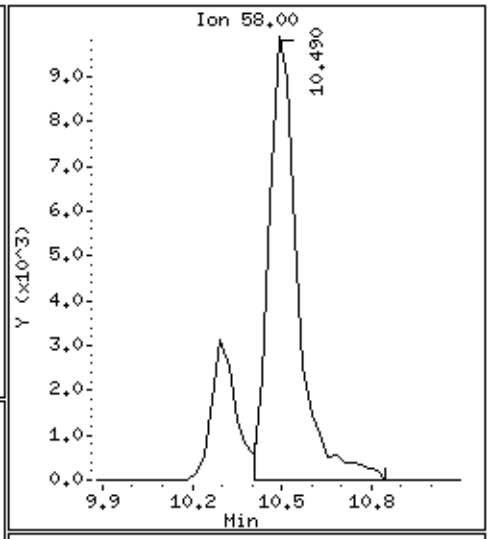
Concentration: 18.343 PPBV

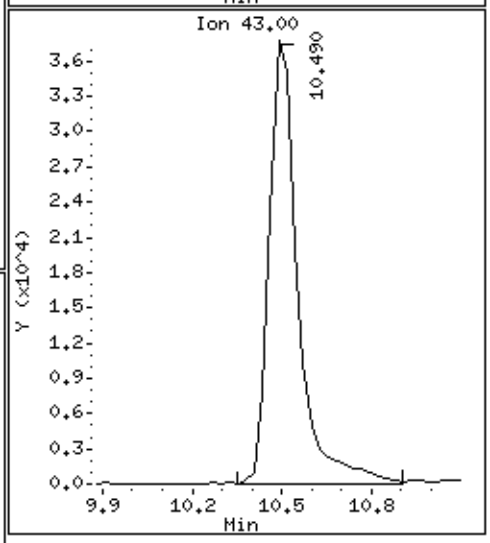












Data File: /chem/msd7.i/7-31oct.b/7103108.d

Date : 31-OCT-2007 13:55

Client ID:

Instrument: msd7.i

Sample Info: 125mL #4175

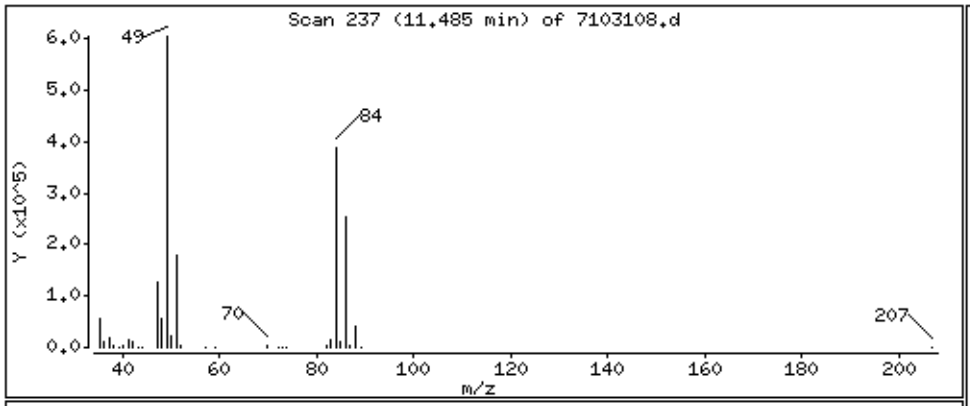
Operator: cb

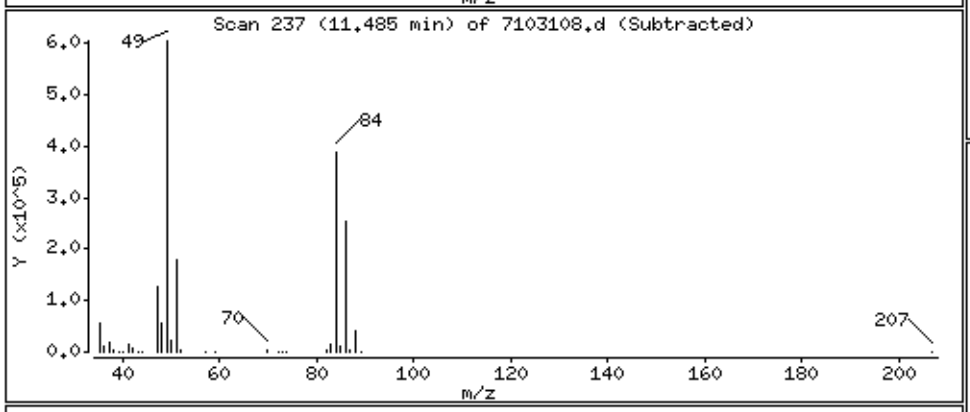
Column phase: RTx-624

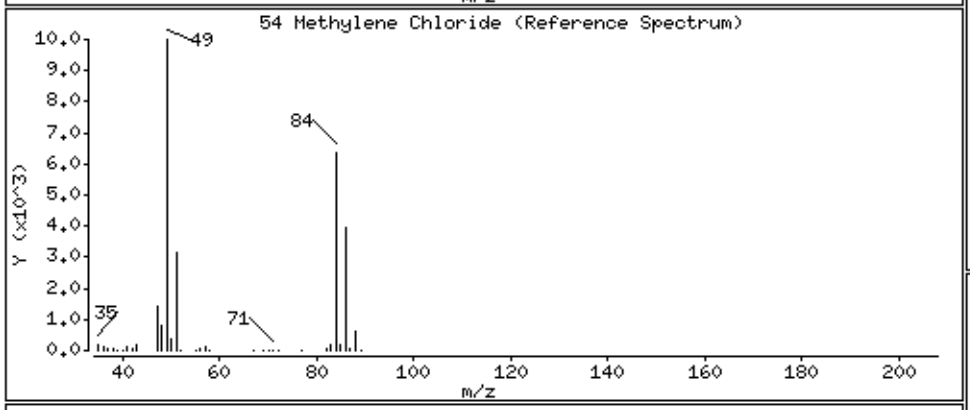
Column diameter: 0.53

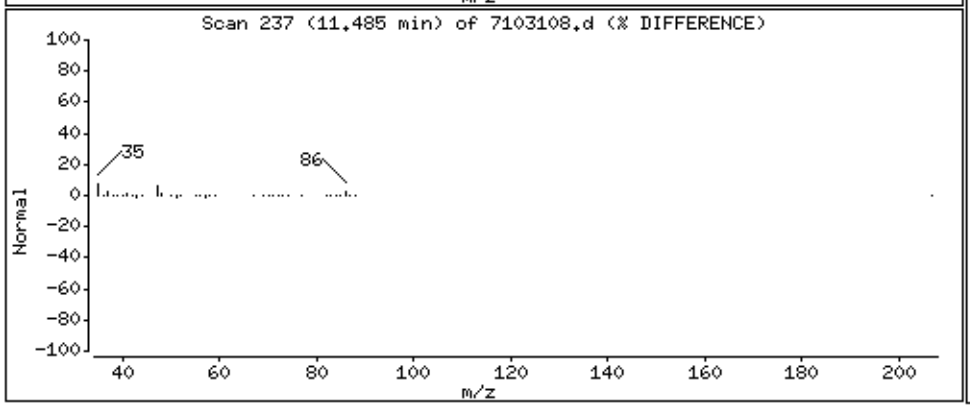
54 Methylene Chloride

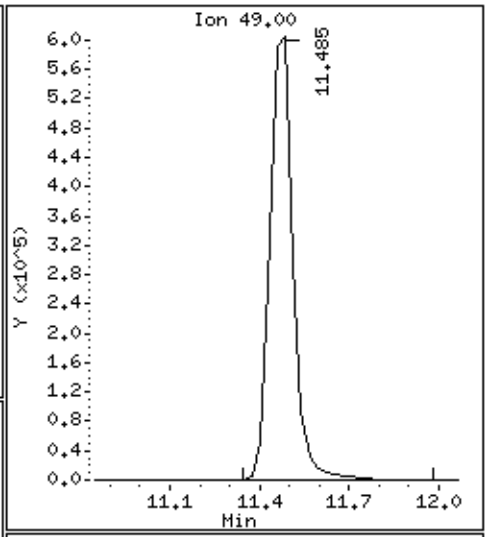
Concentration: 374.42 PPBV

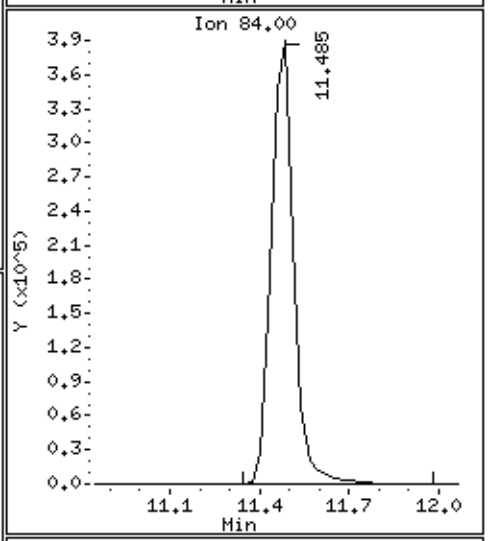


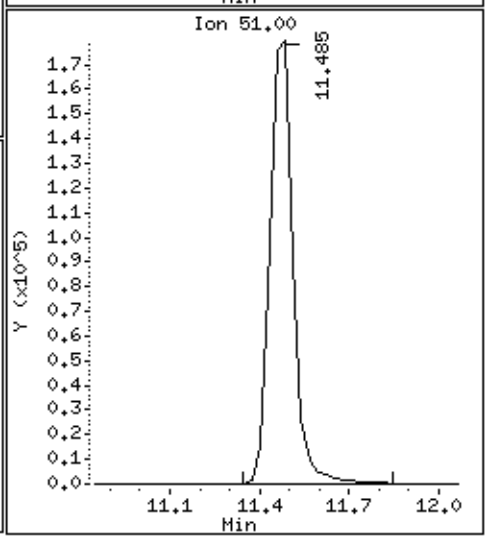












Data File: /chem/msd7.i/7-31oct.b/7103108.d

Date : 31-OCT-2007 13:55

Client ID:

Instrument: msd7.i

Sample Info: 125mL #4175

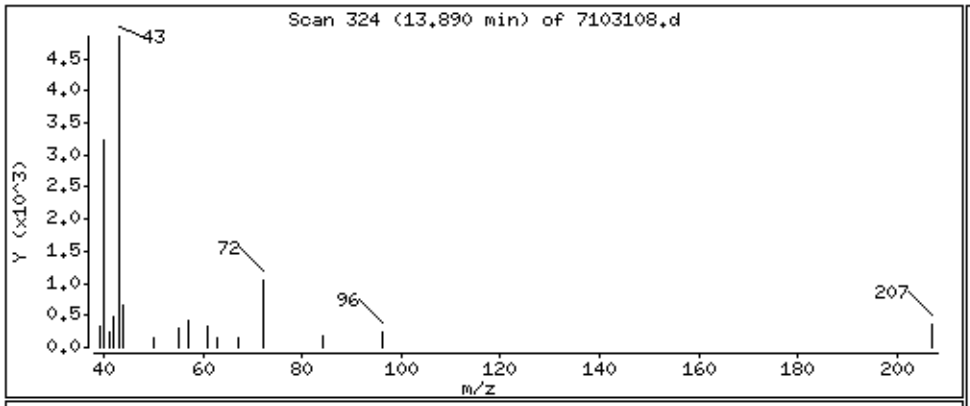
Operator: cb

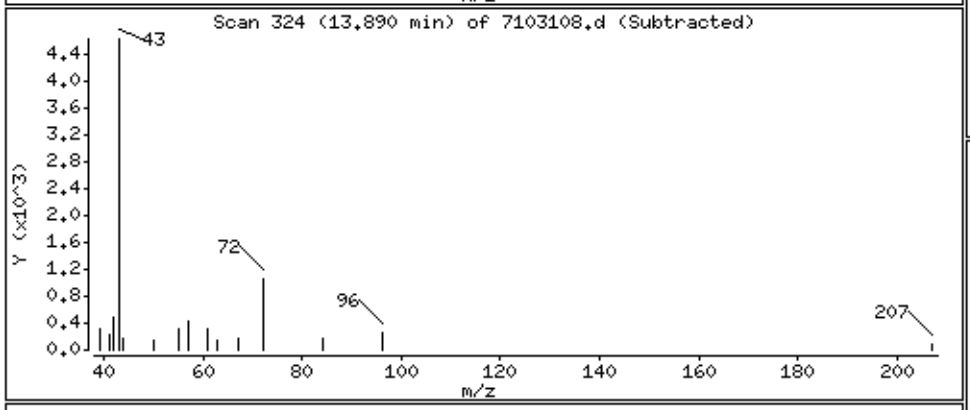
Column phase: RTx-624

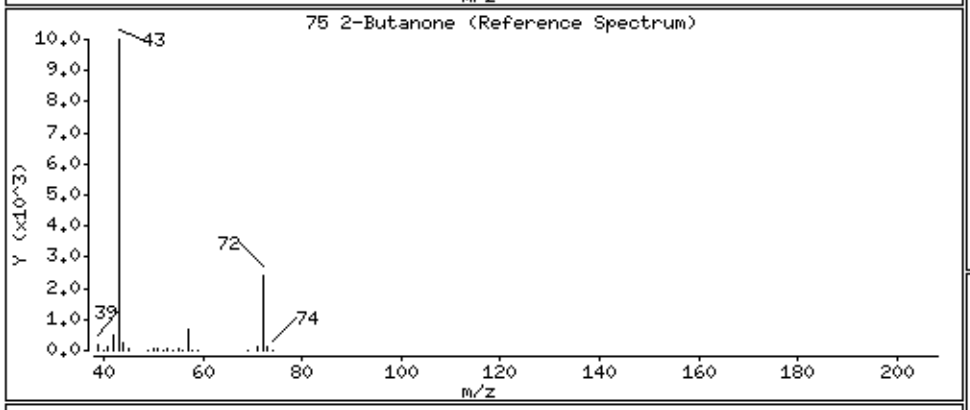
Column diameter: 0.53

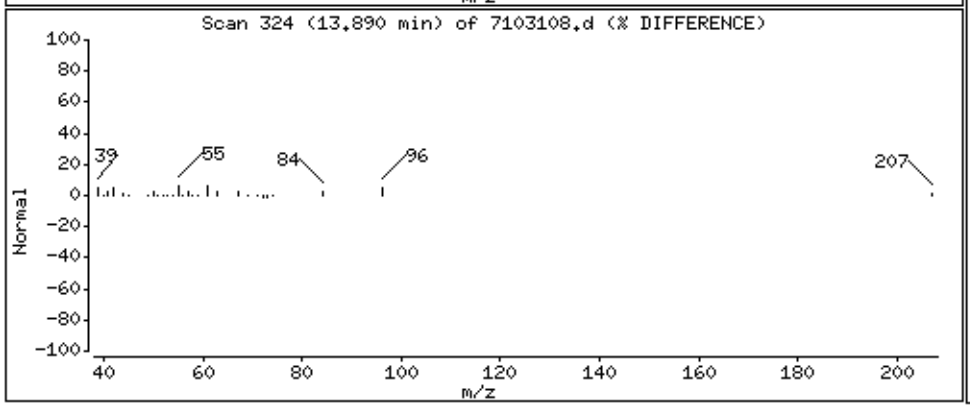
75 2-Butanone

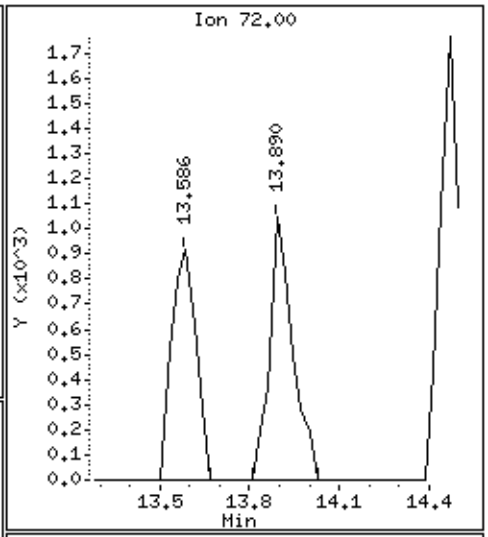
Concentration: 1.898 PPBV

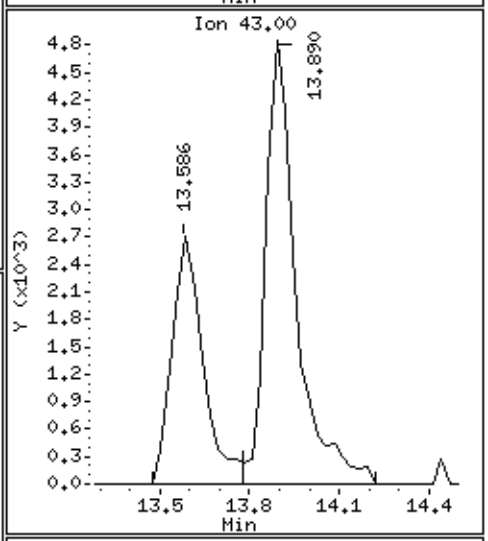


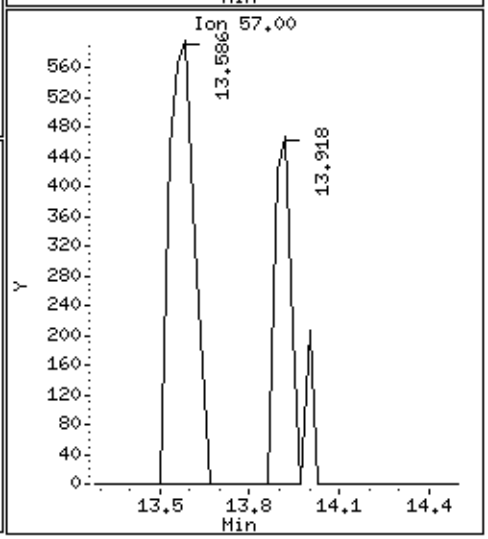












Data File: /chem/msd7.i/7-31oct.b/7103108.d

Date : 31-OCT-2007 13:55

Client ID:

Instrument: msd7.i

Sample Info: 125mL #4175

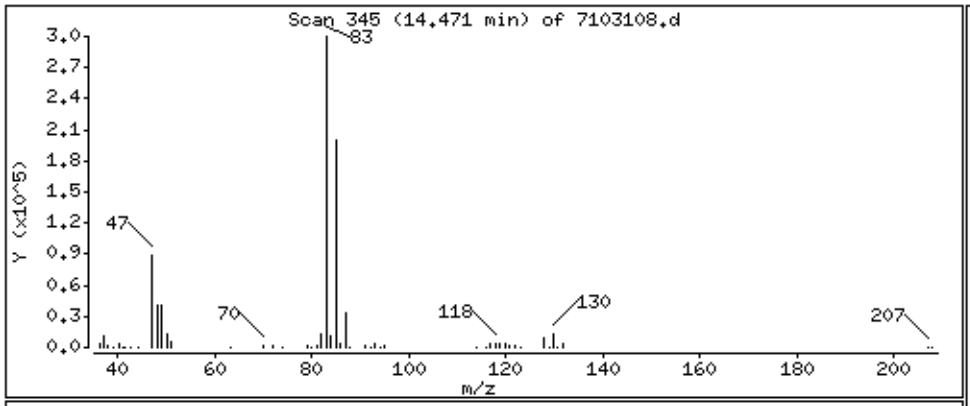
Operator: cb

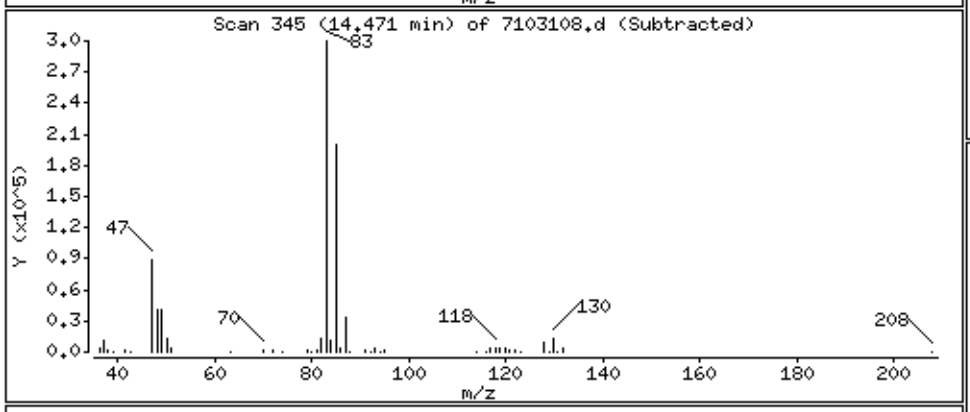
Column phase: RTx-624

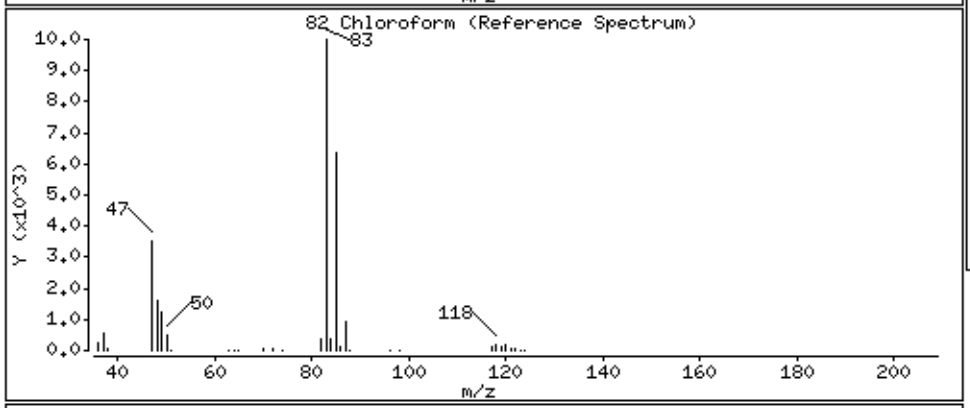
Column diameter: 0.53

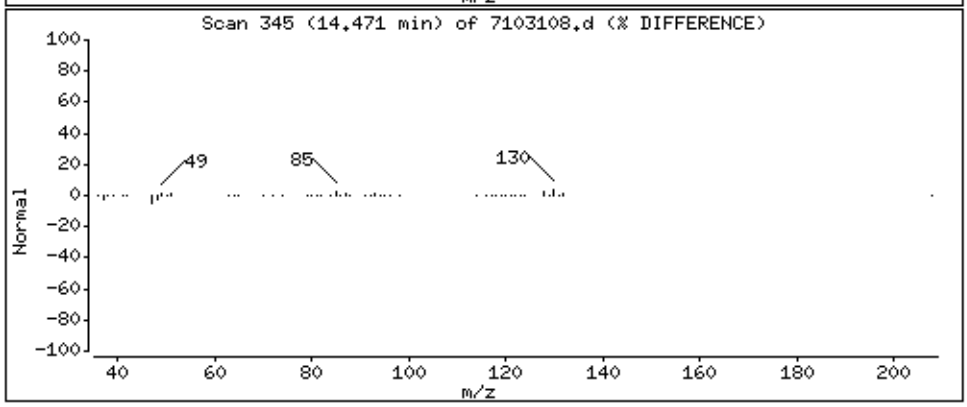
82 Chloroform

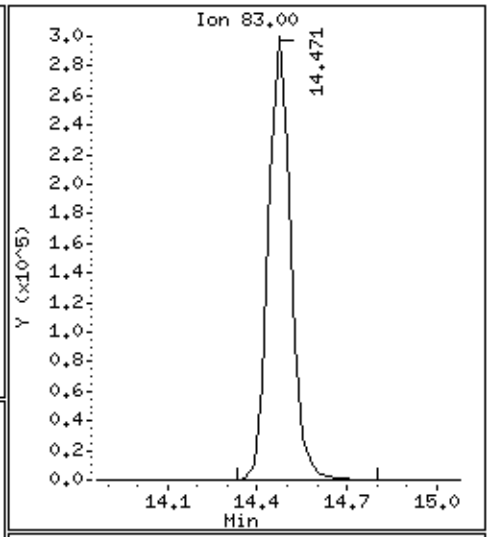
Concentration: 113.27 PPBV

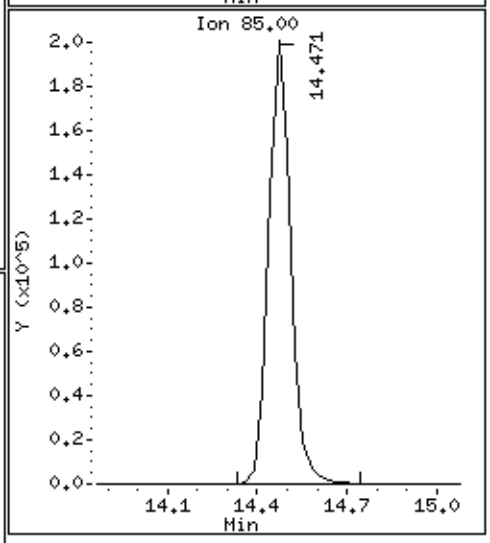












Data File: /chem/msd7.i/7-31oct.b/7103108.d

Date : 31-OCT-2007 13:55

Client ID:

Instrument: msd7.i

Sample Info: 125mL #4175

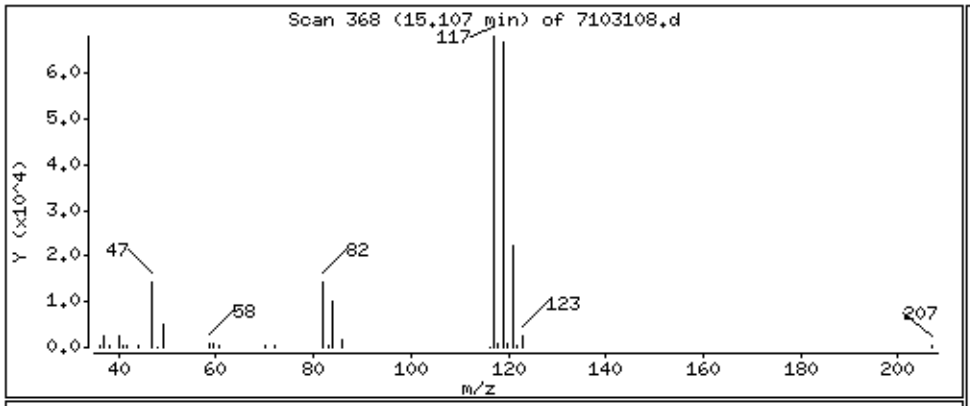
Operator: cb

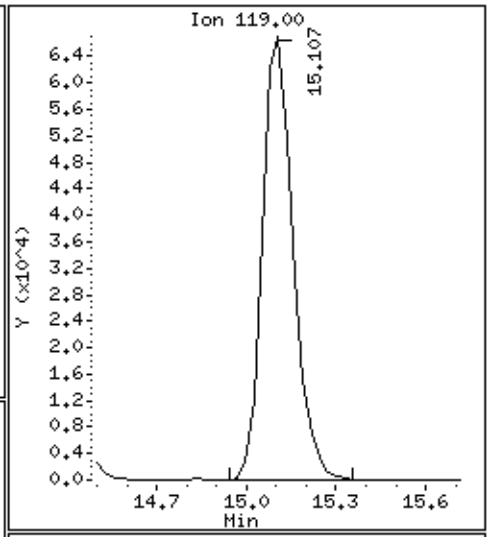
Column phase: RTx-624

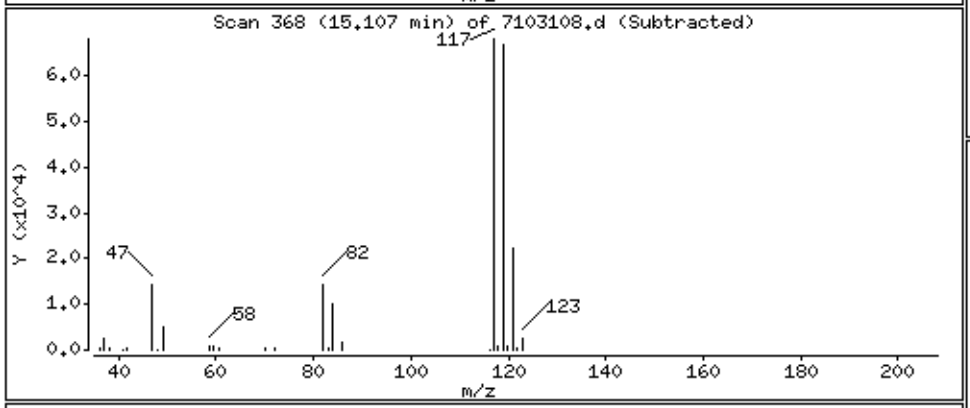
Column diameter: 0.53

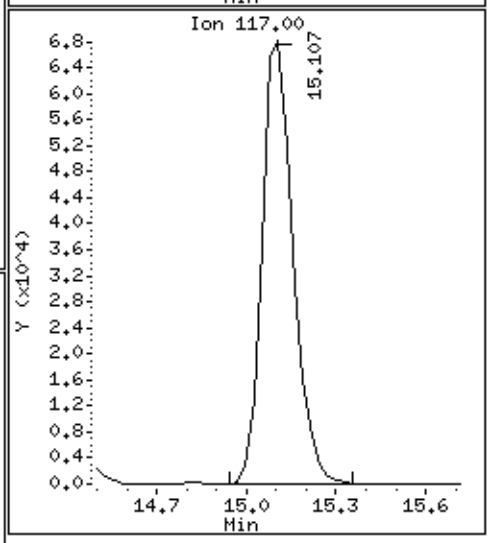
87 Carbon Tetrachloride

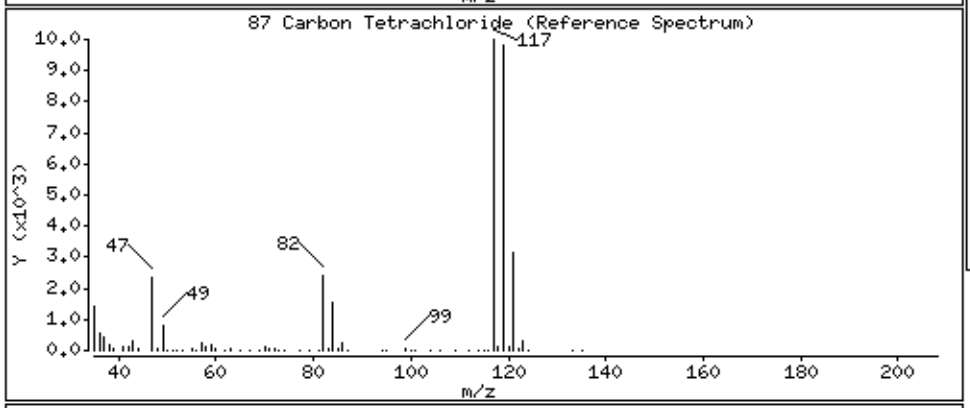
Concentration: 36.863 PPBV

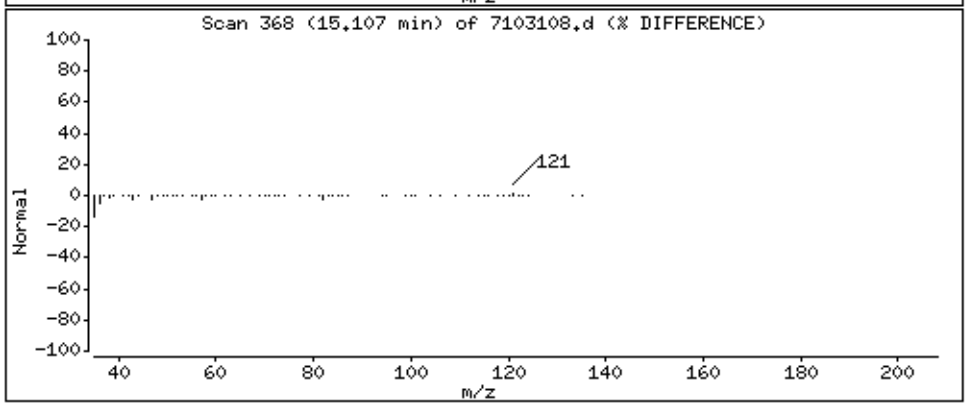












Data File: /chem/msd7.i/7-31oct.b/7103108.d

Date : 31-OCT-2007 13:55

Client ID:

Instrument: msd7.i

Sample Info: 125mL #4175

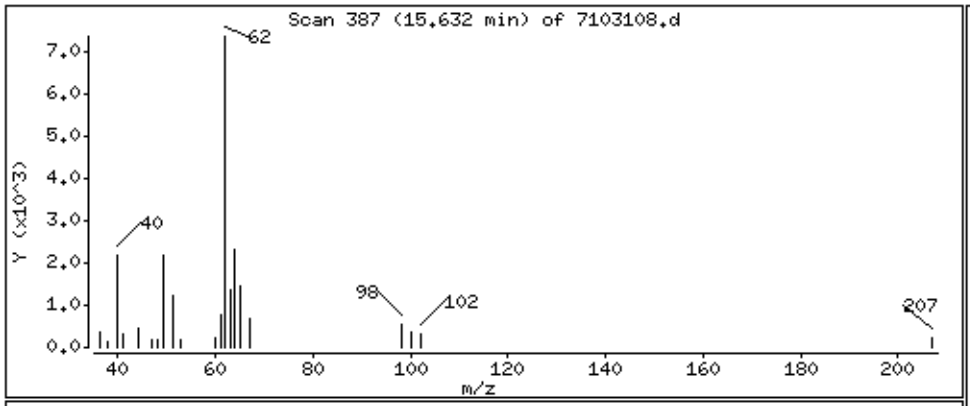
Operator: cb

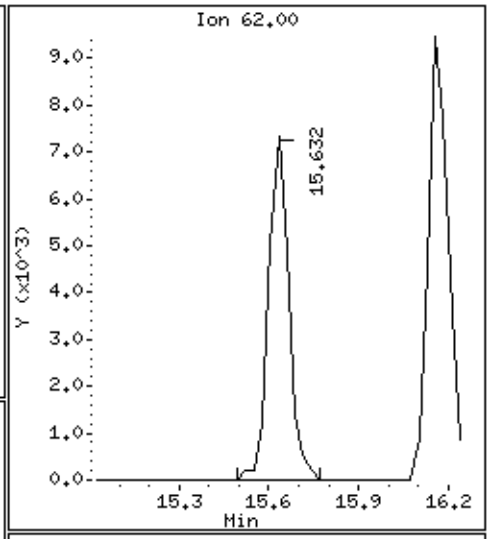
Column phase: RTx-624

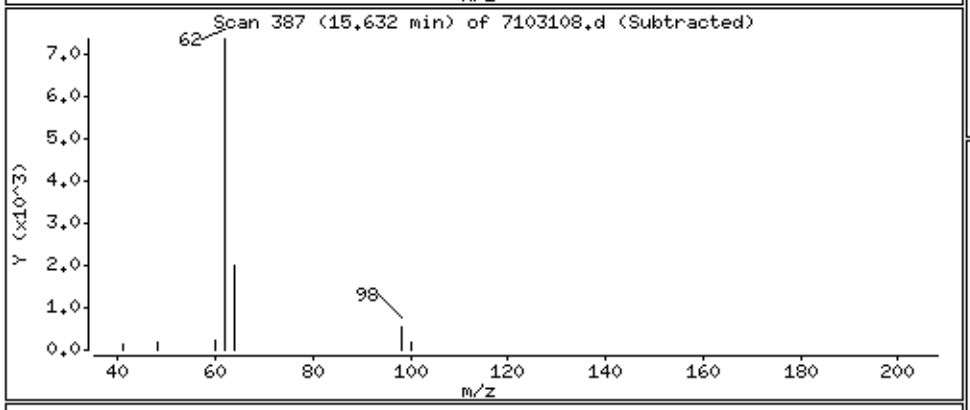
Column diameter: 0.53

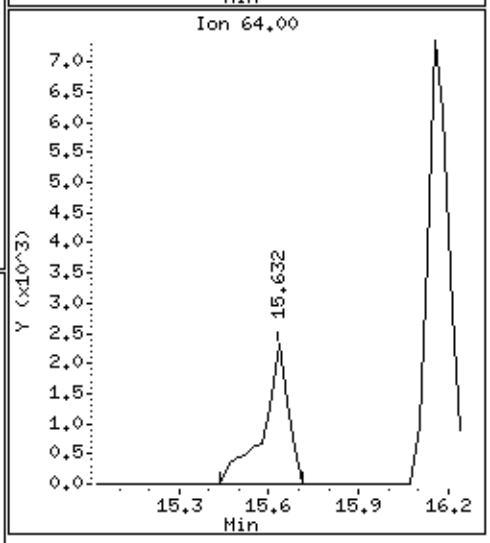
93 1,2-Dichloroethane

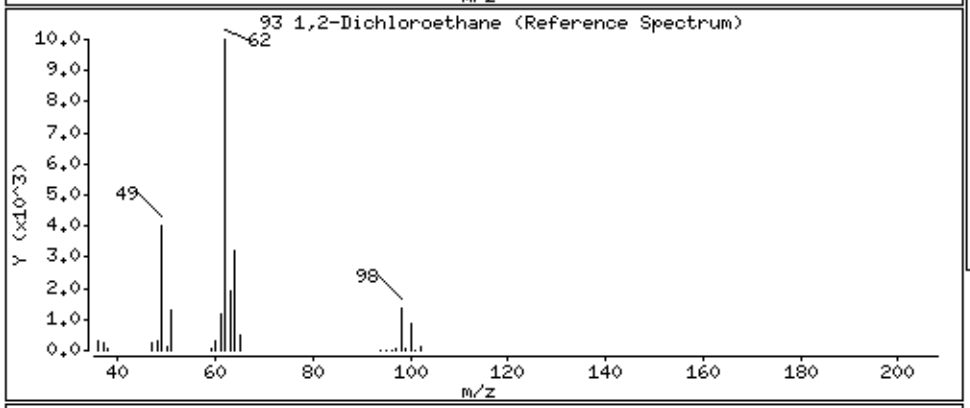
Concentration: 3.609 PPBV

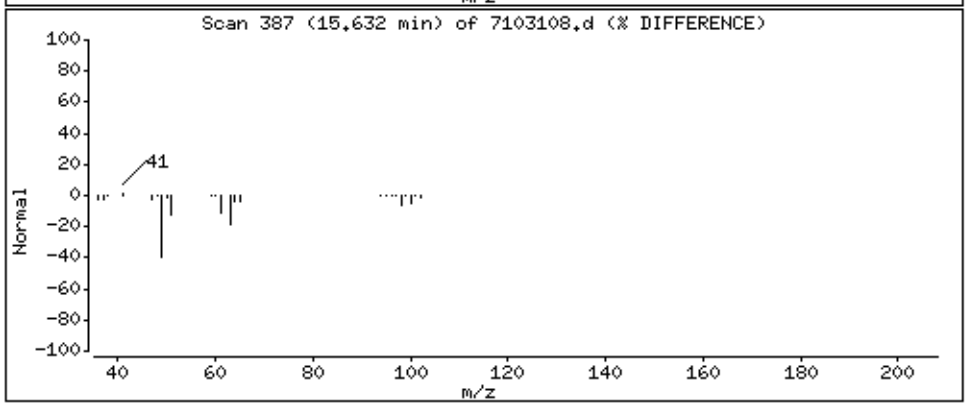












Data File: /chem/msd7.i/7-31oct.b/7103108.d

Date : 31-OCT-2007 13:55

Client ID:

Instrument: msd7.i

Sample Info: 125mL #4175

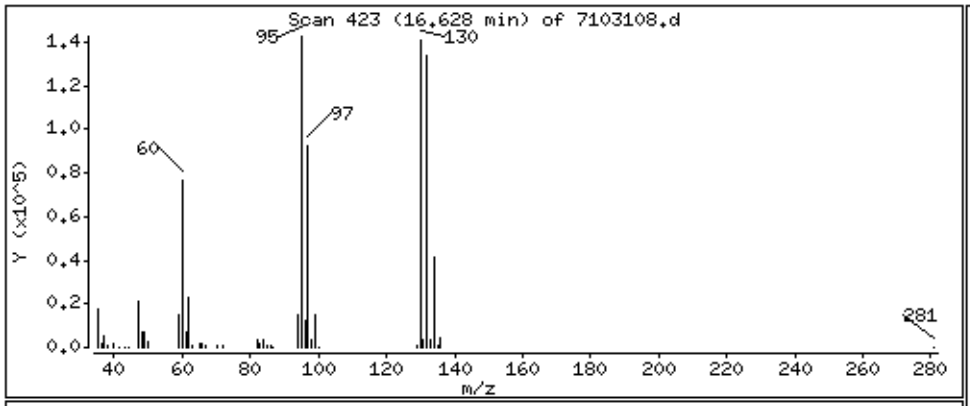
Operator: cb

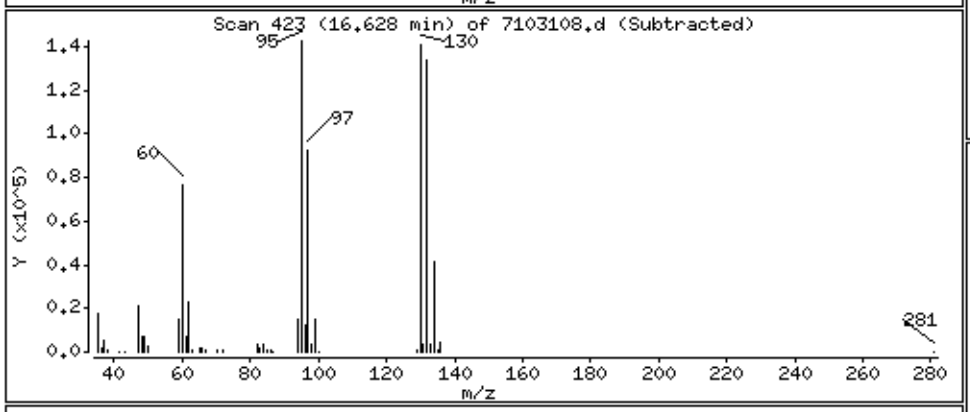
Column phase: RTx-624

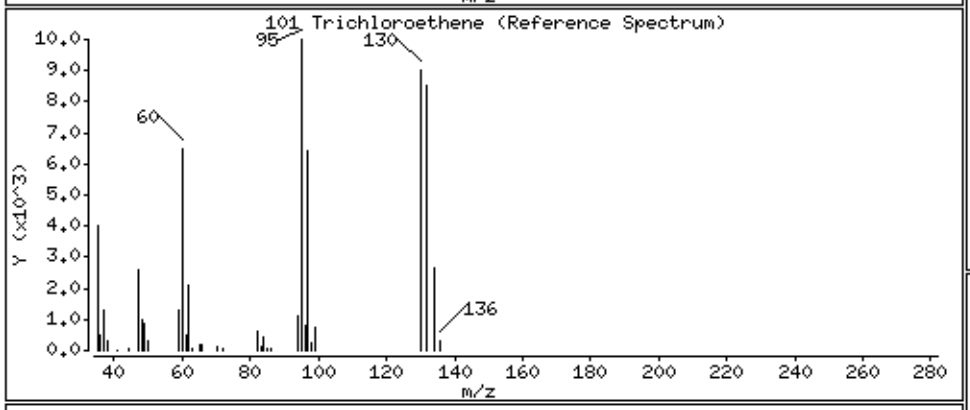
Column diameter: 0.53

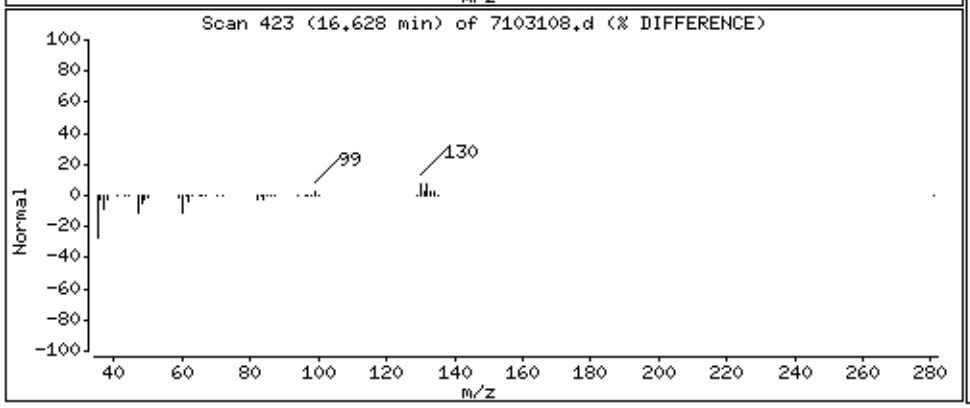
101 Trichloroethene

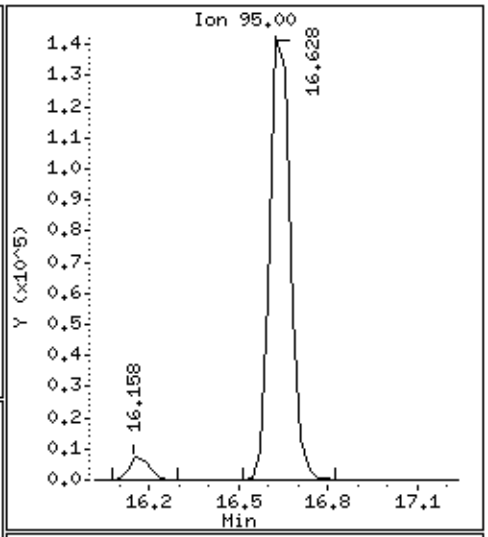
Concentration: 85.029 PPBV

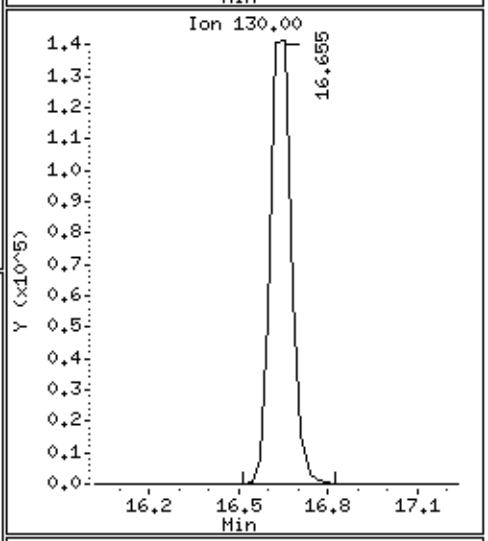


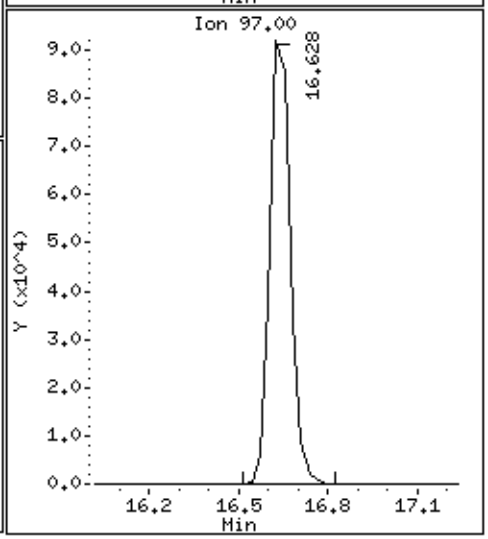












Data File: /chem/msd7.i/7-31oct.b/7103108.d

Date : 31-OCT-2007 13:55

Client ID:

Instrument: msd7.i

Sample Info: 125mL #4175

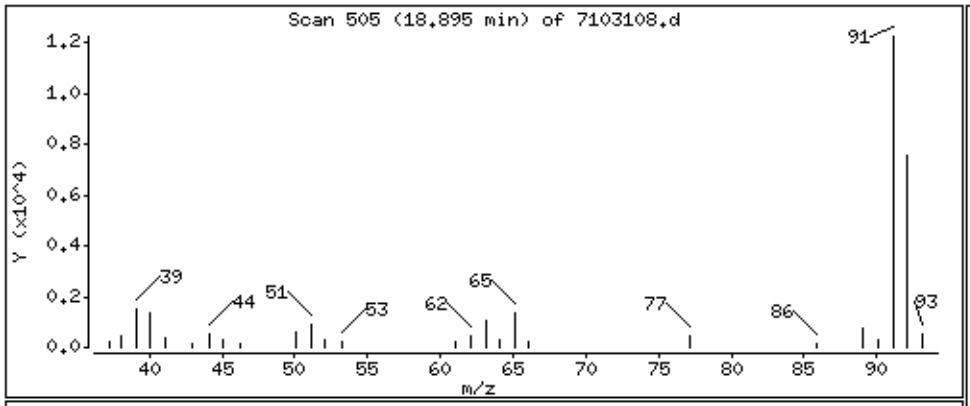
Operator: cb

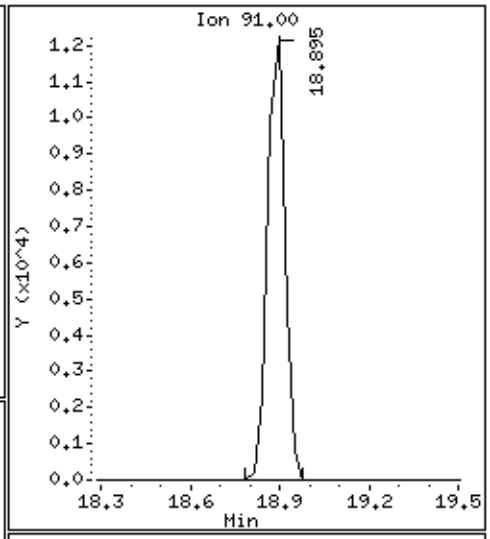
Column phase: RTx-624

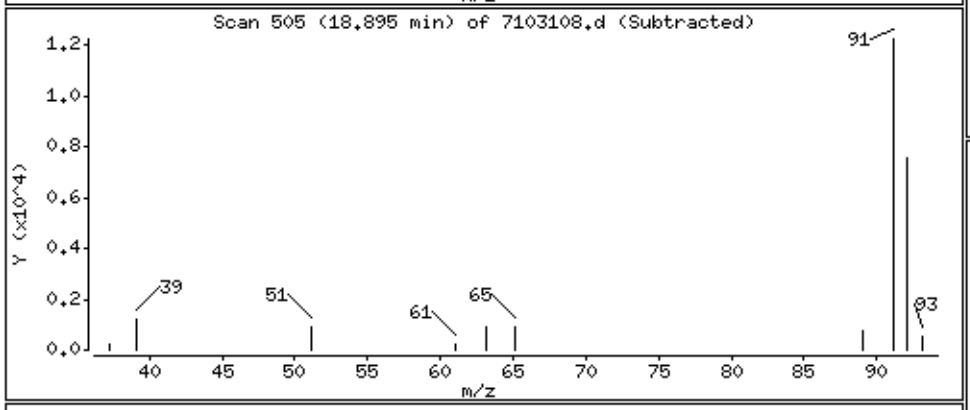
Column diameter: 0.53

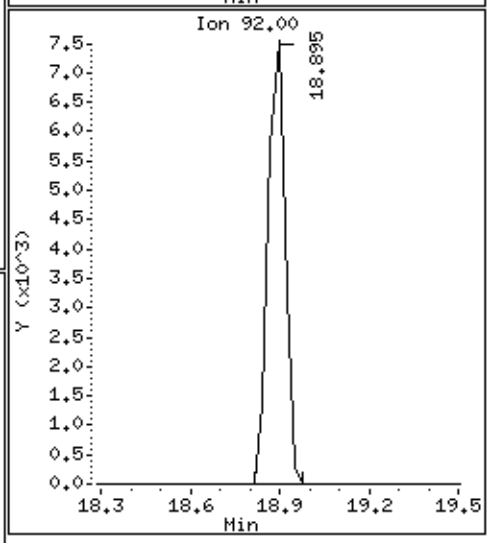
114 Toluene

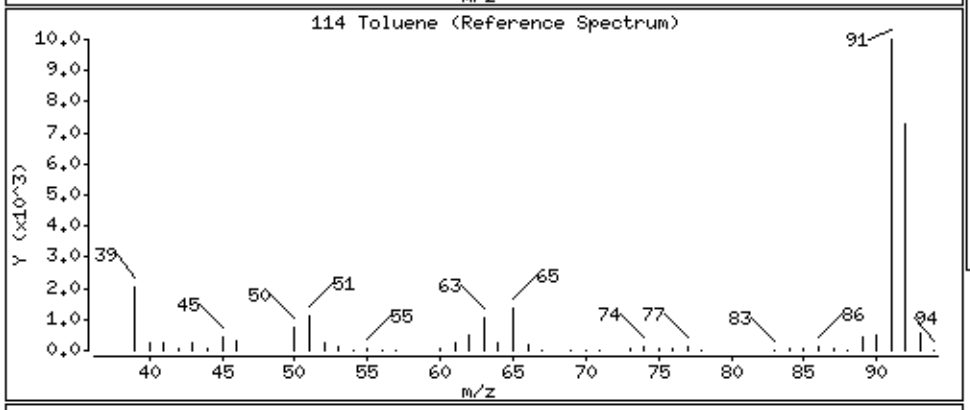
Concentration: 2.506 PPBV

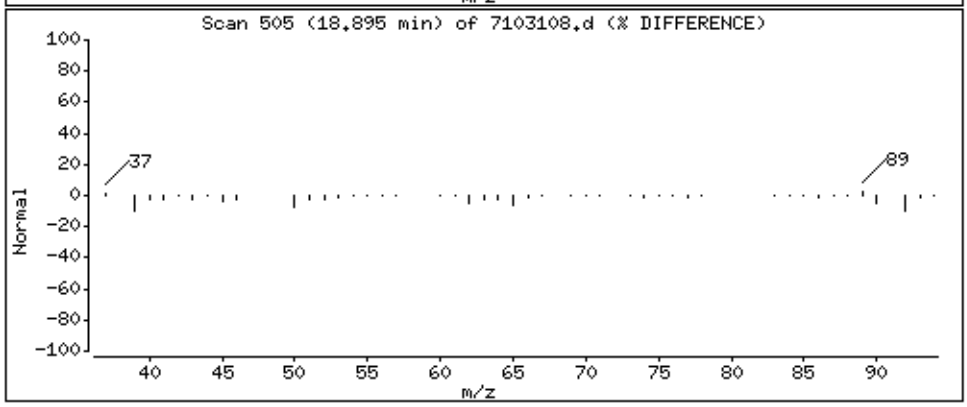












Data File: /chem/msd7.i/7-31oct.b/7103108.d

Date : 31-OCT-2007 13:55

Client ID:

Instrument: msd7.i

Sample Info: 125mL #4175

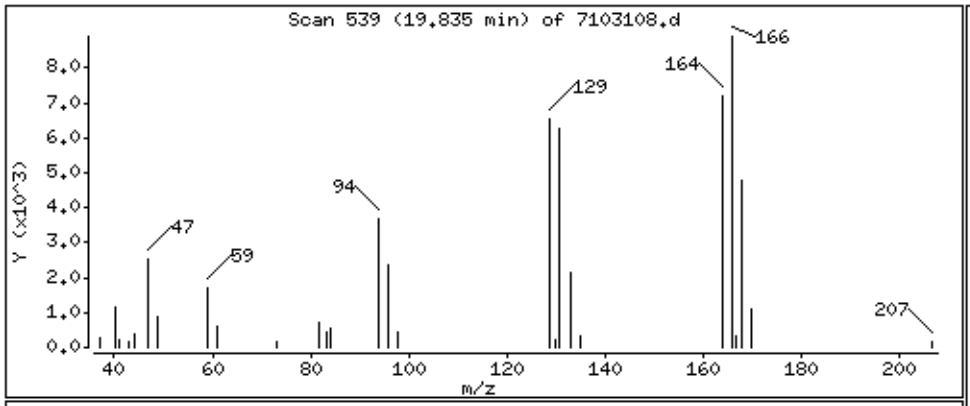
Operator: cb

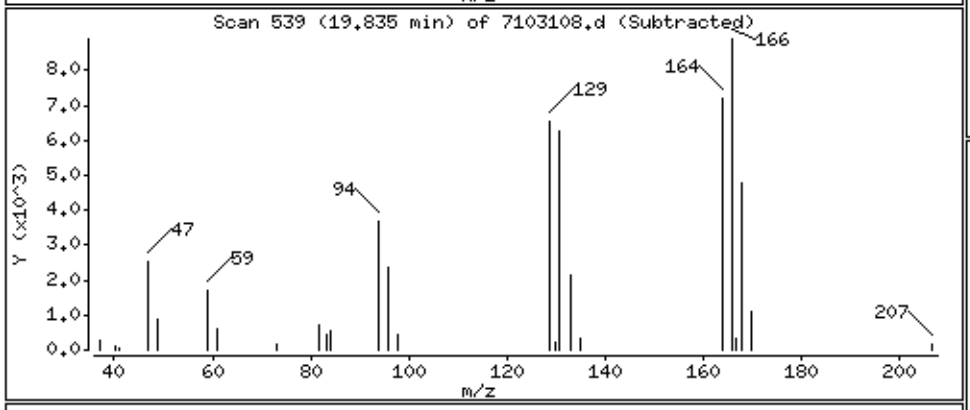
Column phase: RTx-624

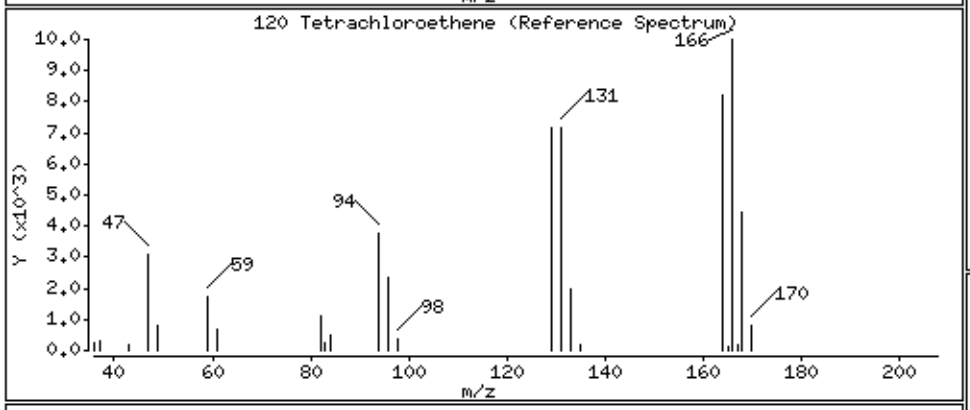
Column diameter: 0.53

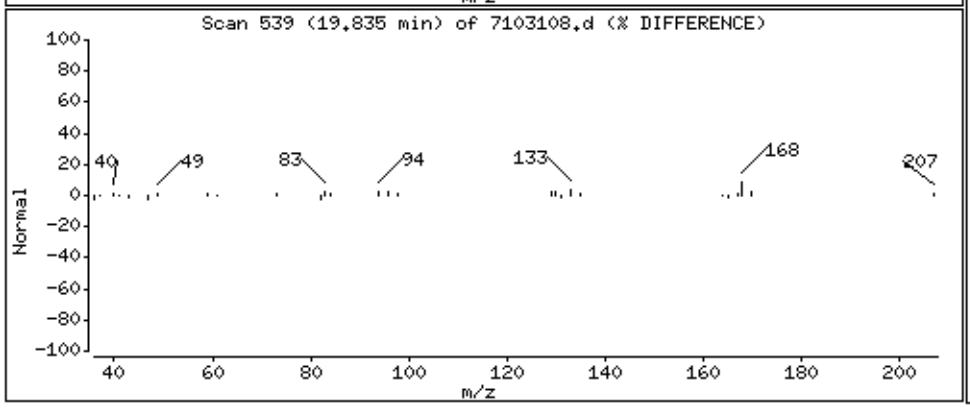
120 Tetrachloroethene

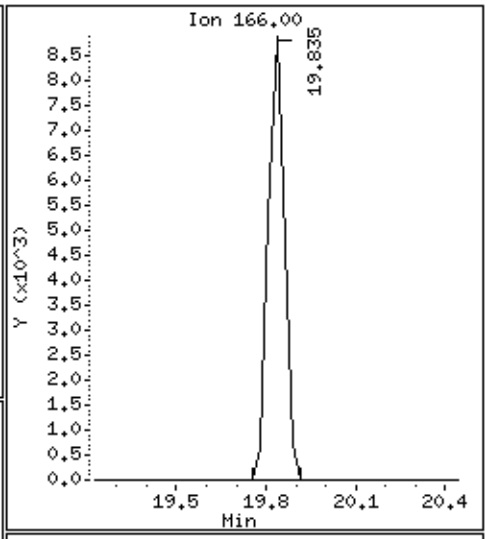
Concentration: 3.834 PPBV

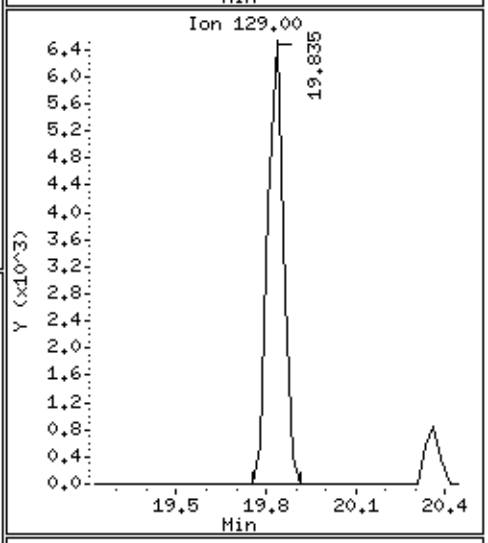


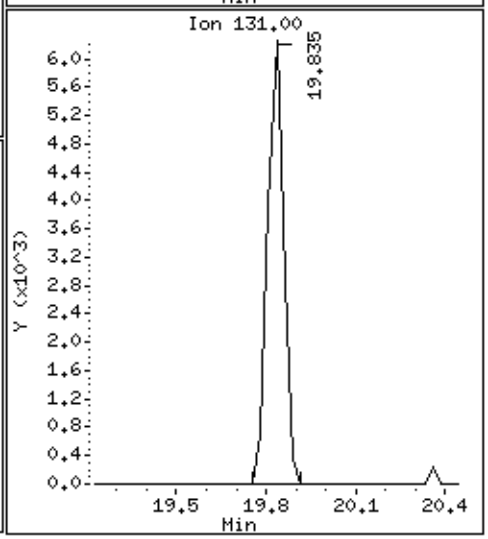












Data File: /chem/msd7.i/7-31oct.b/7103108.d

Date : 31-OCT-2007 13:55

Client ID:

Instrument: msd7.i

Sample Info: 125mL #4175

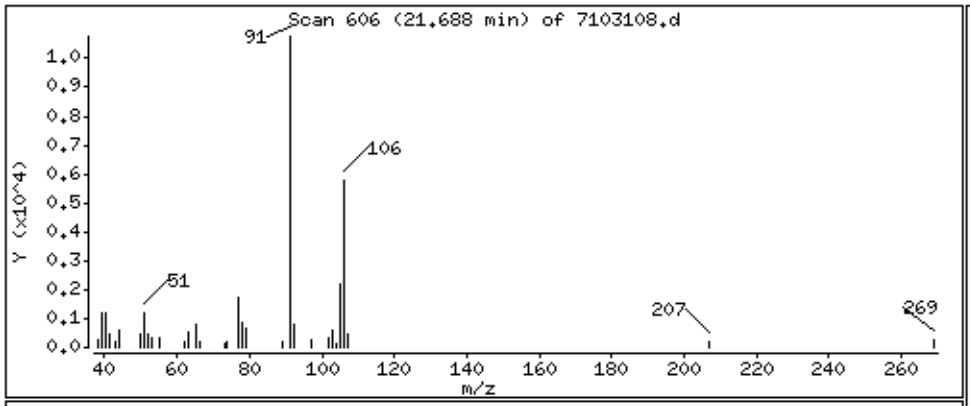
Operator: cb

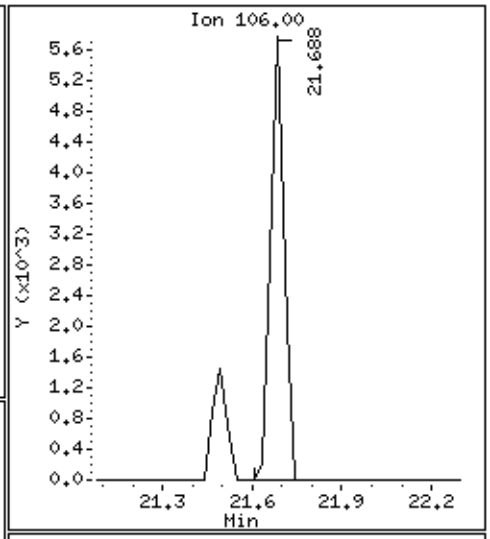
Column phase: RTx-624

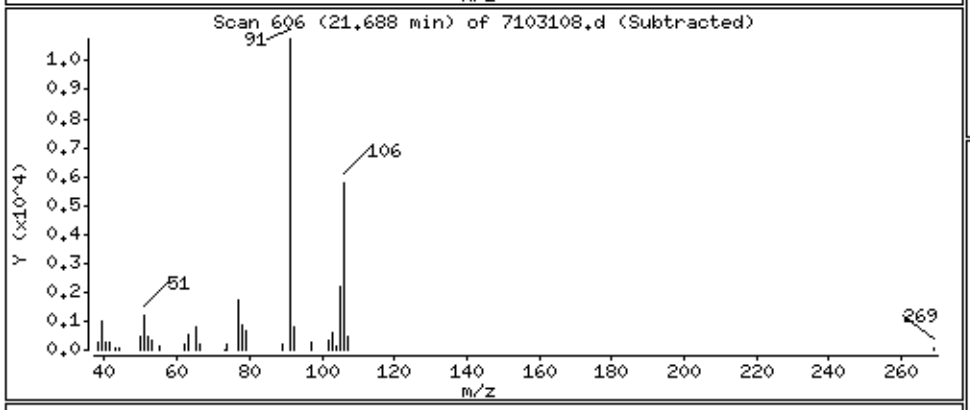
Column diameter: 0.53

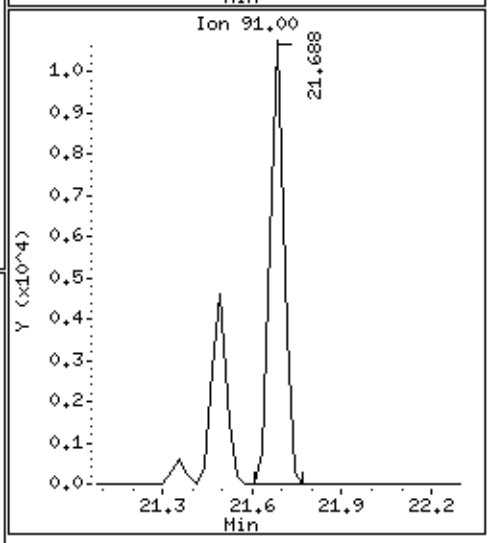
129 m,p-Xylene

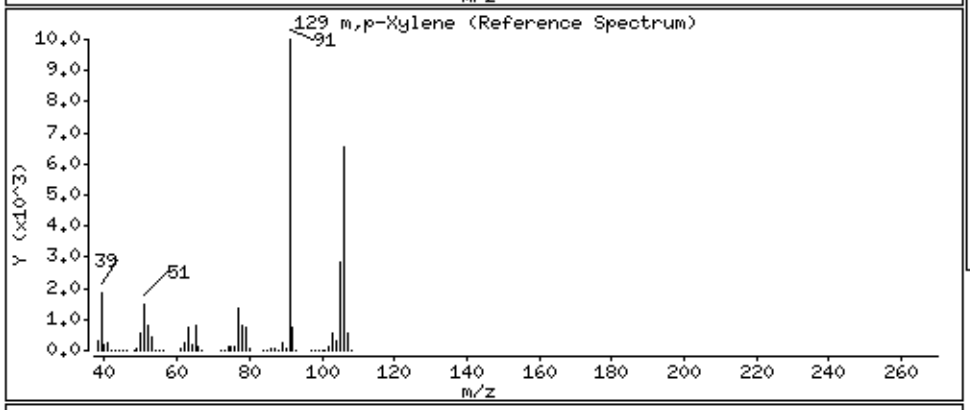
Concentration: 1.926 PPBV

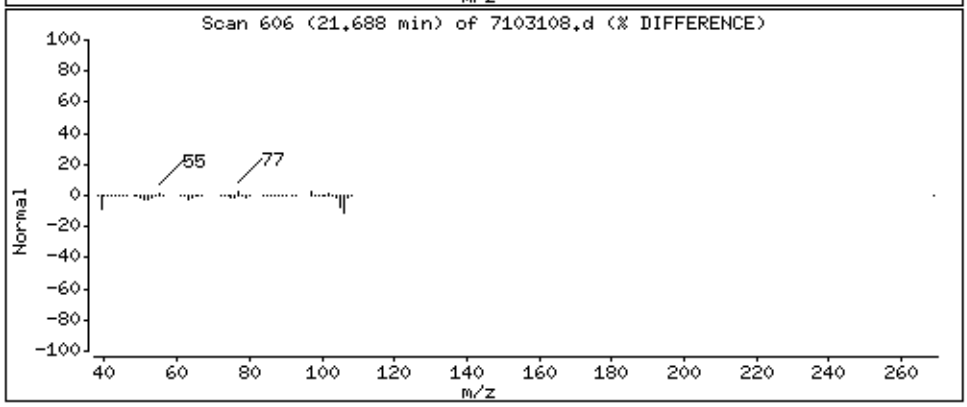












QC Results and Raw Data

AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: Lab Blank

Lab ID#: 0710567-06A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**7103008**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 10/30/07 01:36 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Freon 12	0.50	Not Detected	2.5	Not Detected
Freon 114	0.50	Not Detected	3.5	Not Detected
Chloromethane	2.0	Not Detected	4.1	Not Detected
Vinyl Chloride	0.50	Not Detected	1.3	Not Detected
1,3-Butadiene	0.50	Not Detected	1.1	Not Detected
Bromomethane	0.50	Not Detected	1.9	Not Detected
Chloroethane	0.50	Not Detected	1.3	Not Detected
Freon 11	0.50	Not Detected	2.8	Not Detected
Ethanol	2.0	Not Detected	3.8	Not Detected
Freon 113	0.50	Not Detected	3.8	Not Detected
1,1-Dichloroethene	0.50	Not Detected	2.0	Not Detected
Acetone	2.0	Not Detected	4.8	Not Detected
2-Propanol	2.0	Not Detected	4.9	Not Detected
Carbon Disulfide	0.50	Not Detected	1.6	Not Detected
Methylene Chloride	0.50	Not Detected	1.7	Not Detected
Methyl tert-butyl ether	0.50	Not Detected	1.8	Not Detected
trans-1,2-Dichloroethene	0.50	Not Detected	2.0	Not Detected
Hexane	0.50	Not Detected	1.8	Not Detected
1,1-Dichloroethane	0.50	Not Detected	2.0	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.50	Not Detected	1.5	Not Detected
cis-1,2-Dichloroethene	0.50	Not Detected	2.0	Not Detected
Tetrahydrofuran	0.50	Not Detected	1.5	Not Detected
Chloroform	0.50	Not Detected	2.4	Not Detected
1,1,1-Trichloroethane	0.50	Not Detected	2.7	Not Detected
Cyclohexane	0.50	Not Detected	1.7	Not Detected
Carbon Tetrachloride	0.50	Not Detected	3.1	Not Detected
Benzene	0.50	Not Detected	1.6	Not Detected
1,2-Dichloroethane	0.50	Not Detected	2.0	Not Detected
Heptane	0.50	Not Detected	2.0	Not Detected
Trichloroethene	0.50	Not Detected	2.7	Not Detected
1,2-Dichloropropane	0.50	Not Detected	2.3	Not Detected
1,4-Dioxane	2.0	Not Detected	7.2	Not Detected
Bromodichloromethane	0.50	Not Detected	3.4	Not Detected
cis-1,3-Dichloropropene	0.50	Not Detected	2.3	Not Detected
4-Methyl-2-pentanone	0.50	Not Detected	2.0	Not Detected
Toluene	0.50	Not Detected	1.9	Not Detected
trans-1,3-Dichloropropene	0.50	Not Detected	2.3	Not Detected
1,1,2-Trichloroethane	0.50	Not Detected	2.7	Not Detected
Tetrachloroethene	0.50	Not Detected	3.4	Not Detected

AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: Lab Blank

Lab ID#: 0710567-06A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**7103008**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 10/30/07 01:36 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
2-Hexanone	2.0	Not Detected	8.2	Not Detected
Dibromochloromethane	0.50	Not Detected	4.2	Not Detected
1,2-Dibromoethane (EDB)	0.50	Not Detected	3.8	Not Detected
Chlorobenzene	0.50	Not Detected	2.3	Not Detected
Ethyl Benzene	0.50	Not Detected	2.2	Not Detected
m,p-Xylene	0.50	Not Detected	2.2	Not Detected
o-Xylene	0.50	Not Detected	2.2	Not Detected
Styrene	0.50	Not Detected	2.1	Not Detected
Bromoform	0.50	Not Detected	5.2	Not Detected
1,1,2,2-Tetrachloroethane	0.50	Not Detected	3.4	Not Detected
4-Ethyltoluene	0.50	Not Detected	2.4	Not Detected
1,3,5-Trimethylbenzene	0.50	Not Detected	2.4	Not Detected
1,2,4-Trimethylbenzene	0.50	Not Detected	2.4	Not Detected
1,3-Dichlorobenzene	0.50	Not Detected	3.0	Not Detected
1,4-Dichlorobenzene	0.50	Not Detected	3.0	Not Detected
alpha-Chlorotoluene	0.50	Not Detected	2.6	Not Detected
1,2-Dichlorobenzene	0.50	Not Detected	3.0	Not Detected
1,2,4-Trichlorobenzene	2.0	Not Detected	15	Not Detected
Hexachlorobutadiene	2.0	Not Detected	21	Not Detected
Chlorodifluoromethane	2.0	Not Detected	7.1	Not Detected
Methanol	50	Not Detected	66	Not Detected
n-Butanol	2.0	Not Detected	6.1	Not Detected
Propylene	2.0	Not Detected	3.4	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	94	70-130
1,2-Dichloroethane-d4	89	70-130
4-Bromofluorobenzene	100	70-130

Air Toxics Ltd.

AMBIENT AIR METHOD TO14

Data file : /chem/msd7.i/7-30oct.b/7103008.d
Lab Smp Id: Lab Blank Client Smp ID: Lab Blank
Inj Date : 30-OCT-2007 13:36
Operator : cb Inst ID: msd7.i
Smp Info : 200mL #34190
Misc Info : Humid
Comment :
Method : /chem/msd7.i/7-30oct.b/t14qO18c.m
Meth Date : 30-Oct-2007 12:35 cbond Quant Type: ISTD
Cal Date : 30-OCT-2007 11:10 Cal File: 7103005.d
Als bottle: 1
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: AT04ENSR+22a.sub
Target Version: 3.50 Sample Matrix: AIR
Processing Host: eeyore

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

RT	EXP RT (REL RT)	MASS	RESPONSE	CONCENTRATIONS ON-COL (PPBV)	FINAL (PPBV)	TARGET RANGE	RATIO
* 81 Bromochloromethane						CAS #: 74-97-5	
14.416	14.388 (1.000)	130	463709	25.0000		80.00- 120.00	100.00
14.416	14.388 (1.000)	128	355836			26.27- 126.27	76.74
14.388	14.388 (1.000)	49	655612			132.02- 232.02	141.38
* 97 1,4-Difluorobenzene						CAS #: 540-36-3	
16.158	16.158 (1.000)	114	1504240	25.0000		80.00- 120.00	100.00
16.158	16.158 (1.000)	88	225388			0.00- 64.88	14.98
* 126 Chlorobenzene-d5						CAS #: 3114-55-4	
21.356	21.356 (1.000)	117	1107890	25.0000		80.00- 120.00	100.00
21.356	21.356 (1.000)	82	579146			4.45- 104.45	52.27
$ 90 1,2-Dichloroethane-d4						CAS #: 17060-07-0	
15.494	15.494 (1.075)	65	554844	22.2728	22.273	80.00- 120.00	100.00
15.494	15.494 (1.075)	67	279579			2.91- 102.91	50.39
$ 113 Toluene-d8						CAS #: 2037-26-5	
18.757	18.757 (1.161)	98	1252131	23.4489	23.449	80.00- 120.00	100.00
18.757	18.757 (1.161)	70	129952			0.00- 61.46	10.38

RT	EXP RT (REL RT)	MASS	RESPONSE	CONCENTRATIONS ON-COL (PPBV)	FINAL (PPBV)	TARGET RANGE	RATIO
$ 113 Toluene-d8 (continued)							
18.757	18.757 (1.161)	100	860954			19.18- 119.18	68.76
$ 137 Bromofluorobenzene					CAS #: 460-00-4		
23.347	23.347 (1.093)	174	661096	25.0765	25.076	80.00- 120.00	100.00
23.319	23.319 (1.092)	95	795515			67.21- 167.21	120.33
23.347	23.347 (1.093)	176	635868			47.52- 147.52	96.18

Report Date: 30-Oct-2007 13:56

Air Toxics Ltd.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd7.i
Lab File ID: 7103008.d
Lab Smp Id: Lab Blank
Analysis Type: VOA
Quant Type: ISTD
Operator: cb
Method File: /chem/msd7.i/7-30oct.b/t14qO18c.m
Misc Info: Humid

Calibration Date: 30-OCT-2007
Calibration Time: 12:15
Client Smp ID: Lab Blank
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
81 Bromochloromethan	537758	322655	752861	463709	-13.77
97 1,4-Difluorobenze	1771565	1062939	2480191	1504240	-15.09
126 Chlorobenzene-d5	1414884	848930	1980838	1107890	-21.70

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
81 Bromochloromethan	14.39	14.06	14.72	14.42	0.19
97 1,4-Difluorobenze	16.16	15.83	16.49	16.16	0.00
126 Chlorobenzene-d5	21.36	21.03	21.69	21.36	0.00

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Report Date: 30-Oct-2007 13:56

Air Toxics Ltd.

RECOVERY REPORT

Client Name:
Client SDG: 7-30oct
Sample Matrix: GAS
Fraction: VOA
Lab Smp Id: Lab Blank
Client Smp ID: Lab Blank
Level: LOW
Operator: cb
Data Type: MS DATA
SampleType: SAMPLE
SpikeList File: 2926spectra.spk
Quant Type: ISTD
Sublist File: AT04ENSR+22a.sub
Method File: /chem/msd7.i/7-30oct.b/t14qO18c.m
Misc Info: Humid

SURROGATE COMPOUND	CONC ADDED PPBV	CONC RECOVERED PPBV	% RECOVERED	LIMITS
$ 90 1,2-Dichloroethane	25.000	22.273	89.09	70-130
$ 113 Toluene-d8	25.000	23.449	93.80	70-130
$ 137 Bromofluorobenzene	25.000	25.076	100.31	70-130

Data File: /chem/msd7.i/7-30oct.b/7103008.d

Date : 30-OCT-2007 13:36

Client ID: Lab Blank

Sample Info: 200mL #34190

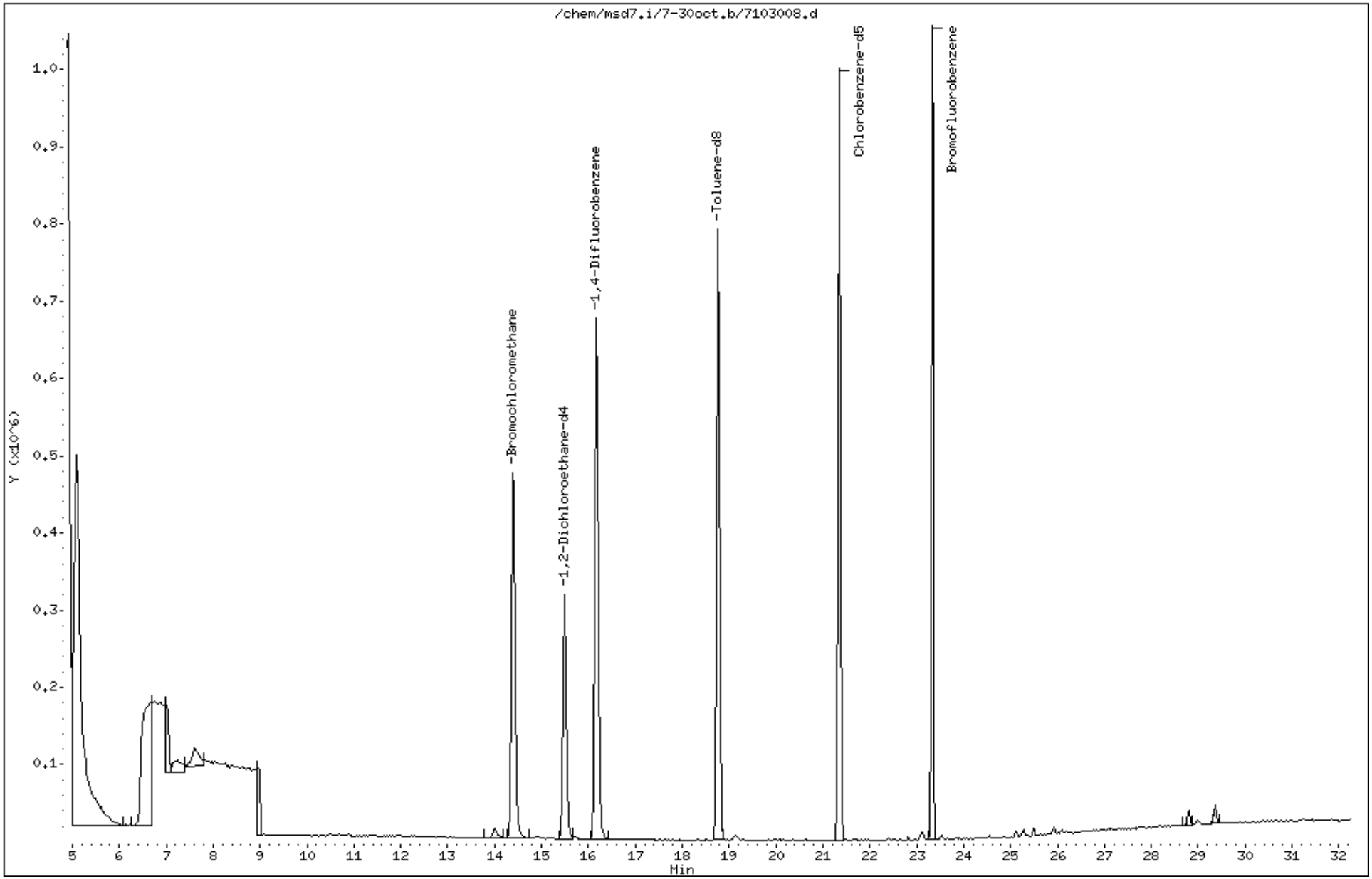
Column phase: RTx-624

Instrument: msd7.i

Operator: cb

Column diameter: 0.53

0122



AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: Lab Blank

Lab ID#: 0710567-06B

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**7103105**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 10/31/07 11:28 AM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Freon 12	0.50	Not Detected	2.5	Not Detected
Freon 114	0.50	Not Detected	3.5	Not Detected
Chloromethane	2.0	Not Detected	4.1	Not Detected
Vinyl Chloride	0.50	Not Detected	1.3	Not Detected
1,3-Butadiene	0.50	Not Detected	1.1	Not Detected
Bromomethane	0.50	Not Detected	1.9	Not Detected
Chloroethane	0.50	Not Detected	1.3	Not Detected
Freon 11	0.50	Not Detected	2.8	Not Detected
Ethanol	2.0	Not Detected	3.8	Not Detected
Freon 113	0.50	Not Detected	3.8	Not Detected
1,1-Dichloroethene	0.50	Not Detected	2.0	Not Detected
Acetone	2.0	Not Detected	4.8	Not Detected
2-Propanol	2.0	Not Detected	4.9	Not Detected
Carbon Disulfide	0.50	Not Detected	1.6	Not Detected
Methylene Chloride	0.50	Not Detected	1.7	Not Detected
Methyl tert-butyl ether	0.50	Not Detected	1.8	Not Detected
trans-1,2-Dichloroethene	0.50	Not Detected	2.0	Not Detected
Hexane	0.50	Not Detected	1.8	Not Detected
1,1-Dichloroethane	0.50	Not Detected	2.0	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.50	Not Detected	1.5	Not Detected
cis-1,2-Dichloroethene	0.50	Not Detected	2.0	Not Detected
Tetrahydrofuran	0.50	Not Detected	1.5	Not Detected
Chloroform	0.50	Not Detected	2.4	Not Detected
1,1,1-Trichloroethane	0.50	Not Detected	2.7	Not Detected
Cyclohexane	0.50	Not Detected	1.7	Not Detected
Carbon Tetrachloride	0.50	Not Detected	3.1	Not Detected
Benzene	0.50	Not Detected	1.6	Not Detected
1,2-Dichloroethane	0.50	Not Detected	2.0	Not Detected
Heptane	0.50	Not Detected	2.0	Not Detected
Trichloroethene	0.50	Not Detected	2.7	Not Detected
1,2-Dichloropropane	0.50	Not Detected	2.3	Not Detected
1,4-Dioxane	2.0	Not Detected	7.2	Not Detected
Bromodichloromethane	0.50	Not Detected	3.4	Not Detected
cis-1,3-Dichloropropene	0.50	Not Detected	2.3	Not Detected
4-Methyl-2-pentanone	0.50	Not Detected	2.0	Not Detected
Toluene	0.50	Not Detected	1.9	Not Detected
trans-1,3-Dichloropropene	0.50	Not Detected	2.3	Not Detected
1,1,2-Trichloroethane	0.50	Not Detected	2.7	Not Detected
Tetrachloroethene	0.50	Not Detected	3.4	Not Detected

AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: Lab Blank

Lab ID#: 0710567-06B

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**7103105**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 10/31/07 11:28 AM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
2-Hexanone	2.0	Not Detected	8.2	Not Detected
Dibromochloromethane	0.50	Not Detected	4.2	Not Detected
1,2-Dibromoethane (EDB)	0.50	Not Detected	3.8	Not Detected
Chlorobenzene	0.50	Not Detected	2.3	Not Detected
Ethyl Benzene	0.50	Not Detected	2.2	Not Detected
m,p-Xylene	0.50	Not Detected	2.2	Not Detected
o-Xylene	0.50	Not Detected	2.2	Not Detected
Styrene	0.50	Not Detected	2.1	Not Detected
Bromoform	0.50	Not Detected	5.2	Not Detected
1,1,2,2-Tetrachloroethane	0.50	Not Detected	3.4	Not Detected
4-Ethyltoluene	0.50	Not Detected	2.4	Not Detected
1,3,5-Trimethylbenzene	0.50	Not Detected	2.4	Not Detected
1,2,4-Trimethylbenzene	0.50	Not Detected	2.4	Not Detected
1,3-Dichlorobenzene	0.50	Not Detected	3.0	Not Detected
1,4-Dichlorobenzene	0.50	Not Detected	3.0	Not Detected
alpha-Chlorotoluene	0.50	Not Detected	2.6	Not Detected
1,2-Dichlorobenzene	0.50	Not Detected	3.0	Not Detected
1,2,4-Trichlorobenzene	2.0	Not Detected	15	Not Detected
Hexachlorobutadiene	2.0	Not Detected	21	Not Detected
Chlorodifluoromethane	2.0	Not Detected	7.1	Not Detected
Methanol	50	Not Detected	66	Not Detected
n-Butanol	2.0	Not Detected	6.1	Not Detected
Propylene	2.0	Not Detected	3.4	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	91	70-130
1,2-Dichloroethane-d4	94	70-130
4-Bromofluorobenzene	102	70-130

Air Toxics Ltd.

AMBIENT AIR METHOD TO14

Data file : /chem/msd7.i/7-31oct.b/7103105.d
Lab Smp Id: Lab Blank Client Smp ID: Lab Blank
Inj Date : 31-OCT-2007 11:28
Operator : cb Inst ID: msd7.i
Smp Info : 200mL #34190
Misc Info : Humid
Comment :
Method : /chem/msd7.i/7-31oct.b/t14qO18c.m
Meth Date : 31-Oct-2007 11:40 cbond Quant Type: ISTD
Cal Date : 30-OCT-2007 11:10 Cal File: 7103005.d
Als bottle: 1
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: AT04ENSR+22a.sub
Target Version: 3.50 Sample Matrix: AIR
Processing Host: eeyore

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

RT	EXP RT (REL RT)	MASS	RESPONSE	CONCENTRATIONS ON-COL (PPBV)	FINAL (PPBV)	TARGET RANGE	RATIO
* 81 Bromochloromethane						CAS #: 74-97-5	
14.416	14.388 (1.000)	130	436949	25.0000		80.00- 120.00	100.00
14.416	14.388 (1.000)	128	335751			26.85- 126.85	76.84
14.388	14.388 (1.000)	49	624691			148.03- 248.03	142.97
* 97 1,4-Difluorobenzene						CAS #: 540-36-3	
16.158	16.158 (1.000)	114	1407318	25.0000		80.00- 120.00	100.00
16.158	16.158 (1.000)	88	213095			0.00- 65.22	15.14
* 126 Chlorobenzene-d5						CAS #: 3114-55-4	
21.356	21.356 (1.000)	117	1018671	25.0000		80.00- 120.00	100.00
21.356	21.356 (1.000)	82	536543			4.45- 104.45	52.67
$ 90 1,2-Dichloroethane-d4						CAS #: 17060-07-0	
15.494	15.494 (1.075)	65	553489	23.5792	23.579	80.00- 120.00	100.00
15.494	15.494 (1.075)	67	274706			2.91- 102.91	49.63
$ 113 Toluene-d8						CAS #: 2037-26-5	
18.757	18.757 (1.161)	98	1142643	22.8722	22.872	80.00- 120.00	100.00
18.757	18.757 (1.161)	70	118898			0.00- 61.46	10.41

RT	EXP RT	(REL RT)	MASS	RESPONSE	CONCENTRATIONS ON-COL (PPBV)	FINAL (PPBV)	TARGET RANGE	RATIO
$ 113 Toluene-d8 (continued)								
18.757	18.757	(1.161)	100	779175			19.18- 119.18	68.19
$ 137 Bromofluorobenzene						CAS #:	460-00-4	
23.347	23.347	(1.093)	174	620013	25.5780	25.578	80.00- 120.00	100.00
23.319	23.347	(1.092)	95	715082			66.59- 166.59	115.33
23.347	23.347	(1.093)	176	589202			46.44- 146.44	95.03

Report Date: 31-Oct-2007 11:49

Air Toxics Ltd.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd7.i
Lab File ID: 7103105.d
Lab Smp Id: Lab Blank
Analysis Type: VOA
Quant Type: ISTD
Operator: cb
Method File: /chem/msd7.i/7-31oct.b/t14qO18c.m
Misc Info: Humid

Calibration Date: 31-OCT-2007
Calibration Time: 09:03
Client Smp ID: Lab Blank
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
81 Bromochloromethan	419527	251716	587338	436949	4.15
97 1,4-Difluorobenze	1400939	840563	1961315	1407318	0.46
126 Chlorobenzene-d5	1205049	723029	1687069	1018671	-15.47

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
81 Bromochloromethan	14.39	14.06	14.72	14.42	0.19
97 1,4-Difluorobenze	16.16	15.83	16.49	16.16	0.00
126 Chlorobenzene-d5	21.36	21.03	21.69	21.36	0.00

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Report Date: 31-Oct-2007 11:49

Air Toxics Ltd.

RECOVERY REPORT

Client Name:
Client SDG: 7-31oct
Sample Matrix: GAS
Fraction: VOA
Lab Smp Id: Lab Blank
Client Smp ID: Lab Blank
Level: LOW
Operator: cb
Data Type: MS DATA
SampleType: SAMPLE
SpikeList File: 2926spectra.spk
Quant Type: ISTD
Sublist File: AT04ENSR+22a.sub
Method File: /chem/msd7.i/7-31oct.b/t14qO18c.m
Misc Info: Humid

SURROGATE COMPOUND	CONC ADDED PPBV	CONC RECOVERED PPBV	% RECOVERED	LIMITS
$ 90 1,2-Dichloroethane	25.000	23.579	94.32	70-130
$ 113 Toluene-d8	25.000	22.872	91.49	70-130
$ 137 Bromofluorobenzene	25.000	25.578	102.31	70-130

Data File: /chem/msd7.i/7-31oct.b/7103105.d

Date : 31-OCT-2007 11:28

Client ID: Lab Blank

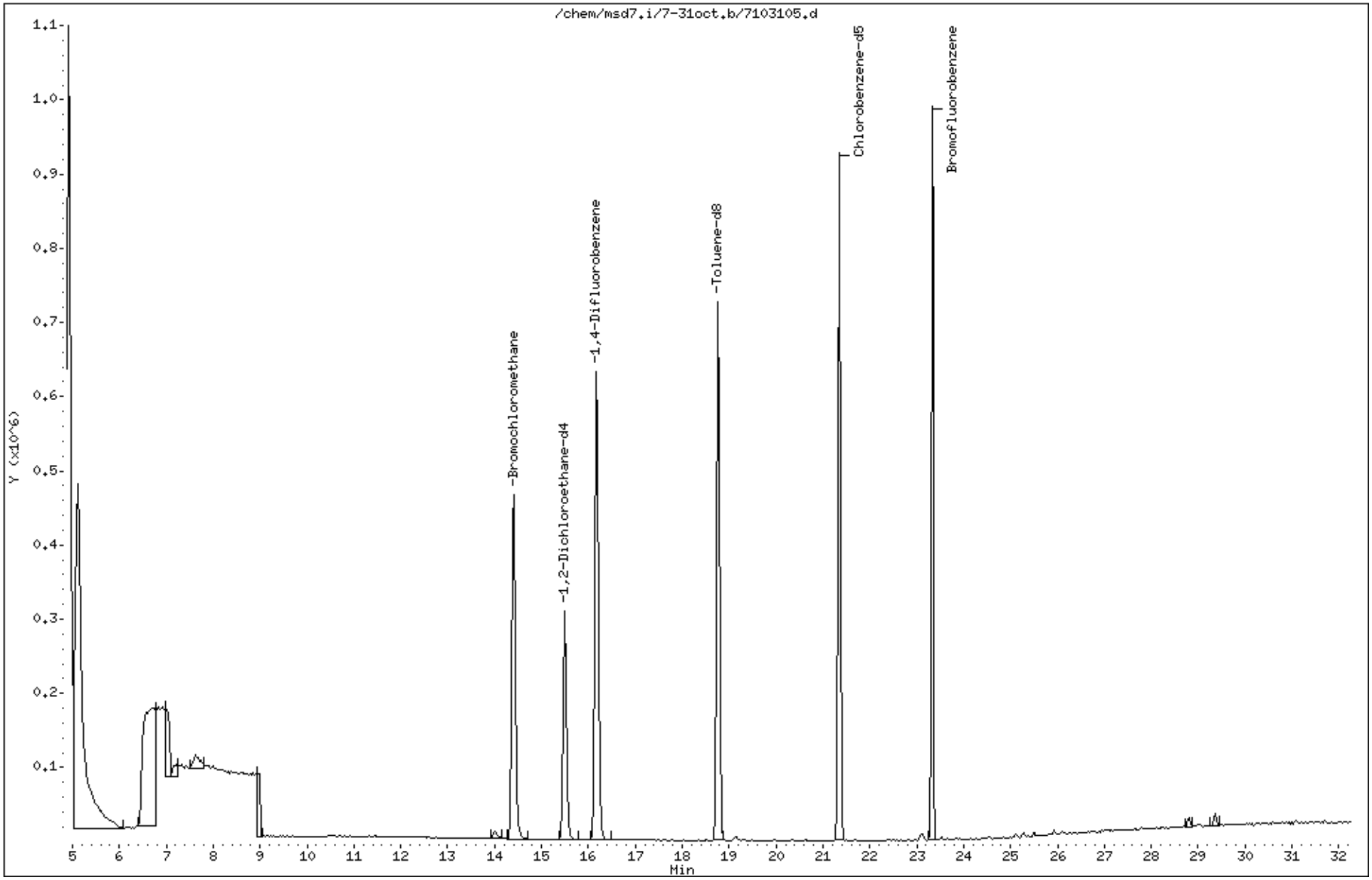
Sample Info: 200mL #34190

Column phase: RTx-624

Instrument: msd7.i

Operator: cb

Column diameter: 0.53



LEVEL-IV VALIDATABLE

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

SURROGATE RECOVERY FORM

Lab Name: AIR TOXICS LIMITED. SDG No.: 0710567

	CLIENT SAMPLE NO.	SURROGATE % RECOVERY								
		1,2-Dichloroethane-d4	#	Toluene-d8	#	4-Bromofluorobenzene	#		#	TOTAL OUT
01	MD21-07-6813	109		93		100				0
02	MD21-07-6814	106		92		104				0
03	MD21-07-6815	103		92		100				0
04	MD21-07-6816	102		90		103				0
05	MD21-07-6817	107		88		104				0
06	Lab Blank	89		94		100				0
07	Lab Blank	94		91		102				0
08	CCV	96		100		105				0
09	CCV	112		100		110				0
10	LCS	93		101		104				0
11	LCS	102		101		108				0
12										0
13										0
14										0
15										0
16										0
17										0
18										0
19										0
20										0
21										0
22										0
23										0
24										0

Surrogate Recovery Limits

1,2-Dichloroethane-d4 70 - 130
Toluene-d8 70 - 130
4-Bromofluorobenzene 70 - 130

* Designates values outside of QC limits

LEVEL-IV VALIDATABLE

Modified EPA Method TO-15 GC/MS Full Scan

INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: AIR TOXICS, LTD

SDG No: 0710567

Lab File ID: 7103006.d

Date Analyzed: 10/30/2007

Instrument ID: msd7.i

Time Analyzed: 12:15 PM

		Chlorobenzene-d5 Area	#	RT	#	1,4-Difluorobenzene Area	#	RT	#	Bromochloromethane Area	#	RT	#
	24-HOUR STD	1414884		21.36		1771565		16.16		537758		14.39	
	UPPER LIMIT	1980838		21.69		2480191		16.49		752861		14.72	
	LOWER LIMIT	848930		21.03		1062939		15.83		322655		14.06	
	CLIENT SAMPLE NO												
01	MD21-07-6813	954007		21.36		1198965		16.19		359556		14.42	
02	MD21-07-6814	957513		21.36		1266199		16.19		387796		14.42	
03	MD21-07-6815	1013801		21.36		1414753		16.16		426965		14.42	
04	Lab Blank	1107890		21.36		1504240		16.16		463709		14.42	
05	Lab Blank	1018671		21.36		1407318		16.16		436949		14.42	
06	CCV	1414884		21.36		1771565		16.16		537758		14.39	
07	CCV	1205049		21.36		1400939		16.16		419527		14.39	
08	LCS	1434159		21.36		1788111		16.16		529735		14.42	
09	LCS	1311308		21.36		1606107		16.16		478234		14.39	
10													
11													
12													
13													
14													
15													
16													
17													
18													
19													
20													
21													
22													

'Area Upper Limit=+40% of internal standard area'

'Area Lower Limit=-40% of internal standard area'

RT Upper Limit=+0.33 minutes of internal standard RT

RT Lower Limit=-0.33 minutes of internal standard RT

* Designates values outside of QC limits

LEVEL-IV VALIDATABLE

Modified EPA Method TO-15 GC/MS Full Scan

INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name:	AIR TOXICS, LTD	SDG No:	0710567
Lab File ID:	7103102.d	Date Analyzed:	10/31/2007
Instrument ID:	msd7.i	Time Analyzed:	09:03 AM

		Chlorobenzene-d5 Area	#	RT	#	1,4-Difluorobenzene Area	#	RT	#	Bromochloromethane Area	#	RT	#
	24-HOUR STD	1205049		21.36		1400939		16.16		419527		14.39	
	UPPER LIMIT	1687069		21.69		1961315		16.49		587338		14.72	
	LOWER LIMIT	723029		21.03		840563		15.83		251716		14.06	
	CLIENT SAMPLE NO												
01	MD21-07-6816	964783		21.36		1364399		16.16		422872		14.42	
02	MD21-07-6817	914211		21.36		1282407		16.16		385389		14.42	
03	Lab Blank	1018671		21.36		1407318		16.16		436949		14.42	
04	CCV	1205049		21.36		1400939		16.16		419527		14.39	
05	LCS	1311308		21.36		1606107		16.16		478234		14.39	
06													
07													
08													
09													
10													
11													
12													
13													
14													
15													
16													
17													
18													
19													
20													
21													
22													

'Area Upper Limit=+40% of internal standard area'
'Area Lower Limit=-40% of internal standard area'

RT Upper Limit=+0.33 minutes of internal standard RT
RT Lower Limit=-0.33 minutes of internal standard RT

* Designates values outside of QC limits

Air Toxics Ltd.

INITIAL CALIBRATION DATA

Start Cal Date : 18-OCT-2007 12:17
End Cal Date : 30-OCT-2007 11:10
Quant Method : ISTD
Origin : Disabled
Target Version : 3.50
Integrator : HP RTE
Method file : /chem/msd7.i/7-30oct.b/t14qO18c.m
Cal Date : 30-Oct-2007 11:35 cbond
Curve Type : Average

Calibration File Names:
Level 1: /chem/msd7.i/7-18oct.b/7101802.d
Level 2: /chem/msd7.i/7-18oct.b/7101803.d
Level 3: /chem/msd7.i/7-22oct.b/7102205.d
Level 4: /chem/msd7.i/7-30oct.b/7103003.d
Level 5: /chem/msd7.i/7-30oct.b/7103004.d
Level 6: /chem/msd7.i/7-18oct.b/7101807.d
Level 7: /chem/msd7.i/7-30oct.b/7103005.d

Compound	0.30000 Level 1	0.50000 Level 2	2.000 Level 3	25.000 Level 4	50.000 Level 5	100.000 Level 6	200.000 Level 7	___ RRF	% RSD
1 Dimethyl Ether	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
2 Isobutylene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
3 Acetaldehyde	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
4 2-Methyl-1-Butene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
5 Freon 143a	+++++	+++++	0.55395	+++++	0.55199	+++++	0.52936	0.54510	2.507
6 Freon142b	+++++	+++++	2.28105	+++++	2.26472	+++++	2.12470	2.22349	3.865
7 Propanal	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++

Air Toxics Ltd.

INITIAL CALIBRATION DATA

Start Cal Date : 18-OCT-2007 12:17
End Cal Date : 30-OCT-2007 11:10
Quant Method : ISTD
Origin : Disabled
Target Version : 3.50
Integrator : HP RTE
Method file : /chem/msd7.i/7-30oct.b/t14qO18c.m
Cal Date : 30-Oct-2007 11:35 cbond
Curve Type : Average

Compound	0.30000 Level 1	0.50000 Level 2	2.000 Level 3	25.000 Level 4	50.000 Level 5	100.000 Level 6	200.000 Level 7	___ RRF	% RSD
8 Freon 14	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
9 Freon 13	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
10 Bromoethane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
11 Propylene	+++++	+++++	1.12508	1.03756	1.03506	1.07736	1.11245	1.07750	3.849
12 Dichlorodifluoromethane/Fr12	+++++	3.99832	4.01542	3.93538	3.87538	3.94362	3.93588	3.95067	1.272
13 Freon 134a	+++++	+++++	1.08885	+++++	1.07331	+++++	1.03422	1.06546	2.642
14 2,3-Dimethylbutane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
15 Freon 152a	+++++	+++++	0.79822	+++++	0.77199	+++++	0.73740	0.76921	3.966
16 Freon 114	+++++	2.75763	2.94175	2.80659	2.67187	2.54264	2.41290	2.68890	7.063
17 Freon 22	+++++	+++++	2.64018	+++++	2.47048	+++++	2.34449	2.48505	5.971

Air Toxics Ltd.

INITIAL CALIBRATION DATA

Start Cal Date : 18-OCT-2007 12:17
End Cal Date : 30-OCT-2007 11:10
Quant Method : ISTD
Origin : Disabled
Target Version : 3.50
Integrator : HP RTE
Method file : /chem/msd7.i/7-30oct.b/t14qO18c.m
Cal Date : 30-Oct-2007 11:35 cbond
Curve Type : Average

Compound	0.30000 Level 1	0.50000 Level 2	2.000 Level 3	25.000 Level 4	50.000 Level 5	100.000 Level 6	___ RRF	% RSD
	200.000 Level 7							
18 Chloromethane	+++++	+++++	1.35842	1.27523	1.23888	1.27208		
	1.35173						1.29926	4.075
19 Butane	+++++	+++++	0.27760	0.27318	0.27001	0.28033		
	0.29063						0.27835	2.849
20 Vinyl Chloride	+++++	1.61123	1.66709	1.62947	1.58710	1.59115		
	1.64603						1.62201	1.940
21 Isobutane	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++						+++++	+++++
22 1,3-Butadiene	+++++	0.98714	1.11899	1.17713	1.17364	1.20853		
	1.30571						1.16186	9.077
23 Methyl acetate	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++						+++++	+++++
24 Chloroprene	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++						+++++	+++++
25 Bromomethane	+++++	1.36911	1.38030	1.38465	1.43147	1.47189		
	1.57973						1.43619	5.586
26 Methanol	+++++	+++++	+++++	0.49521	0.41205	+++++		
	0.37348						0.42691	14.573
27 Chloroethane	+++++	0.56164	0.59106	0.70880	0.75786	0.81456		
	0.88356						0.71958	17.463

Air Toxics Ltd.

INITIAL CALIBRATION DATA

Start Cal Date : 18-OCT-2007 12:17
End Cal Date : 30-OCT-2007 11:10
Quant Method : ISTD
Origin : Disabled
Target Version : 3.50
Integrator : HP RTE
Method file : /chem/msd7.i/7-30oct.b/t14qO18c.m
Cal Date : 30-Oct-2007 11:35 cbond
Curve Type : Average

Compound	0.30000 Level 1	0.50000 Level 2	2.000 Level 3	25.000 Level 4	50.000 Level 5	100.000 Level 6	___ RRF	% RSD
	200.000 Level 7							
28 2,4-Dimethylpentane	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++						+++++	+++++
29 Isopentane	+++++	+++++	1.72200	1.68471	1.74289	1.82023		
	1.94043						1.78205	5.692
30 2-Butanol	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++						+++++	+++++
31 Trichlorofluoromethane/Fr11	+++++	3.30692	3.64793	3.69780	3.75036	3.79137		
	3.91953						3.68565	5.627
32 3-Methyl-1-Hexene	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++						+++++	+++++
33 Vinyl Bromide	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++						+++++	+++++
34 Dichlorofluoromethane/Fr21	+++++	+++++	2.18670	+++++	2.24831	+++++		
	2.17912						2.20471	1.721
35 1-Pentene	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++						+++++	+++++
36 Methacrylonitrile	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++						+++++	+++++
37 Pentane	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++						+++++	+++++

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INITIAL CALIBRATION DATA

Start Cal Date : 18-OCT-2007 12:17
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Origin : Disabled
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Integrator : HP RTE
Method file : /chem/msd7.i/7-30oct.b/t14qO18c.m
Cal Date : 30-Oct-2007 11:35 cbond
Curve Type : Average

Compound	0.30000 Level 1	0.50000 Level 2	2.000 Level 3	25.000 Level 4	50.000 Level 5	100.000 Level 6	200.000 Level 7	___ RRF	% RSD
38 Ethanol	+++++	+++++	0.40835	0.46701	0.50651	0.55509	0.57654	0.50270	13.487
39 Ethyl Ether	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
40 Freon123a	+++++	+++++	1.12892	+++++	1.34813	+++++	1.26008	1.24571	8.855
41 Freon123	+++++	+++++	2.17978	+++++	2.29407	+++++	2.15449	2.20945	3.366
42 Freon 113	+++++	1.87915	1.96071	2.08299	2.10265	2.12197	2.15175	2.04987	5.188
43 1,1-Dichloroethene	+++++	1.93487	2.07684	2.19744	2.20280	2.28145	2.39408	2.18125	7.326
44 Acrolein	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
45 Acetone	+++++	+++++	0.57485	0.65835	0.66872	0.70599	0.76315	0.67421	10.242
46 2-Propanol	+++++	+++++	1.73749	2.29338	2.44395	2.63284	2.85245	2.39202	17.623
47 Carbon Disulfide	+++++	3.64316	3.89848	4.16293	4.20624	4.40983	4.64911	4.16162	8.592

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Compound	0.30000 Level 1	0.50000 Level 2	2.000 Level 3	25.000 Level 4	50.000 Level 5	100.000 Level 6	200.000 Level 7	___ RRF	% RSD
48 Ethyl acrylate	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	
49 Iodomethane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	
50 Methyl Methacrylate	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	
51 3-Chloropropene	+++++	+++++	0.47791	0.67053	0.69517	0.71004	0.83257	0.67724	18.866
52 Acetonitrile	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	
53 2-Methylpentane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	
54 Methylene Chloride	+++++	1.50433	1.50940	1.55545	1.57830	1.66547	1.80906	1.60367	7.258
55 Cyclopentene	+++++	+++++	4.55063	+++++	4.84748	+++++	4.57554	4.65788	3.535
56 Cyclopentane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	
57 tert-Butyl-Alcohol	+++++	+++++	2.48873	+++++	2.67379	+++++	1.79281	2.31844	20.036

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Compound	0.30000 Level 1	0.50000 Level 2	2.000 Level 3	25.000 Level 4	50.000 Level 5	100.000 Level 6	200.000 Level 7	___ RRF	% RSD
58 Freon143a	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
59 2,3,4-Trimethylpentane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
60 MTBE	+++++	2.56761	2.53475	2.73045	2.62429	2.12688	2.03593	2.43665	11.678
61 trans-1,2-Dichloroethene	+++++	1.27767	1.25807	1.53893	1.55545	1.59786	1.66426	1.48204	11.576
62 Acrylonitrile	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
63 2-Pentanone	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
64 Pentanal	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
65 Hexane	+++++	1.69745	1.86588	2.11588	2.20087	2.32069	2.48851	2.11488	13.795
66 1-Hexene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
67 2,4,4-Trimethyl-1-pentene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++

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Compound	0.30000 Level 1	0.50000 Level 2	2.000 Level 3	25.000 Level 4	50.000 Level 5	100.000 Level 6	200.000 Level 7	___ RRF	% RSD
68 Isopropyl ether	+++++	+++++	4.21268	+++++	4.73884	+++++	4.43254	4.46135	5.923
69 Vinyl Acetate	+++++	+++++	0.22424	0.31548	0.33299	0.35296	0.37207	0.31955	17.946
70 1,1-Dichloroethane	+++++	2.06984	2.31882	2.66506	2.63329	2.70399	2.80833	2.53322	11.066
71 1-Propanol	+++++	+++++	0.22951	+++++	0.30666	+++++	0.30318	0.27978	15.573
72 2,4,4-Trimethyl-2-pentene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
73 t-Butylethyl Ether	+++++	+++++	3.43943	+++++	4.07078	+++++	3.89822	3.80281	8.581
74 Butanal	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
75 2-Butanone	+++++	0.38112	0.37327	0.57250	0.59883	0.64860	0.67445	0.54146	24.420
76 cis-1,2-Dichloroethene	+++++	1.44231	1.58756	1.86427	1.87388	1.90834	1.96251	1.77314	11.735
77 Ethyl Acetate	+++++	+++++	0.39111	+++++	0.44693	+++++	0.43572	0.42459	6.954

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Compound	0.30000 Level 1	0.50000 Level 2	2.000 Level 3	25.000 Level 4	50.000 Level 5	100.000 Level 6	200.000 Level 7	___ RRF	% RSD
78 2,2-Dichloropropane	+++++	+++++	2.76326	+++++	3.07482	+++++	2.91201	2.91670	5.343
79 Methyl Acrylate	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
80 Tetrahydrofuran	+++++	1.02790	1.12367	1.48422	1.53795	1.59990	1.69691	1.41176	19.223
82 Chloroform	2.05933	2.30448	2.48203	2.71876	2.69631	2.67566	2.68331	2.51713	10.018
83 1,1,1-Trichloroethane	+++++	2.13993	2.49116	2.73073	2.66320	2.61212	2.57161	2.53479	8.276
84 2,3-Dimethylpentane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
85 Cyclohexane	+++++	1.13455	1.20463	1.54480	1.56422	1.61154	1.65129	1.45184	15.351
86 1-Bromo-2-Chloroethane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
87 Carbon Tetrachloride	+++++	1.91512	2.28619	2.65822	2.53314	2.44673	2.41712	2.37608	10.837
88 1,1-Dichloropropene	+++++	+++++	0.32293	+++++	0.36098	+++++	0.32719	0.33704	6.186

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Compound	0.30000 Level 1	0.50000 Level 2	2.000 Level 3	25.000 Level 4	50.000 Level 5	100.000 Level 6	___ RRF	% RSD
	200.000 Level 7							
89 2,2,4-Trimethylpentane	+++++	3.81973	4.40383	5.32986	5.44906	5.60503		
	5.84105						5.07476	15.513
91 Benzene	0.86624	0.88889	0.91154	1.08544	1.09104	1.07270		
	1.03741						0.99332	10.069
92 tert-amyl-Methyl Ether	+++++	+++++	2.47283	+++++	2.98882	+++++		
	2.87645						2.77937	9.763
93 1,2-Dichloroethane	+++++	0.47713	0.50816	0.58724	0.55560	0.53375		
	0.50473						0.52777	7.497
94 Heptane	+++++	0.21787	0.25494	0.33625	0.34694	0.34672		
	0.33023						0.30549	18.053
95 Thiophene	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++						+++++	+++++
96 2-Heptanone	+++++	+++++	1.17667	+++++	1.87950	+++++		
	1.94397						1.66671	25.536
98 1-Butanol	+++++	+++++	0.16640	+++++	0.27504	+++++		
	0.29172						0.24439	27.845
99 Isobutanol	+++++	+++++	0.01857	+++++	0.03090	+++++		
	0.03265						0.02737	28.046
100 trans-1,4-dichloro-2-butene	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++						+++++	+++++

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Compound	0.30000 Level 1	0.50000 Level 2	2.000 Level 3	25.000 Level 4	50.000 Level 5	100.000 Level 6	200.000 Level 7	___ RRF	% RSD
101 Trichloroethene	+++++	0.36757	0.41682	0.48608	0.47584	0.46333	0.43779	0.44124	9.999
102 Methyl Cyclohexane	+++++	1.39533	1.53464	1.88425	1.91342	1.96394	2.03008	1.78694	14.440
103 Alphamethylstyrene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
104 1,2-Dichloropropane	+++++	0.31221	0.33815	0.41169	0.41161	0.41161	0.40196	0.38121	11.628
105 Dibromomethane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
106 1,4-Dioxane	+++++	+++++	0.17948	0.26051	0.26452	0.26965	0.26552	0.24794	15.489
107 Bromodichloromethane	+++++	0.61038	0.69769	0.87294	0.84576	0.81437	0.75521	0.76606	12.941
108 Epichlorohydrin	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
109 Dodecane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
110 cis-1,3-Dichloropropene	+++++	0.38818	0.43431	0.60245	0.61448	0.61397	0.57859	0.53866	18.678

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Compound	0.30000 Level 1	0.50000 Level 2	2.000 Level 3	25.000 Level 4	50.000 Level 5	100.000 Level 6	200.000 Level 7	___ RRF	% RSD
111 4-Methyl-2-pentanone	+++++	0.17517	0.22135	0.33428	0.34745	0.35414	0.35115	0.29726	26.358
112 Octane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
114 Toluene	+++++	0.88659	0.96936	1.20407	1.18877	1.16407	1.11507	1.08799	11.969
115 Undecane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
116 trans-1,3-Dichloropropene	+++++	0.53047	0.59368	0.77535	0.80087	0.79044	0.76929	0.71002	16.458
117 1,1,2-Trichloroethane	+++++	0.41044	0.46882	0.56509	0.56186	0.55694	0.54374	0.51782	12.308
118 1,3-Dichloropropane	+++++	+++++	0.95658	+++++	1.08832	+++++	0.96579	1.00356	7.328
119 Butyl Acetate	+++++	+++++	0.28247	+++++	0.41163	+++++	0.39768	0.36393	19.478
120 Tetrachloroethene	+++++	0.58842	0.66370	0.75326	0.72549	0.67756	0.62110	0.67159	9.213
121 2-Hexanone	+++++	+++++	0.36161	0.55434	0.60179	0.62391	0.63307	0.55495	20.234

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Compound	0.30000 Level 1	0.50000 Level 2	2.000 Level 3	25.000 Level 4	50.000 Level 5	100.000 Level 6	200.000 Level 7	___ RRF	% RSD
122 Dibromochloromethane	+++++	0.69168	0.84946	1.07299	1.03098	0.96547	0.89431	0.91748	15.065
123 1,2-Dibromoethane	+++++	0.62218	0.76958	0.96047	0.95014	0.91717	0.87375	0.84888	15.420
124 Nonane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
125 1,1,1,2-Tetrachloroethane	+++++	+++++	0.89946	+++++	0.96238	+++++	0.81264	0.89149	8.434
127 Chlorobenzene	+++++	0.98017	1.09978	1.22139	1.20798	1.16672	1.10992	1.13099	7.863
128 Ethyl Benzene	+++++	0.45805	0.54406	0.64040	0.62635	0.60750	0.58753	0.57731	11.679
129 m,p-Xylene	+++++	0.59617	0.64876	0.79109	0.79390	0.76602	0.73972	0.72261	11.309
130 o-Xylene	+++++	0.50098	0.57853	0.70214	0.68839	0.66302	0.62421	0.62621	12.150
131 Styrene	0.70099	0.69787	0.85261	1.17931	1.15472	1.12570	1.06862	0.96855	21.987
132 alpha-Pinene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++

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133 Bromoform	+++++	0.63213	0.75943	0.95882	0.91283	0.83481	0.73582	0.80564	14.990
134 Cumene	1.37424	1.32202	1.52398	1.81837	1.75252	1.68271	1.59504	1.58127	11.814
135 Cyclohexanone	+++++	+++++	0.42554	+++++	0.51533	+++++	0.55003	0.49697	12.926
136 Bromobenzene	+++++	+++++	1.09324	+++++	1.15192	+++++	0.89292	1.04603	12.983
138 1,2,3-Trichloropropane	+++++	+++++	0.49256	+++++	0.53270	+++++	0.44323	0.48949	9.155
139 Decane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
140 1,1,2,2-Tetrachloroethane	+++++	0.90901	1.02955	1.12854	1.10800	1.08214	1.01864	1.04598	7.618
141 2-Chlorotoluene	+++++	+++++	0.77382	+++++	0.83371	+++++	0.71021	0.77258	7.994
142 Propylbenzene	+++++	1.80614	2.07039	2.37103	2.29000	2.22770	1.95985	2.12085	10.116
143 4-Chlorotoluene	+++++	+++++	0.80068	+++++	0.91055	+++++	0.76155	0.82426	9.372

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144 beta-Pinene	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
145 4-Ethyltoluene	+++++	1.44347	1.70757	2.13595	2.07919	1.99040	1.88068	1.87287	13.869
146 Diisobutyl Ketone	+++++	+++++	1.03326	+++++	1.20971	+++++	1.11764	1.12021	7.878
147 1,3,5-Trimethylbenzene	+++++	1.41316	1.61240	1.56055	1.49171	1.41942	1.32949	1.47112	7.095
148 tert-Butylbenzene	+++++	+++++	2.45687	+++++	2.30546	+++++	1.84295	2.20176	14.526
149 sec-Butylbenzene	+++++	+++++	3.43467	+++++	3.26882	+++++	2.43915	3.04755	17.502
150 1,2,4-Trimethylbenzene	+++++	1.05335	1.33499	1.48885	1.43630	1.39785	1.31045	1.33697	11.480
151 bis(2-chloroethyl)ether	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
152 D-Limonene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
153 p-Cymene	+++++	+++++	2.65193	+++++	2.61222	+++++	2.06279	2.44232	13.482

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154 1,2,3-Trimethylbenzene	+++++	+++++	0.97569	+++++	1.04736	+++++	0.88396	0.96900	8.453
155 1,3-Dichlorobenzene	+++++	0.93407	1.06260	1.12258	1.08075	1.04027	0.96733	1.03460	6.878
156 1,4-Dichlorobenzene	+++++	1.02926	1.10239	1.15450	1.11647	1.07554	0.99126	1.07824	5.539
157 Indan	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
158 Butylbenzene	+++++	+++++	0.66658	+++++	0.69760	+++++	0.60595	0.65671	7.099
159 alpha-Chlorotoluene	+++++	1.02301	1.25741	1.52918	1.58500	1.63564	1.55835	1.43143	16.768
160 Indene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
161 1,2-Dichlorobenzene	+++++	0.94286	1.02179	0.99757	0.96941	0.96223	0.88582	0.96328	4.881
162 1,2-Dibromo-3-Chloropropane	+++++	+++++	0.76234	+++++	0.80959	+++++	0.79238	0.78810	3.035
163 Aniline	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++

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Cal Date : 30-Oct-2007 11:35 cbond
Curve Type : Average

Compound	0.30000 Level 1	0.50000 Level 2	2.000 Level 3	25.000 Level 4	50.000 Level 5	100.000 Level 6	200.000 Level 7	___ RRF	% RSD	
164 Isooctyl Alcohol	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
165 1,2,4-Trichlorobenzene	+++++	+++++	0.51018	0.27800	0.34560	0.40681	0.42931	0.39398	22.239	
166 Hexachlorobutadiene	+++++	+++++	0.50925	0.26779	0.28274	0.29299	0.28486	0.32753	31.141	<-
167 Naphthalene	+++++	+++++	0.92717	0.46092	0.62590	0.80276	0.87395	0.73814	26.042	
168 Quinoline	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	
169 1,3,5-Trichlorobenzene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	
170 Isooctyl Acrylate	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	
199 Vinyl Fluoride	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	
200 2-Chloroethyl vinyl ether	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	
201 Pentachloroethane	+++++	+++++	0.71063	+++++	0.70263	+++++	0.56154	0.65826	12.740	

Air Toxics Ltd.

INITIAL CALIBRATION DATA

Start Cal Date : 18-OCT-2007 12:17
End Cal Date : 30-OCT-2007 11:10
Quant Method : ISTD
Origin : Disabled
Target Version : 3.50
Integrator : HP RTE
Method file : /chem/msd7.i/7-30oct.b/t14qO18c.m
Cal Date : 30-Oct-2007 11:35 cbond
Curve Type : Average

Compound	0.30000 Level 1	0.50000 Level 2	2.000 Level 3	25.000 Level 4	50.000 Level 5	100.000 Level 6	200.000 Level 7	___ RRF	% RSD
202 1,2,3-Trichlorobenzene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
203 Hexachloroethane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
$ 90 1,2-Dichloroethane-d4	1.32140	1.33936	1.38524	1.34768	1.31998	1.31873	1.36890	1.34304	1.941
$ 113 Toluene-d8	0.87123	0.85458	0.85764	0.89757	0.90205	0.91537	0.91380	0.88746	2.917
$ 137 Bromofluorobenzene	0.59803	0.60119	0.59463	0.60774	0.59840	0.58089	0.58339	0.59489	1.617

Calibration History

Method : /chem/msd7.i/7-30oct.b/t14qO18c.m
Start Cal Date: 18-OCT-2007 12:17
End Cal Date : 30-OCT-2007 11:10

Initial Calibration

Injection Date	Sublist	Calibration File
Cal Level: 1 , Cal Amount: 0.30000		
18-OCT-2007 12:17	AFCEElow	/chem/msd7.i/7-18oct.b/7101802.d

Injection Date	Sublist	Calibration File
Cal Level: 2 , Cal Amount: 0.50000		
18-OCT-2007 12:56	AT04low+ENSR	/chem/msd7.i/7-18oct.b/7101803.d

Injection Date	Sublist	Calibration File
Cal Level: 3 , Cal Amount: 2.00000		
22-OCT-2007 10:55	sp16b	/chem/msd7.i/7-22oct.b/7102205.d
19-OCT-2007 10:22	sp22a	/chem/msd7.i/7-19oct.b/7101903.d
18-OCT-2007 14:09	AT04mdl+ENSR	/chem/msd7.i/7-18oct.b/7101804.d

Injection Date	Sublist	Calibration File
Cal Level: 4 , Cal Amount: 25.00000		
30-OCT-2007 09:51	sp1c	/chem/msd7.i/7-30oct.b/7103003.d
18-OCT-2007 14:47	AT04mdl+ENSR	/chem/msd7.i/7-18oct.b/7101805.d

Injection Date	Sublist	Calibration File
Cal Level: 5 , Cal Amount: 50.00000		
30-OCT-2007 10:29	sp1c	/chem/msd7.i/7-30oct.b/7103004.d
22-OCT-2007 11:44	sp16b	/chem/msd7.i/7-22oct.b/7102206.d
19-OCT-2007 11:00	sp22a	/chem/msd7.i/7-19oct.b/7101904.d
18-OCT-2007 15:26	AT04mdl+ENSR	/chem/msd7.i/7-18oct.b/7101806.d

Injection Date	Sublist	Calibration File
Cal Level: 6 , Cal Amount: 100.00000		
18-OCT-2007 16:15	AT04mdl+ENSR	/chem/msd7.i/7-18oct.b/7101807.d

Injection Date	Sublist	Calibration File
Cal Level: 7 , Cal Amount: 200.00000		
30-OCT-2007 11:10	sp1c	/chem/msd7.i/7-30oct.b/7103005.d

```
|22-OCT-2007 12:34 |sp16b            |/chem/msd7.i/7-22oct.b/7102207.d        |
|19-OCT-2007 11:41 |sp22a            |/chem/msd7.i/7-19oct.b/7101905.d        |
|18-OCT-2007 17:39 |AT04mdl+ENSR     |/chem/msd7.i/7-18oct.b/7101808.d        |
+------------------+-----------------+----------------------------------------+


Continuing Calibration
Ccal Level Mode: GLOBAL LEVEL 5
+------------------+-----------------+----------------------------------------+
| Ccal Level: 5 , Ccal Amount: 50.000                                          |
+==============================================================================+
|30-OCT-2007 10:29 |sp22aCCV         |/chem/msd7.i/7-30oct.b/7103004a.d       |
+------------------+-----------------+----------------------------------------+
```

Initial Calibration Narrative

A seven point and four point initial calibration was analyzed on MSD-7 on 10-18-2007.:

The following compounds used 0.2 ppbv as the lowest calibration concentration:
Chloroform, Benzene, Cumene and Styrene.

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MSD-7

Logbook #: 1594

m/z	ION ABUNDANCE CRITERIA	% REL. ABUNDANCE
50	15.0 – 40.0% of mass 95	18.61
75	30.0 – 60.0% of mass 95	39.71
95	Base peak, 100.00% relative abundance	100.00
96	5.0 – 9.0% of mass 95	6.78
173	Less than 2.0% of mass 174	(0.49)[1]
174	Greater than 50.0% of mass 95	81.70
175	5.0 – 9.0% of mass 174	(6.88)[1]
176	Greater than 95.0% but less than 101.0% of mass 174	(96.40)[1]
177	5.0 – 9.0% of mass 176	(6.69)[2]

[1] - value in parenthesis is % mass 174 [2] - value in parenthesis is % mass 176

BFB Injection Date: 10/18/07

BFB Injection Time: 1150

BFB File ID: 7101807

Tekmar Purge Flow: 17.9 mL/min

Vacuum: 2.8×10^{-5} torr

IS/S Std.#:	1443-339	Exp. Date: 12/26/07
BCM	683549	
1,4-DFB	2204815	
CB-d5	1812979	

Verified CCV IS vs ICAL mid-point (- 40%D) CB *initials*

0154

Verify 176/174 m/z Ratio: 1072385 / 1112403 x 100 =

NOAH Cart #: N/A **File #:** N/A

Calculation Check:

ppbv of compound $= \frac{Area_{Sample}}{Area_{IS}} \times \frac{Conc._{IS}}{RRF} = \frac{(902272)}{(683549)} \times \frac{(25.0)}{(1.34304)} = 24.571$

File ID:	7101806
Compound:	1,2-DCA-d4
Initials:	CB

Reported Result 24.571

	Use	File #	Sample / Client Name	Can #	Pressure	Amt Loaded	DF	Date Analyzed	Time Analyzed	Review Init.	Comments
1	✓	7101807	BFB Tune Check	1467-64	50 psig	2uL	1.00	10/18/07	1150	CB	
2	✓	02	ICAL Level 1	1576-50	200 ppbv 0.2 ppbv	0.2mL			1217	CB	
3	✓	03	2		200 ppbv 0.5 ppbv	0.5mL			1256	CB	
4	✓	04	3		200 ppbv 2 ppbv	2mL			1409	CB	
5	✓	05	4		200 ppbv 25 ppbv	25mL			1447	CB	
6	✓	06	5		200 ppbv 50 ppbv	50mL			1526	CB	CCV
7	✓	07	6		200 ppbv 100 ppbv	100mL			1615	DW/CB	
8	✓	08	7		200 ppbv → 200 ppbv	200mL			1739	DW/CB	1 out Hexach for isotope dilution
9	X	09	System Blank	34190					1847	DW	

Laura Derringer
Signature

10/22/07
Date

10	✓	7101810	ICAL LCS-1 (200ppbv)	1443-302	50ppbv	50L	1.00	10/18/07	1929	dm/CB	ø OCF ICALCS
11		↓ 11	System Blank	34490	Humid	200mL			0828	CB	
12											
13											
14											
15											
16											
17											
18											
19											
20											
21											
22											
23											
24											
25											
26			FQ 10/22/07								
27											
28											
29											
30											
31											
32											

Comments: Flow controller SN # AA9123141 Nominal: 23.6 mL/min

NIST Flowmeter # 200-7744 Actual: 25.0 mL/min CB 10/22/07

Exp 8/27/08

Signature

10/18/07
Date

01553

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MSD-7

Logbook #: 1594

0156

m/z	ION ABUNDANCE CRITERIA	% REL. ABUNDANCE
50	15.0 – 40.0% of mass 95	18.32
75	30.0 – 60.0% of mass 95	40.25
95	Base peak, 100.00% relative abundance	100.00
96	5.0 – 9.0% of mass 95	6.83
173	Less than 2.0% of mass 174	(0.49)[1]
174	Greater than 50.0% of mass 95	81.69
175	5.0 – 9.0% of mass 174	(7.11)[1]
176	Greater than 95.0% but less than 101.0% of mass 174	(97.18)[1]
177	5.0 – 9.0% of mass 176	(6.67)[2]

[1] - value in parenthesis is % mass 174 [2] - value in parenthesis is % mass 176

BFB Injection Date: 10/19/07
BFB Injection Time: 0909
BFB File ID: 7101901
Tekmar Purge Flow: 17.8 mL/min
Vacuum: 3.0×10^{-5} torr

IS/S Std.#:	1443-339	Exp. Date: 12/26/07
BCM	709290	
1,4-DFB	2353553	
CB-d5	1919987	

Verified CCV IS vs ICAL mid-point (- 40%D) CB *initials*

Verify 176/174 m/z Ratio: 1015727 / 1045184 x 100 = 97.18%

NOAH Cart #: NA **File #:** NA

Calculation Check:

ppbv of compound $= \frac{Area_{Sample}}{Area_{IS}} \times \frac{Conc._{IS}}{RRF} = \frac{(\ 919940\ )}{(\ 709290\ )} \times \frac{(\ 25.0\ )}{(\ 1.34304\ )} =$ 24.143

Reported Result 24.143

File ID:	7101902
Compound:	1,2-DCA-d4
Initials:	CB

	Use	File #	Sample / Client Name	Can #	Pressure	Amt Loaded	DF	Date Analyzed	Time Analyzed	Review Init.	Comments
1	✓	7101901	BFB Tune Check	1467-64	50 psig	2uL	1.00	10/19/07	0909	CB	
2	✓	02	CCV-1 (200 ppbv)	1576-50	50 ppbv	50mL			0929	CB	
3	✓	03	ICAL Level 3	1487-400	200 ppbv - 3 ppbv	2mL			1022	CB	Sp229 Et40189
4	✓	04	5		200 ppbv - 50 ppbv	50mL			1100	CB	CCV
5	✓	05	7		200 ppbv	200mL			1141	CB	
6	✓	06	LCS-1 (200 ppbv)	1443-302	50 ppbv	50mL			1226	CB	~~ICAL LCS~~ fo 10/22/07
7	✓	07	Gas Std (100 ppmv)	1576-14	2500 ppbv	5mL			1310	CB	
8	✗ CB 10/19/07	08	Lab Blank	12009	Humid	200mL			1400	CB	
9		09	Lab Blank								CB 10/19/07 not run

Signature: CB

Date: 10/19/07

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MSD-7

Logbook #: 1594

0157

m/z	ION ABUNDANCE CRITERIA	% REL. ABUNDANCE
50	15.0 – 40.0% of mass 95	17.85
75	30.0 – 60.0% of mass 95	39.75
95	Base peak, 100.00% relative abundance	100.00
96	5.0 – 9.0% of mass 95	6.75
173	Less than 2.0% of mass 174	(0.53)[1]
174	Greater than 50.0% of mass 95	86.46
175	5.0 – 9.0% of mass 174	(6.92)[1]
176	Greater than 95.0% but less than 101.0% of mass 174	(96.63)[1]
177	5.0 – 9.0% of mass 176	(6.48)[2]

[1] - value in parenthesis is % mass 174 [2] - value in parenthesis is % mass 176

BFB Injection Date: 10/22/07
BFB Injection Time: 0822
BFB File ID: 7102201
Tekmar Purge Flow: 17.9 mL/min
Vacuum: 2.8×10^{-5} torr

IS/S Std.#:	1443-339	Exp. Date: 12/26/07
BCM	691202	
1,4-DFB	2257140	
CB-d5	1885010	

Verified CCV IS vs ICAL mid-point (- 40%D) CB *initials*

Verify 176/174 m/z Ratio: 1142984 / 1182801 × 100 = 96.63%

NOAH Cart #: N/A **File #:** N/A

Calculation Check:

ppbv of compound $= \frac{Area_{Sample}}{Area_{IS}} \times \frac{Conc._{IS}}{RRF} = \frac{(892172)}{(691202)} \times \frac{(25.0)}{(1.34304)} = 24.027$

Reported Result 24.027

File ID:	7102202
Compound:	1,2-DCA-d4
Initials:	CB

	Use	File #	Sample / Client Name	Can #	Pressure	Amt Loaded	DF	Date Analyzed	Time Analyzed	Review Init.	Comments
1	✓	7102201	BFB Tune Check	1462-64	50ng	2uL	1.00	10/22/07	0822	CB	
2	✓	02	CCV-1 (200ppbv)	1576-50	50ppbv	50mL			0843	CB	
3	✓	03	LCS-1 (200ppbv)	1443-302	50ppbv	50mL			0925	CB	
4	✓	04	CCVsp (200ppbv)	1487-400	50ppbv	50mL			1007	CB	
5	✓	05	ICAL Level 3	1487-370	200ppbv – 2ppbv	2mL			1055	CB	sp166 T1490186
6	✓	06	↓ 5	↓	200ppbv – 50ppbv	50mL			1144	CB	CCV
7	✓	07	↓ 7	↓	200ppbv	200mL			1234	CB	
8	✗	08	Lab Blank	34190	Humid	200mL			1317	CB	
9	✓	09	Lab Blank	~~3499~~ 34190	Humid	200mL			1422	CB	

CB 10/22/07

Signature

10/22/07
Date

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MSD-7

Logbook #: 1594

m/z	ION ABUNDANCE CRITERIA	% REL. ABUNDANCE
50	15.0 – 40.0% of mass 95	18.22
75	30.0 – 60.0% of mass 95	39.23
95	Base peak, 100.00% relative abundance	100.00
96	5.0 – 9.0% of mass 95	6.64
173	Less than 2.0% of mass 174	(0.52)[1]
174	Greater than 50.0% of mass 95	86.75
175	5.0 – 9.0% of mass 174	(7.12)[1]
176	Greater than 95.0% but less than 101.0% of mass 174	(97.72)[1]
177	5.0 – 9.0% of mass 176	(-6.45)[2]

[1] - value in parenthesis is % mass 174 [2] - value in parenthesis is % mass 176

BFB Injection Date: 10/30/07

BFB Injection Time: 0826

BFB File ID: 7103001

Tekmar Purge Flow: 17.7 mL/min

Vacuum: 2.9×10^{-5} torr

IS/S Std.#:	1443-339	Exp. Date: 12/26/07
BCM	537758	
1,4-DFB	1771865	
CB-d5	1414884	

Verified CCV IS vs ICAL mid-point (- 40%D) CB *initials*

0158

Verify 176/174 m/z Ratio: 835758/ 855253 x100= 97.72%

NOAH Cart #: N/A **File #:** N/A

Calculation Check:

$$\text{ppbv of compound} = \frac{\text{Area}_{\text{Sample}}}{\text{Area}_{\text{IS}}} \times \frac{\text{Conc.}_{\text{IS}}}{\text{RRF}} = \frac{(\ 692227\ )}{(\ 537758\ )} \times \frac{(\ 25.0\ )}{(\ 1.34304\ )} = 23.961$$

Reported Result 23.961

File ID:	7103006
Compound:	1,2-DCA-d4
Initials:	CB

	Use	File #	Sample / Client Name	Can #	Pressure	Amt Loaded	DF	Date Analyzed	Time Analyzed	Review Init.	Comments
1	✓	7103001	BFB Tune Check	1467-64	50ng	2mL	1.00	10/30/07	0826	CB	
2	✓	02	System Blank	34190	Humid	200mL			0858	CB	
3	✓	03	ICAL Level 4	1487-400	200/1200ppbv → 8/48ppbv	8mL			0951	CB	spic tl4q018c
4	✓	04	5		200/1200ppbv 50/300ppbv	50mL			1029	CB	CCV
5	✓	05	7		200/1200ppbv	200mL			1110	CB	
6	✓	06	CCV-1 (100ppbv)	1576-50A	50ppbv	100mL			1215	CB	
7	✓	07	LCS-1 (200ppbv)	1443-302	50ppbv	50mL			1253	CB	
8	✓	08	Lab Blank	34190	Humid	200mL			1336	CB	
9											CB 10/30/07

Signature

10/30/07
Date

Air Toxics Ltd.
Modified EPA Methods TO-14A/TO-15
Internal Standard and Associated Target Compounds and Surrogates

Bromochloromethane
Target Compounds:
Freon 12
Freon 114
Chloromethane
Vinyl Chloride
1,3-Butadiene
Bromomethane
Chloroethane
Freon 11
Ethanol
Freon 113
1,1-Dichloroethene
Acetone
2-Propanol
Carbon Disulfide
3-Chloropropene
Methylene Chloride
Methyl tert-butyl ether
trans-1,2-Dichloroethene
Hexane
1,1-Dichloroethane
2-Butanone (Methyl Ethyl Ketone)
cis-1,2-Dichloroethene
Tetrahydrofuran
Chloroform
1,1,1-Trichloroethane
Cyclohexane
Carbon Tetrachloride
2,2,4-Trimethylpentane
Surrogates:
1,2-Dichloroethane-d4

1,4-Difluorobenzene
Target Compounds:
Benzene
1,2-Dichloroethane
Heptane
Trichloroethene
1,2-Dichloropropane
1,4-Dioxane
Bromodichloromethane
cis-1,3-Dichloropropene
4-Methyl-2-pentanone
Toluene
Surrogates:
Toluene-d8

Chlorobenzene-d5
Target Compounds:
trans-1,3-Dichloropropene
1,1,2-Trichloroethane
Tetrachloroethene
2-Hexanone
Dibromochloromethane
1,2-Dibromoethane (EDB)
Chlorobenzene
Ethyl Benzene
m,p-Xylene
o-Xylene
Styrene
Bromoform
Cumene
1,1,2,2-Tetrachloroethane
Propylbenzene
4-Ethyltoluene
1,3,5-Trimethylbenzene
1,2,4-Trimethylbenzene
1,3-Dichlorobenzene
1,4-Dichlorobenzene
alpha-Chlorotoluene
1,2-Dichlorobenzene
1,2,4-Trichlorobenzene
Hexachlorobutadiene
Surrogates:
Bromofluorobenzene

Air Toxics Ltd.

AMBIENT AIR METHOD TO14

Data file : /chem/msd7.i/7-18oct.b/7101810.d
Lab Smp Id: lcs-1 Client Smp ID: lcs-1
Inj Date : 18-OCT-2007 19:29
Operator : dm Inst ID: msd7.i
Smp Info : 50mL #1443-302
Misc Info : 200ppbv-50ppbv
Comment :
Method : /chem/msd7.i/7-18oct.b/t14qO18a.m
Meth Date : 22-Oct-2007 16:12 dmendoza Quant Type: ISTD
Cal Date : 18-OCT-2007 17:39 Cal File: 7101808.d
Als bottle: 1 QC Sample: LCS
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: AT04ENSR.sub
Target Version: 3.50 Sample Matrix: AIR
Processing Host: eeyore

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

RT	EXP RT (REL RT)	MASS	RESPONSE	CONCENTRATIONS ON-COL (PPBV)	FINAL (PPBV)	TARGET RANGE	RATIO
* 81 Bromochloromethane						CAS #: 74-97-5	
14.402	14.402 (1.000)	130	693629	25.0000		80.00- 120.00	100.00
14.402	14.402 (1.000)	128	530078			26.95- 126.95	76.42
14.402	14.402 (1.000)	49	1393802			141.62- 241.62	200.94
* 97 1,4-Difluorobenzene						CAS #: 540-36-3	
16.172	16.172 (1.000)	114	2281320	25.0000		80.00- 120.00	100.00
16.172	16.172 (1.000)	88	352159			0.00- 65.69	15.44
* 126 Chlorobenzene-d5						CAS #: 3114-55-4	
21.342	21.370 (1.000)	117	1855833	25.0000		80.00- 120.00	100.00
21.342	21.370 (1.000)	82	1005254			5.32- 105.32	54.17
$ 90 1,2-Dichloroethane-d4						CAS #: 17060-07-0	
15.481	15.508 (1.075)	65	876557	23.5236	23.524	80.00- 120.00	100.00
15.481	15.508 (1.075)	67	486395			2.91- 102.91	55.49
$ 113 Toluene-d8						CAS #: 2037-26-5	
18.771	18.771 (1.161)	98	2088005	25.7831	25.783	80.00- 120.00	100.00
18.771	18.771 (1.161)	70	225307			0.00- 61.46	10.79

RT	EXP RT (REL RT)	MASS	RESPONSE	CONCENTRATIONS ON-COL (PPBV)	FINAL (PPBV)	TARGET RANGE	RATIO
$ 113 Toluene-d8 (continued)							
18.771	18.771 (1.161)	100	1458124			19.18- 119.18	69.83
$ 137 Bromofluorobenzene						CAS #: 460-00-4	
23.333	23.333 (1.093)	174	1059533	23.9925	23.992	80.00- 120.00	100.00
23.333	23.333 (1.093)	95	1390500			76.80- 176.80	131.24
23.333	23.333 (1.093)	176	1023241			46.06- 146.06	96.57
11 Propylene						CAS #: 115-07-1	
5.638	5.610 (0.391)	41	1534698	51.3354	51.335	80.00- 120.00	100.00
5.638	5.610 (0.391)	42	1071619			21.19- 121.19	69.83
5.638	5.610 (0.391)	39	1149702			24.83- 124.83	74.91
12 Dichlorodifluoromethane/Fr12						CAS #: 75-71-8	
5.776	5.748 (0.401)	85	5279130	48.1620	48.162	80.00- 120.00	100.00
5.776	5.748 (0.401)	87	1711789			0.00- 83.07	32.43
16 Freon 114						CAS #: 76-14-2	
6.218	6.218 (0.432)	135	3664358	49.1175	49.117	80.00- 120.00	100.00
6.218	6.218 (0.432)	137	1157150			0.00- 81.81	31.58
18 Chloromethane						CAS #: 74-87-3	
6.522	6.522 (0.453)	50	1695497	47.0340	47.034	80.00- 120.00	100.00
6.522	6.522 (0.453)	52	575964			0.00- 84.80	33.97
20 Vinyl Chloride						CAS #: 75-01-4	
6.882	6.882 (0.478)	62	2274469	50.5403	50.540	80.00- 120.00	100.00
6.882	6.882 (0.478)	64	710275			0.00- 83.25	31.23
22 1,3-Butadiene						CAS #: 106-99-0	
6.965	6.937 (0.484)	54	1686114	52.3055	52.306	80.00- 120.00	100.00
6.965	6.937 (0.484)	39	1613662			55.97- 155.97	95.70
25 Bromomethane						CAS #: 74-83-9	
8.043	8.043 (0.558)	94	1971163	49.4678	49.468	80.00- 120.00	100.00
8.043	8.043 (0.558)	96	1847772			43.77- 143.77	93.74
27 Chloroethane						CAS #: 75-00-3	
8.375	8.375 (0.581)	64	1113775	55.7868	55.787	80.00- 120.00	100.00
8.375	8.375 (0.581)	49	303751			0.00- 79.34	27.27
8.375	8.375 (0.581)	66	350600			0.00- 83.15	31.48
31 Trichlorofluoromethane/Fr11						CAS #: 75-69-4	
8.983	8.956 (0.624)	101	5275187	51.5865	51.586	80.00- 120.00	100.00
8.983	8.956 (0.624)	103	3407790			14.33- 114.33	64.60

RT	EXP RT (REL RT)	MASS	RESPONSE	CONCENTRATIONS ON-COL (PPBV)	FINAL (PPBV)	TARGET RANGE	RATIO
38 Ethanol					CAS #: 64-17-5		
9.453	9.453 (0.656)	45	850282	60.9628	60.963	80.00- 120.00	100.00
9.453	9.453 (0.656)	43	163721			0.00- 72.83	19.25
9.453	9.453 (0.656)	46	316936			0.00- 88.20	37.27
42 Freon 113					CAS #: 76-13-1		
10.227	10.227 (0.710)	151	3359898	59.0761	59.076	80.00- 120.00	100.00
10.227	10.227 (0.710)	153	2146359			13.49- 113.49	63.88
10.200	10.227 (0.708)	101	4204443			73.17- 173.17	125.14
43 1,1-Dichloroethene					CAS #: 75-35-4		
10.338	10.338 (0.718)	61	3633905	60.0456	60.046	80.00- 120.00	100.00
10.338	10.338 (0.718)	96	2250431			11.42- 111.42	61.93
10.338	10.338 (0.718)	98	1429998			0.00- 89.70	39.35
45 Acetone					CAS #: 67-64-1		
10.504	10.504 (0.729)	58	1068582	57.1246	57.125	80.00- 120.00	100.00
10.504	10.504 (0.729)	43	3184271			247.10- 347.10	297.99
46 2-Propanol					CAS #: 67-63-0		
10.670	10.697 (0.741)	45	3852062	58.0418	58.042	80.00- 120.00	100.00
10.670	10.697 (0.741)	43	890934			0.00- 75.54	23.13
10.697	10.697 (0.743)	59	147038			0.00- 53.72	3.82
47 Carbon Disulfide					CAS #: 75-15-0		
10.891	10.891 (0.756)	76	6273161	54.3296	54.330	80.00- 120.00	100.00
51 3-Chloropropene					CAS #: 107-05-1		
11.167	11.168 (0.775)	76	1091929	58.1115	58.111	80.00- 120.00	100.00
11.167	11.168 (0.775)	41	2818682			224.96- 324.96	258.14
54 Methylene Chloride					CAS #: 75-09-2		
11.472	11.472 (0.796)	49	2611233	58.6871	58.687	80.00- 120.00	100.00
11.472	11.472 (0.796)	84	1889884			23.49- 123.49	72.38
11.472	11.472 (0.796)	51	797893			0.00- 80.85	30.56
60 MTBE					CAS #: 1634-04-4		
11.831	11.831 (0.821)	73	3974575	58.7909	58.791	80.00- 120.00	100.00
11.831	11.831 (0.821)	57	914186			0.00- 73.11	23.00
11.831	11.831 (0.821)	41	882141			0.00- 76.16	22.19
61 trans-1,2-Dichloroethene					CAS #: 156-60-5		
11.942	11.942 (0.829)	96	2352862	57.2201	57.220	80.00- 120.00	100.00
11.942	11.942 (0.829)	61	3353273			93.77- 193.77	142.52
11.942	11.942 (0.829)	98	1487360			11.77- 111.77	63.21

RT	EXP RT (REL RT)	MASS	RESPONSE	CONCENTRATIONS ON-COL (PPBV)	FINAL (PPBV)	TARGET RANGE	RATIO
65 Hexane					CAS #: 110-54-3		
12.301	12.301 (0.854)	57	3482505	59.3497	59.350	80.00- 120.00	100.00
12.301	12.301 (0.854)	43	2243596			17.84- 117.84	64.42
12.301	12.301 (0.854)	86	532459			0.00- 65.07	15.29
69 Vinyl Acetate					CAS #: 108-05-4		
12.799	12.799 (0.889)	86	519165	58.5571	58.557	80.00- 120.00	100.00
12.799	12.799 (0.889)	43	6034912			1150.46-1250.46	1162.43
70 1,1-Dichloroethane					CAS #: 75-34-3		
12.826	12.826 (0.891)	63	4119087	58.6057	58.606	80.00- 120.00	100.00
12.826	12.826 (0.891)	65	1300555			0.00- 81.66	31.57
75 2-Butanone					CAS #: 78-93-3		
13.905	13.905 (0.965)	72	943974	62.8355	62.835	80.00- 120.00	100.00
13.877	13.905 (0.964)	43	4198247			412.95- 512.95	444.74
13.877	13.905 (0.964)	57	321401			0.00- 86.57	34.05
76 cis-1,2-Dichloroethene					CAS #: 156-59-2		
13.932	13.932 (0.967)	61	2818744	57.2959	57.296	80.00- 120.00	100.00
13.932	13.932 (0.967)	96	2119143			24.70- 124.70	75.18
13.932	13.932 (0.967)	98	1360701			0.00- 97.31	48.27
80 Tetrahydrofuran					CAS #: 109-99-9		
14.402	14.402 (1.000)	42	2315081	59.1042	59.104	80.00- 120.00	100.00
14.402	14.402 (1.000)	71	837123			0.00- 85.86	36.16
14.402	14.402 (1.000)	72	904656			0.00- 87.82	39.08
82 Chloroform					CAS #: 67-66-3		
14.485	14.485 (1.006)	83	3930935	56.2864	56.286	80.00- 120.00	100.00
14.485	14.485 (1.006)	85	2555017			15.30- 115.30	65.00
83 1,1,1-Trichloroethane					CAS #: 71-55-6		
14.845	14.845 (1.031)	97	3724675	52.9613	52.961	80.00- 120.00	100.00
14.845	14.845 (1.031)	99	2372213			14.42- 114.42	63.69
85 Cyclohexane					CAS #: 110-82-7		
14.845	14.845 (1.031)	84	2370220	58.8413	58.841	80.00- 120.00	100.00
14.845	14.845 (1.031)	56	3004824			77.14- 177.14	126.77
14.845	14.845 (1.031)	41	1640647			22.96- 122.96	69.22
87 Carbon Tetrachloride					CAS #: 56-23-5		
15.094	15.094 (1.048)	119	3436673	52.1301	52.130	80.00- 120.00	100.00
15.094	15.094 (1.048)	117	3538970			54.22- 154.22	102.98
89 2,2,4-Trimethylpentane					CAS #: 540-84-1		
15.425	15.426 (1.071)	57	8189957	58.1672	58.167	80.00- 120.00	100.00

RT	EXP RT (REL RT)	MASS	RESPONSE	CONCENTRATIONS ON-COL (PPBV)	FINAL (PPBV)	TARGET RANGE	RATIO
89 2,2,4-Trimethylpentane (continued)							
15.425	15.426 (1.071)	56	2800725			0.00- 84.62	34.20
15.425	15.426 (1.071)	41	2129961			0.00- 79.27	26.01
91 Benzene					CAS #: 71-43-2		
15.508	15.508 (0.959)	78	5250569	57.9255	57.926	80.00- 120.00	100.00
15.508	15.508 (0.959)	77	1159247			0.00- 71.87	22.08
93 1,2-Dichloroethane					CAS #: 107-06-2		
15.619	15.647 (0.966)	62	2535064	52.6380	52.638	80.00- 120.00	100.00
15.619	15.647 (0.966)	64	812550			0.00- 82.89	32.05
94 Heptane					CAS #: 142-82-5		
15.730	15.730 (0.973)	71	1662367	59.6323	59.632	80.00- 120.00	100.00
15.730	15.730 (0.973)	43	3281313			158.53- 258.53	197.39
15.730	15.730 (0.973)	57	1733443			59.34- 159.34	104.28
101 Trichloroethene					CAS #: 79-01-6		
16.642	16.642 (1.029)	95	2236263	55.5396	55.540	80.00- 120.00	100.00
16.642	16.642 (1.029)	130	2188821			49.05- 149.05	97.88
16.642	16.642 (1.029)	97	1443160			14.93- 114.93	64.53
104 1,2-Dichloropropane					CAS #: 78-87-5		
17.112	17.112 (1.058)	63	1961854	56.3976	56.398	80.00- 120.00	100.00
17.112	17.112 (1.058)	62	1436905			23.52- 123.52	73.24
17.112	17.112 (1.058)	41	1184177			12.01- 112.01	60.36
106 1,4-Dioxane					CAS #: 123-91-1		
17.250	17.250 (1.067)	88	1295263	57.2493	57.249	80.00- 120.00	100.00
17.250	17.250 (1.067)	58	909525			21.50- 121.50	70.22
17.250	17.250 (1.067)	57	298072			0.00- 74.60	23.01
107 Bromodichloromethane					CAS #: 75-27-4		
17.554	17.555 (1.085)	83	3863276	55.2648	55.265	80.00- 120.00	100.00
17.554	17.555 (1.085)	85	2471704			14.37- 114.37	63.98
110 cis-1,3-Dichloropropene					CAS #: 10061-01-5		
18.329	18.329 (1.133)	75	2863012	58.2452	58.245	80.00- 120.00	100.00
18.329	18.329 (1.133)	77	910017			0.00- 81.97	31.79
18.329	18.329 (1.133)	39	1608662			6.88- 106.88	56.19
111 4-Methyl-2-pentanone					CAS #: 108-10-1		
18.522	18.522 (1.145)	58	1713423	63.1663	63.166	80.00- 120.00	100.00
18.522	18.522 (1.145)	43	4340769			222.97- 322.97	253.34
18.522	18.522 (1.145)	85	654176			0.00- 90.48	38.18

RT	EXP RT (REL RT)	MASS	RESPONSE	CONCENTRATIONS ON-COL (PPBV)	FINAL (PPBV)	TARGET RANGE	RATIO
114 Toluene					CAS #: 108-88-3		
18.882	18.882 (1.168)	91	5892033	59.3464	59.346	80.00- 120.00	100.00
18.882	18.882 (1.168)	92	3757464			13.04- 113.04	63.77
116 trans-1,3-Dichloropropene					CAS #: 10061-02-6		
19.324	19.324 (0.905)	75	2965147	56.2573	56.257	80.00- 120.00	100.00
19.324	19.324 (0.905)	77	951982			0.00- 81.65	32.11
19.296	19.324 (0.904)	39	1582175			2.52- 102.52	53.36
117 1,1,2-Trichloroethane					CAS #: 79-00-5		
19.656	19.656 (0.921)	97	2167076	56.3767	56.377	80.00- 120.00	100.00
19.656	19.656 (0.921)	99	1363207			13.08- 113.08	62.91
19.656	19.656 (0.921)	83	1839848			35.32- 135.32	84.90
120 Tetrachloroethene					CAS #: 127-18-4		
19.822	19.822 (0.929)	166	2735490	54.8698	54.870	80.00- 120.00	100.00
19.822	19.822 (0.929)	129	1961918			22.39- 122.39	71.72
19.822	19.822 (0.929)	131	1871157			19.80- 119.80	68.40
121 2-Hexanone					CAS #: 591-78-6		
19.960	19.960 (0.935)	58	2350277	57.0518	57.052	80.00- 120.00	100.00
19.960	19.960 (0.935)	43	4343393			138.63- 238.63	184.80
19.960	19.960 (0.935)	100	396598			0.00- 67.05	16.87
122 Dibromochloromethane					CAS #: 124-48-1		
20.347	20.347 (0.953)	129	3740615	54.9220	54.922	80.00- 120.00	100.00
20.347	20.347 (0.953)	127	2884723			27.62- 127.62	77.12
123 1,2-Dibromoethane					CAS #: 106-93-4		
20.624	20.624 (0.966)	107	3462202	54.9423	54.942	80.00- 120.00	100.00
20.624	20.624 (0.966)	109	3257401			44.67- 144.67	94.08
127 Chlorobenzene					CAS #: 108-90-7		
21.398	21.398 (1.003)	112	4557104	54.2787	54.279	80.00- 120.00	100.00
21.398	21.398 (1.003)	114	1454447			0.00- 82.43	31.92
21.398	21.398 (1.003)	77	2729875			10.75- 110.75	59.90
128 Ethyl Benzene					CAS #: 100-41-4		
21.481	21.481 (1.006)	106	2354756	54.9458	54.946	80.00- 120.00	100.00
21.481	21.481 (1.006)	91	7312230			261.69- 361.69	310.53
129 m,p-Xylene					CAS #: 108-38-3		
21.674	21.674 (1.016)	106	2946846	54.9356	54.936	80.00- 120.00	100.00
21.674	21.674 (1.016)	91	5783687			145.05- 245.05	196.27
130 o-Xylene					CAS #: 95-47-6		
22.393	22.393 (1.049)	106	2582216	55.5485	55.548	80.00- 120.00	100.00

RT	EXP RT (REL RT)	MASS	RESPONSE	CONCENTRATIONS ON-COL (PPBV)	FINAL (PPBV)	TARGET RANGE	RATIO
130 o-Xylene (continued)							
22.393	22.393 (1.049)	91	5281441			154.65- 254.65	204.53
131 Styrene						CAS #: 100-42-5	
22.421	22.421 (1.051)	104	4275480	59.4656	59.466	80.00- 120.00	100.00
22.421	22.421 (1.051)	78	2112552			1.69- 101.69	49.41
133 Bromoform						CAS #: 75-25-2	
22.836	22.836 (1.070)	173	3258113	54.4786	54.478	80.00- 120.00	100.00
22.836	22.836 (1.070)	171	1681615			1.22- 101.22	51.61
134 Cumene						CAS #: 98-82-8	
22.974	22.974 (1.076)	105	6690351	56.9959	56.996	80.00- 120.00	100.00
22.974	22.974 (1.076)	120	1839176			0.00- 78.08	27.49
22.946	22.974 (1.075)	51	710641			0.00- 61.43	10.62
140 1,1,2,2-Tetrachloroethane						CAS #: 79-34-5	
23.527	23.527 (1.102)	83	4104155	52.8570	52.857	80.00- 120.00	100.00
23.527	23.527 (1.102)	85	2636394			14.35- 114.35	64.24
142 Propylbenzene						CAS #: 103-65-1	
23.637	23.637 (1.108)	91	8737607	55.4988	55.499	80.00- 120.00	100.00
23.637	23.637 (1.108)	120	1980514			0.00- 72.94	22.67
23.637	23.637 (1.108)	105	321331			0.00- 54.03	3.68
145 4-Ethyltoluene						CAS #: 622-96-8	
23.831	23.831 (1.117)	105	7699834	55.3826	55.383	80.00- 120.00	100.00
23.831	23.831 (1.117)	120	2210219			0.00- 78.42	28.70
147 1,3,5-Trimethylbenzene						CAS #: 108-67-8	
23.914	23.914 (1.120)	105	5550045	50.8217	50.822	80.00- 120.00	100.00
23.914	23.914 (1.120)	120	3171171			3.80- 103.80	57.14
150 1,2,4-Trimethylbenzene						CAS #: 95-63-6	
24.550	24.550 (1.150)	105	5276389	53.1640	53.164	80.00- 120.00	100.00
24.550	24.550 (1.150)	120	2593089			0.00- 98.95	49.15
155 1,3-Dichlorobenzene						CAS #: 541-73-1	
25.130	25.130 (1.177)	146	3931611	51.1917	51.192	80.00- 120.00	100.00
25.130	25.130 (1.177)	148	2506642			14.48- 114.48	63.76
25.130	25.130 (1.177)	111	1529949			0.00- 89.68	38.91
156 1,4-Dichlorobenzene						CAS #: 106-46-7	
25.269	25.269 (1.184)	146	3971732	49.6212	49.621	80.00- 120.00	100.00
25.269	25.269 (1.184)	148	2535255			13.81- 113.81	63.83
25.269	25.269 (1.184)	111	1499689			0.00- 87.35	37.76

RT	EXP RT (REL RT)	MASS	RESPONSE	CONCENTRATIONS ON-COL (PPBV)	FINAL (PPBV)	TARGET RANGE	RATIO
159 alpha-Chlorotoluene					CAS #: 100-44-7		
25.490	25.490 (1.194)	91	5941365	55.9136	55.914	80.00- 120.00	100.00
25.490	25.490 (1.194)	126	1232677			0.00- 71.29	20.75
161 1,2-Dichlorobenzene					CAS #: 95-50-1		
25.932	25.932 (1.215)	146	3481887	48.6925	48.692	80.00- 120.00	100.00
25.932	25.932 (1.215)	148	2225326			14.30- 114.30	63.91
25.905	25.932 (1.214)	111	1403109			0.00- 90.50	40.30
165 1,2,4-Trichlorobenzene					CAS #: 120-82-1		
28.808	28.808 (1.350)	180	1206637	41.2578	41.258	80.00- 120.00	100.00
28.808	28.808 (1.350)	182	1149274			45.65- 145.65	95.25
166 Hexachlorobutadiene					CAS #: 87-68-3		
29.001	29.001 (1.359)	225	972258	39.9886	39.989	80.00- 120.00	100.00
29.001	29.001 (1.359)	223	608395			12.64- 112.64	62.58
29 Isopentane					CAS #: 78-78-4		
8.375	8.375 (0.581)	43	2583203	52.2457	52.246	80.00- 120.00	100.00
8.375	8.375 (0.581)	57	1731177			16.48- 116.48	67.02
19 Butane					CAS #: 106-97-8		
6.771	6.771 (0.470)	58	408645	52.9140	52.914	80.00- 120.00	100.00
6.771	6.771 (0.470)	43	3169804			757.70- 857.70	775.69
102 Methyl Cyclohexane					CAS #: 108-87-2		
16.919	16.919 (1.175)	83	2859963	57.6850	57.685	80.00- 120.00	100.00
16.919	16.919 (1.175)	98	1333582			0.00- 96.13	46.63
16.919	16.919 (1.175)	55	2537608			38.51- 138.51	88.73
167 Naphthalene					CAS #: 91-20-3		
29.388	29.388 (1.377)	128	2149760	39.2330	39.233	80.00- 120.00	100.00
29.388	29.388 (1.377)	127	251185			0.00- 62.50	11.68

Report Date: 23-Oct-2007 09:41

Air Toxics Ltd.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd7.i
Lab File ID: 7101810.d
Lab Smp Id: lcs-1
Analysis Type: VOA
Quant Type: ISTD
Operator: dm
Method File: /chem/msd7.i/7-18oct.b/t14qO18a.m
Misc Info: 200ppbv-50ppbv

Calibration Date: 18-OCT-2007
Calibration Time: 15:26
Client Smp ID: lcs-1
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
81 Bromochloromethan	683549	410129	956969	693629	1.47
97 1,4-Difluorobenze	2204815	1322889	3086741	2281320	3.47
126 Chlorobenzene-d5	1812979	1087787	2538171	1855833	2.36

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
81 Bromochloromethan	14.40	14.07	14.73	14.40	0.00
97 1,4-Difluorobenze	16.17	15.84	16.50	16.17	0.00
126 Chlorobenzene-d5	21.37	21.04	21.70	21.34	-0.13

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Report Date: 23-Oct-2007 09:41

Air Toxics Ltd.

RECOVERY REPORT

Client Name:
Client SDG: 7-18oct
Sample Matrix: GAS
Fraction: VOA
Lab Smp Id: lcs-1
Client Smp ID: lcs-1
Level: LOW
Operator: dm
Data Type: MS DATA
SampleType: LCS
SpikeList File: 2926spectra.spk
Quant Type: ISTD
Sublist File: AT04ENSR.sub
Method File: /chem/msd7.i/7-18oct.b/t14qO18a.m
Misc Info: 200ppbv-50ppbv

SPIKE COMPOUND	CONC ADDED PPBV	CONC RECOVERED PPBV	% RECOVERED	LIMITS
12 Dichlorodifluorome	50.000	48.162	96.32	70-130
16 Freon 114	50.000	49.117	98.23	70-130
18 Chloromethane	50.000	47.034	94.07	70-130
20 Vinyl Chloride	50.000	50.540	101.08	70-130
22 1,3-Butadiene	50.000	52.306	104.61	60-140
25 Bromomethane	50.000	49.468	98.94	70-130
27 Chloroethane	50.000	55.787	111.57	70-130
31 Trichlorofluoromet	50.000	51.586	103.17	70-130
38 Ethanol	50.000	60.963	121.93	60-140
42 Freon 113	50.000	59.076	118.15	70-130
43 1,1-Dichloroethene	50.000	60.046	120.09	70-130
45 Acetone	50.000	57.125	114.25	60-140
47 Carbon Disulfide	50.000	54.330	108.66	60-140
46 2-Propanol	50.000	58.042	116.08	60-140
54 Methylene Chloride	50.000	58.687	117.37	70-130
60 MTBE	50.000	58.791	117.58	60-140
61 trans-1,2-Dichloro	50.000	57.220	114.44	60-140
65 Hexane	50.000	59.350	118.70	60-140
69 Vinyl Acetate	50.000	58.557	117.11	60-140
70 1,1-Dichloroethane	50.000	58.606	117.21	70-130
76 cis-1,2-Dichloroet	50.000	57.296	114.59	70-130
75 2-Butanone	50.000	62.835	125.67	60-140
80 Tetrahydrofuran	50.000	59.104	118.21	60-140
82 Chloroform	50.000	56.286	112.57	70-130
85 Cyclohexane	50.000	58.841	117.68	60-140
83 1,1,1-Trichloroeth	50.000	52.961	105.92	70-130
87 Carbon Tetrachlori	50.000	52.130	104.26	70-130
91 Benzene	50.000	57.926	115.85	70-130
93 1,2-Dichloroethane	50.000	52.638	105.28	70-130
94 Heptane	50.000	59.632	119.26	60-140
101 Trichloroethene	50.000	55.540	111.08	70-130
104 1,2-Dichloropropan	50.000	56.398	112.80	70-130
106 1,4-Dioxane	50.000	57.249	114.50	60-140

SPIKE COMPOUND	CONC ADDED PPBV	CONC RECOVERED PPBV	% RECOVERED	LIMITS
107 Bromodichlorometha	50.000	55.265	110.53	60-140
110 cis-1,3-Dichloropr	50.000	58.245	116.49	70-130
111 4-Methyl-2-pentano	50.000	63.166	126.33	60-140
114 Toluene	50.000	59.346	118.69	70-130
116 trans-1,3-Dichloro	50.000	56.257	112.51	70-130
117 1,1,2-Trichloroeth	50.000	56.377	112.75	70-130
120 Tetrachloroethene	50.000	54.870	109.74	70-130
121 2-Hexanone	50.000	57.052	114.10	60-140
122 Dibromochlorometha	50.000	54.922	109.84	60-140
123 1,2-Dibromoethane	50.000	54.942	109.88	70-130
127 Chlorobenzene	50.000	54.279	108.56	70-130
128 Ethyl Benzene	50.000	54.946	109.89	70-130
129 m,p-Xylene	50.000	54.936	109.87	70-130
130 o-Xylene	50.000	55.548	111.10	70-130
131 Styrene	50.000	59.466	118.93	70-130
133 Bromoform	50.000	54.478	108.96	60-140
140 1,1,2,2-Tetrachlor	50.000	52.857	105.71	70-130
145 4-Ethyltoluene	50.000	55.383	110.77	60-140
147 1,3,5-Trimethylben	50.000	50.822	101.64	70-130
150 1,2,4-Trimethylben	50.000	53.164	106.33	70-130
155 1,3-Dichlorobenzen	50.000	51.192	102.38	70-130
156 1,4-Dichlorobenzen	50.000	49.621	99.24	70-130
159 alpha-Chlorotoluen	50.000	55.914	111.83	70-130
161 1,2-Dichlorobenzen	50.000	48.692	97.39	70-130
165 1,2,4-Trichloroben	50.000	41.258	82.52	70-130
166 Hexachlorobutadien	50.000	39.989	79.98	70-130
142 Propylbenzene	50.000	55.499	111.00	60-140
134 Cumene	50.000	56.996	113.99	60-140
51 3-Chloropropene	50.000	58.111	116.22	60-140
89 2,2,4-Trimethylpen	50.000	58.167	116.33	60-140
29 Isopentane	50.000	52.246	104.49	70-130
19 Butane	50.000	52.914	105.83	70-130
102 Methyl Cyclohexane	50.000	57.685	115.37	70-130
11 Propylene	50.000	51.335	102.67	60-140
167 Naphthalene	50.000	39.233	78.47	60-140

SURROGATE COMPOUND	CONC ADDED PPBV	CONC RECOVERED PPBV	% RECOVERED	LIMITS
$ 90 1,2-Dichloroethane	25.000	23.524	94.09	70-130
$ 113 Toluene-d8	25.000	25.783	103.13	70-130
$ 137 Bromofluorobenzene	25.000	23.992	95.97	70-130

0171

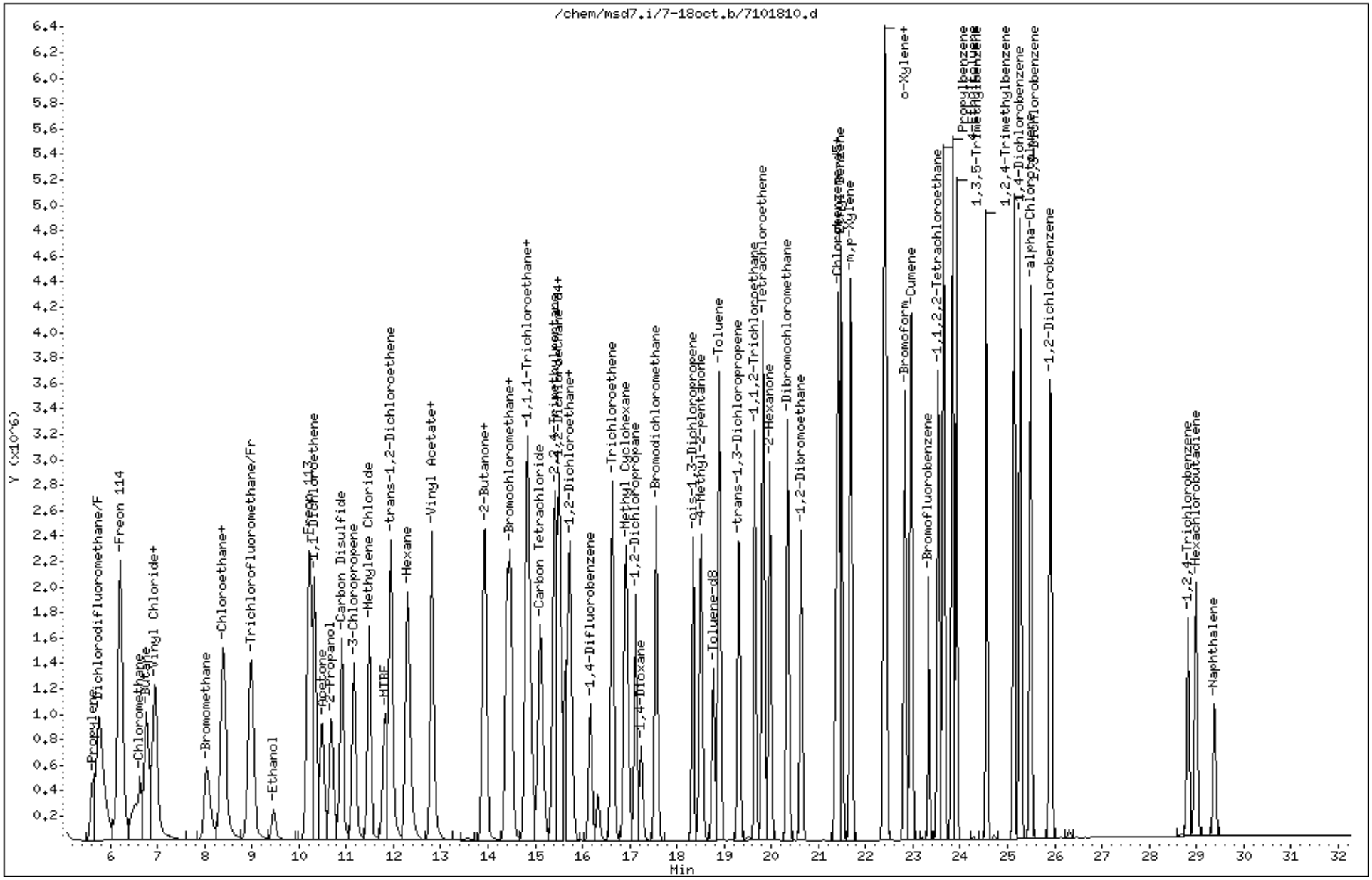
Data File: /chem/msd7.i/7-18oct.b/7101810.d
Date : 18-OCT-2007 19:29
Client ID: lcs-1
Sample Info: 50mL #1443-302

Instrument: msd7.i

Operator: dm

Column phase: RTx-624

Column diameter: 0.53



Air Toxics Ltd.

AMBIENT AIR METHOD TO14

Data file : /chem/msd7.i/7-18oct.b/7101802.d
Lab Smp Id: ICAL Client Smp ID: Level 1
Inj Date : 18-OCT-2007 12:17
Operator : cb Inst ID: msd7.i
Smp Info : 0.2mL #1576-50
Misc Info : 200ppbv --> 0.2ppbv
Comment :
Method : /chem/msd7.i/7-18oct.b/t14qO18a.m
Meth Date : 18-Oct-2007 15:54 cbond Quant Type: ISTD
Cal Date : 18-OCT-2007 12:17 Cal File: 7101802.d
Als bottle: 1 Calibration Sample, Level: 1
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: AFCEElow.sub
Target Version: 3.50 Sample Matrix: AIR
Processing Host: eeyore

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS CAL-AMT (PPBV)	AMOUNTS ON-COL (PPBV)	TARGET RANGE	RATIO
* 81 Bromochloromethane					CAS #: 74-97-5		
14.375	14.375 (1.000)	130	636189	25.0000		50.00- 150.00	100.00
14.375	14.375 (1.000)	128	490559			27.11- 127.11	77.11
14.375	14.375 (1.000)	49	923525			95.17- 195.17	145.17
* 97 1,4-Difluorobenzene					CAS #: 540-36-3		
16.144	16.144 (1.000)	114	2066548	25.0000		50.00- 150.00	100.00
16.144	16.144 (1.000)	88	323845			0.00- 65.67	15.67
* 126 Chlorobenzene-d5					CAS #: 3114-55-4		
21.343	21.343 (1.000)	117	1699390	25.0000		50.00- 150.00	100.00
21.343	21.343 (1.000)	82	942443			5.46- 105.46	55.46
$ 90 1,2-Dichloroethane-d4					CAS #: 17060-07-0		
15.481	15.481 (1.077)	65	840662	25.0000	25.000	50.00- 150.00	100.00
15.481	15.481 (1.077)	67	425930			0.67- 100.67	50.67
$ 113 Toluene-d8					CAS #: 2037-26-5		
18.771	18.771 (1.163)	98	1800430	25.0000	25.000	50.00- 150.00	100.00
18.744	18.744 (1.161)	70	203256			0.00- 61.29	11.29

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS CAL-AMT (PPBV)	AMOUNTS ON-COL (PPBV)	TARGET RANGE	RATIO
$ 113 Toluene-d8 (continued)							
18.771	18.771 (1.163)	100	1235223			18.61- 118.61	68.61
$ 137 Bromofluorobenzene						CAS #: 460-00-4	
23.333	23.333 (1.093)	174	1016286	25.0000	25.000	50.00- 150.00	100.00
23.333	23.333 (1.093)	95	1276863			75.64- 175.64	125.64
23.333	23.333 (1.093)	176	976731			46.11- 146.11	96.11
82 Chloroform						CAS #: 67-66-3	
14.458	14.458 (1.006)	83	10481	0.20000	0.2000	50.00- 150.00	100.00(a)
14.458	14.458 (1.006)	85	6627			13.23- 113.23	63.23
91 Benzene						CAS #: 71-43-2	
15.508	15.508 (0.961)	78	14321	0.20000	0.2000	50.00- 150.00	100.00(a)
15.508	15.508 (0.961)	77	3194			0.00- 72.30	22.30
131 Styrene						CAS #: 100-42-5	
22.421	22.421 (1.051)	104	9530	0.20000	0.2000	50.00- 150.00	100.00(a)
22.421	22.421 (1.051)	78	6488			18.08- 118.08	68.08
134 Cumene						CAS #: 98-82-8	
22.946	22.946 (1.075)	105	18683	0.20000	0.2000	50.00- 150.00	100.00(a)
22.974	22.974 (1.076)	120	5104			0.00- 77.32	27.32
22.946	22.946 (1.075)	51	2569			0.00- 63.75	13.75

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).

Report Date: 18-Oct-2007 15:54

Air Toxics Ltd.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd7.i
Lab File ID: 7101802.d
Lab Smp Id: ICAL
Analysis Type: VOA
Quant Type: ISTD
Operator: cb
Method File: /chem/msd7.i/7-18oct.b/t14qO18a.m
Misc Info: 200ppbv --> 0.2ppbv

Calibration Date: 18-OCT-2007
Calibration Time: 15:26
Client Smp ID: Level 1
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
81 Bromochloromethan	683549	410129	956969	636189	-6.93
97 1,4-Difluorobenze	2204815	1322889	3086741	2066548	-6.27
126 Chlorobenzene-d5	1812979	1087787	2538171	1699390	-6.27

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
81 Bromochloromethan	14.40	14.07	14.73	14.37	-0.19
97 1,4-Difluorobenze	16.17	15.84	16.50	16.14	-0.17
126 Chlorobenzene-d5	21.37	21.04	21.70	21.34	-0.13

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

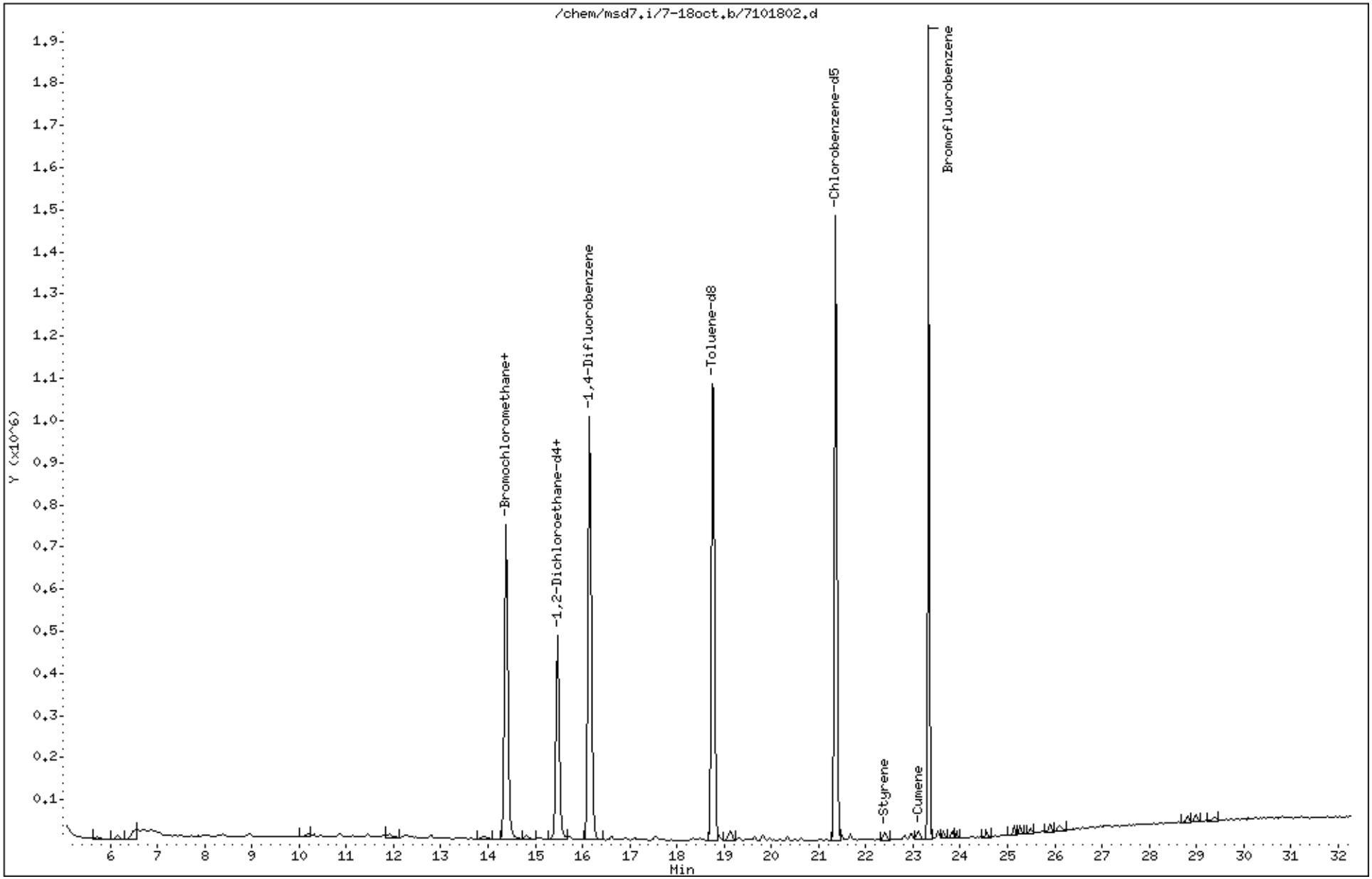
0175

Data File: /chem/msd7.i/7-18oct.b/7101802.d
Date : 18-OCT-2007 12:17
Client ID: Level 1
Sample Info: 0.2mL #1576-50

Instrument: msd7.i

Operator: cb

Column phase: RTx-624
Column diameter: 0.53



Air Toxics Ltd.

AMBIENT AIR METHOD TO14

Data file : /chem/msd7.i/7-18oct.b/7101803.d
Lab Smp Id: ICAL Client Smp ID: Level 2
Inj Date : 18-OCT-2007 12:56
Operator : cb Inst ID: msd7.i
Smp Info : 0.5mL #1576-50
Misc Info : 200ppbv --> 0.5ppbv
Comment :
Method : /chem/msd7.i/7-18oct.b/t14qO18a.m
Meth Date : 18-Oct-2007 15:55 cbond Quant Type: ISTD
Cal Date : 18-OCT-2007 12:56 Cal File: 7101803.d
Als bottle: 1 Calibration Sample, Level: 2
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: AT04low+ENSR.sub
Target Version: 3.50 Sample Matrix: AIR
Processing Host: eeyore

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS CAL-AMT (PPBV)	AMOUNTS ON-COL (PPBV)	TARGET RANGE	RATIO
* 81 Bromochloromethane					CAS #: 74-97-5		
14.402	14.402 (1.000)	130	594950	25.0000		50.00- 150.00	100.00
14.402	14.402 (1.000)	128	451286			26.48- 126.48	75.85
14.402	14.402 (1.000)	49	865261			95.30- 195.30	145.43
* 97 1,4-Difluorobenzene					CAS #: 540-36-3		
16.172	16.172 (1.000)	114	1954618	25.0000		50.00- 150.00	100.00
16.172	16.172 (1.000)	88	303029			0.00- 65.59	15.50
* 126 Chlorobenzene-d5					CAS #: 3114-55-4		
21.342	21.342 (1.000)	117	1592069	25.0000		50.00- 150.00	100.00
21.342	21.342 (1.000)	82	884524			5.51- 105.51	55.56
$ 90 1,2-Dichloroethane-d4					CAS #: 17060-07-0		
15.481	15.481 (1.075)	65	796855	25.0000	25.169	50.00- 150.00	100.00
15.481	15.481 (1.075)	67	397861			0.30- 100.30	49.93
$ 113 Toluene-d8					CAS #: 2037-26-5		
18.771	18.771 (1.161)	98	1670382	25.0000	24.759	50.00- 150.00	100.00
18.771	18.771 (1.161)	70	190048			0.00- 61.33	11.38

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS CAL-AMT (PPBV)	AMOUNTS ON-COL (PPBV)	TARGET RANGE	RATIO
$ 113 Toluene-d8 (continued)							
18.771	18.771 (1.161)	100	1154070			18.85- 118.85	69.09
$ 137 Bromofluorobenzene						CAS #: 460-00-4	
23.333	23.333 (1.093)	174	957131	25.0000	25.066	50.00- 150.00	100.00
23.333	23.333 (1.093)	95	1220204			76.56- 176.56	127.49
23.333	23.333 (1.093)	176	932560			46.77- 146.77	97.43
12 Dichlorodifluoromethane/Fr12						CAS #: 75-71-8	
5.721	5.721 (0.397)	85	47576	0.50000	0.5000	50.00- 150.00	100.00
5.748	5.748 (0.399)	87	17035			0.00- 85.81	35.81
16 Freon 114						CAS #: 76-14-2	
6.163	6.163 (0.428)	135	32813	0.50000	0.5000	50.00- 150.00	100.00
6.163	6.163 (0.428)	137	10433			0.00- 81.80	31.80
20 Vinyl Chloride						CAS #: 75-01-4	
6.882	6.882 (0.478)	62	19172	0.50000	0.5000	50.00- 150.00	100.00
6.882	6.882 (0.478)	64	6960			0.00- 86.30	36.30
22 1,3-Butadiene						CAS #: 106-99-0	
6.882	6.882 (0.478)	54	11746	0.50000	0.5000	50.00- 150.00	100.00
6.882	6.882 (0.478)	39	13765			67.19- 167.19	117.19
25 Bromomethane						CAS #: 74-83-9	
8.015	8.015 (0.557)	94	16291	0.50000	0.5000	50.00- 150.00	100.00
8.015	8.015 (0.557)	96	14944			41.73- 141.73	91.73
27 Chloroethane						CAS #: 75-00-3	
8.347	8.347 (0.580)	64	6683	0.50000	0.5000	50.00- 150.00	100.00
8.347	8.347 (0.580)	49	2473			0.00- 87.00	37.00
8.320	8.320 (0.578)	66	2148			0.00- 82.14	32.14
31 Trichlorofluoromethane/Fr11						CAS #: 75-69-4	
8.955	8.955 (0.622)	101	39349	0.50000	0.5000	50.00- 150.00	100.00
8.928	8.928 (0.620)	103	26784			18.07- 118.07	68.07
42 Freon 113						CAS #: 76-13-1	
10.200	10.200 (0.708)	151	22360	0.50000	0.5000	50.00- 150.00	100.00
10.200	10.200 (0.708)	153	13095			8.56- 108.56	58.56
10.200	10.200 (0.708)	101	27629			73.56- 173.56	123.56
43 1,1-Dichloroethene						CAS #: 75-35-4	
10.310	10.310 (0.716)	61	23023	0.50000	0.5000	50.00- 150.00	100.00
10.310	10.310 (0.716)	96	18764			31.50- 131.50	81.50
10.338	10.338 (0.718)	98	8228			0.00- 85.74	35.74

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS CAL-AMT (PPBV)	AMOUNTS ON-COL (PPBV)	TARGET RANGE	RATIO
47 Carbon Disulfide					CAS #: 75-15-0		
10.863	10.863 (0.754)	76	43350	0.50000	0.5000	50.00- 150.00	100.00
54 Methylene Chloride					CAS #: 75-09-2		
11.472	11.472 (0.796)	49	17900	0.50000	0.5000	50.00- 150.00	100.00
11.472	11.472 (0.796)	84	12530			20.00- 120.00	70.00
11.444	11.444 (0.795)	51	5834			0.00- 82.59	32.59
60 MTBE					CAS #: 1634-04-4		
11.831	11.831 (0.821)	73	30552	0.50000	0.5000	50.00- 150.00	100.00
11.831	11.831 (0.821)	57	6497			0.00- 71.27	21.27
11.803	11.803 (0.820)	41	8855			0.00- 78.98	28.98
61 trans-1,2-Dichloroethene					CAS #: 156-60-5		
11.942	11.942 (0.829)	96	15203	0.50000	0.5000	50.00- 150.00	100.00
11.914	11.914 (0.827)	61	21746			93.04- 193.04	143.04
11.914	11.914 (0.827)	98	7588			0.00- 99.91	49.91
65 Hexane					CAS #: 110-54-3		
12.301	12.301 (0.854)	57	20198	0.50000	0.5000	50.00- 150.00	100.00
12.301	12.301 (0.854)	43	15411			26.30- 126.30	76.30
12.301	12.301 (0.854)	86	3271			0.00- 66.19	16.19
70 1,1-Dichloroethane					CAS #: 75-34-3		
12.826	12.826 (0.891)	63	24629	0.50000	0.5000	50.00- 150.00	100.00
12.826	12.826 (0.891)	65	8401			0.00- 84.11	34.11
75 2-Butanone					CAS #: 78-93-3		
13.905	13.905 (0.965)	72	4535	0.50000	0.5000	50.00- 150.00	100.00
13.877	13.877 (0.964)	43	22514			446.45- 546.45	496.45
13.905	13.905 (0.965)	57	1741			0.00- 88.39	38.39
76 cis-1,2-Dichloroethene					CAS #: 156-59-2		
13.932	13.932 (0.967)	61	17162	0.50000	0.5000	50.00- 150.00	100.00
13.932	13.932 (0.967)	96	15482			40.21- 140.21	90.21
13.932	13.932 (0.967)	98	8217			0.00- 97.88	47.88
80 Tetrahydrofuran					CAS #: 109-99-9		
14.375	14.375 (0.998)	42	12231	0.50000	0.5000	50.00- 150.00	100.00
14.402	14.402 (1.000)	71	4285			0.00- 85.03	35.03
14.402	14.402 (1.000)	72	4117			0.00- 83.66	33.66
82 Chloroform					CAS #: 67-66-3		
14.458	14.458 (1.004)	83	27421	0.50000	0.5281	50.00- 150.00	100.00
14.458	14.458 (1.004)	85	17112			12.82- 112.82	62.40

AMOUNTS

RT	EXP RT (REL RT)	MASS	RESPONSE	CAL-AMT (PPBV)	ON-COL (PPBV)	TARGET RANGE	RATIO
83 1,1,1-Trichloroethane					CAS #: 71-55-6		
14.817	14.817 (1.029)	97	25463	0.50000	0.5000	50.00- 150.00	100.00
14.845	14.845 (1.031)	99	16821			16.06- 116.06	66.06
85 Cyclohexane					CAS #: 110-82-7		
14.845	14.845 (1.031)	84	13500	0.50000	0.5000	50.00- 150.00	100.00
14.845	14.845 (1.031)	56	17496			79.60- 179.60	129.60
14.845	14.845 (1.031)	41	15222			62.76- 162.76	112.76
87 Carbon Tetrachloride					CAS #: 56-23-5		
15.094	15.094 (1.048)	119	22788	0.50000	0.5000	50.00- 150.00	100.00
15.094	15.094 (1.048)	117	25102			60.15- 160.15	110.15
91 Benzene					CAS #: 71-43-2		
15.508	15.508 (0.959)	78	34749	0.50000	0.5064	50.00- 150.00	100.00
15.536	15.536 (0.961)	77	7253			0.00- 71.59	20.87
89 2,2,4-Trimethylpentane					CAS #: 540-84-1		
15.425	15.425 (1.071)	57	45451	0.50000	0.5000	50.00- 150.00	100.00
15.425	15.425 (1.071)	56	16216			0.00- 85.68	35.68
15.425	15.425 (1.071)	41	15793			0.00- 84.75	34.75
93 1,2-Dichloroethane					CAS #: 107-06-2		
15.619	15.619 (0.966)	62	18652	0.50000	0.5000	50.00- 150.00	100.00
15.619	15.619 (0.966)	64	6553			0.00- 85.13	35.13
94 Heptane					CAS #: 142-82-5		
15.730	15.730 (0.973)	71	8517	0.50000	0.5000	50.00- 150.00	100.00
15.730	15.730 (0.973)	43	19632			180.50- 280.50	230.50
15.730	15.730 (0.973)	57	10427			72.43- 172.43	122.43
101 Trichloroethene					CAS #: 79-01-6		
16.642	16.642 (1.029)	95	14369	0.50000	0.5000	50.00- 150.00	100.00
16.642	16.642 (1.029)	130	14236			49.07- 149.07	99.07
16.642	16.642 (1.029)	97	9543			16.41- 116.41	66.41
104 1,2-Dichloropropane					CAS #: 78-87-5		
17.140	17.140 (1.060)	63	12205	0.50000	0.5000	50.00- 150.00	100.00
17.112	17.112 (1.058)	62	9174			25.17- 125.17	75.17
17.140	17.140 (1.060)	41	11048			40.52- 140.52	90.52
107 Bromodichloromethane					CAS #: 75-27-4		
17.554	17.554 (1.085)	83	23861	0.50000	0.5000	50.00- 150.00	100.00
17.554	17.554 (1.085)	85	15506			14.98- 114.98	64.98
110 cis-1,3-Dichloropropene					CAS #: 10061-01-5		
18.329	18.329 (1.133)	75	15175	0.50000	0.5000	50.00- 150.00	100.00

```
                                        AMOUNTS
                                     CAL-AMT   ON-COL
   RT   EXP RT (REL RT)  MASS  RESPONSE ( PPBV)  ( PPBV)   TARGET RANGE    RATIO
   ==   ====== ========  ====  ======== =======  =======   ============    =====

  110 cis-1,3-Dichloropropene (continued)
 18.329  18.329 (1.133)    77      4797                     0.00-  81.61    31.61
 18.329  18.329 (1.133)    39      9773                    14.40- 114.40    64.40
-------------------------------------------------------------------------------
  111 4-Methyl-2-pentanone                        CAS #: 108-10-1
 18.522  18.522 (1.145)    58      6848 0.50000   0.5000  50.00- 150.00   100.00
 18.522  18.522 (1.145)    43     20498                   249.33- 349.33   299.33
 18.495  18.495 (1.144)    85      3016                     0.00-  94.04    44.04
-------------------------------------------------------------------------------
  114 Toluene                                     CAS #: 108-88-3
 18.882  18.882 (1.168)    91     34659 0.50000   0.5000  50.00- 150.00   100.00
 18.882  18.882 (1.168)    92     21595                    12.31- 112.31    62.31
-------------------------------------------------------------------------------
  116 trans-1,3-Dichloropropene                   CAS #: 10061-02-6
 19.324  19.324 (0.905)    75     16891 0.50000   0.5000  50.00- 150.00   100.00
 19.324  19.324 (0.905)    77      5788                     0.00-  84.27    34.27
 19.296  19.296 (0.904)    39     11612                    18.75- 118.75    68.75
-------------------------------------------------------------------------------
  117 1,1,2-Trichloroethane                       CAS #: 79-00-5
 19.656  19.656 (0.921)    97     13069 0.50000   0.5000  50.00- 150.00   100.00
 19.656  19.656 (0.921)    99      8163                    12.46- 112.46    62.46
 19.656  19.656 (0.921)    83     11292                    36.40- 136.40    86.40
-------------------------------------------------------------------------------
  120 Tetrachloroethene                           CAS #: 127-18-4
 19.849  19.849 (0.930)   166     18736 0.50000   0.5000  50.00- 150.00   100.00
 19.822  19.822 (0.929)   129     13781                    23.55- 123.55    73.55
 19.822  19.822 (0.929)   131     12940                    19.06- 119.06    69.06
-------------------------------------------------------------------------------
  122 Dibromochloromethane                        CAS #: 124-48-1
 20.347  20.347 (0.953)   129     22024 0.50000   0.5000  50.00- 150.00   100.00
 20.347  20.347 (0.953)   127     17127                    27.77- 127.77    77.77
-------------------------------------------------------------------------------
  123 1,2-Dibromoethane                           CAS #: 106-93-4
 20.624  20.624 (0.966)   107     19811 0.50000   0.5000  50.00- 150.00   100.00
 20.624  20.624 (0.966)   109     19821                    50.05- 150.05   100.05
-------------------------------------------------------------------------------
  127 Chlorobenzene                               CAS #: 108-90-7
 21.398  21.398 (1.003)   112     31210 0.50000   0.5000  50.00- 150.00   100.00
 21.398  21.398 (1.003)   114     11029                     0.00-  85.34    35.34
 21.398  21.398 (1.003)    77     31887                    52.17- 152.17   102.17
-------------------------------------------------------------------------------
  128 Ethyl Benzene                               CAS #: 100-41-4
 21.481  21.481 (1.006)   106     14585 0.50000   0.5000  50.00- 150.00   100.00
 21.481  21.481 (1.006)    91     47369                   274.78- 374.78   324.78
-------------------------------------------------------------------------------
  129 m,p-Xylene                                  CAS #: 108-38-3
 21.674  21.674 (1.016)   106     18983 0.50000   0.5000  50.00- 150.00   100.00
```

```
                                          AMOUNTS
                                       CAL-AMT   ON-COL
   RT   EXP RT (REL RT)  MASS  RESPONSE ( PPBV)  ( PPBV)   TARGET RANGE    RATIO
   ==   ====== ========  ====  ======== =======  =======   ============    =====

  129 m,p-Xylene (continued)
 21.674  21.674 (1.016)    91     36102                  140.18- 240.18   190.18
-------------------------------------------------------------------------------
  130 o-Xylene                                     CAS #: 95-47-6
 22.393  22.393 (1.049)   106     15952 0.50000   0.5000  50.00- 150.00   100.00
 22.393  22.393 (1.049)    91     33173                  157.96- 257.96   207.96
-------------------------------------------------------------------------------
  131 Styrene                                      CAS #: 100-42-5
 22.421  22.421 (1.051)   104     22221 0.50000   0.4989  50.00- 150.00   100.00(a)
 22.421  22.421 (1.051)    78     12270                   11.65- 111.65    55.22
-------------------------------------------------------------------------------
  133 Bromoform                                    CAS #: 75-25-2
 22.835  22.835 (1.070)   173     20128 0.50000   0.5000  50.00- 150.00   100.00
 22.835  22.835 (1.070)   171     10294                    1.14- 101.14    51.14
-------------------------------------------------------------------------------
  134 Cumene                                       CAS #: 98-82-8
 22.974  22.974 (1.076)   105     42095 0.50000   0.4903  50.00- 150.00   100.00(a)
 22.974  22.974 (1.076)   120     13036                    0.00-  79.14    30.97
 22.946  22.946 (1.075)    51      4671                    0.00-  62.42    11.10
-------------------------------------------------------------------------------
  140 1,1,2,2-Tetrachloroethane                    CAS #: 79-34-5
 23.527  23.527 (1.102)    83     28944 0.50000   0.5000  50.00- 150.00   100.00
 23.527  23.527 (1.102)    85     18819                   15.02- 115.02    65.02
-------------------------------------------------------------------------------
  142 Propylbenzene                                CAS #: 103-65-1
 23.637  23.637 (1.108)    91     57510 0.50000   0.5000  50.00- 150.00   100.00
 23.637  23.637 (1.108)   120     13859                    0.00-  74.10    24.10
 23.637  23.637 (1.108)   105      2745                    0.00-  54.77     4.77
-------------------------------------------------------------------------------
  145 4-Ethyltoluene                               CAS #: 622-96-8
 23.831  23.831 (1.117)   105     45962 0.50000   0.5000  50.00- 150.00   100.00
 23.831  23.831 (1.117)   120     14743                    0.00-  82.08    32.08
-------------------------------------------------------------------------------
  147 1,3,5-Trimethylbenzene                       CAS #: 108-67-8
 23.914  23.914 (1.120)   105     44997 0.50000   0.5000  50.00- 150.00   100.00
 23.914  23.914 (1.120)   120     22622                    0.27- 100.27    50.27
-------------------------------------------------------------------------------
  150 1,2,4-Trimethylbenzene                       CAS #: 95-63-6
 24.550  24.550 (1.150)   105     33540 0.50000   0.5000  50.00- 150.00   100.00
 24.550  24.550 (1.150)   120     16903                    0.40- 100.40    50.40
-------------------------------------------------------------------------------
  155 1,3-Dichlorobenzene                          CAS #: 541-73-1
 25.130  25.130 (1.177)   146     29742 0.50000   0.5000  50.00- 150.00   100.00
 25.130  25.130 (1.177)   148     19728                   16.33- 116.33    66.33
 25.130  25.130 (1.177)   111     12094                    0.00-  90.66    40.66
-------------------------------------------------------------------------------
```

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS CAL-AMT (PPBV)	AMOUNTS ON-COL (PPBV)	TARGET RANGE	RATIO
156 1,4-Dichlorobenzene					CAS #: 106-46-7		
25.269	25.269 (1.184)	146	32773	0.50000	0.5000	50.00- 150.00	100.00
25.269	25.269 (1.184)	148	20634			12.96- 112.96	62.96
25.269	25.269 (1.184)	111	12309			0.00- 87.56	37.56
159 alpha-Chlorotoluene					CAS #: 100-44-7		
25.490	25.490 (1.194)	91	32574	0.50000	0.5000	50.00- 150.00	100.00
25.490	25.490 (1.194)	126	7503			0.00- 73.03	23.03
161 1,2-Dichlorobenzene					CAS #: 95-50-1		
25.932	25.932 (1.215)	146	30022	0.50000	0.5000	50.00- 150.00	100.00
25.932	25.932 (1.215)	148	18673			12.20- 112.20	62.20
25.905	25.905 (1.214)	111	11890			0.00- 89.60	39.60
102 Methyl Cyclohexane					CAS #: 108-87-2		
16.919	16.919 (1.175)	83	16603	0.50000	0.5000	50.00- 150.00	100.00
16.919	16.919 (1.175)	98	7709			0.00- 96.43	46.43
16.919	16.919 (1.175)	55	14202			35.54- 135.54	85.54

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).

Report Date: 18-Oct-2007 15:55

Air Toxics Ltd.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd7.i
Lab File ID: 7101803.d
Lab Smp Id: ICAL
Analysis Type: VOA
Quant Type: ISTD
Operator: cb
Method File: /chem/msd7.i/7-18oct.b/t14qO18a.m
Misc Info: 200ppbv --> 0.5ppbv

Calibration Date: 18-OCT-2007
Calibration Time: 15:26
Client Smp ID: Level 2
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
81 Bromochloromethan	683549	410129	956969	594950	-12.96
97 1,4-Difluorobenze	2204815	1322889	3086741	1954618	-11.35
126 Chlorobenzene-d5	1812979	1087787	2538171	1592069	-12.18

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
81 Bromochloromethan	14.40	14.07	14.73	14.40	0.00
97 1,4-Difluorobenze	16.17	15.84	16.50	16.17	0.00
126 Chlorobenzene-d5	21.37	21.04	21.70	21.34	-0.13

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /chem/msd7.i/7-18oct.b/7101803.d

Date : 18-OCT-2007 12:56

Client ID: Level 2

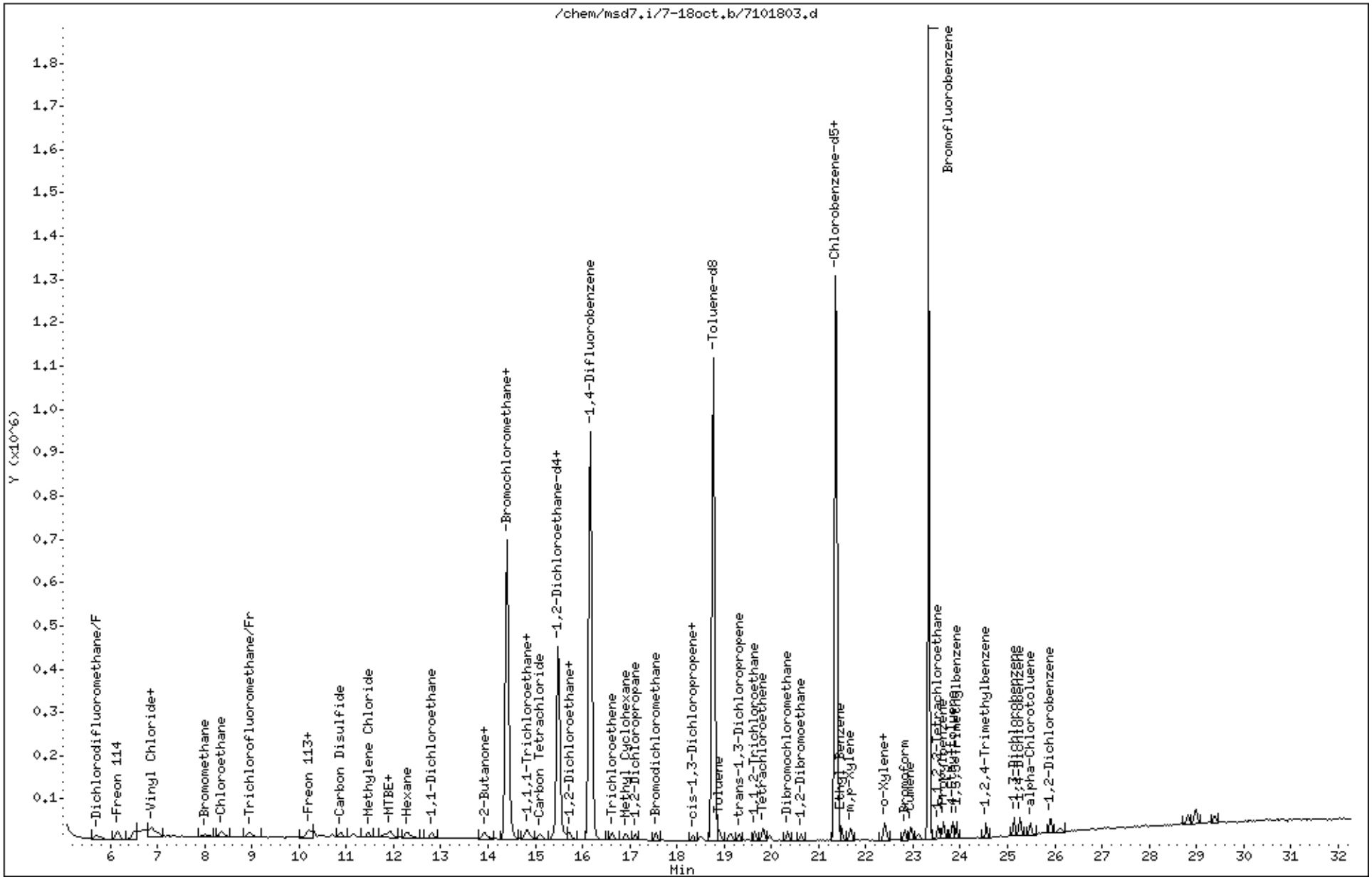
Sample Info: 0.5mL #1576-50

Column phase: RTx-624

Instrument: msd7.i

Operator: cb

Column diameter: 0.53



Air Toxics Ltd.

AMBIENT AIR METHOD TO14

Data file : /chem/msd7.i/7-22oct.b/7102205.d
Lab Smp Id: ICAL Client Smp ID: Level 3
Inj Date : 22-OCT-2007 10:55
Operator : cb Inst ID: msd7.i
Smp Info : 2mL #1487-370
Misc Info : 200ppbv --> 2ppbv
Comment :
Method : /chem/msd7.i/7-22oct.b/t14qO18b.m
Meth Date : 22-Oct-2007 13:49 sscott Quant Type: ISTD
Cal Date : 22-OCT-2007 10:55 Cal File: 7102205.d
Als bottle: 1 Calibration Sample, Level: 3
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: sp16b.sub
Target Version: 3.50 Sample Matrix: AIR
Processing Host: eeyore

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS CAL-AMT (PPBV)	AMOUNTS ON-COL (PPBV)	TARGET RANGE	RATIO
* 81 Bromochloromethane					CAS #: 74-97-5		
14.403	14.403 (1.000)	130	639032	25.0000		50.00- 150.00	100.00
14.403	14.403 (1.000)	128	485011			26.49- 126.49	75.90
14.375	14.375 (1.000)	49	961966			116.97- 216.97	150.53
* 97 1,4-Difluorobenzene					CAS #: 540-36-3		
16.172	16.172 (1.000)	114	2072294	25.0000		50.00- 150.00	100.00
16.172	16.172 (1.000)	88	319608			0.00- 65.57	15.42
* 126 Chlorobenzene-d5					CAS #: 3114-55-4		
21.343	21.343 (1.000)	117	1627678	25.0000		50.00- 150.00	100.00
21.343	21.343 (1.000)	82	894614			5.19- 105.19	54.96
55 Cyclopentene					CAS #: 142-29-0		
11.251	11.251 (0.781)	67	232640	2.00000	1.954	50.00- 150.00	100.00(a)
11.251	11.251 (0.781)	68	93477			0.00- 90.48	40.18
11.251	11.251 (0.781)	53	48369			0.00- 70.85	20.79
78 2,2-Dichloropropane					CAS #: 594-20-7		
13.877	13.877 (0.964)	77	141265	2.00000	1.895	50.00- 150.00	100.00(a)

```
                                          AMOUNTS
                                       CAL-AMT   ON-COL
   RT   EXP RT (REL RT)  MASS  RESPONSE ( PPBV)  ( PPBV)   TARGET RANGE    RATIO
   ==   ====== ========  ====  ======== =======  =======   ============    =====

   78 2,2-Dichloropropane (continued)
 13.877  13.877 (0.964)    79     50942                     0.00-  84.30    36.06
 13.877  13.877 (0.964)    97     28410                     0.00-  70.03    20.11
-------------------------------------------------------------------------------
   88 1,1-Dichloropropene                          CAS #: 563-58-6
 15.121  15.121 (0.935)   110     53537 2.00000    1.916  50.00- 150.00   100.00(a)
 15.121  15.121 (0.935)    75    140199                   218.22- 318.22   261.87
-------------------------------------------------------------------------------
  118 1,3-Dichloropropane                          CAS #: 142-28-9
 19.988  19.988 (1.236)    76    158585 2.00000    1.906  50.00- 150.00   100.00(a)
 19.988  19.988 (1.236)    41    112138                    21.54- 121.54    70.71
 19.988  19.988 (1.236)    78     50086                     0.00-  81.77    31.58
-------------------------------------------------------------------------------
  125 1,1,1,2-Tetrachloroethane                    CAS #: 630-20-6
 21.536  21.536 (1.009)   131    117122 2.00000    2.018  50.00- 150.00   100.00
 21.536  21.536 (1.009)   117     80894                    18.93- 118.93    69.07
 21.536  21.536 (1.009)    95     46412                     0.00-  89.37    39.63
-------------------------------------------------------------------------------
  136 Bromobenzene                                 CAS #: 108-86-1
 23.610  23.610 (1.106)   156    142356 2.00000    2.090  50.00- 150.00   100.00
 23.610  23.610 (1.106)   158    137653                    46.65- 146.65    96.70
 23.610  23.610 (1.106)    77    279379                   147.77- 247.77   196.25
-------------------------------------------------------------------------------
  138 1,2,3-Trichloropropane                       CAS #: 96-18-4
 23.665  23.665 (1.109)   110     64138 2.00000    2.012  50.00- 150.00   100.00
 23.665  23.665 (1.109)    75    194965                   252.90- 352.90   303.98
 23.665  23.665 (1.109)    61     48439                    26.84- 126.84    75.52
-------------------------------------------------------------------------------
  141 2-Chlorotoluene                              CAS #: 95-49-8
 23.886  23.886 (1.119)   126    100762 2.00000    2.003  50.00- 150.00   100.00
 23.886  23.886 (1.119)    91    297542                   243.86- 343.86   295.29
 23.886  23.886 (1.119)    65     28529                     0.00-  78.37    28.31
-------------------------------------------------------------------------------
  143 4-Chlorotoluene                              CAS #: 106-43-4
 24.080  24.080 (1.128)   126    104260 2.00000    1.943  50.00- 150.00   100.00(a)
 24.080  24.080 (1.128)    91    315277                   249.00- 349.00   302.39
 24.052  24.052 (1.127)    63     39933                     0.00-  88.24    38.30
-------------------------------------------------------------------------------
  153 p-Cymene                                     CAS #: 99-87-6
 25.020  25.020 (1.172)   119    345319 2.00000    2.172  50.00- 150.00   100.00
 25.020  25.020 (1.172)   134     97423                     0.00-  77.89    28.21
 25.020  25.020 (1.172)    91     84154                     0.00-  74.89    24.37
-------------------------------------------------------------------------------
  154 1,2,3-Trimethylbenzene                       CAS #: 526-73-8
 25.269  25.269 (1.184)   120    127049 2.00000    2.014  50.00- 150.00   100.00
 25.269  25.269 (1.184)   105    280842                   168.18- 268.18   221.05
```

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS CAL-AMT (PPBV)	AMOUNTS ON-COL (PPBV)	TARGET RANGE	RATIO
154 1,2,3-Trimethylbenzene (continued)							
25.269	25.269 (1.184)	77	37584			0.00- 78.76	29.58
158 Butylbenzene					CAS #: 104-51-8		
25.711	25.711 (1.205)	134	86798	2.00000	2.030	50.00- 150.00	100.00
25.684	25.684 (1.203)	91	365378			362.01- 462.01	420.95
25.684	25.684 (1.203)	92	204191			181.94- 281.94	235.25
148 tert-Butylbenzene					CAS #: 98-06-6		
24.467	24.467 (1.146)	119	319919	2.00000	2.232	50.00- 150.00	100.00
24.467	24.467 (1.146)	134	78445			0.00- 74.64	24.52
24.467	24.467 (1.146)	91	224250			20.96- 120.96	70.10
149 sec-Butylbenzene					CAS #: 135-98-8		
24.826	24.826 (1.163)	105	447243	2.00000	2.254	50.00- 150.00	100.00
24.826	24.826 (1.163)	134	88393			0.00- 69.71	19.76
24.826	24.826 (1.163)	91	69536			0.00- 65.99	15.55
162 1,2-Dibromo-3-Chloropropane					CAS #: 96-12-8		
27.287	27.287 (1.279)	157	99267	2.00000	1.935	50.00- 150.00	100.00(a)
27.287	27.287 (1.279)	75	92577			39.96- 139.96	93.26
27.287	27.287 (1.279)	155	79486			28.87- 128.87	80.07
201 Pentachloroethane					CAS #: 76-01-7		
24.605	24.605 (1.153)	167	92534	2.00000	2.159	50.00- 150.00	100.00
24.605	24.605 (1.153)	117	92152			54.36- 154.36	99.59
24.605	24.605 (1.153)	169	43387			0.00- 97.70	46.89

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).

Report Date: 22-Oct-2007 13:49

Air Toxics Ltd.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd7.i
Lab File ID: 7102205.d
Lab Smp Id: ICAL
Analysis Type: VOA
Quant Type: ISTD
Operator: cb
Method File: /chem/msd7.i/7-22oct.b/t14qO18b.m
Misc Info: 200ppbv --> 2ppbv

Calibration Date: 22-OCT-2007
Calibration Time: 10:55
Client Smp ID: Level 3
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
81 Bromochloromethan	639032	383419	894645	639032	0.00
97 1,4-Difluorobenze	2072294	1243376	2901212	2072294	0.00
126 Chlorobenzene-d5	1627678	976607	2278749	1627678	0.00

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
81 Bromochloromethan	14.40	14.07	14.73	14.40	0.00
97 1,4-Difluorobenze	16.17	15.84	16.50	16.17	0.00
126 Chlorobenzene-d5	21.34	21.01	21.67	21.34	0.00

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /chem/msd7.i/7-22oct.b/7102205.d

Date : 22-OCT-2007 10:55

Client ID: Level 3

Sample Info: 2mL #1487-370

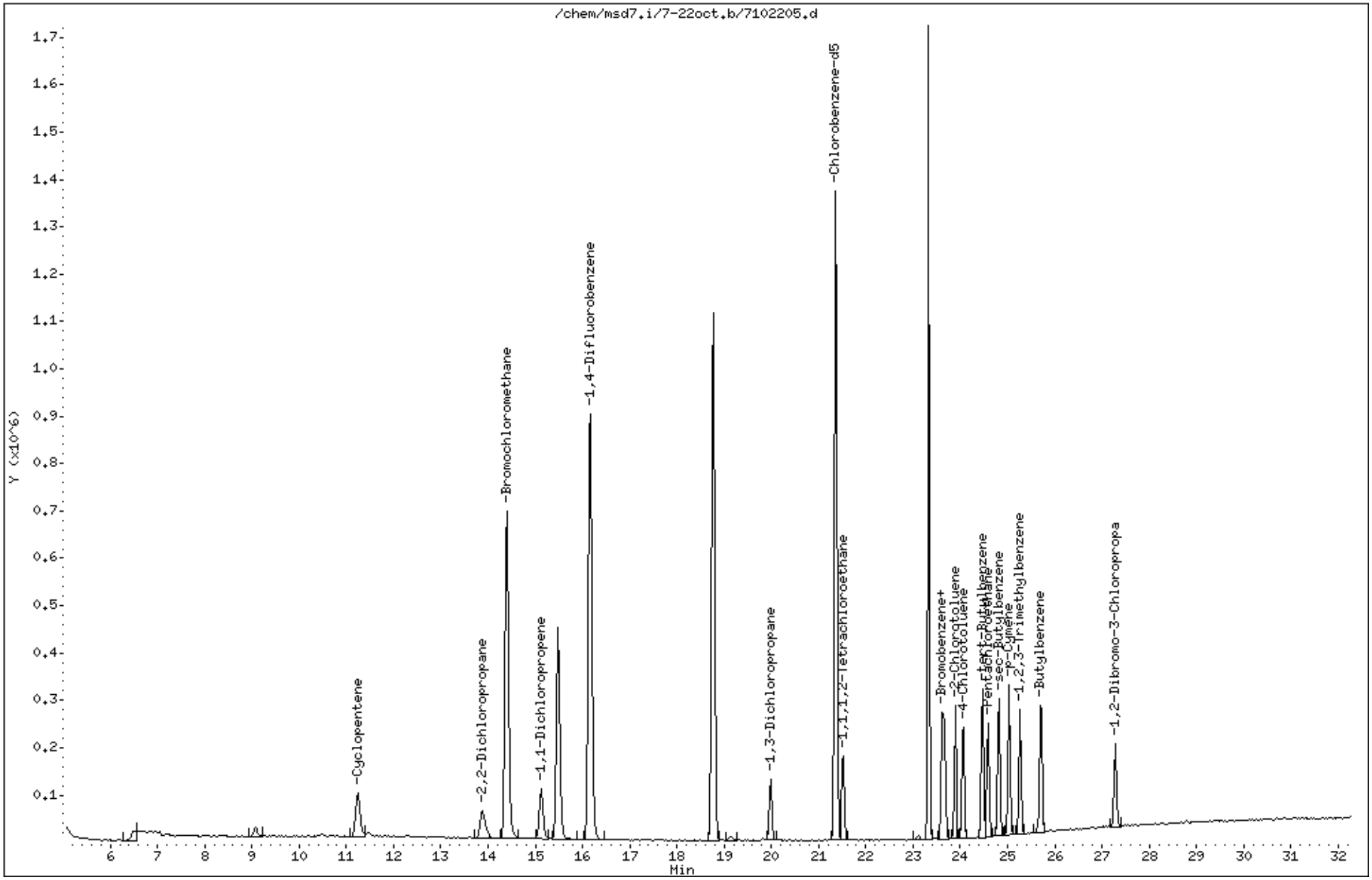
Column phase: RTx-624

Instrument: msd7.i

Operator: cb

Column diameter: 0.53

0189



Air Toxics Ltd.

AMBIENT AIR METHOD TO14

Data file : /chem/msd7.i/7-19oct.b/7101903.d
Lab Smp Id: ICAL Client Smp ID: Level 3
Inj Date : 19-OCT-2007 10:22
Operator : cb Inst ID: msd7.i
Smp Info : 2mL #1487-400
Misc Info : 200ppbv --> 2ppbv
Comment :
Method : /chem/msd7.i/7-19oct.b/t14qO18a.m
Meth Date : 19-Oct-2007 12:11 cbond Quant Type: ISTD
Cal Date : 19-OCT-2007 10:22 Cal File: 7101903.d
Als bottle: 1 Calibration Sample, Level: 3
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: sp22a.sub
Target Version: 3.50 Sample Matrix: AIR
Processing Host: eeyore

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS CAL-AMT (PPBV)	AMOUNTS ON-COL (PPBV)	TARGET RANGE	RATIO
* 81 Bromochloromethane					CAS #: 74-97-5		
14.403	14.403 (1.000)	130	680683	25.0000		50.00- 150.00	100.00
14.403	14.403 (1.000)	128	521822			26.64- 126.64	76.66
14.403	14.403 (1.000)	49	1021902			124.30- 224.30	150.13
* 97 1,4-Difluorobenzene					CAS #: 540-36-3		
16.172	16.172 (1.000)	114	2218849	25.0000		50.00- 150.00	100.00
16.172	16.172 (1.000)	88	345014			0.00- 65.60	15.55
* 126 Chlorobenzene-d5					CAS #: 3114-55-4		
21.343	21.343 (1.000)	117	1717856	25.0000		50.00- 150.00	100.00
21.343	21.343 (1.000)	82	948281			5.36- 105.36	55.20
5 Freon 143a					CAS #: 420-46-2		
5.334	5.334 (0.370)	65	30165	2.00000	2.000	50.00- 150.00	100.00
5.278	5.278 (0.366)	69	276074			0.00- 50.00	915.21
5.334	5.334 (0.370)	64	6959			0.00- 73.07	23.07
6 Freon142b					CAS #: 75-68-3		
6.357	6.357 (0.441)	65	124214	2.00000	2.000	50.00- 150.00	100.00

AMOUNTS

RT	EXP RT (REL RT)	MASS	RESPONSE	CAL-AMT (PPBV)	ON-COL (PPBV)	TARGET RANGE	RATIO
6 Freon142b (continued)							
6.357	6.357 (0.441)	45	30229			0.00- 74.34	24.34
13 Freon 134a					CAS #: 811-97-2		
5.472	5.472 (0.380)	83	59293	2.00000	2.000	50.00- 150.00	100.00
5.278	5.278 (0.366)	69	276074			415.61- 515.61	465.61
5.472	5.472 (0.380)	63	8387			0.00- 64.15	14.15
15 Freon 152a					CAS #: 75-37-6		
5.665	5.665 (0.393)	65	43467	2.00000	2.000	50.00- 150.00	100.00
5.665	5.665 (0.393)	51	69568			110.05- 210.05	160.05
5.693	5.693 (0.395)	47	17369			0.00- 89.96	39.96
17 Freon 22					CAS #: 75-45-6		
5.831	5.831 (0.405)	51	143770	2.00000	2.000	50.00- 150.00	100.00
5.831	5.831 (0.405)	67	16779			0.00- 61.67	11.67
5.831	5.831 (0.405)	85	2871			0.00- 52.00	2.00
34 Dichlorofluoromethane/Fr21					CAS #: 75-43-4		
8.900	8.900 (0.618)	67	119076	2.00000	2.000	50.00- 150.00	100.00
8.900	8.900 (0.618)	69	36680			0.00- 80.80	30.80
8.900	8.900 (0.618)	35	5758			0.00- 54.84	4.84
40 Freon123a					CAS #: 354-23-4		
9.813	9.813 (0.681)	117	61475	2.00000	2.000	50.00- 150.00	100.00
9.813	9.813 (0.681)	67	108040			125.75- 225.75	175.75
41 Freon123					CAS #: 306-83-2		
9.951	9.951 (0.691)	83	118699	2.00000	2.000	50.00- 150.00	100.00
9.951	9.951 (0.691)	133	22948			0.00- 69.33	19.33
9.979	9.979 (0.693)	85	87037			23.33- 123.33	73.33
57 tert-Butyl-Alcohol					CAS #: 75-65-0		
11.527	11.527 (0.800)	59	135523	2.00000	2.000	50.00- 150.00	100.00
11.499	11.499 (0.798)	41	31744			0.00- 73.42	23.42
11.499	11.499 (0.798)	57	13899			0.00- 60.26	10.26
68 Isopropyl ether					CAS #: 108-20-3		
12.716	12.716 (0.883)	45	229400	2.00000	2.000	50.00- 150.00	100.00
12.716	12.716 (0.883)	87	53932			0.00- 73.51	23.51
12.716	12.716 (0.883)	59	19957			0.00- 58.70	8.70
71 1-Propanol					CAS #: 71-23-8		
12.854	12.854 (0.892)	42	12498	2.00000	2.000	50.00- 150.00	100.00
12.827	12.827 (0.891)	59	17728			91.85- 191.85	141.85
12.716	12.716 (0.883)	41	42674			291.45- 391.45	341.45

AMOUNTS

RT	EXP RT (REL RT)	MASS	RESPONSE	CAL-AMT (PPBV)	ON-COL (PPBV)	TARGET RANGE	RATIO
73 t-Butylethyl Ether					CAS #: 637-92-3		
13.380	13.380 (0.929)	59	187293	2.00000	2.000	50.00- 150.00	100.00
13.380	13.380 (0.929)	87	73600			0.00- 89.30	39.30
13.380	13.380 (0.929)	41	34474			0.00- 68.41	18.41
77 Ethyl Acetate					CAS #: 141-78-6		
13.877	13.877 (0.964)	45	21298	2.00000	2.000	50.00- 150.00	100.00
13.877	13.877 (0.964)	61	21673			51.76- 151.76	101.76
13.877	13.877 (0.964)	43	139113			603.17- 703.17	653.17
92 tert-amyl-Methyl Ether					CAS #: 994-05-8		
15.536	15.536 (1.079)	73	134657	2.00000	2.000	50.00- 150.00	100.00
15.536	15.536 (1.079)	87	32299			0.00- 73.99	23.99
15.536	15.536 (1.079)	55	41294			0.00- 80.67	30.67
96 2-Heptanone					CAS #: 110-43-0		
22.504	22.504 (1.562)	58	64075	2.00000	2.000	50.00- 150.00	100.00
22.504	22.504 (1.562)	43	102414			109.83- 209.83	159.83
98 1-Butanol					CAS #: 71-36-3		
16.310	16.310 (1.009)	56	29538	2.00000	2.000	50.00- 150.00	100.00
16.310	16.310 (1.009)	41	21168			21.66- 121.66	71.66
16.310	16.310 (1.009)	43	18572			12.87- 112.87	62.87
99 Isobutanol					CAS #: 78-83-1		
15.121	15.121 (1.050)	59	1011	2.00000	2.000	50.00- 150.00	100.00
15.149	15.149 (1.052)	41	29081			2826.46-2926.46	2876.46
15.149	15.149 (1.052)	43	41133			4018.55-4118.55	4068.55
119 Butyl Acetate					CAS #: 123-86-4		
20.071	20.071 (1.241)	56	50141	2.00000	2.000	50.00- 150.00	100.00
20.071	20.071 (1.241)	73	17033			0.00- 83.97	33.97
20.071	20.071 (1.241)	43	123513			196.33- 296.33	246.33
135 Cyclohexanone					CAS #: 108-94-1		
23.278	23.278 (1.091)	55	58482	2.00000	2.000	50.00- 150.00	100.00
23.278	23.278 (1.091)	98	22335			0.00- 88.19	38.19
23.278	23.278 (1.091)	42	37611			14.31- 114.31	64.31
146 Diisobutyl Ketone					CAS #: 108-83-8		
24.080	24.080 (1.128)	57	142000	2.00000	2.000	50.00- 150.00	100.00
24.080	24.080 (1.128)	85	115778			31.53- 131.53	81.53
0.000	1.000 (0.000)	0	0			0.00- 50.00	0.00

Report Date: 19-Oct-2007 12:11

Air Toxics Ltd.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd7.i
Lab File ID: 7101903.d
Lab Smp Id: ICAL
Analysis Type: VOA
Quant Type: ISTD
Operator: cb
Method File: /chem/msd7.i/7-19oct.b/t14qO18a.m
Misc Info: 200ppbv --> 2ppbv

Calibration Date: 19-OCT-2007
Calibration Time: 11:00
Client Smp ID: Level 3
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
81 Bromochloromethan	694127	416476	971778	680683	-1.94
97 1,4-Difluorobenze	2223212	1333927	3112497	2218849	-0.20
126 Chlorobenzene-d5	1779964	1067978	2491950	1717856	-3.49

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
81 Bromochloromethan	14.40	14.07	14.73	14.40	0.00
97 1,4-Difluorobenze	16.17	15.84	16.50	16.17	0.00
126 Chlorobenzene-d5	21.37	21.04	21.70	21.34	-0.13

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /chem/msd7.i/7-19oct.b/7101903.d

Date : 19-OCT-2007 10:22

Client ID: Level 3

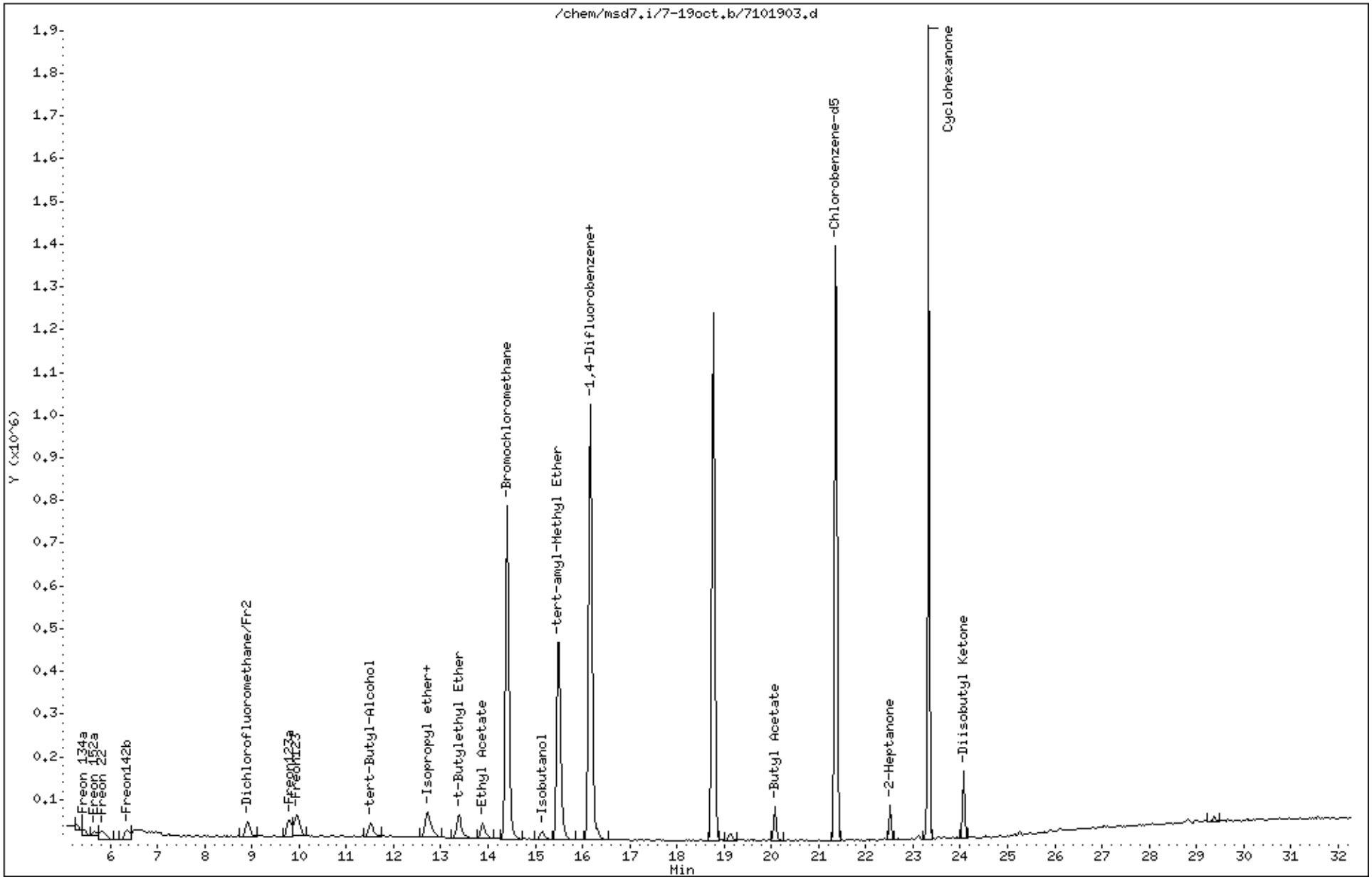
Sample Info: 2mL #1487-400

Column phase: RTx-624

Instrument: msd7.i

Operator: cb

Column diameter: 0.53



Air Toxics Ltd.

AMBIENT AIR METHOD TO14

Data file : /chem/msd7.i/7-18oct.b/7101804.d
Lab Smp Id: ICAL Client Smp ID: Level 3
Inj Date : 18-OCT-2007 14:09
Operator : cb Inst ID: msd7.i
Smp Info : 2mL #1576-50
Misc Info : 200ppbv --> 2ppbv
Comment :
Method : /chem/msd7.i/7-18oct.b/t14qO18a.m
Meth Date : 18-Oct-2007 15:55 cbond Quant Type: ISTD
Cal Date : 18-OCT-2007 14:09 Cal File: 7101804.d
Als bottle: 1 Calibration Sample, Level: 3
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: AT04mdl+ENSR.sub
Target Version: 3.50 Sample Matrix: AIR
Processing Host: eeyore

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS CAL-AMT (PPBV)	AMOUNTS ON-COL (PPBV)	TARGET RANGE	RATIO
* 81 Bromochloromethane					CAS #: 74-97-5		
14.403	14.403 (1.000)	130	611723	25.0000		50.00- 150.00	100.00
14.403	14.403 (1.000)	128	473201			26.77- 126.77	77.36
14.375	14.375 (1.000)	49	892530			95.50- 195.50	145.90
* 97 1,4-Difluorobenzene					CAS #: 540-36-3		
16.172	16.172 (1.000)	114	2006513	25.0000		50.00- 150.00	100.00
16.144	16.144 (1.000)	88	308736			0.00- 65.52	15.39
* 126 Chlorobenzene-d5					CAS #: 3114-55-4		
21.343	21.343 (1.000)	117	1607236	25.0000		50.00- 150.00	100.00
21.343	21.343 (1.000)	82	882896			5.32- 105.32	54.93
$ 90 1,2-Dichloroethane-d4					CAS #: 17060-07-0		
15.481	15.481 (1.075)	65	847384	25.0000	25.678	50.00- 150.00	100.00
15.481	15.481 (1.075)	67	417312			0.00- 99.95	49.25
$ 113 Toluene-d8					CAS #: 2037-26-5		
18.771	18.771 (1.161)	98	1720868	25.0000	24.898	50.00- 150.00	100.00
18.771	18.771 (1.161)	70	197220			0.00- 61.38	11.46

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS CAL-AMT (PPBV)	AMOUNTS ON-COL (PPBV)	TARGET RANGE	RATIO
$ 113 Toluene-d8 (continued)							
18.771	18.771 (1.161)	100	1174360			18.65- 118.65	68.24
$ 137 Bromofluorobenzene						CAS #: 460-00-4	
23.333	23.333 (1.093)	174	955710	25.0000	24.861	50.00- 150.00	100.00
23.333	23.333 (1.093)	95	1240664			77.65- 177.65	129.82
23.333	23.333 (1.093)	176	928938			46.91- 146.91	97.20
11 Propylene						CAS #: 115-07-1	
5.638	5.638 (0.391)	41	55059	2.00000	2.000	50.00- 150.00	100.00
5.638	5.638 (0.391)	42	41800			25.92- 125.92	75.92
5.638	5.638 (0.391)	39	42003			26.29- 126.29	76.29
12 Dichlorodifluoromethane/Fr12						CAS #: 75-71-8	
5.748	5.748 (0.399)	85	196506	2.00000	2.004	50.00- 150.00	100.00
5.748	5.748 (0.399)	87	64388			0.00- 84.29	32.77
16 Freon 114						CAS #: 76-14-2	
6.191	6.191 (0.430)	135	143963	2.00000	2.065	50.00- 150.00	100.00
6.191	6.191 (0.430)	137	47951			0.00- 82.55	33.31
18 Chloromethane						CAS #: 74-87-3	
6.495	6.495 (0.451)	50	66478	2.00000	2.000	50.00- 150.00	100.00
6.522	6.522 (0.453)	52	25502			0.00- 88.36	38.36
20 Vinyl Chloride						CAS #: 75-01-4	
6.854	6.854 (0.476)	62	81584	2.00000	2.034	50.00- 150.00	100.00
6.882	6.882 (0.478)	64	28755			0.00- 85.77	35.25
22 1,3-Butadiene						CAS #: 106-99-0	
6.910	6.910 (0.480)	54	54761	2.00000	2.125	50.00- 150.00	100.00
6.910	6.910 (0.480)	39	59315			62.75- 162.75	108.32
25 Bromomethane						CAS #: 74-83-9	
8.016	8.016 (0.557)	94	67549	2.00000	2.008	50.00- 150.00	100.00
8.016	8.016 (0.557)	96	61778			41.59- 141.59	91.46
27 Chloroethane						CAS #: 75-00-3	
8.347	8.347 (0.580)	64	28925	2.00000	2.051	50.00- 150.00	100.00
8.347	8.347 (0.580)	49	8422			0.00- 83.06	29.12
8.347	8.347 (0.580)	66	11614			0.00- 86.15	40.15
31 Trichlorofluoromethane/Fr11						CAS #: 75-69-4	
8.956	8.956 (0.622)	101	178522	2.00000	2.098	50.00- 150.00	100.00
8.928	8.928 (0.620)	103	116828			16.75- 116.75	65.44

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS CAL-AMT (PPBV)	AMOUNTS ON-COL (PPBV)	TARGET RANGE	RATIO
38 Ethanol					CAS #: 64-17-5		
9.453	9.453 (0.656)	45	19984	2.00000	2.000	50.00- 150.00	100.00
9.426	9.426 (0.654)	43	6027			0.00- 80.16	30.16
9.453	9.453 (0.656)	46	7749			0.00- 88.78	38.78
42 Freon 113					CAS #: 76-13-1		
10.200	10.200 (0.708)	151	95953	2.00000	2.042	50.00- 150.00	100.00
10.200	10.200 (0.708)	153	60629			10.88- 110.88	63.19
10.200	10.200 (0.708)	101	118187			73.37- 173.37	123.17
43 1,1-Dichloroethene					CAS #: 75-35-4		
10.310	10.310 (0.716)	61	101636	2.00000	2.071	50.00- 150.00	100.00
10.310	10.310 (0.716)	96	59924			20.23- 120.23	58.96
10.310	10.310 (0.716)	98	36886			0.00- 86.02	36.29
45 Acetone					CAS #: 67-64-1		
10.476	10.476 (0.727)	58	28132	2.00000	2.000	50.00- 150.00	100.00
10.476	10.476 (0.727)	43	77574			225.75- 325.75	275.75
46 2-Propanol					CAS #: 67-63-0		
10.670	10.670 (0.741)	45	85029	2.00000	2.000	50.00- 150.00	100.00
10.670	10.670 (0.741)	43	26641			0.00- 81.33	31.33
10.670	10.670 (0.741)	59	2836			0.00- 53.34	3.34
47 Carbon Disulfide					CAS #: 75-15-0		
10.863	10.863 (0.754)	76	190783	2.00000	2.068	50.00- 150.00	100.00
51 3-Chloropropene					CAS #: 107-05-1		
11.140	11.140 (0.773)	76	23388	2.00000	2.000	50.00- 150.00	100.00
11.140	11.140 (0.773)	41	70379			250.92- 350.92	300.92
54 Methylene Chloride					CAS #: 75-09-2		
11.444	11.444 (0.795)	49	73867	2.00000	2.003	50.00- 150.00	100.00
11.444	11.444 (0.795)	84	53508			21.22- 121.22	72.44
11.444	11.444 (0.795)	51	22507			0.00- 81.53	30.47
60 MTBE					CAS #: 1634-04-4		
11.803	11.803 (0.820)	73	124045	2.00000	1.987	50.00- 150.00	100.00
11.831	11.831 (0.821)	57	32126			0.00- 73.58	25.90
11.831	11.831 (0.821)	41	37992			0.00- 79.81	30.63
61 trans-1,2-Dichloroethene					CAS #: 156-60-5		
11.914	11.914 (0.827)	96	61567	2.00000	1.984	50.00- 150.00	100.00
11.914	11.914 (0.827)	61	95052			98.71- 198.71	154.39
11.914	11.914 (0.827)	98	41669			8.80- 108.80	67.68

AMOUNTS

RT	EXP RT (REL RT)	MASS	RESPONSE	CAL-AMT (PPBV)	ON-COL (PPBV)	TARGET RANGE	RATIO
65 Hexane					CAS #: 110-54-3		
12.301	12.301 (0.854)	57	91312	2.00000	2.094	50.00- 150.00	100.00
12.301	12.301 (0.854)	43	60919			21.51- 121.51	66.72
12.301	12.301 (0.854)	86	13027			0.00- 65.23	14.27
69 Vinyl Acetate					CAS #: 108-05-4		
12.799	12.799 (0.889)	86	10974	2.00000	2.000	50.00- 150.00	100.00
12.771	12.771 (0.887)	43	135828			1187.73-1287.73	1237.73
70 1,1-Dichloroethane					CAS #: 75-34-3		
12.799	12.799 (0.889)	63	113478	2.00000	2.113	50.00- 150.00	100.00
12.827	12.827 (0.891)	65	36220			0.00- 83.01	31.92
75 2-Butanone					CAS #: 78-93-3		
13.877	13.877 (0.964)	72	18267	2.00000	1.979	50.00- 150.00	100.00
13.877	13.877 (0.964)	43	102063			477.59- 577.59	558.73
13.877	13.877 (0.964)	57	7363			0.00- 89.35	40.31
76 cis-1,2-Dichloroethene					CAS #: 156-59-2		
13.905	13.905 (0.965)	61	77692	2.00000	2.096	50.00- 150.00	100.00
13.905	13.905 (0.965)	96	56850			31.69- 131.69	73.17
13.932	13.932 (0.967)	98	39327			0.00- 99.25	50.62
80 Tetrahydrofuran					CAS #: 109-99-9		
14.375	14.375 (0.998)	42	54990	2.00000	2.089	50.00- 150.00	100.00
14.375	14.375 (0.998)	71	21394			0.00- 86.97	38.91
14.375	14.375 (0.998)	72	20571			0.00- 85.53	37.41
82 Chloroform					CAS #: 67-66-3		
14.458	14.458 (1.004)	83	121465	2.00000	2.175	50.00- 150.00	100.00
14.458	14.458 (1.004)	85	77359			13.11- 113.11	63.69
83 1,1,1-Trichloroethane					CAS #: 71-55-6		
14.817	14.817 (1.029)	97	121912	2.00000	2.152	50.00- 150.00	100.00
14.817	14.817 (1.029)	99	77448			14.79- 114.79	63.53
85 Cyclohexane					CAS #: 110-82-7		
14.845	14.845 (1.031)	84	58952	2.00000	2.060	50.00- 150.00	100.00
14.817	14.817 (1.029)	56	78258			81.17- 181.17	132.75
14.845	14.845 (1.031)	41	49098			48.02- 148.02	83.28
87 Carbon Tetrachloride					CAS #: 56-23-5		
15.094	15.094 (1.048)	119	111881	2.00000	2.177	50.00- 150.00	100.00
15.094	15.094 (1.048)	117	115224			56.57- 156.57	102.99
91 Benzene					CAS #: 71-43-2		
15.509	15.509 (0.959)	78	146321	2.00000	2.051	50.00- 150.00	100.00

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS CAL-AMT (PPBV)	AMOUNTS ON-COL (PPBV)	TARGET RANGE	RATIO
91 Benzene (continued)							
15.509	15.509 (0.959)	77	32260			0.00- 71.74	22.05
89 2,2,4-Trimethylpentane					CAS #: 540-84-1		
15.398	15.398 (1.069)	57	215514	2.00000	2.142	50.00- 150.00	100.00
15.398	15.398 (1.069)	56	76082			0.00- 85.49	35.30
15.398	15.398 (1.069)	41	64009			0.00- 82.22	29.70
93 1,2-Dichloroethane					CAS #: 107-06-2		
15.619	15.619 (0.966)	62	81570	2.00000	2.063	50.00- 150.00	100.00
15.619	15.619 (0.966)	64	27245			0.00- 84.27	33.40
94 Heptane					CAS #: 142-82-5		
15.702	15.702 (0.971)	71	40924	2.00000	2.157	50.00- 150.00	100.00
15.730	15.730 (0.973)	43	88731			173.66- 273.66	216.82
15.730	15.730 (0.973)	57	45995			67.41- 167.41	112.39
101 Trichloroethene					CAS #: 79-01-6		
16.642	16.642 (1.029)	95	66909	2.00000	2.126	50.00- 150.00	100.00
16.642	16.642 (1.029)	130	64888			48.03- 148.03	96.98
16.642	16.642 (1.029)	97	42720			15.13- 115.13	63.85
104 1,2-Dichloropropane					CAS #: 78-87-5		
17.112	17.112 (1.058)	63	54280	2.00000	2.080	50.00- 150.00	100.00
17.112	17.112 (1.058)	62	41230			25.56- 125.56	75.96
17.112	17.112 (1.058)	41	37018			29.36- 129.36	68.20
106 1,4-Dioxane					CAS #: 123-91-1		
17.250	17.250 (1.067)	88	28811	2.00000	2.000	50.00- 150.00	100.00
17.250	17.250 (1.067)	58	21286			23.88- 123.88	73.88
17.250	17.250 (1.067)	57	7846			0.00- 77.23	27.23
107 Bromodichloromethane					CAS #: 75-27-4		
17.555	17.555 (1.085)	83	111994	2.00000	2.134	50.00- 150.00	100.00
17.555	17.555 (1.085)	85	74286			15.66- 115.66	66.33
110 cis-1,3-Dichloropropene					CAS #: 10061-01-5		
18.329	18.329 (1.133)	75	69716	2.00000	2.112	50.00- 150.00	100.00
18.329	18.329 (1.133)	77	24661			0.00- 83.49	35.37
18.329	18.329 (1.133)	39	42103			12.40- 112.40	60.39
111 4-Methyl-2-pentanone					CAS #: 108-10-1		
18.522	18.522 (1.145)	58	35532	2.00000	2.233	50.00- 150.00	100.00
18.522	18.522 (1.145)	43	97570			236.96- 336.96	274.60
18.522	18.522 (1.145)	85	14552			0.00- 92.50	40.95

AMOUNTS

RT	EXP RT (REL RT)	MASS	RESPONSE	CAL-AMT (PPBV)	ON-COL (PPBV)	TARGET RANGE	RATIO
114 Toluene					CAS #: 108-88-3		
18.882	18.882 (1.168)	91	155602	2.00000	2.089	50.00- 150.00	100.00
18.882	18.882 (1.168)	92	102747			14.17- 114.17	66.03
116 trans-1,3-Dichloropropene					CAS #: 10061-02-6		
19.297	19.297 (0.904)	75	76335	2.00000	2.112	50.00- 150.00	100.00
19.297	19.297 (0.904)	77	26580			0.00- 84.54	34.82
19.297	19.297 (0.904)	39	42907			12.48- 112.48	56.21
117 1,1,2-Trichloroethane					CAS #: 79-00-5		
19.656	19.656 (0.921)	97	60280	2.00000	2.133	50.00- 150.00	100.00
19.656	19.656 (0.921)	99	38629			13.27- 113.27	64.08
19.656	19.656 (0.921)	83	51953			36.29- 136.29	86.19
120 Tetrachloroethene					CAS #: 127-18-4		
19.822	19.822 (0.929)	166	85338	2.00000	2.120	50.00- 150.00	100.00
19.822	19.822 (0.929)	129	59944			21.90- 121.90	70.24
19.822	19.822 (0.929)	131	59586			19.44- 119.44	69.82
121 2-Hexanone					CAS #: 591-78-6		
19.960	19.960 (0.935)	58	46496	2.00000	2.000	50.00- 150.00	100.00
19.960	19.960 (0.935)	43	88457			140.25- 240.25	190.25
19.960	19.960 (0.935)	100	8137			0.00- 67.50	17.50
122 Dibromochloromethane					CAS #: 124-48-1		
20.347	20.347 (0.953)	129	109223	2.00000	2.205	50.00- 150.00	100.00
20.347	20.347 (0.953)	127	86550			28.50- 128.50	79.24
123 1,2-Dibromoethane					CAS #: 106-93-4		
20.624	20.624 (0.966)	107	98952	2.00000	2.212	50.00- 150.00	100.00
20.624	20.624 (0.966)	109	92195			46.61- 146.61	93.17
127 Chlorobenzene					CAS #: 108-90-7		
21.398	21.398 (1.003)	112	141408	2.00000	2.115	50.00- 150.00	100.00
21.398	21.398 (1.003)	114	45440			0.00- 83.74	32.13
21.398	21.398 (1.003)	77	99139			36.14- 136.14	70.11
128 Ethyl Benzene					CAS #: 100-41-4		
21.481	21.481 (1.006)	106	69955	2.00000	2.172	50.00- 150.00	100.00
21.481	21.481 (1.006)	91	212527			264.29- 364.29	303.81
129 m,p-Xylene					CAS #: 108-38-3		
21.674	21.674 (1.016)	106	83417	2.00000	2.084	50.00- 150.00	100.00
21.674	21.674 (1.016)	91	163670			143.19- 243.19	196.21
130 o-Xylene					CAS #: 95-47-6		
22.393	22.393 (1.049)	106	74387	2.00000	2.144	50.00- 150.00	100.00

AMOUNTS

RT	EXP RT (REL RT)	MASS	RESPONSE	CAL-AMT (PPBV)	ON-COL (PPBV)	TARGET RANGE	RATIO
130 o-Xylene (continued)							
22.393	22.393 (1.049)	91	161137			162.29- 262.29	216.62
131 Styrene					CAS #: 100-42-5		
22.421	22.421 (1.051)	104	109628	2.00000	2.272	50.00- 150.00	100.00
22.421	22.421 (1.051)	78	62288			10.04- 110.04	56.82
133 Bromoform					CAS #: 75-25-2		
22.836	22.836 (1.070)	173	97647	2.00000	2.183	50.00- 150.00	100.00
22.836	22.836 (1.070)	171	51493			1.94- 101.94	52.73
134 Cumene					CAS #: 98-82-8		
22.974	22.974 (1.076)	105	195952	2.00000	2.167	50.00- 150.00	100.00
22.974	22.974 (1.076)	120	53445			0.00- 78.52	27.27
22.946	22.946 (1.075)	51	22911			0.00- 62.18	11.69
140 1,1,2,2-Tetrachloroethane					CAS #: 79-34-5		
23.527	23.527 (1.102)	83	132378	2.00000	2.124	50.00- 150.00	100.00
23.527	23.527 (1.102)	85	87270			15.47- 115.47	65.92
142 Propylbenzene					CAS #: 103-65-1		
23.637	23.637 (1.108)	91	266209	2.00000	2.136	50.00- 150.00	100.00
23.637	23.637 (1.108)	120	60173			0.00- 73.35	22.60
23.637	23.637 (1.108)	105	11173			0.00- 54.49	4.20
145 4-Ethyltoluene					CAS #: 622-96-8		
23.831	23.831 (1.117)	105	219557	2.00000	2.168	50.00- 150.00	100.00
23.831	23.831 (1.117)	120	69116			0.00- 81.78	31.48
147 1,3,5-Trimethylbenzene					CAS #: 108-67-8		
23.914	23.914 (1.120)	105	207321	2.00000	2.132	50.00- 150.00	100.00
23.914	23.914 (1.120)	120	98647			0.00- 98.93	47.58
150 1,2,4-Trimethylbenzene					CAS #: 95-63-6		
24.550	24.550 (1.150)	105	171652	2.00000	2.236	50.00- 150.00	100.00
24.550	24.550 (1.150)	120	81863			0.00- 99.04	47.69
155 1,3-Dichlorobenzene					CAS #: 541-73-1		
25.131	25.131 (1.177)	146	136628	2.00000	2.129	50.00- 150.00	100.00
25.131	25.131 (1.177)	148	88189			15.44- 115.44	64.55
25.131	25.131 (1.177)	111	54874			0.00- 90.41	40.16
156 1,4-Dichlorobenzene					CAS #: 106-46-7		
25.269	25.269 (1.184)	146	141744	2.00000	2.069	50.00- 150.00	100.00
25.269	25.269 (1.184)	148	91243			13.67- 113.67	64.37
25.269	25.269 (1.184)	111	51928			0.00- 87.10	36.64

AMOUNTS

RT	EXP RT (REL RT)	MASS	RESPONSE	CAL-AMT (PPBV)	ON-COL (PPBV)	TARGET RANGE	RATIO
159 alpha-Chlorotoluene					CAS #: 100-44-7		
25.490	25.490 (1.194)	91	161676	2.00000	2.206	50.00- 150.00	100.00
25.490	25.490 (1.194)	126	33956			0.00- 72.02	21.00
161 1,2-Dichlorobenzene					CAS #: 95-50-1		
25.932	25.932 (1.215)	146	131381	2.00000	2.080	50.00- 150.00	100.00
25.932	25.932 (1.215)	148	85098			13.48- 113.48	64.77
25.905	25.905 (1.214)	111	51832			0.00- 89.53	39.45
165 1,2,4-Trichlorobenzene					CAS #: 120-82-1		
28.808	28.808 (1.350)	180	65598	2.00000	2.000	50.00- 150.00	100.00
28.808	28.808 (1.350)	182	63637			47.01- 147.01	97.01
166 Hexachlorobutadiene					CAS #: 87-68-3		
29.001	29.001 (1.359)	225	65479	2.00000	2.000	50.00- 150.00	100.00
29.001	29.001 (1.359)	223	41018			12.64- 112.64	62.64
167 Naphthalene					CAS #: 91-20-3		
29.361	29.361 (1.376)	128	119215	2.00000	2.000	50.00- 150.00	100.00
29.361	29.361 (1.376)	127	16389			0.00- 63.75	13.75
29 Isopentane					CAS #: 78-78-4		
8.347	8.347 (0.580)	43	84271	2.00000	2.000	50.00- 150.00	100.00
8.347	8.347 (0.580)	57	54396			14.55- 114.55	64.55
19 Butane					CAS #: 106-97-8		
6.744	6.744 (0.468)	58	13585	2.00000	2.000	50.00- 150.00	100.00
6.744	6.744 (0.468)	43	112427			777.58- 877.58	827.58
102 Methyl Cyclohexane					CAS #: 108-87-2		
16.891	16.891 (1.173)	83	75102	2.00000	2.095	50.00- 150.00	100.00
16.919	16.919 (1.175)	98	34610			0.00- 96.26	46.08
16.891	16.891 (1.173)	55	68355			38.28- 138.28	91.02

Report Date: 18-Oct-2007 15:55

Air Toxics Ltd.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd7.i
Lab File ID: 7101804.d
Lab Smp Id: ICAL
Analysis Type: VOA
Quant Type: ISTD
Operator: cb
Method File: /chem/msd7.i/7-18oct.b/t14qO18a.m
Misc Info: 200ppbv --> 2ppbv

Calibration Date: 18-OCT-2007
Calibration Time: 15:26
Client Smp ID: Level 3
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
81 Bromochloromethan	683549	410129	956969	611723	-10.51
97 1,4-Difluorobenze	2204815	1322889	3086741	2006513	-8.99
126 Chlorobenzene-d5	1812979	1087787	2538171	1607236	-11.35

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
81 Bromochloromethan	14.40	14.07	14.73	14.40	0.00
97 1,4-Difluorobenze	16.17	15.84	16.50	16.17	0.00
126 Chlorobenzene-d5	21.37	21.04	21.70	21.34	-0.13

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /chem/msd7.i/7-18oct.b/7101804.d

Date : 18-OCT-2007 14:09

Client ID: Level 3

Sample Info: 2mL #1576-50

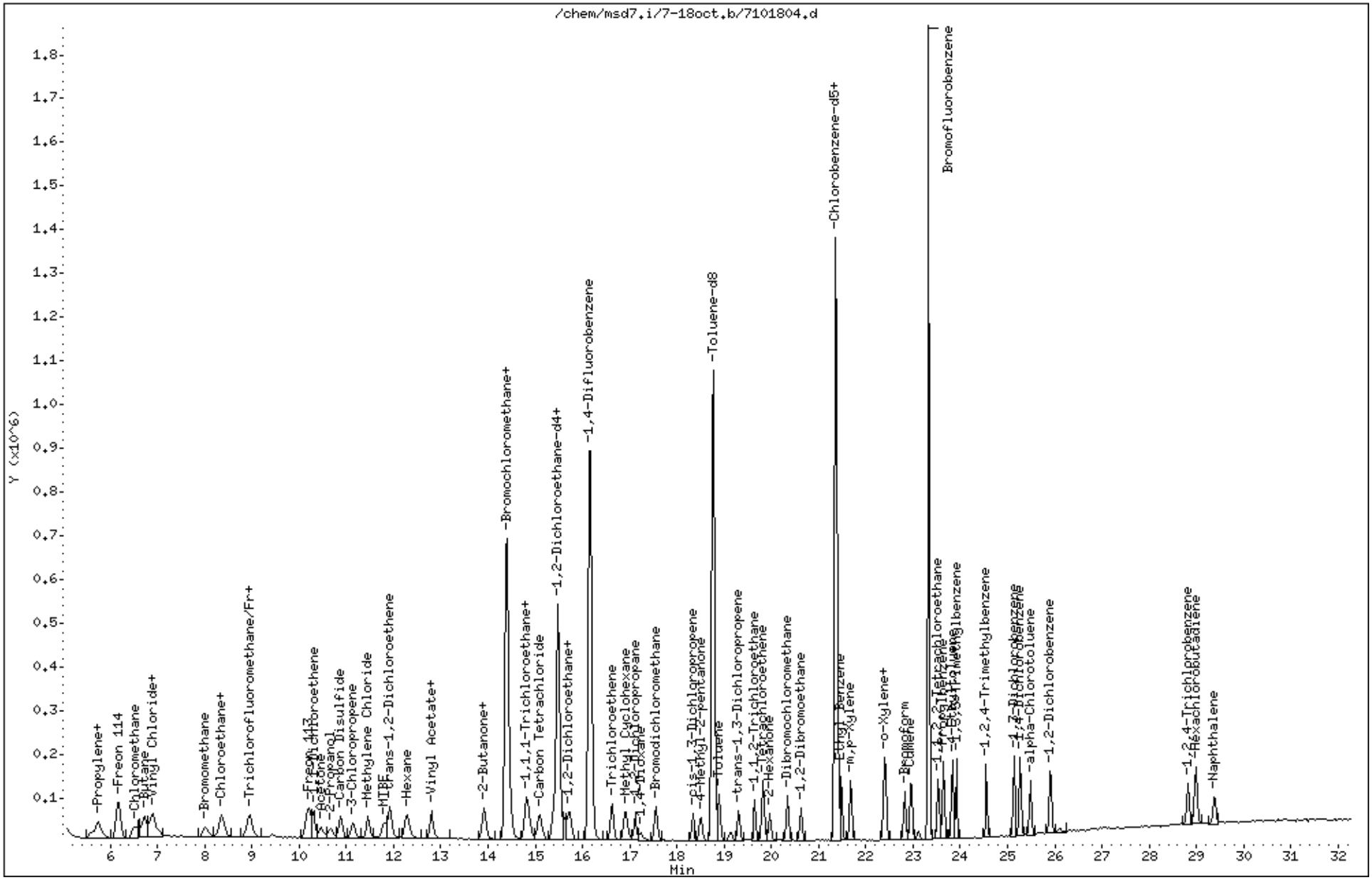
Column phase: RTx-624

Instrument: msd7.i

Operator: cb

Column diameter: 0.53

0204



Air Toxics Ltd.

AMBIENT AIR METHOD TO14

Data file : /chem/msd7.i/7-30oct.b/7103003.d
Lab Smp Id: ICAL Client Smp ID: Level 4
Inj Date : 30-OCT-2007 09:51
Operator : cb Inst ID: msd7.i
Smp Info : 8mL #1487-400
Misc Info : 200ppbv --> 8ppbv 1200ppbv --> 48ppbv MeOH
Comment :
Method : /chem/msd7.i/7-30oct.b/t14qO18b.m
Meth Date : 30-Oct-2007 11:34 cbond Quant Type: ISTD
Cal Date : 30-OCT-2007 09:51 Cal File: 7103003.d
Als bottle: 1 Calibration Sample, Level: 4
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: sp1c.sub
Target Version: 3.50 Sample Matrix: AIR
Processing Host: eeyore

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS CAL-AMT (PPBV)	AMOUNTS ON-COL (PPBV)	TARGET RANGE	RATIO
* 81 Bromochloromethane					CAS #: 74-97-5		
14.388	14.388 (1.000)	130	457095	25.0000		50.00- 150.00	100.00
14.388	14.388 (1.000)	128	356706			26.81- 126.81	78.04
14.388	14.388 (1.000)	49	651489			112.06- 212.06	142.53
* 97 1,4-Difluorobenzene					CAS #: 540-36-3		
16.158	16.158 (1.000)	114	1520028	25.0000		50.00- 150.00	100.00
16.158	16.158 (1.000)	88	231032			0.00- 65.39	15.20
* 126 Chlorobenzene-d5					CAS #: 3114-55-4		
21.356	21.356 (1.000)	117	1109895	25.0000		50.00- 150.00	100.00
21.356	21.356 (1.000)	82	594855			4.45- 104.45	53.60
26 Methanol					CAS #: 67-56-1		
7.560	7.560 (0.525)	31	434609	48.0000	55.679	50.00- 150.00	100.00
7.560	7.560 (0.525)	32	984446			96.19- 196.19	226.51

Report Date: 30-Oct-2007 11:34

Air Toxics Ltd.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd7.i
Lab File ID: 7103003.d
Lab Smp Id: ICAL
Analysis Type: VOA
Quant Type: ISTD
Operator: cb
Method File: /chem/msd7.i/7-30oct.b/t14qO18b.m
Misc Info: 200ppbv --> 8ppbv 1200ppbv --> 48ppbv MeOH

Calibration Date: 30-OCT-2007
Calibration Time: 10:29
Client Smp ID: Level 4
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
81 Bromochloromethan	486199	291719	680679	457095	-5.99
97 1,4-Difluorobenze	1616415	969849	2262981	1520028	-5.96
126 Chlorobenzene-d5	1130394	678236	1582552	1109895	-1.81

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
81 Bromochloromethan	14.42	14.09	14.75	14.39	-0.19
97 1,4-Difluorobenze	16.19	15.86	16.52	16.16	-0.17
126 Chlorobenzene-d5	21.36	21.03	21.69	21.36	0.00

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /chem/msd7.i/7-30oct.b/7103003.d

Date : 30-OCT-2007 09:51

Client ID: Level 4

Sample Info: 8mL #1487-400

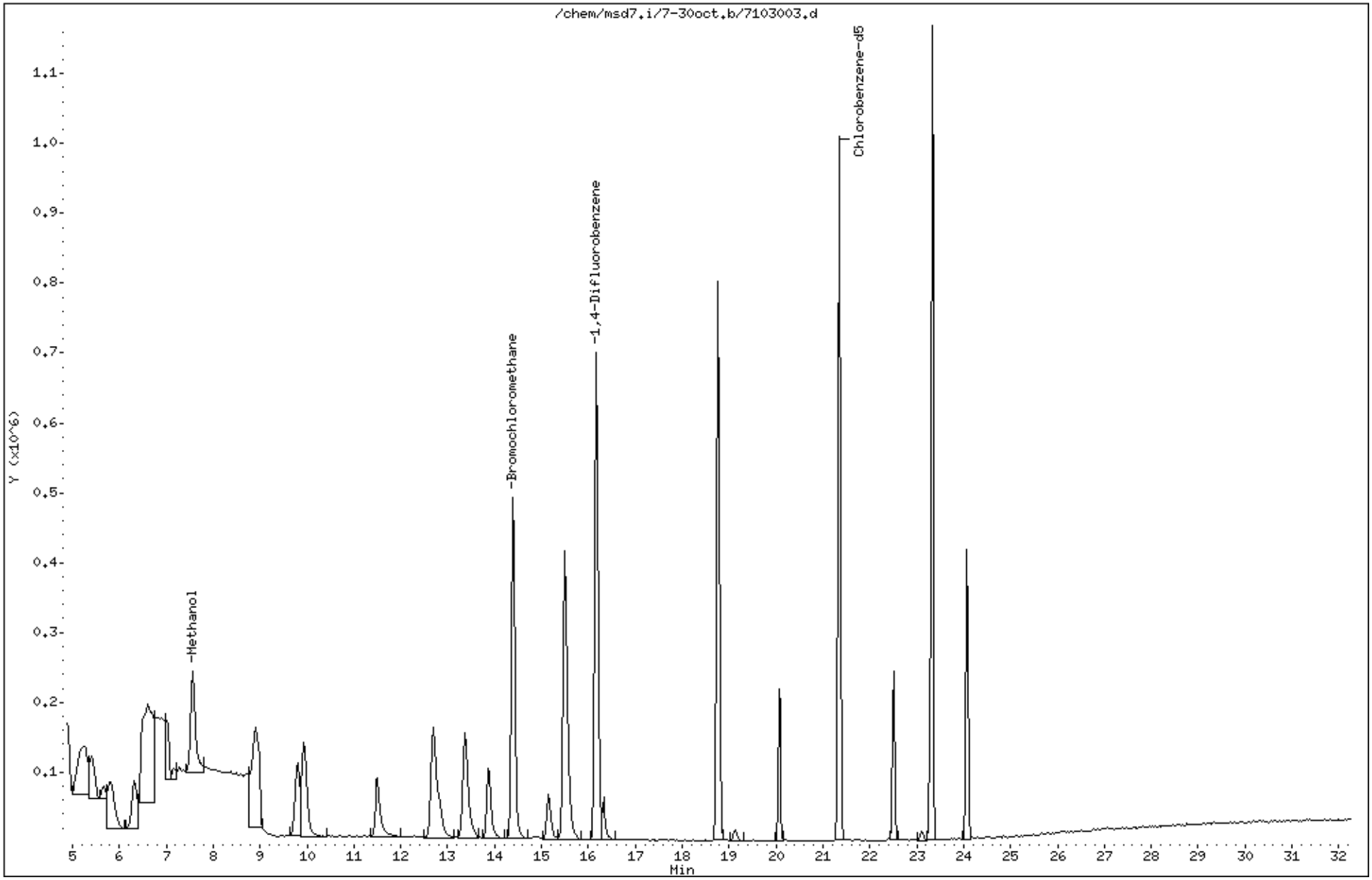
Column phase: RTx-624

Instrument: msd7.i

Operator: cb

Column diameter: 0.53

0207



Air Toxics Ltd.

AMBIENT AIR METHOD TO14

Data file : /chem/msd7.i/7-18oct.b/7101805.d
Lab Smp Id: ICAL Client Smp ID: Level 4
Inj Date : 18-OCT-2007 14:47
Operator : cb Inst ID: msd7.i
Smp Info : 25mL #1576-50
Misc Info : 200ppbv --> 25ppbv
Comment :
Method : /chem/msd7.i/7-18oct.b/t14qO18a.m
Meth Date : 18-Oct-2007 15:55 cbond Quant Type: ISTD
Cal Date : 18-OCT-2007 14:47 Cal File: 7101805.d
Als bottle: 1 Calibration Sample, Level: 4
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: AT04mdl+ENSR.sub
Target Version: 3.50 Sample Matrix: AIR
Processing Host: eeyore

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS CAL-AMT (PPBV)	AMOUNTS ON-COL (PPBV)	TARGET RANGE	RATIO
* 81 Bromochloromethane					CAS #: 74-97-5		
14.403	14.403 (1.000)	130	648629	25.0000		50.00- 150.00	100.00
14.403	14.403 (1.000)	128	493340			26.59- 126.59	76.06
14.403	14.403 (1.000)	49	1078175			100.68- 200.68	166.22
* 97 1,4-Difluorobenzene					CAS #: 540-36-3		
16.172	16.172 (1.000)	114	2091071	25.0000		50.00- 150.00	100.00
16.172	16.172 (1.000)	88	329502			0.00- 65.58	15.76
* 126 Chlorobenzene-d5					CAS #: 3114-55-4		
21.343	21.343 (1.000)	117	1761271	25.0000		50.00- 150.00	100.00
21.343	21.343 (1.000)	82	970978			5.27- 105.27	55.13
$ 90 1,2-Dichloroethane-d4					CAS #: 17060-07-0		
15.481	15.481 (1.075)	65	874142	25.0000	24.986	50.00- 150.00	100.00
15.481	15.481 (1.075)	67	456837			0.53- 100.53	52.26
$ 113 Toluene-d8					CAS #: 2037-26-5		
18.771	18.771 (1.161)	98	1876890	25.0000	25.785	50.00- 150.00	100.00
18.771	18.771 (1.161)	70	216509			0.00- 61.42	11.54

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS CAL-AMT (PPBV)	AMOUNTS ON-COL (PPBV)	TARGET RANGE	RATIO
$ 113 Toluene-d8 (continued)							
18.771	18.771 (1.161)	100	1297632			18.77- 118.77	69.14
$ 137 Bromofluorobenzene						CAS #: 460-00-4	
23.333	23.333 (1.093)	174	1070391	25.0000	25.306	50.00- 150.00	100.00
23.333	23.333 (1.093)	95	1338336			76.99- 176.99	125.03
23.333	23.333 (1.093)	176	1032203			46.79- 146.79	96.43
11 Propylene						CAS #: 115-07-1	
5.610	5.610 (0.390)	41	672994	25.0000	23.988	50.00- 150.00	100.00
5.610	5.610 (0.390)	42	475290			23.27- 123.27	70.62
5.610	5.610 (0.390)	39	505709			25.72- 125.72	75.14
12 Dichlorodifluoromethane/Fr12						CAS #: 75-71-8	
5.748	5.748 (0.399)	85	2552602	25.0000	24.701	50.00- 150.00	100.00
5.748	5.748 (0.399)	87	837020			0.00- 83.79	32.79
16 Freon 114						CAS #: 76-14-2	
6.163	6.163 (0.428)	135	1820434	25.0000	24.747	50.00- 150.00	100.00
6.191	6.191 (0.430)	137	576965			0.00- 82.27	31.69
18 Chloromethane						CAS #: 74-87-3	
6.467	6.467 (0.449)	50	827148	25.0000	24.210	50.00- 150.00	100.00
6.495	6.495 (0.451)	52	276375			0.00- 85.89	33.41
20 Vinyl Chloride						CAS #: 75-01-4	
6.854	6.854 (0.476)	62	1056924	25.0000	24.901	50.00- 150.00	100.00
6.854	6.854 (0.476)	64	331879			0.00- 84.32	31.40
22 1,3-Butadiene						CAS #: 106-99-0	
6.910	6.910 (0.480)	54	763518	25.0000	26.889	50.00- 150.00	100.00
6.910	6.910 (0.480)	39	775774			59.04- 159.04	101.61
25 Bromomethane						CAS #: 74-83-9	
8.016	8.016 (0.557)	94	898127	25.0000	25.120	50.00- 150.00	100.00
8.016	8.016 (0.557)	96	847084			42.50- 142.50	94.32
27 Chloroethane						CAS #: 75-00-3	
8.347	8.347 (0.580)	64	459746	25.0000	28.558	50.00- 150.00	100.00
8.347	8.347 (0.580)	49	124278			0.00- 81.05	27.03
8.347	8.347 (0.580)	66	146980			0.00- 84.75	31.97
31 Trichlorofluoromethane/Fr11						CAS #: 75-69-4	
8.956	8.956 (0.622)	101	2398500	25.0000	26.034	50.00- 150.00	100.00
8.956	8.956 (0.622)	103	1563188			16.23- 116.23	65.17

AMOUNTS

RT	EXP RT (REL RT)	MASS	RESPONSE	CAL-AMT (PPBV)	ON-COL (PPBV)	TARGET RANGE	RATIO
38 Ethanol					CAS #: 64-17-5		
9.453	9.453 (0.656)	45	302916	25.0000	26.675	50.00- 150.00	100.00
9.453	9.453 (0.656)	43	64833			0.00- 75.78	21.40
9.453	9.453 (0.656)	46	115857			0.00- 88.51	38.25
42 Freon 113					CAS #: 76-13-1		
10.200	10.200 (0.708)	151	1351088	25.0000	26.376	50.00- 150.00	100.00
10.200	10.200 (0.708)	153	864179			11.90- 111.90	63.96
10.200	10.200 (0.708)	101	1679257			73.68- 173.68	124.29
43 1,1-Dichloroethene					CAS #: 75-35-4		
10.310	10.310 (0.716)	61	1425325	25.0000	26.543	50.00- 150.00	100.00
10.338	10.338 (0.718)	96	884308			17.50- 117.50	62.04
10.338	10.338 (0.718)	98	559311			0.00- 87.09	39.24
45 Acetone					CAS #: 67-64-1		
10.476	10.476 (0.727)	58	427023	25.0000	26.693	50.00- 150.00	100.00
10.476	10.476 (0.727)	43	1298978			239.97- 339.97	304.19
46 2-Propanol					CAS #: 67-63-0		
10.670	10.670 (0.741)	45	1487551	25.0000	28.448	50.00- 150.00	100.00
10.670	10.670 (0.741)	43	360829			0.00- 77.79	24.26
10.670	10.670 (0.741)	59	57359			0.00- 53.60	3.86
47 Carbon Disulfide					CAS #: 75-15-0		
10.891	10.891 (0.756)	76	2700196	25.0000	26.675	50.00- 150.00	100.00
51 3-Chloropropene					CAS #: 107-05-1		
11.168	11.168 (0.775)	76	434925	25.0000	29.193	50.00- 150.00	100.00
11.168	11.168 (0.775)	41	1150405			232.71- 332.71	264.51
54 Methylene Chloride					CAS #: 75-09-2		
11.472	11.472 (0.796)	49	1008912	25.0000	25.532	50.00- 150.00	100.00
11.472	11.472 (0.796)	84	739684			21.92- 121.92	73.32
11.472	11.472 (0.796)	51	306196			0.00- 81.14	30.35
60 MTBE					CAS #: 1634-04-4		
11.831	11.831 (0.821)	73	1771052	25.0000	26.144	50.00- 150.00	100.00
11.831	11.831 (0.821)	57	420256			0.00- 73.63	23.73
11.831	11.831 (0.821)	41	443279			0.00- 78.21	25.03
61 trans-1,2-Dichloroethene					CAS #: 156-60-5		
11.942	11.942 (0.829)	96	998196	25.0000	28.326	50.00- 150.00	100.00
11.942	11.942 (0.829)	61	1447625			97.48- 197.48	145.02
11.942	11.942 (0.829)	98	642993			10.67- 110.67	64.42

AMOUNTS

RT	EXP RT (REL RT)	MASS	RESPONSE	CAL-AMT (PPBV)	ON-COL (PPBV)	TARGET RANGE	RATIO
65 Hexane					CAS #: 110-54-3		
12.301	12.301 (0.854)	57	1372419	25.0000	27.942	50.00- 150.00	100.00
12.301	12.301 (0.854)	43	911424			19.81- 119.81	66.41
12.301	12.301 (0.854)	86	203564			0.00- 65.10	14.83
69 Vinyl Acetate					CAS #: 108-05-4		
12.799	12.799 (0.889)	86	204632	25.0000	29.226	50.00- 150.00	100.00
12.799	12.799 (0.889)	43	2462047			1170.44-1270.44	1203.16
70 1,1-Dichloroethane					CAS #: 75-34-3		
12.827	12.827 (0.891)	63	1728636	25.0000	28.337	50.00- 150.00	100.00
12.827	12.827 (0.891)	65	537140			0.00- 82.37	31.07
75 2-Butanone					CAS #: 78-93-3		
13.905	13.905 (0.965)	72	371338	25.0000	32.359	50.00- 150.00	100.00
13.877	13.877 (0.964)	43	1736763			457.63- 557.63	467.70
13.905	13.905 (0.965)	57	128669			0.00- 87.78	34.65
76 cis-1,2-Dichloroethene					CAS #: 156-59-2		
13.933	13.933 (0.967)	61	1209222	25.0000	28.569	50.00- 150.00	100.00
13.933	13.933 (0.967)	96	897782			29.21- 129.21	74.24
13.933	13.933 (0.967)	98	571260			0.00- 98.58	47.24
80 Tetrahydrofuran					CAS #: 109-99-9		
14.403	14.403 (1.000)	42	962709	25.0000	30.617	50.00- 150.00	100.00
14.403	14.403 (1.000)	71	343205			0.00- 86.53	35.65
14.403	14.403 (1.000)	72	380604			0.00- 86.87	39.53
82 Chloroform					CAS #: 67-66-3		
14.458	14.458 (1.004)	83	1763467	25.0000	28.425	50.00- 150.00	100.00
14.458	14.458 (1.004)	85	1152392			13.67- 113.67	65.35
83 1,1,1-Trichloroethane					CAS #: 71-55-6		
14.845	14.845 (1.031)	97	1771233	25.0000	27.820	50.00- 150.00	100.00
14.845	14.845 (1.031)	99	1152307			14.88- 114.88	65.06
85 Cyclohexane					CAS #: 110-82-7		
14.845	14.845 (1.031)	84	1002003	25.0000	29.830	50.00- 150.00	100.00
14.845	14.845 (1.031)	56	1263499			79.48- 179.48	126.10
14.845	14.845 (1.031)	41	737802			39.89- 139.89	73.63
87 Carbon Tetrachloride					CAS #: 56-23-5		
15.094	15.094 (1.048)	119	1724198	25.0000	29.064	50.00- 150.00	100.00
15.094	15.094 (1.048)	117	1781371			55.49- 155.49	103.32
91 Benzene					CAS #: 71-43-2		
15.509	15.509 (0.959)	78	2269732	25.0000	28.929	50.00- 150.00	100.00

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS CAL-AMT (PPBV)	AMOUNTS ON-COL (PPBV)	TARGET RANGE	RATIO
91 Benzene (continued)							
15.509	15.509 (0.959)	77	498689			0.00- 71.80	21.97
89 2,2,4-Trimethylpentane						CAS #: 540-84-1	
15.426	15.426 (1.071)	57	3457104	25.0000	29.494	50.00- 150.00	100.00
15.426	15.426 (1.071)	56	1170008			0.00- 84.94	33.84
15.426	15.426 (1.071)	41	977669			0.00- 80.91	28.28
93 1,2-Dichloroethane						CAS #: 107-06-2	
15.619	15.619 (0.966)	62	1227957	25.0000	28.008	50.00- 150.00	100.00
15.619	15.619 (0.966)	64	393216			0.00- 83.52	32.02
94 Heptane						CAS #: 142-82-5	
15.730	15.730 (0.973)	71	703132	25.0000	31.170	50.00- 150.00	100.00
15.730	15.730 (0.973)	43	1425110			166.67- 266.67	202.68
15.730	15.730 (0.973)	57	737513			63.24- 163.24	104.89
101 Trichloroethene						CAS #: 79-01-6	
16.642	16.642 (1.029)	95	1016424	25.0000	28.695	50.00- 150.00	100.00
16.642	16.642 (1.029)	130	1015319			48.65- 148.65	99.89
16.642	16.642 (1.029)	97	658135			15.00- 115.00	64.75
104 1,2-Dichloropropane						CAS #: 78-87-5	
17.112	17.112 (1.058)	63	860882	25.0000	29.073	50.00- 150.00	100.00
17.112	17.112 (1.058)	62	627970			24.69- 124.69	72.94
17.112	17.112 (1.058)	41	556404			24.45- 124.45	64.63
106 1,4-Dioxane						CAS #: 123-91-1	
17.250	17.250 (1.067)	88	544742	25.0000	29.604	50.00- 150.00	100.00
17.250	17.250 (1.067)	58	388755			22.62- 122.62	71.36
17.250	17.250 (1.067)	57	130892			0.00- 75.63	24.03
107 Bromodichloromethane						CAS #: 75-27-4	
17.555	17.555 (1.085)	83	1825381	25.0000	30.018	50.00- 150.00	100.00
17.555	17.555 (1.085)	85	1169739			15.13- 115.13	64.08
110 cis-1,3-Dichloropropene						CAS #: 10061-01-5	
18.329	18.329 (1.133)	75	1259763	25.0000	31.709	50.00- 150.00	100.00
18.329	18.329 (1.133)	77	405185			0.00- 83.05	32.16
18.329	18.329 (1.133)	39	734636			11.04- 111.04	58.32
111 4-Methyl-2-pentanone						CAS #: 108-10-1	
18.522	18.522 (1.145)	58	699008	25.0000	34.306	50.00- 150.00	100.00
18.522	18.522 (1.145)	43	1880425			230.98- 330.98	269.01
18.522	18.522 (1.145)	85	276238			0.00- 91.51	39.52

AMOUNTS

RT	EXP RT (REL RT)	MASS	RESPONSE	CAL-AMT (PPBV)	ON-COL (PPBV)	TARGET RANGE	RATIO
114 Toluene					CAS #: 108-88-3		
18.882	18.882 (1.168)	91	2517803	25.0000	29.511	50.00- 150.00	100.00
18.882	18.882 (1.168)	92	1570697			13.57- 113.57	62.38
116 trans-1,3-Dichloropropene					CAS #: 10061-02-6		
19.324	19.324 (0.905)	75	1365604	25.0000	30.614	50.00- 150.00	100.00
19.324	19.324 (0.905)	77	431910			0.00- 83.57	31.63
19.297	19.297 (0.904)	39	741173			9.74- 109.74	54.27
117 1,1,2-Trichloroethane					CAS #: 79-00-5		
19.656	19.656 (0.921)	97	995281	25.0000	29.343	50.00- 150.00	100.00
19.656	19.656 (0.921)	99	611788			12.67- 112.67	61.47
19.656	19.656 (0.921)	83	830549			35.35- 135.35	83.45
120 Tetrachloroethene					CAS #: 127-18-4		
19.822	19.822 (0.929)	166	1326702	25.0000	28.172	50.00- 150.00	100.00
19.822	19.822 (0.929)	129	951582			21.84- 121.84	71.73
19.822	19.822 (0.929)	131	918961			19.38- 119.38	69.27
121 2-Hexanone					CAS #: 591-78-6		
19.960	19.960 (0.935)	58	976339	25.0000	30.260	50.00- 150.00	100.00
19.960	19.960 (0.935)	43	1898544			142.35- 242.35	194.46
19.960	19.960 (0.935)	100	167728			0.00- 67.34	17.18
122 Dibromochloromethane					CAS #: 124-48-1		
20.347	20.347 (0.953)	129	1889826	25.0000	30.784	50.00- 150.00	100.00
20.347	20.347 (0.953)	127	1451142			27.93- 127.93	76.79
123 1,2-Dibromoethane					CAS #: 106-93-4		
20.624	20.624 (0.966)	107	1691649	25.0000	30.624	50.00- 150.00	100.00
20.624	20.624 (0.966)	109	1595981			45.86- 145.86	94.34
127 Chlorobenzene					CAS #: 108-90-7		
21.398	21.398 (1.003)	112	2151202	25.0000	27.748	50.00- 150.00	100.00
21.398	21.398 (1.003)	114	697219			0.00- 83.29	32.41
21.398	21.398 (1.003)	77	1306142			27.66- 127.66	60.72
128 Ethyl Benzene					CAS #: 100-41-4		
21.481	21.481 (1.006)	106	1127919	25.0000	29.242	50.00- 150.00	100.00
21.481	21.481 (1.006)	91	3464186			261.90- 361.90	307.13
129 m,p-Xylene					CAS #: 108-38-3		
21.674	21.674 (1.016)	106	1393326	25.0000	29.141	50.00- 150.00	100.00
21.674	21.674 (1.016)	91	2764534			144.93- 244.93	198.41
130 o-Xylene					CAS #: 95-47-6		
22.393	22.393 (1.049)	106	1236660	25.0000	29.557	50.00- 150.00	100.00

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                                          AMOUNTS
                                       CAL-AMT   ON-COL
   RT   EXP RT (REL RT)  MASS  RESPONSE ( PPBV)  ( PPBV)   TARGET RANGE    RATIO
   ==   ====== ========  ====  ======== =======  =======   ============    =====

  130 o-Xylene (continued)
 22.393  22.393 (1.049)    91   2558031                  160.47- 260.47   206.85
--------------------------------------------------------------------------------
  131 Styrene                                       CAS #: 100-42-5
 22.421  22.421 (1.051)   104   2077088 25.0000   34.374  50.00- 150.00   100.00
 22.421  22.421 (1.051)    78   1061823                    7.81- 107.81    51.12
--------------------------------------------------------------------------------
  133 Bromoform                                     CAS #: 75-25-2
 22.836  22.836 (1.070)   173   1688739 25.0000   30.596  50.00- 150.00   100.00
 22.836  22.836 (1.070)   171    867217                    1.74- 101.74    51.35
--------------------------------------------------------------------------------
  134 Cumene                                        CAS #: 98-82-8
 22.974  22.974 (1.076)   105   3202644 25.0000   30.112  50.00- 150.00   100.00
 22.974  22.974 (1.076)   120    877707                    0.00-  78.24    27.41
 22.946  22.946 (1.075)    51    336852                    0.00-  61.76    10.52
--------------------------------------------------------------------------------
  140 1,1,2,2-Tetrachloroethane                     CAS #: 79-34-5
 23.527  23.527 (1.102)    83   1987656 25.0000   27.596  50.00- 150.00   100.00
 23.527  23.527 (1.102)    85   1274611                   15.02- 115.02    64.13
--------------------------------------------------------------------------------
  142 Propylbenzene                                 CAS #: 103-65-1
 23.637  23.637 (1.108)    91   4176023 25.0000   28.463  50.00- 150.00   100.00
 23.637  23.637 (1.108)   120    934951                    0.00-  73.03    22.39
 23.637  23.637 (1.108)   105    154058                    0.00-  54.22     3.69
--------------------------------------------------------------------------------
  145 4-Ethyltoluene                                CAS #: 622-96-8
 23.831  23.831 (1.117)   105   3761987 25.0000   30.300  50.00- 150.00   100.00
 23.831  23.831 (1.117)   120   1081840                    0.00-  80.77    28.76
--------------------------------------------------------------------------------
  147 1,3,5-Trimethylbenzene                        CAS #: 108-67-8
 23.914  23.914 (1.120)   105   2748553 25.0000   25.521  50.00- 150.00   100.00
 23.914  23.914 (1.120)   120   1560080                    1.54- 101.54    56.76
--------------------------------------------------------------------------------
  150 1,2,4-Trimethylbenzene                        CAS #: 95-63-6
 24.550  24.550 (1.150)   105   2622270 25.0000   28.800  50.00- 150.00   100.00
 24.550  24.550 (1.150)   120   1282211                    0.00-  98.99    48.90
--------------------------------------------------------------------------------
  155 1,3-Dichlorobenzene                           CAS #: 541-73-1
 25.131  25.131 (1.177)   146   1977163 25.0000   26.992  50.00- 150.00   100.00
 25.131  25.131 (1.177)   148   1259144                   14.85- 114.85    63.68
 25.131  25.131 (1.177)   111    766458                    0.00-  89.86    38.77
--------------------------------------------------------------------------------
  156 1,4-Dichlorobenzene                           CAS #: 106-46-7
 25.269  25.269 (1.184)   146   2033388 25.0000   26.349  50.00- 150.00   100.00
 25.269  25.269 (1.184)   148   1297512                   13.71- 113.71    63.81
 25.269  25.269 (1.184)   111    752714                    0.00-  87.07    37.02
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AMOUNTS

RT	EXP RT (REL RT)	MASS	RESPONSE	CAL-AMT (PPBV)	ON-COL (PPBV)	TARGET RANGE	RATIO
159 alpha-Chlorotoluene					CAS #: 100-44-7		
25.490	25.490 (1.194)	91	2693301	25.0000	30.105	50.00- 150.00	100.00
25.490	25.490 (1.194)	126	562707			0.00- 71.64	20.89
161 1,2-Dichlorobenzene					CAS #: 95-50-1		
25.932	25.932 (1.215)	146	1756987	25.0000	25.257	50.00- 150.00	100.00
25.932	25.932 (1.215)	148	1110267			13.39- 113.39	63.19
25.905	25.905 (1.214)	111	707034			0.00- 89.77	40.24
165 1,2,4-Trichlorobenzene					CAS #: 120-82-1		
28.808	28.808 (1.350)	180	489632	25.0000	17.636	50.00- 150.00	100.00
28.808	28.808 (1.350)	182	471701			46.67- 146.67	96.34
166 Hexachlorobutadiene					CAS #: 87-68-3		
29.001	29.001 (1.359)	225	471653	25.0000	17.231	50.00- 150.00	100.00
29.001	29.001 (1.359)	223	296659			12.77- 112.77	62.90
167 Naphthalene					CAS #: 91-20-3		
29.361	29.361 (1.376)	128	811801	25.0000	16.602	50.00- 150.00	100.00
29.361	29.361 (1.376)	127	99474			0.00- 63.00	12.25
29 Isopentane					CAS #: 78-78-4		
8.375	8.375 (0.581)	43	1092752	25.0000	24.726	50.00- 150.00	100.00
8.375	8.375 (0.581)	57	731967			15.77- 115.77	66.98
19 Butane					CAS #: 106-97-8		
6.744	6.744 (0.468)	58	177191	25.0000	24.799	50.00- 150.00	100.00
6.744	6.744 (0.468)	43	1417940			763.91- 863.91	800.23
102 Methyl Cyclohexane					CAS #: 108-87-2		
16.919	16.919 (1.175)	83	1222177	25.0000	29.354	50.00- 150.00	100.00
16.919	16.919 (1.175)	98	569027			0.00- 96.36	46.56
16.919	16.919 (1.175)	55	1091840			38.63- 138.63	89.34

Report Date: 18-Oct-2007 15:55

Air Toxics Ltd.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd7.i
Lab File ID: 7101805.d
Lab Smp Id: ICAL
Analysis Type: VOA
Quant Type: ISTD
Operator: cb
Method File: /chem/msd7.i/7-18oct.b/t14qO18a.m
Misc Info: 200ppbv --> 25ppbv

Calibration Date: 18-OCT-2007
Calibration Time: 15:26
Client Smp ID: Level 4
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
81 Bromochloromethan	683549	410129	956969	648629	-5.11
97 1,4-Difluorobenze	2204815	1322889	3086741	2091071	-5.16
126 Chlorobenzene-d5	1812979	1087787	2538171	1761271	-2.85

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
81 Bromochloromethan	14.40	14.07	14.73	14.40	0.00
97 1,4-Difluorobenze	16.17	15.84	16.50	16.17	0.00
126 Chlorobenzene-d5	21.37	21.04	21.70	21.34	-0.13

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /chem/msd7.i/7-18oct.b/7101805.d

Date : 18-OCT-2007 14:47

Client ID: Level 4

Sample Info: 25mL #1576-50

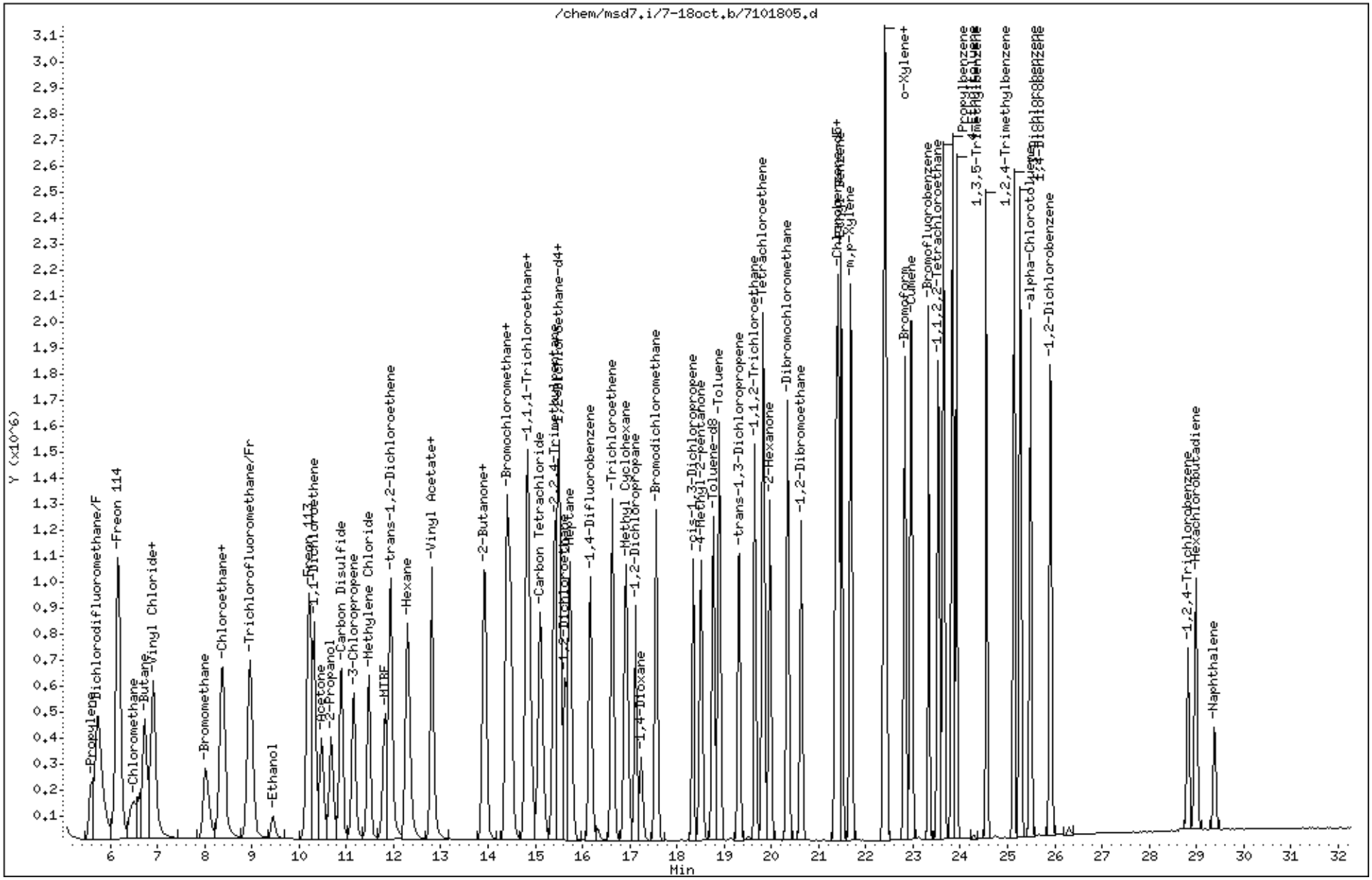
Column phase: RTx-624

Instrument: msd7.i

Operator: cb

Column diameter: 0.53

0217



Air Toxics Ltd.

AMBIENT AIR METHOD TO14

Data file : /chem/msd7.i/7-30oct.b/7103004.d
Lab Smp Id: ICAL Client Smp ID: Level 5
Inj Date : 30-OCT-2007 10:29
Operator : cb Inst ID: msd7.i
Smp Info : 50mL #1487-400
Misc Info : 200ppbv --> 50ppbv 1200ppbv --> 300ppbv MeOH
Comment :
Method : /chem/msd7.i/7-30oct.b/t14qO18b.m
Meth Date : 30-Oct-2007 11:34 cbond Quant Type: ISTD
Cal Date : 30-OCT-2007 10:29 Cal File: 7103004.d
Als bottle: 1 Calibration Sample, Level: 5
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: sp1c.sub
Target Version: 3.50 Sample Matrix: AIR
Processing Host: eeyore

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS CAL-AMT (PPBV)	AMOUNTS ON-COL (PPBV)	TARGET RANGE	RATIO
* 81 Bromochloromethane					CAS #: 74-97-5		
14.416	14.416 (1.000)	130	486199	25.0000		80.00- 120.00	100.00
14.416	14.416 (1.000)	128	373087			26.74- 126.74	76.74
14.416	14.416 (1.000)	49	687796			91.46- 191.46	141.46
* 97 1,4-Difluorobenzene					CAS #: 540-36-3		
16.186	16.186 (1.000)	114	1616415	25.0000		80.00- 120.00	100.00
16.158	16.158 (1.000)	88	244505			0.00- 65.13	15.13
* 126 Chlorobenzene-d5					CAS #: 3114-55-4		
21.356	21.356 (1.000)	117	1130394	25.0000		80.00- 120.00	100.00
21.356	21.356 (1.000)	82	593319			4.45- 104.45	52.49
26 Methanol					CAS #: 67-56-1		
7.588	7.588 (0.526)	31	2404086	300.000	289.56	80.00- 120.00	100.00
7.588	7.588 (0.526)	32	1583298			15.86- 115.86	65.86

Report Date: 30-Oct-2007 11:34

Air Toxics Ltd.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd7.i
Lab File ID: 7103004.d
Lab Smp Id: ICAL
Analysis Type: VOA
Quant Type: ISTD
Operator: cb
Method File: /chem/msd7.i/7-30oct.b/t14qO18b.m
Misc Info: 200ppbv --> 50ppbv 1200ppbv --> 300ppbv MeOH

Calibration Date: 30-OCT-2007
Calibration Time: 10:29
Client Smp ID: Level 5
Level: LOW
Sample Type: AIR

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
81 Bromochloromethan	486199	291719	680679	486199	0.00
97 1,4-Difluorobenze	1616415	969849	2262981	1616415	0.00
126 Chlorobenzene-d5	1130394	678236	1582552	1130394	0.00

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
81 Bromochloromethan	14.42	14.09	14.75	14.42	0.00
97 1,4-Difluorobenze	16.19	15.86	16.52	16.19	0.00
126 Chlorobenzene-d5	21.36	21.03	21.69	21.36	0.00

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /chem/msd7.i/7-30oct.b/7103004.d

0220

Date : 30-OCT-2007 10:29

Client ID: Level 5

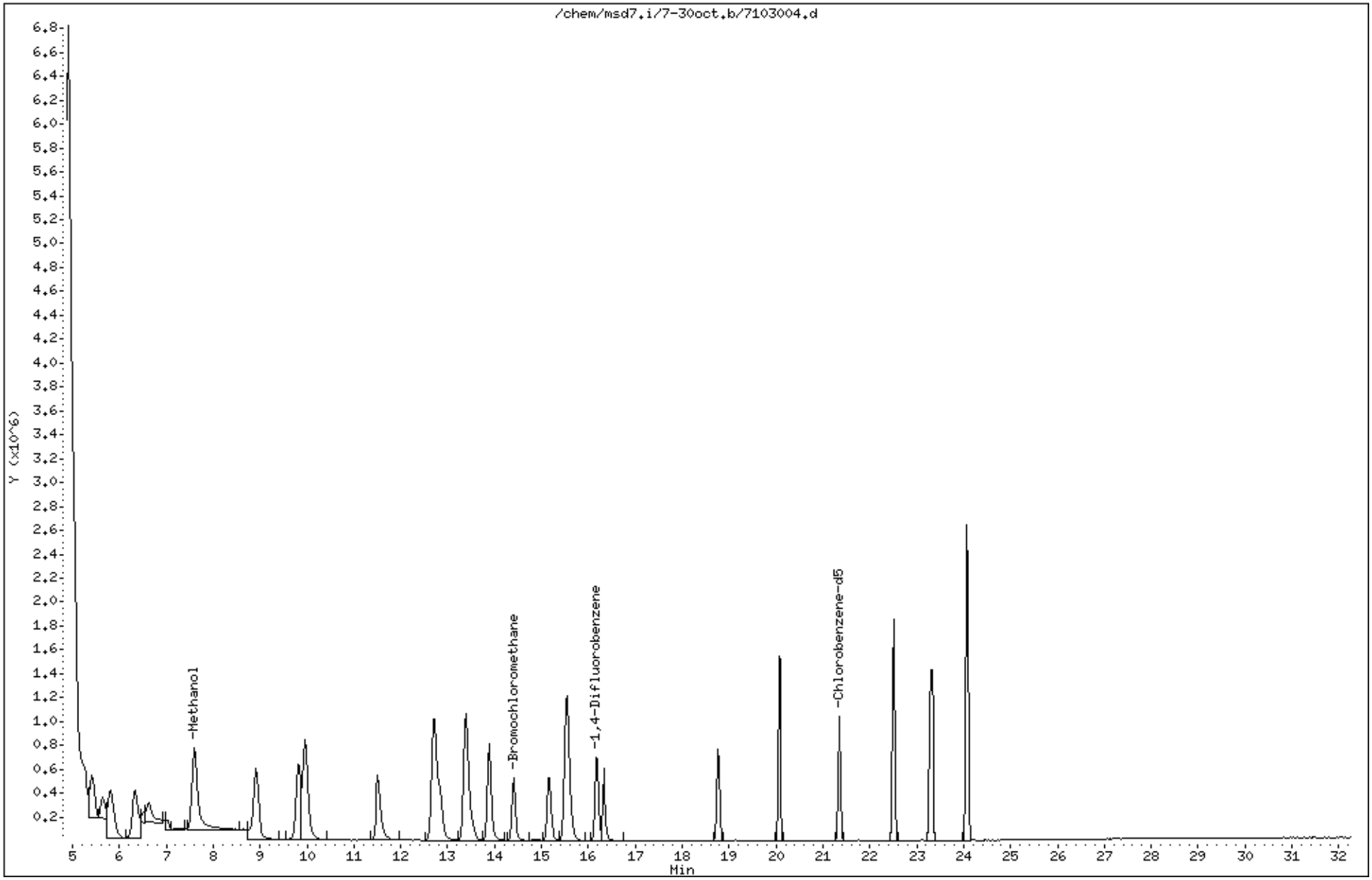
Instrument: msd7.i

Sample Info: 50mL #1487-400

Operator: cb

Column phase: RTx-624

Column diameter: 0.53



Air Toxics Ltd.

AMBIENT AIR METHOD TO14

Data file : /chem/msd7.i/7-22oct.b/7102206.d
Lab Smp Id: ICAL Client Smp ID: Level 5
Inj Date : 22-OCT-2007 11:44
Operator : cb Inst ID: msd7.i
Smp Info : 50mL #1487-370
Misc Info : 200ppbv --> 50ppbv
Comment :
Method : /chem/msd7.i/7-22oct.b/t14qO18b.m
Meth Date : 22-Oct-2007 13:49 sscott Quant Type: ISTD
Cal Date : 22-OCT-2007 11:44 Cal File: 7102206.d
Als bottle: 1 Calibration Sample, Level: 5
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: sp16b.sub
Target Version: 3.50 Sample Matrix: AIR
Processing Host: eeyore

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS CAL-AMT (PPBV)	AMOUNTS ON-COL (PPBV)	TARGET RANGE	RATIO
* 81 Bromochloromethane					CAS #: 74-97-5		
14.402	14.402 (1.000)	130	653745	25.0000		80.00- 120.00	100.00
14.402	14.402 (1.000)	128	501927			26.78- 126.78	76.78
14.402	14.402 (1.000)	49	962603			97.24- 197.24	147.24
* 97 1,4-Difluorobenzene					CAS #: 540-36-3		
16.172	16.172 (1.000)	114	2055535	25.0000		80.00- 120.00	100.00
16.172	16.172 (1.000)	88	321836			0.00- 65.66	15.66
* 126 Chlorobenzene-d5					CAS #: 3114-55-4		
21.342	21.342 (1.000)	117	1681036	25.0000		80.00- 120.00	100.00
21.342	21.342 (1.000)	82	930753			5.19- 105.19	55.37
55 Cyclopentene					CAS #: 142-29-0		
11.250	11.250 (0.781)	67	6338028	50.0000	52.035	80.00- 120.00	100.00
11.250	11.250 (0.781)	68	2569210			0.00- 90.48	40.54
11.250	11.250 (0.781)	53	1314450			0.00- 70.85	20.74
78 2,2-Dichloropropane					CAS #: 594-20-7		
13.877	13.877 (0.964)	77	4020302	50.0000	52.711	80.00- 120.00	100.00

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS CAL-AMT (PPBV)	AMOUNTS ON-COL (PPBV)	TARGET RANGE	RATIO
78 2,2-Dichloropropane (continued)							
13.877	13.877 (0.964)	79	1308053			0.00- 82.54	32.54
13.877	13.877 (0.964)	97	801913			0.00- 70.03	19.95
88 1,1-Dichloropropene					CAS #: 563-58-6		
15.121	15.121 (0.935)	110	1484028	50.0000	53.552	80.00- 120.00	100.00
15.121	15.121 (0.935)	75	4019552			218.22- 318.22	270.85
118 1,3-Dichloropropane					CAS #: 142-28-9		
19.988	19.988 (1.236)	76	4474167	50.0000	54.223	80.00- 120.00	100.00
19.988	19.988 (1.236)	41	3238032			22.37- 122.37	72.37
19.988	19.988 (1.236)	78	1429445			0.00- 81.77	31.95
125 1,1,1,2-Tetrachloroethane					CAS #: 630-20-6		
21.536	21.536 (1.009)	131	3235607	50.0000	53.976	80.00- 120.00	100.00
21.536	21.536 (1.009)	117	2225982			18.93- 118.93	68.80
21.508	21.508 (1.008)	95	1265610			0.00- 89.37	39.12
136 Bromobenzene					CAS #: 108-86-1		
23.610	23.610 (1.106)	156	3872849	50.0000	55.062	80.00- 120.00	100.00
23.610	23.610 (1.106)	158	3741648			46.61- 146.61	96.61
23.610	23.610 (1.106)	77	7718215			147.77- 247.77	199.29
138 1,2,3-Trichloropropane					CAS #: 96-18-4		
23.665	23.665 (1.109)	110	1790961	50.0000	54.413	80.00- 120.00	100.00
23.665	23.665 (1.109)	75	5405655			251.83- 351.83	301.83
23.665	23.665 (1.109)	61	1399772			26.84- 126.84	78.16
141 2-Chlorotoluene					CAS #: 95-49-8		
23.886	23.886 (1.119)	126	2802997	50.0000	53.956	80.00- 120.00	100.00
23.886	23.886 (1.119)	91	8196683			242.43- 342.43	292.43
23.886	23.886 (1.119)	65	796656			0.00- 78.37	28.42
143 4-Chlorotoluene					CAS #: 106-43-4		
24.080	24.080 (1.128)	126	3061327	50.0000	55.234	80.00- 120.00	100.00
24.080	24.080 (1.128)	91	9049733			245.61- 345.61	295.61
24.052	24.052 (1.127)	63	1168807			0.00- 88.24	38.18
153 p-Cymene					CAS #: 99-87-6		
25.020	25.020 (1.172)	119	8782477	50.0000	53.478	80.00- 120.00	100.00
25.020	25.020 (1.172)	134	2420527			0.00- 77.89	27.56
25.020	25.020 (1.172)	91	2231273			0.00- 74.89	25.41
154 1,2,3-Trimethylbenzene					CAS #: 526-73-8		
25.269	25.269 (1.184)	120	3521301	50.0000	54.043	80.00- 120.00	100.00
25.269	25.269 (1.184)	105	7581391			165.30- 265.30	215.30

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS CAL-AMT (PPBV)	AMOUNTS ON-COL (PPBV)	TARGET RANGE	RATIO
154 1,2,3-Trimethylbenzene (continued)							
25.269	25.269 (1.184)	77	983859			0.00- 78.76	27.94
158 Butylbenzene						CAS #: 104-51-8	
25.711	25.711 (1.205)	134	2345394	50.0000	53.114	80.00- 120.00	100.00
25.683	25.683 (1.203)	91	9453400			353.06- 453.06	403.06
25.683	25.683 (1.203)	92	5362392			181.94- 281.94	228.64
148 tert-Butylbenzene						CAS #: 98-06-6	
24.467	24.467 (1.146)	119	7751126	50.0000	52.355	80.00- 120.00	100.00
24.467	24.467 (1.146)	134	1919419			0.00- 74.76	24.76
24.467	24.467 (1.146)	91	5566932			20.96- 120.96	71.82
149 sec-Butylbenzene						CAS #: 135-98-8	
24.826	24.826 (1.163)	105	10990002	50.0000	53.630	80.00- 120.00	100.00
24.826	24.826 (1.163)	134	2159111			0.00- 69.65	19.65
24.826	24.826 (1.163)	91	1806199			0.00- 65.99	16.43
162 1,2-Dibromo-3-Chloropropane						CAS #: 96-12-8	
27.287	27.287 (1.279)	157	2721900	50.0000	51.363	80.00- 120.00	100.00
27.287	27.287 (1.279)	75	2358984			36.67- 136.67	86.67
27.287	27.287 (1.279)	155	2114262			28.87- 128.87	77.68
201 Pentachloroethane						CAS #: 76-01-7	
24.605	24.605 (1.153)	167	2362276	50.0000	53.370	80.00- 120.00	100.00
24.605	24.605 (1.153)	117	2494933			54.36- 154.36	105.62
24.605	24.605 (1.153)	169	1140247			0.00- 97.70	48.27

Report Date: 22-Oct-2007 13:49

Air Toxics Ltd.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd7.i
Lab File ID: 7102206.d
Lab Smp Id: ICAL
Analysis Type: VOA
Quant Type: ISTD
Operator: cb
Method File: /chem/msd7.i/7-22oct.b/t14qO18b.m
Misc Info: 200ppbv --> 50ppbv

Calibration Date: 22-OCT-2007
Calibration Time: 11:44
Client Smp ID: Level 5
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
81 Bromochloromethan	653745	392247	915243	653745	0.00
97 1,4-Difluorobenze	2055535	1233321	2877749	2055535	0.00
126 Chlorobenzene-d5	1681036	1008622	2353450	1681036	0.00

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
81 Bromochloromethan	14.40	14.07	14.73	14.40	0.00
97 1,4-Difluorobenze	16.17	15.84	16.50	16.17	0.00
126 Chlorobenzene-d5	21.34	21.01	21.67	21.34	0.00

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /chem/msd7.i/7-22oct.b/7102206.d

Date : 22-OCT-2007 11:44

Client ID: Level 5

Sample Info: 50mL #1487-370

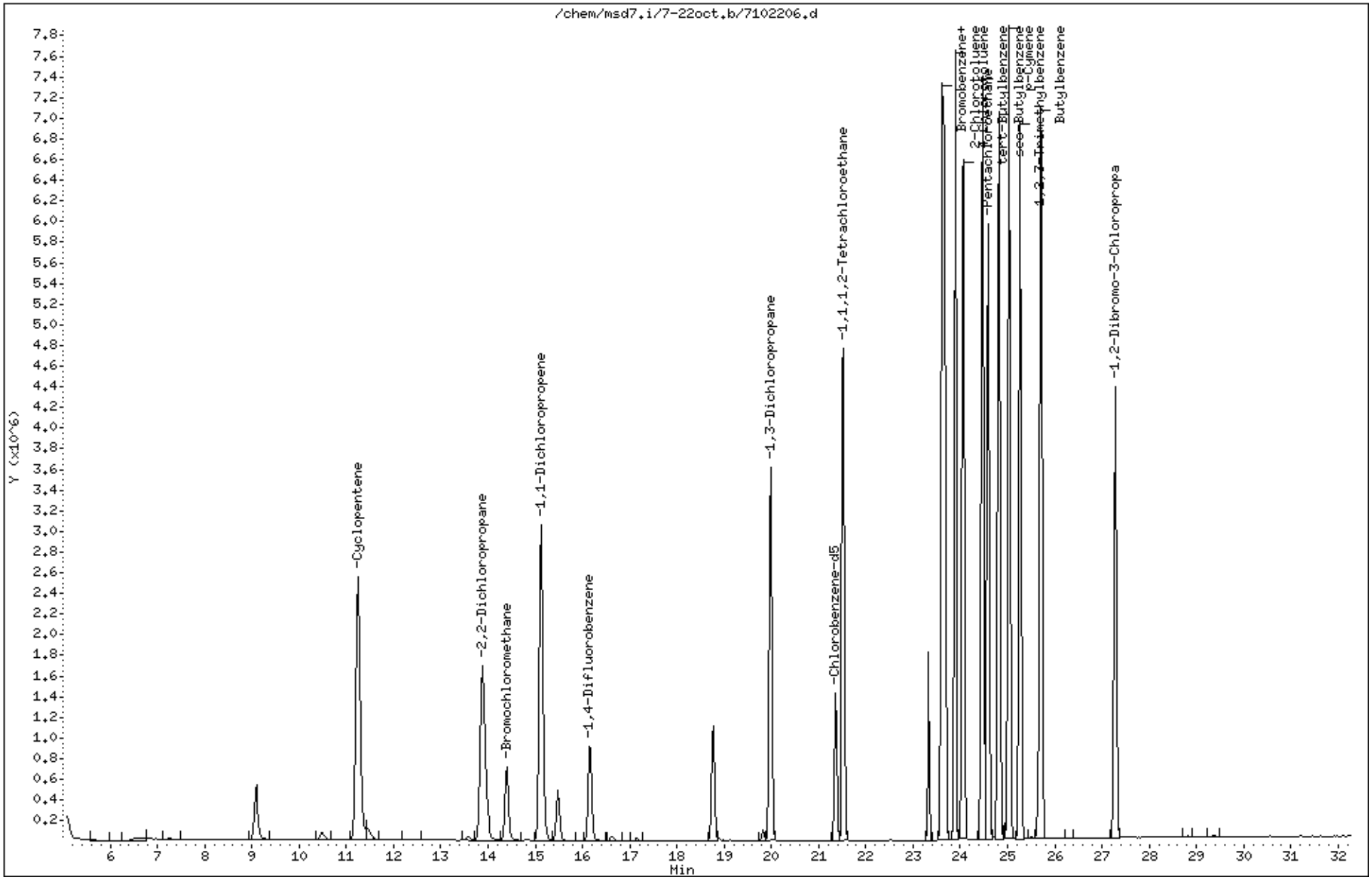
Column phase: RTx-624

Instrument: msd7.i

Operator: cb

Column diameter: 0.53

0225



Air Toxics Ltd.

AMBIENT AIR METHOD TO14

Data file : /chem/msd7.i/7-19oct.b/7101904.d
Lab Smp Id: ICAL Client Smp ID: Level 5
Inj Date : 19-OCT-2007 11:00
Operator : cb Inst ID: msd7.i
Smp Info : 50mL #1487-400
Misc Info : 200ppbv --> 50ppbv
Comment :
Method : /chem/msd7.i/7-19oct.b/t14qO18a.m
Meth Date : 19-Oct-2007 12:11 cbond Quant Type: ISTD
Cal Date : 19-OCT-2007 11:00 Cal File: 7101904.d
Als bottle: 1 Calibration Sample, Level: 5
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: sp22a.sub
Target Version: 3.50 Sample Matrix: AIR
Processing Host: eeyore

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS CAL-AMT (PPBV)	AMOUNTS ON-COL (PPBV)	TARGET RANGE	RATIO
* 81 Bromochloromethane					CAS #: 74-97-5		
14.402	14.402 (1.000)	130	694127	25.0000		80.00- 120.00	100.00
14.402	14.402 (1.000)	128	531772			26.61- 126.61	76.61
14.402	14.402 (1.000)	49	1021801			97.21- 197.21	147.21
* 97 1,4-Difluorobenzene					CAS #: 540-36-3		
16.172	16.172 (1.000)	114	2223212	25.0000		80.00- 120.00	100.00
16.172	16.172 (1.000)	88	354725			0.00- 65.96	15.96
* 126 Chlorobenzene-d5					CAS #: 3114-55-4		
21.370	21.370 (1.000)	117	1779964	25.0000		80.00- 120.00	100.00
21.342	21.342 (1.000)	82	986509			5.24- 105.24	55.42
5 Freon 143a					CAS #: 420-46-2		
5.306	5.306 (0.368)	65	766302	50.0000	49.911	80.00- 120.00	100.00
5.223	5.223 (0.363)	69	6741914			0.00- 50.00	879.80
5.278	5.278 (0.366)	64	224377			0.00- 76.18	29.28
6 Freon142b					CAS #: 75-68-3		
6.356	6.356 (0.441)	65	3144007	50.0000	49.820	80.00- 120.00	100.00

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS CAL-AMT (PPBV)	AMOUNTS ON-COL (PPBV)	TARGET RANGE	RATIO
6 Freon142b (continued)							
6.329	6.329 (0.439)	45	770144			0.00- 74.42	24.50
13 Freon 134a					CAS #: 811-97-2		
5.444	5.444 (0.378)	83	1490027	50.0000	49.641	80.00- 120.00	100.00
5.223	5.223 (0.363)	69	6741914			409.04- 509.04	452.47
5.444	5.444 (0.378)	63	197636			0.00- 63.70	13.26
15 Freon 152a					CAS #: 75-37-6		
5.665	5.665 (0.393)	65	1071725	50.0000	49.165	80.00- 120.00	100.00
5.665	5.665 (0.393)	51	1716739			110.12- 210.12	160.18
5.665	5.665 (0.393)	47	437796			0.00- 90.40	40.85
17 Freon 22					CAS #: 75-45-6		
5.803	5.803 (0.403)	51	3429656	50.0000	48.340	80.00- 120.00	100.00
5.803	5.803 (0.403)	67	407051			0.00- 61.77	11.87
5.831	5.831 (0.405)	85	45824			0.00- 51.67	1.34
34 Dichlorofluoromethane/Fr21					CAS #: 75-43-4		
8.928	8.928 (0.620)	67	3121227	50.0000	50.694	80.00- 120.00	100.00
8.928	8.928 (0.620)	69	981436			0.00- 81.12	31.44
8.928	8.928 (0.620)	35	88167			0.00- 53.83	2.82
40 Freon123a					CAS #: 354-23-4		
9.813	9.813 (0.681)	117	1871544	50.0000	54.425	80.00- 120.00	100.00
9.813	9.813 (0.681)	67	2736149			110.97- 210.97	146.20
41 Freon123					CAS #: 306-83-2		
9.978	9.978 (0.693)	83	3184755	50.0000	51.277	80.00- 120.00	100.00
9.978	9.978 (0.693)	133	627762			0.00- 69.52	19.71
9.978	9.978 (0.693)	85	2260913			22.16- 122.16	70.99
57 tert-Butyl-Alcohol					CAS #: 75-65-0		
11.527	11.527 (0.800)	59	3711893	50.0000	51.792	80.00- 120.00	100.00
11.527	11.527 (0.800)	41	752755			0.00- 73.42	20.28
11.527	11.527 (0.800)	57	362771			0.00- 60.26	9.77
68 Isopropyl ether					CAS #: 108-20-3		
12.716	12.716 (0.883)	45	6578708	50.0000	52.939	80.00- 120.00	100.00
12.716	12.716 (0.883)	87	1520476			0.00- 73.31	23.11
12.716	12.716 (0.883)	59	520306			0.00- 58.30	7.91
71 1-Propanol					CAS #: 71-23-8		
12.854	12.854 (0.892)	42	425719	50.0000	57.194	80.00- 120.00	100.00
12.854	12.854 (0.892)	59	638506			95.91- 195.91	149.98
12.716	12.716 (0.883)	41	1236325			265.93- 365.93	290.41

AMOUNTS

RT	EXP RT (REL RT)	MASS	RESPONSE	CAL-AMT (PPBV)	ON-COL (PPBV)	TARGET RANGE	RATIO
73 t-Butylethyl Ether					CAS #: 637-92-3		
13.379	13.379 (0.929)	59	5651281	50.0000	54.203	80.00- 120.00	100.00
13.379	13.379 (0.929)	87	2181708			0.00- 88.95	38.61
13.379	13.379 (0.929)	41	981804			0.00- 67.89	17.37
77 Ethyl Acetate					CAS #: 141-78-6		
13.877	13.877 (0.964)	45	620455	50.0000	53.330	80.00- 120.00	100.00
13.877	13.877 (0.964)	61	597626			49.04- 149.04	96.32
13.877	13.877 (0.964)	43	4293069			622.55- 722.55	691.92
92 tert-amyl-Methyl Ether					CAS #: 994-05-8		
15.536	15.536 (1.079)	73	4149237	50.0000	54.724	80.00- 120.00	100.00
15.564	15.564 (1.081)	87	972129			0.00- 73.71	23.43
15.536	15.536 (1.079)	55	1097280			0.00- 78.56	26.45
96 2-Heptanone					CAS #: 110-43-0		
22.504	22.504 (1.562)	58	2609217	50.0000	61.498	80.00- 120.00	100.00
22.504	22.504 (1.562)	43	4102315			108.53- 208.53	157.22
98 1-Butanol					CAS #: 71-36-3		
16.338	16.338 (1.010)	56	1222941	50.0000	62.304	80.00- 120.00	100.00
16.338	16.338 (1.010)	41	881157			21.86- 121.86	72.05
16.338	16.338 (1.010)	43	677934			9.15- 109.15	55.43
99 Isobutanol					CAS #: 78-83-1		
15.149	15.149 (1.052)	59	42901	50.0000	62.469	80.00- 120.00	100.00
15.149	15.149 (1.052)	41	1065866			2630.47-2730.47	2484.48
15.149	15.149 (1.052)	43	1475416			3703.83-3803.83	3439.12
119 Butyl Acetate					CAS #: 123-86-4		
20.070	20.070 (1.241)	56	1830296	50.0000	59.304	80.00- 120.00	100.00
20.070	20.070 (1.241)	73	585535			0.00- 81.99	31.99
20.070	20.070 (1.241)	43	4559849			199.13- 299.13	249.13
135 Cyclohexanone					CAS #: 108-94-1		
23.278	23.278 (1.089)	55	1834532	50.0000	54.771	80.00- 120.00	100.00
23.278	23.278 (1.089)	98	769278			0.00- 90.06	41.93
23.278	23.278 (1.089)	42	1263933			16.60- 116.60	68.90
146 Diisobutyl Ketone					CAS #: 108-83-8		
24.080	24.080 (1.127)	57	4306488	50.0000	53.933	80.00- 120.00	100.00
24.080	24.080 (1.127)	85	3477655			30.75- 130.75	80.75
0.000	1.000 (0.000)	0	0			0.00- 50.00	0.00

Report Date: 19-Oct-2007 12:11

Air Toxics Ltd.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd7.i
Lab File ID: 7101904.d
Lab Smp Id: ICAL
Analysis Type: VOA
Quant Type: ISTD
Operator: cb
Method File: /chem/msd7.i/7-19oct.b/t14qO18a.m
Misc Info: 200ppbv --> 50ppbv

Calibration Date: 19-OCT-2007
Calibration Time: 11:00
Client Smp ID: Level 5
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
81 Bromochloromethan	694127	416476	971778	694127	0.00
97 1,4-Difluorobenze	2223212	1333927	3112497	2223212	0.00
126 Chlorobenzene-d5	1779964	1067978	2491950	1779964	0.00

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
81 Bromochloromethan	14.40	14.07	14.73	14.40	0.00
97 1,4-Difluorobenze	16.17	15.84	16.50	16.17	0.00
126 Chlorobenzene-d5	21.37	21.04	21.70	21.37	0.00

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

0230

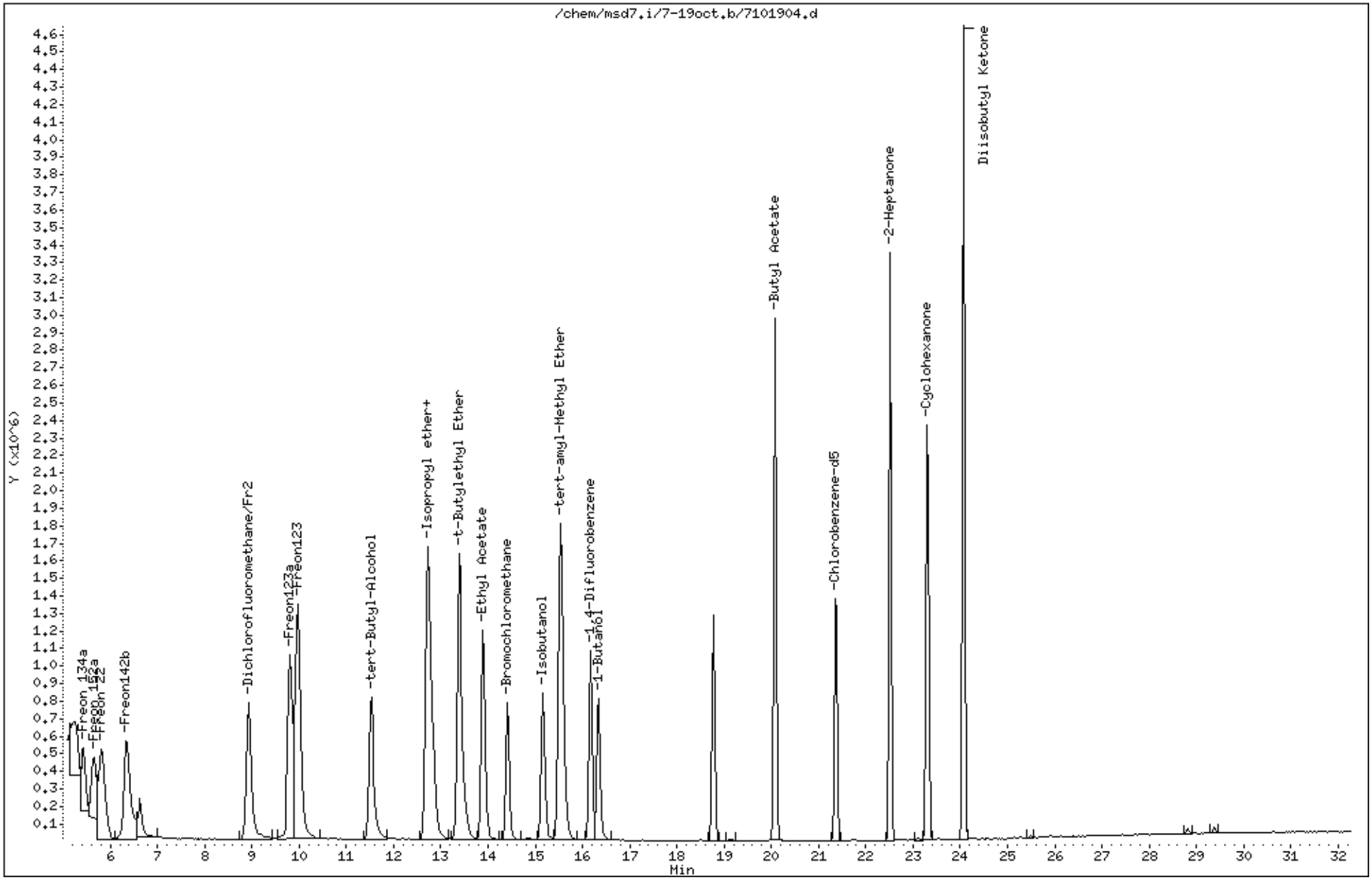
Data File: /chem/msd7.i/7-19oct.b/7101904.d
Date : 19-OCT-2007 11:00
Client ID: Level 5
Sample Info: 50mL #1487-400

Instrument: msd7.i

Operator: cb

Column phase: RTx-624

Column diameter: 0.53



Air Toxics Ltd.

AMBIENT AIR METHOD TO14

Data file : /chem/msd7.i/7-18oct.b/7101806.d
Lab Smp Id: ICAL Client Smp ID: Level 5
Inj Date : 18-OCT-2007 15:26
Operator : cb Inst ID: msd7.i
Smp Info : 50mL #1576-50
Misc Info : 200ppbv --> 50ppbv
Comment :
Method : /chem/msd7.i/7-18oct.b/t14qO18a.m
Meth Date : 18-Oct-2007 15:55 cbond Quant Type: ISTD
Cal Date : 18-OCT-2007 15:26 Cal File: 7101806.d
Als bottle: 1 Calibration Sample, Level: 5
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: AT04mdl+ENSR.sub
Target Version: 3.50 Sample Matrix: AIR
Processing Host: eeyore

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS CAL-AMT (PPBV)	AMOUNTS ON-COL (PPBV)	TARGET RANGE	RATIO
* 81 Bromochloromethane					CAS #: 74-97-5		
14.402	14.402 (1.000)	130	683549	25.0000		80.00- 120.00	100.00
14.402	14.402 (1.000)	128	526020			26.95- 126.95	76.95
14.402	14.402 (1.000)	49	1309838			141.62- 241.62	191.62
* 97 1,4-Difluorobenzene					CAS #: 540-36-3		
16.172	16.172 (1.000)	114	2204815	25.0000		80.00- 120.00	100.00
16.172	16.172 (1.000)	88	346032			0.00- 65.69	15.69
* 126 Chlorobenzene-d5					CAS #: 3114-55-4		
21.370	21.370 (1.000)	117	1812979	25.0000		80.00- 120.00	100.00
21.342	21.342 (1.000)	82	1018657			5.45- 105.45	56.19
$ 90 1,2-Dichloroethane-d4					CAS #: 17060-07-0		
15.508	15.508 (1.077)	65	902272	25.0000	24.576	80.00- 120.00	100.00
15.508	15.508 (1.077)	67	497167			1.44- 101.44	55.10
$ 113 Toluene-d8					CAS #: 2037-26-5		
18.771	18.771 (1.161)	98	1988860	25.0000	25.725	80.00- 120.00	100.00
18.771	18.771 (1.161)	70	232527			0.00- 61.47	11.69

AMOUNTS

RT	EXP RT (REL RT)	MASS	RESPONSE	CAL-AMT (PPBV)	ON-COL (PPBV)	TARGET RANGE	RATIO
$ 113 Toluene-d8 (continued)							
18.771	18.771 (1.161)	100	1398815			19.08- 119.08	70.33
$ 137 Bromofluorobenzene						CAS #: 460-00-4	
23.333	23.333 (1.092)	174	1084886	25.0000	24.933	80.00- 120.00	100.00
23.333	23.333 (1.092)	95	1375583			76.80- 176.80	126.80
23.333	23.333 (1.092)	176	1042148			46.06- 146.06	96.06
11 Propylene						CAS #: 115-07-1	
5.610	5.610 (0.390)	41	1415032	50.0000	48.553	80.00- 120.00	100.00
5.610	5.610 (0.390)	42	982874			22.00- 122.00	69.46
5.610	5.610 (0.390)	39	1047010			25.14- 125.14	73.99
12 Dichlorodifluoromethane/Fr12						CAS #: 75-71-8	
5.748	5.748 (0.399)	85	5298030	50.0000	48.980	80.00- 120.00	100.00
5.748	5.748 (0.399)	87	1667645			0.00- 83.21	31.48
16 Freon 114						CAS #: 76-14-2	
6.218	6.218 (0.432)	135	3652709	50.0000	47.806	80.00- 120.00	100.00
6.218	6.218 (0.432)	137	1161951			0.00- 81.81	31.81
18 Chloromethane						CAS #: 74-87-3	
6.522	6.522 (0.453)	50	1693664	50.0000	47.987	80.00- 120.00	100.00
6.522	6.522 (0.453)	52	575628			0.00- 85.25	33.99
20 Vinyl Chloride						CAS #: 75-01-4	
6.882	6.882 (0.478)	62	2169718	50.0000	48.872	80.00- 120.00	100.00
6.882	6.882 (0.478)	64	690774			0.00- 83.70	31.84
22 1,3-Butadiene						CAS #: 106-99-0	
6.937	6.937 (0.482)	54	1604484	50.0000	52.666	80.00- 120.00	100.00
6.937	6.937 (0.482)	39	1626075			57.11- 157.11	101.35
25 Bromomethane						CAS #: 74-83-9	
8.043	8.043 (0.558)	94	1956954	50.0000	51.440	80.00- 120.00	100.00
8.043	8.043 (0.558)	96	1834965			43.77- 143.77	93.77
27 Chloroethane						CAS #: 75-00-3	
8.375	8.375 (0.581)	64	1036064	50.0000	57.866	80.00- 120.00	100.00
8.375	8.375 (0.581)	49	276958			0.00- 79.97	26.73
8.375	8.375 (0.581)	66	325306			0.00- 83.92	31.40
31 Trichlorofluoromethane/Fr11						CAS #: 75-69-4	
8.956	8.956 (0.622)	101	5127114	50.0000	52.077	80.00- 120.00	100.00
8.983	8.983 (0.624)	103	3298307			14.33- 114.33	64.33

AMOUNTS

RT	EXP RT	(REL RT)	MASS	RESPONSE	CAL-AMT (PPBV)	ON-COL (PPBV)	TARGET RANGE	RATIO
38 Ethanol						CAS #: 64-17-5		
9.453	9.453	(0.656)	45	692455	50.0000	54.981	80.00- 120.00	100.00
9.453	9.453	(0.656)	43	138038			0.00- 73.83	19.93
9.453	9.453	(0.656)	46	261445			0.00- 88.26	37.76
42 Freon 113						CAS #: 76-13-1		
10.227	10.227	(0.710)	151	2874533	50.0000	52.399	80.00- 120.00	100.00
10.227	10.227	(0.710)	153	1825117			13.49- 113.49	63.49
10.200	10.200	(0.708)	101	3540517			73.17- 173.17	123.17
43 1,1-Dichloroethene						CAS #: 75-35-4		
10.338	10.338	(0.718)	61	3011437	50.0000	52.373	80.00- 120.00	100.00
10.338	10.338	(0.718)	96	1849526			11.42- 111.42	61.42
10.338	10.338	(0.718)	98	1195426			0.00- 89.70	39.70
45 Acetone						CAS #: 67-64-1		
10.504	10.504	(0.729)	58	914212	50.0000	52.741	80.00- 120.00	100.00
10.504	10.504	(0.729)	43	2796075			245.26- 345.26	305.85
46 2-Propanol						CAS #: 67-63-0		
10.697	10.697	(0.743)	45	3341125	50.0000	56.618	80.00- 120.00	100.00
10.697	10.697	(0.743)	43	786824			0.00- 76.38	23.55
10.670	10.670	(0.741)	59	124809			0.00- 53.64	3.74
47 Carbon Disulfide						CAS #: 75-15-0		
10.891	10.891	(0.756)	76	5750337	50.0000	52.873	80.00- 120.00	100.00
51 3-Chloropropene						CAS #: 107-05-1		
11.168	11.168	(0.775)	76	950362	50.0000	56.560	80.00- 120.00	100.00
11.168	11.168	(0.775)	41	2534016			227.35- 327.35	266.64
54 Methylene Chloride						CAS #: 75-09-2		
11.472	11.472	(0.796)	49	2157693	50.0000	51.348	80.00- 120.00	100.00
11.472	11.472	(0.796)	84	1585590			23.49- 123.49	73.49
11.472	11.472	(0.796)	51	653724			0.00- 80.93	30.30
60 MTBE						CAS #: 1634-04-4		
11.831	11.831	(0.821)	73	3587655	50.0000	50.191	80.00- 120.00	100.00
11.831	11.831	(0.821)	57	828957			0.00- 73.11	23.11
11.831	11.831	(0.821)	41	846055			0.00- 77.06	23.58
61 trans-1,2-Dichloroethene						CAS #: 156-60-5		
11.942	11.942	(0.829)	96	2126458	50.0000	55.255	80.00- 120.00	100.00
11.942	11.942	(0.829)	61	3057162			93.77- 193.77	143.77
11.942	11.942	(0.829)	98	1345621			11.32- 111.32	63.28

AMOUNTS

RT	EXP RT (REL RT)	MASS	RESPONSE	CAL-AMT (PPBV)	ON-COL (PPBV)	TARGET RANGE	RATIO
65 Hexane					CAS #: 110-54-3		
12.301	12.301 (0.854)	57	3008806	50.0000	55.859	80.00- 120.00	100.00
12.301	12.301 (0.854)	43	1950873			18.57- 118.57	64.84
12.301	12.301 (0.854)	86	447575			0.00- 65.04	14.88
69 Vinyl Acetate					CAS #: 108-05-4		
12.799	12.799 (0.889)	86	455231	50.0000	57.233	80.00- 120.00	100.00
12.799	12.799 (0.889)	43	5401152			1159.12-1259.12	1186.46
70 1,1-Dichloroethane					CAS #: 75-34-3		
12.826	12.826 (0.891)	63	3599964	50.0000	54.367	80.00- 120.00	100.00
12.826	12.826 (0.891)	65	1139875			0.00- 81.66	31.66
75 2-Butanone					CAS #: 78-93-3		
13.905	13.905 (0.965)	72	818664	50.0000	62.193	80.00- 120.00	100.00
13.905	13.905 (0.965)	43	3790041			412.95- 512.95	462.95
13.905	13.905 (0.965)	57	288123			0.00- 87.14	35.19
76 cis-1,2-Dichloroethene					CAS #: 156-59-2		
13.932	13.932 (0.967)	61	2561771	50.0000	55.374	80.00- 120.00	100.00
13.932	13.932 (0.967)	96	1913669			24.70- 124.70	74.70
13.932	13.932 (0.967)	98	1211977			0.00- 97.31	47.31
80 Tetrahydrofuran					CAS #: 109-99-9		
14.402	14.402 (1.000)	42	2102531	50.0000	59.452	80.00- 120.00	100.00
14.402	14.402 (1.000)	71	754061			0.00- 85.86	35.86
14.402	14.402 (1.000)	72	820596			0.00- 87.41	39.03
82 Chloroform					CAS #: 67-66-3		
14.485	14.485 (1.006)	83	3686125	50.0000	54.978	80.00- 120.00	100.00
14.485	14.485 (1.006)	85	2406880			15.30- 115.30	65.30
83 1,1,1-Trichloroethane					CAS #: 71-55-6		
14.845	14.845 (1.031)	97	3640858	50.0000	53.131	80.00- 120.00	100.00
14.845	14.845 (1.031)	99	2345271			14.42- 114.42	64.42
85 Cyclohexane					CAS #: 110-82-7		
14.845	14.845 (1.031)	84	2138441	50.0000	57.422	80.00- 120.00	100.00
14.845	14.845 (1.031)	56	2718812			77.14- 177.14	127.14
14.845	14.845 (1.031)	41	1560161			22.96- 122.96	72.96
87 Carbon Tetrachloride					CAS #: 56-23-5		
15.094	15.094 (1.048)	119	3463048	50.0000	53.939	80.00- 120.00	100.00
15.094	15.094 (1.048)	117	3609254			54.22- 154.22	104.22
91 Benzene					CAS #: 71-43-2		
15.508	15.508 (0.959)	78	4811071	50.0000	56.318	80.00- 120.00	100.00

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS CAL-AMT (PPBV)	AMOUNTS ON-COL (PPBV)	TARGET RANGE	RATIO
91 Benzene (continued)							
15.508	15.508 (0.959)	77	1049814			0.00- 71.80	21.82
89 2,2,4-Trimethylpentane					CAS #: 540-84-1		
15.426	15.426 (1.071)	57	7449400	50.0000	57.351	80.00- 120.00	100.00
15.426	15.426 (1.071)	56	2538112			0.00- 84.72	34.07
15.426	15.426 (1.071)	41	2024280			0.00- 79.98	27.17
93 1,2-Dichloroethane					CAS #: 107-06-2		
15.647	15.647 (0.968)	62	2450001	50.0000	52.215	80.00- 120.00	100.00
15.647	15.647 (0.968)	64	778826			0.00- 83.09	31.79
94 Heptane					CAS #: 142-82-5		
15.730	15.730 (0.973)	71	1529856	50.0000	60.023	80.00- 120.00	100.00
15.730	15.730 (0.973)	43	2998586			161.50- 261.50	196.00
15.730	15.730 (0.973)	57	1580456			60.75- 160.75	103.31
101 Trichloroethene					CAS #: 79-01-6		
16.642	16.642 (1.029)	95	2098294	50.0000	54.497	80.00- 120.00	100.00
16.642	16.642 (1.029)	130	2078430			49.05- 149.05	99.05
16.642	16.642 (1.029)	97	1362364			14.93- 114.93	64.93
104 1,2-Dichloropropane					CAS #: 78-87-5		
17.112	17.112 (1.058)	63	1815045	50.0000	55.862	80.00- 120.00	100.00
17.140	17.140 (1.060)	62	1334457			23.52- 123.52	73.52
17.112	17.112 (1.058)	41	1125501			12.01- 112.01	62.01
106 1,4-Dioxane					CAS #: 123-91-1		
17.250	17.250 (1.067)	88	1166444	50.0000	56.320	80.00- 120.00	100.00
17.250	17.250 (1.067)	58	834019			21.50- 121.50	71.50
17.250	17.250 (1.067)	57	275329			0.00- 74.96	23.60
107 Bromodichloromethane					CAS #: 75-27-4		
17.555	17.555 (1.085)	83	3729470	50.0000	55.885	80.00- 120.00	100.00
17.555	17.555 (1.085)	85	2400491			14.37- 114.37	64.37
110 cis-1,3-Dichloropropene					CAS #: 10061-01-5		
18.329	18.329 (1.133)	75	2709608	50.0000	60.260	80.00- 120.00	100.00
18.329	18.329 (1.133)	77	866280			0.00- 81.97	31.97
18.329	18.329 (1.133)	39	1541138			6.88- 106.88	56.88
111 4-Methyl-2-pentanone					CAS #: 108-10-1		
18.522	18.522 (1.145)	58	1532118	50.0000	64.446	80.00- 120.00	100.00
18.522	18.522 (1.145)	43	4010581			226.18- 326.18	261.77
18.522	18.522 (1.145)	85	598542			0.00- 90.90	39.07

AMOUNTS

RT	EXP RT (REL RT)	MASS	RESPONSE	CAL-AMT (PPBV)	ON-COL (PPBV)	TARGET RANGE	RATIO
114 Toluene					CAS #: 108-88-3		
18.882	18.882 (1.168)	91	5242049	50.0000	55.958	80.00- 120.00	100.00
18.882	18.882 (1.168)	92	3304331			13.04- 113.04	63.04
116 trans-1,3-Dichloropropene					CAS #: 10061-02-6		
19.324	19.324 (0.904)	75	2903918	50.0000	59.315	80.00- 120.00	100.00
19.324	19.324 (0.904)	77	919192			0.00- 81.65	31.65
19.296	19.296 (0.903)	39	1525103			2.52- 102.52	52.52
117 1,1,2-Trichloroethane					CAS #: 79-00-5		
19.656	19.656 (0.920)	97	2037297	50.0000	56.012	80.00- 120.00	100.00
19.656	19.656 (0.920)	99	1285217			13.08- 113.08	63.08
19.656	19.656 (0.920)	83	1738135			35.32- 135.32	85.32
120 Tetrachloroethene					CAS #: 127-18-4		
19.822	19.822 (0.928)	166	2630580	50.0000	53.132	80.00- 120.00	100.00
19.822	19.822 (0.928)	129	1904175			22.39- 122.39	72.39
19.822	19.822 (0.928)	131	1836103			19.80- 119.80	69.80
121 2-Hexanone					CAS #: 591-78-6		
19.960	19.960 (0.934)	58	2182082	50.0000	59.476	80.00- 120.00	100.00
19.960	19.960 (0.934)	43	4116153			138.63- 238.63	188.63
19.960	19.960 (0.934)	100	368946			0.00- 67.20	16.91
122 Dibromochloromethane					CAS #: 124-48-1		
20.347	20.347 (0.952)	129	3738274	50.0000	56.568	80.00- 120.00	100.00
20.347	20.347 (0.952)	127	2895663			27.81- 127.81	77.46
123 1,2-Dibromoethane					CAS #: 106-93-4		
20.624	20.624 (0.965)	107	3445162	50.0000	57.543	80.00- 120.00	100.00
20.624	20.624 (0.965)	109	3261446			44.67- 144.67	94.67
127 Chlorobenzene					CAS #: 108-90-7		
21.398	21.398 (1.001)	112	4380087	50.0000	53.577	80.00- 120.00	100.00
21.398	21.398 (1.001)	114	1420303			0.00- 82.43	32.43
21.398	21.398 (1.001)	77	2660829			10.75- 110.75	60.75
128 Ethyl Benzene					CAS #: 100-41-4		
21.481	21.481 (1.005)	106	2271121	50.0000	55.213	80.00- 120.00	100.00
21.481	21.481 (1.005)	91	7073632			261.79- 361.79	311.46
129 m,p-Xylene					CAS #: 108-38-3		
21.674	21.674 (1.014)	106	2878647	50.0000	56.107	80.00- 120.00	100.00
21.674	21.674 (1.014)	91	5612675			144.94- 244.94	194.98
130 o-Xylene					CAS #: 95-47-6		
22.393	22.393 (1.048)	106	2496065	50.0000	55.739	80.00- 120.00	100.00

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                                          AMOUNTS
                                       CAL-AMT   ON-COL
   RT   EXP RT (REL RT)  MASS  RESPONSE ( PPBV)  ( PPBV)   TARGET RANGE    RATIO
   ==   ====== ========  ====  ======== =======  =======   ============    =====

  130 o-Xylene (continued)
 22.393  22.393 (1.048)    91   5108173                  154.65- 254.65   204.65
-------------------------------------------------------------------------------
  131 Styrene                                       CAS #: 100-42-5
 22.421  22.421 (1.049)   104   4186975 50.0000   62.955  80.00- 120.00   100.00
 22.421  22.421 (1.049)    78   2164094                    1.69- 101.69    51.69
-------------------------------------------------------------------------------
  133 Bromoform                                     CAS #: 75-25-2
 22.836  22.836 (1.069)   173   3309894 50.0000   55.947  80.00- 120.00   100.00
 22.836  22.836 (1.069)   171   1695247                    1.22- 101.22    51.22
-------------------------------------------------------------------------------
  134 Cumene                                        CAS #: 98-82-8
 22.974  22.974 (1.075)   105   6354552 50.0000   56.234  80.00- 120.00   100.00
 22.974  22.974 (1.075)   120   1765060                    0.00-  78.15    27.78
 22.946  22.946 (1.074)    51    673484                    0.00-  61.53    10.60
-------------------------------------------------------------------------------
  140 1,1,2,2-Tetrachloroethane                     CAS #: 79-34-5
 23.527  23.527 (1.101)    83   4017577 50.0000   53.077  80.00- 120.00   100.00
 23.527  23.527 (1.101)    85   2585413                   14.35- 114.35    64.35
-------------------------------------------------------------------------------
  142 Propylbenzene                                 CAS #: 103-65-1
 23.637  23.637 (1.106)    91   8303428 50.0000   53.645  80.00- 120.00   100.00
 23.637  23.637 (1.106)   120   1899976                    0.00-  72.99    22.88
 23.637  23.637 (1.106)   105    309581                    0.00-  54.10     3.73
-------------------------------------------------------------------------------
  145 4-Ethyltoluene                                CAS #: 622-96-8
 23.831  23.831 (1.115)   105   7539048 50.0000   56.452  80.00- 120.00   100.00
 23.831  23.831 (1.115)   120   2142451                    0.00-  78.42    28.42
-------------------------------------------------------------------------------
  147 1,3,5-Trimethylbenzene                        CAS #: 108-67-8
 23.914  23.914 (1.119)   105   5408871 50.0000   49.087  80.00- 120.00   100.00
 23.914  23.914 (1.119)   120   3102305                    2.99- 102.99    57.36
-------------------------------------------------------------------------------
  150 1,2,4-Trimethylbenzene                        CAS #: 95-63-6
 24.550  24.550 (1.149)   105   5207980 50.0000   54.062  80.00- 120.00   100.00
 24.550  24.550 (1.149)   120   2539167                    0.00-  98.94    48.76
-------------------------------------------------------------------------------
  155 1,3-Dichlorobenzene                           CAS #: 541-73-1
 25.130  25.130 (1.176)   146   3918753 50.0000   51.464  80.00- 120.00   100.00
 25.130  25.130 (1.176)   148   2506551                   14.63- 114.63    63.96
 25.130  25.130 (1.176)   111   1546766                    0.00-  89.77    39.47
-------------------------------------------------------------------------------
  156 1,4-Dichlorobenzene                           CAS #: 106-46-7
 25.269  25.269 (1.182)   146   4048283 50.0000   50.718  80.00- 120.00   100.00
 25.269  25.269 (1.182)   148   2596227                   13.82- 113.82    64.13
 25.269  25.269 (1.182)   111   1524194                    0.00-  87.22    37.65
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AMOUNTS

RT	EXP RT (REL RT)	MASS	RESPONSE	CAL-AMT (PPBV)	ON-COL (PPBV)	TARGET RANGE	RATIO
159 alpha-Chlorotoluene					CAS #: 100-44-7		
25.490	25.490 (1.193)	91	5747139	50.0000	58.762	80.00- 120.00	100.00
25.490	25.490 (1.193)	126	1192032			0.00- 71.42	20.74
161 1,2-Dichlorobenzene					CAS #: 95-50-1		
25.932	25.932 (1.213)	146	3515051	50.0000	49.313	80.00- 120.00	100.00
25.932	25.932 (1.213)	148	2260098			14.30- 114.30	64.30
25.905	25.905 (1.212)	111	1423581			0.00- 90.50	40.50
165 1,2,4-Trichlorobenzene					CAS #: 120-82-1		
28.808	28.808 (1.348)	180	1253115	50.0000	45.723	80.00- 120.00	100.00
28.808	28.808 (1.348)	182	1198592			45.65- 145.65	95.65
166 Hexachlorobutadiene					CAS #: 87-68-3		
29.001	29.001 (1.357)	225	1025202	50.0000	40.018	80.00- 120.00	100.00
29.001	29.001 (1.357)	223	641430			12.70- 112.70	62.57
167 Naphthalene					CAS #: 91-20-3		
29.388	29.388 (1.375)	128	2269503	50.0000	46.617	80.00- 120.00	100.00
29.388	29.388 (1.375)	127	270609			0.00- 62.64	11.92
29 Isopentane					CAS #: 78-78-4		
8.375	8.375 (0.581)	43	2382695	50.0000	50.768	80.00- 120.00	100.00
8.375	8.375 (0.581)	57	1600924			16.24- 116.24	67.19
19 Butane					CAS #: 106-97-8		
6.771	6.771 (0.470)	58	369130	50.0000	49.345	80.00- 120.00	100.00
6.771	6.771 (0.470)	43	2976625			761.40- 861.40	806.39
102 Methyl Cyclohexane					CAS #: 108-87-2		
16.919	16.919 (1.175)	83	2615829	50.0000	56.882	80.00- 120.00	100.00
16.919	16.919 (1.175)	98	1205235			0.00- 96.29	46.07
16.919	16.919 (1.175)	55	2319276			38.64- 138.64	88.66

Report Date: 18-Oct-2007 15:55

Air Toxics Ltd.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd7.i
Lab File ID: 7101806.d
Lab Smp Id: ICAL
Analysis Type: VOA
Quant Type: ISTD
Operator: cb
Method File: /chem/msd7.i/7-18oct.b/t14qO18a.m
Misc Info: 200ppbv --> 50ppbv

Calibration Date: 18-OCT-2007
Calibration Time: 15:26
Client Smp ID: Level 5
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
81 Bromochloromethan	683549	410129	956969	683549	0.00
97 1,4-Difluorobenze	2204815	1322889	3086741	2204815	0.00
126 Chlorobenzene-d5	1812979	1087787	2538171	1812979	0.00

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
81 Bromochloromethan	14.40	14.07	14.73	14.40	0.00
97 1,4-Difluorobenze	16.17	15.84	16.50	16.17	0.00
126 Chlorobenzene-d5	21.37	21.04	21.70	21.37	0.00

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

0240

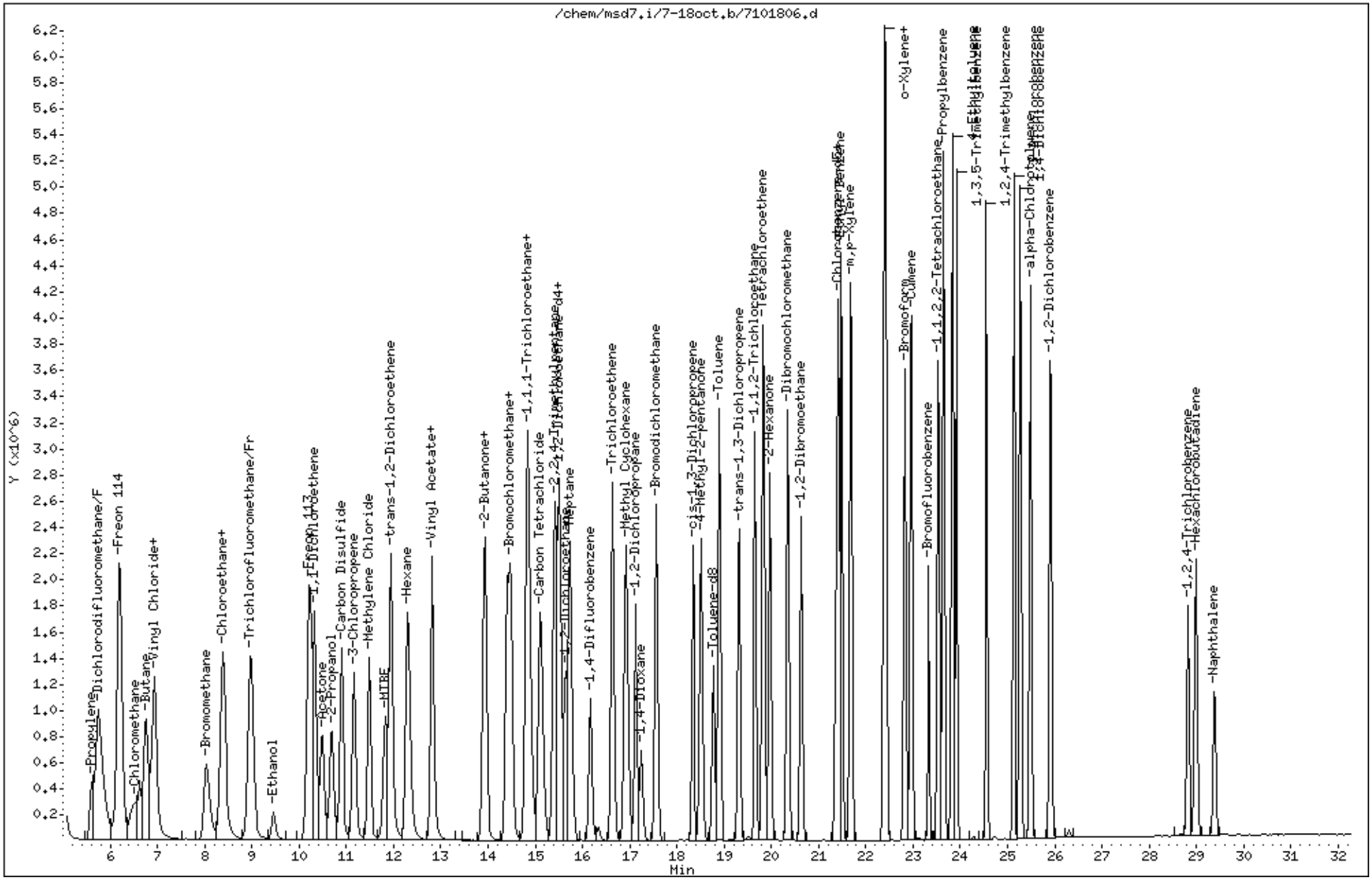
Data File: /chem/msd7.i/7-18oct.b/7101806.d
Date : 18-OCT-2007 15:26
Client ID: Level 5
Sample Info: 50mL #1576-50

Instrument: msd7.i

Operator: cb

Column phase: RTx-624

Column diameter: 0.53



Air Toxics Ltd.

AMBIENT AIR METHOD TO14

Data file : /chem/msd7.i/7-18oct.b/7101807.d
Lab Smp Id: ICAL Client Smp ID: Level 6
Inj Date : 18-OCT-2007 16:15
Operator : cb Inst ID: msd7.i
Smp Info : 100mL #1576-50
Misc Info : 200ppbv --> 100ppbv
Comment :
Method : /chem/msd7.i/7-18oct.b/t14qO18a.m
Meth Date : 22-Oct-2007 16:12 dmendoza Quant Type: ISTD
Cal Date : 18-OCT-2007 16:15 Cal File: 7101807.d
Als bottle: 1 Calibration Sample, Level: 6
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: AT04mdl+ENSR.sub
Target Version: 3.50 Sample Matrix: AIR
Processing Host: eeyore

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS CAL-AMT (PPBV)	AMOUNTS ON-COL (PPBV)	TARGET RANGE	RATIO
* 81 Bromochloromethane					CAS #: 74-97-5		
14.402	14.402 (1.000)	130	692933	25.0000		80.00- 120.00	100.00
14.402	14.402 (1.000)	128	535123			26.95- 126.95	77.23
14.402	14.402 (1.000)	49	1712983			141.62- 241.62	247.21
* 97 1,4-Difluorobenzene					CAS #: 540-36-3		
16.172	16.172 (1.000)	114	2281331	25.0000		80.00- 120.00	100.00
16.144	16.172 (1.000)	88	351386			0.00- 65.69	15.40
* 126 Chlorobenzene-d5					CAS #: 3114-55-4		
21.342	21.370 (1.000)	117	1862597	25.0000		80.00- 120.00	100.00
21.342	21.370 (1.000)	82	1017930			5.32- 105.32	54.65
$ 90 1,2-Dichloroethane-d4					CAS #: 17060-07-0		
15.481	15.508 (1.075)	65	913793	25.0000	24.626	80.00- 120.00	100.00
15.481	15.508 (1.075)	67	550511			2.91- 102.91	60.24
$ 113 Toluene-d8					CAS #: 2037-26-5		
18.771	18.771 (1.161)	98	2088251	25.0000	25.914	80.00- 120.00	100.00
18.771	18.771 (1.161)	70	237587			0.00- 61.46	11.38

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS CAL-AMT (PPBV)	AMOUNTS ON-COL (PPBV)	TARGET RANGE	RATIO
$ 113 Toluene-d8 (continued)							
18.771	18.771 (1.161)	100	1454452			19.18- 119.18	69.65
$ 137 Bromofluorobenzene						CAS #: 460-00-4	
23.333	23.333 (1.093)	174	1081956	25.0000	24.333	80.00- 120.00	100.00
23.333	23.333 (1.093)	95	1400916			76.80- 176.80	129.48
23.333	23.333 (1.093)	176	1039964			46.06- 146.06	96.12
11 Propylene						CAS #: 115-07-1	
5.610	5.610 (0.390)	41	2986150	100.000	100.80	80.00- 120.00	100.00
5.610	5.610 (0.390)	42	2053059			21.19- 121.19	68.75
5.610	5.610 (0.390)	39	2206631			24.83- 124.83	73.90
12 Dichlorodifluoromethane/Fr12						CAS #: 75-71-8	
5.748	5.748 (0.399)	85	10930653	100.000	99.747	80.00- 120.00	100.00
5.748	5.748 (0.399)	87	3552505			0.00- 83.07	32.50
16 Freon 114						CAS #: 76-14-2	
6.218	6.218 (0.432)	135	7047529	100.000	92.659	80.00- 120.00	100.00
6.218	6.218 (0.432)	137	2245736			0.00- 81.81	31.87
18 Chloromethane						CAS #: 74-87-3	
6.522	6.522 (0.453)	50	3525852	100.000	98.906	80.00- 120.00	100.00
6.522	6.522 (0.453)	52	1179186			0.00- 84.80	33.44
20 Vinyl Chloride						CAS #: 75-01-4	
6.854	6.882 (0.476)	62	4410236	100.000	98.388	80.00- 120.00	100.00
6.854	6.882 (0.476)	64	1387722			0.00- 83.25	31.47
22 1,3-Butadiene						CAS #: 106-99-0	
6.937	6.937 (0.482)	54	3349709	100.000	106.66	80.00- 120.00	100.00
6.937	6.937 (0.482)	39	3396133			55.97- 155.97	101.39
25 Bromomethane						CAS #: 74-83-9	
8.015	8.043 (0.557)	94	4079688	100.000	104.58	80.00- 120.00	100.00
8.015	8.043 (0.557)	96	3868112			43.77- 143.77	94.81
27 Chloroethane						CAS #: 75-00-3	
8.347	8.375 (0.580)	64	2257754	100.000	118.60	80.00- 120.00	100.00
8.347	8.375 (0.580)	49	605583			0.00- 79.34	26.82
8.347	8.375 (0.580)	66	706033			0.00- 83.15	31.27
31 Trichlorofluoromethane/Fr11						CAS #: 75-69-4	
8.955	8.956 (0.622)	101	10508664	100.000	104.19	80.00- 120.00	100.00
8.955	8.956 (0.622)	103	6789159			14.33- 114.33	64.61

AMOUNTS

RT	EXP RT	(REL RT)	MASS	RESPONSE	CAL-AMT (PPBV)	ON-COL (PPBV)	TARGET RANGE	RATIO
38 Ethanol						CAS #: 64-17-5		
9.453	9.453	(0.656)	45	1538559	100.000	114.63	80.00- 120.00	100.00
9.453	9.453	(0.656)	43	304971			0.00- 72.83	19.82
9.453	9.453	(0.656)	46	585137			0.00- 88.20	38.03
42 Freon 113						CAS #: 76-13-1		
10.200	10.227	(0.708)	151	5881542	100.000	104.56	80.00- 120.00	100.00
10.200	10.227	(0.708)	153	3752567			13.49- 113.49	63.80
10.200	10.227	(0.708)	101	7271712			73.17- 173.17	123.64
43 1,1-Dichloroethene						CAS #: 75-35-4		
10.310	10.338	(0.716)	61	6323571	100.000	106.68	80.00- 120.00	100.00
10.310	10.338	(0.716)	96	3889755			11.42- 111.42	61.51
10.310	10.338	(0.716)	98	2479983			0.00- 89.70	39.22
45 Acetone						CAS #: 67-64-1		
10.476	10.504	(0.727)	58	1956828	100.000	108.28	80.00- 120.00	100.00
10.476	10.504	(0.727)	43	5921961			247.10- 347.10	302.63
46 2-Propanol						CAS #: 67-63-0		
10.670	10.697	(0.741)	45	7297517	100.000	115.63	80.00- 120.00	100.00
10.670	10.697	(0.741)	43	1679125			0.00- 75.54	23.01
10.670	10.697	(0.741)	59	288762			0.00- 53.72	3.96
47 Carbon Disulfide						CAS #: 75-15-0		
10.891	10.891	(0.756)	76	12222860	100.000	108.51	80.00- 120.00	100.00
51 3-Chloropropene						CAS #: 107-05-1		
11.140	11.168	(0.773)	76	1968053	100.000	111.22	80.00- 120.00	100.00
11.140	11.168	(0.773)	41	5269936			224.96- 324.96	267.77
54 Methylene Chloride						CAS #: 75-09-2		
11.472	11.472	(0.796)	49	4616250	100.000	106.58	80.00- 120.00	100.00
11.472	11.472	(0.796)	84	3385429			23.49- 123.49	73.34
11.472	11.472	(0.796)	51	1409490			0.00- 80.85	30.53
60 MTBE						CAS #: 1634-04-4		
11.803	11.831	(0.820)	73	5895128	100.000	84.507	80.00- 120.00	100.00
11.803	11.831	(0.820)	57	1393845			0.00- 73.11	23.64
11.803	11.831	(0.820)	41	1331231			0.00- 76.16	22.58
61 trans-1,2-Dichloroethene						CAS #: 156-60-5		
11.914	11.942	(0.827)	96	4428835	100.000	110.53	80.00- 120.00	100.00
11.914	11.942	(0.827)	61	6358416			93.77- 193.77	143.57
11.914	11.942	(0.827)	98	2816096			11.77- 111.77	63.59

AMOUNTS

RT	EXP RT (REL RT)	MASS	RESPONSE	CAL-AMT (PPBV)	ON-COL (PPBV)	TARGET RANGE	RATIO
65 Hexane					CAS #: 110-54-3		
12.301	12.301 (0.854)	57	6432321	100.000	113.75	80.00- 120.00	100.00
12.301	12.301 (0.854)	43	4176945			17.84- 117.84	64.94
12.301	12.301 (0.854)	86	975109			0.00- 65.07	15.16
69 Vinyl Acetate					CAS #: 108-05-4		
12.799	12.799 (0.889)	86	978320	100.000	115.19	80.00- 120.00	100.00
12.771	12.799 (0.887)	43	11490251			1150.46-1250.46	1174.49
70 1,1-Dichloroethane					CAS #: 75-34-3		
12.799	12.826 (0.889)	63	7494739	100.000	109.11	80.00- 120.00	100.00
12.826	12.826 (0.891)	65	2364614			0.00- 81.66	31.55
75 2-Butanone					CAS #: 78-93-3		
13.877	13.905 (0.964)	72	1797732	100.000	125.97	80.00- 120.00	100.00
13.877	13.905 (0.964)	43	8012978			412.95- 512.95	445.73
13.877	13.905 (0.964)	57	616575			0.00- 86.57	34.30
76 cis-1,2-Dichloroethene					CAS #: 156-59-2		
13.905	13.932 (0.965)	61	5289406	100.000	109.97	80.00- 120.00	100.00
13.932	13.932 (0.967)	96	3957657			24.70- 124.70	74.82
13.932	13.932 (0.967)	98	2537854			0.00- 97.31	47.98
80 Tetrahydrofuran					CAS #: 109-99-9		
14.375	14.402 (0.998)	42	4434496	100.000	118.10	80.00- 120.00	100.00
14.375	14.402 (0.998)	71	1625228			0.00- 85.86	36.65
14.375	14.402 (0.998)	72	1749407			0.00- 87.82	39.45
82 Chloroform					CAS #: 67-66-3		
14.458	14.485 (1.004)	83	7416210	100.000	107.48	80.00- 120.00	100.00
14.458	14.485 (1.004)	85	4828164			15.30- 115.30	65.10
83 1,1,1-Trichloroethane					CAS #: 71-55-6		
14.817	14.845 (1.029)	97	7240093	100.000	103.35	80.00- 120.00	100.00
14.817	14.845 (1.029)	99	4660096			14.42- 114.42	64.37
85 Cyclohexane					CAS #: 110-82-7		
14.845	14.845 (1.031)	84	4466769	100.000	114.14	80.00- 120.00	100.00
14.845	14.845 (1.031)	56	5668418			77.14- 177.14	126.90
14.845	14.845 (1.031)	41	3159222			22.96- 122.96	70.73
87 Carbon Tetrachloride					CAS #: 56-23-5		
15.094	15.094 (1.048)	119	6781673	100.000	103.33	80.00- 120.00	100.00
15.094	15.094 (1.048)	117	7039047			54.22- 154.22	103.80
91 Benzene					CAS #: 71-43-2		
15.508	15.508 (0.959)	78	9788721	100.000	108.80	80.00- 120.00	100.00

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS CAL-AMT (PPBV)	AMOUNTS ON-COL (PPBV)	TARGET RANGE	RATIO
91 Benzene (continued)							
15.508	15.508 (0.959)	77	2175873			0.00- 71.87	22.23
89 2,2,4-Trimethylpentane					CAS #: 540-84-1		
15.398	15.426 (1.069)	57	15535652	100.000	113.89	80.00- 120.00	100.00
15.398	15.426 (1.069)	56	5317737			0.00- 84.62	34.23
15.398	15.426 (1.069)	41	4107948			0.00- 79.27	26.44
93 1,2-Dichloroethane					CAS #: 107-06-2		
15.619	15.647 (0.966)	62	4870654	100.000	100.26	80.00- 120.00	100.00
15.619	15.647 (0.966)	64	1562832			0.00- 82.89	32.09
94 Heptane					CAS #: 142-82-5		
15.702	15.730 (0.971)	71	3163902	100.000	115.36	80.00- 120.00	100.00
15.702	15.730 (0.971)	43	6221004			158.53- 258.53	196.62
15.702	15.730 (0.971)	57	3280251			59.34- 159.34	103.68
101 Trichloroethene					CAS #: 79-01-6		
16.642	16.642 (1.029)	95	4228075	100.000	104.84	80.00- 120.00	100.00
16.642	16.642 (1.029)	130	4128816			49.05- 149.05	97.65
16.642	16.642 (1.029)	97	2716108			14.93- 114.93	64.24
104 1,2-Dichloropropane					CAS #: 78-87-5		
17.112	17.112 (1.058)	63	3756119	100.000	109.16	80.00- 120.00	100.00
17.112	17.112 (1.058)	62	2777792			23.52- 123.52	73.95
17.112	17.112 (1.058)	41	2270112			12.01- 112.01	60.44
106 1,4-Dioxane					CAS #: 123-91-1		
17.250	17.250 (1.067)	88	2460610	100.000	110.72	80.00- 120.00	100.00
17.250	17.250 (1.067)	58	1758611			21.50- 121.50	71.47
17.250	17.250 (1.067)	57	579042			0.00- 74.60	23.53
107 Bromodichloromethane					CAS #: 75-27-4		
17.554	17.555 (1.085)	83	7431432	100.000	106.01	80.00- 120.00	100.00
17.554	17.555 (1.085)	85	4773361			14.37- 114.37	64.23
110 cis-1,3-Dichloropropene					CAS #: 10061-01-5		
18.329	18.329 (1.133)	75	5602642	100.000	115.69	80.00- 120.00	100.00
18.329	18.329 (1.133)	77	1775227			0.00- 81.97	31.69
18.329	18.329 (1.133)	39	3130655			6.88- 106.88	55.88
111 4-Methyl-2-pentanone					CAS #: 108-10-1		
18.522	18.522 (1.145)	58	3231617	100.000	123.62	80.00- 120.00	100.00
18.494	18.522 (1.144)	43	8407133			222.97- 322.97	260.15
18.522	18.522 (1.145)	85	1253983			0.00- 90.48	38.80

AMOUNTS

RT	EXP RT (REL RT)	MASS	RESPONSE	CAL-AMT (PPBV)	ON-COL (PPBV)	TARGET RANGE	RATIO
114 Toluene					CAS #: 108-88-3		
18.882	18.882 (1.168)	91	10622557	100.000	107.53	80.00- 120.00	100.00
18.882	18.882 (1.168)	92	6779189			13.04- 113.04	63.82
116 trans-1,3-Dichloropropene					CAS #: 10061-02-6		
19.296	19.324 (0.904)	75	5889075	100.000	113.22	80.00- 120.00	100.00
19.296	19.324 (0.904)	77	1891543			0.00- 81.65	32.12
19.296	19.324 (0.904)	39	3137203			2.52- 102.52	53.27
117 1,1,2-Trichloroethane					CAS #: 79-00-5		
19.656	19.656 (0.921)	97	4149436	100.000	108.64	80.00- 120.00	100.00
19.656	19.656 (0.921)	99	2605800			13.08- 113.08	62.80
19.656	19.656 (0.921)	83	3504268			35.32- 135.32	84.45
120 Tetrachloroethene					CAS #: 127-18-4		
19.822	19.822 (0.929)	166	5048096	100.000	99.395	80.00- 120.00	100.00
19.822	19.822 (0.929)	129	3627743			22.39- 122.39	71.86
19.822	19.822 (0.929)	131	3514583			19.80- 119.80	69.62
121 2-Hexanone					CAS #: 591-78-6		
19.960	19.960 (0.935)	58	4648378	100.000	116.53	80.00- 120.00	100.00
19.960	19.960 (0.935)	43	8666932			138.63- 238.63	186.45
19.960	19.960 (0.935)	100	771717			0.00- 67.05	16.60
122 Dibromochloromethane					CAS #: 124-48-1		
20.347	20.347 (0.953)	129	7193156	100.000	104.70	80.00- 120.00	100.00
20.347	20.347 (0.953)	127	5526699			27.62- 127.62	76.83
123 1,2-Dibromoethane					CAS #: 106-93-4		
20.623	20.624 (0.966)	107	6833270	100.000	108.68	80.00- 120.00	100.00
20.623	20.624 (0.966)	109	6483894			44.67- 144.67	94.89
127 Chlorobenzene					CAS #: 108-90-7		
21.398	21.398 (1.003)	112	8692529	100.000	102.78	80.00- 120.00	100.00
21.398	21.398 (1.003)	114	2809468			0.00- 82.43	32.32
21.398	21.398 (1.003)	77	5295683			10.75- 110.75	60.92
128 Ethyl Benzene					CAS #: 100-41-4		
21.481	21.481 (1.006)	106	4526085	100.000	105.60	80.00- 120.00	100.00
21.481	21.481 (1.006)	91	14088042			261.69- 361.69	311.26
129 m,p-Xylene					CAS #: 108-38-3		
21.674	21.674 (1.016)	106	5707165	100.000	106.51	80.00- 120.00	100.00
21.674	21.674 (1.016)	91	11155051			145.05- 245.05	195.46
130 o-Xylene					CAS #: 95-47-6		
22.393	22.393 (1.049)	106	4939741	100.000	105.81	80.00- 120.00	100.00

AMOUNTS

RT	EXP RT (REL RT)	MASS	RESPONSE	CAL-AMT (PPBV)	ON-COL (PPBV)	TARGET RANGE	RATIO
130 o-Xylene (continued)							
22.393	22.393 (1.049)	91	10133037			154.65- 254.65	205.13
131 Styrene					CAS #: 100-42-5		
22.421	22.421 (1.051)	104	8386880	100.000	118.26	80.00- 120.00	100.00
22.421	22.421 (1.051)	78	4228696			1.69- 101.69	50.42
133 Bromoform					CAS #: 75-25-2		
22.835	22.836 (1.070)	173	6219626	100.000	101.85	80.00- 120.00	100.00
22.835	22.836 (1.070)	171	3232278			1.22- 101.22	51.97
134 Cumene					CAS #: 98-82-8		
22.974	22.974 (1.076)	105	12536875	100.000	106.57	80.00- 120.00	100.00
22.974	22.974 (1.076)	120	3479782			0.00- 78.08	27.76
22.946	22.974 (1.075)	51	1373233			0.00- 61.43	10.95
140 1,1,2,2-Tetrachloroethane					CAS #: 79-34-5		
23.527	23.527 (1.102)	83	8062379	100.000	102.92	80.00- 120.00	100.00
23.527	23.527 (1.102)	85	5184917			14.35- 114.35	64.31
142 Propylbenzene					CAS #: 103-65-1		
23.637	23.637 (1.108)	91	16597227	100.000	103.47	80.00- 120.00	100.00
23.637	23.637 (1.108)	120	3775008			0.00- 72.94	22.74
23.637	23.637 (1.108)	105	628127			0.00- 54.03	3.78
145 4-Ethyltoluene					CAS #: 622-96-8		
23.831	23.831 (1.117)	105	14829235	100.000	106.36	80.00- 120.00	100.00
23.831	23.831 (1.117)	120	4239290			0.00- 78.42	28.59
147 1,3,5-Trimethylbenzene					CAS #: 108-67-8		
23.914	23.914 (1.120)	105	10575210	100.000	94.663	80.00- 120.00	100.00
23.914	23.914 (1.120)	120	6029821			3.80- 103.80	57.02
150 1,2,4-Trimethylbenzene					CAS #: 95-63-6		
24.550	24.550 (1.150)	105	10414533	100.000	104.14	80.00- 120.00	100.00
24.550	24.550 (1.150)	120	5104145			0.00- 98.95	49.01
155 1,3-Dichlorobenzene					CAS #: 541-73-1		
25.130	25.130 (1.177)	146	7750426	100.000	99.257	80.00- 120.00	100.00
25.130	25.130 (1.177)	148	4950703			14.48- 114.48	63.88
25.130	25.130 (1.177)	111	3048873			0.00- 89.68	39.34
156 1,4-Dichlorobenzene					CAS #: 106-46-7		
25.269	25.269 (1.184)	146	8013173	100.000	98.166	80.00- 120.00	100.00
25.269	25.269 (1.184)	148	5111044			13.81- 113.81	63.78
25.269	25.269 (1.184)	111	3035431			0.00- 87.35	37.88

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS CAL-AMT (PPBV)	AMOUNTS ON-COL (PPBV)	TARGET RANGE	RATIO
159 alpha-Chlorotoluene					CAS #: 100-44-7		
25.490	25.490 (1.194)	91	12186141	100.000	116.33	80.00- 120.00	100.00
25.490	25.490 (1.194)	126	2530175			0.00- 71.29	20.76
161 1,2-Dichlorobenzene					CAS #: 95-50-1		
25.932	25.932 (1.215)	146	7169014	100.000	98.310	80.00- 120.00	100.00
25.932	25.932 (1.215)	148	4537423			14.30- 114.30	63.29
25.905	25.932 (1.214)	111	2874063			0.00- 90.50	40.09
165 1,2,4-Trichlorobenzene					CAS #: 120-82-1		
28.808	28.808 (1.350)	180	3030873	100.000	105.62	80.00- 120.00	100.00
28.808	28.808 (1.350)	182	2886523			45.65- 145.65	95.24
166 Hexachlorobutadiene					CAS #: 87-68-3		
29.001	29.001 (1.359)	225	2182918	100.000	86.635	80.00- 120.00	100.00
29.001	29.001 (1.359)	223	1362900			12.64- 112.64	62.43
167 Naphthalene					CAS #: 91-20-3		
29.361	29.388 (1.376)	128	5980908	100.000	114.00	80.00- 120.00	100.00(A)
29.361	29.388 (1.376)	127	723074			0.00- 62.50	12.09
29 Isopentane					CAS #: 78-78-4		
8.375	8.375 (0.581)	43	5045198	100.000	104.46	80.00- 120.00	100.00
8.375	8.375 (0.581)	57	3389808			16.48- 116.48	67.19
19 Butane					CAS #: 106-97-8		
6.771	6.771 (0.470)	58	777002	100.000	101.84	80.00- 120.00	100.00
6.771	6.771 (0.470)	43	6189652			757.70- 857.70	796.61
102 Methyl Cyclohexane					CAS #: 108-87-2		
16.918	16.919 (1.175)	83	5443508	100.000	112.98	80.00- 120.00	100.00
16.918	16.919 (1.175)	98	2475787			0.00- 96.13	45.48
16.891	16.919 (1.173)	55	4789110			38.51- 138.51	87.98

QC Flag Legend

A - Target compound detected but, quantitated amount exceeded maximum amount.

Report Date: 23-Oct-2007 09:33

Air Toxics Ltd.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd7.i
Lab File ID: 7101807.d
Lab Smp Id: ICAL
Analysis Type: VOA
Quant Type: ISTD
Operator: cb
Method File: /chem/msd7.i/7-18oct.b/t14qO18a.m
Misc Info: 200ppbv --> 100ppbv

Calibration Date: 18-OCT-2007
Calibration Time: 15:26
Client Smp ID: Level 6
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
81 Bromochloromethan	683549	410129	956969	692933	1.37
97 1,4-Difluorobenze	2204815	1322889	3086741	2281331	3.47
126 Chlorobenzene-d5	1812979	1087787	2538171	1862597	2.74

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
81 Bromochloromethan	14.40	14.07	14.73	14.40	0.00
97 1,4-Difluorobenze	16.17	15.84	16.50	16.17	0.00
126 Chlorobenzene-d5	21.37	21.04	21.70	21.34	-0.13

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /chem/msd7.i/7-18oct.b/7101807.d

Date : 18-OCT-2007 16:15

Client ID: Level 6

Sample Info: 100mL #1576-50

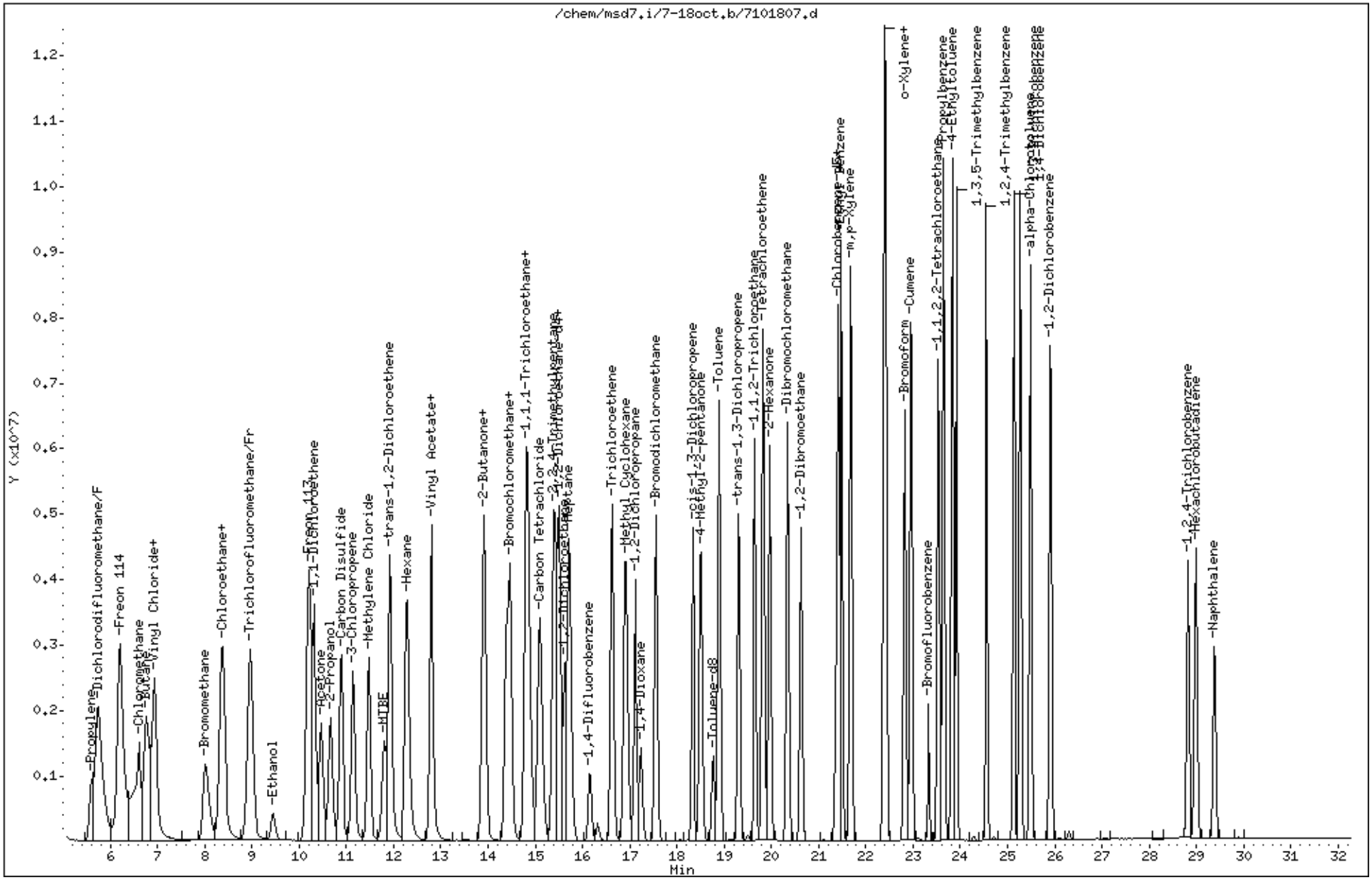
Column phase: RTx-624

Instrument: msd7.i

Operator: cb

Column diameter: 0.53

0250



Air Toxics Ltd.

AMBIENT AIR METHOD TO14

Data file : /chem/msd7.i/7-30oct.b/7103005.d
Lab Smp Id: ICAL Client Smp ID: Level 7
Inj Date : 30-OCT-2007 11:10
Operator : cb Inst ID: msd7.i
Smp Info : 200mL #1487-400
Misc Info : 200ppbv / 1200ppbv MeOH
Comment :
Method : /chem/msd7.i/7-30oct.b/t14qO18b.m
Meth Date : 30-Oct-2007 11:34 cbond Quant Type: ISTD
Cal Date : 30-OCT-2007 11:10 Cal File: 7103005.d
Als bottle: 1 Calibration Sample, Level: 7
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: sp1c.sub
Target Version: 3.50 Sample Matrix: AIR
Processing Host: eeyore

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS CAL-AMT (PPBV)	AMOUNTS ON-COL (PPBV)	TARGET RANGE	RATIO
* 81 Bromochloromethane					CAS #: 74-97-5		
14.416	14.416 (1.000)	130	522806	25.0000		50.00- 150.00	100.00
14.416	14.416 (1.000)	128	396127			26.81- 126.81	75.77
14.416	14.416 (1.000)	49	725431			112.06- 212.06	138.76
* 97 1,4-Difluorobenzene					CAS #: 540-36-3		
16.186	16.186 (1.000)	114	1724754	25.0000		50.00- 150.00	100.00
16.158	16.158 (1.000)	88	263120			0.00- 65.39	15.26
* 126 Chlorobenzene-d5					CAS #: 3114-55-4		
21.356	21.356 (1.000)	117	1260309	25.0000		50.00- 150.00	100.00
21.356	21.356 (1.000)	82	666153			4.45- 104.45	52.86
26 Methanol					CAS #: 67-56-1		
7.616	7.616 (0.528)	31	9372295	1200.00	1049.8	50.00- 150.00	100.00
7.616	7.616 (0.528)	32	6569144			96.19- 196.19	70.09

Report Date: 30-Oct-2007 11:34

Air Toxics Ltd.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd7.i
Lab File ID: 7103005.d
Lab Smp Id: ICAL
Analysis Type: VOA
Quant Type: ISTD
Operator: cb
Method File: /chem/msd7.i/7-30oct.b/t14qO18b.m
Misc Info: 200ppbv / 1200ppbv MeOH

Calibration Date: 30-OCT-2007
Calibration Time: 10:29
Client Smp ID: Level 7
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
81 Bromochloromethan	486199	291719	680679	522806	7.53
97 1,4-Difluorobenze	1616415	969849	2262981	1724754	6.70
126 Chlorobenzene-d5	1130394	678236	1582552	1260309	11.49

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
81 Bromochloromethan	14.42	14.09	14.75	14.42	0.00
97 1,4-Difluorobenze	16.19	15.86	16.52	16.19	0.00
126 Chlorobenzene-d5	21.36	21.03	21.69	21.36	0.00

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /chem/msd7.i/7-30oct.b/7103005.d

Date : 30-OCT-2007 11:10

Client ID: Level 7

Sample Info: 200mL #1487-400

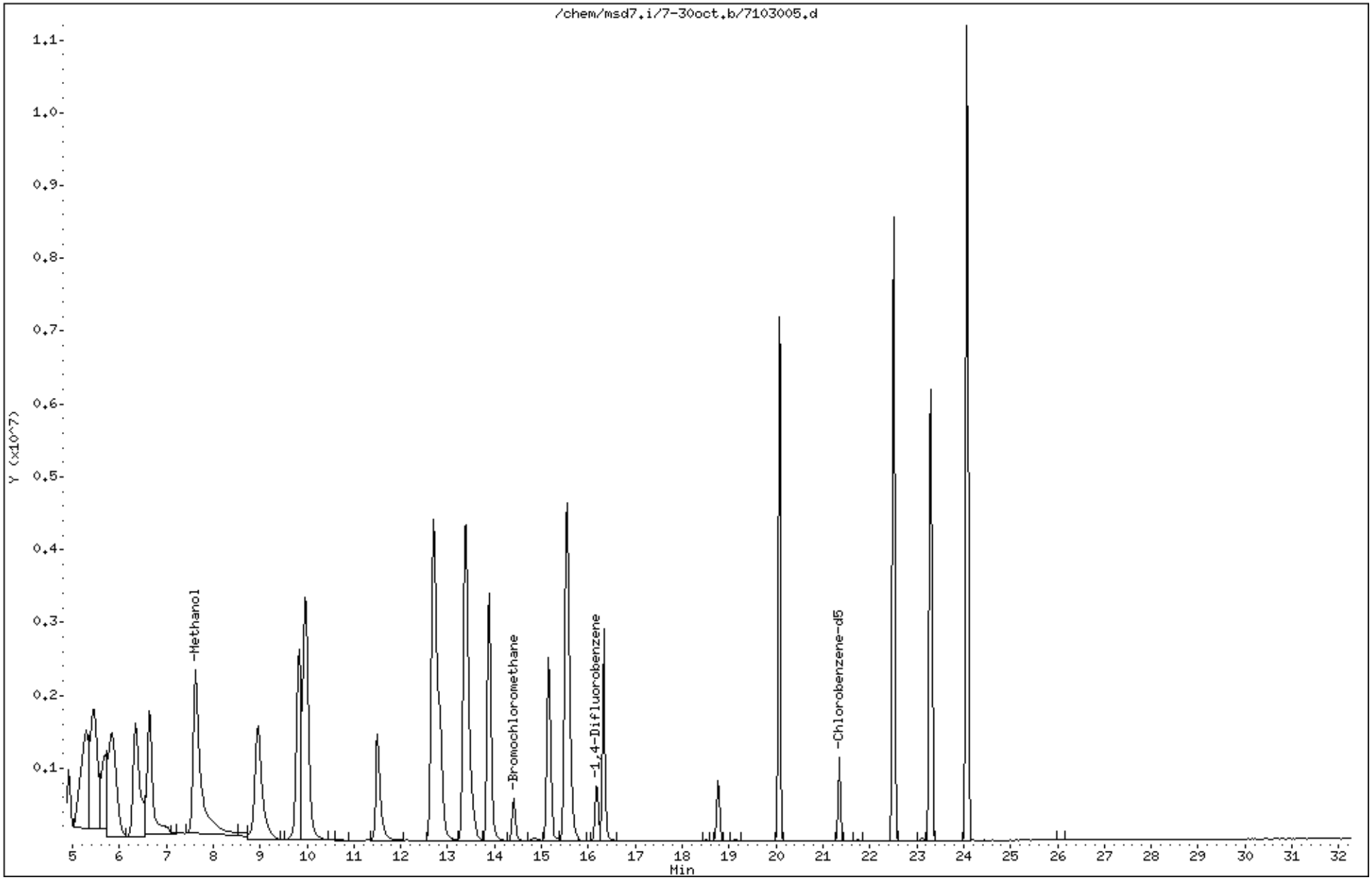
Column phase: RTx-624

Instrument: msd7.i

Operator: cb

Column diameter: 0.53

0253



Air Toxics Ltd.

AMBIENT AIR METHOD TO14

Data file : /chem/msd7.i/7-22oct.b/7102207.d
Lab Smp Id: ICAL Client Smp ID: Level 7
Inj Date : 22-OCT-2007 12:34
Operator : cb Inst ID: msd7.i
Smp Info : 200mL #1487-370
Misc Info : 200ppbv
Comment :
Method : /chem/msd7.i/7-22oct.b/t14qO18b.m
Meth Date : 22-Oct-2007 13:49 sscott Quant Type: ISTD
Cal Date : 22-OCT-2007 12:34 Cal File: 7102207.d
Als bottle: 1 Calibration Sample, Level: 7
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: sp16b.sub
Target Version: 3.50 Sample Matrix: AIR
Processing Host: eeyore

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS CAL-AMT (PPBV)	AMOUNTS ON-COL (PPBV)	TARGET RANGE	RATIO
* 81 Bromochloromethane					CAS #: 74-97-5		
14.403	14.403 (1.000)	130	673561	25.0000		50.00- 150.00	100.00
14.403	14.403 (1.000)	128	516226			26.49- 126.49	76.64
14.403	14.403 (1.000)	49	984353			116.97- 216.97	146.14
* 97 1,4-Difluorobenzene					CAS #: 540-36-3		
16.172	16.172 (1.000)	114	2139015	25.0000		50.00- 150.00	100.00
16.144	16.144 (1.000)	88	336134			0.00- 65.57	15.71
* 126 Chlorobenzene-d5					CAS #: 3114-55-4		
21.343	21.343 (1.000)	117	1735730	25.0000		50.00- 150.00	100.00
21.343	21.343 (1.000)	82	959991			5.19- 105.19	55.31
55 Cyclopentene					CAS #: 142-29-0		
11.250	11.250 (0.781)	67	24655264	200.000	196.46	50.00- 150.00	100.00
11.250	11.250 (0.781)	68	10041444			0.00- 90.48	40.73
11.250	11.250 (0.781)	53	5185944			0.00- 70.85	21.03
78 2,2-Dichloropropane					CAS #: 594-20-7		
13.877	13.877 (0.964)	77	15691308	200.000	199.68	50.00- 150.00	100.00

```
                                          AMOUNTS
                                       CAL-AMT   ON-COL
   RT   EXP RT (REL RT)  MASS  RESPONSE ( PPBV)  ( PPBV)   TARGET RANGE    RATIO
   ==   ====== ========  ====  ======== =======  =======   ============    =====

   78 2,2-Dichloropropane (continued)
 13.877  13.877 (0.964)    79   5093949                     0.00-  84.30    32.46
 13.877  13.877 (0.964)    97   3105546                     0.00-  70.03    19.79
-------------------------------------------------------------------------------
   88 1,1-Dichloropropene                          CAS #: 563-58-6
 15.121  15.121 (0.935)   110   5598961 200.000   194.16  50.00- 150.00   100.00
 15.121  15.121 (0.935)    75  15225105                   218.22- 318.22   271.93
-------------------------------------------------------------------------------
  118 1,3-Dichloropropane                          CAS #: 142-28-9
 19.988  19.988 (1.236)    76  16526790 200.000   192.47  50.00- 150.00   100.00
 19.988  19.988 (1.236)    41  12361559                    21.54- 121.54    74.80
 19.988  19.988 (1.236)    78   5401543                     0.00-  81.77    32.68
-------------------------------------------------------------------------------
  125 1,1,1,2-Tetrachloroethane                    CAS #: 630-20-6
 21.536  21.536 (1.009)   131  11284242 200.000   182.31  50.00- 150.00   100.00
 21.536  21.536 (1.009)   117   7823289                    18.93- 118.93    69.33
 21.508  21.508 (1.008)    95   4494362                     0.00-  89.37    39.83
-------------------------------------------------------------------------------
  136 Bromobenzene                                 CAS #: 108-86-1
 23.610  23.610 (1.106)   156  12398942 200.000   170.72  50.00- 150.00   100.00
 23.610  23.610 (1.106)   158  11947029                    46.65- 146.65    96.36
 23.610  23.610 (1.106)    77  25141267                   147.77- 247.77   202.77
-------------------------------------------------------------------------------
  138 1,2,3-Trichloropropane                       CAS #: 96-18-4
 23.665  23.665 (1.109)   110   6154610 200.000   181.10  50.00- 150.00   100.00
 23.665  23.665 (1.109)    75  18226348                   252.90- 352.90   296.14
 23.665  23.665 (1.109)    61   5029833                    26.84- 126.84    81.72
-------------------------------------------------------------------------------
  141 2-Chlorotoluene                              CAS #: 95-49-8
 23.886  23.886 (1.119)   126   9861927 200.000   183.86  50.00- 150.00   100.00
 23.886  23.886 (1.119)    91  27734828                   243.86- 343.86   281.23
 23.886  23.886 (1.119)    65   2849980                     0.00-  78.37    28.90
-------------------------------------------------------------------------------
  143 4-Chlorotoluene                              CAS #: 106-43-4
 24.080  24.080 (1.128)   126  10574734 200.000   184.78  50.00- 150.00   100.00
 24.080  24.080 (1.128)    91  31217904                   249.00- 349.00   295.21
 24.052  24.052 (1.127)    63   4277338                     0.00-  88.24    40.45
-------------------------------------------------------------------------------
  153 p-Cymene                                     CAS #: 99-87-6
 25.020  25.020 (1.172)   119  28643628 200.000   168.92  50.00- 150.00   100.00
 25.020  25.020 (1.172)   134   8292866                     0.00-  77.89    28.95
 25.020  25.020 (1.172)    91   7805069                     0.00-  74.89    27.25
-------------------------------------------------------------------------------
  154 1,2,3-Trimethylbenzene                       CAS #: 526-73-8
 25.269  25.269 (1.184)   120  12274481 200.000   182.45  50.00- 150.00   100.00
 25.269  25.269 (1.184)   105  26523849                   168.18- 268.18   216.09
```

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS CAL-AMT (PPBV)	AMOUNTS ON-COL (PPBV)	TARGET RANGE	RATIO
154 1,2,3-Trimethylbenzene (continued)							
25.269	25.269 (1.184)	77	3529142			0.00- 78.76	28.75
158 Butylbenzene					CAS #: 104-51-8		
25.711	25.711 (1.205)	134	8414072	200.000	184.54	50.00- 150.00	100.00
25.683	25.683 (1.203)	91	32519787			362.01- 462.01	386.49
25.683	25.683 (1.203)	92	19592755			181.94- 281.94	232.86
148 tert-Butylbenzene					CAS #: 98-06-6		
24.467	24.467 (1.146)	119	25590950	200.000	167.41	50.00- 150.00	100.00
24.467	24.467 (1.146)	134	6336082			0.00- 74.64	24.76
24.467	24.467 (1.146)	91	18525334			20.96- 120.96	72.39
149 sec-Butylbenzene					CAS #: 135-98-8		
24.826	24.826 (1.163)	105	33869689	200.000	160.07	50.00- 150.00	100.00
24.826	24.826 (1.163)	134	7347588			0.00- 69.71	21.69
24.826	24.826 (1.163)	91	6246168			0.00- 65.99	18.44
162 1,2-Dibromo-3-Chloropropane					CAS #: 96-12-8		
27.287	27.287 (1.279)	157	11002854	200.000	201.08	50.00- 150.00	100.00(A)
27.287	27.287 (1.279)	75	9943412			39.96- 139.96	90.37
27.287	27.287 (1.279)	155	8612482			28.87- 128.87	78.27
201 Pentachloroethane					CAS #: 76-01-7		
24.605	24.605 (1.153)	167	7797399	200.000	170.61	50.00- 150.00	100.00
24.605	24.605 (1.153)	117	8410733			54.36- 154.36	107.87
24.605	24.605 (1.153)	169	3738433			0.00- 97.70	47.94

QC Flag Legend

A - Target compound detected but, quantitated amount exceeded maximum amount.

Report Date: 22-Oct-2007 13:49

Air Toxics Ltd.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd7.i
Lab File ID: 7102207.d
Lab Smp Id: ICAL
Analysis Type: VOA
Quant Type: ISTD
Operator: cb
Method File: /chem/msd7.i/7-22oct.b/t14qO18b.m
Misc Info: 200ppbv

Calibration Date: 22-OCT-2007
Calibration Time: 11:44
Client Smp ID: Level 7
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
81 Bromochloromethan	653745	392247	915243	673561	3.03
97 1,4-Difluorobenze	2055535	1233321	2877749	2139015	4.06
126 Chlorobenzene-d5	1681036	1008622	2353450	1735730	3.25

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
81 Bromochloromethan	14.40	14.07	14.73	14.40	0.00
97 1,4-Difluorobenze	16.17	15.84	16.50	16.17	0.00
126 Chlorobenzene-d5	21.34	21.01	21.67	21.34	0.00

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /chem/msd7.i/7-22oct.b/7102207.d

Date : 22-OCT-2007 12:34

Client ID: Level 7

Sample Info: 200mL #1487-370

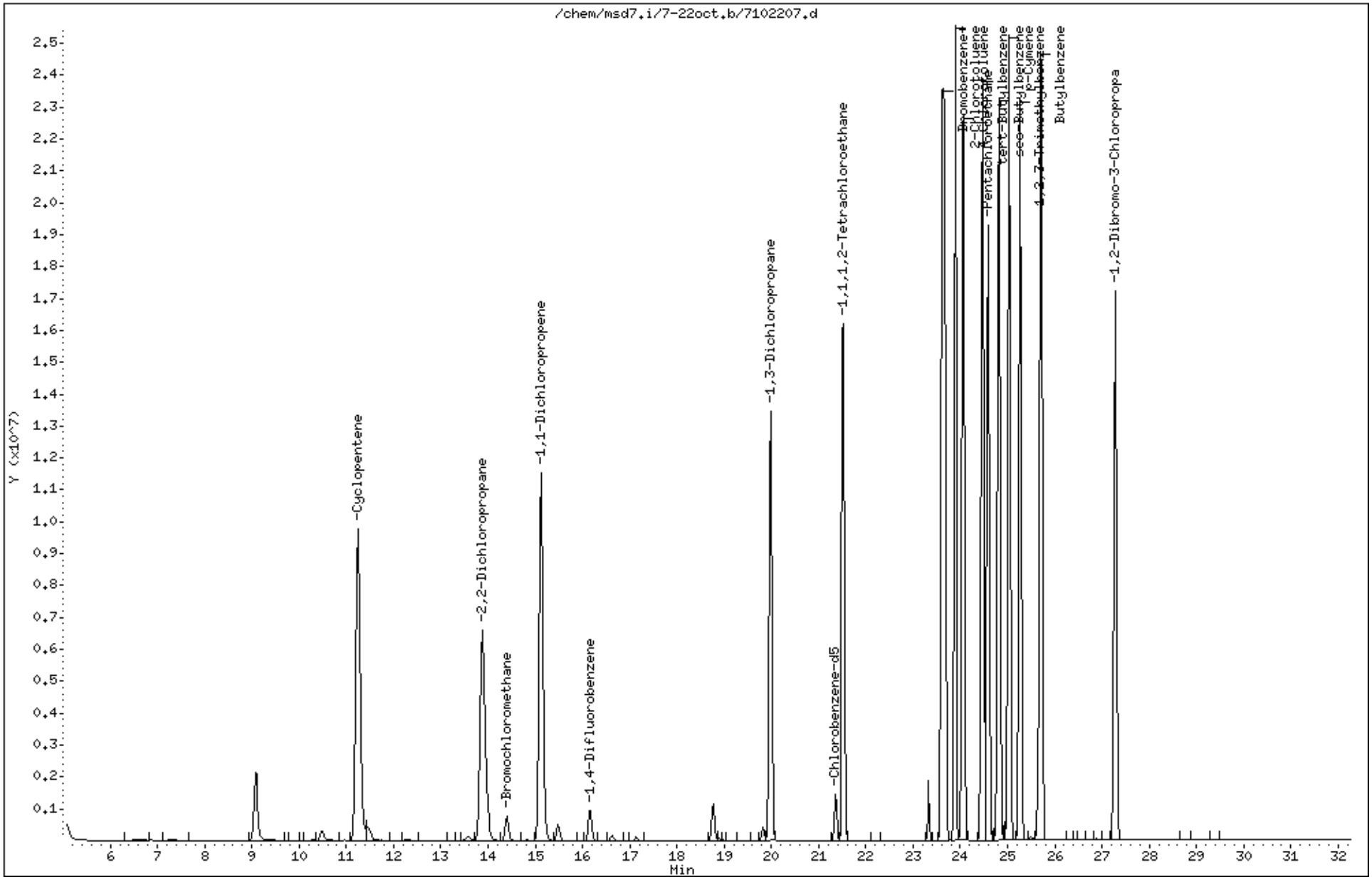
Column phase: RTx-624

Instrument: msd7.i

Operator: cb

Column diameter: 0.53

0258



Air Toxics Ltd.

AMBIENT AIR METHOD TO14

Data file : /chem/msd7.i/7-19oct.b/7101905.d
Lab Smp Id: ICAL Client Smp ID: Level 7
Inj Date : 19-OCT-2007 11:41
Operator : cb Inst ID: msd7.i
Smp Info : 200mL #1487-400
Misc Info : 200ppbv
Comment :
Method : /chem/msd7.i/7-19oct.b/t14qO18a.m
Meth Date : 19-Oct-2007 12:11 cbond Quant Type: ISTD
Cal Date : 19-OCT-2007 11:41 Cal File: 7101905.d
Als bottle: 1 Calibration Sample, Level: 7
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: sp22a.sub
Target Version: 3.50 Sample Matrix: AIR
Processing Host: eeyore

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS CAL-AMT (PPBV)	AMOUNTS ON-COL (PPBV)	TARGET RANGE	RATIO
* 81 Bromochloromethane					CAS #: 74-97-5		
14.403	14.403 (1.000)	130	719204	25.0000		50.00- 150.00	100.00
14.403	14.403 (1.000)	128	554464			26.59- 126.59	77.09
14.403	14.403 (1.000)	49	1056116			116.89- 216.89	146.85
* 97 1,4-Difluorobenzene					CAS #: 540-36-3		
16.172	16.172 (1.000)	114	2349296	25.0000		50.00- 150.00	100.00
16.172	16.172 (1.000)	88	359832			0.00- 65.64	15.32
* 126 Chlorobenzene-d5					CAS #: 3114-55-4		
21.343	21.343 (1.000)	117	1844247	25.0000		50.00- 150.00	100.00
21.343	21.343 (1.000)	82	1019868			5.24- 105.24	55.30
5 Freon 143a					CAS #: 420-46-2		
5.334	5.334 (0.370)	65	3045734	200.000	194.22	50.00- 150.00	100.00
5.278	5.278 (0.366)	69	25389070			0.00- 50.00	833.59
5.334	5.334 (0.370)	64	879543			0.00- 77.08	28.88
6 Freon142b					CAS #: 75-68-3		
6.357	6.357 (0.441)	65	12224721	200.000	191.11	50.00- 150.00	100.00

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS CAL-AMT (PPBV)	AMOUNTS ON-COL (PPBV)	TARGET RANGE	RATIO
6 Freon142b (continued)							
6.357	6.357 (0.441)	45	2982983			0.00- 74.42	24.40
13 Freon 134a						CAS #: 811-97-2	
5.472	5.472 (0.380)	83	5950549	200.000	194.14	50.00- 150.00	100.00
5.278	5.278 (0.366)	69	25368047			398.13- 498.13	426.31
5.472	5.472 (0.380)	63	881809			0.00- 64.08	14.82
15 Freon 152a						CAS #: 75-37-6	
5.693	5.693 (0.395)	65	4242747	200.000	191.73	50.00- 150.00	100.00
5.693	5.693 (0.395)	51	6723031			109.56- 209.56	158.46
5.693	5.693 (0.395)	47	1728528			0.00- 90.52	40.74
17 Freon 22						CAS #: 75-45-6	
5.831	5.831 (0.405)	51	13489320	200.000	188.69	50.00- 150.00	100.00
5.831	5.831 (0.405)	67	1587590			0.00- 61.77	11.77
5.831	5.831 (0.405)	85	174736			0.00- 51.67	1.30
34 Dichlorofluoromethane/Fr21						CAS #: 75-43-4	
8.956	8.956 (0.622)	67	12537837	200.000	197.68	50.00- 150.00	100.00
8.956	8.956 (0.622)	69	3925693			0.00- 81.12	31.31
8.956	8.956 (0.622)	35	312263			0.00- 53.83	2.49
40 Freon123a						CAS #: 354-23-4	
9.813	9.813 (0.681)	117	7250064	200.000	202.31	50.00- 150.00	100.00
9.813	9.813 (0.681)	67	10592599			110.97- 210.97	146.10
41 Freon123						CAS #: 306-83-2	
9.979	9.979 (0.693)	83	12396163	200.000	195.02	50.00- 150.00	100.00
9.979	9.979 (0.693)	133	2428184			0.00- 69.52	19.59
9.979	9.979 (0.693)	85	8627843			22.16- 122.16	69.60
57 tert-Butyl-Alcohol						CAS #: 75-65-0	
11.499	11.499 (0.798)	59	10315180	200.000	154.66	50.00- 150.00	100.00
11.499	11.499 (0.798)	41	2017442			0.00- 73.42	19.56
11.499	11.499 (0.798)	57	995118			0.00- 60.26	9.65
68 Isopropyl ether						CAS #: 108-20-3	
12.716	12.716 (0.883)	45	25503179	200.000	198.71	50.00- 150.00	100.00
12.716	12.716 (0.883)	87	5827965			0.00- 73.31	22.85
12.716	12.716 (0.883)	59	2197946			0.00- 58.30	8.62
71 1-Propanol						CAS #: 71-23-8	
12.827	12.827 (0.891)	42	1744378	200.000	216.72	50.00- 150.00	100.00(A)
12.827	12.827 (0.891)	59	2451515			95.91- 195.91	140.54
12.716	12.716 (0.883)	41	4841849			265.93- 365.93	277.57

AMOUNTS

RT	EXP RT (REL RT)	MASS	RESPONSE	CAL-AMT (PPBV)	ON-COL (PPBV)	TARGET RANGE	RATIO
73 t-Butylethyl Ether					CAS #: 637-92-3		
13.380	13.380 (0.929)	59	22428943	200.000	205.02	50.00- 150.00	100.00(A)
13.380	13.380 (0.929)	87	8578877			0.00- 88.95	38.25
13.380	13.380 (0.929)	41	3840776			0.00- 67.89	17.12
77 Ethyl Acetate					CAS #: 141-78-6		
13.877	13.877 (0.964)	45	2506944	200.000	205.24	50.00- 150.00	100.00(A)
13.877	13.877 (0.964)	61	2395467			49.04- 149.04	95.55
13.877	13.877 (0.964)	43	17175833			622.55- 722.55	685.13
92 tert-amyl-Methyl Ether					CAS #: 994-05-8		
15.536	15.536 (1.079)	73	16550042	200.000	206.99	50.00- 150.00	100.00(A)
15.536	15.536 (1.079)	87	3917490			0.00- 73.71	23.67
15.536	15.536 (1.079)	55	4261857			0.00- 78.56	25.75
96 2-Heptanone					CAS #: 110-43-0		
22.504	22.504 (1.562)	58	11184866	200.000	233.27	50.00- 150.00	100.00(A)
22.504	22.504 (1.562)	43	17315235			108.53- 208.53	154.81
98 1-Butanol					CAS #: 71-36-3		
16.310	16.310 (1.009)	56	5482757	200.000	238.74	50.00- 150.00	100.00(A)
16.310	16.310 (1.009)	41	3917821			21.86- 121.86	71.46
16.310	16.310 (1.009)	43	3065816			9.15- 109.15	55.92
99 Isobutanol					CAS #: 78-83-1		
15.149	15.149 (1.052)	59	187856	200.000	238.56	50.00- 150.00	100.00(A)
15.149	15.149 (1.052)	41	4506517			2630.47-2730.47	2398.92
15.149	15.149 (1.052)	43	6310018			3703.83-3803.83	3358.97
119 Butyl Acetate					CAS #: 123-86-4		
20.071	20.071 (1.241)	56	7474090	200.000	218.55	50.00- 150.00	100.00(A)
20.071	20.071 (1.241)	73	2366289			0.00- 82.98	31.66
20.071	20.071 (1.241)	43	18435926			197.73- 297.73	246.66
135 Cyclohexanone					CAS #: 108-94-1		
23.278	23.278 (1.091)	55	8115059	200.000	221.35	50.00- 150.00	100.00(A)
23.278	23.278 (1.091)	98	3387837			0.00- 90.62	41.75
23.278	23.278 (1.091)	42	5606169			17.43- 117.43	69.08
146 Diisobutyl Ketone					CAS #: 108-83-8		
24.080	24.080 (1.128)	57	16489699	200.000	199.54	50.00- 150.00	100.00
24.080	24.080 (1.128)	85	13022144			31.14- 131.14	78.97
0.000	1.000 (0.000)	0	0			0.00- 50.00	0.00

QC Flag Legend

A - Target compound detected but, quantitated amount
exceeded maximum amount.

Report Date: 19-Oct-2007 12:11

Air Toxics Ltd.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd7.i
Lab File ID: 7101905.d
Lab Smp Id: ICAL
Analysis Type: VOA
Quant Type: ISTD
Operator: cb
Method File: /chem/msd7.i/7-19oct.b/t14qO18a.m
Misc Info: 200ppbv

Calibration Date: 19-OCT-2007
Calibration Time: 11:00
Client Smp ID: Level 7
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
81 Bromochloromethan	694127	416476	971778	719204	3.61
97 1,4-Difluorobenze	2223212	1333927	3112497	2349296	5.67
126 Chlorobenzene-d5	1779964	1067978	2491950	1844247	3.61

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
81 Bromochloromethan	14.40	14.07	14.73	14.40	0.00
97 1,4-Difluorobenze	16.17	15.84	16.50	16.17	0.00
126 Chlorobenzene-d5	21.37	21.04	21.70	21.34	-0.13

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

0264

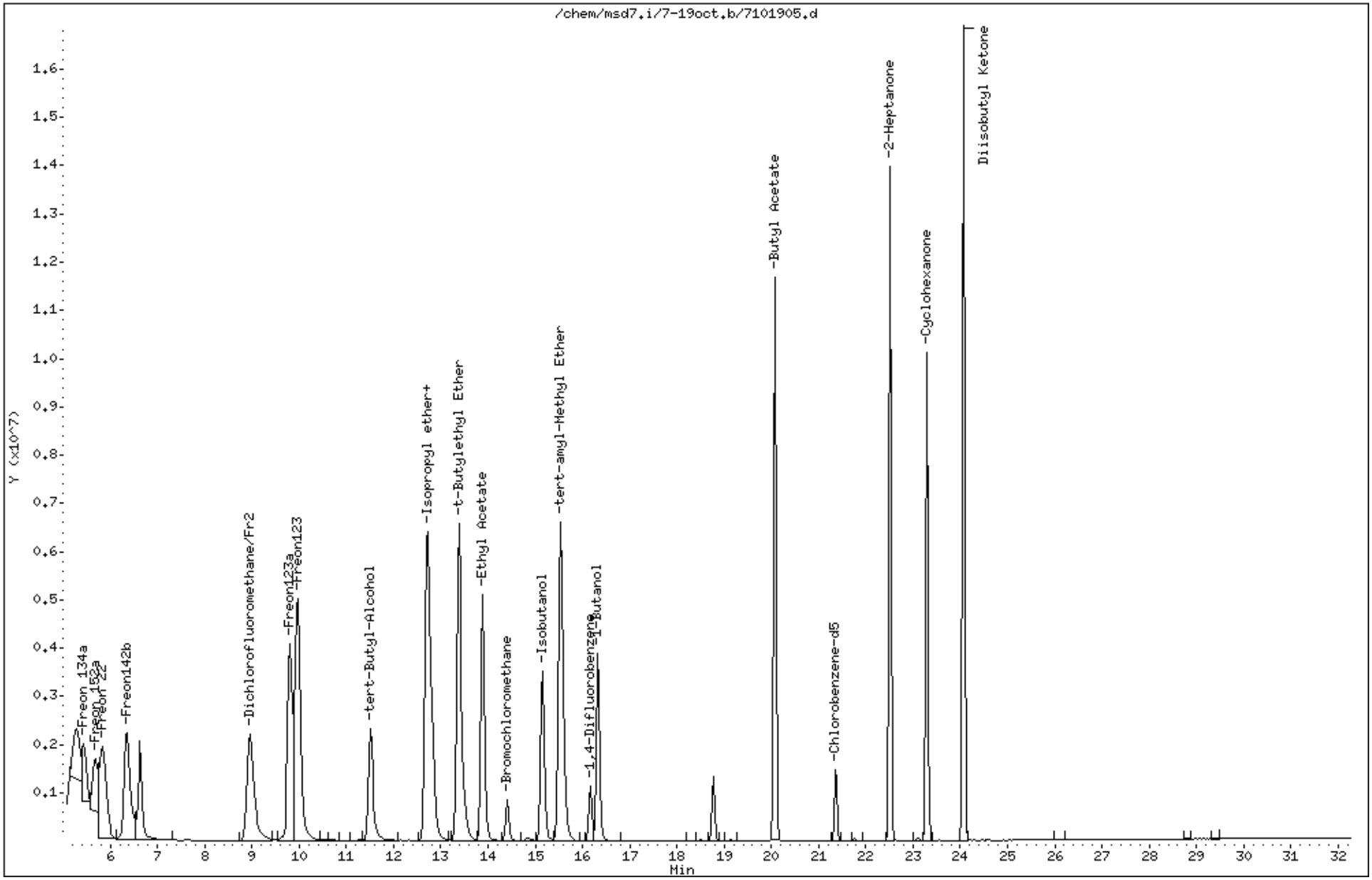
Data File: /chem/msd7.i/7-19oct.b/7101905.d
Date : 19-OCT-2007 11:41
Client ID: Level 7
Sample Info: 200mL #1487-400

Instrument: msd7.i

Operator: cb

Column phase: RTx-624

Column diameter: 0.53



Air Toxics Ltd.

AMBIENT AIR METHOD TO14

Data file : /chem/msd7.i/7-18oct.b/7101808.d
Lab Smp Id: ICAL Client Smp ID: Level 7
Inj Date : 18-OCT-2007 17:39
Operator : cb Inst ID: msd7.i
Smp Info : 200mL #1576-50
Misc Info : 200ppbv --> 200ppbv
Comment :
Method : /chem/msd7.i/7-18oct.b/t14qO18a.m
Meth Date : 22-Oct-2007 16:12 dmendoza Quant Type: ISTD
Cal Date : 18-OCT-2007 17:39 Cal File: 7101808.d
Als bottle: 1 Calibration Sample, Level: 7
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: AT04mdl+ENSR.sub
Target Version: 3.50 Sample Matrix: AIR
Processing Host: eeyore

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS CAL-AMT (PPBV)	AMOUNTS ON-COL (PPBV)	TARGET RANGE	RATIO
* 81 Bromochloromethane					CAS #: 74-97-5		
14.402	14.402 (1.000)	130	676936	25.0000		80.00- 120.00	100.00
14.402	14.402 (1.000)	128	529899			26.95- 126.95	78.28
14.458	14.402 (1.000)	49	2421312			141.62- 241.62	357.69
* 97 1,4-Difluorobenzene					CAS #: 540-36-3		
16.172	16.172 (1.000)	114	2378077	25.0000		80.00- 120.00	100.00
16.172	16.172 (1.000)	88	364352			0.00- 65.69	15.32
* 126 Chlorobenzene-d5					CAS #: 3114-55-4		
21.342	21.370 (1.000)	117	1869726	25.0000		80.00- 120.00	100.00
21.342	21.370 (1.000)	82	1037631			5.32- 105.32	55.50
$ 90 1,2-Dichloroethane-d4					CAS #: 17060-07-0		
15.481	15.508 (1.075)	65	926657	25.0000	25.481	80.00- 120.00	100.00
15.481	15.508 (1.075)	67	627207			2.91- 102.91	67.68
$ 113 Toluene-d8					CAS #: 2037-26-5		
18.771	18.771 (1.161)	98	2173091	25.0000	25.742	80.00- 120.00	100.00
18.771	18.771 (1.161)	70	240988			0.00- 61.46	11.09

```
                                          AMOUNTS
                                       CAL-AMT   ON-COL
   RT   EXP RT (REL RT)  MASS  RESPONSE ( PPBV)  ( PPBV)   TARGET RANGE    RATIO
   ==   ====== ========  ====  ======== =======  =======   ============    =====

$ 113 Toluene-d8 (continued)
 18.771  18.771 (1.161)   100   1512682                   19.18- 119.18    69.61
-------------------------------------------------------------------------------
$ 137 Bromofluorobenzene                            CAS #: 460-00-4
 23.333  23.333 (1.093)   174   1090787 25.0000   24.517  80.00- 120.00   100.00
 23.333  23.333 (1.093)    95   1407511                   76.80- 176.80   129.04
 23.333  23.333 (1.093)   176   1052507                   46.06- 146.06    96.49
-------------------------------------------------------------------------------
   11 Propylene                                     CAS #: 115-07-1
  5.638   5.610 (0.391)    41   6024485 200.000   206.49  80.00- 120.00   100.00(A)
  5.638   5.610 (0.391)    42   4229291                   21.19- 121.19    70.20
  5.638   5.610 (0.391)    39   4559811                   24.83- 124.83    75.69
-------------------------------------------------------------------------------
   12 Dichlorodifluoromethane/Fr12                  CAS #: 75-71-8
  5.776   5.748 (0.401)    85  21314692 200.000   199.25  80.00- 120.00   100.00
  5.776   5.748 (0.401)    87   7050808                    0.00-  83.07    33.08
-------------------------------------------------------------------------------
   16 Freon 114                                     CAS #: 76-14-2
  6.246   6.218 (0.434)   135  13067052 200.000   179.47  80.00- 120.00   100.00
  6.246   6.218 (0.434)   137   4161827                    0.00-  81.81    31.85
-------------------------------------------------------------------------------
   18 Chloromethane                                 CAS #: 74-87-3
  6.550   6.522 (0.455)    50   7320258 200.000   208.08  80.00- 120.00   100.00(A)
  6.550   6.522 (0.455)    52   2424741                    0.00-  84.80    33.12
-------------------------------------------------------------------------------
   20 Vinyl Chloride                                CAS #: 75-01-4
  6.882   6.882 (0.478)    62   8914081 200.000   202.96  80.00- 120.00   100.00(A)
  6.882   6.882 (0.478)    64   2806611                    0.00-  83.25    31.49
-------------------------------------------------------------------------------
   22 1,3-Butadiene                                 CAS #: 106-99-0
  6.992   6.937 (0.485)    54   7071038 200.000   224.76  80.00- 120.00   100.00(A)
  6.992   6.937 (0.485)    39   7381307                   55.97- 155.97   104.39
-------------------------------------------------------------------------------
   25 Bromomethane                                  CAS #: 74-83-9
  8.043   8.043 (0.558)    94   8554987 200.000   219.99  80.00- 120.00   100.00(A)
  8.043   8.043 (0.558)    96   8052509                   43.77- 143.77    94.13
-------------------------------------------------------------------------------
   27 Chloroethane                                  CAS #: 75-00-3
  8.375   8.375 (0.581)    64   4784892 200.000   245.58  80.00- 120.00   100.00(A)
  8.375   8.375 (0.581)    49   1297505                    0.00-  79.34    27.12
  8.375   8.375 (0.581)    66   1528927                    0.00-  83.15    31.95
-------------------------------------------------------------------------------
   31 Trichlorofluoromethane/Fr11                   CAS #: 75-69-4
  8.983   8.956 (0.624)   101  21226149 200.000   212.69  80.00- 120.00   100.00(A)
  8.983   8.956 (0.624)   103  13713885                   14.33- 114.33    64.61
-------------------------------------------------------------------------------
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RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS CAL-AMT (PPBV)	AMOUNTS ON-COL (PPBV)	TARGET RANGE	RATIO
38 Ethanol					CAS #: 64-17-5		
9.481	9.453 (0.658)	45	3122247	200.000	229.38	80.00- 120.00	100.00(A)
9.481	9.453 (0.658)	43	609786			0.00- 72.83	19.53
9.481	9.453 (0.658)	46	1215909			0.00- 88.20	38.94
42 Freon 113					CAS #: 76-13-1		
10.227	10.227 (0.710)	151	11652787	200.000	209.94	80.00- 120.00	100.00(A)
10.227	10.227 (0.710)	153	7437320			13.49- 113.49	63.82
10.200	10.227 (0.708)	101	14619562			73.17- 173.17	125.46
43 1,1-Dichloroethene					CAS #: 75-35-4		
10.338	10.338 (0.718)	61	12965105	200.000	219.51	80.00- 120.00	100.00(A)
10.338	10.338 (0.718)	96	7908848			11.42- 111.42	61.00
10.338	10.338 (0.718)	98	5068711			0.00- 89.70	39.10
45 Acetone					CAS #: 67-64-1		
10.476	10.504 (0.727)	58	4132810	200.000	226.38	80.00- 120.00	100.00(A)
10.476	10.504 (0.727)	43	12250219			247.10- 347.10	296.41
46 2-Propanol					CAS #: 67-63-0		
10.670	10.697 (0.741)	45	15447383	200.000	238.50	80.00- 120.00	100.00(A)
10.670	10.697 (0.741)	43	3565283			0.00- 75.54	23.08
10.670	10.697 (0.741)	59	612054			0.00- 53.72	3.96
47 Carbon Disulfide					CAS #: 75-15-0		
10.891	10.891 (0.756)	76	25177181	200.000	223.43	80.00- 120.00	100.00(A)
51 3-Chloropropene					CAS #: 107-05-1		
11.167	11.168 (0.775)	76	4508750	200.000	245.87	80.00- 120.00	100.00(A)
11.167	11.168 (0.775)	41	11027823			224.96- 324.96	244.59
54 Methylene Chloride					CAS #: 75-09-2		
11.472	11.472 (0.796)	49	9796957	200.000	225.62	80.00- 120.00	100.00(A)
11.472	11.472 (0.796)	84	7143181			23.49- 123.49	72.91
11.472	11.472 (0.796)	51	3006658			0.00- 80.85	30.69
60 MTBE					CAS #: 1634-04-4		
11.803	11.831 (0.820)	73	11025528	200.000	167.11	80.00- 120.00	100.00
11.803	11.831 (0.820)	57	2595297			0.00- 73.11	23.54
11.803	11.831 (0.820)	41	2404900			0.00- 76.16	21.81
61 trans-1,2-Dichloroethene					CAS #: 156-60-5		
11.942	11.942 (0.829)	96	9012807	200.000	224.59	80.00- 120.00	100.00(A)
11.942	11.942 (0.829)	61	12893816			93.77- 193.77	143.06
11.942	11.942 (0.829)	98	5726329			11.77- 111.77	63.54

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                                          AMOUNTS
                                       CAL-AMT   ON-COL
   RT   EXP RT (REL RT)  MASS  RESPONSE ( PPBV)  ( PPBV)   TARGET RANGE    RATIO
   ==   ====== ========  ====  ======== =======  =======   ============    =====

   65 Hexane                                          CAS #: 110-54-3
 12.301  12.301 (0.854)    57  13476499 200.000   235.33  80.00- 120.00   100.00(A)
 12.301  12.301 (0.854)    43   8689968                   17.84- 117.84    64.48
 12.301  12.301 (0.854)    86   2045178                    0.00-  65.07    15.18
-------------------------------------------------------------------------------
   69 Vinyl Acetate                                   CAS #: 108-05-4
 12.799  12.799 (0.889)    86   2014922 200.000   232.87  80.00- 120.00   100.00(A)
 12.799  12.799 (0.889)    43  23503120                  1150.46-1250.46  1166.45
-------------------------------------------------------------------------------
   70 1,1-Dichloroethane                              CAS #: 75-34-3
 12.826  12.826 (0.891)    63  15208502 200.000   221.72  80.00- 120.00   100.00(A)
 12.826  12.826 (0.891)    65   4797143                    0.00-  81.66    31.54
-------------------------------------------------------------------------------
   75 2-Butanone                                      CAS #: 78-93-3
 13.877  13.905 (0.964)    72   3652475 200.000   249.12  80.00- 120.00   100.00(A)
 13.877  13.905 (0.964)    43  16402680                  412.95- 512.95   449.08
 13.877  13.905 (0.964)    57   1277677                    0.00-  86.57    34.98
-------------------------------------------------------------------------------
   76 cis-1,2-Dichloroethene                          CAS #: 156-59-2
 13.932  13.932 (0.967)    61  10627950 200.000   221.36  80.00- 120.00   100.00(A)
 13.932  13.932 (0.967)    96   7912975                   24.70- 124.70    74.45
 13.932  13.932 (0.967)    98   5079116                    0.00-  97.31    47.79
-------------------------------------------------------------------------------
   80 Tetrahydrofuran                                 CAS #: 109-99-9
 14.375  14.402 (0.998)    42   9189583 200.000   240.40  80.00- 120.00   100.00(A)
 14.375  14.402 (0.998)    71   3311270                    0.00-  85.86    36.03
 14.375  14.402 (0.998)    72   3616002                    0.00-  87.82    39.35
-------------------------------------------------------------------------------
   82 Chloroform                                      CAS #: 67-66-3
 14.458  14.485 (1.004)    83  14531456 200.000   213.20  80.00- 120.00   100.00(A)
 14.458  14.485 (1.004)    85   9504871                   15.30- 115.30    65.41
-------------------------------------------------------------------------------
   83 1,1,1-Trichloroethane                           CAS #: 71-55-6
 14.817  14.845 (1.029)    97  13926518 200.000   202.90  80.00- 120.00   100.00(A)
 14.817  14.845 (1.029)    99   8949810                   14.42- 114.42    64.26
-------------------------------------------------------------------------------
   85 Cyclohexane                                     CAS #: 110-82-7
 14.845  14.845 (1.031)    84   8942562 200.000   227.48  80.00- 120.00   100.00(A)
 14.845  14.845 (1.031)    56  11510364                   77.14- 177.14   128.71
 14.845  14.845 (1.031)    41   6322961                   22.96- 122.96    70.71
-------------------------------------------------------------------------------
   87 Carbon Tetrachloride                            CAS #: 56-23-5
 15.094  15.094 (1.048)   119  13089871 200.000   203.45  80.00- 120.00   100.00(A)
 15.094  15.094 (1.048)   117  13611237                   54.22- 154.22   103.98
-------------------------------------------------------------------------------
   91 Benzene                                         CAS #: 71-43-2
 15.508  15.508 (0.959)    78  19736309 200.000   208.88  80.00- 120.00   100.00(A)
```

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS CAL-AMT (PPBV)	AMOUNTS ON-COL (PPBV)	TARGET RANGE	RATIO
91 Benzene (continued)							
15.508	15.508 (0.959)	77	4339447			0.00- 71.87	21.99
89 2,2,4-Trimethylpentane						CAS #: 540-84-1	
15.398	15.426 (1.069)	57	31632116	200.000	230.20	80.00- 120.00	100.00(A)
15.398	15.426 (1.069)	56	10900526			0.00- 84.62	34.46
15.398	15.426 (1.069)	41	8227297			0.00- 79.27	26.01
93 1,2-Dichloroethane						CAS #: 107-06-2	
15.619	15.647 (0.966)	62	9602381	200.000	191.27	80.00- 120.00	100.00
15.619	15.647 (0.966)	64	3054754			0.00- 82.89	31.81
94 Heptane						CAS #: 142-82-5	
15.702	15.730 (0.971)	71	6282483	200.000	216.20	80.00- 120.00	100.00(A)
15.702	15.730 (0.971)	43	12514936			158.53- 258.53	199.20
15.702	15.730 (0.971)	57	6727545			59.34- 159.34	107.08
101 Trichloroethene						CAS #: 79-01-6	
16.642	16.642 (1.029)	95	8328807	200.000	198.44	80.00- 120.00	100.00
16.642	16.642 (1.029)	130	8066565			49.05- 149.05	96.85
16.642	16.642 (1.029)	97	5388543			14.93- 114.93	64.70
104 1,2-Dichloropropane						CAS #: 78-87-5	
17.112	17.112 (1.058)	63	7647118	200.000	210.89	80.00- 120.00	100.00(A)
17.112	17.112 (1.058)	62	5629589			23.52- 123.52	73.62
17.112	17.112 (1.058)	41	4567700			12.01- 112.01	59.73
106 1,4-Dioxane						CAS #: 123-91-1	
17.250	17.250 (1.067)	88	5051505	200.000	214.19	80.00- 120.00	100.00(A)
17.250	17.250 (1.067)	58	3620228			21.50- 121.50	71.67
17.250	17.250 (1.067)	57	1192718			0.00- 74.60	23.61
107 Bromodichloromethane						CAS #: 75-27-4	
17.554	17.555 (1.085)	83	14367494	200.000	197.17	80.00- 120.00	100.00
17.554	17.555 (1.085)	85	9277547			14.37- 114.37	64.57
110 cis-1,3-Dichloropropene						CAS #: 10061-01-5	
18.329	18.329 (1.133)	75	11007513	200.000	214.82	80.00- 120.00	100.00(A)
18.329	18.329 (1.133)	77	3583647			0.00- 81.97	32.56
18.329	18.329 (1.133)	39	6277823			6.88- 106.88	57.03
111 4-Methyl-2-pentanone						CAS #: 108-10-1	
18.522	18.522 (1.145)	58	6680445	200.000	236.26	80.00- 120.00	100.00(A)
18.494	18.522 (1.144)	43	16914065			222.97- 322.97	253.19
18.522	18.522 (1.145)	85	2542376			0.00- 90.48	38.06

```
                                          AMOUNTS
                                       CAL-AMT   ON-COL
   RT   EXP RT (REL RT)  MASS  RESPONSE ( PPBV)  ( PPBV)   TARGET RANGE    RATIO
   ==   ====== ========  ====  ======== =======  =======   ============    =====

  114 Toluene                                        CAS #: 108-88-3
 18.882  18.882 (1.168)    91  21213764 200.000   204.98  80.00- 120.00   100.00(A)
 18.882  18.882 (1.168)    92  13605027                   13.04- 113.04    64.13
-------------------------------------------------------------------------------
  116 trans-1,3-Dichloropropene                      CAS #: 10061-02-6
 19.296  19.324 (0.904)    75  11506838 200.000   216.70  80.00- 120.00   100.00(A)
 19.296  19.324 (0.904)    77   3666959                    0.00-  81.65    31.87
 19.296  19.324 (0.904)    39   6234784                    2.52- 102.52    54.18
-------------------------------------------------------------------------------
  117 1,1,2-Trichloroethane                          CAS #: 79-00-5
 19.656  19.656 (0.921)    97   8133154 200.000   210.01  80.00- 120.00   100.00(A)
 19.656  19.656 (0.921)    99   5125477                   13.08- 113.08    63.02
 19.656  19.656 (0.921)    83   6859943                   35.32- 135.32    84.35
-------------------------------------------------------------------------------
  120 Tetrachloroethene                              CAS #: 127-18-4
 19.822  19.822 (0.929)   166   9290283 200.000   184.96  80.00- 120.00   100.00
 19.822  19.822 (0.929)   129   6818614                   22.39- 122.39    73.40
 19.822  19.822 (0.929)   131   6582279                   19.80- 119.80    70.85
-------------------------------------------------------------------------------
  121 2-Hexanone                                     CAS #: 591-78-6
 19.960  19.960 (0.935)    58   9469386 200.000   228.16  80.00- 120.00   100.00(A)
 19.960  19.960 (0.935)    43  17305893                  138.63- 238.63   182.76
 19.960  19.960 (0.935)   100   1575326                    0.00-  67.05    16.64
-------------------------------------------------------------------------------
  122 Dibromochloromethane                           CAS #: 124-48-1
 20.347  20.347 (0.953)   129  13376992 200.000   194.95  80.00- 120.00   100.00
 20.347  20.347 (0.953)   127  10423775                   27.62- 127.62    77.92
-------------------------------------------------------------------------------
  123 1,2-Dibromoethane                              CAS #: 106-93-4
 20.624  20.624 (0.966)   107  13069323 200.000   205.86  80.00- 120.00   100.00(A)
 20.624  20.624 (0.966)   109  12296113                   44.67- 144.67    94.08
-------------------------------------------------------------------------------
  127 Chlorobenzene                                  CAS #: 108-90-7
 21.398  21.398 (1.003)   112  16601996 200.000   196.27  80.00- 120.00   100.00
 21.398  21.398 (1.003)   114   5394737                    0.00-  82.43    32.49
 21.398  21.398 (1.003)    77  10031248                   10.75- 110.75    60.42
-------------------------------------------------------------------------------
  128 Ethyl Benzene                                  CAS #: 100-41-4
 21.481  21.481 (1.006)   106   8788124 200.000   203.54  80.00- 120.00   100.00(A)
 21.481  21.481 (1.006)    91  26914189                  261.69- 361.69   306.26
-------------------------------------------------------------------------------
  129 m,p-Xylene                                     CAS #: 108-38-3
 21.674  21.674 (1.016)   106  11064572 200.000   204.73  80.00- 120.00   100.00(A)
 21.674  21.674 (1.016)    91  21363976                  145.05- 245.05   193.08
-------------------------------------------------------------------------------
  130 o-Xylene                                       CAS #: 95-47-6
 22.393  22.393 (1.049)   106   9336788 200.000   199.36  80.00- 120.00   100.00
```

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                                          AMOUNTS
                                       CAL-AMT   ON-COL
   RT   EXP RT (REL RT)  MASS  RESPONSE ( PPBV)  ( PPBV)   TARGET RANGE    RATIO
   ==   ====== ========  ====  ======== =======  =======   ============    =====

  130 o-Xylene (continued)
 22.393  22.393 (1.049)    91  18842407                  154.65- 254.65   201.81
--------------------------------------------------------------------------------
  131 Styrene                                       CAS #: 100-42-5
 22.421  22.421 (1.051)   104  15984259 200.000   220.66  80.00- 120.00   100.00(A)
 22.421  22.421 (1.051)    78   7823852                    1.69- 101.69    48.95
--------------------------------------------------------------------------------
  133 Bromoform                                     CAS #: 75-25-2
 22.835  22.836 (1.070)   173  11006294 200.000   182.67  80.00- 120.00   100.00
 22.835  22.836 (1.070)   171   5759605                    1.22- 101.22    52.33
--------------------------------------------------------------------------------
  134 Cumene                                        CAS #: 98-82-8
 22.974  22.974 (1.076)   105  23858342 200.000   201.74  80.00- 120.00   100.00(A)
 22.974  22.974 (1.076)   120   6668314                    0.00-  78.08    27.95
 22.946  22.974 (1.075)    51   2635407                    0.00-  61.43    11.05
--------------------------------------------------------------------------------
  140 1,1,2,2-Tetrachloroethane                     CAS #: 79-34-5
 23.527  23.527 (1.102)    83  15236549 200.000   194.77  80.00- 120.00   100.00
 23.527  23.527 (1.102)    85   9937979                   14.35- 114.35    65.22
--------------------------------------------------------------------------------
  142 Propylbenzene                                 CAS #: 103-65-1
 23.637  23.637 (1.108)    91  29315025 200.000   184.82  80.00- 120.00   100.00
 23.637  23.637 (1.108)   120   7179772                    0.00-  72.94    24.49
 23.637  23.637 (1.108)   105   1208835                    0.00-  54.03     4.12
--------------------------------------------------------------------------------
  145 4-Ethyltoluene                                CAS #: 622-96-8
 23.831  23.831 (1.117)   105  28130830 200.000   200.83  80.00- 120.00   100.00(A)
 23.831  23.831 (1.117)   120   8039568                    0.00-  78.42    28.58
--------------------------------------------------------------------------------
  147 1,3,5-Trimethylbenzene                        CAS #: 108-67-8
 23.914  23.914 (1.120)   105  19886270 200.000   180.74  80.00- 120.00   100.00
 23.914  23.914 (1.120)   120  11506570                    3.80- 103.80    57.86
--------------------------------------------------------------------------------
  150 1,2,4-Trimethylbenzene                        CAS #: 95-63-6
 24.550  24.550 (1.150)   105  19601387 200.000   196.03  80.00- 120.00   100.00
 24.550  24.550 (1.150)   120   9673988                    0.00-  98.95    49.35
--------------------------------------------------------------------------------
  155 1,3-Dichlorobenzene                           CAS #: 541-73-1
 25.130  25.130 (1.177)   146  14469122 200.000   187.00  80.00- 120.00   100.00
 25.130  25.130 (1.177)   148   9170698                   14.48- 114.48    63.38
 25.130  25.130 (1.177)   111   5741172                    0.00-  89.68    39.68
--------------------------------------------------------------------------------
  156 1,4-Dichlorobenzene                           CAS #: 106-46-7
 25.269  25.269 (1.184)   146  14827054 200.000   183.87  80.00- 120.00   100.00
 25.269  25.269 (1.184)   148   9476740                   13.81- 113.81    63.92
 25.269  25.269 (1.184)   111   5716851                    0.00-  87.35    38.56
--------------------------------------------------------------------------------
```

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS CAL-AMT (PPBV)	AMOUNTS ON-COL (PPBV)	TARGET RANGE	RATIO
159 alpha-Chlorotoluene					CAS #: 100-44-7		
25.490	25.490 (1.194)	91	23309446	200.000	217.73	80.00- 120.00	100.00(A)
25.490	25.490 (1.194)	126	4853718			0.00- 71.29	20.82
161 1,2-Dichlorobenzene					CAS #: 95-50-1		
25.932	25.932 (1.215)	146	13249955	200.000	183.92	80.00- 120.00	100.00
25.932	25.932 (1.215)	148	8480902			14.30- 114.30	64.01
25.905	25.932 (1.214)	111	5527605			0.00- 90.50	41.72
165 1,2,4-Trichlorobenzene					CAS #: 120-82-1		
28.808	28.808 (1.350)	180	6421549	200.000	217.94	80.00- 120.00	100.00(A)
28.808	28.808 (1.350)	182	6143942			45.65- 145.65	95.68
166 Hexachlorobutadiene					CAS #: 87-68-3		
29.001	29.001 (1.359)	225	4260828	200.000	173.94	80.00- 120.00	100.00
29.001	29.001 (1.359)	223	2664913			12.64- 112.64	62.54
167 Naphthalene					CAS #: 91-20-3		
29.388	29.388 (1.377)	128	13072303	200.000	236.80	80.00- 120.00	100.00(A)
29.388	29.388 (1.377)	127	1572392			0.00- 62.50	12.03
29 Isopentane					CAS #: 78-78-4		
8.402	8.375 (0.583)	43	10508368	200.000	217.77	80.00- 120.00	100.00(A)
8.402	8.375 (0.583)	57	7144223			16.48- 116.48	67.99
19 Butane					CAS #: 106-97-8		
6.826	6.771 (0.474)	58	1573883	200.000	208.82	80.00- 120.00	100.00(A)
6.799	6.771 (0.472)	43	12494796			757.70- 857.70	793.88
102 Methyl Cyclohexane					CAS #: 108-87-2		
16.918	16.919 (1.175)	83	10993866	200.000	227.21	80.00- 120.00	100.00(A)
16.918	16.919 (1.175)	98	5086864			0.00- 96.13	46.27
16.891	16.919 (1.173)	55	9808425			38.51- 138.51	89.22

QC Flag Legend

A - Target compound detected but, quantitated amount exceeded maximum amount.

Report Date: 23-Oct-2007 09:34

Air Toxics Ltd.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd7.i
Lab File ID: 7101808.d
Lab Smp Id: ICAL
Analysis Type: VOA
Quant Type: ISTD
Operator: cb
Method File: /chem/msd7.i/7-18oct.b/t14qO18a.m
Misc Info: 200ppbv --> 200ppbv

Calibration Date: 18-OCT-2007
Calibration Time: 15:26
Client Smp ID: Level 7
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
81 Bromochloromethan	683549	410129	956969	676936	-0.97
97 1,4-Difluorobenze	2204815	1322889	3086741	2378077	7.86
126 Chlorobenzene-d5	1812979	1087787	2538171	1869726	3.13

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
81 Bromochloromethan	14.40	14.07	14.73	14.40	0.00
97 1,4-Difluorobenze	16.17	15.84	16.50	16.17	0.00
126 Chlorobenzene-d5	21.37	21.04	21.70	21.34	-0.13

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /chem/msd7.i/7-18oct.b/7101808.d

Date : 18-OCT-2007 17:39

Client ID: Level 7

Sample Info: 200mL #1576-50

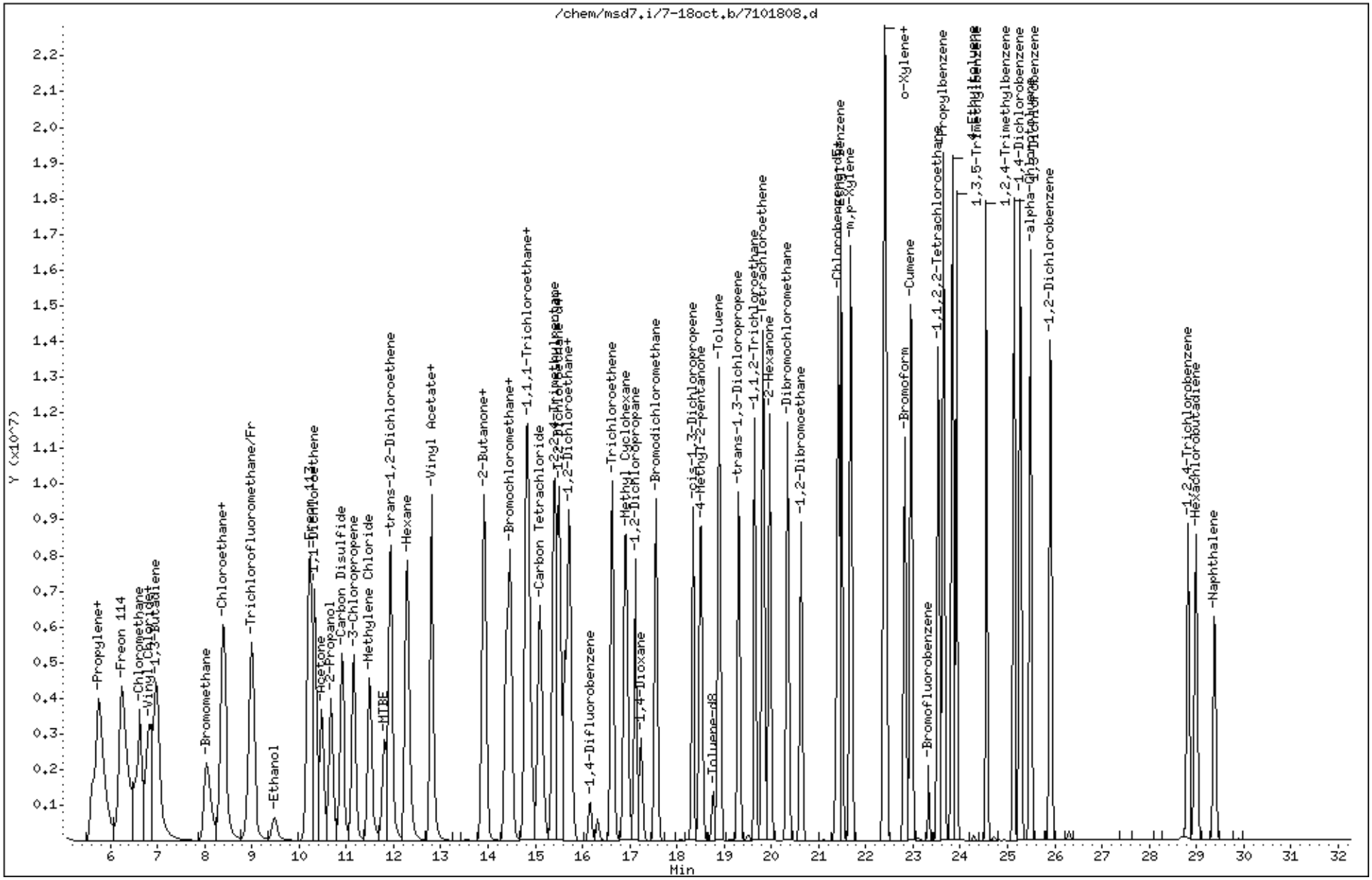
Column phase: RTx-624

Instrument: msd7.i

Operator: cb

Column diameter: 0.53

0274



AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: CCV

Lab ID#: 0710567-07A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**7103006**	**Date of Collection: NA**
Dil. Factor:	**1.00**	**Date of Analysis: 10/30/07 12:15 PM**

Compound	%Recovery
Freon 12	86
Freon 114	88
Chloromethane	84
Vinyl Chloride	86
1,3-Butadiene	91
Bromomethane	84
Chloroethane	90
Freon 11	91
Ethanol	94
Freon 113	95
1,1-Dichloroethene	91
Acetone	88
2-Propanol	96
Carbon Disulfide	84
Methylene Chloride	89
Methyl tert-butyl ether	96
trans-1,2-Dichloroethene	91
Hexane	92
1,1-Dichloroethane	92
2-Butanone (Methyl Ethyl Ketone)	96
cis-1,2-Dichloroethene	95
Tetrahydrofuran	101
Chloroform	98
1,1,1-Trichloroethane	100
Cyclohexane	98
Carbon Tetrachloride	103
Benzene	98
1,2-Dichloroethane	95
Heptane	100
Trichloroethene	100
1,2-Dichloropropane	99
1,4-Dioxane	99
Bromodichloromethane	102
cis-1,3-Dichloropropene	102
4-Methyl-2-pentanone	107
Toluene	100
trans-1,3-Dichloropropene	105
1,1,2-Trichloroethane	105
Tetrachloroethene	113

AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: CCV

Lab ID#: 0710567-07A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**7103006**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 10/30/07 12:15 PM**	

Compound	**%Recovery**
2-Hexanone	102
Dibromochloromethane	113
1,2-Dibromoethane (EDB)	109
Chlorobenzene	104
Ethyl Benzene	105
m,p-Xylene	105
o-Xylene	105
Styrene	116
Bromoform	116
1,1,2,2-Tetrachloroethane	99
4-Ethyltoluene	101
1,3,5-Trimethylbenzene	102
1,2,4-Trimethylbenzene	105
1,3-Dichlorobenzene	106
1,4-Dichlorobenzene	105
alpha-Chlorotoluene	97
1,2-Dichlorobenzene	101
1,2,4-Trichlorobenzene	90
Hexachlorobutadiene	89
Chlorodifluoromethane	94
Methanol	97
n-Butanol	106
Propylene	87

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
Toluene-d8	100	70-130
1,2-Dichloroethane-d4	96	70-130
4-Bromofluorobenzene	105	70-130

Air Toxics Ltd.

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: msd7.i Injection Date: 30-OCT-2007 12:15
Lab File ID: 7103006.d Init. Cal. Date(s): 18-OCT-2007 30-OCT-2007
Analysis Type: AIR Init. Cal. Times: 12:17 11:10
Lab Sample ID: CCV-1 Quant Type: ISTD
Method: /chem/msd7.i/7-30oct.b/t14qO18c.m

COMPOUND	RRF / AMOUNT	RF50	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
$ 90 1,2-Dichloroethane-d4	1.34304	1.28725	0.010	4.15447	30.00000	Averaged
$ 113 Toluene-d8	0.88746	0.88312	0.010	0.48981	30.00000	Averaged
$ 137 Bromofluorobenzene	0.59489	0.62677	0.010	-5.35850	30.00000	Averaged
11 Propylene	1.07750	0.93662	0.010	13.07476	30.00000	Averaged
12 Dichlorodifluoromethane/Fr1	3.95067	3.40484	0.010	13.81599	30.00000	Averaged
16 Freon 114	2.68890	2.38049	0.010	11.46963	30.00000	Averaged
18 Chloromethane	1.29926	1.08778	0.010	16.27734	30.00000	Averaged
20 Vinyl Chloride	1.62201	1.39424	0.010	14.04268	30.00000	Averaged
22 1,3-Butadiene	1.16186	1.05580	0.010	9.12818	30.00000	Averaged
25 Bromomethane	1.43619	1.20643	0.010	15.99780	30.00000	Averaged
27 Chloroethane	0.71958	0.64651	0.010	10.15452	30.00000	Averaged
31 Trichlorofluoromethane/Fr11	3.68565	3.37195	0.010	8.51149	30.00000	Averaged
38 Ethanol	0.50270	0.47025	0.010	6.45572	30.00000	Averaged
42 Freon 113	2.04987	1.94133	0.010	5.29521	30.00000	Averaged
43 1,1-Dichloroethene	2.18125	1.97949	0.010	9.24979	30.00000	Averaged
45 Acetone	0.67421	0.59142	0.010	12.27988	30.00000	Averaged
46 2-Propanol	2.39202	2.28699	0.010	4.39093	30.00000	Averaged
47 Carbon Disulfide	4.16162	3.47791	0.010	16.42900	30.00000	Averaged
51 3-Chloropropene	0.67724	0.57075	0.010	15.72416	30.00000	Averaged
54 Methylene Chloride	1.60367	1.43260	0.010	10.66758	30.00000	Averaged
60 MTBE	2.43665	2.34710	0.010	3.67528	30.00000	Averaged
61 trans-1,2-Dichloroethene	1.48204	1.34425	0.010	9.29733	30.00000	Averaged
65 Hexane	2.11488	1.95049	0.010	7.77290	30.00000	Averaged
69 Vinyl Acetate	0.31955	0.28807	0.010	9.85181	30.00000	Averaged
70 1,1-Dichloroethane	2.53322	2.31925	0.010	8.44669	30.00000	Averaged
75 2-Butanone	0.54146	0.51808	0.010	4.31862	30.00000	Averaged
76 cis-1,2-Dichloroethene	1.77314	1.68136	0.010	5.17637	30.00000	Averaged
80 Tetrahydrofuran	1.41176	1.42127	0.010	-0.67373	30.00000	Averaged
82 Chloroform	2.51713	2.46366	0.010	2.12425	30.00000	Averaged
83 1,1,1-Trichloroethane	2.53479	2.52381	0.010	0.43328	30.00000	Averaged
85 Cyclohexane	1.45184	1.42009	0.010	2.18676	30.00000	Averaged
87 Carbon Tetrachloride	2.37608	2.45708	0.010	-3.40898	30.00000	Averaged
89 2,2,4-Trimethylpentane	5.07476	5.03772	0.010	0.72985	30.00000	Averaged
91 Benzene	0.99332	0.97247	0.010	2.09888	30.00000	Averaged
93 1,2-Dichloroethane	0.52777	0.50176	0.010	4.92752	30.00000	Averaged

Air Toxics Ltd.

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: msd7.i Injection Date: 30-OCT-2007 12:15
Lab File ID: 7103006.d Init. Cal. Date(s): 18-OCT-2007 30-OCT-2007
Analysis Type: AIR Init. Cal. Times: 12:17 11:10
Lab Sample ID: CCV-1 Quant Type: ISTD
Method: /chem/msd7.i/7-30oct.b/t14qO18c.m

COMPOUND	RRF / AMOUNT	RF50	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
94 Heptane	0.30549	0.30437	0.010	0.36836	30.00000	Averaged
101 Trichloroethene	0.44124	0.44379	0.010	-0.57872	30.00000	Averaged
104 1,2-Dichloropropane	0.38121	0.37861	0.010	0.68087	30.00000	Averaged
106 1,4-Dioxane	0.24794	0.24637	0.010	0.63378	30.00000	Averaged
107 Bromodichloromethane	0.76606	0.78042	0.010	-1.87542	30.00000	Averaged
110 cis-1,3-Dichloropropene	0.53866	0.54952	0.010	-2.01500	30.00000	Averaged
111 4-Methyl-2-pentanone	0.29726	0.31909	0.010	-7.34589	30.00000	Averaged
114 Toluene	1.08799	1.08440	0.010	0.32985	30.00000	Averaged
116 trans-1,3-Dichloropropene	0.71002	0.74850	0.010	-5.41937	30.00000	Averaged
117 1,1,2-Trichloroethane	0.51782	0.54264	0.010	-4.79447	30.00000	Averaged
120 Tetrachloroethene	0.67159	0.76043	0.010	-13.22861	30.00000	Averaged
121 2-Hexanone	0.55495	0.56831	0.010	-2.40733	30.00000	Averaged
122 Dibromochloromethane	0.91748	1.03436	0.010	-12.73846	30.00000	Averaged
123 1,2-Dibromoethane	0.84888	0.92867	0.010	-9.39920	30.00000	Averaged
127 Chlorobenzene	1.13099	1.17635	0.010	-4.01037	30.00000	Averaged
128 Ethyl Benzene	0.57731	0.60465	0.010	-4.73502	30.00000	Averaged
129 m,p-Xylene	0.72261	0.76101	0.010	-5.31351	30.00000	Averaged
130 o-Xylene	0.62621	0.65772	0.010	-5.03214	30.00000	Averaged
131 Styrene	0.96855	1.12288	0.010	-15.93443	30.00000	Averaged
133 Bromoform	0.80564	0.93927	0.010	-16.58627	30.00000	Averaged
134 Cumene	1.58127	1.72458	0.010	-9.06312	30.00000	Averaged
140 1,1,2,2-Tetrachloroethane	1.04598	1.03923	0.010	0.64519	30.00000	Averaged
142 Propylbenzene	2.12085	2.20701	0.010	-4.06244	30.00000	Averaged
145 4-Ethyltoluene	1.87287	1.90093	0.010	-1.49811	30.00000	Averaged
147 1,3,5-Trimethylbenzene	1.47112	1.49486	0.010	-1.61387	30.00000	Averaged
150 1,2,4-Trimethylbenzene	1.33697	1.40085	0.010	-4.77830	30.00000	Averaged
155 1,3-Dichlorobenzene	1.03460	1.09290	0.010	-5.63553	30.00000	Averaged
156 1,4-Dichlorobenzene	1.07824	1.12938	0.010	-4.74334	30.00000	Averaged
159 alpha-Chlorotoluene	1.43143	1.38961	0.010	2.92130	30.00000	Averaged
161 1,2-Dichlorobenzene	0.96328	0.97196	0.010	-0.90071	30.00000	Averaged
165 1,2,4-Trichlorobenzene	0.39398	0.35315	0.010	10.36325	30.00000	Averaged
166 Hexachlorobutadiene	0.32753	0.29258	0.010	10.67130	30.00000	Averaged
29 Isopentane	1.78205	1.56965	0.010	11.91892	30.00000	Averaged
19 Butane	0.27835	0.24705	0.010	11.24339	30.00000	Averaged
102 Methyl Cyclohexane	1.78694	1.76943	0.010	0.98018	30.00000	Averaged
167 Naphthalene	0.73814	0.67566	0.010	8.46409	30.00000	Averaged

Air Toxics Ltd.

AMBIENT AIR METHOD TO14

Data file : /chem/msd7.i/7-30oct.b/7103006.d
Lab Smp Id: CCV-1 Client Smp ID: CCV-1
Inj Date : 30-OCT-2007 12:15
Operator : cb Inst ID: msd7.i
Smp Info : 100mL #1576-50A
Misc Info : 100ppbv --> 50ppbv
Comment :
Method : /chem/msd7.i/7-30oct.b/t14qO18c.m
Meth Date : 31-Oct-2007 14:54 ctaylor Quant Type: ISTD
Cal Date : 30-OCT-2007 11:10 Cal File: 7103005.d
Als bottle: 1 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: AT04ENSR.sub
Target Version: 3.50 Sample Matrix: AIR
Processing Host: eeyore

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS CAL-AMT (PPBV)	AMOUNTS ON-COL (PPBV)	TARGET RANGE	RATIO
* 81 Bromochloromethane						CAS #: 74-97-5	
14.388	14.388 (1.000)	130	537758	25.0000		80.00- 120.00	100.00
14.388	14.388 (1.000)	128	410153			26.27- 126.27	76.27
14.388	14.388 (1.000)	49	978845			132.02- 232.02	182.02
* 97 1,4-Difluorobenzene						CAS #: 540-36-3	
16.158	16.158 (1.000)	114	1771565	25.0000		80.00- 120.00	100.00
16.158	16.158 (1.000)	88	263582			0.00- 64.88	14.88
* 126 Chlorobenzene-d5						CAS #: 3114-55-4	
21.356	21.356 (1.000)	117	1414884	25.0000		80.00- 120.00	100.00
21.356	21.356 (1.000)	82	752704			4.45- 104.45	53.20
$ 90 1,2-Dichloroethane-d4						CAS #: 17060-07-0	
15.494	15.494 (1.077)	65	692227	25.0000	23.961	80.00- 120.00	100.00
15.494	15.494 (1.077)	67	378826			2.91- 102.91	54.73
$ 113 Toluene-d8						CAS #: 2037-26-5	
18.757	18.757 (1.161)	98	1564498	25.0000	24.878	80.00- 120.00	100.00
18.757	18.757 (1.161)	70	167133			0.00- 61.46	10.68

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS CAL-AMT (PPBV)	AMOUNTS ON-COL (PPBV)	TARGET RANGE	RATIO
$ 113 Toluene-d8 (continued)							
18.757	18.757 (1.161)	100	1095314			19.18- 119.18	70.01
$ 137 Bromofluorobenzene						CAS #: 460-00-4	
23.347	23.347 (1.093)	174	886810	25.0000	26.340	80.00- 120.00	100.00
23.319	23.319 (1.092)	95	1039419			67.21- 167.21	117.21
23.347	23.347 (1.093)	176	864783			47.52- 147.52	97.52
11 Propylene						CAS #: 115-07-1	
5.617	5.617 (0.390)	41	1007353	50.0000	43.463	80.00- 120.00	100.00
5.617	5.617 (0.390)	42	691184			21.19- 121.19	68.61
5.617	5.617 (0.390)	39	756860			24.83- 124.83	75.13
12 Dichlorodifluoromethane/Fr12						CAS #: 75-71-8	
5.729	5.729 (0.398)	85	3661963	50.0000	43.092	80.00- 120.00	100.00
5.729	5.729 (0.398)	87	1182116			0.00- 83.07	32.28
16 Freon 114						CAS #: 76-14-2	
6.180	6.180 (0.430)	135	2560256	50.0000	44.265	80.00- 120.00	100.00
6.180	6.180 (0.430)	137	845089			0.00- 83.01	33.01
18 Chloromethane						CAS #: 74-87-3	
6.518	6.518 (0.453)	50	1169923	50.0000	41.861	80.00- 120.00	100.00
6.518	6.518 (0.453)	52	407417			0.00- 84.80	34.82
20 Vinyl Chloride						CAS #: 75-01-4	
6.856	6.856 (0.476)	62	1499526	50.0000	42.979	80.00- 120.00	100.00
6.856	6.856 (0.476)	64	468570			0.00- 83.25	31.25
22 1,3-Butadiene						CAS #: 106-99-0	
6.912	6.912 (0.480)	54	1135529	50.0000	45.436	80.00- 120.00	100.00
6.912	6.912 (0.480)	39	1158810			55.97- 155.97	102.05
25 Bromomethane						CAS #: 74-83-9	
8.010	8.010 (0.557)	94	1297537	50.0000	42.001	80.00- 120.00	100.00
8.010	8.010 (0.557)	96	1223037			44.26- 144.26	94.26
27 Chloroethane						CAS #: 75-00-3	
8.348	8.348 (0.580)	64	695331	50.0000	44.923	80.00- 120.00	100.00
8.348	8.348 (0.580)	49	196871			0.00- 79.34	28.31
8.348	8.348 (0.580)	66	214418			0.00- 83.15	30.84
31 Trichlorofluoromethane/Fr11						CAS #: 75-69-4	
8.940	8.940 (0.621)	101	3626584	50.0000	45.744	80.00- 120.00	100.00
8.940	8.940 (0.621)	103	2343585			14.62- 114.62	64.62

AMOUNTS

RT	EXP RT	(REL RT)	MASS	RESPONSE	CAL-AMT (PPBV)	ON-COL (PPBV)	TARGET RANGE	RATIO
38 Ethanol						CAS #: 64-17-5		
9.439	9.439	(0.656)	45	505760	50.0000	46.772	80.00- 120.00	100.00
9.439	9.439	(0.656)	43	108579			0.00- 72.83	21.47
9.439	9.439	(0.656)	46	190623			0.00- 88.20	37.69
42 Freon 113						CAS #: 76-13-1		
10.186	10.186	(0.708)	151	2087928	50.0000	47.352	80.00- 120.00	100.00
10.186	10.186	(0.708)	153	1321988			13.32- 113.32	63.32
10.186	10.186	(0.708)	101	2401071			65.00- 165.00	115.00
43 1,1-Dichloroethene						CAS #: 75-35-4		
10.324	10.324	(0.718)	61	2128968	50.0000	45.375	80.00- 120.00	100.00
10.324	10.324	(0.718)	96	1243584			8.41- 108.41	58.41
10.324	10.324	(0.718)	98	806223			0.00- 87.87	37.87
45 Acetone						CAS #: 67-64-1		
10.462	10.462	(0.727)	58	636082	50.0000	43.860	80.00- 120.00	100.00
10.462	10.462	(0.727)	43	2009967			247.10- 347.10	315.99
46 2-Propanol						CAS #: 67-63-0		
10.656	10.656	(0.741)	45	2459693	50.0000	47.804	80.00- 120.00	100.00
10.656	10.656	(0.741)	43	635022			0.00- 75.54	25.82
10.656	10.656	(0.741)	59	94018			0.00- 53.72	3.82
47 Carbon Disulfide						CAS #: 75-15-0		
10.877	10.877	(0.756)	76	3740548	50.0000	41.786	80.00- 120.00	100.00
51 3-Chloropropene						CAS #: 107-05-1		
11.153	11.153	(0.775)	76	613854	50.0000	42.138	80.00- 120.00	100.00
11.153	11.153	(0.775)	41	1796759			224.96- 324.96	292.70
54 Methylene Chloride						CAS #: 75-09-2		
11.457	11.457	(0.796)	49	1540782	50.0000	44.666	80.00- 120.00	100.00
11.457	11.457	(0.796)	84	1059216			18.75- 118.75	68.75
11.457	11.457	(0.796)	51	470010			0.00- 80.85	30.50
60 MTBE						CAS #: 1634-04-4		
11.817	11.817	(0.821)	73	2524339	50.0000	48.162	80.00- 120.00	100.00
11.817	11.817	(0.821)	57	615990			0.00- 74.40	24.40
11.817	11.817	(0.821)	41	613632			0.00- 76.16	24.31
61 trans-1,2-Dichloroethene						CAS #: 156-60-5		
11.927	11.927	(0.829)	96	1445763	50.0000	45.351	80.00- 120.00	100.00
11.927	11.927	(0.829)	61	2127075			97.12- 197.12	147.12
11.927	11.927	(0.829)	98	922175			11.77- 111.77	63.78

AMOUNTS

RT	EXP RT (REL RT)	MASS	RESPONSE	CAL-AMT (PPBV)	ON-COL (PPBV)	TARGET RANGE	RATIO
65 Hexane					CAS #: 110-54-3		
12.287	12.287 (0.854)	57	2097785	50.0000	46.114	80.00- 120.00	100.00
12.287	12.287 (0.854)	43	1419670			17.84- 117.84	67.67
12.287	12.287 (0.854)	86	303521			0.00- 65.07	14.47
69 Vinyl Acetate					CAS #: 108-05-4		
12.785	12.785 (0.889)	86	309822	50.0000	45.074	80.00- 120.00	100.00
12.785	12.785 (0.889)	43	3893546			1150.46-1250.46	1256.70
70 1,1-Dichloroethane					CAS #: 75-34-3		
12.812	12.812 (0.890)	63	2494389	50.0000	45.777	80.00- 120.00	100.00
12.812	12.812 (0.890)	65	770860			0.00- 80.90	30.90
75 2-Butanone					CAS #: 78-93-3		
13.891	13.891 (0.965)	72	557201	50.0000	47.841	80.00- 120.00	100.00
13.891	13.891 (0.965)	43	2733887			440.65- 540.65	490.65
13.891	13.891 (0.965)	57	202174			0.00- 86.57	36.28
76 cis-1,2-Dichloroethene					CAS #: 156-59-2		
13.918	13.918 (0.967)	61	1808330	50.0000	47.412	80.00- 120.00	100.00
13.918	13.918 (0.967)	96	1330134			23.56- 123.56	73.56
13.918	13.918 (0.967)	98	852447			0.00- 97.14	47.14
80 Tetrahydrofuran					CAS #: 109-99-9		
14.388	14.388 (1.000)	42	1528599	50.0000	50.337	80.00- 120.00	100.00
14.388	14.388 (1.000)	71	523430			0.00- 84.24	34.24
14.388	14.388 (1.000)	72	562040			0.00- 87.82	36.77
82 Chloroform					CAS #: 67-66-3		
14.471	14.471 (1.006)	83	2649702	50.0000	48.938	80.00- 120.00	100.00
14.471	14.471 (1.006)	85	1718790			14.87- 114.87	64.87
83 1,1,1-Trichloroethane					CAS #: 71-55-6		
14.831	14.831 (1.031)	97	2714397	50.0000	49.783	80.00- 120.00	100.00
14.831	14.831 (1.031)	99	1746573			14.34- 114.34	64.34
85 Cyclohexane					CAS #: 110-82-7		
14.831	14.831 (1.031)	84	1527331	50.0000	48.907	80.00- 120.00	100.00
14.831	14.831 (1.031)	56	1944920			77.34- 177.34	127.34
14.831	14.831 (1.031)	41	1118917			23.26- 123.26	73.26
87 Carbon Tetrachloride					CAS #: 56-23-5		
15.080	15.080 (1.048)	119	2642634	50.0000	51.704	80.00- 120.00	100.00
15.080	15.080 (1.048)	117	2727102			53.20- 153.20	103.20
89 2,2,4-Trimethylpentane					CAS #: 540-84-1		
15.411	15.411 (1.071)	57	5418152	50.0000	49.635	80.00- 120.00	100.00

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS CAL-AMT (PPBV)	AMOUNTS ON-COL (PPBV)	TARGET RANGE	RATIO
89 2,2,4-Trimethylpentane (continued)							
15.411	15.411 (1.071)	56	1817346			0.00- 84.62	33.54
15.411	15.411 (1.071)	41	1432582			0.00- 79.27	26.44
91 Benzene					CAS #: 71-43-2		
15.522	15.522 (0.961)	78	3445601	50.0000	48.950	80.00- 120.00	100.00
15.522	15.522 (0.961)	77	751976			0.00- 71.87	21.82
93 1,2-Dichloroethane					CAS #: 107-06-2		
15.633	15.633 (0.967)	62	1777810	50.0000	47.536	80.00- 120.00	100.00
15.633	15.633 (0.967)	64	571316			0.00- 82.89	32.14
94 Heptane					CAS #: 142-82-5		
15.715	15.715 (0.973)	71	1078409	50.0000	49.816	80.00- 120.00	100.00
15.715	15.715 (0.973)	43	2217215			158.53- 258.53	205.60
15.715	15.715 (0.973)	57	1171444			59.34- 159.34	108.63
101 Trichloroethene					CAS #: 79-01-6		
16.628	16.628 (1.029)	95	1572416	50.0000	50.289	80.00- 120.00	100.00
16.628	16.628 (1.029)	130	1617151			52.84- 152.84	102.84
16.628	16.628 (1.029)	97	1031143			15.58- 115.58	65.58
104 1,2-Dichloropropane					CAS #: 78-87-5		
17.126	17.126 (1.060)	63	1341466	50.0000	49.660	80.00- 120.00	100.00
17.126	17.126 (1.060)	62	971906			22.45- 122.45	72.45
17.126	17.126 (1.060)	41	812727			10.58- 110.58	60.58
106 1,4-Dioxane					CAS #: 123-91-1		
17.236	17.236 (1.067)	88	872906	50.0000	49.683	80.00- 120.00	100.00
17.236	17.236 (1.067)	58	614540			20.40- 120.40	70.40
17.236	17.236 (1.067)	57	202311			0.00- 74.60	23.18
107 Bromodichloromethane					CAS #: 75-27-4		
17.540	17.540 (1.086)	83	2765143	50.0000	50.938	80.00- 120.00	100.00
17.540	17.540 (1.086)	85	1794689			14.90- 114.90	64.90
110 cis-1,3-Dichloropropene					CAS #: 10061-01-5		
18.342	18.342 (1.135)	75	1947010	50.0000	51.008	80.00- 120.00	100.00
18.342	18.342 (1.135)	77	625008			0.00- 82.10	32.10
18.314	18.314 (1.133)	39	1090865			6.03- 106.03	56.03
111 4-Methyl-2-pentanone					CAS #: 108-10-1		
18.508	18.508 (1.145)	58	1130590	50.0000	53.673	80.00- 120.00	100.00
18.508	18.508 (1.145)	43	2913051			222.97- 322.97	257.66
18.508	18.508 (1.145)	85	442826			0.00- 90.48	39.17

AMOUNTS

RT	EXP RT (REL RT)	MASS	RESPONSE	CAL-AMT (PPBV)	ON-COL (PPBV)	TARGET RANGE	RATIO
114 Toluene					CAS #: 108-88-3		
18.895	18.895 (1.169)	91	3842174	50.0000	49.835	80.00- 120.00	100.00
18.895	18.895 (1.169)	92	2453052			13.85- 113.85	63.85
116 trans-1,3-Dichloropropene					CAS #: 10061-02-6		
19.310	19.310 (0.904)	75	2118068	50.0000	52.710	80.00- 120.00	100.00
19.310	19.310 (0.904)	77	670272			0.00- 81.65	31.65
19.310	19.310 (0.904)	39	1095809			1.74- 101.74	51.74
117 1,1,2-Trichloroethane					CAS #: 79-00-5		
19.642	19.642 (0.920)	97	1535553	50.0000	52.397	80.00- 120.00	100.00
19.642	19.642 (0.920)	99	962931			12.71- 112.71	62.71
19.642	19.642 (0.920)	83	1268489			32.61- 132.61	82.61
120 Tetrachloroethene					CAS #: 127-18-4		
19.835	19.835 (0.929)	166	2151840	50.0000	56.614	80.00- 120.00	100.00
19.835	19.835 (0.929)	129	1508719			20.11- 120.11	70.11
19.835	19.835 (0.929)	131	1450090			17.39- 117.39	67.39
121 2-Hexanone					CAS #: 591-78-6		
19.973	19.973 (0.935)	58	1608173	50.0000	51.204	80.00- 120.00	100.00
19.973	19.973 (0.935)	43	3025775			138.15- 238.15	188.15
19.973	19.973 (0.935)	100	285235			0.00- 67.05	17.74
122 Dibromochloromethane					CAS #: 124-48-1		
20.361	20.361 (0.953)	129	2926987	50.0000	56.369	80.00- 120.00	100.00
20.361	20.361 (0.953)	127	2270943			27.62- 127.62	77.59
123 1,2-Dibromoethane					CAS #: 106-93-4		
20.609	20.609 (0.965)	107	2627917	50.0000	54.700	80.00- 120.00	100.00
20.609	20.609 (0.965)	109	2494870			44.94- 144.94	94.94
127 Chlorobenzene					CAS #: 108-90-7		
21.411	21.411 (1.003)	112	3328800	50.0000	52.005	80.00- 120.00	100.00
21.411	21.411 (1.003)	114	1078278			0.00- 82.39	32.39
21.411	21.411 (1.003)	77	2280842			18.52- 118.52	68.52
128 Ethyl Benzene					CAS #: 100-41-4		
21.494	21.494 (1.006)	106	1711022	50.0000	52.368	80.00- 120.00	100.00
21.494	21.494 (1.006)	91	5225835			261.69- 361.69	305.42
129 m,p-Xylene					CAS #: 108-38-3		
21.688	21.688 (1.016)	106	2153474	50.0000	52.657	80.00- 120.00	100.00
21.688	21.688 (1.016)	91	4116640			145.05- 245.05	191.16
130 o-Xylene					CAS #: 95-47-6		
22.379	22.379 (1.048)	106	1861205	50.0000	52.516	80.00- 120.00	100.00

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS CAL-AMT (PPBV)	AMOUNTS ON-COL (PPBV)	TARGET RANGE	RATIO
130 o-Xylene (continued)							
22.379	22.379 (1.048)	91	3758788			151.95- 251.95	201.95
131 Styrene					CAS #: 100-42-5		
22.407	22.407 (1.049)	104	3177484	50.0000	57.967	80.00- 120.00	100.00
22.407	22.407 (1.049)	78	1543044			0.00- 98.56	48.56
133 Bromoform					CAS #: 75-25-2		
22.821	22.821 (1.069)	173	2657907	50.0000	58.293	80.00- 120.00	100.00
22.821	22.821 (1.069)	171	1377996			1.85- 101.85	51.85
134 Cumene					CAS #: 98-82-8		
22.960	22.960 (1.075)	105	4880169	50.0000	54.532	80.00- 120.00	100.00
22.960	22.960 (1.075)	120	1371296			0.00- 78.08	28.10
22.960	22.960 (1.075)	51	480983			0.00- 61.43	9.86
140 1,1,2,2-Tetrachloroethane					CAS #: 79-34-5		
23.540	23.540 (1.102)	83	2940779	50.0000	49.677	80.00- 120.00	100.00
23.540	23.540 (1.102)	85	1906530			14.83- 114.83	64.83
142 Propylbenzene					CAS #: 103-65-1		
23.651	23.651 (1.107)	91	6245324	50.0000	52.031	80.00- 120.00	100.00
23.651	23.651 (1.107)	120	1472228			0.00- 72.94	23.57
23.651	23.651 (1.107)	105	230372			0.00- 54.03	3.69
145 4-Ethyltoluene					CAS #: 622-96-8		
23.817	23.817 (1.115)	105	5379198	50.0000	50.749	80.00- 120.00	100.00
23.817	23.817 (1.115)	120	1730406			0.00- 82.17	32.17
147 1,3,5-Trimethylbenzene					CAS #: 108-67-8		
23.927	23.927 (1.120)	105	4230118	50.0000	50.807	80.00- 120.00	100.00
23.927	23.927 (1.120)	120	2219030			3.80- 103.80	52.46
150 1,2,4-Trimethylbenzene					CAS #: 95-63-6		
24.563	24.563 (1.150)	105	3964079	50.0000	52.389	80.00- 120.00	100.00
24.563	24.563 (1.150)	120	1964575			0.00- 98.95	49.56
155 1,3-Dichlorobenzene					CAS #: 541-73-1		
25.116	25.116 (1.176)	146	3092666	50.0000	52.818	80.00- 120.00	100.00
25.116	25.116 (1.176)	148	1969732			14.48- 114.48	63.69
25.116	25.116 (1.176)	111	1173924			0.00- 89.68	37.96
156 1,4-Dichlorobenzene					CAS #: 106-46-7		
25.282	25.282 (1.184)	146	3195885	50.0000	52.372	80.00- 120.00	100.00
25.282	25.282 (1.184)	148	2048246			13.81- 113.81	64.09
25.282	25.282 (1.184)	111	1157917			0.00- 87.35	36.23

AMOUNTS

RT	EXP RT (REL RT)	MASS	RESPONSE	CAL-AMT (PPBV)	ON-COL (PPBV)	TARGET RANGE	RATIO
159 alpha-Chlorotoluene					CAS #: 100-44-7		
25.476	25.476 (1.193)	91	3932284	50.0000	48.539	80.00- 120.00	100.00
25.476	25.476 (1.193)	126	840120			0.00- 71.29	21.36
161 1,2-Dichlorobenzene					CAS #: 95-50-1		
25.918	25.918 (1.214)	146	2750416	50.0000	50.450	80.00- 120.00	100.00
25.918	25.918 (1.214)	148	1758005			13.92- 113.92	63.92
25.918	25.918 (1.214)	111	1067777			0.00- 88.82	38.82
165 1,2,4-Trichlorobenzene					CAS #: 120-82-1		
28.821	28.821 (1.350)	180	999330	50.0000	44.818	80.00- 120.00	100.00
28.821	28.821 (1.350)	182	945986			44.66- 144.66	94.66
166 Hexachlorobutadiene					CAS #: 87-68-3		
28.987	28.987 (1.357)	225	827920	50.0000	44.664	80.00- 120.00	100.00
28.987	28.987 (1.357)	223	522936			12.64- 112.64	63.16
29 Isopentane					CAS #: 78-78-4		
8.348	8.348 (0.580)	43	1688184	50.0000	44.040	80.00- 120.00	100.00
8.348	8.348 (0.580)	57	1121180			16.48- 116.48	66.41
19 Butane					CAS #: 106-97-8		
6.743	6.743 (0.469)	58	265709	50.0000	44.378	80.00- 120.00	100.00
6.743	6.743 (0.469)	43	2121778			757.70- 857.70	798.53
102 Methyl Cyclohexane					CAS #: 108-87-2		
16.904	16.904 (1.175)	83	1903046	50.0000	49.510	80.00- 120.00	100.00
16.904	16.904 (1.175)	98	895742			0.00- 96.13	47.07
16.904	16.904 (1.175)	55	1664412			38.51- 138.51	87.46
167 Naphthalene					CAS #: 91-20-3		
29.374	29.374 (1.375)	128	1911973	50.0000	45.768	80.00- 120.00	100.00
29.374	29.374 (1.375)	127	228751			0.00- 62.50	11.96

Report Date: 31-Oct-2007 14:54

Air Toxics Ltd.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd7.i
Lab File ID: 7103006.d
Lab Smp Id: CCV-1
Analysis Type: VOA
Quant Type: ISTD
Operator: cb
Method File: /chem/msd7.i/7-30oct.b/t14qO18c.m
Misc Info: 100ppbv --> 50ppbv

Calibration Date: 30-OCT-2007
Calibration Time: 10:29
Client Smp ID: CCV-1
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
81 Bromochloromethan	486199	291719	680679	537758	10.60
97 1,4-Difluorobenze	1616415	969849	2262981	1771565	9.60
126 Chlorobenzene-d5	1130394	678236	1582552	1414884	25.17

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
81 Bromochloromethan	14.42	14.09	14.75	14.39	-0.19
97 1,4-Difluorobenze	16.19	15.86	16.52	16.16	-0.17
126 Chlorobenzene-d5	21.36	21.03	21.69	21.36	0.00

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /chem/msd7.i/7-30oct.b/7103006.d

Date : 30-OCT-2007 12:15

Client ID: CCV-1

Sample Info: 100mL #1576-50A

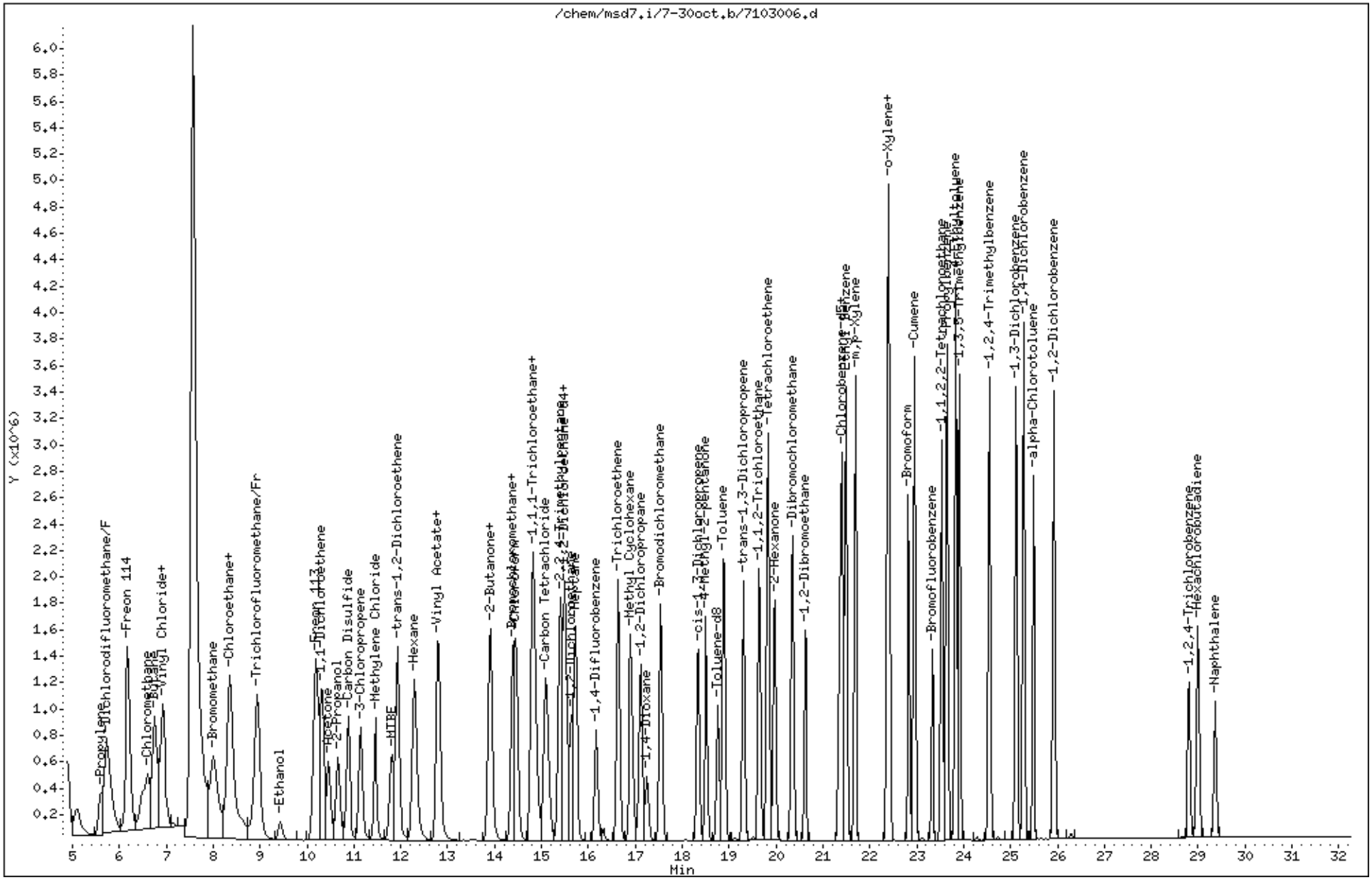
Column phase: RTx-624

Instrument: msd7.i

Operator: cb

Column diameter: 0.53

0288



Report Date: 30-Oct-2007 12:35

Air Toxics Ltd.

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: msd7.i Injection Date: 30-OCT-2007 10:29
Lab File ID: 7103004a.d Init. Cal. Date(s): 18-OCT-2007 30-OCT-2007
Analysis Type: AIR Init. Cal. Times: 12:17 11:10
Lab Sample ID: CCV Quant Type: ISTD
Method: /chem/msd7.i/7-30oct.b/t14qO18c.m

COMPOUND	RRF / AMOUNT	RF50	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
$ 90 1,2-Dichloroethane-d4	1.34304	1.32687	0.010	1.20431	30.00000	Averaged
$ 113 Toluene-d8	0.88746	0.75800	0.010	14.58805	30.00000	Averaged
$ 137 Bromofluorobenzene	0.59489	0.67428	0.010	-13.34366	30.00000	Averaged
5 Freon 143a	0.54510	0.56313	0.010	-3.30841	40.00000	Averaged
6 Freon142b	2.22349	2.34314	0.010	-5.38104	40.00000	Averaged
13 Freon 134a	1.06546	1.07071	0.010	-0.49301	40.00000	Averaged
15 Freon 152a	0.76921	0.69929	0.010	9.08943	40.00000	Averaged
17 Freon 22	2.48505	2.34223	0.010	5.74726	40.00000	Averaged
26 Methanol	0.42691	0.41205	0.010	3.48079	40.00000	Averaged
34 Dichlorofluoromethane/Fr21	2.20471	2.00753	0.010	8.94366	40.00000	Averaged
40 Freon123a	1.24571	1.23178	0.010	1.11846	40.00000	Averaged
41 Freon123	2.20945	1.97544	0.010	10.59128	40.00000	Averaged
57 tert-Butyl-Alcohol	2.31844	2.45703	0.010	-5.97759	40.00000	Averaged
68 Isopropyl ether	4.46135	4.31088	0.010	3.37281	40.00000	Averaged
71 1-Propanol	0.27978	0.29788	0.010	-6.46758	40.00000	Averaged
73 t-Butylethyl Ether	3.80281	3.82805	0.010	-0.66362	40.00000	Averaged
77 Ethyl Acetate	0.42459	0.42993	0.010	-1.25907	40.00000	Averaged
92 tert-amyl-Methyl Ether	2.77937	2.88898	0.010	-3.94389	40.00000	Averaged
96 2-Heptanone	1.66671	1.63962	0.010	1.62504	40.00000	Averaged
98 1-Butanol	0.24439	0.25918	0.010	-6.05347	40.00000	Averaged
99 Isobutanol	0.02737	0.02982	0.010	-8.94767	40.00000	Averaged
119 Butyl Acetate	0.36393	0.34720	0.010	4.59743	40.00000	Averaged
135 Cyclohexanone	0.49697	0.50902	0.010	-2.42589	40.00000	Averaged
146 Diisobutyl Ketone	1.12021	1.26114	0.010	-12.58096	40.00000	Averaged

Air Toxics Ltd.

AMBIENT AIR METHOD TO14

Data file : /chem/msd7.i/7-30oct.b/7103004a.d
Lab Smp Id: CCV Client Smp ID: CCVsp
Inj Date : 30-OCT-2007 10:29
Operator : cb Inst ID: msd7.i
Smp Info : 50mL #1487-400
Misc Info : 200ppbv --> 50ppbv 1200ppbv --> 300ppbv MeOH
Comment :
Method : /chem/msd7.i/7-30oct.b/t14qO18c.m
Meth Date : 30-Oct-2007 12:35 cbond Quant Type: ISTD
Cal Date : 30-OCT-2007 11:10 Cal File: 7103005.d
Als bottle: 1 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: sp22aCCV.sub
Target Version: 3.50 Sample Matrix: AIR
Processing Host: eeyore

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS CAL-AMT (PPBV)	AMOUNTS ON-COL (PPBV)	TARGET RANGE	RATIO
* 81 Bromochloromethane					CAS #: 74-97-5		
14.416	14.416 (1.000)	130	486199	25.0000		80.00- 120.00	100.00
14.416	14.416 (1.000)	128	373087			26.74- 126.74	76.74
14.416	14.416 (1.000)	49	687796			91.46- 191.46	141.46
* 97 1,4-Difluorobenzene					CAS #: 540-36-3		
16.186	16.186 (1.000)	114	1616415	25.0000		80.00- 120.00	100.00
16.158	16.158 (1.000)	88	244505			0.00- 65.13	15.13
* 126 Chlorobenzene-d5					CAS #: 3114-55-4		
21.356	21.356 (1.000)	117	1130394	25.0000		80.00- 120.00	100.00
21.356	21.356 (1.000)	82	593319			4.45- 104.45	52.49
$ 90 1,2-Dichloroethane-d4					CAS #: 17060-07-0		
15.494	15.494 (1.075)	65	645122	25.0000	24.699	80.00- 120.00	100.00
15.494	15.494 (1.075)	67	316334			2.91- 102.91	49.03
$ 113 Toluene-d8					CAS #: 2037-26-5		
18.757	18.757 (1.159)	98	1225242	25.0000	21.353	80.00- 120.00	100.00
18.757	18.757 (1.159)	70	132185			0.00- 61.46	10.79

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS CAL-AMT (PPBV)	AMOUNTS ON-COL (PPBV)	TARGET RANGE	RATIO
$ 113 Toluene-d8 (continued)							
18.757	18.757 (1.159)	100	840028			19.18- 119.18	68.56
$ 137 Bromofluorobenzene						CAS #: 460-00-4	
23.347	23.347 (1.093)	174	762197	25.0000	28.336	80.00- 120.00	100.00
23.319	23.319 (1.092)	95	885338			66.16- 166.16	116.16
23.347	23.347 (1.093)	176	728782			45.62- 145.62	95.62
5 Freon 143a						CAS #: 420-46-2	
5.279	5.279 (0.366)	65	547589	50.0000	51.654	80.00- 120.00	100.00
5.223	5.223 (0.362)	69	4666283			0.00- 50.00	852.15
5.279	5.279 (0.366)	64	157251			0.00- 77.08	28.72
6 Freon142b						CAS #: 75-68-3	
6.349	6.349 (0.440)	65	2278462	50.0000	52.690	80.00- 120.00	100.00
6.349	6.349 (0.440)	45	536502			0.00- 74.42	23.55
13 Freon 134a						CAS #: 811-97-2	
5.448	5.448 (0.378)	83	1041161	50.0000	50.246	80.00- 120.00	100.00
5.223	5.223 (0.362)	69	4666283			398.13- 498.13	448.18
5.448	5.448 (0.378)	63	137204			0.00- 64.08	13.18
15 Freon 152a						CAS #: 75-37-6	
5.645	5.645 (0.392)	65	679989	50.0000	45.455	80.00- 120.00	100.00
5.645	5.645 (0.392)	51	1248948			109.56- 209.56	183.67
5.645	5.645 (0.392)	47	318814			0.00- 90.52	46.89
17 Freon 22						CAS #: 75-45-6	
5.814	5.814 (0.403)	51	2277577	50.0000	47.126	80.00- 120.00	100.00
5.814	5.814 (0.403)	67	279766			0.00- 61.77	12.28
5.814	5.814 (0.403)	85	30413			0.00- 51.67	1.34
26 Methanol						CAS #: 67-56-1	
7.588	7.588 (0.526)	31	2404086	300.000	289.56	80.00- 120.00	100.00
7.588	7.588 (0.526)	32	1583298			15.86- 115.86	65.86
34 Dichlorofluoromethane/Fr21						CAS #: 75-43-4	
8.912	8.912 (0.618)	67	1952116	50.0000	45.528	80.00- 120.00	100.00
8.912	8.912 (0.618)	69	588723			0.00- 81.12	30.16
8.912	8.912 (0.618)	35	105711			0.00- 53.83	5.42
40 Freon123a						CAS #: 354-23-4	
9.826	9.826 (0.682)	117	1197779	50.0000	49.441	80.00- 120.00	100.00
9.799	9.799 (0.680)	67	1378020			110.97- 210.97	115.05
41 Freon123						CAS #: 306-83-2	
9.965	9.965 (0.691)	83	1920913	50.0000	44.704	80.00- 120.00	100.00

AMOUNTS

RT	EXP RT (REL RT)	MASS	RESPONSE	CAL-AMT (PPBV)	ON-COL (PPBV)	TARGET RANGE	RATIO
41 Freon123 (continued)							
9.965	9.965 (0.691)	133	427166			0.00- 69.52	22.24
9.965	9.965 (0.691)	85	1321669			22.16- 122.16	68.80
57 tert-Butyl-Alcohol					CAS #: 75-65-0		
11.513	11.513 (0.799)	59	2389211	50.0000	52.989	80.00- 120.00	100.00
11.513	11.513 (0.799)	41	512333			0.00- 73.42	21.44
11.513	11.513 (0.799)	57	242007			0.00- 60.26	10.13
68 Isopropyl ether					CAS #: 108-20-3		
12.729	12.729 (0.883)	45	4191889	50.0000	48.314	80.00- 120.00	100.00
12.729	12.729 (0.883)	87	854959			0.00- 73.31	20.40
12.729	12.729 (0.883)	59	338407			0.00- 58.30	8.07
71 1-Propanol					CAS #: 71-23-8		
12.840	12.840 (0.891)	42	289656	50.0000	53.234	80.00- 120.00	100.00
12.840	12.840 (0.891)	59	361249			95.91- 195.91	124.72
12.729	12.729 (0.883)	41	824644			265.93- 365.93	284.70
73 t-Butylethyl Ether					CAS #: 637-92-3		
13.393	13.393 (0.929)	59	3722387	50.0000	50.332	80.00- 120.00	100.00
13.393	13.393 (0.929)	87	1335721			0.00- 88.95	35.88
13.393	13.393 (0.929)	41	676184			0.00- 67.89	18.17
77 Ethyl Acetate					CAS #: 141-78-6		
13.891	13.891 (0.964)	45	418066	50.0000	50.630	80.00- 120.00	100.00
13.891	13.891 (0.964)	61	372658			49.04- 149.04	89.14
13.891	13.891 (0.964)	43	2928715			622.55- 722.55	700.54
92 tert-amyl-Methyl Ether					CAS #: 994-05-8		
15.550	15.550 (1.079)	73	2809239	50.0000	51.972	80.00- 120.00	100.00
15.550	15.550 (1.079)	87	676723			0.00- 73.71	24.09
15.550	15.550 (1.079)	55	755357			0.00- 78.56	26.89
96 2-Heptanone					CAS #: 110-43-0		
22.517	22.517 (1.562)	58	1594368	50.0000	49.187	80.00- 120.00	100.00
22.517	22.517 (1.562)	43	2547867			108.53- 208.53	159.80
98 1-Butanol					CAS #: 71-36-3		
16.324	16.324 (1.009)	56	837894	50.0000	53.027	80.00- 120.00	100.00
16.324	16.324 (1.009)	41	630380			21.86- 121.86	75.23
16.324	16.324 (1.009)	43	477080			9.15- 109.15	56.94
99 Isobutanol					CAS #: 78-83-1		
15.163	15.163 (1.052)	59	28999	50.0000	54.474	80.00- 120.00	100.00
15.135	15.135 (1.050)	41	742954			2630.47-2730.47	2562.00

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS CAL-AMT (PPBV)	AMOUNTS ON-COL (PPBV)	TARGET RANGE	RATIO
99 Isobutanol (continued)							
15.135	15.135 (1.050)	43	1001714			3703.83-3803.83	3454.31
119 Butyl Acetate					CAS #: 123-86-4		
20.084	20.084 (1.241)	56	1122426	50.0000	47.701	80.00- 120.00	100.00
20.084	20.084 (1.241)	73	340596			0.00- 80.34	30.34
20.057	20.057 (1.239)	43	2867339			205.46- 305.46	255.46
135 Cyclohexanone					CAS #: 108-94-1		
23.292	23.292 (1.091)	55	1150791	50.0000	51.213	80.00- 120.00	100.00
23.292	23.292 (1.091)	98	483366			0.00- 90.62	42.00
23.292	23.292 (1.091)	42	820261			17.43- 117.43	71.28
146 Diisobutyl Ketone					CAS #: 108-83-8		
24.066	24.066 (1.127)	57	2851170	50.0000	56.290	80.00- 120.00	100.00
24.066	24.066 (1.127)	85	2247938			28.84- 128.84	78.84
0.000	1.000 (0.000)	0	0			0.00- 50.00	0.00

Report Date: 30-Oct-2007 12:35

Air Toxics Ltd.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd7.i
Lab File ID: 7103004a.d
Lab Smp Id: CCV
Analysis Type: VOA
Quant Type: ISTD
Operator: cb
Method File: /chem/msd7.i/7-30oct.b/t14qO18c.m
Misc Info: 200ppbv --> 50ppbv 1200ppbv --> 300ppbv MeOH

Calibration Date: 30-OCT-2007
Calibration Time: 12:15
Client Smp ID: CCVsp
Level: LOW
Sample Type: AIR

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
81 Bromochloromethan	537758	322655	752861	486199	-9.59
97 1,4-Difluorobenze	1771565	1062939	2480191	1616415	-8.76
126 Chlorobenzene-d5	1414884	848930	1980838	1130394	-20.11

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
81 Bromochloromethan	14.39	14.06	14.72	14.42	0.19
97 1,4-Difluorobenze	16.16	15.83	16.49	16.19	0.17
126 Chlorobenzene-d5	21.36	21.03	21.69	21.36	0.00

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

0295

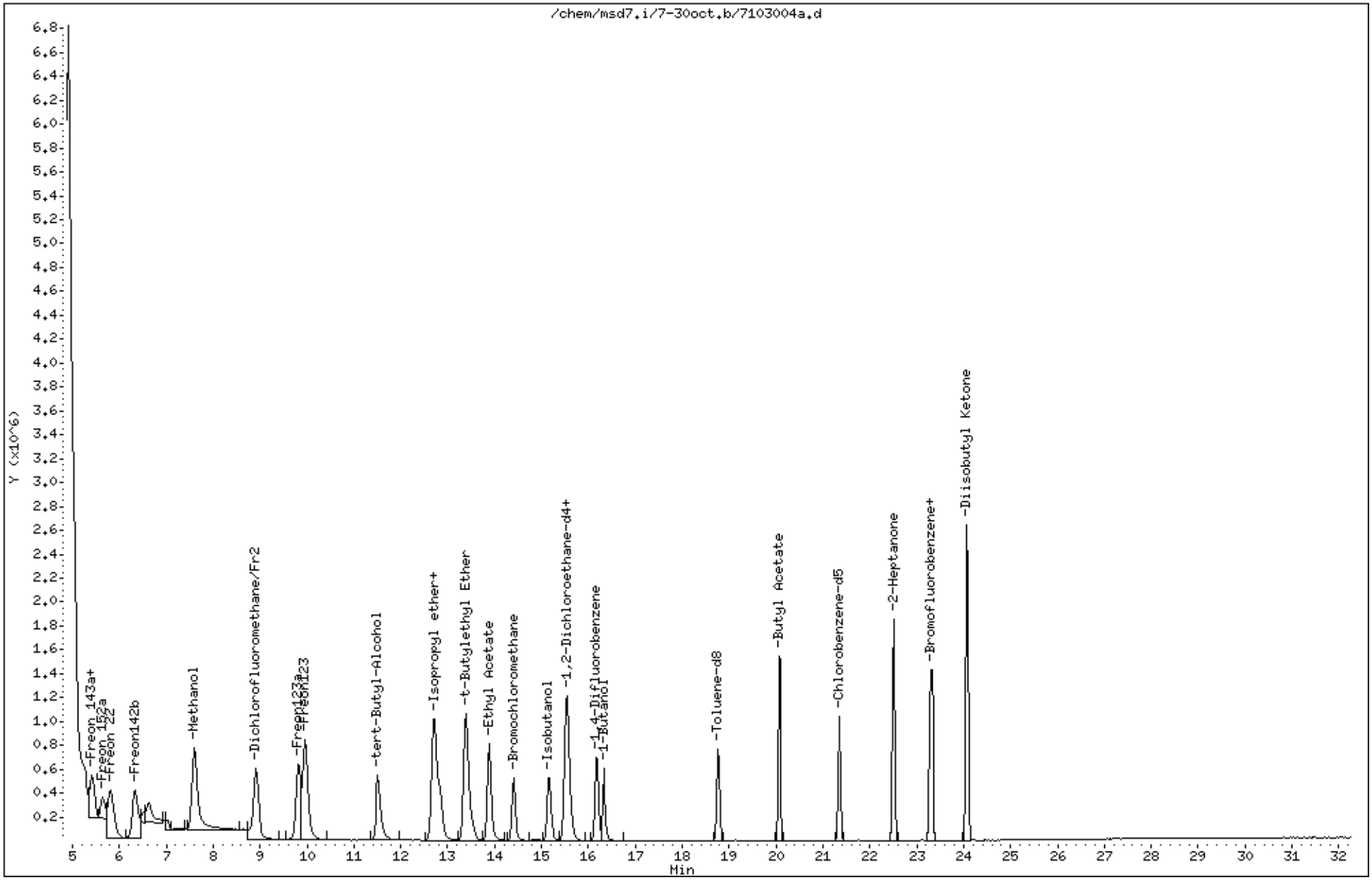
Data File: /chem/msd7.i/7-30oct.b/7103004a.d
Date : 30-OCT-2007 10:29
Client ID: CCVsp
Sample Info: 50mL #1487-400

Instrument: msd7.i

Operator: cb

Column phase: RTx-624

Column diameter: 0.53



AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: CCV

Lab ID#: 0710567-07B

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**7103102**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 10/31/07 09:03 AM**	

Compound	%Recovery
Freon 12	101
Freon 114	104
Chloromethane	97
Vinyl Chloride	95
1,3-Butadiene	101
Bromomethane	93
Chloroethane	96
Freon 11	101
Ethanol	99
Freon 113	101
1,1-Dichloroethene	99
Acetone	91
2-Propanol	104
Carbon Disulfide	88
Methylene Chloride	94
Methyl tert-butyl ether	85
trans-1,2-Dichloroethene	88
Hexane	89
1,1-Dichloroethane	93
2-Butanone (Methyl Ethyl Ketone)	87
cis-1,2-Dichloroethene	98
Tetrahydrofuran	106
Chloroform	102
1,1,1-Trichloroethane	110
Cyclohexane	93
Carbon Tetrachloride	118
Benzene	94
1,2-Dichloroethane	112
Heptane	94
Trichloroethene	104
1,2-Dichloropropane	99
1,4-Dioxane	96
Bromodichloromethane	111
cis-1,3-Dichloropropene	100
4-Methyl-2-pentanone	111
Toluene	101
trans-1,3-Dichloropropene	102
1,1,2-Trichloroethane	101
Tetrachloroethene	113

AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: CCV

Lab ID#: 0710567-07B

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**7103102**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 10/31/07 09:03 AM**	

Compound	**%Recovery**
2-Hexanone	100
Dibromochloromethane	119
1,2-Dibromoethane (EDB)	109
Chlorobenzene	100
Ethyl Benzene	102
m,p-Xylene	102
o-Xylene	102
Styrene	114
Bromoform	128
1,1,2,2-Tetrachloroethane	99
4-Ethyltoluene	103
1,3,5-Trimethylbenzene	105
1,2,4-Trimethylbenzene	109
1,3-Dichlorobenzene	110
1,4-Dichlorobenzene	109
alpha-Chlorotoluene	99
1,2-Dichlorobenzene	106
1,2,4-Trichlorobenzene	103
Hexachlorobutadiene	106
Chlorodifluoromethane	100
Methanol	97
n-Butanol	92
Propylene	101

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
Toluene-d8	100	70-130
1,2-Dichloroethane-d4	112	70-130
4-Bromofluorobenzene	110	70-130

Air Toxics Ltd.

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: msd7.i Injection Date: 31-OCT-2007 09:03
Lab File ID: 7103102.d Init. Cal. Date(s): 18-OCT-2007 30-OCT-2007
Analysis Type: AIR Init. Cal. Times: 12:17 11:10
Lab Sample ID: CCV-1 Quant Type: ISTD
Method: /chem/msd7.i/7-31oct.b/t14qO18c.m

COMPOUND	RRF / AMOUNT	RF50	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
$ 90 1,2-Dichloroethane-d4	1.34304	1.50222	0.010	-11.85167	30.00000	Averaged
$ 113 Toluene-d8	0.88746	0.89232	0.010	-0.54711	30.00000	Averaged
$ 137 Bromofluorobenzene	0.59489	0.65304	0.010	-9.77414	30.00000	Averaged
11 Propylene	1.07750	1.09066	0.010	-1.22078	30.00000	Averaged
12 Dichlorodifluoromethane/Fr1	3.95067	3.97437	0.010	-0.60011	30.00000	Averaged
16 Freon 114	2.68890	2.81124	0.010	-4.55008	30.00000	Averaged
18 Chloromethane	1.29926	1.26065	0.010	2.97220	30.00000	Averaged
20 Vinyl Chloride	1.62201	1.54094	0.010	4.99812	30.00000	Averaged
22 1,3-Butadiene	1.16186	1.17527	0.010	-1.15417	30.00000	Averaged
25 Bromomethane	1.43619	1.33147	0.010	7.29127	30.00000	Averaged
27 Chloroethane	0.71958	0.68746	0.010	4.46310	30.00000	Averaged
31 Trichlorofluoromethane/Fr11	3.68565	3.70942	0.010	-0.64496	30.00000	Averaged
38 Ethanol	0.50270	0.49947	0.010	0.64318	30.00000	Averaged
42 Freon 113	2.04987	2.06476	0.010	-0.72647	30.00000	Averaged
43 1,1-Dichloroethene	2.18125	2.16912	0.010	0.55596	30.00000	Averaged
45 Acetone	0.67421	0.61444	0.010	8.86599	30.00000	Averaged
46 2-Propanol	2.39202	2.49587	0.010	-4.34161	30.00000	Averaged
47 Carbon Disulfide	4.16162	3.64891	0.010	12.32007	30.00000	Averaged
51 3-Chloropropene	0.67724	0.57719	0.010	14.77327	30.00000	Averaged
54 Methylene Chloride	1.60367	1.51683	0.010	5.41530	30.00000	Averaged
60 MTBE	2.43665	2.06784	0.010	15.13609	30.00000	Averaged
61 trans-1,2-Dichloroethene	1.48204	1.30480	0.010	11.95905	30.00000	Averaged
65 Hexane	2.11488	1.88743	0.010	10.75464	30.00000	Averaged
69 Vinyl Acetate	0.31955	0.27104	0.010	15.18145	30.00000	Averaged
70 1,1-Dichloroethane	2.53322	2.34785	0.010	7.31769	30.00000	Averaged
75 2-Butanone	0.54146	0.47171	0.010	12.88146	30.00000	Averaged
76 cis-1,2-Dichloroethene	1.77314	1.74785	0.010	1.42680	30.00000	Averaged
80 Tetrahydrofuran	1.41176	1.50457	0.010	-6.57444	30.00000	Averaged
82 Chloroform	2.51713	2.58089	0.010	-2.53337	30.00000	Averaged
83 1,1,1-Trichloroethane	2.53479	2.77743	0.010	-9.57213	30.00000	Averaged
85 Cyclohexane	1.45184	1.34931	0.010	7.06221	30.00000	Averaged
87 Carbon Tetrachloride	2.37608	2.79628	0.010	-17.68447	30.00000	Averaged
89 2,2,4-Trimethylpentane	5.07476	5.18170	0.010	-2.10721	30.00000	Averaged
91 Benzene	0.99332	0.93445	0.010	5.92685	30.00000	Averaged
93 1,2-Dichloroethane	0.52777	0.58873	0.010	-11.55050	30.00000	Averaged

Air Toxics Ltd.

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: msd7.i Injection Date: 31-OCT-2007 09:03
Lab File ID: 7103102.d Init. Cal. Date(s): 18-OCT-2007 30-OCT-2007
Analysis Type: AIR Init. Cal. Times: 12:17 11:10
Lab Sample ID: CCV-1 Quant Type: ISTD
Method: /chem/msd7.i/7-31oct.b/t14qO18c.m

COMPOUND	RRF / AMOUNT	RF50	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
94 Heptane	0.30549	0.28565	0.010	6.49488	30.00000	Averaged
101 Trichloroethene	0.44124	0.46034	0.010	-4.32970	30.00000	Averaged
104 1,2-Dichloropropane	0.38121	0.37763	0.010	0.93771	30.00000	Averaged
106 1,4-Dioxane	0.24794	0.23906	0.010	3.57925	30.00000	Averaged
107 Bromodichloromethane	0.76606	0.84863	0.010	-10.77935	30.00000	Averaged
110 cis-1,3-Dichloropropene	0.53866	0.54094	0.010	-0.42268	30.00000	Averaged
111 4-Methyl-2-pentanone	0.29726	0.33129	0.010	-11.45018	30.00000	Averaged
114 Toluene	1.08799	1.09891	0.010	-1.00362	30.00000	Averaged
116 trans-1,3-Dichloropropene	0.71002	0.72430	0.010	-2.01149	30.00000	Averaged
117 1,1,2-Trichloroethane	0.51782	0.52231	0.010	-0.86734	30.00000	Averaged
120 Tetrachloroethene	0.67159	0.76047	0.010	-13.23390	30.00000	Averaged
121 2-Hexanone	0.55495	0.55500	0.010	-0.01057	30.00000	Averaged
122 Dibromochloromethane	0.91748	1.09592	0.010	-19.44851	30.00000	Averaged
123 1,2-Dibromoethane	0.84888	0.92572	0.010	-9.05208	30.00000	Averaged
127 Chlorobenzene	1.13099	1.13669	0.010	-0.50348	30.00000	Averaged
128 Ethyl Benzene	0.57731	0.59187	0.010	-2.52146	30.00000	Averaged
129 m,p-Xylene	0.72261	0.73678	0.010	-1.96083	30.00000	Averaged
130 o-Xylene	0.62621	0.64205	0.010	-2.52933	30.00000	Averaged
131 Styrene	0.96855	1.10597	0.010	-14.18898	30.00000	Averaged
133 Bromoform	0.80564	1.03236	0.010	-28.14177	30.00000	Averaged
134 Cumene	1.58127	1.73005	0.010	-9.40910	30.00000	Averaged
140 1,1,2,2-Tetrachloroethane	1.04598	1.04008	0.010	0.56357	30.00000	Averaged
142 Propylbenzene	2.12085	2.21729	0.010	-4.54710	30.00000	Averaged
145 4-Ethyltoluene	1.87287	1.92365	0.010	-2.71093	30.00000	Averaged
147 1,3,5-Trimethylbenzene	1.47112	1.55067	0.010	-5.40703	30.00000	Averaged
150 1,2,4-Trimethylbenzene	1.33697	1.45638	0.010	-8.93148	30.00000	Averaged
155 1,3-Dichlorobenzene	1.03460	1.13942	0.010	-10.13113	30.00000	Averaged
156 1,4-Dichlorobenzene	1.07824	1.17886	0.010	-9.33188	30.00000	Averaged
159 alpha-Chlorotoluene	1.43143	1.41677	0.010	1.02416	30.00000	Averaged
161 1,2-Dichlorobenzene	0.96328	1.01734	0.010	-5.61179	30.00000	Averaged
165 1,2,4-Trichlorobenzene	0.39398	0.40517	0.010	-2.84124	30.00000	Averaged
166 Hexachlorobutadiene	0.32753	0.34592	0.010	-5.61572	30.00000	Averaged
29 Isopentane	1.78205	1.74608	0.010	2.01851	30.00000	Averaged
19 Butane	0.27835	0.26682	0.010	4.14230	30.00000	Averaged
102 Methyl Cyclohexane	1.78694	1.74116	0.010	2.56194	30.00000	Averaged
167 Naphthalene	0.73814	0.74523	0.010	-0.95984	30.00000	Averaged

Air Toxics Ltd.

AMBIENT AIR METHOD TO14

Data file : /chem/msd7.i/7-31oct.b/7103102.d
Lab Smp Id: CCV-1 Client Smp ID: CCV-1
Inj Date : 31-OCT-2007 09:03
Operator : cb Inst ID: msd7.i
Smp Info : 100mL #1576-50A
Misc Info : 100ppbv --> 50ppbv
Comment :
Method : /chem/msd7.i/7-31oct.b/t14qO18c.m
Meth Date : 31-Oct-2007 10:12 cbond Quant Type: ISTD
Cal Date : 30-OCT-2007 11:10 Cal File: 7103005.d
Als bottle: 1 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: AT04ENSR.sub
Target Version: 3.50 Sample Matrix: AIR
Processing Host: eeyore

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS CAL-AMT (PPBV)	AMOUNTS ON-COL (PPBV)	TARGET RANGE	RATIO
* 81 Bromochloromethane					CAS #: 74-97-5		
14.388	14.388 (1.000)	130	419527	25.0000		80.00- 120.00	100.00
14.388	14.388 (1.000)	128	322423			26.85- 126.85	76.85
14.388	14.388 (1.000)	49	830784			148.03- 248.03	198.03
* 97 1,4-Difluorobenzene					CAS #: 540-36-3		
16.158	16.158 (1.000)	114	1400939	25.0000		80.00- 120.00	100.00
16.158	16.158 (1.000)	88	213154			0.00- 65.22	15.22
* 126 Chlorobenzene-d5					CAS #: 3114-55-4		
21.356	21.356 (1.000)	117	1205049	25.0000		80.00- 120.00	100.00
21.356	21.356 (1.000)	82	635447			4.45- 104.45	52.73
$ 90 1,2-Dichloroethane-d4					CAS #: 17060-07-0		
15.494	15.494 (1.077)	65	630220	25.0000	27.963	80.00- 120.00	100.00
15.494	15.494 (1.077)	67	321273			2.91- 102.91	50.98
$ 113 Toluene-d8					CAS #: 2037-26-5		
18.757	18.757 (1.161)	98	1250084	25.0000	25.137	80.00- 120.00	100.00
18.757	18.757 (1.161)	70	134480			0.00- 61.46	10.76

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS CAL-AMT (PPBV)	AMOUNTS ON-COL (PPBV)	TARGET RANGE	RATIO
$ 113 Toluene-d8 (continued)							
18.757	18.757 (1.161)	100	866786			19.18- 119.18	69.34
$ 137 Bromofluorobenzene					CAS #: 460-00-4		
23.347	23.347 (1.093)	174	786946	25.0000	27.444	80.00- 120.00	100.00
23.319	23.319 (1.092)	95	917514			66.59- 166.59	116.59
23.347	23.347 (1.093)	176	758927			46.44- 146.44	96.44
11 Propylene					CAS #: 115-07-1		
5.617	5.617 (0.390)	41	915121	50.0000	50.610	80.00- 120.00	100.00
5.617	5.617 (0.390)	42	636731			21.19- 121.19	69.58
5.617	5.617 (0.390)	39	711506			24.83- 124.83	77.75
12 Dichlorodifluoromethane/Fr12					CAS #: 75-71-8		
5.729	5.729 (0.398)	85	3334715	50.0000	50.300	80.00- 120.00	100.00
5.729	5.729 (0.398)	87	1077854			0.00- 83.07	32.32
16 Freon 114					CAS #: 76-14-2		
6.180	6.180 (0.430)	135	2358786	50.0000	52.275	80.00- 120.00	100.00
6.208	6.208 (0.431)	137	751203			0.00- 81.85	31.85
18 Chloromethane					CAS #: 74-87-3		
6.518	6.518 (0.453)	50	1057751	50.0000	48.514	80.00- 120.00	100.00
6.518	6.518 (0.453)	52	359360			0.00- 84.80	33.97
20 Vinyl Chloride					CAS #: 75-01-4		
6.856	6.856 (0.476)	62	1292934	50.0000	47.501	80.00- 120.00	100.00
6.856	6.856 (0.476)	64	399580			0.00- 83.25	30.90
22 1,3-Butadiene					CAS #: 106-99-0		
6.940	6.940 (0.482)	54	986111	50.0000	50.577	80.00- 120.00	100.00
6.940	6.940 (0.482)	39	1083030			55.97- 155.97	109.83
25 Bromomethane					CAS #: 74-83-9		
8.010	8.010 (0.557)	94	1117179	50.0000	46.354	80.00- 120.00	100.00
8.010	8.010 (0.557)	96	1061549			45.02- 145.02	95.02
27 Chloroethane					CAS #: 75-00-3		
8.348	8.348 (0.580)	64	576819	50.0000	47.768	80.00- 120.00	100.00
8.348	8.348 (0.580)	49	172991			0.00- 79.34	29.99
8.348	8.348 (0.580)	66	175446			0.00- 83.15	30.42
31 Trichlorofluoromethane/Fr11					CAS #: 75-69-4		
8.940	8.940 (0.621)	101	3112406	50.0000	50.322	80.00- 120.00	100.00
8.940	8.940 (0.621)	103	2018913			14.87- 114.87	64.87

AMOUNTS

RT	EXP RT (REL RT)	MASS	RESPONSE	CAL-AMT (PPBV)	ON-COL (PPBV)	TARGET RANGE	RATIO
38 Ethanol					CAS #: 64-17-5		
9.439	9.439 (0.656)	45	419081	50.0000	49.678	80.00- 120.00	100.00
9.439	9.439 (0.656)	43	91867			0.00- 72.83	21.92
9.439	9.439 (0.656)	46	153145			0.00- 88.20	36.54
42 Freon 113					CAS #: 76-13-1		
10.185	10.185 (0.708)	151	1732448	50.0000	50.363	80.00- 120.00	100.00
10.185	10.185 (0.708)	153	1110970			14.13- 114.13	64.13
10.185	10.185 (0.708)	101	2007735			65.89- 165.89	115.89
43 1,1-Dichloroethene					CAS #: 75-35-4		
10.324	10.324 (0.718)	61	1820008	50.0000	49.722	80.00- 120.00	100.00
10.324	10.324 (0.718)	96	1037416			7.00- 107.00	57.00
10.324	10.324 (0.718)	98	670688			0.00- 86.85	36.85
45 Acetone					CAS #: 67-64-1		
10.490	10.490 (0.729)	58	515546	50.0000	45.567	80.00- 120.00	100.00
10.462	10.462 (0.727)	43	1851273			247.10- 347.10	359.09
46 2-Propanol					CAS #: 67-63-0		
10.656	10.656 (0.741)	45	2094172	50.0000	52.171	80.00- 120.00	100.00
10.656	10.656 (0.741)	43	517115			0.00- 75.54	24.69
10.656	10.656 (0.741)	59	74943			0.00- 53.72	3.58
47 Carbon Disulfide					CAS #: 75-15-0		
10.877	10.877 (0.756)	76	3061631	50.0000	43.840	80.00- 120.00	100.00
51 3-Chloropropene					CAS #: 107-05-1		
11.153	11.153 (0.775)	76	484296	50.0000	42.613	80.00- 120.00	100.00
11.153	11.153 (0.775)	41	1527306			224.96- 324.96	315.37
54 Methylene Chloride					CAS #: 75-09-2		
11.457	11.457 (0.796)	49	1272700	50.0000	47.292	80.00- 120.00	100.00
11.457	11.457 (0.796)	84	803129			13.10- 113.10	63.10
11.457	11.457 (0.796)	51	381835			0.00- 80.85	30.00
60 MTBE					CAS #: 1634-04-4		
11.817	11.817 (0.821)	73	1735026	50.0000	42.432	80.00- 120.00	100.00
11.817	11.817 (0.821)	57	440658			0.00- 75.40	25.40
11.817	11.817 (0.821)	41	482392			0.00- 76.16	27.80
61 trans-1,2-Dichloroethene					CAS #: 156-60-5		
11.927	11.927 (0.829)	96	1094800	50.0000	44.020	80.00- 120.00	100.00
11.927	11.927 (0.829)	61	1689452			104.32- 204.32	154.32
11.927	11.927 (0.829)	98	686563			11.77- 111.77	62.71

AMOUNTS

RT	EXP RT (REL RT)	MASS	RESPONSE	CAL-AMT (PPBV)	ON-COL (PPBV)	TARGET RANGE	RATIO
65 Hexane					CAS #: 110-54-3		
12.287	12.287 (0.854)	57	1583657	50.0000	44.623	80.00- 120.00	100.00
12.287	12.287 (0.854)	43	1143153			17.84- 117.84	72.18
12.287	12.287 (0.854)	86	221266			0.00- 65.07	13.97
69 Vinyl Acetate					CAS #: 108-05-4		
12.784	12.784 (0.889)	86	227415	50.0000	42.409	80.00- 120.00	100.00
12.784	12.784 (0.889)	43	3197988			1150.46-1250.46	1406.23
70 1,1-Dichloroethane					CAS #: 75-34-3		
12.812	12.812 (0.890)	63	1969972	50.0000	46.341	80.00- 120.00	100.00
12.812	12.812 (0.890)	65	595745			0.00- 80.24	30.24
75 2-Butanone					CAS #: 78-93-3		
13.890	13.890 (0.965)	72	395793	50.0000	43.559	80.00- 120.00	100.00
13.890	13.890 (0.965)	43	2282575			526.71- 626.71	576.71
13.890	13.890 (0.965)	57	162295			0.00- 86.57	41.01
76 cis-1,2-Dichloroethene					CAS #: 156-59-2		
13.918	13.918 (0.967)	61	1466537	50.0000	49.287	80.00- 120.00	100.00
13.918	13.918 (0.967)	96	1010493			18.90- 118.90	68.90
13.918	13.918 (0.967)	98	653314			0.00- 94.55	44.55
80 Tetrahydrofuran					CAS #: 109-99-9		
14.388	14.388 (1.000)	42	1262419	50.0000	53.287	80.00- 120.00	100.00
14.388	14.388 (1.000)	71	383821			0.00- 80.40	30.40
14.388	14.388 (1.000)	72	410964			0.00- 87.82	32.55
82 Chloroform					CAS #: 67-66-3		
14.471	14.471 (1.006)	83	2165510	50.0000	51.267	80.00- 120.00	100.00
14.471	14.471 (1.006)	85	1401964			14.74- 114.74	64.74
83 1,1,1-Trichloroethane					CAS #: 71-55-6		
14.831	14.831 (1.031)	97	2330410	50.0000	54.786	80.00- 120.00	100.00
14.831	14.831 (1.031)	99	1505359			14.60- 114.60	64.60
85 Cyclohexane					CAS #: 110-82-7		
14.831	14.831 (1.031)	84	1132142	50.0000	46.469	80.00- 120.00	100.00
14.831	14.831 (1.031)	56	1540606			86.08- 186.08	136.08
14.831	14.831 (1.031)	41	967997			35.50- 135.50	85.50
87 Carbon Tetrachloride					CAS #: 56-23-5		
15.107	15.107 (1.050)	119	2346232	50.0000	58.842	80.00- 120.00	100.00
15.107	15.107 (1.050)	117	2438652			53.94- 153.94	103.94
89 2,2,4-Trimethylpentane					CAS #: 540-84-1		
15.411	15.411 (1.071)	57	4347724	50.0000	51.054	80.00- 120.00	100.00

```
                                          AMOUNTS
                                       CAL-AMT   ON-COL
   RT   EXP RT (REL RT)  MASS  RESPONSE ( PPBV)  ( PPBV)   TARGET RANGE    RATIO
   ==   ====== ========  ====  ======== =======  =======   ============    =====

   89 2,2,4-Trimethylpentane (continued)
 15.411  15.411 (1.071)    56   1456298                     0.00-  84.62    33.50
 15.411  15.411 (1.071)    41   1282048                     0.00-  79.27    29.49
-------------------------------------------------------------------------------
   91 Benzene                                        CAS #: 71-43-2
 15.522  15.522 (0.961)    78   2618214 50.0000   47.036  80.00- 120.00   100.00
 15.522  15.522 (0.961)    77    582725                     0.00-  71.87    22.26
-------------------------------------------------------------------------------
   93 1,2-Dichloroethane                             CAS #: 107-06-2
 15.632  15.632 (0.967)    62   1649545 50.0000   55.775  80.00- 120.00   100.00
 15.632  15.632 (0.967)    64    519884                     0.00-  82.89    31.52
-------------------------------------------------------------------------------
   94 Heptane                                        CAS #: 142-82-5
 15.715  15.715 (0.973)    71    800357 50.0000   46.752  80.00- 120.00   100.00
 15.715  15.715 (0.973)    43   1859702                   158.53- 258.53   232.36
 15.715  15.715 (0.973)    57    932970                    59.34- 159.34   116.57
-------------------------------------------------------------------------------
  101 Trichloroethene                                CAS #: 79-01-6
 16.628  16.628 (1.029)    95   1289827 50.0000   52.165  80.00- 120.00   100.00
 16.628  16.628 (1.029)   130   1326141                    52.82- 152.82   102.82
 16.628  16.628 (1.029)    97    835603                    14.78- 114.78    64.78
-------------------------------------------------------------------------------
  104 1,2-Dichloropropane                           CAS #: 78-87-5
 17.125  17.125 (1.060)    63   1058077 50.0000   49.531  80.00- 120.00   100.00
 17.125  17.125 (1.060)    62    779801                    23.70- 123.70    73.70
 17.125  17.125 (1.060)    41    755520                    21.41- 121.41    71.41
-------------------------------------------------------------------------------
  106 1,4-Dioxane                                   CAS #: 123-91-1
 17.236  17.236 (1.067)    88    669825 50.0000   48.210  80.00- 120.00   100.00
 17.236  17.236 (1.067)    58    498243                    24.38- 124.38    74.38
 17.236  17.236 (1.067)    57    171483                     0.00-  74.60    25.60
-------------------------------------------------------------------------------
  107 Bromodichloromethane                          CAS #: 75-27-4
 17.540  17.540 (1.086)    83   2377766 50.0000   55.390  80.00- 120.00   100.00
 17.540  17.540 (1.086)    85   1540434                    14.78- 114.78    64.78
-------------------------------------------------------------------------------
  110 cis-1,3-Dichloropropene                       CAS #: 10061-01-5
 18.342  18.342 (1.135)    75   1515647 50.0000   50.211  80.00- 120.00   100.00
 18.342  18.342 (1.135)    77    484540                     0.00-  81.97    31.97
 18.342  18.342 (1.135)    39   1010594                    16.68- 116.68    66.68
-------------------------------------------------------------------------------
  111 4-Methyl-2-pentanone                          CAS #: 108-10-1
 18.508  18.508 (1.145)    58    928245 50.0000   55.725  80.00- 120.00   100.00
 18.508  18.508 (1.145)    43   2534103                   222.97- 322.97   273.00
 18.508  18.508 (1.145)    85    345249                     0.00-  90.48    37.19
-------------------------------------------------------------------------------
```

AMOUNTS

RT	EXP RT (REL RT)	MASS	RESPONSE	CAL-AMT (PPBV)	ON-COL (PPBV)	TARGET RANGE	RATIO
114 Toluene					CAS #: 108-88-3		
18.895	18.895 (1.169)	91	3079009	50.0000	50.502	80.00- 120.00	100.00
18.895	18.895 (1.169)	92	1935772			12.87- 112.87	62.87
116 trans-1,3-Dichloropropene					CAS #: 10061-02-6		
19.310	19.310 (0.904)	75	1745631	50.0000	51.006	80.00- 120.00	100.00
19.310	19.310 (0.904)	77	558278			0.00- 81.98	31.98
19.310	19.310 (0.904)	39	1019357			8.39- 108.39	58.39
117 1,1,2-Trichloroethane					CAS #: 79-00-5		
19.669	19.669 (0.921)	97	1258812	50.0000	50.434	80.00- 120.00	100.00
19.669	19.669 (0.921)	99	794982			13.15- 113.15	63.15
19.642	19.642 (0.920)	83	1027431			31.62- 131.62	81.62
120 Tetrachloroethene					CAS #: 127-18-4		
19.835	19.835 (0.929)	166	1832796	50.0000	56.617	80.00- 120.00	100.00
19.835	19.835 (0.929)	129	1277721			19.71- 119.71	69.71
19.835	19.835 (0.929)	131	1240048			17.66- 117.66	67.66
121 2-Hexanone					CAS #: 591-78-6		
19.973	19.973 (0.935)	58	1337616	50.0000	50.005	80.00- 120.00	100.00
19.973	19.973 (0.935)	43	2645771			147.80- 247.80	197.80
19.973	19.973 (0.935)	100	218843			0.00- 67.05	16.36
122 Dibromochloromethane					CAS #: 124-48-1		
20.360	20.360 (0.953)	129	2641273	50.0000	59.724	80.00- 120.00	100.00
20.360	20.360 (0.953)	127	2024107			27.62- 127.62	76.63
123 1,2-Dibromoethane					CAS #: 106-93-4		
20.637	20.637 (0.966)	107	2231081	50.0000	54.526	80.00- 120.00	100.00
20.637	20.637 (0.966)	109	2110150			44.58- 144.58	94.58
127 Chlorobenzene					CAS #: 108-90-7		
21.411	21.411 (1.003)	112	2739530	50.0000	50.252	80.00- 120.00	100.00
21.411	21.411 (1.003)	114	895560			0.00- 82.69	32.69
21.411	21.411 (1.003)	77	1960015			21.55- 121.55	71.55
128 Ethyl Benzene					CAS #: 100-41-4		
21.494	21.494 (1.006)	106	1426469	50.0000	51.261	80.00- 120.00	100.00
21.494	21.494 (1.006)	91	4365447			261.69- 361.69	306.03
129 m,p-Xylene					CAS #: 108-38-3		
21.688	21.688 (1.016)	106	1775713	50.0000	50.980	80.00- 120.00	100.00
21.688	21.688 (1.016)	91	3512210			145.05- 245.05	197.79
130 o-Xylene					CAS #: 95-47-6		
22.379	22.379 (1.048)	106	1547405	50.0000	51.265	80.00- 120.00	100.00

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS CAL-AMT (PPBV)	AMOUNTS ON-COL (PPBV)	TARGET RANGE	RATIO
130 o-Xylene (continued)							
22.379	22.379 (1.048)	91	3227791			158.59- 258.59	208.59
131 Styrene					CAS #: 100-42-5		
22.407	22.407 (1.049)	104	2665502	50.0000	57.094	80.00- 120.00	100.00
22.407	22.407 (1.049)	78	1367513			1.30- 101.30	51.30
133 Bromoform					CAS #: 75-25-2		
22.821	22.821 (1.069)	173	2488095	50.0000	64.071	80.00- 120.00	100.00
22.821	22.821 (1.069)	171	1285696			1.67- 101.67	51.67
134 Cumene					CAS #: 98-82-8		
22.959	22.959 (1.075)	105	4169599	50.0000	54.704	80.00- 120.00	100.00
22.959	22.959 (1.075)	120	1162868			0.00- 78.08	27.89
22.959	22.959 (1.075)	51	433757			0.00- 61.43	10.40
140 1,1,2,2-Tetrachloroethane					CAS #: 79-34-5		
23.540	23.540 (1.102)	83	2506703	50.0000	49.718	80.00- 120.00	100.00
23.540	23.540 (1.102)	85	1627955			14.94- 114.94	64.94
142 Propylbenzene					CAS #: 103-65-1		
23.651	23.651 (1.107)	91	5343882	50.0000	52.274	80.00- 120.00	100.00
23.651	23.651 (1.107)	120	1254870			0.00- 72.94	23.48
23.651	23.651 (1.107)	105	191277			0.00- 54.03	3.58
145 4-Ethyltoluene					CAS #: 622-96-8		
23.817	23.817 (1.115)	105	4636178	50.0000	51.355	80.00- 120.00	100.00
23.817	23.817 (1.115)	120	1489118			0.00- 82.12	32.12
147 1,3,5-Trimethylbenzene					CAS #: 108-67-8		
23.927	23.927 (1.120)	105	3737257	50.0000	52.704	80.00- 120.00	100.00
23.927	23.927 (1.120)	120	1924629			3.80- 103.80	51.50
150 1,2,4-Trimethylbenzene					CAS #: 95-63-6		
24.563	24.563 (1.150)	105	3510009	50.0000	54.466	80.00- 120.00	100.00
24.563	24.563 (1.150)	120	1699672			0.00- 98.95	48.42
155 1,3-Dichlorobenzene					CAS #: 541-73-1		
25.116	25.116 (1.176)	146	2746104	50.0000	55.066	80.00- 120.00	100.00
25.116	25.116 (1.176)	148	1742212			14.48- 114.48	63.44
25.116	25.116 (1.176)	111	1039406			0.00- 89.68	37.85
156 1,4-Dichlorobenzene					CAS #: 106-46-7		
25.282	25.282 (1.184)	146	2841158	50.0000	54.666	80.00- 120.00	100.00
25.282	25.282 (1.184)	148	1806442			13.81- 113.81	63.58
25.282	25.282 (1.184)	111	1032661			0.00- 87.35	36.35

```
                                          AMOUNTS
                                       CAL-AMT   ON-COL
   RT   EXP RT (REL RT)  MASS  RESPONSE ( PPBV)  ( PPBV)   TARGET RANGE    RATIO
   ==   ====== ========  ====  ======== =======  =======   ============    =====

  159 alpha-Chlorotoluene                          CAS #: 100-44-7
 25.476  25.476 (1.193)    91   3414554 50.0000   49.488  80.00- 120.00   100.00
 25.476  25.476 (1.193)   126    719460                     0.00-  71.29    21.07
-------------------------------------------------------------------------------
  161 1,2-Dichlorobenzene                          CAS #: 95-50-1
 25.918  25.918 (1.214)   146   2451887 50.0000   52.806  80.00- 120.00   100.00
 25.918  25.918 (1.214)   148   1587556                   14.75- 114.75    64.75
 25.918  25.918 (1.214)   111    952214                     0.00-  88.84    38.84
-------------------------------------------------------------------------------
  165 1,2,4-Trichlorobenzene                       CAS #: 120-82-1
 28.821  28.821 (1.350)   180    976504 50.0000   51.421  80.00- 120.00   100.00
 28.821  28.821 (1.350)   182    924791                   44.70- 144.70    94.70
-------------------------------------------------------------------------------
  166 Hexachlorobutadiene                          CAS #: 87-68-3
 28.987  28.987 (1.357)   225    833700 50.0000   52.808  80.00- 120.00   100.00
 28.987  28.987 (1.357)   223    524982                   12.64- 112.64    62.97
-------------------------------------------------------------------------------
   29 Isopentane                                   CAS #: 78-78-4
  8.348   8.348 (0.580)    43   1465056 50.0000   48.991  80.00- 120.00   100.00
  8.348   8.348 (0.580)    57    925878                   16.48- 116.48    63.20
-------------------------------------------------------------------------------
   19 Butane                                       CAS #: 106-97-8
  6.743   6.743 (0.469)    58    223875 50.0000   47.929  80.00- 120.00   100.00
  6.743   6.743 (0.469)    43   1896842                  757.70- 857.70   847.28
-------------------------------------------------------------------------------
  102 Methyl Cyclohexane                           CAS #: 108-87-2
 16.904  16.904 (1.175)    83   1460928 50.0000   48.719  80.00- 120.00   100.00
 16.904  16.904 (1.175)    98    683532                     0.00-  96.13    46.79
 16.904  16.904 (1.175)    55   1398306                   38.51- 138.51    95.71
-------------------------------------------------------------------------------
  167 Naphthalene                                  CAS #: 91-20-3
 29.374  29.374 (1.375)   128   1796068 50.0000   50.480  80.00- 120.00   100.00
 29.374  29.374 (1.375)   127    212551                     0.00-  62.50    11.83
-------------------------------------------------------------------------------
```

Report Date: 31-Oct-2007 10:12

Air Toxics Ltd.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd7.i
Lab File ID: 7103102.d
Lab Smp Id: CCV-1
Analysis Type: VOA
Quant Type: ISTD
Operator: cb
Method File: /chem/msd7.i/7-31oct.b/t14qO18c.m
Misc Info: 100ppbv --> 50ppbv

Calibration Date: 31-OCT-2007
Calibration Time: 09:46
Client Smp ID: CCV-1
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
81 Bromochloromethan	463876	278326	649426	419527	-9.56
97 1,4-Difluorobenze	1534485	920691	2148279	1400939	-8.70
126 Chlorobenzene-d5	1086840	652104	1521576	1205049	10.88

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
81 Bromochloromethan	14.42	14.09	14.75	14.39	-0.19
97 1,4-Difluorobenze	16.16	15.83	16.49	16.16	0.00
126 Chlorobenzene-d5	21.36	21.03	21.69	21.36	0.00

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /chem/msd7.i/7-31oct.b/7103102.d

Date : 31-OCT-2007 09:03

Client ID: CCV-1

Sample Info: 100mL #1576-50A

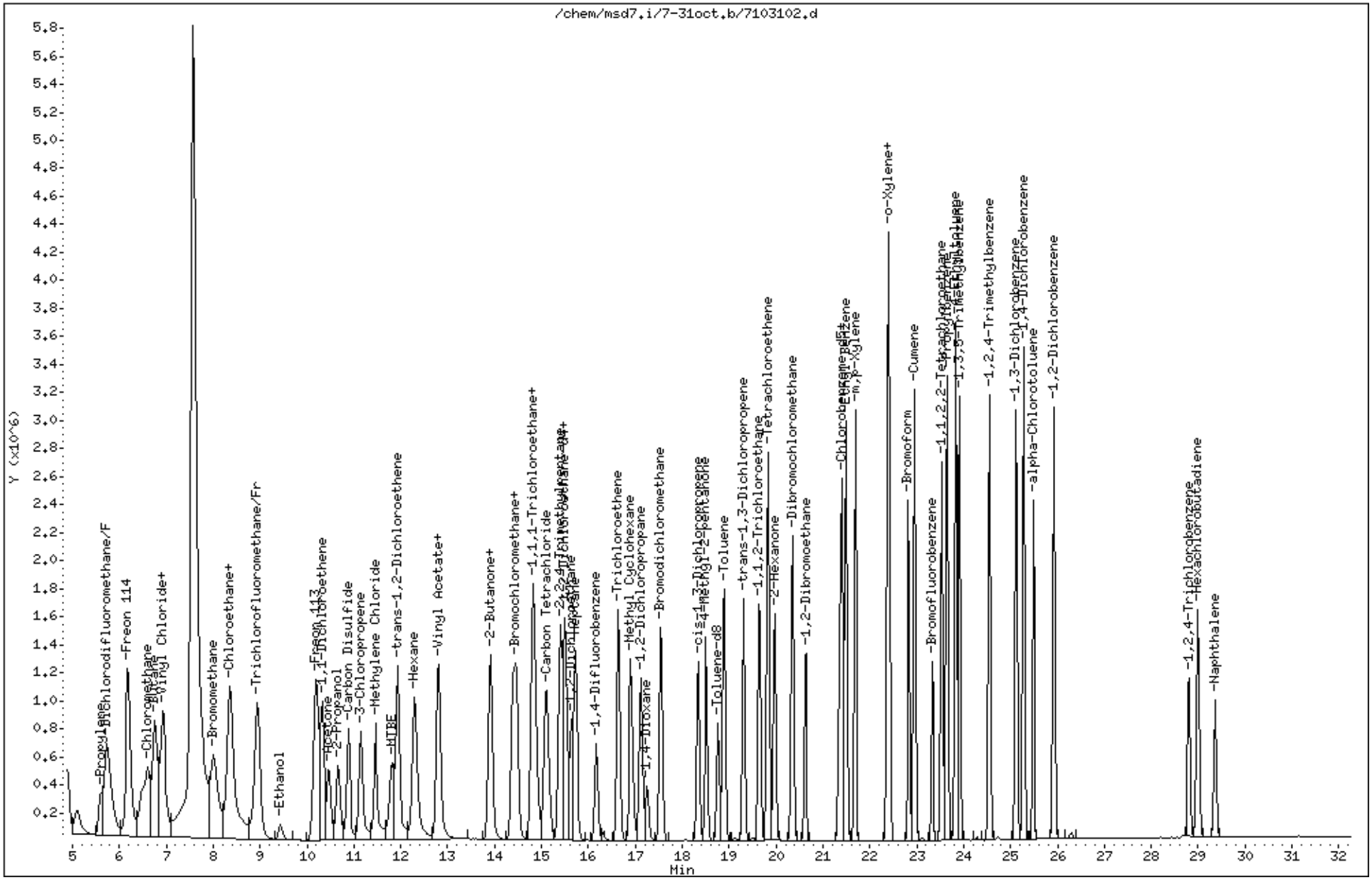
Column phase: RTx-624

Instrument: msd7.i

Operator: cb

Column diameter: 0.53

0309



Report Date: 31-Oct-2007 10:11

Air Toxics Ltd.

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: msd7.i Injection Date: 31-OCT-2007 09:46
Lab File ID: 7103103.d Init. Cal. Date(s): 18-OCT-2007 30-OCT-2007
Analysis Type: AIR Init. Cal. Times: 12:17 11:10
Lab Sample ID: CCV Quant Type: ISTD
Method: /chem/msd7.i/7-31oct.b/t14qO18c.m

COMPOUND	RRF / AMOUNT	RF50	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
$ 90 1,2-Dichloroethane-d4	1.34304	1.33759	0.010	0.40629	30.00000	Averaged
$ 113 Toluene-d8	0.88746	0.76756	0.010	13.51059	30.00000	Averaged
$ 137 Bromofluorobenzene	0.59489	0.66127	0.010	-11.15705	30.00000	Averaged
5 Freon 143a	0.54510	0.57444	0.010	-5.38242	40.00000	Averaged
6 Freon142b	2.22349	2.38475	0.010	-7.25242	40.00000	Averaged
13 Freon 134a	1.06546	1.08263	0.010	-1.61090	40.00000	Averaged
15 Freon 152a	0.76921	0.71530	0.010	7.00859	40.00000	Averaged
17 Freon 22	2.48505	2.47604	0.010	0.36272	40.00000	Averaged
26 Methanol	0.42691	0.43858	0.010	-2.73310	40.00000	Averaged
34 Dichlorofluoromethane/Fr21	2.20471	2.02146	0.010	8.31166	40.00000	Averaged
40 Freon123a	1.24571	1.26597	0.010	-1.62591	40.00000	Averaged
41 Freon123	2.20945	1.99602	0.010	9.65956	40.00000	Averaged
57 tert-Butyl-Alcohol	2.31844	2.55519	0.010	-10.21162	40.00000	Averaged
68 Isopropyl ether	4.46135	4.40489	0.010	1.26561	40.00000	Averaged
71 1-Propanol	0.27978	0.28956	0.010	-3.49575	40.00000	Averaged
73 t-Butylethyl Ether	3.80281	3.91432	0.010	-2.93226	40.00000	Averaged
77 Ethyl Acetate	0.42459	0.43341	0.010	-2.07900	40.00000	Averaged
92 tert-amyl-Methyl Ether	2.77937	2.90110	0.010	-4.37992	40.00000	Averaged
96 2-Heptanone	1.66671	1.67093	0.010	-0.25311	40.00000	Averaged
98 1-Butanol	0.24439	0.26396	0.010	-8.00737	40.00000	Averaged
99 Isobutanol	0.02737	0.03125	0.010	-14.15115	40.00000	Averaged
119 Butyl Acetate	0.36393	0.35451	0.010	2.58759	40.00000	Averaged
135 Cyclohexanone	0.49697	0.51793	0.010	-4.21816	40.00000	Averaged
146 Diisobutyl Ketone	1.12021	1.27492	0.010	-13.81134	40.00000	Averaged

Air Toxics Ltd.

AMBIENT AIR METHOD TO14

Data file : /chem/msd7.i/7-31oct.b/7103103.d
Lab Smp Id: CCV Client Smp ID: CCVsp
Inj Date : 31-OCT-2007 09:46
Operator : cb Inst ID: msd7.i
Smp Info : 50mL #1487-400
Misc Info : 200ppbv --> 50ppbv
Comment :
Method : /chem/msd7.i/7-31oct.b/t14qO18c.m
Meth Date : 31-Oct-2007 10:11 cbond Quant Type: ISTD
Cal Date : 30-OCT-2007 11:10 Cal File: 7103005.d
Als bottle: 1 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: sp22aCCV.sub
Target Version: 3.50 Sample Matrix: AIR
Processing Host: eeyore

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS CAL-AMT (PPBV)	AMOUNTS ON-COL (PPBV)	TARGET RANGE	RATIO
* 81 Bromochloromethane					CAS #: 74-97-5		
14.416	14.416 (1.000)	130	463876	25.0000		80.00- 120.00	100.00
14.416	14.416 (1.000)	128	354999			26.53- 126.53	76.53
14.388	14.388 (1.000)	49	661352			92.57- 192.57	142.57
* 97 1,4-Difluorobenzene					CAS #: 540-36-3		
16.158	16.158 (1.000)	114	1534485	25.0000		80.00- 120.00	100.00
16.158	16.158 (1.000)	88	232502			0.00- 65.15	15.15
* 126 Chlorobenzene-d5					CAS #: 3114-55-4		
21.356	21.356 (1.000)	117	1086840	25.0000		80.00- 120.00	100.00
21.356	21.356 (1.000)	82	571173			4.45- 104.45	52.55
$ 90 1,2-Dichloroethane-d4					CAS #: 17060-07-0		
15.494	15.494 (1.075)	65	620474	25.0000	24.898	80.00- 120.00	100.00
15.494	15.494 (1.075)	67	308909			2.91- 102.91	49.79
$ 113 Toluene-d8					CAS #: 2037-26-5		
18.757	18.757 (1.161)	98	1177812	25.0000	21.622	80.00- 120.00	100.00
18.757	18.757 (1.161)	70	127452			0.00- 61.46	10.82

AMOUNTS

RT	EXP RT (REL RT)	MASS	RESPONSE	CAL-AMT (PPBV)	ON-COL (PPBV)	TARGET RANGE	RATIO
$ 113 Toluene-d8 (continued)							
18.757	18.757 (1.161)	100	805116			19.18- 119.18	68.36
$ 137 Bromofluorobenzene					CAS #: 460-00-4		
23.347	23.347 (1.093)	174	718692	25.0000	27.789	80.00- 120.00	100.00
23.319	23.319 (1.092)	95	847408			67.91- 167.91	117.91
23.347	23.347 (1.093)	176	708917			48.64- 148.64	98.64
5 Freon 143a					CAS #: 420-46-2		
5.307	5.307 (0.368)	65	532936	50.0000	52.691	80.00- 120.00	100.00
5.251	5.251 (0.364)	69	4523183			0.00- 50.00	848.73
5.307	5.307 (0.368)	64	153894			0.00- 77.08	28.88
6 Freon142b					CAS #: 75-68-3		
6.349	6.349 (0.440)	65	2212454	50.0000	53.626	80.00- 120.00	100.00
6.349	6.349 (0.440)	45	530044			0.00- 74.42	23.96
13 Freon 134a					CAS #: 811-97-2		
5.448	5.448 (0.378)	83	1004408	50.0000	50.805	80.00- 120.00	100.00
5.251	5.251 (0.364)	69	4523183			398.13- 498.13	450.33
5.448	5.448 (0.378)	63	134234			0.00- 64.08	13.36
15 Freon 152a					CAS #: 75-37-6		
5.673	5.673 (0.394)	65	663618	50.0000	46.496	80.00- 120.00	100.00
5.673	5.673 (0.394)	51	1155142			109.56- 209.56	174.07
5.673	5.673 (0.394)	47	308560			0.00- 90.52	46.50
17 Freon 22					CAS #: 75-45-6		
5.814	5.814 (0.403)	51	2297147	50.0000	49.819	80.00- 120.00	100.00
5.814	5.814 (0.403)	67	279057			0.00- 61.77	12.15
5.814	5.814 (0.403)	85	30585			0.00- 51.67	1.33
26 Methanol					CAS #: 67-56-1		
7.588	7.588 (0.526)	31	2441375	300.000	308.20	80.00- 120.00	100.00
7.588	7.588 (0.526)	32	1618580			16.30- 116.30	66.30
34 Dichlorofluoromethane/Fr21					CAS #: 75-43-4		
8.912	8.912 (0.618)	67	1875415	50.0000	45.844	80.00- 120.00	100.00
8.912	8.912 (0.618)	69	571309			0.00- 81.12	30.46
8.912	8.912 (0.618)	35	100430			0.00- 53.83	5.36
40 Freon123a					CAS #: 354-23-4		
9.798	9.798 (0.680)	117	1174502	50.0000	50.813	80.00- 120.00	100.00
9.798	9.798 (0.680)	67	1326977			110.97- 210.97	112.98
41 Freon123					CAS #: 306-83-2		
9.964	9.964 (0.691)	83	1851816	50.0000	45.170	80.00- 120.00	100.00

AMOUNTS

RT	EXP RT (REL RT)	MASS	RESPONSE	CAL-AMT (PPBV)	ON-COL (PPBV)	TARGET RANGE	RATIO
41 Freon123 (continued)							
9.964	9.964 (0.691)	133	409193			0.00- 69.52	22.10
9.964	9.964 (0.691)	85	1337216			22.16- 122.16	72.21
57 tert-Butyl-Alcohol					CAS #: 75-65-0		
11.513	11.513 (0.799)	59	2370586	50.0000	55.106	80.00- 120.00	100.00
11.513	11.513 (0.799)	41	497431			0.00- 73.42	20.98
11.513	11.513 (0.799)	57	236752			0.00- 60.26	9.99
68 Isopropyl ether					CAS #: 108-20-3		
12.702	12.702 (0.881)	45	4086643	50.0000	49.367	80.00- 120.00	100.00
12.702	12.702 (0.881)	87	813582			0.00- 73.31	19.91
12.702	12.702 (0.881)	59	347107			0.00- 58.30	8.49
71 1-Propanol					CAS #: 71-23-8		
12.840	12.840 (0.891)	42	268643	50.0000	51.748	80.00- 120.00	100.00
12.840	12.840 (0.891)	59	331862			95.91- 195.91	123.53
12.702	12.702 (0.881)	41	789299			265.93- 365.93	293.81
73 t-Butylethyl Ether					CAS #: 637-92-3		
13.365	13.365 (0.927)	59	3631519	50.0000	51.466	80.00- 120.00	100.00
13.393	13.393 (0.929)	87	1284251			0.00- 88.95	35.36
13.365	13.365 (0.927)	41	645421			0.00- 67.89	17.77
77 Ethyl Acetate					CAS #: 141-78-6		
13.863	13.863 (0.962)	45	402101	50.0000	51.039	80.00- 120.00	100.00
13.863	13.863 (0.962)	61	360454			49.04- 149.04	89.64
13.863	13.863 (0.962)	43	2849164			622.55- 722.55	708.57
92 tert-amyl-Methyl Ether					CAS #: 994-05-8		
15.550	15.550 (1.079)	73	2691501	50.0000	52.190	80.00- 120.00	100.00
15.550	15.550 (1.079)	87	660904			0.00- 73.71	24.56
15.550	15.550 (1.079)	55	737402			0.00- 78.56	27.40
96 2-Heptanone					CAS #: 110-43-0		
22.517	22.517 (1.562)	58	1550207	50.0000	50.126	80.00- 120.00	100.00
22.517	22.517 (1.562)	43	2515986			108.53- 208.53	162.30
98 1-Butanol					CAS #: 71-36-3		
16.324	16.324 (1.010)	56	810079	50.0000	54.004	80.00- 120.00	100.00
16.324	16.324 (1.010)	41	606027			21.86- 121.86	74.81
16.324	16.324 (1.010)	43	469993			9.15- 109.15	58.02
99 Isobutanol					CAS #: 78-83-1		
15.162	15.162 (1.052)	59	28989	50.0000	57.076	80.00- 120.00	100.00
15.135	15.135 (1.050)	41	727257			2630.47-2730.47	2508.73

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS CAL-AMT (PPBV)	AMOUNTS ON-COL (PPBV)	TARGET RANGE	RATIO
99 Isobutanol (continued)							
15.135	15.135 (1.050)	43	969609			3703.83-3803.83	3344.75
119 Butyl Acetate					CAS #: 123-86-4		
20.056	20.056 (1.241)	56	1087982	50.0000	48.706	80.00- 120.00	100.00
20.056	20.056 (1.241)	73	330668			0.00- 80.39	30.39
20.056	20.056 (1.241)	43	2814833			208.72- 308.72	258.72
135 Cyclohexanone					CAS #: 108-94-1		
23.291	23.291 (1.091)	55	1125812	50.0000	52.109	80.00- 120.00	100.00
23.291	23.291 (1.091)	98	458316			0.00- 90.62	40.71
23.264	23.264 (1.089)	42	798664			17.43- 117.43	70.94
146 Diisobutyl Ketone					CAS #: 108-83-8		
24.066	24.066 (1.127)	57	2771274	50.0000	56.906	80.00- 120.00	100.00
24.066	24.066 (1.127)	85	2165794			28.15- 128.15	78.15
0.000	1.000 (0.000)	0	0			0.00- 50.00	0.00

Report Date: 31-Oct-2007 10:11

Air Toxics Ltd.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd7.i
Lab File ID: 7103103.d
Lab Smp Id: CCV
Analysis Type: VOA
Quant Type: ISTD
Operator: cb
Method File: /chem/msd7.i/7-31oct.b/t14qO18c.m
Misc Info: 200ppbv --> 50ppbv

Calibration Date: 31-OCT-2007
Calibration Time: 09:03
Client Smp ID: CCVsp
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
81 Bromochloromethan	419527	251716	587338	463876	10.57
97 1,4-Difluorobenze	1400939	840563	1961315	1534485	9.53
126 Chlorobenzene-d5	1205049	723029	1687069	1086840	-9.81

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
81 Bromochloromethan	14.39	14.06	14.72	14.42	0.19
97 1,4-Difluorobenze	16.16	15.83	16.49	16.16	0.00
126 Chlorobenzene-d5	21.36	21.03	21.69	21.36	0.00

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /chem/msd7.i/7-31oct.b/7103103.d

Date : 31-OCT-2007 09:46

Client ID: CCVsp

Sample Info: 50mL #1487-400

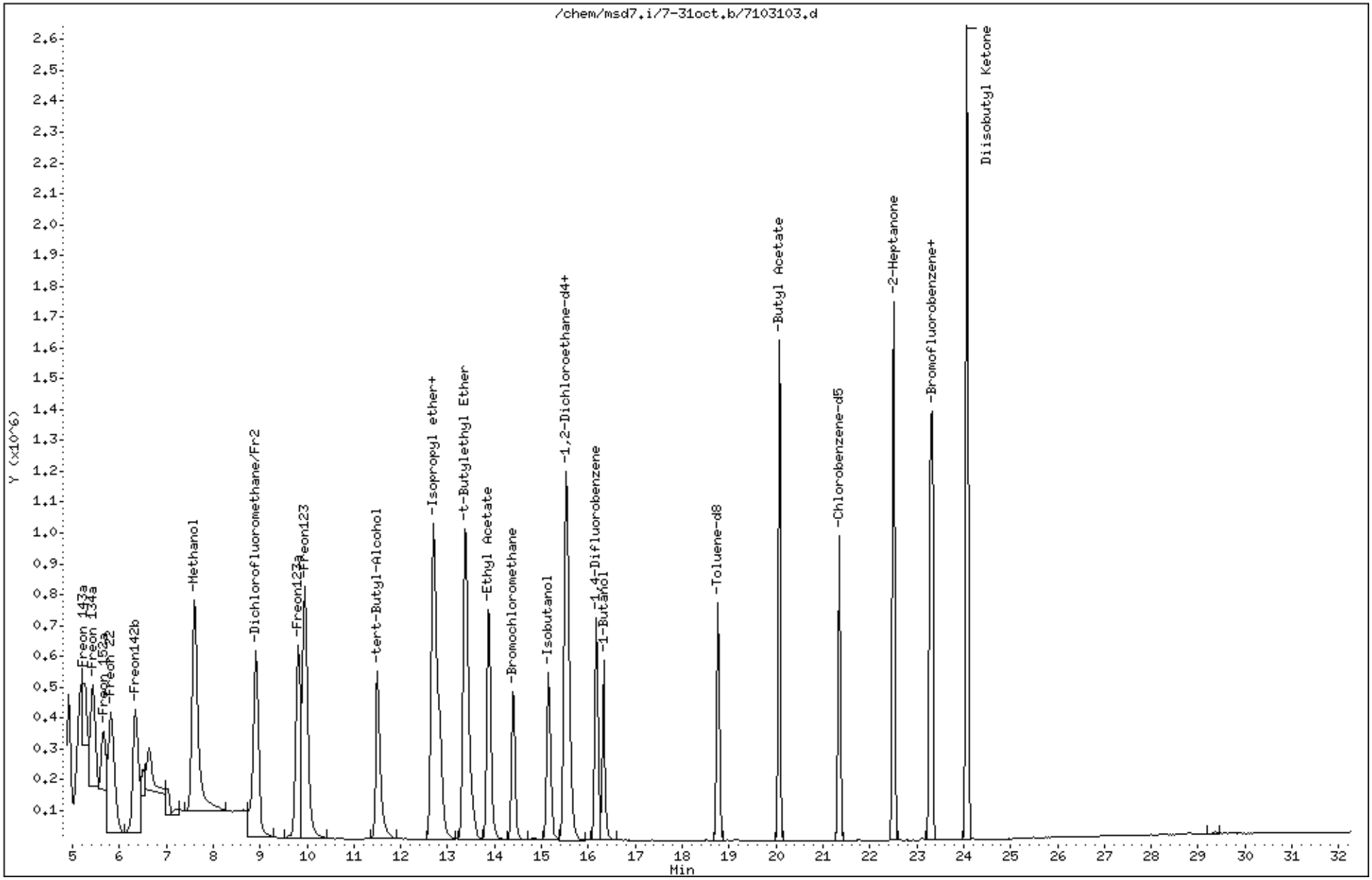
Column phase: RTx-624

Instrument: msd7.i

Operator: cb

Column diameter: 0.53

0316



AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: LCS

Lab ID#: 0710567-08A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**7103007**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 10/30/07 12:53 PM**	

Compound	%Recovery
Freon 12	89
Freon 114	95
Chloromethane	88
Vinyl Chloride	91
1,3-Butadiene	93
Bromomethane	86
Chloroethane	93
Freon 11	97
Ethanol	106
Freon 113	112
1,1-Dichloroethene	108
Acetone	97
2-Propanol	105
Carbon Disulfide	91
Methylene Chloride	102
Methyl tert-butyl ether	100
trans-1,2-Dichloroethene	99
Hexane	101
1,1-Dichloroethane	103
2-Butanone (Methyl Ethyl Ketone)	105
cis-1,2-Dichloroethene	103
Tetrahydrofuran	107
Chloroform	106
1,1,1-Trichloroethane	105
Cyclohexane	108
Carbon Tetrachloride	108
Benzene	105
1,2-Dichloroethane	100
Heptane	108
Trichloroethene	106
1,2-Dichloropropane	104
1,4-Dioxane	105
Bromodichloromethane	106
cis-1,3-Dichloropropene	107
4-Methyl-2-pentanone	113
Toluene	111
trans-1,3-Dichloropropene	108
1,1,2-Trichloroethane	109
Tetrachloroethene	117

AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: LCS

Lab ID#: 0710567-08A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**7103007**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 10/30/07 12:53 PM**	

Compound	**%Recovery**
2-Hexanone	106
Dibromochloromethane	115
1,2-Dibromoethane (EDB)	110
Chlorobenzene	108
Ethyl Benzene	107
m,p-Xylene	108
o-Xylene	108
Styrene	115
Bromoform	117
1,1,2,2-Tetrachloroethane	101
4-Ethyltoluene	102
1,3,5-Trimethylbenzene	102
1,2,4-Trimethylbenzene	104
1,3-Dichlorobenzene	104
1,4-Dichlorobenzene	102
alpha-Chlorotoluene	107
1,2-Dichlorobenzene	98
1,2,4-Trichlorobenzene	79
Hexachlorobutadiene	79
Chlorodifluoromethane	Not Spiked
Methanol	Not Spiked
n-Butanol	Not Spiked
Propylene	95

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
Toluene-d8	101	70-130
1,2-Dichloroethane-d4	93	70-130
4-Bromofluorobenzene	104	70-130

Report Date: 30-Oct-2007 13:14

Air Toxics Ltd.

RECOVERY REPORT

Client Name:
Client SDG: 7-30oct
Sample Matrix: GAS
Fraction: VOA
Lab Smp Id: LCS-1
Client Smp ID: LCS-1
Level: LOW
Operator: cb
Data Type: MS DATA
SampleType: LCS
SpikeList File: 2926spectra.spk
Quant Type: ISTD
Sublist File: AT04ENSR.sub
Method File: /chem/msd7.i/7-30oct.b/t14qO18c.m
Misc Info: 200ppbv --> 50ppbv

SPIKE COMPOUND	CONC ADDED PPBV	CONC RECOVERED PPBV	% RECOVERED	LIMITS
12 Dichlorodifluorome	50.000	44.695	89.39	70-130
16 Freon 114	50.000	47.383	94.77	70-130
18 Chloromethane	50.000	44.243	88.49	70-130
20 Vinyl Chloride	50.000	45.494	90.99	70-130
22 1,3-Butadiene	50.000	46.540	93.08	60-140
25 Bromomethane	50.000	43.110	86.22	70-130
27 Chloroethane	50.000	46.739	93.48	70-130
31 Trichlorofluoromet	50.000	48.382	96.76	70-130
38 Ethanol	50.000	53.289	106.58	60-140
42 Freon 113	50.000	56.017	112.03	70-130
43 1,1-Dichloroethene	50.000	54.185	108.37	70-130
45 Acetone	50.000	48.508	97.02	60-140
47 Carbon Disulfide	50.000	45.416	90.83	60-140
46 2-Propanol	50.000	52.333	104.67	60-140
54 Methylene Chloride	50.000	51.066	102.13	70-130
60 MTBE	50.000	50.149	100.30	60-140
61 trans-1,2-Dichloro	50.000	49.517	99.03	60-140
65 Hexane	50.000	50.386	100.77	60-140
69 Vinyl Acetate	50.000	48.823	97.65	60-140
70 1,1-Dichloroethane	50.000	51.415	102.83	70-130
76 cis-1,2-Dichloroet	50.000	51.539	103.08	70-130
75 2-Butanone	50.000	52.342	104.68	60-140
80 Tetrahydrofuran	50.000	53.637	107.27	60-140
82 Chloroform	50.000	53.192	106.38	70-130
85 Cyclohexane	50.000	54.117	108.23	60-140
83 1,1,1-Trichloroeth	50.000	52.447	104.89	70-130
87 Carbon Tetrachlori	50.000	53.910	107.82	70-130
91 Benzene	50.000	52.505	105.01	70-130
93 1,2-Dichloroethane	50.000	49.922	99.84	70-130
94 Heptane	50.000	53.809	107.62	60-140
101 Trichloroethene	50.000	52.959	105.92	70-130
104 1,2-Dichloropropan	50.000	52.059	104.12	70-130
106 1,4-Dioxane	50.000	52.419	104.84	60-140

SPIKE COMPOUND	CONC ADDED PPBV	CONC RECOVERED PPBV	% RECOVERED	LIMITS
107 Bromodichlorometha	50.000	52.855	105.71	60-140
110 cis-1,3-Dichloropr	50.000	53.385	106.77	70-130
111 4-Methyl-2-pentano	50.000	56.571	113.14	60-140
114 Toluene	50.000	55.548	111.10	70-130
116 trans-1,3-Dichloro	50.000	53.987	107.97	70-130
117 1,1,2-Trichloroeth	50.000	54.691	109.38	70-130
120 Tetrachloroethene	50.000	58.603	117.21	70-130
121 2-Hexanone	50.000	52.902	105.80	60-140
122 Dibromochlorometha	50.000	57.715	115.43	60-140
123 1,2-Dibromoethane	50.000	54.798	109.60	70-130
127 Chlorobenzene	50.000	54.090	108.18	70-130
128 Ethyl Benzene	50.000	53.518	107.04	70-130
129 m,p-Xylene	50.000	54.182	108.36	70-130
130 o-Xylene	50.000	53.861	107.72	70-130
131 Styrene	50.000	57.447	114.89	70-130
133 Bromoform	50.000	58.670	117.34	60-140
140 1,1,2,2-Tetrachlor	50.000	50.373	100.75	70-130
145 4-Ethyltoluene	50.000	51.219	102.44	60-140
147 1,3,5-Trimethylben	50.000	51.236	102.47	70-130
150 1,2,4-Trimethylben	50.000	51.788	103.58	70-130
155 1,3-Dichlorobenzen	50.000	51.753	103.51	70-130
156 1,4-Dichlorobenzen	50.000	50.830	101.66	70-130
159 alpha-Chlorotoluen	50.000	53.722	107.44	70-130
161 1,2-Dichlorobenzen	50.000	49.255	98.51	70-130
165 1,2,4-Trichloroben	50.000	39.305	78.61	70-130
166 Hexachlorobutadien	50.000	39.530	79.06	70-130
142 Propylbenzene	50.000	53.300	106.60	60-140
134 Cumene	50.000	56.915	113.83	60-140
51 3-Chloropropene	50.000	45.821	91.64	60-140
89 2,2,4-Trimethylpen	50.000	53.699	107.40	60-140
29 Isopentane	50.000	46.697	93.39	70-130
19 Butane	50.000	46.887	93.77	70-130
102 Methyl Cyclohexane	50.000	55.157	110.31	70-130
11 Propylene	50.000	47.335	94.67	60-140
167 Naphthalene	50.000	36.786	73.57	60-140

SURROGATE COMPOUND	CONC ADDED PPBV	CONC RECOVERED PPBV	% RECOVERED	LIMITS
$ 90 1,2-Dichloroethane	25.000	23.286	93.14	70-130
$ 113 Toluene-d8	25.000	25.291	101.17	70-130
$ 137 Bromofluorobenzene	25.000	26.060	104.24	70-130

Air Toxics Ltd.

AMBIENT AIR METHOD TO14

Data file : /chem/msd7.i/7-30oct.b/7103007.d
Lab Smp Id: LCS-1 Client Smp ID: LCS-1
Inj Date : 30-OCT-2007 12:53
Operator : cb Inst ID: msd7.i
Smp Info : 50mL #1443-302
Misc Info : 200ppbv --> 50ppbv
Comment :
Method : /chem/msd7.i/7-30oct.b/t14qO18c.m
Meth Date : 30-Oct-2007 12:35 cbond Quant Type: ISTD
Cal Date : 30-OCT-2007 11:10 Cal File: 7103005.d
Als bottle: 1 QC Sample: LCS
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: AT04ENSR.sub
Target Version: 3.50 Sample Matrix: AIR
Processing Host: eeyore

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

RT	EXP RT (REL RT)	MASS	RESPONSE	CONCENTRATIONS ON-COL (PPBV)	FINAL (PPBV)	TARGET RANGE	RATIO
* 81 Bromochloromethane						CAS #: 74-97-5	
14.416	14.388 (1.000)	130	529735	25.0000		80.00- 120.00	100.00
14.416	14.388 (1.000)	128	415367			26.27- 126.27	78.41
14.416	14.388 (1.000)	49	987072			132.02- 232.02	186.33
* 97 1,4-Difluorobenzene						CAS #: 540-36-3	
16.158	16.158 (1.000)	114	1788111	25.0000		80.00- 120.00	100.00
16.158	16.158 (1.000)	88	266440			0.00- 64.88	14.90
* 126 Chlorobenzene-d5						CAS #: 3114-55-4	
21.356	21.356 (1.000)	117	1434159	25.0000		80.00- 120.00	100.00
21.356	21.356 (1.000)	82	763791			4.45- 104.45	53.26
$ 90 1,2-Dichloroethane-d4						CAS #: 17060-07-0	
15.494	15.494 (1.075)	65	662674	23.2858	23.286	80.00- 120.00	100.00
15.494	15.494 (1.075)	67	372212			2.91- 102.91	56.17
$ 113 Toluene-d8						CAS #: 2037-26-5	
18.757	18.757 (1.161)	98	1605376	25.2913	25.291	80.00- 120.00	100.00
18.757	18.757 (1.161)	70	174292			0.00- 61.46	10.86

RT	EXP RT (REL RT)	MASS	RESPONSE	CONCENTRATIONS ON-COL (PPBV)	FINAL (PPBV)	TARGET RANGE	RATIO
$ 113 Toluene-d8 (continued)							
18.757	18.757 (1.161)	100	1126718			19.18- 119.18	70.18
$ 137 Bromofluorobenzene					CAS #: 460-00-4		
23.347	23.347 (1.093)	174	889346	26.0599	26.060	80.00- 120.00	100.00
23.319	23.319 (1.092)	95	1045092			67.21- 167.21	117.51
23.347	23.347 (1.093)	176	855199			47.52- 147.52	96.16
11 Propylene					CAS #: 115-07-1		
5.617	5.617 (0.390)	41	1080732	47.3348	47.335	80.00- 120.00	100.00
5.617	5.617 (0.390)	42	758205			21.19- 121.19	70.16
5.617	5.617 (0.390)	39	819123			24.83- 124.83	75.79
12 Dichlorodifluoromethane/Fr12					CAS #: 75-71-8		
5.758	5.729 (0.399)	85	3741501	44.6948	44.695	80.00- 120.00	100.00
5.758	5.729 (0.399)	87	1204042			0.00- 83.07	32.18
16 Freon 114					CAS #: 76-14-2		
6.208	6.180 (0.431)	135	2699724	47.3834	47.383	80.00- 120.00	100.00
6.208	6.180 (0.431)	137	842034			0.00- 83.01	31.19
18 Chloromethane					CAS #: 74-87-3		
6.518	6.518 (0.452)	50	1218046	44.2433	44.243	80.00- 120.00	100.00
6.518	6.518 (0.452)	52	415260			0.00- 84.80	34.09
20 Vinyl Chloride					CAS #: 75-01-4		
6.884	6.856 (0.478)	62	1563609	45.4941	45.494	80.00- 120.00	100.00
6.884	6.856 (0.478)	64	479898			0.00- 83.25	30.69
22 1,3-Butadiene					CAS #: 106-99-0		
6.940	6.912 (0.481)	54	1145763	46.5397	46.540	80.00- 120.00	100.00
6.940	6.912 (0.481)	39	1164351			55.97- 155.97	101.62
25 Bromomethane					CAS #: 74-83-9		
8.039	8.010 (0.558)	94	1311935	43.1103	43.110	80.00- 120.00	100.00
8.039	8.010 (0.558)	96	1233551			44.26- 144.26	94.03
27 Chloroethane					CAS #: 75-00-3		
8.377	8.348 (0.581)	64	712651	46.7390	46.739	80.00- 120.00	100.00
8.377	8.348 (0.581)	49	207040			0.00- 79.34	29.05
8.377	8.348 (0.581)	66	223107			0.00- 83.15	31.31
31 Trichlorofluoromethane/Fr11					CAS #: 75-69-4		
8.968	8.940 (0.622)	101	3778468	48.3819	48.382	80.00- 120.00	100.00
8.968	8.940 (0.622)	103	2422040			14.62- 114.62	64.10

RT	EXP RT (REL RT)	MASS	RESPONSE	CONCENTRATIONS ON-COL (PPBV)	FINAL (PPBV)	TARGET RANGE	RATIO
38 Ethanol					CAS #: 64-17-5		
9.467	9.439 (0.657)	45	567632	53.2890	53.289	80.00- 120.00	100.00
9.467	9.439 (0.657)	43	116184			0.00- 72.83	20.47
9.467	9.439 (0.657)	46	216971			0.00- 88.20	38.22
42 Freon 113					CAS #: 76-13-1		
10.213	10.186 (0.708)	151	2433127	56.0169	56.017	80.00- 120.00	100.00
10.213	10.186 (0.708)	153	1556119			13.32- 113.32	63.96
10.213	10.186 (0.708)	101	2816343			65.00- 165.00	115.75
43 1,1-Dichloroethene					CAS #: 75-35-4		
10.351	10.324 (0.718)	61	2504409	54.1854	54.185	80.00- 120.00	100.00
10.351	10.324 (0.718)	96	1499043			8.41- 108.41	59.86
10.351	10.324 (0.718)	98	961913			0.00- 87.87	38.41
45 Acetone					CAS #: 67-64-1		
10.490	10.462 (0.728)	58	692990	48.5078	48.508	80.00- 120.00	100.00
10.490	10.462 (0.728)	43	2199422			247.10- 347.10	317.38
46 2-Propanol					CAS #: 67-63-0		
10.683	10.656 (0.741)	45	2652508	52.3327	52.333	80.00- 120.00	100.00
10.683	10.656 (0.741)	43	664875			0.00- 75.54	25.07
10.683	10.656 (0.741)	59	102315			0.00- 53.72	3.86
47 Carbon Disulfide					CAS #: 75-15-0		
10.904	10.877 (0.756)	76	4004870	45.4158	45.416	80.00- 120.00	100.00
51 3-Chloropropene					CAS #: 107-05-1		
11.181	11.153 (0.776)	76	657547	45.8208	45.821	80.00- 120.00	100.00
11.181	11.153 (0.776)	41	1928305			224.96- 324.96	293.26
54 Methylene Chloride					CAS #: 75-09-2		
11.485	11.457 (0.797)	49	1735263	51.0660	51.066	80.00- 120.00	100.00
11.485	11.457 (0.797)	84	1224720			18.75- 118.75	70.58
11.485	11.457 (0.797)	51	523567			0.00- 80.85	30.17
60 MTBE					CAS #: 1634-04-4		
11.844	11.817 (0.822)	73	2589270	50.1494	50.149	80.00- 120.00	100.00
11.817	11.817 (0.820)	57	621630			0.00- 74.40	24.01
11.817	11.817 (0.820)	41	605545			0.00- 76.16	23.39
61 trans-1,2-Dichloroethene					CAS #: 156-60-5		
11.955	11.927 (0.829)	96	1554999	49.5167	49.517	80.00- 120.00	100.00
11.955	11.927 (0.829)	61	2276405			97.12- 197.12	146.39
11.955	11.927 (0.829)	98	988955			11.77- 111.77	63.60

RT	EXP RT (REL RT)	MASS	RESPONSE	CONCENTRATIONS ON-COL (PPBV)	FINAL (PPBV)	TARGET RANGE	RATIO
65 Hexane					CAS #: 110-54-3		
12.315	12.287 (0.854)	57	2257927	50.3855	50.386	80.00- 120.00	100.00
12.315	12.287 (0.854)	43	1501852			17.84- 117.84	66.51
12.315	12.287 (0.854)	86	329182			0.00- 65.07	14.58
69 Vinyl Acetate					CAS #: 108-05-4		
12.812	12.785 (0.889)	86	330585	48.8232	48.823	80.00- 120.00	100.00
12.812	12.785 (0.889)	43	4115638			1150.46-1250.46	1244.96
70 1,1-Dichloroethane					CAS #: 75-34-3		
12.840	12.812 (0.891)	63	2759853	51.4155	51.415	80.00- 120.00	100.00
12.840	12.812 (0.891)	65	868326			0.00- 80.90	31.46
75 2-Butanone					CAS #: 78-93-3		
13.891	13.891 (0.964)	72	600528	52.3416	52.342	80.00- 120.00	100.00
13.891	13.891 (0.964)	43	2871641			440.65- 540.65	478.19
13.891	13.891 (0.964)	57	214510			0.00- 86.57	35.72
76 cis-1,2-Dichloroethene					CAS #: 156-59-2		
13.946	13.918 (0.967)	61	1936419	51.5391	51.539	80.00- 120.00	100.00
13.946	13.918 (0.967)	96	1459588			23.56- 123.56	75.38
13.946	13.918 (0.967)	98	926239			0.00- 97.14	47.83
80 Tetrahydrofuran					CAS #: 109-99-9		
14.388	14.388 (0.998)	42	1604527	53.6374	53.637	80.00- 120.00	100.00
14.388	14.388 (0.998)	71	558806			0.00- 84.24	34.83
14.388	14.388 (0.998)	72	608660			0.00- 87.82	37.93
82 Chloroform					CAS #: 67-66-3		
14.471	14.471 (1.004)	83	2837063	53.1919	53.192	80.00- 120.00	100.00
14.471	14.471 (1.004)	85	1839710			14.87- 114.87	64.85
83 1,1,1-Trichloroethane					CAS #: 71-55-6		
14.831	14.831 (1.029)	97	2816975	52.4472	52.447	80.00- 120.00	100.00
14.831	14.831 (1.029)	99	1824584			14.34- 114.34	64.77
85 Cyclohexane					CAS #: 110-82-7		
14.858	14.831 (1.031)	84	1664831	54.1169	54.117	80.00- 120.00	100.00
14.858	14.831 (1.031)	56	2086146			77.34- 177.34	125.31
14.858	14.831 (1.031)	41	1166545			23.26- 123.26	70.07
87 Carbon Tetrachloride					CAS #: 56-23-5		
15.107	15.080 (1.048)	119	2714250	53.9100	53.910	80.00- 120.00	100.00
15.107	15.080 (1.048)	117	2807741			53.20- 153.20	103.44
89 2,2,4-Trimethylpentane					CAS #: 540-84-1		
15.411	15.411 (1.069)	57	5774309	53.6989	53.699	80.00- 120.00	100.00

RT	EXP RT (REL RT)	MASS	RESPONSE	CONCENTRATIONS ON-COL (PPBV)	FINAL (PPBV)	TARGET RANGE	RATIO
89 2,2,4-Trimethylpentane (continued)							
15.411	15.411 (1.069)	56	1954352			0.00- 84.62	33.85
15.411	15.411 (1.069)	41	1485500			0.00- 79.27	25.73
91 Benzene					CAS #: 71-43-2		
15.522	15.522 (0.961)	78	3730288	52.5046	52.505	80.00- 120.00	100.00
15.522	15.522 (0.961)	77	821399			0.00- 71.87	22.02
93 1,2-Dichloroethane					CAS #: 107-06-2		
15.632	15.633 (0.967)	62	1884476	49.9221	49.922	80.00- 120.00	100.00
15.632	15.633 (0.967)	64	593555			0.00- 82.89	31.50
94 Heptane					CAS #: 142-82-5		
15.715	15.715 (0.973)	71	1175738	53.8093	53.809	80.00- 120.00	100.00
15.715	15.715 (0.973)	43	2340425			158.53- 258.53	199.06
15.715	15.715 (0.973)	57	1225065			59.34- 159.34	104.20
101 Trichloroethene					CAS #: 79-01-6		
16.655	16.628 (1.031)	95	1671359	52.9591	52.959	80.00- 120.00	100.00
16.655	16.628 (1.031)	130	1714710			52.84- 152.84	102.59
16.655	16.628 (1.031)	97	1073960			15.58- 115.58	64.26
104 1,2-Dichloropropane					CAS #: 78-87-5		
17.125	17.126 (1.060)	63	1419422	52.0592	52.059	80.00- 120.00	100.00
17.125	17.126 (1.060)	62	1032035			22.45- 122.45	72.71
17.125	17.126 (1.060)	41	832954			10.58- 110.58	58.68
106 1,4-Dioxane					CAS #: 123-91-1		
17.264	17.236 (1.068)	88	929580	52.4192	52.419	80.00- 120.00	100.00
17.264	17.236 (1.068)	58	645820			20.40- 120.40	69.47
17.264	17.236 (1.068)	57	209588			0.00- 74.60	22.55
107 Bromodichloromethane					CAS #: 75-27-4		
17.568	17.540 (1.087)	83	2896003	52.8547	52.855	80.00- 120.00	100.00
17.568	17.540 (1.087)	85	1866215			14.90- 114.90	64.44
110 cis-1,3-Dichloropropene					CAS #: 10061-01-5		
18.342	18.342 (1.135)	75	2056801	53.3852	53.385	80.00- 120.00	100.00
18.342	18.342 (1.135)	77	654881			0.00- 82.10	31.84
18.342	18.314 (1.135)	39	1112689			6.03- 106.03	54.10
111 4-Methyl-2-pentanone					CAS #: 108-10-1		
18.508	18.508 (1.145)	58	1202760	56.5707	56.571	80.00- 120.00	100.00
18.508	18.508 (1.145)	43	3099833			222.97- 322.97	257.73
18.508	18.508 (1.145)	85	473004			0.00- 90.48	39.33

RT	EXP RT (REL RT)	MASS	RESPONSE	CONCENTRATIONS ON-COL (PPBV)	FINAL (PPBV)	TARGET RANGE	RATIO
114 Toluene					CAS #: 108-88-3		
18.895	18.895 (1.169)	91	4322607	55.5478	55.548	80.00- 120.00	100.00
18.895	18.895 (1.169)	92	2747129			13.85- 113.85	63.55
116 trans-1,3-Dichloropropene					CAS #: 10061-02-6		
19.310	19.310 (0.904)	75	2198938	53.9867	53.987	80.00- 120.00	100.00
19.310	19.310 (0.904)	77	707541			0.00- 81.65	32.18
19.310	19.310 (0.904)	39	1104656			1.74- 101.74	50.24
117 1,1,2-Trichloroethane					CAS #: 79-00-5		
19.669	19.642 (0.921)	97	1624617	54.6913	54.691	80.00- 120.00	100.00
19.669	19.642 (0.921)	99	1022479			12.71- 112.71	62.94
19.669	19.642 (0.921)	83	1344765			32.61- 132.61	82.77
120 Tetrachloroethene					CAS #: 127-18-4		
19.835	19.835 (0.929)	166	2257776	58.6031	58.603	80.00- 120.00	100.00
19.835	19.835 (0.929)	129	1581884			20.11- 120.11	70.06
19.835	19.835 (0.929)	131	1513643			17.39- 117.39	67.04
121 2-Hexanone					CAS #: 591-78-6		
19.973	19.973 (0.935)	58	1684145	52.9019	52.902	80.00- 120.00	100.00
19.973	19.973 (0.935)	43	3096301			138.15- 238.15	183.85
19.973	19.973 (0.935)	100	296396			0.00- 67.05	17.60
122 Dibromochloromethane					CAS #: 124-48-1		
20.360	20.361 (0.953)	129	3037706	57.7152	57.715	80.00- 120.00	100.00
20.360	20.361 (0.953)	127	2351240			27.62- 127.62	77.40
123 1,2-Dibromoethane					CAS #: 106-93-4		
20.637	20.609 (0.966)	107	2668501	54.7978	54.798	80.00- 120.00	100.00
20.637	20.609 (0.966)	109	2521462			44.94- 144.94	94.49
127 Chlorobenzene					CAS #: 108-90-7		
21.411	21.411 (1.003)	112	3509395	54.0897	54.090	80.00- 120.00	100.00
21.411	21.411 (1.003)	114	1127100			0.00- 82.39	32.12
21.411	21.411 (1.003)	77	2405316			18.52- 118.52	68.54
128 Ethyl Benzene					CAS #: 100-41-4		
21.494	21.494 (1.006)	106	1772440	53.5182	53.518	80.00- 120.00	100.00
21.494	21.494 (1.006)	91	5439513			261.69- 361.69	306.89
129 m,p-Xylene					CAS #: 108-38-3		
21.688	21.688 (1.016)	106	2246027	54.1817	54.182	80.00- 120.00	100.00
21.688	21.688 (1.016)	91	4280438			145.05- 245.05	190.58
130 o-Xylene					CAS #: 95-47-6		
22.379	22.379 (1.048)	106	1934888	53.8614	53.861	80.00- 120.00	100.00

RT	EXP RT (REL RT)	MASS	RESPONSE	CONCENTRATIONS ON-COL (PPBV)	FINAL (PPBV)	TARGET RANGE	RATIO
130 o-Xylene (continued)							
22.379	22.379 (1.048)	91	3917021			151.95- 251.95	202.44
131 Styrene					CAS #: 100-42-5		
22.434	22.407 (1.050)	104	3191877	57.4472	57.447	80.00- 120.00	100.00
22.407	22.407 (1.049)	78	1547820			0.00- 98.56	48.49
133 Bromoform					CAS #: 75-25-2		
22.821	22.821 (1.069)	173	2711522	58.6698	58.670	80.00- 120.00	100.00
22.821	22.821 (1.069)	171	1410237			1.85- 101.85	52.01
134 Cumene					CAS #: 98-82-8		
22.960	22.960 (1.075)	105	5162861	56.9150	56.915	80.00- 120.00	100.00
22.960	22.960 (1.075)	120	1436629			0.00- 78.08	27.83
22.960	22.960 (1.075)	51	506494			0.00- 61.43	9.81
140 1,1,2,2-Tetrachloroethane					CAS #: 79-34-5		
23.540	23.540 (1.102)	83	3022599	50.3733	50.373	80.00- 120.00	100.00
23.540	23.540 (1.102)	85	1960908			14.83- 114.83	64.87
142 Propylbenzene					CAS #: 103-65-1		
23.651	23.651 (1.107)	91	6484821	53.3004	53.300	80.00- 120.00	100.00
23.651	23.651 (1.107)	120	1533743			0.00- 72.94	23.65
23.651	23.651 (1.107)	105	239433			0.00- 54.03	3.69
145 4-Ethyltoluene					CAS #: 622-96-8		
23.817	23.817 (1.115)	105	5502964	51.2189	51.219	80.00- 120.00	100.00
23.817	23.817 (1.115)	120	1758369			0.00- 82.17	31.95
147 1,3,5-Trimethylbenzene					CAS #: 108-67-8		
23.927	23.927 (1.120)	105	4324004	51.2366	51.236	80.00- 120.00	100.00
23.927	23.927 (1.120)	120	2255299			3.80- 103.80	52.16
150 1,2,4-Trimethylbenzene					CAS #: 95-63-6		
24.563	24.563 (1.150)	105	3971973	51.7880	51.788	80.00- 120.00	100.00
24.563	24.563 (1.150)	120	1954550			0.00- 98.95	49.21
155 1,3-Dichlorobenzene					CAS #: 541-73-1		
25.116	25.116 (1.176)	146	3071599	51.7529	51.753	80.00- 120.00	100.00
25.144	25.116 (1.177)	148	1974895			14.48- 114.48	64.30
25.116	25.116 (1.176)	111	1165738			0.00- 89.68	37.95
156 1,4-Dichlorobenzene					CAS #: 106-46-7		
25.282	25.282 (1.184)	146	3144033	50.8295	50.830	80.00- 120.00	100.00
25.282	25.282 (1.184)	148	2019153			13.81- 113.81	64.22
25.282	25.282 (1.184)	111	1145503			0.00- 87.35	36.43

RT	EXP RT (REL RT)	MASS	RESPONSE	CONCENTRATIONS ON-COL (PPBV)	FINAL (PPBV)	TARGET RANGE	RATIO
159 alpha-Chlorotoluene					CAS #: 100-44-7		
25.476	25.476 (1.193)	91	4411435	53.7220	53.722	80.00- 120.00	100.00
25.476	25.476 (1.193)	126	946359			0.00- 71.29	21.45
161 1,2-Dichlorobenzene					CAS #: 95-50-1		
25.918	25.918 (1.214)	146	2721846	49.2553	49.255	80.00- 120.00	100.00
25.918	25.918 (1.214)	148	1716721			13.92- 113.92	63.07
25.918	25.918 (1.214)	111	1054147			0.00- 88.82	38.73
165 1,2,4-Trichlorobenzene					CAS #: 120-82-1		
28.821	28.821 (1.350)	180	888344	39.3054	39.305	80.00- 120.00	100.00
28.821	28.821 (1.350)	182	835109			44.66- 144.66	94.01
166 Hexachlorobutadiene					CAS #: 87-68-3		
28.987	28.987 (1.357)	225	742724	39.5297	39.530	80.00- 120.00	100.00
28.987	28.987 (1.357)	223	462356			12.64- 112.64	62.25
29 Isopentane					CAS #: 78-78-4		
8.377	8.348 (0.581)	43	1763310	46.6971	46.697	80.00- 120.00	100.00
8.377	8.348 (0.581)	57	1150842			16.48- 116.48	65.27
19 Butane					CAS #: 106-97-8		
6.771	6.743 (0.470)	58	276539	46.8866	46.887	80.00- 120.00	100.00
6.771	6.743 (0.470)	43	2219470			757.70- 857.70	802.59
102 Methyl Cyclohexane					CAS #: 108-87-2		
16.932	16.904 (1.175)	83	2088476	55.1570	55.157	80.00- 120.00	100.00
16.932	16.904 (1.175)	98	993987			0.00- 96.13	47.59
16.904	16.904 (1.173)	55	1784263			38.51- 138.51	85.43
167 Naphthalene					CAS #: 91-20-3		
29.374	29.374 (1.375)	128	1557709	36.7866	36.786	80.00- 120.00	100.00
29.374	29.374 (1.375)	127	181122			0.00- 62.50	11.63

Report Date: 30-Oct-2007 13:14

Air Toxics Ltd.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd7.i
Lab File ID: 7103007.d
Lab Smp Id: LCS-1
Analysis Type: VOA
Quant Type: ISTD
Operator: cb
Method File: /chem/msd7.i/7-30oct.b/t14qO18c.m
Misc Info: 200ppbv --> 50ppbv

Calibration Date: 30-OCT-2007
Calibration Time: 12:15
Client Smp ID: LCS-1
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
81 Bromochloromethan	537758	322655	752861	529735	-1.49
97 1,4-Difluorobenze	1771565	1062939	2480191	1788111	0.93
126 Chlorobenzene-d5	1414884	848930	1980838	1434159	1.36

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
81 Bromochloromethan	14.39	14.06	14.72	14.42	0.19
97 1,4-Difluorobenze	16.16	15.83	16.49	16.16	0.00
126 Chlorobenzene-d5	21.36	21.03	21.69	21.36	0.00

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /chem/msd7.i/7-30oct.b/7103007.d

Date : 30-OCT-2007 12:53

Client ID: LCS-1

Sample Info: 50mL #1443-302

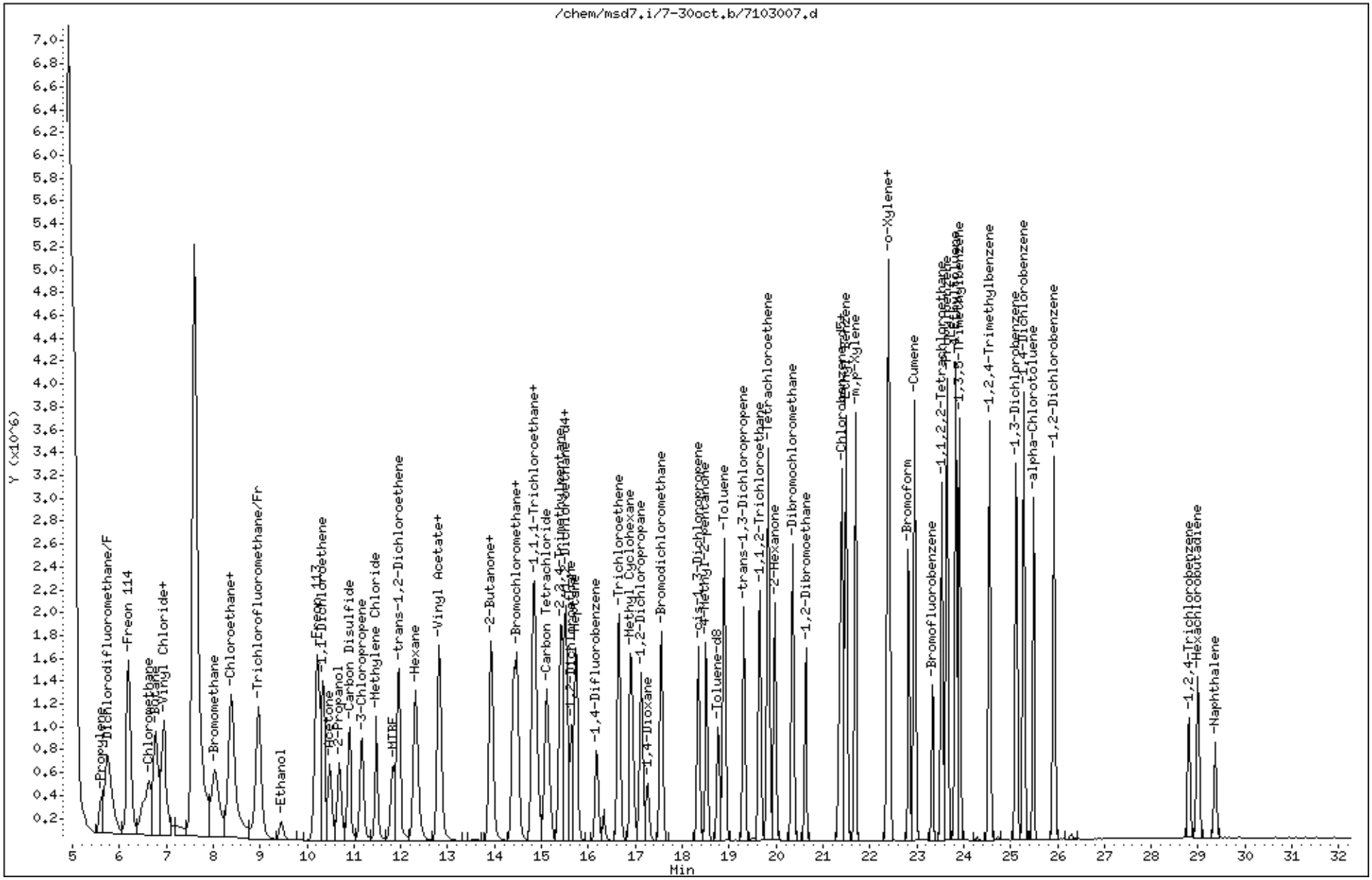
Column phase: RTx-624

Instrument: msd7.i

Operator: cb

Column diameter: 0.53

0330



AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: LCS

Lab ID#: 0710567-08B

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**7103104**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 10/31/07 10:30 AM**	

Compound	%Recovery
Freon 12	93
Freon 114	100
Chloromethane	93
Vinyl Chloride	91
1,3-Butadiene	95
Bromomethane	87
Chloroethane	91
Freon 11	99
Ethanol	107
Freon 113	112
1,1-Dichloroethene	109
Acetone	96
2-Propanol	106
Carbon Disulfide	88
Methylene Chloride	104
Methyl tert-butyl ether	99
trans-1,2-Dichloroethene	97
Hexane	99
1,1-Dichloroethane	102
2-Butanone (Methyl Ethyl Ketone)	99
cis-1,2-Dichloroethene	104
Tetrahydrofuran	110
Chloroform	109
1,1,1-Trichloroethane	112
Cyclohexane	104
Carbon Tetrachloride	117
Benzene	104
1,2-Dichloroethane	108
Heptane	105
Trichloroethene	109
1,2-Dichloropropane	106
1,4-Dioxane	105
Bromodichloromethane	111
cis-1,3-Dichloropropene	107
4-Methyl-2-pentanone	116
Toluene	112
trans-1,3-Dichloropropene	110
1,1,2-Trichloroethane	109
Tetrachloroethene	120

AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: LCS

Lab ID#: 0710567-08B

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**7103104**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 10/31/07 10:30 AM**	

Compound	**%Recovery**
2-Hexanone	107
Dibromochloromethane	122
1,2-Dibromoethane (EDB)	112
Chlorobenzene	110
Ethyl Benzene	109
m,p-Xylene	109
o-Xylene	109
Styrene	116
Bromoform	128
1,1,2,2-Tetrachloroethane	102
4-Ethyltoluene	106
1,3,5-Trimethylbenzene	106
1,2,4-Trimethylbenzene	108
1,3-Dichlorobenzene	109
1,4-Dichlorobenzene	107
alpha-Chlorotoluene	110
1,2-Dichlorobenzene	102
1,2,4-Trichlorobenzene	85
Hexachlorobutadiene	87
Chlorodifluoromethane	Not Spiked
Methanol	Not Spiked
n-Butanol	Not Spiked
Propylene	99

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
Toluene-d8	101	70-130
1,2-Dichloroethane-d4	102	70-130
4-Bromofluorobenzene	108	70-130

Report Date: 31-Oct-2007 11:05

Air Toxics Ltd.

RECOVERY REPORT

Client Name:
Client SDG: 7-31oct
Sample Matrix: GAS
Fraction: VOA
Lab Smp Id: LCS-1
Client Smp ID: LCS-1
Level: LOW
Operator: cb
Data Type: MS DATA
SampleType: LCS
SpikeList File: 2926spectra.spk
Quant Type: ISTD
Sublist File: AT04ENSR.sub
Method File: /chem/msd7.i/7-31oct.b/t14qO18c.m
Misc Info: 200ppbv --> 50ppbv

SPIKE COMPOUND	CONC ADDED PPBV	CONC RECOVERED PPBV	% RECOVERED	LIMITS
12 Dichlorodifluorome	50.000	46.445	92.89	70-130
16 Freon 114	50.000	49.773	99.55	70-130
18 Chloromethane	50.000	46.303	92.61	70-130
20 Vinyl Chloride	50.000	45.576	91.15	70-130
22 1,3-Butadiene	50.000	47.655	95.31	60-140
25 Bromomethane	50.000	43.431	86.86	70-130
27 Chloroethane	50.000	45.629	91.26	70-130
31 Trichlorofluoromet	50.000	49.586	99.17	70-130
38 Ethanol	50.000	53.680	107.36	60-140
42 Freon 113	50.000	56.222	112.44	70-130
43 1,1-Dichloroethene	50.000	54.559	109.12	70-130
45 Acetone	50.000	48.181	96.36	60-140
47 Carbon Disulfide	50.000	44.070	88.14	60-140
46 2-Propanol	50.000	53.175	106.35	60-140
54 Methylene Chloride	50.000	51.963	103.93	70-130
60 MTBE	50.000	49.499	99.00	60-140
61 trans-1,2-Dichloro	50.000	48.301	96.60	60-140
65 Hexane	50.000	49.543	99.09	60-140
69 Vinyl Acetate	50.000	45.388	90.78	60-140
70 1,1-Dichloroethane	50.000	51.131	102.26	70-130
76 cis-1,2-Dichloroet	50.000	52.238	104.48	70-130
75 2-Butanone	50.000	49.417	98.83	60-140
80 Tetrahydrofuran	50.000	54.977	109.95	60-140
82 Chloroform	50.000	54.307	108.61	70-130
85 Cyclohexane	50.000	52.088	104.18	60-140
83 1,1,1-Trichloroeth	50.000	56.251	112.50	70-130
87 Carbon Tetrachlori	50.000	58.332	116.66	70-130
91 Benzene	50.000	52.059	104.12	70-130
93 1,2-Dichloroethane	50.000	53.979	107.96	70-130
94 Heptane	50.000	52.440	104.88	60-140
101 Trichloroethene	50.000	54.366	108.73	70-130
104 1,2-Dichloropropan	50.000	52.803	105.61	70-130
106 1,4-Dioxane	50.000	52.496	104.99	60-140

SPIKE COMPOUND	CONC ADDED PPBV	CONC RECOVERED PPBV	% RECOVERED	LIMITS
107 Bromodichlorometha	50.000	55.739	111.48	60-140
110 cis-1,3-Dichloropr	50.000	53.597	107.19	70-130
111 4-Methyl-2-pentano	50.000	58.050	116.10	60-140
114 Toluene	50.000	55.772	111.54	70-130
116 trans-1,3-Dichloro	50.000	55.000	110.00	70-130
117 1,1,2-Trichloroeth	50.000	54.728	109.46	70-130
120 Tetrachloroethene	50.000	60.298	120.60	70-130
121 2-Hexanone	50.000	53.454	106.91	60-140
122 Dibromochlorometha	50.000	61.198	122.40	60-140
123 1,2-Dibromoethane	50.000	56.114	112.23	70-130
127 Chlorobenzene	50.000	55.048	110.10	70-130
128 Ethyl Benzene	50.000	54.591	109.18	70-130
129 m,p-Xylene	50.000	54.592	109.18	70-130
130 o-Xylene	50.000	54.628	109.26	70-130
131 Styrene	50.000	58.070	116.14	70-130
133 Bromoform	50.000	63.896	127.79	60-140
140 1,1,2,2-Tetrachlor	50.000	50.875	101.75	70-130
145 4-Ethyltoluene	50.000	53.132	106.26	60-140
147 1,3,5-Trimethylben	50.000	52.901	105.80	70-130
150 1,2,4-Trimethylben	50.000	54.037	108.07	70-130
155 1,3-Dichlorobenzen	50.000	54.450	108.90	70-130
156 1,4-Dichlorobenzen	50.000	53.473	106.95	70-130
159 alpha-Chlorotoluen	50.000	55.197	110.39	70-130
161 1,2-Dichlorobenzen	50.000	50.782	101.56	70-130
165 1,2,4-Trichloroben	50.000	42.401	84.80	70-130
166 Hexachlorobutadien	50.000	43.545	87.09	70-130
142 Propylbenzene	50.000	54.427	108.85	60-140
134 Cumene	50.000	58.119	116.24	60-140
51 3-Chloropropene	50.000	45.038	90.08	60-140
89 2,2,4-Trimethylpen	50.000	54.192	108.38	60-140
29 Isopentane	50.000	47.296	94.59	70-130
19 Butane	50.000	47.698	95.40	70-130
102 Methyl Cyclohexane	50.000	53.735	107.47	70-130
11 Propylene	50.000	49.377	98.75	60-140
167 Naphthalene	50.000	38.257	76.51	60-140

SURROGATE COMPOUND	CONC ADDED PPBV	CONC RECOVERED PPBV	% RECOVERED	LIMITS
$ 90 1,2-Dichloroethane	25.000	25.489	101.96	70-130
$ 113 Toluene-d8	25.000	25.175	100.70	70-130
$ 137 Bromofluorobenzene	25.000	27.037	108.15	70-130

Air Toxics Ltd.

AMBIENT AIR METHOD TO14

Data file : /chem/msd7.i/7-31oct.b/7103104.d
Lab Smp Id: LCS-1 Client Smp ID: LCS-1
Inj Date : 31-OCT-2007 10:30
Operator : cb Inst ID: msd7.i
Smp Info : 50mL #1443-302
Misc Info : 200ppbv --> 50ppbv
Comment :
Method : /chem/msd7.i/7-31oct.b/t14qO18c.m
Meth Date : 31-Oct-2007 10:12 cbond Quant Type: ISTD
Cal Date : 30-OCT-2007 11:10 Cal File: 7103005.d
Als bottle: 1 QC Sample: LCS
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: AT04ENSR.sub
Target Version: 3.50 Sample Matrix: AIR
Processing Host: eeyore

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

RT	EXP RT (REL RT)	MASS	RESPONSE	CONCENTRATIONS ON-COL (PPBV)	FINAL (PPBV)	TARGET RANGE	RATIO
* 81 Bromochloromethane						CAS #: 74-97-5	
14.388	14.388 (1.000)	130	478234	25.0000		80.00- 120.00	100.00
14.388	14.388 (1.000)	128	372894			26.85- 126.85	77.97
14.388	14.388 (1.000)	49	916736			148.03- 248.03	191.69
* 97 1,4-Difluorobenzene						CAS #: 540-36-3	
16.158	16.158 (1.000)	114	1606107	25.0000		80.00- 120.00	100.00
16.158	16.158 (1.000)	88	248141			0.00- 65.22	15.45
* 126 Chlorobenzene-d5						CAS #: 3114-55-4	
21.356	21.356 (1.000)	117	1311308	25.0000		80.00- 120.00	100.00
21.356	21.356 (1.000)	82	699124			4.45- 104.45	53.32
$ 90 1,2-Dichloroethane-d4						CAS #: 17060-07-0	
15.494	15.494 (1.077)	65	654862	25.4894	25.489	80.00- 120.00	100.00
15.494	15.494 (1.077)	67	353736			2.91- 102.91	54.02
$ 113 Toluene-d8						CAS #: 2037-26-5	
18.757	18.757 (1.161)	98	1435356	25.1753	25.175	80.00- 120.00	100.00
18.757	18.757 (1.161)	70	152929			0.00- 61.46	10.65

RT	EXP RT (REL RT)	MASS	RESPONSE	CONCENTRATIONS ON-COL (PPBV)	FINAL (PPBV)	TARGET RANGE	RATIO
$ 113 Toluene-d8 (continued)							
18.757	18.757 (1.161)	100	1000162			19.18- 119.18	69.68
$ 137 Bromofluorobenzene						CAS #: 460-00-4	
23.347	23.347 (1.093)	174	843660	27.0373	27.037	80.00- 120.00	100.00
23.319	23.319 (1.092)	95	976276			66.59- 166.59	115.72
23.347	23.347 (1.093)	176	816366			46.44- 146.44	96.76
11 Propylene						CAS #: 115-07-1	
5.617	5.617 (0.390)	41	1017767	49.3775	49.377	80.00- 120.00	100.00
5.617	5.617 (0.390)	42	703345			21.19- 121.19	69.11
5.617	5.617 (0.390)	39	780858			24.83- 124.83	76.72
12 Dichlorodifluoromethane/Fr12						CAS #: 75-71-8	
5.730	5.729 (0.398)	85	3510016	46.4449	46.445	80.00- 120.00	100.00
5.730	5.729 (0.398)	87	1137703			0.00- 83.07	32.41
16 Freon 114						CAS #: 76-14-2	
6.180	6.180 (0.430)	135	2560182	49.7733	49.773	80.00- 120.00	100.00
6.180	6.208 (0.430)	137	810353			0.00- 81.85	31.65
18 Chloromethane						CAS #: 74-87-3	
6.490	6.518 (0.451)	50	1150823	46.3032	46.303	80.00- 120.00	100.00
6.518	6.518 (0.453)	52	389900			0.00- 84.80	33.88
20 Vinyl Chloride						CAS #: 75-01-4	
6.856	6.856 (0.476)	62	1414143	45.5763	45.576	80.00- 120.00	100.00
6.856	6.856 (0.476)	64	440820			0.00- 83.25	31.17
22 1,3-Butadiene						CAS #: 106-99-0	
6.912	6.940 (0.480)	54	1059156	47.6549	47.655	80.00- 120.00	100.00
6.912	6.940 (0.480)	39	1096849			55.97- 155.97	103.56
25 Bromomethane						CAS #: 74-83-9	
8.011	8.010 (0.557)	94	1193187	43.4306	43.431	80.00- 120.00	100.00
8.011	8.010 (0.557)	96	1140292			45.02- 145.02	95.57
27 Chloroethane						CAS #: 75-00-3	
8.349	8.348 (0.580)	64	628086	45.6289	45.629	80.00- 120.00	100.00
8.349	8.348 (0.580)	49	189619			0.00- 79.34	30.19
8.349	8.348 (0.580)	66	197831			0.00- 83.15	31.50
31 Trichlorofluoromethane/Fr11						CAS #: 75-69-4	
8.940	8.940 (0.621)	101	3496019	49.5860	49.586	80.00- 120.00	100.00
8.940	8.940 (0.621)	103	2256130			14.87- 114.87	64.53

RT	EXP RT (REL RT)	MASS	RESPONSE	CONCENTRATIONS ON-COL (PPBV)	FINAL (PPBV)	TARGET RANGE	RATIO
38 Ethanol					CAS #: 64-17-5		
9.439	9.439 (0.656)	45	516208	53.6802	53.680	80.00- 120.00	100.00
9.439	9.439 (0.656)	43	115667			0.00- 72.83	22.41
9.439	9.439 (0.656)	46	194219			0.00- 88.20	37.62
42 Freon 113					CAS #: 76-13-1		
10.186	10.185 (0.708)	151	2204628	56.2222	56.222	80.00- 120.00	100.00
10.186	10.185 (0.708)	153	1404503			14.13- 114.13	63.71
10.186	10.185 (0.708)	101	2530383			65.89- 165.89	114.78
43 1,1-Dichloroethene					CAS #: 75-35-4		
10.324	10.324 (0.718)	61	2276539	54.5595	54.559	80.00- 120.00	100.00
10.324	10.324 (0.718)	96	1309004			7.00- 107.00	57.50
10.324	10.324 (0.718)	98	847438			0.00- 86.85	37.22
45 Acetone					CAS #: 67-64-1		
10.462	10.490 (0.727)	58	621400	48.1808	48.181	80.00- 120.00	100.00
10.462	10.462 (0.727)	43	2080852			247.10- 347.10	334.87
46 2-Propanol					CAS #: 67-63-0		
10.656	10.656 (0.741)	45	2433186	53.1753	53.175	80.00- 120.00	100.00
10.656	10.656 (0.741)	43	623331			0.00- 75.54	25.62
10.656	10.656 (0.741)	59	89969			0.00- 53.72	3.70
47 Carbon Disulfide					CAS #: 75-15-0		
10.877	10.877 (0.756)	76	3508378	44.0700	44.070	80.00- 120.00	100.00
51 3-Chloropropene					CAS #: 107-05-1		
11.153	11.153 (0.775)	76	583486	45.0386	45.038	80.00- 120.00	100.00
11.153	11.153 (0.775)	41	1787906			224.96- 324.96	306.42
54 Methylene Chloride					CAS #: 75-09-2		
11.458	11.457 (0.796)	49	1594094	51.9635	51.963	80.00- 120.00	100.00
11.458	11.457 (0.796)	84	1063410			13.10- 113.10	66.71
11.458	11.457 (0.796)	51	484713			0.00- 80.85	30.41
60 MTBE					CAS #: 1634-04-4		
11.817	11.817 (0.821)	73	2307224	49.4990	49.499	80.00- 120.00	100.00
11.817	11.817 (0.821)	57	568382			0.00- 75.40	24.63
11.817	11.817 (0.821)	41	591222			0.00- 76.16	25.62
61 trans-1,2-Dichloroethene					CAS #: 156-60-5		
11.928	11.927 (0.829)	96	1369351	48.3008	48.301	80.00- 120.00	100.00
11.928	11.927 (0.829)	61	2035885			104.32- 204.32	148.68
11.928	11.927 (0.829)	98	870675			11.77- 111.77	63.58

RT	EXP RT (REL RT)	MASS	RESPONSE	CONCENTRATIONS ON-COL (PPBV)	FINAL (PPBV)	TARGET RANGE	RATIO
65 Hexane					CAS #: 110-54-3		
12.287	12.287 (0.854)	57	2004328	49.5431	49.543	80.00- 120.00	100.00
12.287	12.287 (0.854)	43	1378779			17.84- 117.84	68.79
12.287	12.287 (0.854)	86	279674			0.00- 65.07	13.95
69 Vinyl Acetate					CAS #: 108-05-4		
12.785	12.784 (0.889)	86	277444	45.3875	45.388	80.00- 120.00	100.00
12.785	12.784 (0.889)	43	3824647			1150.46-1250.46	1378.53
70 1,1-Dichloroethane					CAS #: 75-34-3		
12.812	12.812 (0.890)	63	2477761	51.1312	51.131	80.00- 120.00	100.00
12.812	12.812 (0.890)	65	769133			0.00- 80.24	31.04
75 2-Butanone					CAS #: 78-93-3		
13.891	13.890 (0.965)	72	511857	49.4175	49.417	80.00- 120.00	100.00
13.891	13.890 (0.965)	43	2682101			526.71- 626.71	523.99
13.891	13.890 (0.965)	57	196767			0.00- 86.57	38.44
76 cis-1,2-Dichloroethene					CAS #: 156-59-2		
13.918	13.918 (0.967)	61	1771858	52.2377	52.238	80.00- 120.00	100.00
13.918	13.918 (0.967)	96	1274732			18.90- 118.90	71.94
13.918	13.918 (0.967)	98	816825			0.00- 94.55	46.10
80 Tetrahydrofuran					CAS #: 109-99-9		
14.388	14.388 (1.000)	42	1484724	54.9775	54.977	80.00- 120.00	100.00
14.388	14.388 (1.000)	71	489394			0.00- 80.40	32.96
14.388	14.388 (1.000)	72	520975			0.00- 87.82	35.09
82 Chloroform					CAS #: 67-66-3		
14.471	14.471 (1.006)	83	2614955	54.3074	54.307	80.00- 120.00	100.00
14.471	14.471 (1.006)	85	1715820			14.74- 114.74	65.62
83 1,1,1-Trichloroethane					CAS #: 71-55-6		
14.831	14.831 (1.031)	97	2727564	56.2513	56.251	80.00- 120.00	100.00
14.831	14.831 (1.031)	99	1750821			14.60- 114.60	64.19
85 Cyclohexane					CAS #: 110-82-7		
14.831	14.831 (1.031)	84	1446634	52.0882	52.088	80.00- 120.00	100.00
14.831	14.831 (1.031)	56	1900257			86.08- 186.08	131.36
14.831	14.831 (1.031)	41	1105172			35.50- 135.50	76.40
87 Carbon Tetrachloride					CAS #: 56-23-5		
15.080	15.107 (1.048)	119	2651366	58.3321	58.332	80.00- 120.00	100.00
15.080	15.107 (1.048)	117	2760617			53.94- 153.94	104.12
89 2,2,4-Trimethylpentane					CAS #: 540-84-1		
15.411	15.411 (1.071)	57	5260753	54.1916	54.192	80.00- 120.00	100.00

RT	EXP RT (REL RT)	MASS	RESPONSE	CONCENTRATIONS ON-COL (PPBV)	FINAL (PPBV)	TARGET RANGE	RATIO
89 2,2,4-Trimethylpentane (continued)							
15.411	15.411 (1.071)	56	1770916			0.00- 84.62	33.66
15.411	15.411 (1.071)	41	1420576			0.00- 79.27	27.00
91 Benzene					CAS #: 71-43-2		
15.522	15.522 (0.961)	78	3322169	52.0591	52.059	80.00- 120.00	100.00
15.522	15.522 (0.961)	77	731151			0.00- 71.87	22.01
93 1,2-Dichloroethane					CAS #: 107-06-2		
15.633	15.632 (0.967)	62	1830227	53.9793	53.979	80.00- 120.00	100.00
15.633	15.632 (0.967)	64	588644			0.00- 82.89	32.16
94 Heptane					CAS #: 142-82-5		
15.716	15.715 (0.973)	71	1029198	52.4403	52.440	80.00- 120.00	100.00
15.716	15.715 (0.973)	43	2173964			158.53- 258.53	211.23
15.716	15.715 (0.973)	57	1135912			59.34- 159.34	110.37
101 Trichloroethene					CAS #: 79-01-6		
16.628	16.628 (1.029)	95	1541108	54.3656	54.366	80.00- 120.00	100.00
16.628	16.628 (1.029)	130	1592103			52.82- 152.82	103.31
16.628	16.628 (1.029)	97	1006507			14.78- 114.78	65.31
104 1,2-Dichloropropane					CAS #: 78-87-5		
17.126	17.125 (1.060)	63	1293155	52.8027	52.803	80.00- 120.00	100.00
17.126	17.125 (1.060)	62	945895			23.70- 123.70	73.15
17.126	17.125 (1.060)	41	822190			21.41- 121.41	63.58
106 1,4-Dioxane					CAS #: 123-91-1		
17.236	17.236 (1.067)	88	836184	52.4959	52.496	80.00- 120.00	100.00
17.236	17.236 (1.067)	58	596269			24.38- 124.38	71.31
17.236	17.236 (1.067)	57	197711			0.00- 74.60	23.64
107 Bromodichloromethane					CAS #: 75-27-4		
17.540	17.540 (1.086)	83	2743193	55.7392	55.739	80.00- 120.00	100.00
17.540	17.540 (1.086)	85	1772041			14.78- 114.78	64.60
110 cis-1,3-Dichloropropene					CAS #: 10061-01-5		
18.342	18.342 (1.135)	75	1854778	53.5970	53.597	80.00- 120.00	100.00
18.342	18.342 (1.135)	77	592483			0.00- 81.97	31.94
18.315	18.342 (1.133)	39	1075752			16.68- 116.68	58.00
111 4-Methyl-2-pentanone					CAS #: 108-10-1		
18.508	18.508 (1.145)	58	1108594	58.0504	58.050	80.00- 120.00	100.00
18.508	18.508 (1.145)	43	2935557			222.97- 322.97	264.80
18.508	18.508 (1.145)	85	427662			0.00- 90.48	38.58

RT	EXP RT (REL RT)	MASS	RESPONSE	CONCENTRATIONS ON-COL (PPBV)	FINAL (PPBV)	TARGET RANGE	RATIO
114 Toluene					CAS #: 108-88-3		
18.895	18.895 (1.169)	91	3898288	55.7718	55.772	80.00- 120.00	100.00
18.895	18.895 (1.169)	92	2470874			12.87- 112.87	63.38
116 trans-1,3-Dichloropropene					CAS #: 10061-02-6		
19.310	19.310 (0.904)	75	2048316	55.0001	55.000	80.00- 120.00	100.00
19.310	19.310 (0.904)	77	658934			0.00- 81.98	32.17
19.310	19.310 (0.904)	39	1083570			8.39- 108.39	52.90
117 1,1,2-Trichloroethane					CAS #: 79-00-5		
19.642	19.669 (0.920)	97	1486452	54.7281	54.728	80.00- 120.00	100.00
19.642	19.669 (0.920)	99	939440			13.15- 113.15	63.20
19.642	19.642 (0.920)	83	1220207			31.62- 131.62	82.09
120 Tetrachloroethene					CAS #: 127-18-4		
19.835	19.835 (0.929)	166	2124087	60.2982	60.298	80.00- 120.00	100.00
19.835	19.835 (0.929)	129	1484466			19.71- 119.71	69.89
19.835	19.835 (0.929)	131	1441362			17.66- 117.66	67.86
121 2-Hexanone					CAS #: 591-78-6		
19.974	19.973 (0.935)	58	1555958	53.4543	53.454	80.00- 120.00	100.00
19.974	19.973 (0.935)	43	2935759			147.80- 247.80	188.68
19.974	19.973 (0.935)	100	267024			0.00- 67.05	17.16
122 Dibromochloromethane					CAS #: 124-48-1		
20.361	20.360 (0.953)	129	2945075	61.1975	61.198	80.00- 120.00	100.00
20.361	20.360 (0.953)	127	2267561			27.62- 127.62	77.00
123 1,2-Dibromoethane					CAS #: 106-93-4		
20.610	20.637 (0.965)	107	2498507	56.1137	56.114	80.00- 120.00	100.00
20.610	20.637 (0.965)	109	2357968			44.58- 144.58	94.38
127 Chlorobenzene					CAS #: 108-90-7		
21.411	21.411 (1.003)	112	3265597	55.0475	55.048	80.00- 120.00	100.00
21.411	21.411 (1.003)	114	1051190			0.00- 82.69	32.19
21.411	21.411 (1.003)	77	2223192			21.55- 121.55	68.08
128 Ethyl Benzene					CAS #: 100-41-4		
21.494	21.494 (1.006)	106	1653108	54.5913	54.591	80.00- 120.00	100.00
21.494	21.494 (1.006)	91	5031705			261.69- 361.69	304.38
129 m,p-Xylene					CAS #: 108-38-3		
21.688	21.688 (1.016)	106	2069171	54.5917	54.592	80.00- 120.00	100.00
21.688	21.688 (1.016)	91	3963281			145.05- 245.05	191.54
130 o-Xylene					CAS #: 95-47-6		
22.379	22.379 (1.048)	106	1794311	54.6276	54.628	80.00- 120.00	100.00

RT	EXP RT (REL RT)	MASS	RESPONSE	CONCENTRATIONS ON-COL (PPBV)	FINAL (PPBV)	TARGET RANGE	RATIO
130 o-Xylene (continued)							
22.379	22.379 (1.048)	91	3647668			158.59- 258.59	203.29
131 Styrene						CAS #: 100-42-5	
22.407	22.407 (1.049)	104	2950129	58.0706	58.070	80.00- 120.00	100.00
22.407	22.407 (1.049)	78	1472759			1.30- 101.30	49.92
133 Bromoform						CAS #: 75-25-2	
22.822	22.821 (1.069)	173	2700095	63.8959	63.896	80.00- 120.00	100.00
22.822	22.821 (1.069)	171	1382715			1.67- 101.67	51.21
134 Cumene						CAS #: 98-82-8	
22.960	22.959 (1.075)	105	4820470	58.1191	58.119	80.00- 120.00	100.00
22.960	22.959 (1.075)	120	1350273			0.00- 78.08	28.01
22.960	22.959 (1.075)	51	479643			0.00- 61.43	9.95
140 1,1,2,2-Tetrachloroethane						CAS #: 79-34-5	
23.540	23.540 (1.102)	83	2791221	50.8753	50.875	80.00- 120.00	100.00
23.540	23.540 (1.102)	85	1813538			14.94- 114.94	64.97
142 Propylbenzene						CAS #: 103-65-1	
23.651	23.651 (1.107)	91	6054610	54.4266	54.427	80.00- 120.00	100.00
23.651	23.651 (1.107)	120	1439181			0.00- 72.94	23.77
23.651	23.651 (1.107)	105	220792			0.00- 54.03	3.65
145 4-Ethyltoluene						CAS #: 622-96-8	
23.817	23.817 (1.115)	105	5219461	53.1315	53.132	80.00- 120.00	100.00
23.817	23.817 (1.115)	120	1679493			0.00- 82.12	32.18
147 1,3,5-Trimethylbenzene						CAS #: 108-67-8	
23.927	23.927 (1.120)	105	4082064	52.9013	52.901	80.00- 120.00	100.00
23.927	23.927 (1.120)	120	2121323			3.80- 103.80	51.97
150 1,2,4-Trimethylbenzene						CAS #: 95-63-6	
24.563	24.563 (1.150)	105	3789428	54.0367	54.037	80.00- 120.00	100.00
24.563	24.563 (1.150)	120	1871284			0.00- 98.95	49.38
155 1,3-Dichlorobenzene						CAS #: 541-73-1	
25.116	25.116 (1.176)	146	2954826	54.4496	54.450	80.00- 120.00	100.00
25.116	25.116 (1.176)	148	1883306			14.48- 114.48	63.74
25.116	25.116 (1.176)	111	1113097			0.00- 89.68	37.67
156 1,4-Dichlorobenzene						CAS #: 106-46-7	
25.282	25.282 (1.184)	146	3024206	53.4728	53.473	80.00- 120.00	100.00
25.282	25.282 (1.184)	148	1932370			13.81- 113.81	63.90
25.282	25.282 (1.184)	111	1094227			0.00- 87.35	36.18

RT	EXP RT (REL RT)	MASS	RESPONSE	CONCENTRATIONS ON-COL (PPBV)	FINAL (PPBV)	TARGET RANGE	RATIO
159 alpha-Chlorotoluene					CAS #: 100-44-7		
25.476	25.476 (1.193)	91	4144279	55.1968	55.197	80.00- 120.00	100.00
25.476	25.476 (1.193)	126	888648			0.00- 71.29	21.44
161 1,2-Dichlorobenzene					CAS #: 95-50-1		
25.918	25.918 (1.214)	146	2565844	50.7823	50.782	80.00- 120.00	100.00
25.918	25.918 (1.214)	148	1655005			14.75- 114.75	64.50
25.918	25.918 (1.214)	111	1003439			0.00- 88.84	39.11
165 1,2,4-Trichlorobenzene					CAS #: 120-82-1		
28.821	28.821 (1.350)	180	876217	42.4009	42.401	80.00- 120.00	100.00
28.821	28.821 (1.350)	182	819522			44.70- 144.70	93.53
166 Hexachlorobutadiene					CAS #: 87-68-3		
28.987	28.987 (1.357)	225	748089	43.5454	43.545	80.00- 120.00	100.00
28.987	28.987 (1.357)	223	473195			12.64- 112.64	63.25
29 Isopentane					CAS #: 78-78-4		
8.349	8.348 (0.580)	43	1612306	47.2963	47.296	80.00- 120.00	100.00
8.349	8.348 (0.580)	57	1042502			16.48- 116.48	64.66
19 Butane					CAS #: 106-97-8		
6.743	6.743 (0.469)	58	253973	47.6978	47.698	80.00- 120.00	100.00
6.743	6.743 (0.469)	43	2109880			757.70- 857.70	830.75
102 Methyl Cyclohexane					CAS #: 108-87-2		
16.905	16.904 (1.175)	83	1836833	53.7352	53.735	80.00- 120.00	100.00
16.905	16.904 (1.175)	98	886460			0.00- 96.13	48.26
16.905	16.904 (1.175)	55	1658888			38.51- 138.51	90.31
167 Naphthalene					CAS #: 91-20-3		
29.374	29.374 (1.375)	128	1481204	38.2570	38.257	80.00- 120.00	100.00
29.374	29.374 (1.375)	127	170799			0.00- 62.50	11.53

Report Date: 31-Oct-2007 11:05

Air Toxics Ltd.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd7.i
Lab File ID: 7103104.d
Lab Smp Id: LCS-1
Analysis Type: VOA
Quant Type: ISTD
Operator: cb
Method File: /chem/msd7.i/7-31oct.b/t14qO18c.m
Misc Info: 200ppbv --> 50ppbv

Calibration Date: 31-OCT-2007
Calibration Time: 09:03
Client Smp ID: LCS-1
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
81 Bromochloromethan	419527	251716	587338	478234	13.99
97 1,4-Difluorobenze	1400939	840563	1961315	1606107	14.65
126 Chlorobenzene-d5	1205049	723029	1687069	1311308	8.82

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
81 Bromochloromethan	14.39	14.06	14.72	14.39	0.00
97 1,4-Difluorobenze	16.16	15.83	16.49	16.16	0.00
126 Chlorobenzene-d5	21.36	21.03	21.69	21.36	0.00

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /chem/msd7.i/7-31oct.b/7103104.d

Date : 31-OCT-2007 10:30

Client ID: LCS-1

Sample Info: 50mL #1443-302

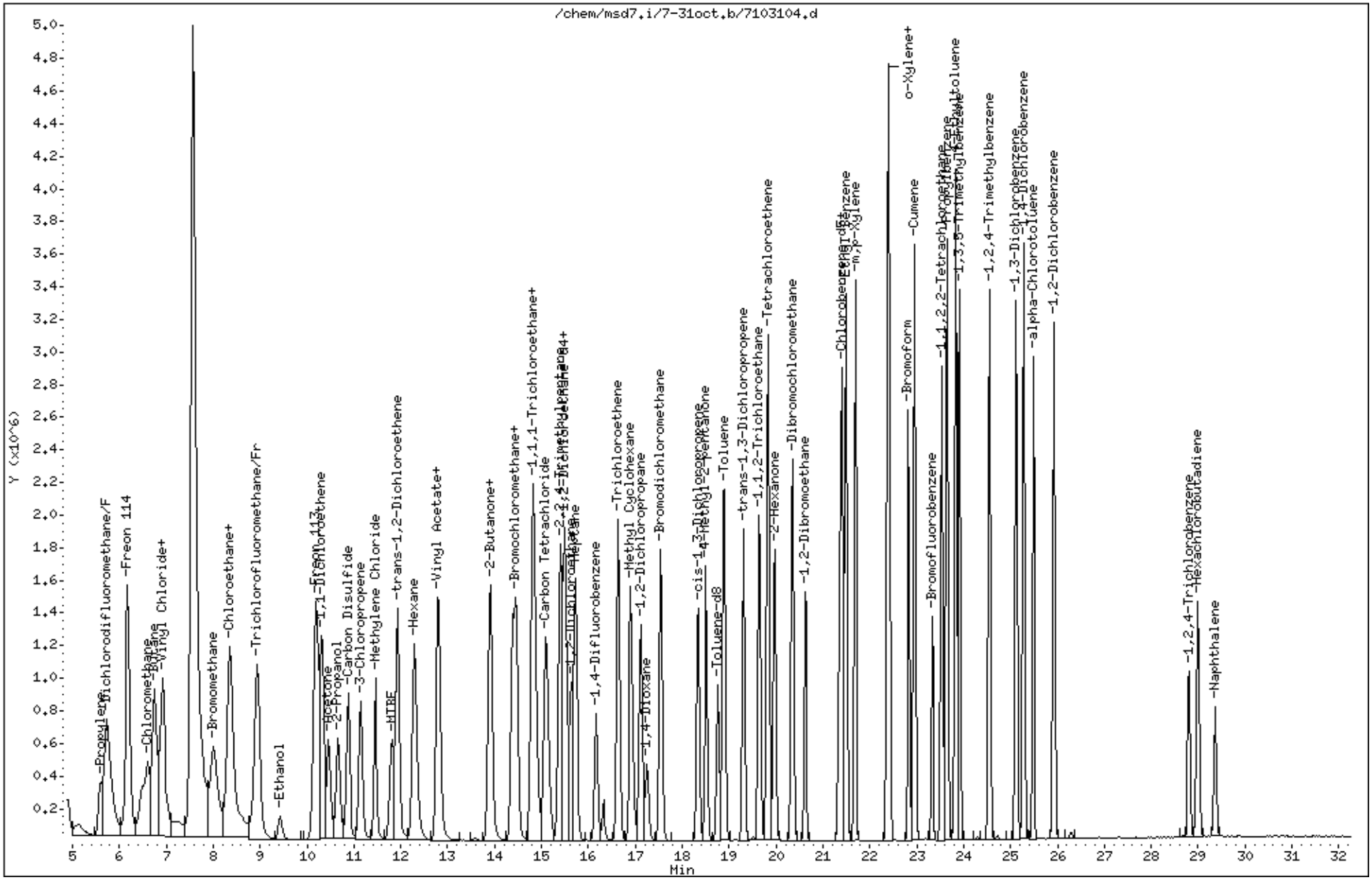
Column phase: RTx-624

Instrument: msd7.i

Operator: cb

Column diameter: 0.53

0344



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MSD-7

Logbook #: 1594

m/z	ION ABUNDANCE CRITERIA	% REL. ABUNDANCE
50	15.0 – 40.0% of mass 95	18.22
75	30.0 – 60.0% of mass 95	39.23
95	Base peak, 100.00% relative abundance	100.00
96	5.0 – 9.0% of mass 95	6.64
173	Less than 2.0% of mass 174	(0.52)[1]
174	Greater than 50.0% of mass 95	86.75
175	5.0 – 9.0% of mass 174	(7.12)[1]
176	Greater than 95.0% but less than 101.0% of mass 174	(97.72)[1]
177	5.0 – 9.0% of mass 176	(6.45)[2]

[1] - value in parenthesis is % mass 174 [2] - value in parenthesis is % mass 176

BFB Injection Date: 10/30/07

BFB Injection Time: 0826

BFB File ID: 7103001

Tekmar Purge Flow: 17.7 mL/min

Vacuum: 2.9×10^{-5} torr

IS/S Std.#:	1443-339	Exp. Date: 12/26/07
BCM	537758	
1,4-DFB	1771565	
CB-d5	1414884	

Verified CCV IS vs ICAL mid-point (- 40%D) CB *initials*

0345

Verify 176/174 m/z Ratio: 835758 / 855253 x 100 = 97.72%

NOAH Cart #: NA **File #:** NA

Calculation Check:

ppbv of compound $= \frac{Area_{Sample}}{Area_{IS}} \times \frac{Conc._{IS}}{RRF} = \frac{(692227)}{(537758)} \times \frac{(25.0)}{(1.34304)} = 23.961$

Reported Result 23.961

File ID:	7103006
Compound:	1,2-DCA-d4
Initials:	CB

	Use	File #	Sample / Client Name	Can #	Pressure	Amt Loaded	DF	Date Analyzed	Time Analyzed	Review Init.	Comments
1	✓	7103001	BFB Tune Check	1467-64	50ng	2mL	1.00	10/30/07	0826	CB	
2	✓	02	System Blank	34190	Humid	200mL			0858	CB	
3	✓	03	ICAL Level 4	1487-400	200/1200 ppbv → 8/48 ppbv	8mL			0951	CB	
4	✓	04	5		200/1200 ppbv → 50/300 ppbv	50mL			1029	CB	CCVsp
5	✓	05	7		200/1200 ppbv	200mL			1110	CB	
6	✓	06	CCV-1 (100 ppbv)	1576-50A	50 ppbv	100mL			1215	CB	
7	✓	07	LCS-1 (200 ppbv)	1443-302	50 ppbv	50mL			1253	CB	
8	✓	08	Lab Blank	34190	Humid	200mL			1336	CB	
9	✓	71030 - 01	07100578 - 03A	22959	4.5 psig - 15 psig	1.4 mL	333	10/30/07	1451	CB	"2" Flag 2 propanol

Signature

10/30/07
Date

10	✓	7103010	0710578-04A	9330	4.0"Hg-15psi	1.0ml	4666	10/31/07	1529	KS		"E" Phag-2-propanol
11	✓	11	08A	34121	6.0"Hg-15psi	20ml	25.3		1659	KS		"E" Phag 2-propanol
12	X	12	06A	122586	4.5"Hg-15psi	100ml	4.76		1702	KS		RR @ 200 ml/hr
13	✓	13	06A	122586	4.5"Hg-15psi	200ml	2.38		1750	KS		3rd Sent. ↑ due to blebs
14	✓	14	07A	1357	3.5"Hg-15psi	200ml	2.29		1829	KS		
15	✓	15	09A	2116	4.0"Hg-15psi	200ml	2.33		1908	KS		
16	✓	16	01A	1350	3.0"Hg-15psi	40ml	11.0		1950	KS		
17	✓	17	System Blank	34190	[illegible]	200ml	1.00		2029	KS		
18	✓	18	0710567-01A	20940	7.5"Hg-5psi	200ml	1.79		2108	KS		
19	✓	19	02A	4216	6.5"Hg-5psi	200ml	1.79 + 1.68		2147	KS/FO		
20	✓	20	03A	13863	7.0"Hg-5psi	200mL	1.75		2245	KS		
21	✓	21	0710509A-01A	34088	1.5"Hg-15psi	100mL	4.26		2324	KS		
22	✓	22	-02A	1356	2.0"Hg-15psi	6.5mL	66.5	10/31/07	0014	KS		
23	✓	23	0710517A-02A	2074	5.0"Hg-15psi	200mL	2.42		0103	KS		"E", "S" Fr 134a
24	X	24	-01A	13388	4.5"Hg-15psi	50mL	9.520		0152	KS		ICCOX
25	✓	25	-01A	↓	↓	200mL	2.380		0240	KS		100CCA Dil. for NT
26	✓	26	0710562-01A	33681	7.0"Hg-15psi	200mL	1.75		0329	KS		
27	✓	27	-02A	33658	↓	↓	↓		0416	KS		
28	X	28	-03A	14866	6.0"Hg-15psi		1.68		0455	KS		IS ↓
29	X	29	-04A	34732	29.5"Hg-15psi		1.00		0536	FO		VB FS ↓
30	X	30	↓	↓	↓	↓	↓	↓	0718	FO		
31												
32												

FO 10/31/07

Comments:

Laura Ormsby
Signature

10/31/07
Date

00346

@ Air Toxics Ltd.

MSD-7

Logbook #: 1594

m/z	ION ABUNDANCE CRITERIA	% REL. ABUNDANCE
50	15.0 – 40.0% of mass 95	20.72
75	30.0 – 60.0% of mass 95	39.59
95	Base peak, 100.00% relative abundance	100.00
96	5.0 – 9.0% of mass 95	6.62
173	Less than 2.0% of mass 174	(0.45)[1]
174	Greater than 50.0% of mass 95	85.10
175	5.0 – 9.0% of mass 174	(7.10)[1]
176	Greater than 95.0% but less than 101.0% of mass 174	(96.35)[1]
177	5.0 – 9.0% of mass 176	(6.64)[2]

[1] - value in parenthesis is % mass 174 [2] - value in parenthesis is % mass 176

Verify 176/174 m/z Ratio: 654939 / 679763 x 100 = 96.35%

BFB Injection Date: 10/31/07

BFB Injection Time: 0842

BFB File ID: 7103101

Tekmar Purge Flow: 17.9 mL/min

Vacuum: 2.8 x 10^{-5} torr

IS/S Std.#:	1443-339	Exp. Date: 12/26/07
BCM	419527	
1,4-DFB	1400939	
CB-d5	1205049	

Verified CCV IS vs ICAL mid-point (- 40%D) CB (initials)

NOAH Cart #: N/A File #: N/A

0347

Calculation Check:

ppbv of compound $= \frac{Area_{Sample}}{Area_{IS}} \times \frac{Conc._{IS}}{RRF} = \frac{(630220)}{(419527)} \times \frac{(25.0)}{(1.34304)} = 27.963$

File ID:	7103102
Compound:	1,2-DCA-d4
Initials:	CB

Reported Result 27.963

	Use	File #	Sample / Client Name	Can #	Pressure	Amt Loaded	DF	Date Analyzed	Time Analyzed	Review Init.	Comments
1	✓	7103101	BFB Tune Check	1467-64	50ng	2mL	1.00	10/31/07	0842	CB	
2	✓	02	CCV-1 (100 ppbv)	1576-50A	50ppbv	100mL			0903	CB	
3	✓	03	CCVsp (200 ppbv)	1487-400	50ppbv	50mL			0946	CB	sp 22a CCV
4	✓	04	LCS-1 (200 ppbv)	1443-302	50ppbv	50mL			1030	CB	
5	✓	05	Lab Blank	34190	Humid	200mL			1128	CB	
6	✓	06	0710567-04A	434	8.0"Hg-5psi	200mL	1.83		1219	CB	
7	X	07	-05A	4175	7.0"Hg-5psi	200mL	1.75		1308	CB	'E' flag MeCl RRO 125mL
8	✓	08	-05A			125mL	2.80		1355	CB	
9	✓	09	0710535A-01A	11896	3.5"Hg-15psi	125mL	3.66		1435	CB	

Signature

10/31/07
Date

Air Toxics Ltd.

Data file : /var/chem/msd7.i/7-18oct.b/7101801.d
Lab Smp Id: Client Smp ID: BFB
Inj Date : 18-OCT-2007 11:50
Operator : cb Inst ID: msd7.i
Smp Info : 2uL #1467-64;BFB tune check;BFB tune check
Misc Info : 50ng
Comment :
Method : /var/chem/msd7.i/7-18oct.b/bfb105.m
Meth Date : 18-Oct-2007 11:45 Quant Type: ESTD
Cal Date : Cal File:
Als bottle: 1 QC Sample: BFB
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 3.50 Sample Matrix: WATER
Processing Host: eeyore

Concentration Formula: Amt * DF * Uf * Vf * Vi * CpndVariable

Name	Value	Description
DF	1.00000	Dilution Factor
Uf	1.00000	ng unit correction factor
Vf	1.00000	Volumetric correction factor
Vi	2.00000	Injection Volume

Cpnd Variable Local Compound Variable

RT	EXP RT	DLT RT	MASS	RESPONSE	CONCENTRATIONS ON-COL (ug/L)	FINAL (ug/L)	TARGET RANGE	RATIO
1 bfb						CAS #: 460-00-4		
8.204	8.232	-0.028	95	1361542			100.00- 100.00	100.00
8.204	8.232	-0.028	50	253402			15.00- 40.00	18.61
8.204	8.232	-0.028	75	540735			30.00- 60.00	39.71
8.204	8.232	-0.028	96	92275			5.00- 9.00	6.78
8.204	8.232	-0.028	173	5478			0.00- 2.00	0.49
8.204	8.232	-0.028	174	1112403			50.00- 100.00	81.70
8.204	8.232	-0.028	175	76512			5.00- 9.00	6.88
8.204	8.232	-0.028	176	1072385			95.00- 101.00	96.40
8.204	8.232	-0.028	177	71737			5.00- 9.00	6.69

Data File: /var/chem/msd7.i/7-18oct.b/7101801.d

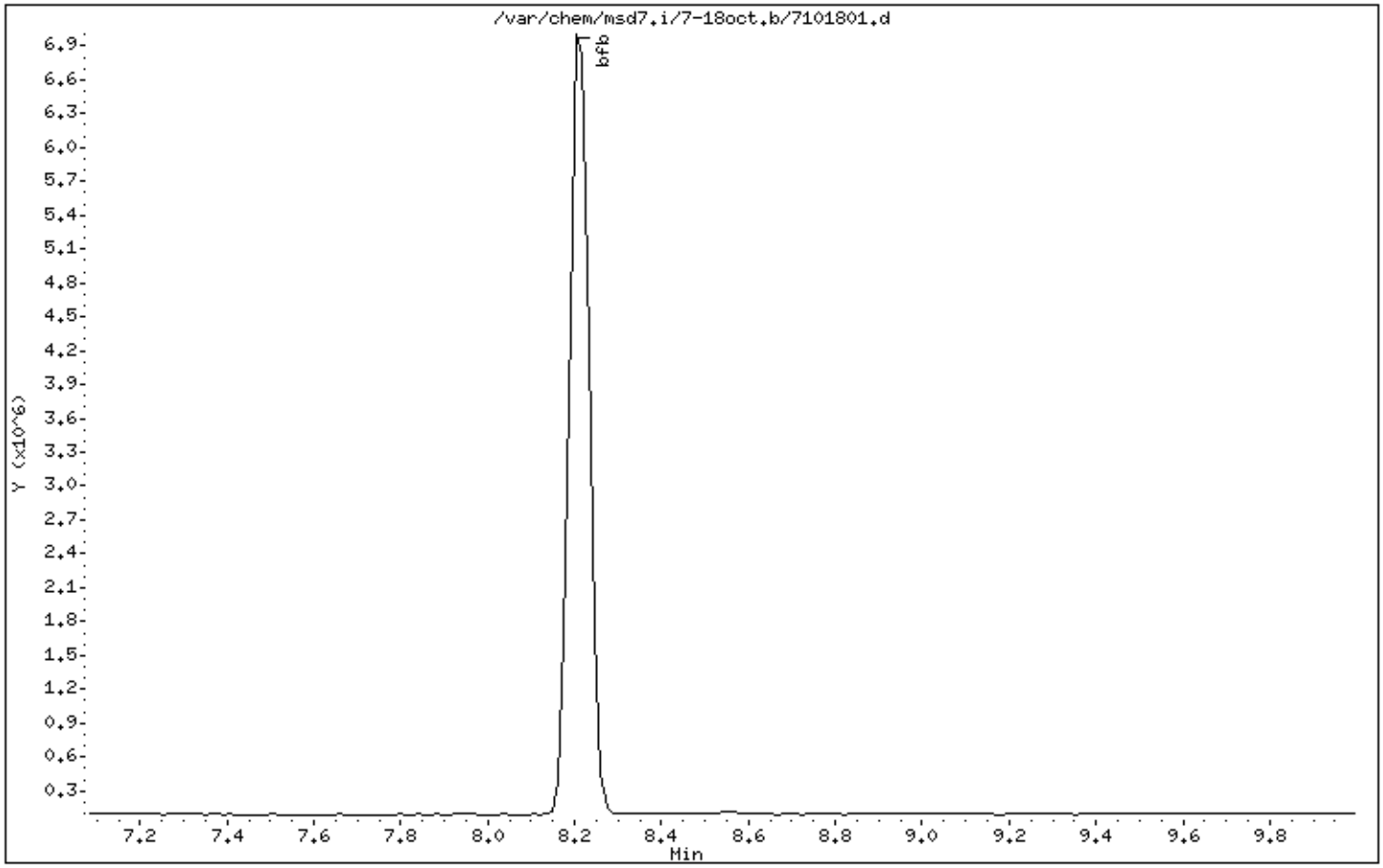
Date : 18-OCT-2007 11:50

Client ID: BFB Instrument: msd7.i

Sample Info: 2uL #1467-64;BFB tune check;BFB tune check

Volume Injected (uL): 2.0 Operator: cb

Column phase: Column diameter: 0.53



Data File: /var/chem/msd7.i/7-18oct.b/7101801.d

Date : 18-OCT-2007 11:50

Client ID: BFB

Instrument: msd7.i

Sample Info: 2uL #1467-64;BFB tune check;BFB tune check

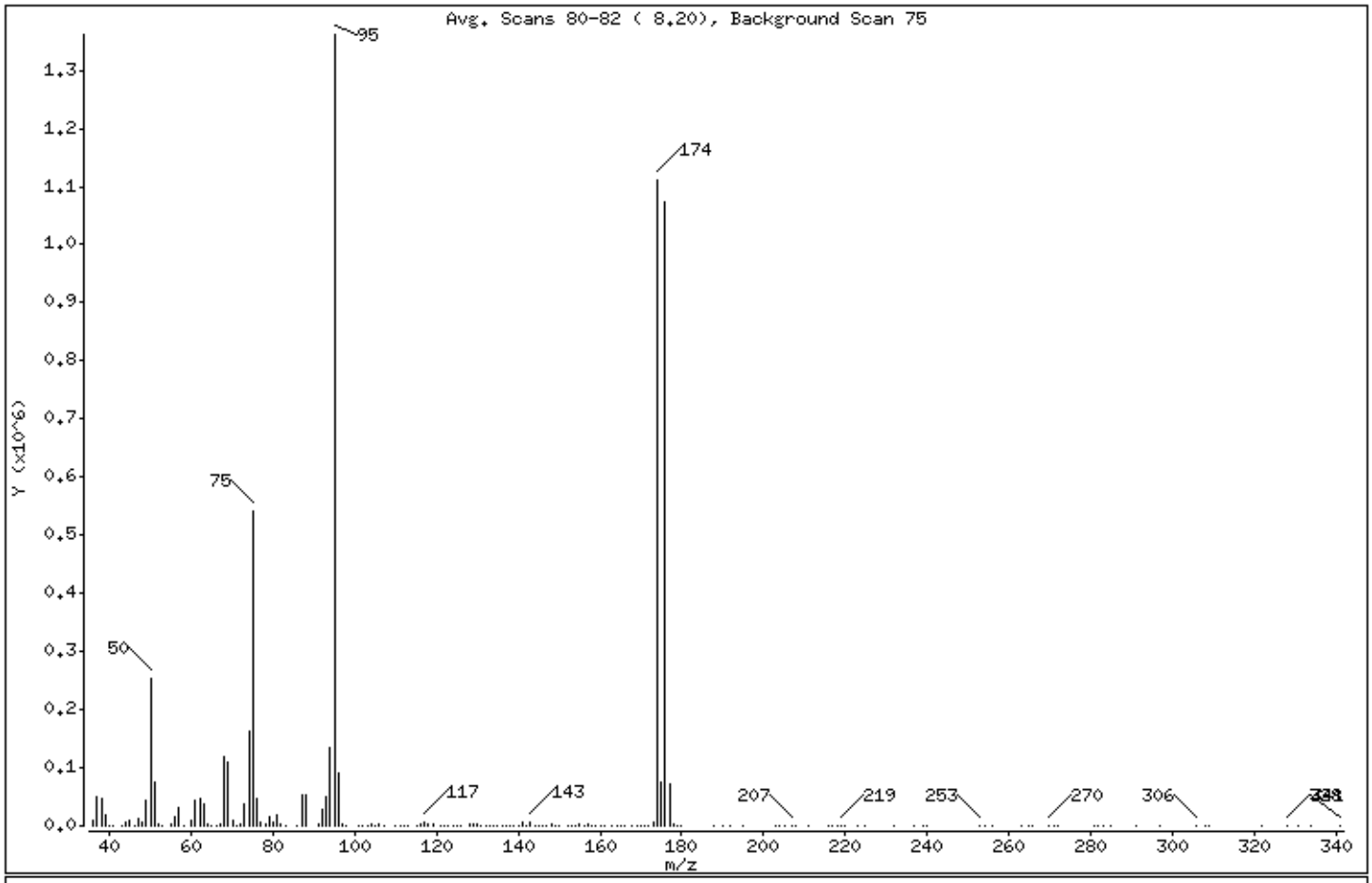
Volume Injected (uL): 2.0

Operator: cb

Column phase:

Column diameter: 0.53

1 bfb



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
95	Base Peak, 100% relative abundance	100.00
50	15.00 - 40.00% of mass 95	18.61
75	30.00 - 60.00% of mass 95	39.71
96	5.00 - 9.00% of mass 95	6.78
173	Less than 2.00% of mass 174	0.40 (0.49)
174	50.00 - 100.00% of mass 95	81.70
175	5.00 - 9.00% of mass 174	5.62 (6.88)
176	95.00 - 101.00% of mass 174	78.76 (96.40)
177	5.00 - 9.00% of mass 176	5.27 (6.69)

Data File: /var/chem/msd7.i/7-18oct.b/7101801.d

Date : 18-OCT-2007 11:50

Client ID: BFB

Instrument: msd7.i

Sample Info: 2uL #1467-64;BFB tune check;BFB tune check

Volume Injected (uL): 2.0

Operator: cb

Column phase:

Column diameter: 0.53

Data File: 7101801.d
Spectrum: Avg. Scans 80-82 (8.20), Background Scan 75
Location of Maximum: 95.00
Number of points: 172

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	8158	83.00	554	138.00	104	203.00	51
37.00	49192	86.00	1313	139.00	375	204.00	50
38.00	45528	87.00	54192	140.00	632	205.00	189
39.00	18720	88.00	53800	141.00	6507	207.00	741
40.00	732	91.00	2816	142.00	957	208.00	504
41.00	74	92.00	27664	143.00	6881	211.00	169
43.00	497	93.00	48888	144.00	483	216.00	66
44.00	4997	94.00	133568	145.00	361	217.00	63
45.00	9825	95.00	1361408	146.00	1560	218.00	35
46.00	873	96.00	92272	147.00	676	219.00	212
47.00	13741	97.00	2838	148.00	2309	220.00	15
48.00	5492	98.00	75	149.00	1043	223.00	146
49.00	42264	101.00	135	150.00	871	225.00	51
50.00	253376	102.00	118	152.00	549	232.00	107
51.00	73776	103.00	426	153.00	862	237.00	53
52.00	3233	104.00	3526	154.00	656	239.00	108
53.00	104	105.00	1311	155.00	2400	240.00	51
55.00	2446	106.00	3382	156.00	486	253.00	738
56.00	14834	107.00	1234	157.00	1946	254.00	63
57.00	31320	110.00	477	158.00	503	256.00	73
58.00	1332	111.00	643	159.00	927	263.00	50
60.00	8076	112.00	546	160.00	166	265.00	164
61.00	44952	113.00	773	161.00	951	266.00	131
62.00	46256	115.00	711	163.00	50	270.00	379
63.00	36824	116.00	3373	164.00	6	271.00	115
64.00	3340	117.00	5525	165.00	191	272.00	119
65.00	65	118.00	2784	166.00	52	281.00	44
66.00	128	119.00	4176	168.00	237	282.00	150
67.00	2479	121.00	195	169.00	104	283.00	43
68.00	119376	122.00	240	170.00	388	285.00	69
69.00	110568	123.00	240	171.00	532	291.00	52
70.00	8062	124.00	581	172.00	1047	297.00	50
71.00	416	125.00	238	173.00	5478	306.00	182
72.00	4070	126.00	222	174.00	1112064	308.00	72
73.00	38304	128.00	3372	175.00	76512	309.00	53

Data File: /var/chem/msd7.i/7-18oct.b/7101801.d

Date : 18-OCT-2007 11:50

Client ID: BFB

Instrument: msd7.i

Sample Info: 2uL #1467-64;BFB tune check;BFB tune check

Volume Injected (uL): 2.0

Operator: cb

Column phase:

Column diameter: 0.53

Data File: 7101801.d
Spectrum: Avg. Scans 80-82 (8.20), Background Scan 75
Location of Maximum: 95.00
Number of points: 172

m/z	Y	m/z	Y	m/z	Y	m/z	Y
74.00	163648	129.00	1628	176.00	1072128	322.00	66
75.00	540672	130.00	3411	177.00	71736	328.00	157
76.00	45504	131.00	1190	178.00	1947	331.00	61
77.00	6657	132.00	336	179.00	187	334.00	27
78.00	3945	133.00	196	180.00	198	341.00	150
79.00	17176	134.00	119	188.00	83		
80.00	5949	135.00	1488	190.00	234		
81.00	17288	136.00	367	192.00	279		
82.00	3829	137.00	1534	195.00	264		

Air Toxics Ltd.

Data file : /chem/msd7.i/7-19oct.b/7101901.d
Lab Smp Id: Client Smp ID: BFB
Inj Date : 19-OCT-2007 09:09
Operator : cb Inst ID: msd7.i
Smp Info : 2uL #1467-64;BFB tune check;BFB tune check
Misc Info : 50ng
Comment :
Method : /var/chem/msd7.i/7-19oct.b/bfb105.m
Meth Date : 19-Oct-2007 09:04 Quant Type: ESTD
Cal Date : Cal File:
Als bottle: 1 QC Sample: BFB
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 3.50 Sample Matrix: WATER
Processing Host: eeyore

Concentration Formula: Amt * DF * Uf * Vf * Vi * CpndVariable

Name	Value	Description
DF	1.00000	Dilution Factor
Uf	1.00000	ng unit correction factor
Vf	1.00000	Volumetric correction factor
Vi	2.00000	Injection Volume

Cpnd Variable Local Compound Variable

RT	EXP RT	DLT RT	MASS	RESPONSE	CONCENTRATIONS ON-COL (ug/L)	FINAL (ug/L)	TARGET RANGE	RATIO
1 bfb						CAS #: 460-00-4		
8.218	8.232	-0.014	95	1279483			100.00- 100.00	100.00
8.218	8.232	-0.014	50	234402			15.00- 40.00	18.32
8.218	8.232	-0.014	75	514967			30.00- 60.00	40.25
8.218	8.232	-0.014	96	87384			5.00- 9.00	6.83
8.218	8.232	-0.014	173	5154			0.00- 2.00	0.49
8.218	8.232	-0.014	174	1045184			50.00- 100.00	81.69
8.218	8.232	-0.014	175	74282			5.00- 9.00	7.11
8.218	8.232	-0.014	176	1015727			95.00- 101.00	97.18
8.218	8.232	-0.014	177	67754			5.00- 9.00	6.67

Data File: /chem/msd7.i/7-19oct.b/7101901.d

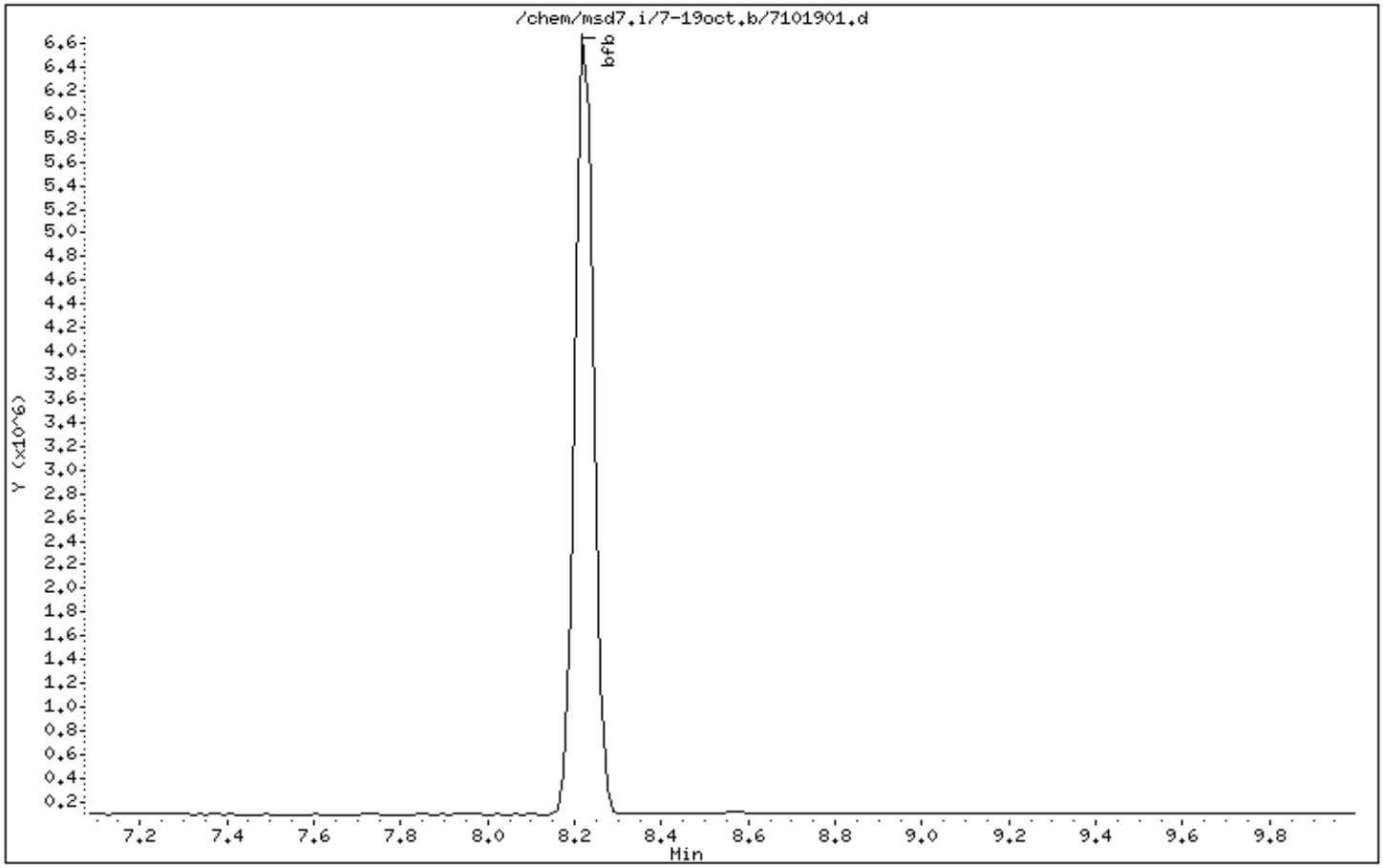
Date : 19-OCT-2007 09:09

Client ID: BFB Instrument: msd7.i

Sample Info: 2uL #1467-64;BFB tune check;BFB tune check

Volume Injected (uL): 2.0 Operator: cb

Column phase: Column diameter: 0.53



Data File: /chem/msd7.i/7-19oct.b/7101901.d

Date : 19-OCT-2007 09:09

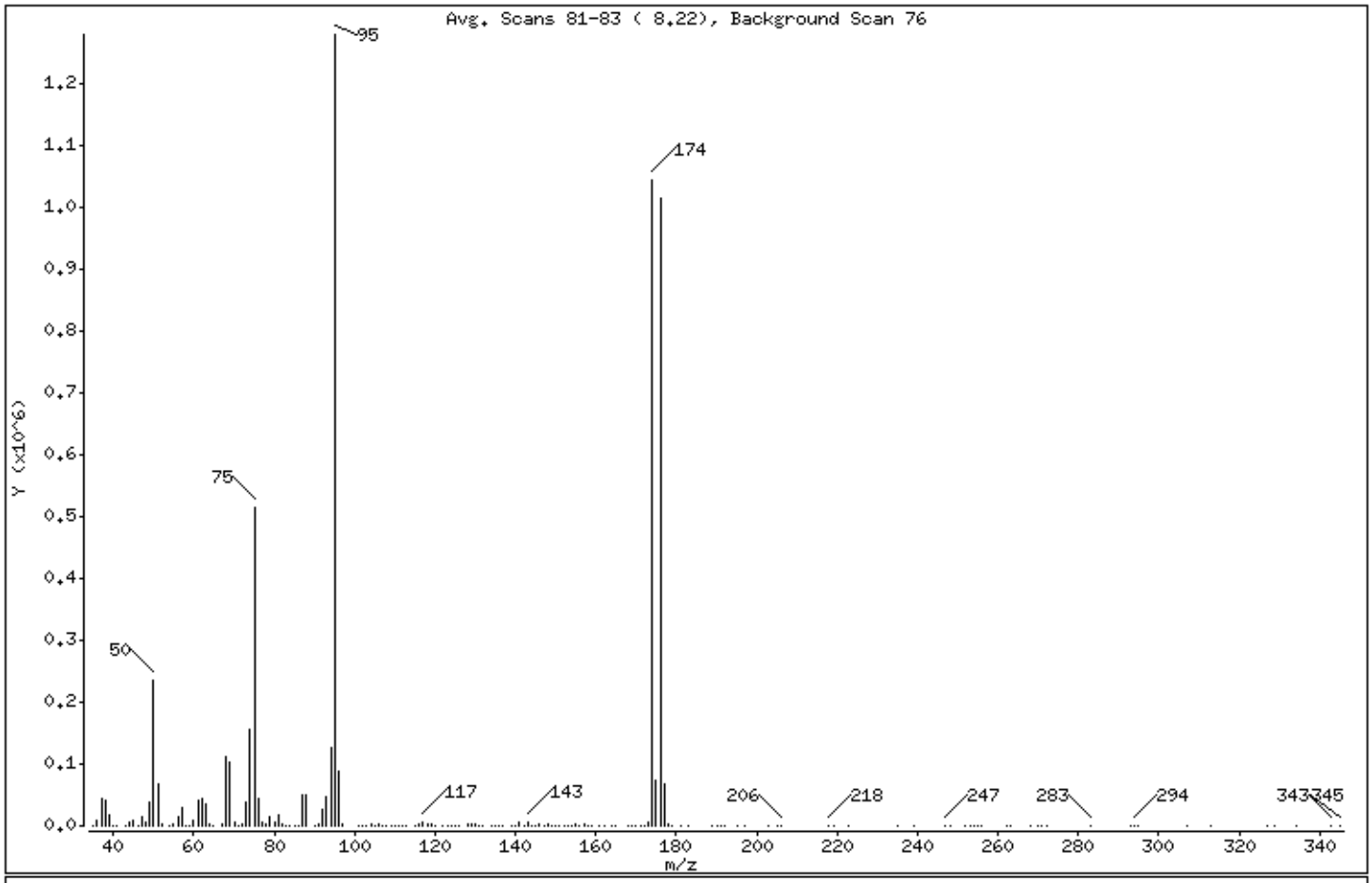
Client ID: BFB Instrument: msd7.i

Sample Info: 2uL #1467-64;BFB tune check;BFB tune check

Volume Injected (uL): 2.0 Operator: cb

Column phase: Column diameter: 0.53

1 bfb



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
95	Base Peak, 100% relative abundance	100.00
50	15.00 - 40.00% of mass 95	18.32
75	30.00 - 60.00% of mass 95	40.25
96	5.00 - 9.00% of mass 95	6.83
173	Less than 2.00% of mass 174	0.40 (0.49)
174	50.00 - 100.00% of mass 95	81.69
175	5.00 - 9.00% of mass 174	5.81 (7.11)
176	95.00 - 101.00% of mass 174	79.39 (97.18)
177	5.00 - 9.00% of mass 176	5.30 (6.67)

Data File: /chem/msd7.i/7-19oct.b/7101901.d

Date : 19-OCT-2007 09:09

Client ID: BFB Instrument: msd7.i

Sample Info: 2uL #1467-64;BFB tune check;BFB tune check

Volume Injected (uL): 2.0 Operator: cb

Column phase: Column diameter: 0.53

Data File: 7101901.d
Spectrum: Avg. Scans 81-83 (8.22), Background Scan 76
Location of Maximum: 95.00
Number of points: 169

m/z	Y	m/z	Y	m/z	Y	m/z	Y
35.00	72	81.00	16704	131.00	1146	181.00	171
36.00	7566	82.00	3637	132.00	454	183.00	50
37.00	45072	83.00	479	134.00	161	189.00	206
38.00	40240	84.00	53	135.00	1280	190.00	52
39.00	17640	85.00	82	136.00	225	191.00	120
40.00	628	86.00	903	137.00	1337	192.00	19
41.00	514	87.00	50640	139.00	320	195.00	40
43.00	189	88.00	48824	140.00	552	197.00	61
44.00	4493	90.00	132	141.00	6532	203.00	123
45.00	9647	91.00	2770	142.00	943	205.00	82
46.00	741	92.00	27528	143.00	7001	206.00	177
47.00	14368	93.00	47072	144.00	545	218.00	236
48.00	5164	94.00	125368	145.00	738	219.00	161
49.00	39688	95.00	1278976	146.00	1511	223.00	27
50.00	234368	96.00	87384	147.00	819	235.00	67
51.00	68168	97.00	2415	148.00	2386	239.00	107
52.00	2980	101.00	172	149.00	484	247.00	182
54.00	63	102.00	133	150.00	1007	248.00	62
55.00	2156	103.00	141	151.00	144	252.00	66
56.00	13491	104.00	2803	152.00	540	253.00	19
57.00	28776	105.00	1086	153.00	901	254.00	160
58.00	1021	106.00	3164	154.00	676	255.00	25
59.00	272	107.00	1031	155.00	2357	256.00	50
60.00	7740	108.00	15	156.00	629	262.00	82
61.00	41792	109.00	150	157.00	1793	263.00	50
62.00	43952	110.00	458	158.00	360	268.00	131
63.00	34352	111.00	504	159.00	1015	270.00	109
64.00	3135	112.00	313	161.00	1159	271.00	85
65.00	478	113.00	444	162.00	295	272.00	57
67.00	2376	115.00	640	164.00	102	283.00	471
68.00	112072	116.00	2542	165.00	171	293.00	77
69.00	101736	117.00	4565	168.00	62	294.00	66
70.00	7312	118.00	2517	169.00	215	295.00	52
71.00	405	119.00	4082	170.00	464	307.00	60
72.00	4296	120.00	347	171.00	397	313.00	52

Data File: /chem/msd7.i/7-19oct.b/7101901.d

Date : 19-OCT-2007 09:09

Client ID: BFB

Instrument: msd7.i

Sample Info: 2uL #1467-64;BFB tune check;BFB tune check

Volume Injected (uL): 2.0

Operator: cb

Column phase:

Column diameter: 0.53

Data File: 7101901.d
Spectrum: Avg. Scans 81-83 (8.22), Background Scan 76
Location of Maximum: 95.00
Number of points: 169

m/z	Y	m/z	Y	m/z	Y	m/z	Y
73.00	37336	122.00	296	172.00	834	327.00	42
74.00	157248	123.00	375	173.00	5154	329.00	64
75.00	514944	124.00	587	174.00	1045184	334.00	39
76.00	44472	125.00	107	175.00	74280	343.00	346
77.00	6177	126.00	562	176.00	1015680	345.00	241
78.00	4351	128.00	3477	177.00	67752		
79.00	15940	129.00	1800	178.00	1868		
80.00	5885	130.00	3276	179.00	89		

Air Toxics Ltd.

Data file : /var/chem/msd7.i/7-22oct.b/7102201.d
Lab Smp Id: Client Smp ID: BFB
Inj Date : 22-OCT-2007 08:22
Operator : cb Inst ID: msd7.i
Smp Info : 2uL #1467-64;BFB tune check;BFB tune check
Misc Info : 50ng
Comment :
Method : /var/chem/msd7.i/7-22oct.b/bfb105.m
Meth Date : 22-Oct-2007 08:17 Quant Type: ESTD
Cal Date : Cal File:
Als bottle: 1 QC Sample: BFB
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 3.50 Sample Matrix: WATER
Processing Host: eeyore

Concentration Formula: Amt * DF * Uf * Vf * Vi * CpndVariable

Name	Value	Description
DF	1.00000	Dilution Factor
Uf	1.00000	ng unit correction factor
Vf	1.00000	Volumetric correction factor
Vi	2.00000	Injection Volume

Cpnd Variable Local Compound Variable

RT	EXP RT	DLT RT	MASS	RESPONSE	CONCENTRATIONS ON-COL (ug/L)	FINAL (ug/L)	TARGET RANGE	RATIO
1 bfb						CAS #: 460-00-4		
8.218	8.232	-0.014	95	1368062			100.00- 100.00	100.00
8.218	8.232	-0.014	50	244266			15.00- 40.00	17.85
8.218	8.232	-0.014	75	543796			30.00- 60.00	39.75
8.218	8.232	-0.014	96	92363			5.00- 9.00	6.75
8.218	8.232	-0.014	173	6310			0.00- 2.00	0.53
8.218	8.232	-0.014	174	1182801			50.00- 100.00	86.46
8.218	8.232	-0.014	175	81821			5.00- 9.00	6.92
8.218	8.232	-0.014	176	1142984			95.00- 101.00	96.63
8.218	8.232	-0.014	177	74057			5.00- 9.00	6.48

Data File: /var/chem/msd7.i/7-22oct.b/7102201.d

Date : 22-OCT-2007 08:22

Client ID: BFB

Instrument: msd7.i

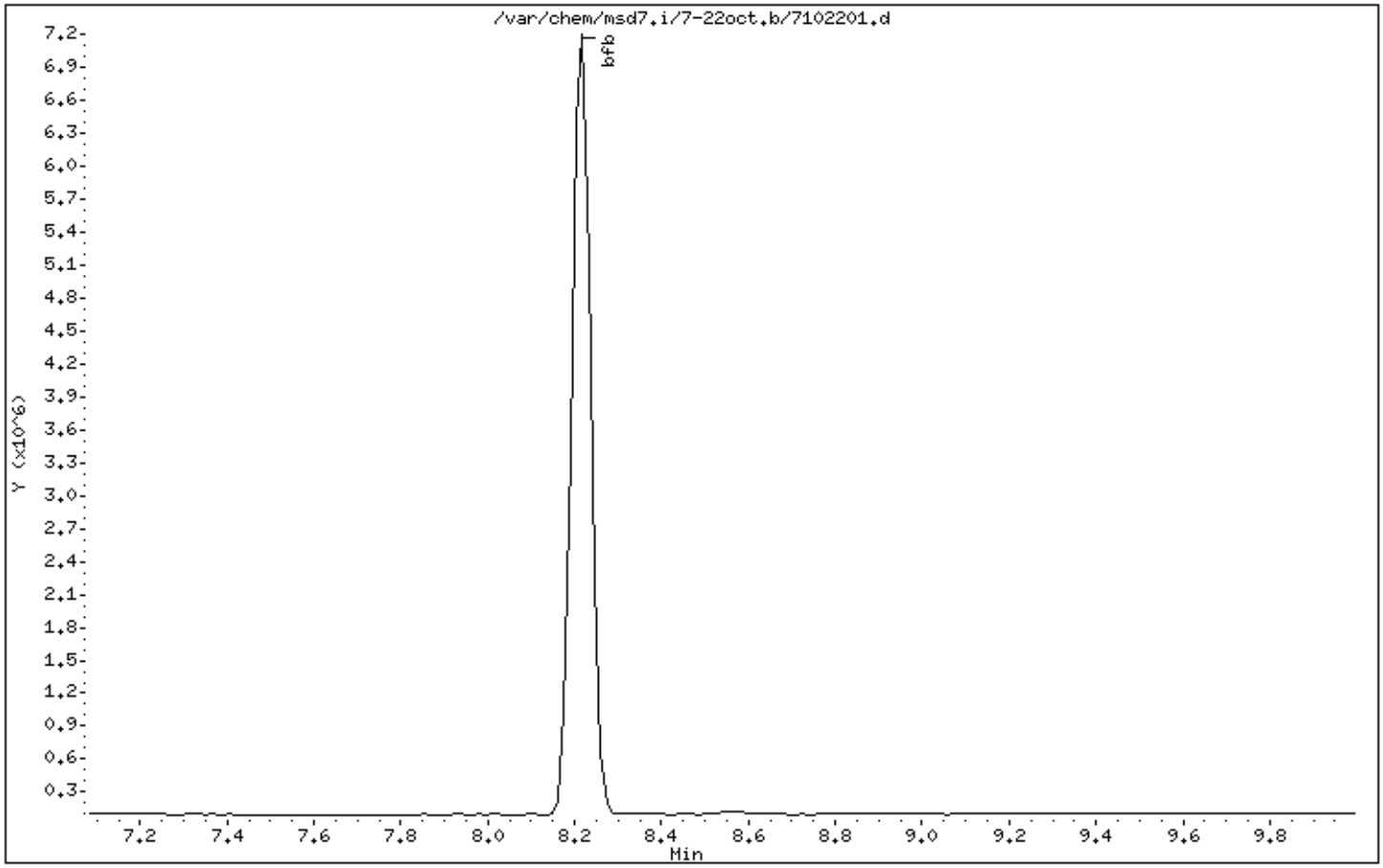
Sample Info: 2uL #1467-64;BFB tune check;BFB tune check

Volume Injected (uL): 2.0

Operator: cb

Column phase:

Column diameter: 0.53



Data File: /var/chem/msd7.i/7-22oct.b/7102201.d

Date : 22-OCT-2007 08:22

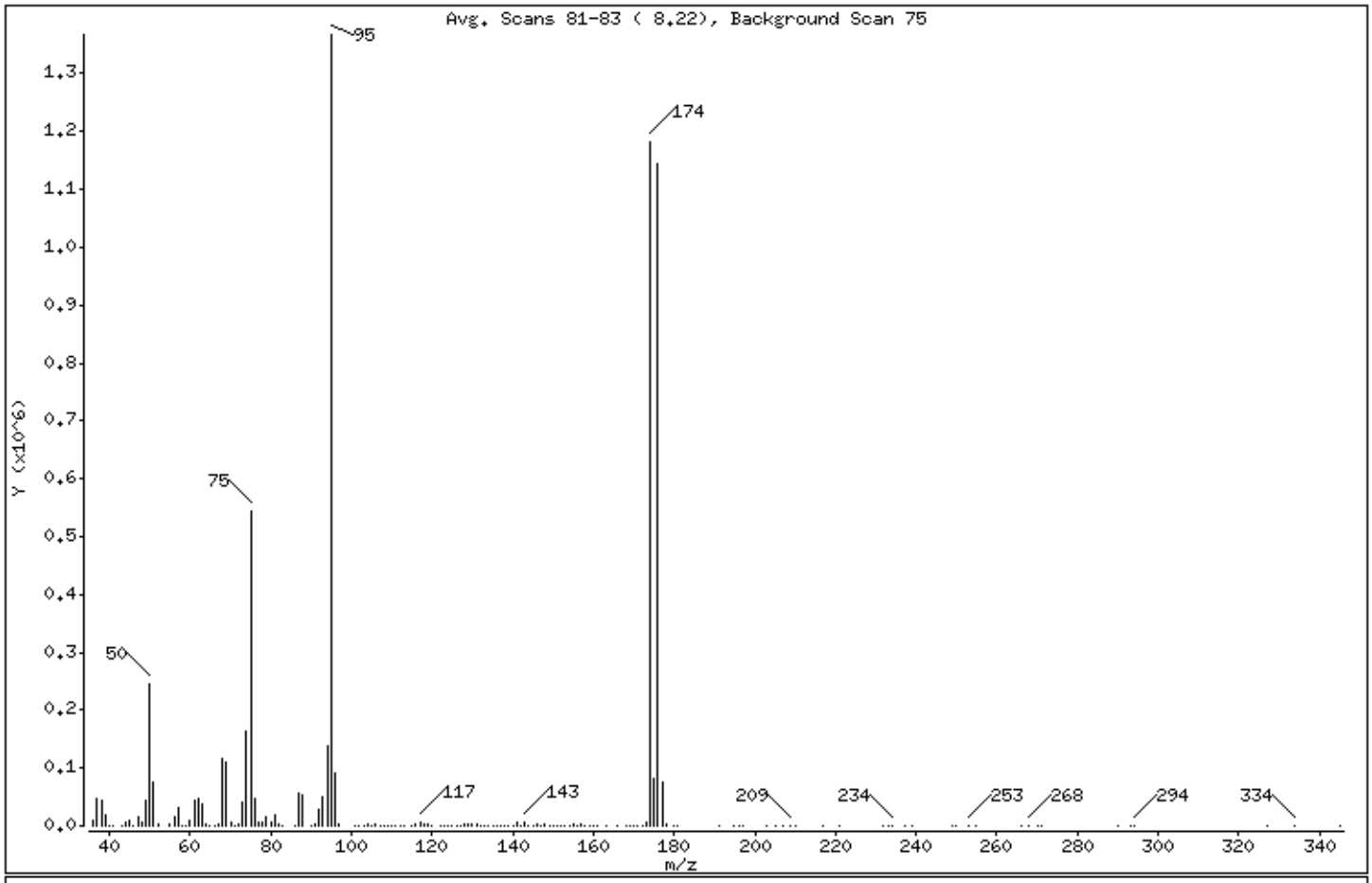
Client ID: BFB Instrument: msd7.i

Sample Info: 2uL #1467-64;BFB tune check;BFB tune check

Volume Injected (uL): 2.0 Operator: cb

Column phase: Column diameter: 0.53

1 bfb



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
95	Base Peak, 100% relative abundance	100.00
50	15.00 - 40.00% of mass 95	17.85
75	30.00 - 60.00% of mass 95	39.75
96	5.00 - 9.00% of mass 95	6.75
173	Less than 2.00% of mass 174	0.46 (0.53)
174	50.00 - 100.00% of mass 95	86.46
175	5.00 - 9.00% of mass 174	5.98 (6.92)
176	95.00 - 101.00% of mass 174	83.55 (96.63)
177	5.00 - 9.00% of mass 176	5.41 (6.48)

Data File: /var/chem/msd7.i/7-22oct.b/7102201.d

Date : 22-OCT-2007 08:22

Client ID: BFB

Instrument: msd7.i

Sample Info: 2uL #1467-64;BFB tune check;BFB tune check

Volume Injected (uL): 2.0

Operator: cb

Column phase:

Column diameter: 0.53

Data File: 7102201.d
Spectrum: Avg. Scans 81-83 (8.22), Background Scan 75
Location of Maximum: 95.00
Number of points: 160

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	7934	80.00	6507	129.00	1848	174.00	1182720
37.00	46400	81.00	17392	130.00	3596	175.00	81816
38.00	43896	82.00	4057	131.00	1722	176.00	1142784
39.00	18320	83.00	366	132.00	246	177.00	74056
40.00	466	86.00	1209	133.00	474	178.00	1906
41.00	102	87.00	55040	134.00	351	180.00	63
43.00	446	88.00	52696	135.00	1238	181.00	60
44.00	5254	90.00	94	136.00	390	191.00	49
45.00	10160	91.00	2596	137.00	1212	195.00	127
46.00	749	92.00	28584	138.00	67	196.00	50
47.00	14258	93.00	49208	139.00	329	197.00	54
48.00	4923	94.00	136960	140.00	640	203.00	23
49.00	44064	95.00	1367552	141.00	6885	205.00	114
50.00	244224	96.00	92360	142.00	1006	207.00	64
51.00	74240	97.00	2784	143.00	7115	209.00	162
52.00	2711	101.00	64	144.00	424	210.00	61
55.00	2537	102.00	33	145.00	525	217.00	109
56.00	14247	103.00	527	146.00	1988	221.00	104
57.00	30944	104.00	3615	147.00	642	232.00	114
58.00	1172	105.00	1276	148.00	2214	233.00	24
59.00	16	106.00	3588	149.00	812	234.00	201
60.00	8822	107.00	1268	150.00	1058	237.00	52
61.00	43248	108.00	66	151.00	149	239.00	80
62.00	45912	109.00	216	152.00	573	249.00	279
63.00	37216	110.00	357	153.00	1089	250.00	65
64.00	3029	111.00	609	154.00	769	253.00	409
65.00	121	112.00	147	155.00	2837	255.00	19
66.00	148	113.00	586	156.00	132	266.00	68
67.00	2227	115.00	534	157.00	1838	268.00	195
68.00	116288	116.00	2972	158.00	266	270.00	108
69.00	109120	117.00	5461	159.00	1124	271.00	4
70.00	7621	118.00	2641	160.00	100	290.00	51
71.00	436	119.00	4156	161.00	871	293.00	50
72.00	4566	120.00	149	163.00	80	294.00	54
73.00	39520	122.00	241	166.00	50	327.00	35

Data File: /var/chem/msd7.i/7-22oct.b/7102201.d

Date : 22-OCT-2007 08:22

Client ID: BFB

Instrument: msd7.i

Sample Info: 2uL #1467-64;BFB tune check;BFB tune check

Volume Injected (uL): 2.0

Operator: cb

Column phase:

Column diameter: 0.53

Data File: 7102201.d
Spectrum: Avg. Scans 81-83 (8.22), Background Scan 75
Location of Maximum: 95.00
Number of points: 160

m/z	Y	m/z	Y	m/z	Y	m/z	Y
74.00	164672	123.00	275	168.00	118	334.00	71
75.00	543744	124.00	566	169.00	146	345.00	25
76.00	47160	125.00	204	170.00	403		
77.00	6258	126.00	206	171.00	332		
78.00	4752	127.00	159	172.00	1080		
79.00	16057	128.00	3594	173.00	6310		

Air Toxics Ltd.

Data file : /var/chem/msd7.i/7-30oct.b/7103001.d
Lab Smp Id: Client Smp ID: BFB
Inj Date : 30-OCT-2007 08:26
Operator : cb Inst ID: msd7.i
Smp Info : 2uL #1467-64;BFB tune check;BFB tune check
Misc Info : 50ng
Comment :
Method : /var/chem/msd7.i/7-30oct.b/bfb105.m
Meth Date : 30-Oct-2007 08:20 Quant Type: ESTD
Cal Date : Cal File:
Als bottle: 1 QC Sample: BFB
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 3.50 Sample Matrix: WATER
Processing Host: eeyore

Concentration Formula: Amt * DF * Uf * Vf * Vi * CpndVariable

Name	Value	Description
DF	1.00000	Dilution Factor
Uf	1.00000	ng unit correction factor
Vf	1.00000	Volumetric correction factor
Vi	2.00000	Injection Volume

Cpnd Variable Local Compound Variable

RT	EXP RT	DLT RT	MASS	RESPONSE	CONCENTRATIONS ON-COL (ug/L)	FINAL (ug/L)	TARGET RANGE	RATIO
1 bfb						CAS #: 460-00-4		
8.218	8.232	-0.014	95	985898			100.00- 100.00	100.00
8.218	8.232	-0.014	50	179605			15.00- 40.00	18.22
8.218	8.232	-0.014	75	386803			30.00- 60.00	39.23
8.218	8.232	-0.014	96	65481			5.00- 9.00	6.64
8.218	8.232	-0.014	173	4443			0.00- 2.00	0.52
8.218	8.232	-0.014	174	855253			50.00- 100.00	86.75
8.218	8.232	-0.014	175	60898			5.00- 9.00	7.12
8.218	8.232	-0.014	176	835758			95.00- 101.00	97.72
8.218	8.232	-0.014	177	53944			5.00- 9.00	6.45

Data File: /var/chem/msd7.i/7-30oct.b/7103001.d

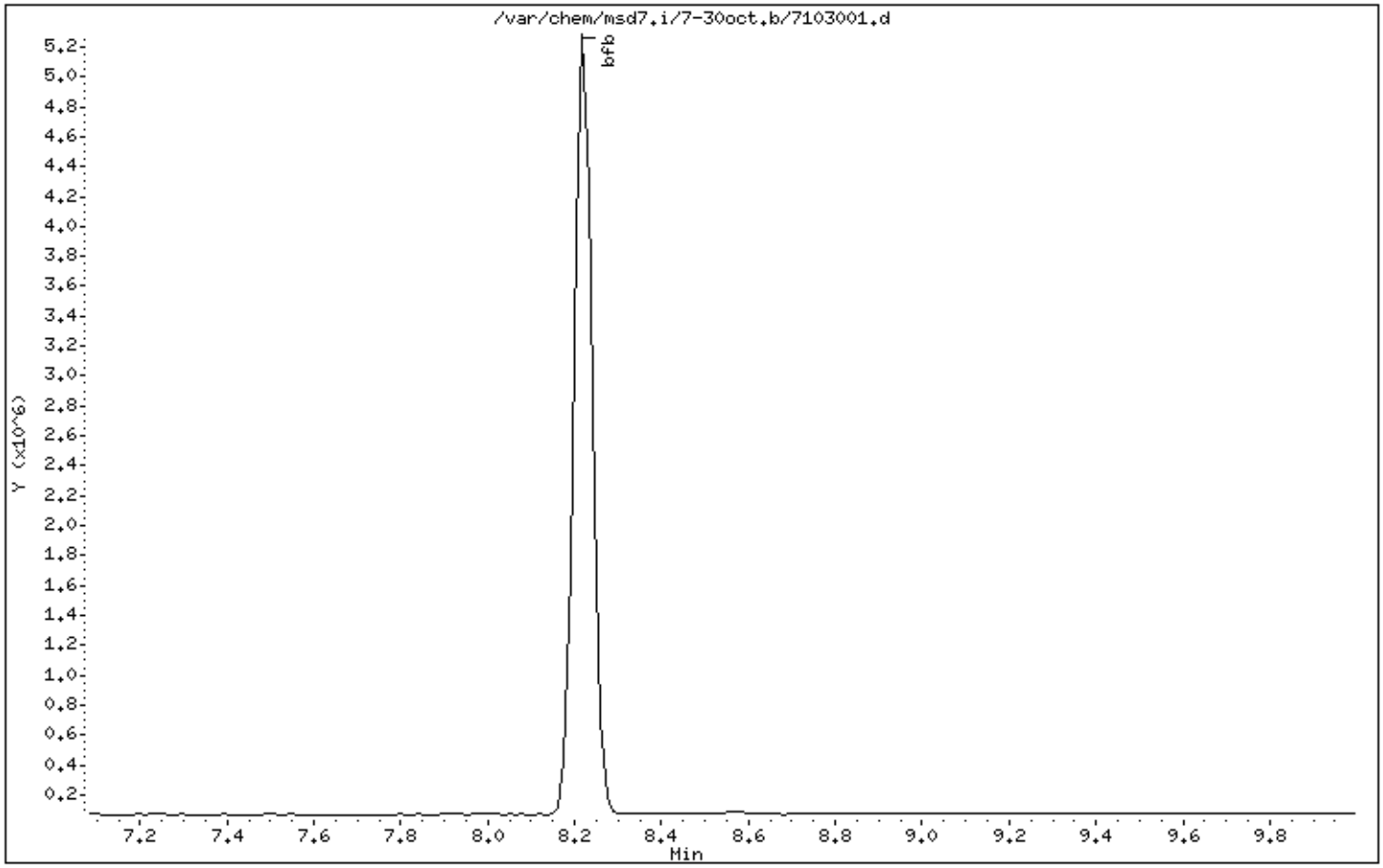
Date : 30-OCT-2007 08:26

Client ID: BFB Instrument: msd7.i

Sample Info: 2uL #1467-64;BFB tune check;BFB tune check

Volume Injected (uL): 2.0 Operator: cb

Column phase: Column diameter: 0.53



Data File: /var/chem/msd7.i/7-30oct.b/7103001.d

Date : 30-OCT-2007 08:26

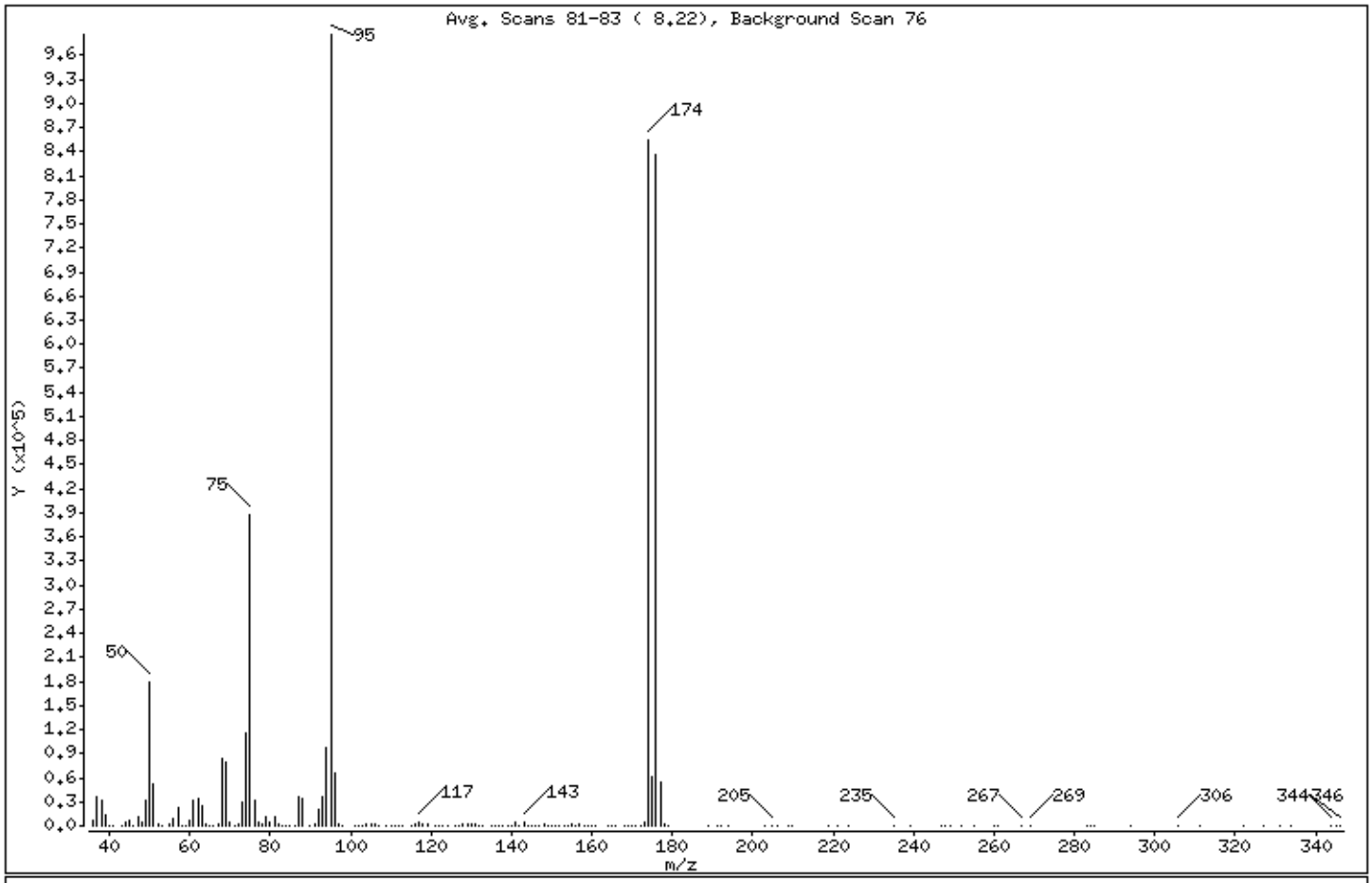
Client ID: BFB Instrument: msd7.i

Sample Info: 2uL #1467-64;BFB tune check;BFB tune check

Volume Injected (uL): 2.0 Operator: cb

Column phase: Column diameter: 0.53

1 bfb



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
95	Base Peak, 100% relative abundance	100.00
50	15.00 - 40.00% of mass 95	18.22
75	30.00 - 60.00% of mass 95	39.23
96	5.00 - 9.00% of mass 95	6.64
173	Less than 2.00% of mass 174	0.45 (0.52)
174	50.00 - 100.00% of mass 95	86.75
175	5.00 - 9.00% of mass 174	6.18 (7.12)
176	95.00 - 101.00% of mass 174	84.77 (97.72)
177	5.00 - 9.00% of mass 176	5.47 (6.45)

Data File: /var/chem/msd7.i/7-30oct.b/7103001.d

Date : 30-OCT-2007 08:26

Client ID: BFB

Instrument: msd7.i

Sample Info: 2uL #1467-64;BFB tune check;BFB tune check

Volume Injected (uL): 2.0

Operator: cb

Column phase:

Column diameter: 0.53

Data File: 7103001.d
Spectrum: Avg. Scans 81-83 (8.22), Background Scan 76
Location of Maximum: 95.00
Number of points: 167

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	5864	80.00	4195	129.00	1278	175.00	60896
37.00	35984	81.00	12097	130.00	2851	176.00	835712
38.00	32616	82.00	2437	131.00	1250	177.00	53944
39.00	13375	83.00	269	132.00	40	178.00	1321
40.00	252	84.00	56	133.00	221	179.00	25
41.00	118	85.00	51	135.00	850	189.00	147
43.00	194	86.00	972	136.00	239	191.00	119
44.00	3444	87.00	35968	137.00	991	192.00	85
45.00	7216	88.00	33456	138.00	108	194.00	76
46.00	550	90.00	115	139.00	64	203.00	51
47.00	10457	91.00	1553	140.00	426	205.00	142
48.00	4077	92.00	20376	141.00	4690	206.00	91
49.00	30808	93.00	35520	142.00	663	209.00	22
50.00	179584	94.00	96568	143.00	4970	210.00	105
51.00	53056	95.00	985856	144.00	322	219.00	106
52.00	2430	96.00	65480	145.00	447	221.00	68
53.00	124	97.00	1839	146.00	920	224.00	52
55.00	1522	98.00	50	147.00	386	235.00	132
56.00	9728	101.00	140	148.00	1872	239.00	74
57.00	22088	102.00	66	149.00	667	247.00	32
58.00	909	103.00	111	150.00	776	248.00	64
59.00	161	104.00	2660	151.00	123	249.00	223
60.00	5809	105.00	1235	152.00	504	252.00	106
61.00	30872	106.00	2288	153.00	738	255.00	1
62.00	34136	107.00	825	154.00	588	260.00	24
63.00	26000	109.00	263	155.00	2007	261.00	87
64.00	2039	110.00	310	156.00	425	267.00	404
65.00	308	111.00	281	157.00	1404	269.00	145
66.00	94	112.00	327	158.00	200	283.00	48
67.00	1714	113.00	417	159.00	927	284.00	39
68.00	83912	115.00	523	160.00	55	285.00	64
69.00	79304	116.00	1973	161.00	708	294.00	75
70.00	5473	117.00	4153	164.00	197	306.00	76
71.00	168	118.00	2490	165.00	28	311.00	53
72.00	2901	119.00	3262	166.00	172	322.00	151

Data File: /var/chem/msd7.i/7-30oct.b/7103001.d

Date : 30-OCT-2007 08:26

Client ID: BFB

Instrument: msd7.i

Sample Info: 2uL #1467-64;BFB tune check;BFB tune check

Volume Injected (uL): 2.0

Operator: cb

Column phase:

Column diameter: 0.53

Data File: 7103001.d
Spectrum: Avg. Scans 81-83 (8.22), Background Scan 76
Location of Maximum: 95.00
Number of points: 167

m/z	Y	m/z	Y	m/z	Y	m/z	Y
73.00	28448	121.00	198	168.00	123	327.00	38
74.00	115952	122.00	214	169.00	68	331.00	60
75.00	386752	123.00	289	170.00	319	334.00	24
76.00	32240	124.00	318	171.00	440	344.00	306
77.00	4494	126.00	237	172.00	936	345.00	85
78.00	2890	127.00	171	173.00	4443	346.00	56
79.00	11211	128.00	2629	174.00	855232		

Air Toxics Ltd.

Data file : /var/chem/msd7.i/7-31oct.b/7103101.d
Lab Smp Id: Client Smp ID: BFB
Inj Date : 31-OCT-2007 08:42
Operator : cb Inst ID: msd7.i
Smp Info : 2uL #1467-64;BFB tune check;BFB tune check
Misc Info : 50ng
Comment :
Method : /var/chem/msd7.i/7-31oct.b/bfb105.m
Meth Date : 31-Oct-2007 08:37 Quant Type: ESTD
Cal Date : Cal File:
Als bottle: 1 QC Sample: BFB
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 3.50 Sample Matrix: WATER
Processing Host: eeyore

Concentration Formula: Amt * DF * Uf * Vf * Vi * CpndVariable

Name	Value	Description
DF	1.00000	Dilution Factor
Uf	1.00000	ng unit correction factor
Vf	1.00000	Volumetric correction factor
Vi	2.00000	Injection Volume

Cpnd Variable Local Compound Variable

RT	EXP RT	DLT RT	MASS	RESPONSE	CONCENTRATIONS ON-COL (ug/L)	FINAL (ug/L)	TARGET RANGE	RATIO
1 bfb						CAS #: 460-00-4		
8.204	8.232	-0.028	95	798784			100.00- 100.00	100.00
8.204	8.232	-0.028	50	165517			15.00- 40.00	20.72
8.204	8.232	-0.028	75	316242			30.00- 60.00	39.59
8.204	8.232	-0.028	96	52897			5.00- 9.00	6.62
8.204	8.232	-0.028	173	3089			0.00- 2.00	0.45
8.204	8.232	-0.028	174	679763			50.00- 100.00	85.10
8.204	8.232	-0.028	175	48256			5.00- 9.00	7.10
8.204	8.232	-0.028	176	654939			95.00- 101.00	96.35
8.204	8.232	-0.028	177	43474			5.00- 9.00	6.64

Data File: /var/chem/msd7.i/7-31oct.b/7103101.d

Date : 31-OCT-2007 08:42

Client ID: BFB

Instrument: msd7.i

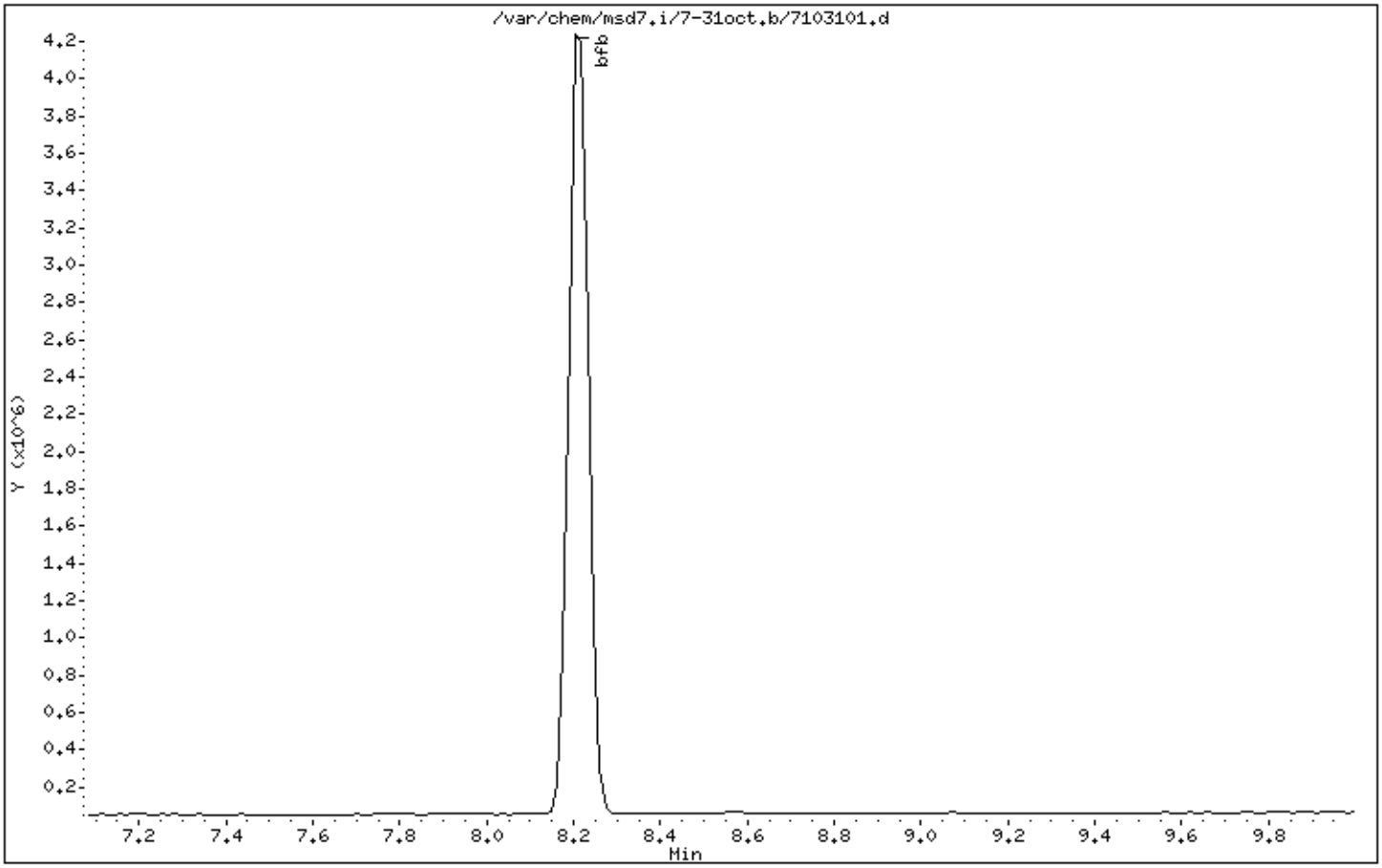
Sample Info: 2uL #1467-64;BFB tune check;BFB tune check

Volume Injected (uL): 2.0

Operator: cb

Column phase:

Column diameter: 0.53



Data File: /var/chem/msd7.i/7-31oct.b/7103101.d

Date : 31-OCT-2007 08:42

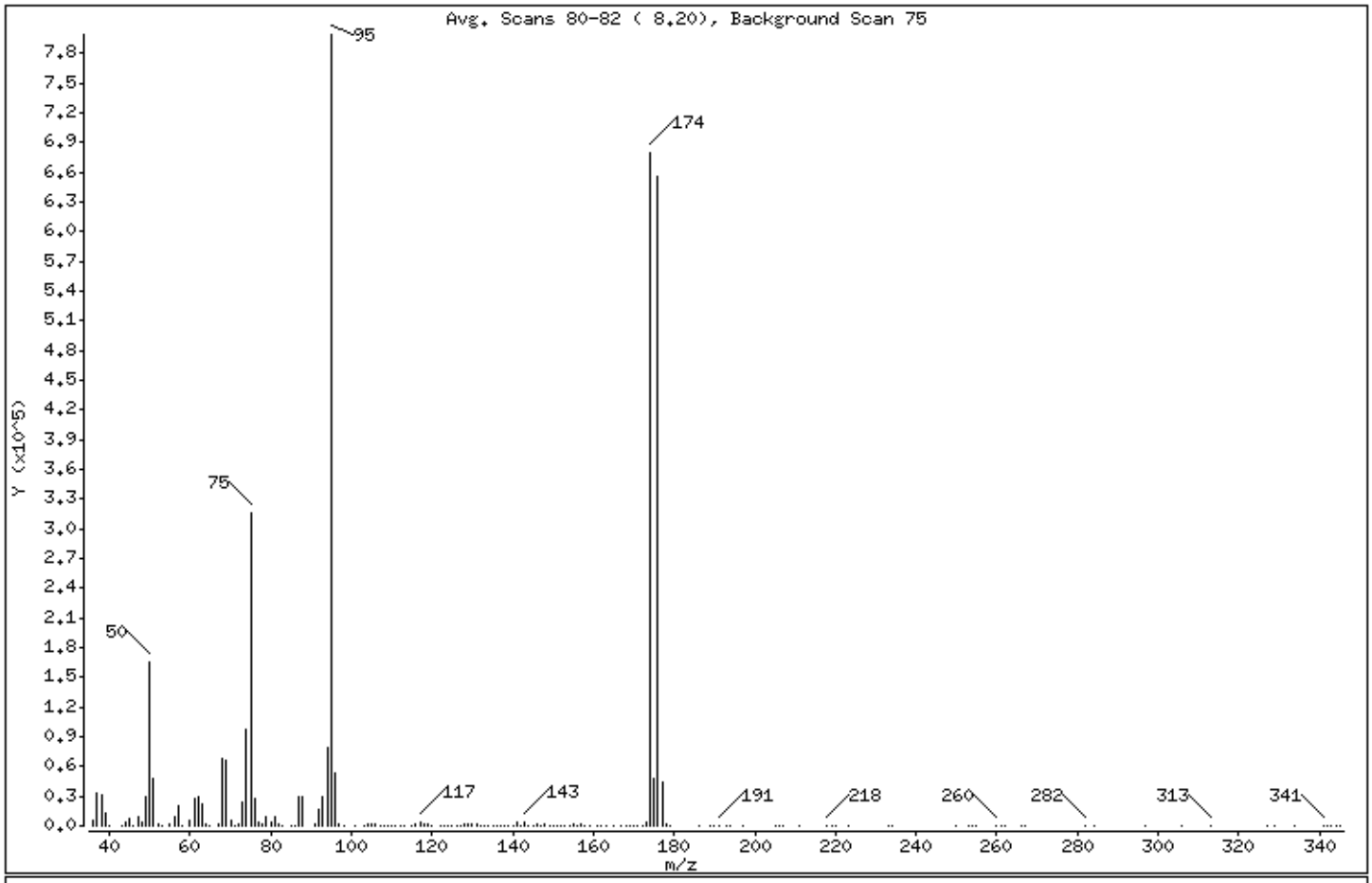
Client ID: BFB Instrument: msd7.i

Sample Info: 2uL #1467-64;BFB tune check;BFB tune check

Volume Injected (uL): 2.0 Operator: cb

Column phase: Column diameter: 0.53

1 bfb



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
95	Base Peak, 100% relative abundance	100.00
50	15.00 - 40.00% of mass 95	20.72
75	30.00 - 60.00% of mass 95	39.59
96	5.00 - 9.00% of mass 95	6.62
173	Less than 2.00% of mass 174	0.39 (0.45)
174	50.00 - 100.00% of mass 95	85.10
175	5.00 - 9.00% of mass 174	6.04 (7.10)
176	95.00 - 101.00% of mass 174	81.99 (96.35)
177	5.00 - 9.00% of mass 176	5.44 (6.64)

Data File: /var/chem/msd7.i/7-31oct.b/7103101.d

Date : 31-OCT-2007 08:42

Client ID: BFB Instrument: msd7.i

Sample Info: 2uL #1467-64;BFB tune check;BFB tune check

Volume Injected (uL): 2.0 Operator: cb

Column phase: Column diameter: 0.53

Data File: 7103101.d
Spectrum: Avg. Scans 80-82 (8.20), Background Scan 75
Location of Maximum: 95.00
Number of points: 167

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	5705	83.00	333	133.00	44	178.00	976
37.00	33536	85.00	108	134.00	128	179.00	95
38.00	31856	86.00	639	135.00	392	186.00	55
39.00	13115	87.00	28920	136.00	289	189.00	130
40.00	621	88.00	28520	137.00	667	190.00	82
43.00	587	91.00	1280	138.00	55	191.00	268
44.00	3426	92.00	16904	139.00	111	193.00	23
45.00	6755	93.00	28672	140.00	334	194.00	52
46.00	401	94.00	79400	141.00	3950	197.00	52
47.00	9294	95.00	798784	142.00	567	205.00	52
48.00	3759	96.00	52896	143.00	4138	206.00	50
49.00	29256	97.00	1320	144.00	272	207.00	109
50.00	165504	98.00	142	145.00	412	211.00	115
51.00	48096	101.00	65	146.00	1170	218.00	241
52.00	1883	103.00	243	147.00	603	219.00	154
53.00	5	104.00	1788	148.00	1659	220.00	64
55.00	1459	105.00	963	149.00	304	223.00	52
56.00	9310	106.00	2245	150.00	723	233.00	86
57.00	20192	107.00	692	151.00	56	234.00	87
58.00	913	108.00	194	152.00	291	250.00	63
60.00	5557	109.00	66	153.00	696	253.00	71
61.00	28048	110.00	233	154.00	411	254.00	23
62.00	28696	111.00	195	155.00	1468	255.00	140
63.00	22888	112.00	285	156.00	152	260.00	142
64.00	1943	113.00	334	157.00	1368	261.00	80
65.00	149	115.00	438	158.00	324	262.00	85
67.00	1476	116.00	1414	159.00	702	266.00	93
68.00	68584	117.00	3134	161.00	843	267.00	38
69.00	66248	118.00	1955	162.00	168	282.00	263
70.00	4735	119.00	2656	163.00	224	284.00	78
71.00	256	120.00	32	165.00	201	297.00	57
72.00	2400	122.00	116	167.00	63	306.00	58
73.00	23008	123.00	443	168.00	116	313.00	59
74.00	96544	124.00	360	169.00	74	327.00	1
75.00	316224	125.00	39	170.00	114	329.00	55

Data File: /var/chem/msd7.i/7-31oct.b/7103101.d

Date : 31-OCT-2007 08:42

Client ID: BFB

Instrument: msd7.i

Sample Info: 2uL #1467-64;BFB tune check;BFB tune check

Volume Injected (uL): 2.0

Operator: cb

Column phase:

Column diameter: 0.53

Data File: 7103101.d
Spectrum: Avg. Scans 80-82 (8.20), Background Scan 75
Location of Maximum: 95.00
Number of points: 167

m/z	Y	m/z	Y	m/z	Y	m/z	Y
76.00	28208	126.00	383	171.00	199	334.00	8
77.00	3663	127.00	16	172.00	783	341.00	200
78.00	1961	128.00	2174	173.00	3089	342.00	50
79.00	9598	129.00	1254	174.00	679744	343.00	114
80.00	3409	130.00	2600	175.00	48256	344.00	23
81.00	10047	131.00	972	176.00	654912	345.00	51
82.00	2556	132.00	222	177.00	43472		

Shipping/ Receiving Documents

AN ENVIRONMENTAL ANALYTICAL LABORATORY

180 Blue Ravine Road, Suite B
Folsom, CA 95630

Phone (916) 985-1000 FAX (916) 985-1020
Hours 8:00 A.M. to 6:00 P.M. Pacific

COMPANY: Los Alamos National Laboratories
ATTENTION: Mr. Keith Greene
FAX #: 505-665-8855
FROM: Sample Receiving
Workorder #: 0710567
# of pages (Including Cover): 1

11/5/2007

Thank you for selecting Air Toxics Ltd. We have received your samples and have found discrepancies. In order to expedite analysis and reporting, please review the attached information for accuracy. Corrections can be faxed to **Brandon Dunmore at 916-985-1020.**
ATL will proceed with the analysis as specified on the Chain of Custody and Sample Login page.

The following discrepancy has been observed:

The Chain of Custody (COC) was not completed properly. Please note for future reference that the COC must be signed and dated in order to properly relinquish or receive samples.

Your prompt response is appreciated.

 0710567

REQUEST NUMBER: 08-79

0375

Monday, October 22, 2007

LOS ALAMOS
NATIONAL LABORATORY

ATTN: Lisa Argento
Air Tox c LTD
180 Blue Ravine Rc. Suite B
Folsom, CA 95630

These Samples are on:
LANL Request Number:08-79
Per Agreement Number:TIPS#24256
Project Cost Code: MR8R0225FB00

Please analyse the enclosed samples according to the schedule indicated:

SHIP DATE: 10/22/2007
TURNAROUND/REPORT DUE: 11/1/2007
TURNAROUND REQ'D: 10 Days

RAD SCREENING: Not Required
LAB REQUEST COMMENTS:

LANL ER SMO CONTACT:
Signature:

PRIORITY	METHOD CODE		CNTNR	SAMPLE ID	SAMPLE MATRIX	DATE SAMPLED	SAMPLE COMMENTS	SPECIAL INSTRUCTIONS
	EPA:TO15	61A	1	MD21-07-6813	GAS	10/19/2007	7.5"Hg	
		62A	1	MD21-07-6814	GAS	10/19/2007	6.5"Hg	
		63A	1	MD21-07-6815	GAS	10/19/2007	7.0"Hg	
		64A	1	MD21-07-6816	GAS	10/19/2007	8.0"Hg	
		65A	1	MD21-07-6817	GAS	10/19/2007	7.0"Hg	

Final Page of REQUEST NUMBER 08-79

0710567

Monday, October 22, 2007

LAB CHAIN OF CUSTODY DOCUMENT NUMBER: 08-79C

REQUEST NUMBER: 08-79

LOS ALAMOS

NATIONAL LABORATORY

ATTN: Lisa Argento

Air Toxic LTD

180 Blue Ravine Rd. Suite B

Folsom, CA 95630

TURNAROUND/REPORT DUE: 11/1/2007

TURNAROUND REQ'D: 10

LAB REQUEST COMMENTS:

SAMPLE ID	CTNR	CTNR DESC	ORDER	PRESERV	MATRIX
MD21-07-6813	1	6 L SUMMA CANISTER	TO15	None	GAS
MD21-07-6816	1	6 L SUMMA CANISTER	TO15	None	GAS
MD21-07-6817	1	6 L SUMMA CANISTER	TO15	None	GAS
MD21-07-6815	1	6 L SUMMA CANISTER	TO15	None	GAS
MD21-07-6814	1	6 L SUMMA CANISTER	TO15	None	GAS

Relinquished By:		Date	Time	Received By:		Date	Time
[illegible]	[illegible]	10/14/07	1400	ATSmith	[illegible]	10/23/07	0840
Printed Name	Signature			Printed Name	Signature		
Printed Name	Signature			Printed Name	Signature		
Printed Name	Signature			Printed Name	Signature		

Received for DISPOSAL By:		Date	Time	Remarks:
Printed Name	Signature			

CUSTODY SEAL INTACT?
Y N NONE TEMP NA

Fedex 7209 7843 0544

AN ENVIRONMENTAL ANALYTICAL LABORATORY

SAMPLE RECEIPT SUMMARY

WORKORDER 0710567

Client

Mr. Keith Greene
Los Alamos National Laboratories
Mail Stop 240
P.O. Box 1663
Los Alamos, NM 87545

Sales Rep: R6

Phone

505-665-9966

Fax

505-665-8855

Date Promised: 11/01/07 4:00 pm
Date Completed: 11/1/07
Date Received: 10/23/07
PO#: 47247-001-07
Project#: 08-79

Total $: $ 1,756.25
Logged By: MW

Fraction	Sample #	Analysis	Collected	Receipt Vac./Pres.	Amount$
01A	MD21-07-6813	Modified TO-15	10/19/2007	7.5 "Hg	$256.25
02A	MD21-07-6814	Modified TO-15	10/19/2007	6.5 "Hg	$256.25
03A	MD21-07-6815	Modified TO-15	10/19/2007	7.0 "Hg	$256.25
04A	MD21-07-6816	Modified TO-15	10/19/2007	8.0 "Hg	$256.25
05A	MD21-07-6817	Modified TO-15	10/19/2007	7.0 "Hg	$256.25
06A	Lab Blank	Modified TO-15	NA	NA	$0.00
06B	Lab Blank	Modified TO-15	NA	NA	$0.00
07A	CCV	Modified TO-15	NA	NA	$0.00
07B	CCV	Modified TO-15	NA	NA	$0.00
08A	LCS	Modified TO-15	NA	NA	$0.00
08B	LCS	Modified TO-15	NA	NA	$0.00

Misc. Charges	6 Liter Summa Canister (5) @ $60.00 each.	$300.00
	CVP (5) @ $20.00 each.	$100.00
	Client Specific EDD (5) @ $5.00 each.	$25.00
	eCVP (5) @ $10.00 each.	$50.00

Note: Samples received after 3 P.M. PST are considered to be received on the following work day.
Atlas Project Name/Profile#: LANL/2153

BILL TO: Accounts Payable
Los Alamos National Laboratories
P.O. Box 1663
Mail Stop P240
Los Alamos, NM 87545

Analysis Code: TO-14A

REMARKS: A 25% surcharge is applied for a 7 day turnaround time.

TERMS:

Reporting Method: Modified TO-15 (Sp)-Los Alamos v2

180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 95630
(916) 985-1000 . (800) 985-5955 . FAX (916) 985-1020

Sample Discrepancy Report

Identification

Initiated By: MW **Date:** 10/26 **Discrepancy Type:** (circle all that apply) (I.) II. III.

Workorder(s) affected: 0710567 **Sample(s) affected:** all

I. Sample Receipt Discrepancies

Document on Cover Page of Sample Receipt Confirmation and in Receiving Notes of Lab Narrative

Narration not required:

- ☐ COC was not filled out in ink.
- ☐ Sample container (cartridge/tube/VOA vial) was received broken, however sample was intact.
- ☐ Flow controller used - canister samples received at ambient or under pressure.
- ☐ No brass cap on canister.
- ☐ VOA vial for RSK-175 analysis received with headspace bubble <5mm.

Narration Required:

- ☒ COC improperly relinquished / received.
- ☐ Sample tags / can numbers do not match the COC.
- ☐ Samples received at wrong temperature (up to 10°C); ice / blue ice (circle one) was present. A temp. blank was / was not present (circle one).
- ☐ Custody Seal on the outside of the container was broken / improperly placed (circle one).
- ☐ Other (describe below).

Describe the Discrepancy: incorrect date

II. Sample Receipt/Screening Discrepancies requiring CSR notification

Document on Cover Page of Sample Receipt Confirmation and in Receiving Notes of Lab Narrative

If Section II. is filled out CSR must be notified within 24 hrs of initiation

- ☐ COC was not received with samples.
- ☐ Analysis method(s) is not specified / incorrectly specified (circle one) on the COC.
- ☐ Number of samples on the COC does not match the number of samples that were received.
- ☐ Samples were received expired.
- ☐ Sampling date / time (sulfur only) is not documented for *some* / *any* samples (circle one).
- ☐ Sample received with significant (pooling) volume of H_2O in the Tedlar Bag.
- ☐ Sample container (cartridge/tube/VOA vial/DNPH Bottle, etc.) was received broken / leaking (circle one); sample can / cannot be analyzed (circle one).
- ☐ VOA vial for RSK-175 analysis received with headspace bubble >5mm.
- ☐ Samples for RSK-175 CO_2 analysis received preserved with HCl.
- ☐ Tedlar Bag received leaking / flat (circle one). Sample can / cannot (circle one) be analyzed.
- ☐ Canister was at ambient pressure at time of pressurization and (check all that apply): ☐ canister failed leak check on two manifolds, ☐ canister valve was open, ☐ brass nut was loose. Sample can / cannot be analyzed (circle one).
- ☐ Tedlar bag / canister received emitting a strong odor; sample can / cannot (circle one) be analyzed.
- ☐ Canister sample received with a vacuum difference >7.0"Hg between the receipt vac. and the final vac. reported on the COC, indicating loss of vacuum.
- ☐ Canister sample received at >15"Hg (*not* identified as a Trip/Field Blank).
- ☐ Trip Blank received at low vacuum (< 25"Hg).
- ☐ Tedlar Bag for Sulfur analysis has metal fitting.
- ☐ Incorrect sampling media / container for analysis requested.
- ☐ Sample was received at ≥ 10°C.
- ☐ Other (describe below)

Initials: _____ (if not the original initiator) **Date:** _____ ☐ **CSR Notified** (see section below)

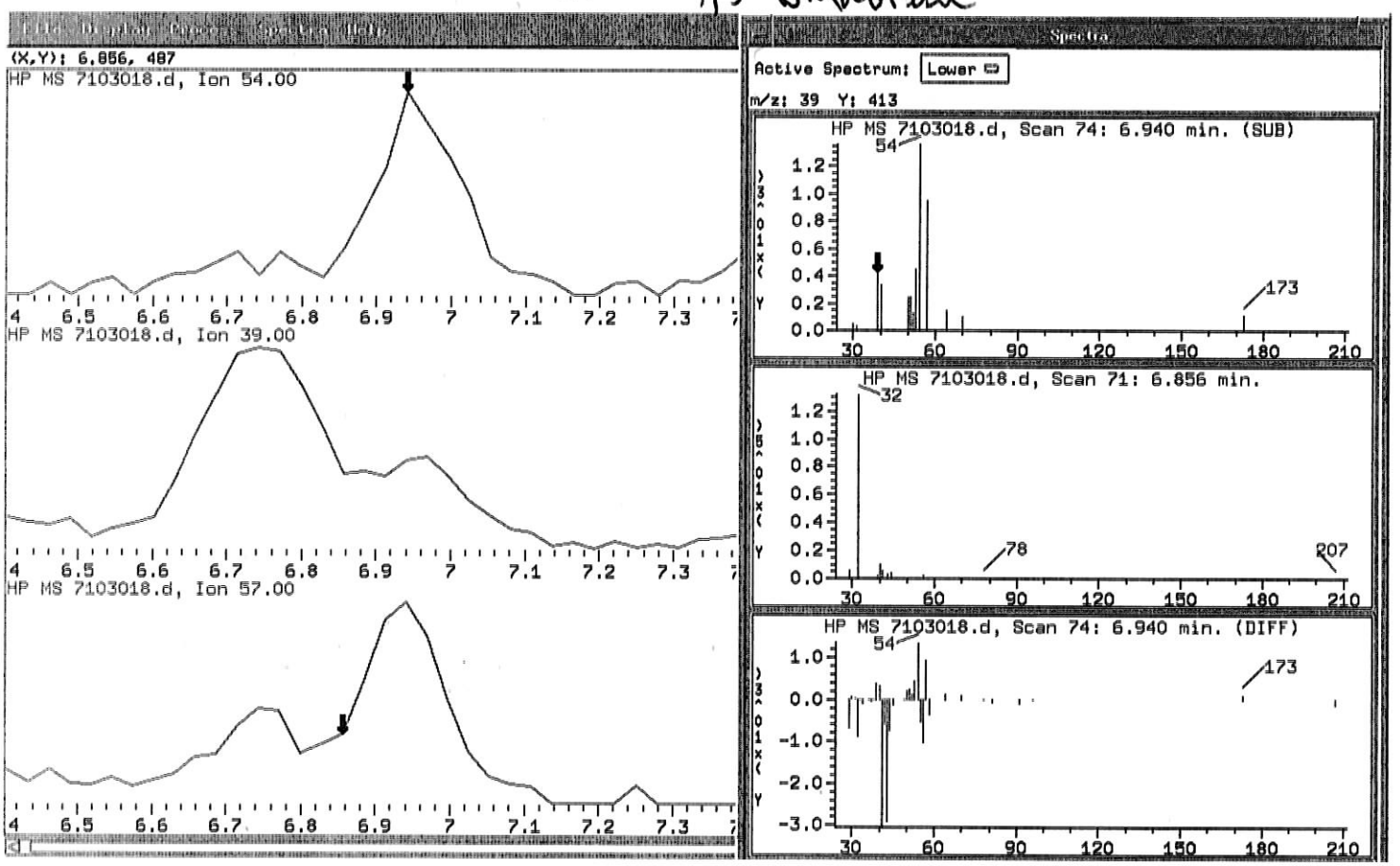
Describe the Discrepancy: _____

Other Records

Team A 11-1-07 C.J.

Date / Initial	11-1-07 C.J.
Poor Integration	
Split Peak	
Peak Tailing	
Background Subtraction	X
Zoom In	
Missed Peak	
Merged Peaks	

-01A 1,3-Butadiene



DILUTION FACTORS

$$\text{Dilution Factor} = \frac{\text{Final Pressure}}{\text{Initial Vacuum}} = \frac{\text{14.7 psi + Final Pressure (psi)}}{\text{14.7 psi - [(Initial Pressure ("Hg)) (14.7 psi / 30 "Hg)]}}$$

$$\text{Dilution Factor} = \frac{\text{Final Pressure}}{\text{Initial Pressure}} = \frac{\text{14.7 psi + Final Pressure (psi)}}{\text{14.7 psi + Initial Pressure (psi)}}$$

Initial Vacuum ("Hg)	**5 psi** Final Press. Dil. Factor	**10 psi** Final Press. Dil. Factor	**15 psi** Final Press. Dil. Factor
0.0	1.34	1.68	2.02
0.5	1.36	1.71	2.05
1.0	1.39	1.74	2.09
1.5	1.41	1.77	2.13
2.0	1.44	1.80	2.16
2.5	1.46	1.83	2.20
3.0	1.49	1.87	2.24
3.5	1.52	1.90	2.29
4.0	1.55	1.94	2.33
4.5	1.58	1.98	2.38
5.0	1.61	2.02	2.42
5.5	1.64	2.06	2.47
6.0	1.68	2.10	2.53
6.5	1.71	2.15	2.58
7.0	1.75	2.19	2.64
7.5	1.79	2.24	2.69
8.0	1.83	2.29	2.76
8.5	1.87	2.34	2.82
9.0	1.91	2.40	2.89
9.5	1.96	2.46	2.96
10.0	2.01	2.52	3.03
10.5	2.06	2.59	3.11
11.0	2.12	2.65	3.19
11.5	2.17	2.72	3.28
12.0	2.23	2.80	3.37
12.5	2.30	2.88	3.46
13.0	2.36	2.97	3.57
13.5	2.44	3.06	3.67
14.0	2.51	3.15	3.79
14.5	2.59	3.25	3.91
15.0	2.68	3.36	4.04
15.5	2.77	3.48	4.18
16.0	2.87	3.60	4.33
16.5	2.98	3.73	4.49
17.0	3.09	3.88	4.66
17.5	3.22	4.03	4.85
18.0	3.35	4.20	5.05
18.5	3.50	4.38	5.27
19.0	3.65	4.58	5.51
19.5	3.83	4.80	5.77
20.0	4.02	5.04	6.06
20.5	4.23	5.31	6.38

Initial Vacuum ("Hg)	**5 psi** Final Press. Dil. Factor	**10 psi** Final Press. Dil. Factor	**15 psi** Final Press. Dil. Factor
21.0	4.47	5.60	6.73
21.5	4.73	5.93	7.13
22.0	5.03	6.30	7.58
22.5	5.36	6.72	8.08
23.0	5.74	7.20	8.66
23.5	6.19	7.76	9.32
24.0	6.70	8.40	10.10
24.5	7.31	9.17	11.02
25.0	8.04	10.08	12.12
25.5	8.93	11.20	13.47
26.0	10.05	12.60	15.15
26.5	11.49	14.40	17.32
27.0	13.40	16.80	20.20
27.5	16.08	20.16	24.24
28.0	20.10	25.20	30.31
28.5	26.80	33.61	40.41
29.0	40.20	50.41	60.61

Initial Pressure (psi)	**5 psi** Final Press. Dil. Factor	**10 psi** Final Press. Dil. Factor	**15 psi** Final Press. Dil. Factor
0.0	1.34	1.68	2.02
0.2	1.32	1.66	1.99
0.4	1.30	1.64	1.97
0.6	1.29	1.61	1.94
0.8	1.27	1.59	1.92
1.0	1.25	1.57	1.89
1.2	1.24	1.55	1.87
1.4	1.22	1.53	1.84
1.6	1.21	1.52	1.82
1.8	1.19	1.50	1.80
2.0	1.18	1.48	1.78
2.2	1.17	1.46	1.76
2.4	1.15	1.44	1.74
2.6	1.14	1.43	1.72
2.8	1.13	1.41	1.70
3.0	1.11	1.40	1.68
3.2	1.10	1.38	1.66
3.4	1.09	1.36	1.64
3.6	1.08	1.35	1.62
3.8	1.06	1.34	1.61
4.0	1.05	1.32	1.59

DILUTION FACTORS

$$\text{Dilution Factor} = \frac{\text{Final Pressure}}{\text{Initial Pressure}} = \frac{14.7\text{ psi} + \text{Final Pressure (psi)}}{14.7\text{ psi} + \text{Initial Pressure (psi)}}$$

Initial Pressure (psi)	**5 psi** Final Press. Dil. Factor	**10 psi** Final Press. Dil. Factor	**15 psi** Final Press. Dil. Factor
0.0	1.34	1.68	2.02
0.2	1.32	1.66	1.99
0.4	1.30	1.64	1.97
0.6	1.29	1.61	1.94
0.8	1.27	1.59	1.92
1.0	1.25	1.57	1.89
1.2	1.24	1.55	1.87
1.4	1.22	1.53	1.84
1.6	1.21	1.52	1.82
1.8	1.19	1.50	1.80
2.0	1.18	1.48	1.78
2.2	1.17	1.46	1.76
2.4	1.15	1.44	1.74
2.6	1.14	1.43	1.72
2.8	1.13	1.41	1.70
3.0	1.11	1.40	1.68
3.2	1.10	1.38	1.66
3.4	1.09	1.36	1.64
3.6	1.08	1.35	1.62
3.8	1.06	1.34	1.61
4.0	1.05	1.32	1.59
4.2	1.04	1.31	1.57
4.4	1.03	1.29	1.55
4.6	1.02	1.28	1.54
4.8	1.01	1.27	1.52
5.0	1.00	1.25	1.51
5.2	NA	1.24	1.49
5.4	NA	1.23	1.48
5.6	NA	1.22	1.46
5.8	NA	1.20	1.45
6.0	NA	1.19	1.43
6.2	NA	1.18	1.42
6.4	NA	1.17	1.41
6.6	NA	1.16	1.39
6.8	NA	1.15	1.38
7.0	NA	1.14	1.37
7.2	NA	1.13	1.36
7.4	NA	1.12	1.34

Initial Pressure (psi)	**5 psi** Final Press. Dil. Factor	**10 psi** Final Press. Dil. Factor	**15 psi** Final Press. Dil. Factor
7.6	NA	1.11	1.33
7.8	NA	1.10	1.32
8.0	NA	1.09	1.31
8.2	NA	1.08	1.30
8.4	NA	1.07	1.29
8.6	NA	1.06	1.27
8.8	NA	1.05	1.26
9.0	NA	1.04	1.25
9.2	NA	1.03	1.24
9.4	NA	1.02	1.23
9.6	NA	1.02	1.22
9.8	NA	1.01	1.21
10.0	NA	1.00	1.20
10.2	NA	NA	1.19
10.4	NA	NA	1.18
10.6	NA	NA	1.17
10.8	NA	NA	1.16
11.0	NA	NA	1.16
11.2	NA	NA	1.15
11.4	NA	NA	1.14
11.6	NA	NA	1.13
11.8	NA	NA	1.12
12.0	NA	NA	1.11
12.2	NA	NA	1.10
12.4	NA	NA	1.10
12.6	NA	NA	1.09
12.8	NA	NA	1.08
13.0	NA	NA	1.07
13.2	NA	NA	1.06
13.4	NA	NA	1.06
13.6	NA	NA	1.05
13.8	NA	NA	1.04
14.0	NA	NA	1.03
14.2	NA	NA	1.03
14.4	NA	NA	1.02
14.6	NA	NA	1.01
14.8	NA	NA	1.01

Compound Listing

Modified TO-15 (Sp)-Los Alamos v2

CAS Number	Compound	Detection Limit ppbv	Type
67-66-3	Chloroform	0.50	
71-55-6	1,1,1-Trichloroethane	0.50	
75-25-2	Bromoform	0.50	
67-56-1	Methanol	50	
79-34-5	1,1,2,2-Tetrachloroethane	0.50	
71-36-3	n-Butanol	2.0	
622-96-8	4-Ethyltoluene	0.50	
108-67-8	1,3,5-Trimethylbenzene	0.50	
95-63-6	1,2,4-Trimethylbenzene	0.50	
541-73-1	1,3-Dichlorobenzene	0.50	
106-46-7	1,4-Dichlorobenzene	0.50	
100-44-7	alpha-Chlorotoluene	0.50	
95-50-1	1,2-Dichlorobenzene	0.50	
120-82-1	1,2,4-Trichlorobenzene	2.0	
87-68-3	Hexachlorobutadiene	2.0	
2037-26-5	Toluene-d8		
17060-07-0	1,2-Dichloroethane-d4		
460-00-4	4-Bromofluorobenzene		
115-07-1	Propylene	2.0	
75-71-8	Freon 12	0.50	
76-14-2	Freon 114	0.50	
74-87-3	Chloromethane	2.0	
75-01-4	Vinyl Chloride	0.50	
106-99-0	1,3-Butadiene	0.50	
74-83-9	Bromomethane	0.50	
75-00-3	Chloroethane	0.50	
75-69-4	Freon 11	0.50	
64-17-5	Ethanol	2.0	
76-13-1	Freon 113	0.50	
75-35-4	1,1-Dichloroethene	0.50	
67-64-1	Acetone	2.0	
67-63-0	2-Propanol	2.0	
75-15-0	Carbon Disulfide	0.50	
75-09-2	Methylene Chloride	0.50	
1634-04-4	Methyl tert-butyl ether	0.50	
156-60-5	trans-1,2-Dichloroethene	0.50	
110-54-3	Hexane	0.50	
75-34-3	1,1-Dichloroethane	0.50	
78-93-3	2-Butanone (Methyl Ethyl Ketone)	0.50	
156-59-2	cis-1,2-Dichloroethene	0.50	
109-99-9	Tetrahydrofuran	0.50	
110-82-7	Cyclohexane	0.50	
56-23-5	Carbon Tetrachloride	0.50	
75-45-6	Chlorodifluoromethane	2.0	
71-43-2	Benzene	0.50	
107-06-2	1,2-Dichloroethane	0.50	

Compound Listing

Modified TO-15 (Sp)-Los Alamos v2

CAS Number	Compound	Detection Limit ppbv	Type
142-82-5	Heptane	0.50	
79-01-6	Trichloroethene	0.50	
78-87-5	1,2-Dichloropropane	0.50	
123-91-1	1,4-Dioxane	2.0	
75-27-4	Bromodichloromethane	0.50	
10061-01-5	cis-1,3-Dichloropropene	0.50	
108-10-1	4-Methyl-2-pentanone	0.50	
108-88-3	Toluene	0.50	
10061-02-6	trans-1,3-Dichloropropene	0.50	
79-00-5	1,1,2-Trichloroethane	0.50	
127-18-4	Tetrachloroethene	0.50	
591-78-6	2-Hexanone	2.0	
124-48-1	Dibromochloromethane	0.50	
106-93-4	1,2-Dibromoethane (EDB)	0.50	
108-90-7	Chlorobenzene	0.50	
100-41-4	Ethyl Benzene	0.50	
108-38-3	m,p-Xylene	0.50	
95-47-6	o-Xylene	0.50	
100-42-5	Styrene	0.50	

@Air Toxics Ltd.

DATA REVIEW CHECKLIST

Work Order #: 0710567

A	R	T	M	Q	
☑	☑	☐	☑	☐	Analysis/Reporting vs. Project Profile/SOP requirements checked (i.e. 100% Dups, J-Flag to MDL, etc)
	☑	☐	☑	☐	The final report has the correct reporting list, special units, and header info.
NA	NA ☑	☐	☑	☐	Lab Narrative is correct (proper method & description/Receiving & Analytical notes correct)
☑	☑	☐	☑	☐	Corrective Action issued - #_____
☑	☑	☐	☑	☐	Unusual circumstances have been documented in the notes section below

LUMEN *validation report present and initialed* ***CIRCLE (YES / NO)***

☑	☐	☐	☐	☐	Lab Blank, CCV, LCS and DUP met QC criteria
☑	☐	☐	☐	☐	Hold time is met for all samples
	☐	☐	☐	☐	Appropriate data qualifier flags are applied
	☐	☐	☐	☐	Manual integrations for samples and QC are properly documented
☑	☐	☐		☐	Samples analyzed within the project or method specific clock
	☐	☐			Retention times have been verified
☑	☐	☐		☐	Appropriate ICAL(s) included
	☐	☐	☐	☐	At least one result per sample is verified against the target quant sheets/raw data

☑	☑	☐		☐	Dilution factor correctly calculated (sample load volume, syringe and bag dilutions, can pressurization(s))
☑	☑	☐			Correct amount of sample analyzed (i.e. sample not over-diluted)
	☑	☐			Spectra verified - documentation of spectral defense included (Section 5A of eCVP pkg)
NA	☑	☐			TICs resemble reference spectra
NA	☑	☐			TICs between duplicate samples are consistent
☑	☑	☐	☑		Checked samples for trends (i.e. Influent>Effluent, Landfill or Ambient etc)
	☑		☑		Special units for all samples in the final report are correctly calculated
	☑	☐	☑		Manually entered results checked (i.e. special CCV compounds)
NA	☑	☐	☑		TPH/NMOC (verify calculations and correct reference compound used)
	☑				Chain of Custody scanned correctly
				☐	Verify sample id's vs. chain of custody
☑	☑				Samples pressurized w/ appropriate gas (N_2 or He) ☐ Tedlar Bag only
☑	☑				Final pressure consistent with canister size (6L vs. 1L)
☑	☑	☐			Verify receipt pressures against logbook and Target
☑	☑				Verify canister ID #'s
NA	☑		☑		Extra printed copies are provided per client profile
	☑		☑		Final invoice amount correct (adjusted for TAT, Penalties, Re-issue Charges etc.)
	☑	☐	☑	☐	Client LUMEN report reviewed for accuracy and completeness

Notes: *(to include: noting samples with QA/QC problems, Blanks with positive hits, narratives, etc.)*

A/R: (2) out in CCV
CCV from Multi files

M/Q:

A (Analytical Review/Date)	R/T (Reporting Review/Date)	M (Management Review/Date)	Q (QA Review/Date)
CTaylor 11-1-07	R: CTaylor 11-1-07	11/1/07	
	T:		

Note (1): Please check all the appropriate boxes. Indicate "NA" for any statement that does not apply.
Note (2): Management reviewer and reporting reviewer must be separate individuals.

Rev 08/29/05

Not Applicable

Air Toxics Ltd. introduces a breakthrough in analytical laboratory reporting with the ***electronic comprehensive validation package***. The eCVP gives you the following improvements in data validation made possible in the electronic format.

- Ability to create an original hardcopy with the touch of a button
- Meets NELAP and state reporting standards
- Authenticated signature of laboratory manager
- Hot links in Table of Contents allow instant jumping to desired section
- Search the entire document for instances of key words
- Distribute copies to unlimited number of parties via internet/intranet
- Indefinite data archival in the client's hands
- Portable compact disk format
- Capitalizes on the internet standard Adobe Acrobat Reader ***.pdf*** format

The eCVP ***simultaneously meets the requirements of a Level IV and CLP data validation package***. The eCVP retains the same impressive features as the Air Toxics Ltd. hardcopy CVP highlighted below.

- Sample summary table and laboratory narrative
- Sample results and raw data
    - Internal standard area
    - Retention time summary
    - Surrogate recovery summary
    - Chromatograms and ion profiles
    - Area counts
- QC results and raw data
    - Method Blank Data
    - Surrogate Recovery Summary
    - Internal Standard Summary
    - Duplicate Results Summary
    - Initial Calibration Data
    - MDL Study
    - Continuing Calibration Verification Data
    - Second Source LCS
- Instrument Run Logs/Software Verification
- Instrument Tune Results
- Media Certification
- Shipping/Receiving Documentation
- Miscellaneous Records

You will also find the Air Toxics Ltd. Quality Manual on this CD-ROM.

Navigating your way through the eCVP

==========

There are a number of ways to navigate through the eCVP.

- BOOKMARKS: You can click on a bookmark in the left panel. These bookmarks will appear on every page and can be used to navigate through each section. If you do not see bookmarks, select Window > Show Bookmarks in the Acrobat Reader menu bar. Also, be sure that you have selected the Hand Tool in the tool bar. Bookmarks with an arrow next to them or a "+" sign can be expanded to show further detail simply by clicking on the arrow or the "+" sign.

- TABLE OF CONTENTS: The eCVP includes a table of contents with links to specific pages. Simply move the hand pointer over the table of contents. When the hand pointer changes to a pointing finger, it signifies a link that you can click on to take you to that information.

- TOOLBAR: Acrobat Reader includes arrow buttons in the command toolbar. These allow you to advance to the next page within a section, go back a page, or advance to the first or last page of a section. For additional information about navigation, please see the Acrobat Reader Help section.

- SEARCHING: You may use the regular Acrobat Find feature to search for words within the current document. You may also search the entire collection by using the Acrobat Search feature.

If additional instructions are needed for using Adobe Acrobat Reader, select Help from the toolbar and select Reader Help.

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Electronic Comprehensive Validation Package (eCVP)

WO# 0711008

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Electronic Comprehensive Validation Package (eCVP)

AN ENVIRONMENTAL ANALYTICAL LABORATORY

COMPREHENSIVE VALIDATION PACKAGE

Modified TO-15

INVENTORY SHEET

Work Order #: 0711008

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Comments:

Completed by:

Kara McKiernan	Kara McKiernan / Document Control	11/7/07
(Signature)	(Print Name & Title)	(Date)

AN ENVIRONMENTAL ANALYTICAL LABORATORY

WORK ORDER #: 0711008

Work Order Summary

CLIENT:	Mr. Keith Greene Los Alamos National Laboratories Mail Stop 240 P.O. Box 1663 Los Alamos, NM 87545	**BILL TO:**	Accounts Payable Los Alamos National Laboratories P.O. Box 1663 Mail Stop P240 Los Alamos, NM 87545
PHONE:	505-665-9966	**P.O. #**	47247-001-07
FAX:	505-665-8855	**PROJECT #**	08-98
DATE RECEIVED:	11/01/2007	**CONTACT:**	Brandon Dunmore
DATE COMPLETED:	11/05/2007		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.
01A	MD21-07-6810	Modified TO-15	6.0 "Hg
02A	MD21-07-6807	Modified TO-15	7.5 "Hg
03A	MD21-07-6811	Modified TO-15	9.0 "Hg
04A	MD21-07-6809	Modified TO-15	8.0 "Hg
05A	MD21-07-6808	Modified TO-15	8.0 "Hg
06A	MD21-07-6812	Modified TO-15	7.5 "Hg
07A	Lab Blank	Modified TO-15	NA
08A	CCV	Modified TO-15	NA
09A	LCS	Modified TO-15	NA

CERTIFIED BY: Linda L. Freeman DATE: 11/05/07

Laboratory Director

Certfication numbers: CA NELAP - 02110CA, LA NELAP/LELAP- AI 30763, NJ NELAP - CA004
NY NELAP - 11291, UT NELAP - 9166389892
Name of Accrediting Agency: NELAP/Florida Department of Health, Scope of Application: Clean Air Act,
Accreditation number: E87680, Effective date: 07/01/07, Expiration date: 06/30/08
Air Toxics Ltd. certifies that the test results contained in this report meet all requirements of the NELAC standards

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180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 95630
(916) 985-1000 . (800) 985-5955 . FAX (916) 985-1020

AN ENVIRONMENTAL ANALYTICAL LABORATORY

LABORATORY NARRATIVE
Modified TO-15
Los Alamos National Laboratories
Workorder# 0711008

Six 6 Liter Summa Canister samples were received on November 01, 2007. The laboratory performed analysis via modified EPA Method TO-15 using GC/MS in the full scan mode. The method involves concentrating up to 0.2 liters of air. The concentrated aliquot is then flash vaporized and swept through a water management system to remove water vapor. Following dehumidification, the sample passes directly into the GC/MS for analysis.

This workorder was independently validated prior to submittal using 'USEPA National Functional Guidelines' as generally applied to the analysis of volatile organic compounds in air. A rules-based, logic driven, independent validation engine was employed to assess completeness, evaluate pass/fail of relevant project quality control requirements and verification of all quantified amounts.

Method modifications taken to run these samples are summarized in the table below. Specific project requirements may over-ride the ATL modifications.

Requirement	***TO-15***	***ATL Modifications***
Daily CCV	+- 30% Difference	</= 30% Difference with two allowed out up to </=40%.; flag and narrate outliers
Sample collection media	Summa canister	ATL recommends use of summa canisters to insure data defensibility, but will report results from Tedlar bags at client request
Method Detection Limit	Follow 40CFR Pt.136 App. B	The MDL met all relevant requirements in Method TO-15 (statistical MDL less than the LOQ). The concentration of the spiked replicate may have exceeded 10X the calculated MDL in some cases

Receiving Notes

There were no receiving discrepancies.

Analytical Notes

There were no analytical discrepancies.

Definition of Data Qualifying Flags

Eight qualifiers may have been used on the data analysis sheets and indicates as follows:

B - Compound present in laboratory blank greater than reporting limit (background subtraction not performed).

J - Estimated value.

E - Exceeds instrument calibration range.

S - Saturated peak.

Q - Exceeds quality control limits.

U - Compound analyzed for but not detected above the reporting limit.
UJ- Non-detected compound associated with low bias in the CCV
N - The identification is based on presumptive evidence.

File extensions may have been used on the data analysis sheets and indicates as follows:
a-File was requantified
b-File was quantified by a second column and detector
r1-File was requantified for the purpose of reissue

Table 1

Client Sample ID	Lab Sample ID	Date Collected	Date Received	Date Extracted	Sample Holding Time (Days)	Date Analyzed	Sample Extract Holding Time (Days)	Sample Condition
MD21-07-6810	0711008-01A	10/30/2007	11/ 1/2007	NA	6	11/ 5/2007	NA	Good
MD21-07-6807	0711008-02A	10/30/2007	11/ 1/2007	NA	6	11/ 5/2007	NA	Good
MD21-07-6811	0711008-03A	10/30/2007	11/ 1/2007	NA	6	11/ 5/2007	NA	Good
MD21-07-6809	0711008-04A	10/30/2007	11/ 1/2007	NA	6	11/ 5/2007	NA	Good
MD21-07-6808	0711008-05A	10/30/2007	11/ 1/2007	NA	6	11/ 5/2007	NA	Good
MD21-07-6812	0711008-06A	10/30/2007	11/ 1/2007	NA	6	11/ 5/2007	NA	Good
Lab Blank	0711008-07A	NA	NA	NA	NA	11/ 5/2007	NA	Good
CCV	0711008-08A	NA	NA	NA	NA	11/ 4/2007	NA	Good
LCS	0711008-09A	NA	NA	NA	NA	11/ 4/2007	NA	Good

Sample Results and Raw Data

AN ENVIRONMENTAL ANALYTICAL LABORATORY

Summary of Detected Compounds
MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

Client Sample ID: MD21-07-6810

Lab ID#: 0711008-01A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Freon 12	0.84	1.1	4.2	5.5
1,3-Butadiene	0.84	5.0	1.8	11
Freon 113	0.84	2.4	6.4	19
1,1-Dichloroethene	0.84	2.8	3.3	11
Acetone	3.4	72	8.0	170
Carbon Disulfide	0.84	2.0	2.6	6.2
Methylene Chloride	0.84	250	2.9	860
Hexane	0.84	2.7	3.0	9.4
2-Butanone (Methyl Ethyl Ketone)	0.84	7.0	2.5	20
cis-1,2-Dichloroethene	0.84	1.0	3.3	4.1
Chloroform	0.84	150	4.1	720
1,1,1-Trichloroethane	0.84	4.1	4.6	22
Carbon Tetrachloride	0.84	64	5.3	400
Benzene	0.84	2.0	2.7	6.4
1,2-Dichloroethane	0.84	2.4	3.4	9.8
Heptane	0.84	1.5	3.4	6.3
Trichloroethene	0.84	150	4.5	810
4-Methyl-2-pentanone	0.84	1.1	3.4	4.5
Toluene	0.84	2.5	3.2	9.6
1,1,2-Trichloroethane	0.84	3.4	4.6	19
Tetrachloroethene	0.84	18	5.7	120
Dibromochloromethane	0.84	0.86	7.2	7.3
m,p-Xylene	0.84	1.2	3.6	5.0
Bromoform	0.84	1.6	8.7	16
1,2,4-Trimethylbenzene	0.84	1.6	4.1	7.7
1,4-Dichlorobenzene	0.84	1.7	5.0	10
Propylene	3.4	93	5.8	160

AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: MD21-07-6810

Lab ID#: 0711008-01A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**7110414**	**Date of Collection:**	**10/30/07**
Dil. Factor:	**1.68**	**Date of Analysis:**	**11/5/07 03:15 AM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Freon 12	0.84	1.1	4.2	5.5
Freon 114	0.84	Not Detected	5.9	Not Detected
Chloromethane	3.4	Not Detected	6.9	Not Detected
Vinyl Chloride	0.84	Not Detected	2.1	Not Detected
1,3-Butadiene	0.84	5.0	1.8	11
Bromomethane	0.84	Not Detected	3.3	Not Detected
Chloroethane	0.84	Not Detected	2.2	Not Detected
Freon 11	0.84	Not Detected	4.7	Not Detected
Ethanol	3.4	Not Detected	6.3	Not Detected
Freon 113	0.84	2.4	6.4	19
1,1-Dichloroethene	0.84	2.8	3.3	11
Acetone	3.4	72	8.0	170
2-Propanol	3.4	Not Detected	8.2	Not Detected
Carbon Disulfide	0.84	2.0	2.6	6.2
Methylene Chloride	0.84	250	2.9	860
Methyl tert-butyl ether	0.84	Not Detected	3.0	Not Detected
trans-1,2-Dichloroethene	0.84	Not Detected	3.3	Not Detected
Hexane	0.84	2.7	3.0	9.4
1,1-Dichloroethane	0.84	Not Detected	3.4	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.84	7.0	2.5	20
cis-1,2-Dichloroethene	0.84	1.0	3.3	4.1
Tetrahydrofuran	0.84	Not Detected	2.5	Not Detected
Chloroform	0.84	150	4.1	720
1,1,1-Trichloroethane	0.84	4.1	4.6	22
Cyclohexane	0.84	Not Detected	2.9	Not Detected
Carbon Tetrachloride	0.84	64	5.3	400
Benzene	0.84	2.0	2.7	6.4
1,2-Dichloroethane	0.84	2.4	3.4	9.8
Heptane	0.84	1.5	3.4	6.3
Trichloroethene	0.84	150	4.5	810
1,2-Dichloropropane	0.84	Not Detected	3.9	Not Detected
1,4-Dioxane	3.4	Not Detected	12	Not Detected
Bromodichloromethane	0.84	Not Detected	5.6	Not Detected
cis-1,3-Dichloropropene	0.84	Not Detected	3.8	Not Detected
4-Methyl-2-pentanone	0.84	1.1	3.4	4.5
Toluene	0.84	2.5	3.2	9.6
trans-1,3-Dichloropropene	0.84	Not Detected	3.8	Not Detected
1,1,2-Trichloroethane	0.84	3.4	4.6	19
Tetrachloroethene	0.84	18	5.7	120

AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: MD21-07-6810

Lab ID#: 0711008-01A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**7110414**	**Date of Collection:**	**10/30/07**
Dil. Factor:	**1.68**	**Date of Analysis:**	**11/5/07 03:15 AM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
2-Hexanone	3.4	Not Detected	14	Not Detected
Dibromochloromethane	0.84	0.86	7.2	7.3
1,2-Dibromoethane (EDB)	0.84	Not Detected	6.4	Not Detected
Chlorobenzene	0.84	Not Detected	3.9	Not Detected
Ethyl Benzene	0.84	Not Detected	3.6	Not Detected
m,p-Xylene	0.84	1.2	3.6	5.0
o-Xylene	0.84	Not Detected	3.6	Not Detected
Styrene	0.84	Not Detected	3.6	Not Detected
Bromoform	0.84	1.6	8.7	16
1,1,2,2-Tetrachloroethane	0.84	Not Detected	5.8	Not Detected
4-Ethyltoluene	0.84	Not Detected	4.1	Not Detected
1,3,5-Trimethylbenzene	0.84	Not Detected	4.1	Not Detected
1,2,4-Trimethylbenzene	0.84	1.6	4.1	7.7
1,3-Dichlorobenzene	0.84	Not Detected	5.0	Not Detected
1,4-Dichlorobenzene	0.84	1.7	5.0	10
alpha-Chlorotoluene	0.84	Not Detected	4.3	Not Detected
1,2-Dichlorobenzene	0.84	Not Detected	5.0	Not Detected
1,2,4-Trichlorobenzene	3.4	Not Detected	25	Not Detected
Hexachlorobutadiene	3.4	Not Detected	36	Not Detected
Chlorodifluoromethane	3.4	Not Detected	12	Not Detected
Methanol	84	Not Detected	110	Not Detected
n-Butanol	3.4	Not Detected	10	Not Detected
Propylene	3.4	93	5.8	160

Container Type: 6 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	90	70-130
1,2-Dichloroethane-d4	110	70-130
4-Bromofluorobenzene	114	70-130

Air Toxics Ltd.

AMBIENT AIR METHOD TO14

Data file : /chem/msd7.i/7-04nova.b/7110414.d
Lab Smp Id: 0711008-01A
Inj Date : 05-NOV-2007 03:15
Operator : ab Inst ID: msd7.i
Smp Info : 200mL#TO-1556
Misc Info : 6.0"Hg-5psi
Comment :
Method : /chem/msd7.i/7-04nova.b/t14qO18c.m
Meth Date : 05-Nov-2007 00:40 dmendoza Quant Type: ISTD
Cal Date : 30-OCT-2007 11:10 Cal File: 7103005.d
Als bottle: 1
Dil Factor: 1.68000
Integrator: HP RTE Compound Sublist: Los2153.sub
Target Version: 3.50 Sample Matrix: AIR
Processing Host: eeyore

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

RT	EXP RT (REL RT)	MASS	RESPONSE	CONCENTRATIONS ON-COL (PPBV)	FINAL (PPBV)	TARGET RANGE	RATIO
* 81 Bromochloromethane					CAS #: 74-97-5		
14.416	14.388 (1.000)	130	516113	25.0000		80.00- 120.00	100.00
14.416	14.388 (1.000)	128	400024			28.08- 128.08	77.51
14.416	14.388 (1.000)	49	1196806			128.80- 228.80	231.89
* 97 1,4-Difluorobenzene					CAS #: 540-36-3		
16.158	16.158 (1.000)	114	1817424	25.0000		80.00- 120.00	100.00
16.158	16.158 (1.000)	88	272545			0.00- 64.88	15.00
* 126 Chlorobenzene-d5					CAS #: 3114-55-4		
21.356	21.356 (1.000)	117	1305579	25.0000		80.00- 120.00	100.00
21.356	21.356 (1.000)	82	677723			4.45- 104.45	51.91
$ 90 1,2-Dichloroethane-d4					CAS #: 17060-07-0		
15.494	15.494 (1.075)	65	761427	27.4621	27.462	80.00- 120.00	100.00
15.494	15.494 (1.075)	67	371911			2.91- 102.91	48.84
$ 113 Toluene-d8					CAS #: 2037-26-5		
18.757	18.757 (1.161)	98	1453927	22.5360	22.536	80.00- 120.00	100.00
18.757	18.757 (1.161)	70	170805			0.00- 61.46	11.75

RT	EXP RT (REL RT)	MASS	RESPONSE	CONCENTRATIONS ON-COL (PPBV)	FINAL (PPBV)	TARGET RANGE	RATIO
$ 113 Toluene-d8 (continued)							
18.757	18.757 (1.161)	100	1000372			19.18- 119.18	68.80
$ 137 Bromofluorobenzene					CAS #: 460-00-4		
23.347	23.347 (1.093)	174	885570	28.5049	28.505	80.00- 120.00	100.00
23.319	23.319 (1.092)	95	1019852			63.49- 163.49	115.16
23.347	23.347 (1.093)	176	856830			46.77- 146.77	96.75
11 Propylene					CAS #: 115-07-1		
5.617	5.617 (0.390)	41	1231664	55.3692	93.020	80.00- 120.00	100.00(H)
5.617	5.617 (0.390)	42	776937			21.19- 121.19	63.08
5.617	5.617 (0.390)	39	1069573			24.83- 124.83	86.84
12 Dichlorodifluoromethane/Fr12					CAS #: 75-71-8		
5.729	5.729 (0.397)	85	54021	0.66235	1.113	80.00- 120.00	100.00
5.729	5.729 (0.397)	87	17653			0.00- 83.07	32.68
22 1,3-Butadiene					CAS #: 106-99-0		
6.940	6.940 (0.481)	54	71930	2.99884	5.038	80.00- 120.00	100.00
6.743	6.940 (0.468)	39	589117			55.97- 155.97	819.01
42 Freon 113					CAS #: 76-13-1		
10.186	10.186 (0.707)	151	61175	1.44558	2.428	80.00- 120.00	100.00
10.186	10.186 (0.707)	153	41561			13.28- 113.28	67.94
10.186	10.186 (0.707)	101	74432			60.51- 160.51	121.67
43 1,1-Dichloroethene					CAS #: 75-35-4		
10.324	10.324 (0.716)	61	73828	1.63950	2.754	80.00- 120.00	100.00
10.324	10.324 (0.716)	96	40439			8.23- 108.23	54.77
10.324	10.324 (0.716)	98	25210			0.00- 87.38	34.15
45 Acetone					CAS #: 67-64-1		
10.490	10.462 (0.728)	58	598545	43.0026	72.244	80.00- 120.00	100.00
10.490	10.462 (0.728)	43	2330892			247.10- 347.10	389.43
47 Carbon Disulfide					CAS #: 75-15-0		
10.877	10.877 (0.754)	76	102012	1.18736	1.995	80.00- 120.00	100.00
54 Methylene Chloride					CAS #: 75-09-2		
11.457	11.457 (0.795)	49	4878184	147.346	247.54	80.00- 120.00	100.00
11.457	11.457 (0.795)	84	3016153			15.73- 115.73	61.83
11.457	11.457 (0.795)	51	1496718			0.00- 80.85	30.68
65 Hexane					CAS #: 110-54-3		
12.287	12.287 (0.852)	57	69392	1.58935	2.670	80.00- 120.00	100.00
12.287	12.287 (0.852)	43	58707			17.84- 117.84	84.60

RT	EXP RT (REL RT)	MASS	RESPONSE	CONCENTRATIONS ON-COL (PPBV)	FINAL (PPBV)	TARGET RANGE	RATIO
65 Hexane (continued)							
12.315	12.287 (0.854)	86	7925			0.00- 65.07	11.42
75 2-Butanone					CAS #: 78-93-3		
13.891	13.891 (0.964)	72	46448	4.15523	6.981	80.00- 120.00	100.00
13.891	13.891 (0.964)	43	261954			458.59- 558.59	563.97
13.891	13.891 (0.964)	57	19567			0.00- 86.57	42.13
76 cis-1,2-Dichloroethene					CAS #: 156-59-2		
13.918	13.918 (0.965)	61	22592	0.61717	1.037	80.00- 120.00	100.00
13.918	13.918 (0.965)	96	14128			23.12- 123.12	62.54
13.918	13.918 (0.965)	98	9250			0.00- 97.59	40.94
82 Chloroform					CAS #: 67-66-3		
14.471	14.471 (1.004)	83	4555438	87.6638	147.28	80.00- 120.00	100.00
14.471	14.471 (1.004)	85	2975076			15.98- 115.98	65.31
83 1,1,1-Trichloroethane					CAS #: 71-55-6		
14.831	14.831 (1.029)	97	127335	2.43333	4.088	80.00- 120.00	100.00
14.831	14.831 (1.029)	99	80733			14.42- 114.42	63.40
87 Carbon Tetrachloride					CAS #: 56-23-5		
15.107	15.107 (1.048)	119	1873517	38.1936	64.165	80.00- 120.00	100.00
15.107	15.080 (1.048)	117	1927062			54.21- 154.21	102.86
91 Benzene					CAS #: 71-43-2		
15.522	15.522 (0.961)	78	86619	1.19952	2.015	80.00- 120.00	100.00
15.522	15.522 (0.961)	77	22545			0.00- 71.87	26.03
93 1,2-Dichloroethane					CAS #: 107-06-2		
15.633	15.633 (0.967)	62	55589	1.44887	2.434	80.00- 120.00	100.00(H)
15.633	15.633 (0.967)	64	19411			0.00- 82.89	34.92
94 Heptane					CAS #: 142-82-5		
15.715	15.716 (0.973)	71	20367	0.91709	1.541	80.00- 120.00	100.00
15.715	15.716 (0.973)	43	39648			158.53- 258.53	194.67
15.715	15.716 (0.973)	57	17735			59.34- 159.34	87.08
101 Trichloroethene					CAS #: 79-01-6		
16.628	16.628 (1.029)	95	2870632	89.4926	150.35	80.00- 120.00	100.00
16.628	16.628 (1.029)	130	2988511			54.96- 154.96	104.11
16.628	16.628 (1.029)	97	1859270			15.03- 115.03	64.77
111 4-Methyl-2-pentanone					CAS #: 108-10-1		
18.508	18.508 (1.145)	58	14269	0.66031	1.109	80.00- 120.00	100.00
18.508	18.508 (1.145)	43	40343			222.97- 322.97	282.73

RT	EXP RT (REL RT)	MASS	RESPONSE	CONCENTRATIONS ON-COL (PPBV)	FINAL (PPBV)	TARGET RANGE	RATIO
111 4-Methyl-2-pentanone (continued)							
18.508	18.508 (1.145)	85	5053			0.00- 90.48	35.41
114 Toluene					CAS #: 108-88-3		
18.895	18.895 (1.169)	91	119915	1.51612	2.547	80.00- 120.00	100.00
18.895	18.895 (1.169)	92	75353			12.81- 112.81	62.84
117 1,1,2-Trichloroethane					CAS #: 79-00-5		
19.669	19.669 (0.921)	97	55173	2.04027	3.428	80.00- 120.00	100.00
19.669	19.669 (0.921)	99	35743			12.57- 112.57	64.78
19.669	19.642 (0.921)	83	44583			31.77- 131.77	80.81
120 Tetrachloroethene					CAS #: 127-18-4		
19.835	19.835 (0.929)	166	385350	10.9873	18.458	80.00- 120.00	100.00
19.835	19.835 (0.929)	129	267014			18.66- 118.66	69.29
19.835	19.835 (0.929)	131	255591			16.81- 116.81	66.33
122 Dibromochloromethane					CAS #: 124-48-1		
20.361	20.361 (0.953)	129	24538	0.51213	0.8604	80.00- 120.00	100.00
20.361	20.361 (0.953)	127	19498			27.62- 127.62	79.46
129 m,p-Xylene					CAS #: 108-38-3		
21.688	21.688 (1.016)	106	25921	0.68688	1.154	80.00- 120.00	100.00
21.688	21.688 (1.016)	91	50795			145.05- 245.05	195.96
133 Bromoform					CAS #: 75-25-2		
22.821	22.821 (1.069)	173	39784	0.94559	1.588	80.00- 120.00	100.00
22.821	22.821 (1.069)	171	19888			1.50- 101.50	49.99
150 1,2,4-Trimethylbenzene					CAS #: 95-63-6		
24.563	24.563 (1.150)	105	64977	0.93063	1.563	80.00- 120.00	100.00
24.563	24.563 (1.150)	120	20992			0.00- 98.95	32.31
156 1,4-Dichlorobenzene					CAS #: 106-46-7		
25.282	25.282 (1.184)	146	56495	1.00331	1.686	80.00- 120.00	100.00
25.282	25.282 (1.184)	148	38346			13.81- 113.81	67.88
25.282	25.282 (1.184)	111	36294			0.00- 87.35	64.24

QC Flag Legend

H - Operator selected an alternate compound hit.

Report Date: 05-Nov-2007 11:20

Air Toxics Ltd.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd7.i
Lab File ID: 7110414.d
Lab Smp Id: 0711008-01A
Analysis Type: VOA
Quant Type: ISTD
Operator: ab
Method File: /chem/msd7.i/7-04nova.b/t14qO18c.m
Misc Info: 6.0"Hg-5psi

Calibration Date: 04-NOV-2007
Calibration Time: 22:27

Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
81 Bromochloromethan	651162	390697	911627	516113	-20.74
97 1,4-Difluorobenze	2188066	1312840	3063292	1817424	-16.94
126 Chlorobenzene-d5	1729248	1037549	2420947	1305579	-24.50

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
81 Bromochloromethan	14.39	14.06	14.72	14.42	0.19
97 1,4-Difluorobenze	16.16	15.83	16.49	16.16	0.00
126 Chlorobenzene-d5	21.36	21.03	21.69	21.36	0.00

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Report Date: 05-Nov-2007 11:20

Air Toxics Ltd.

RECOVERY REPORT

Client Name:
Client SDG: 7-04nova
Sample Matrix: GAS
Fraction: VOA
Lab Smp Id: 0711008-01A
Level: LOW
Operator: ab
Data Type: MS DATA
SampleType: SAMPLE
SpikeList File: 2926spectra.spk
Quant Type: ISTD
Sublist File: Los2153.sub
Method File: /chem/msd7.i/7-04nova.b/t14qO18c.m
Misc Info: 6.0"Hg-5psi

SURROGATE COMPOUND	CONC ADDED PPBV	CONC RECOVERED PPBV	% RECOVERED	LIMITS
$ 90 1,2-Dichloroethane	25.000	27.462	109.85	70-130
$ 113 Toluene-d8	25.000	22.536	90.14	70-130
$ 137 Bromofluorobenzene	25.000	28.505	114.02	70-130

Data File: /chem/msd7.i/7-04nova.b/7110414.d

Date : 05-NOV-2007 03:15

Client ID:

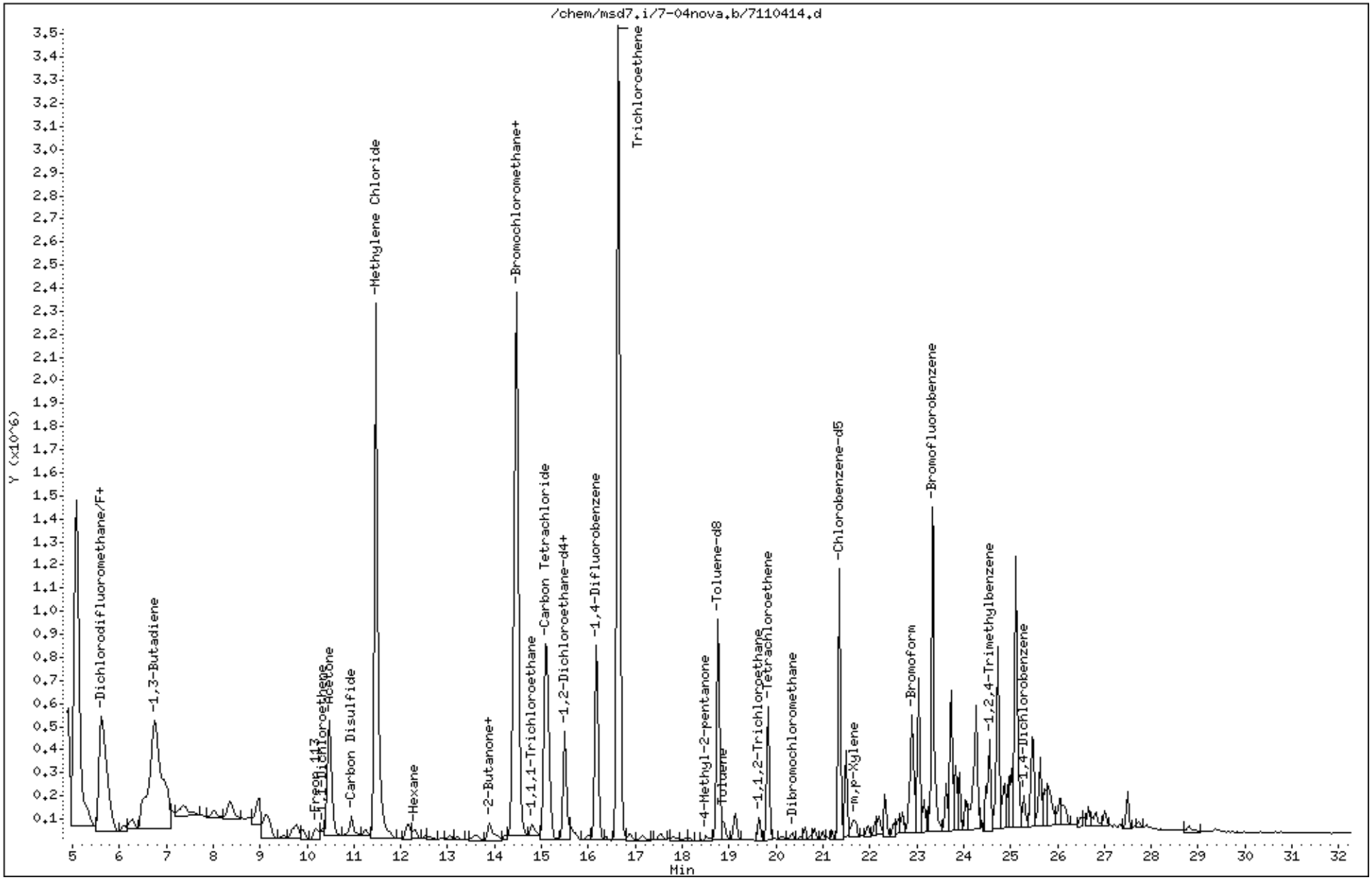
Sample Info: 200mL#TO-1556

Column phase: RTx-624

Instrument: msd7.i

Operator: ab

Column diameter: 0.53



Data File: /chem/msd7.i/7-04nova.b/7110414.d

Date : 05-NOV-2007 03:15

Client ID:

Instrument: msd7.i

Sample Info: 200mL#TO-1556

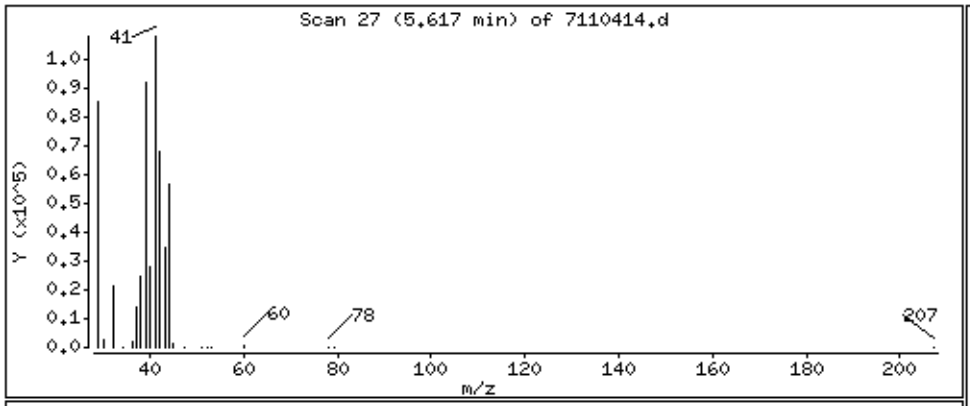
Operator: ab

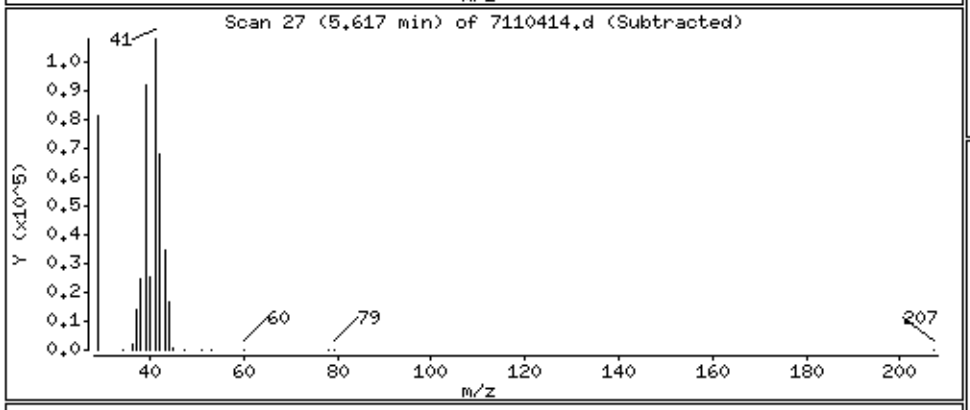
Column phase: RTx-624

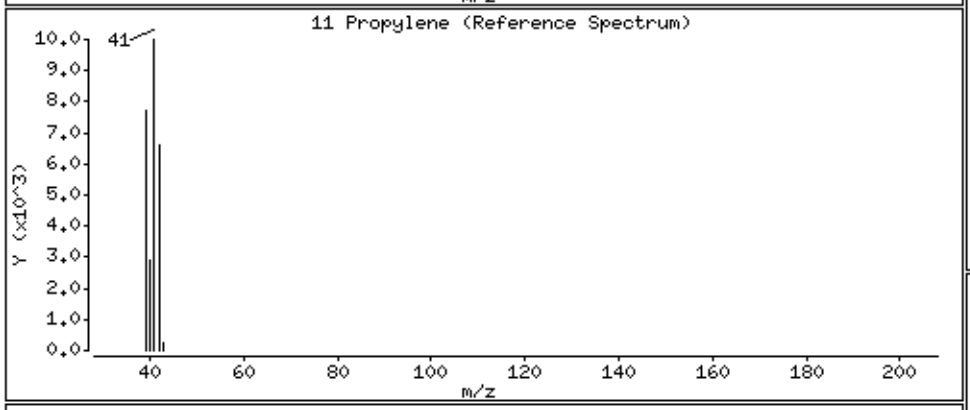
Column diameter: 0.53

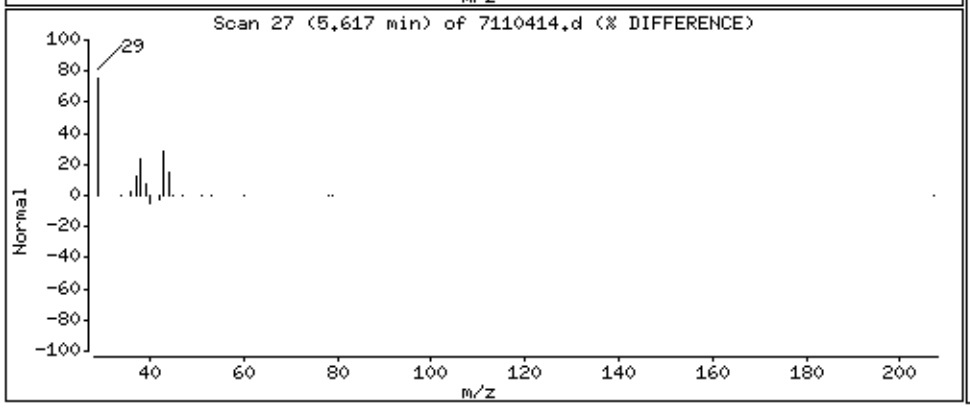
11 Propylene

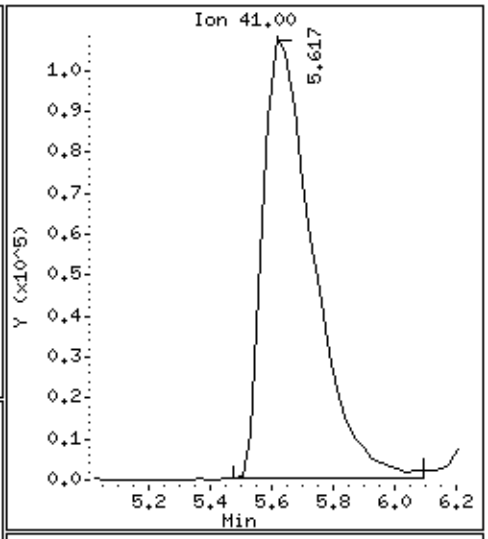
Concentration: 93.020 PPBV

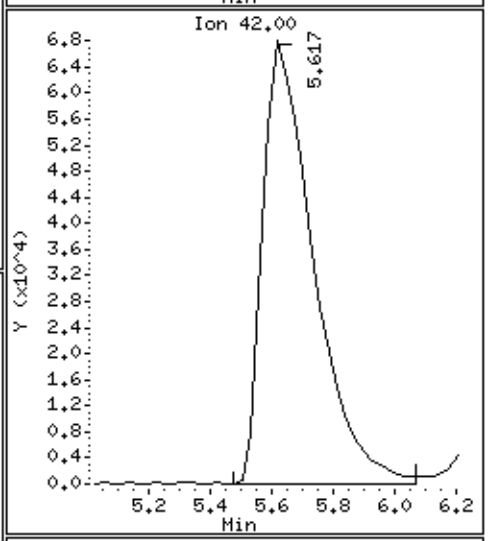


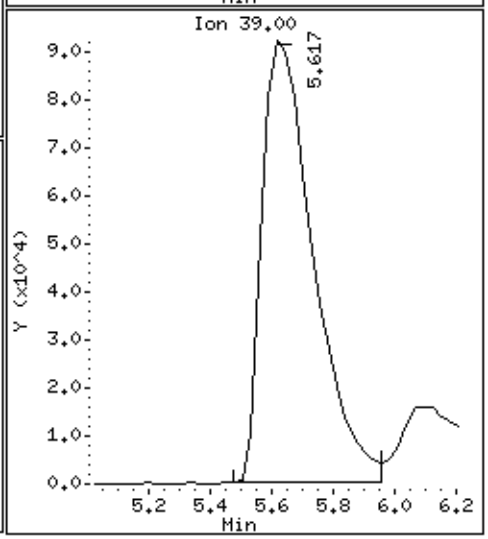












Data File: /chem/msd7.i/7-04nova.b/7110414.d

Date : 05-NOV-2007 03:15

Client ID:

Instrument: msd7.i

Sample Info: 200mL#TO-1556

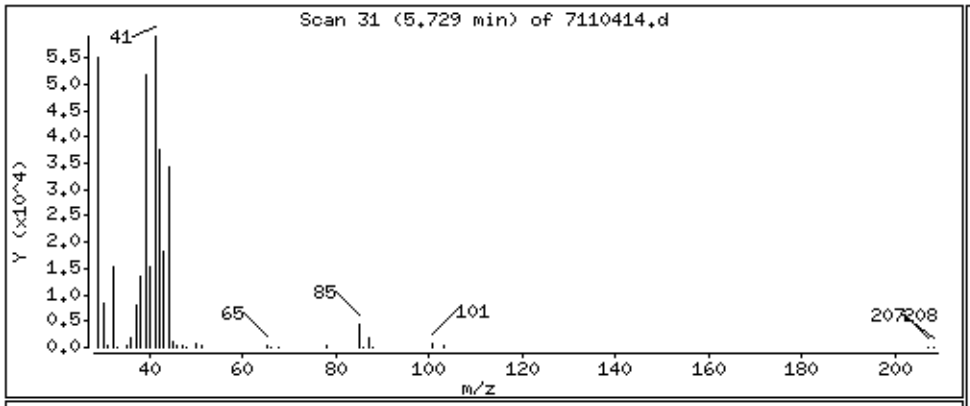
Operator: ab

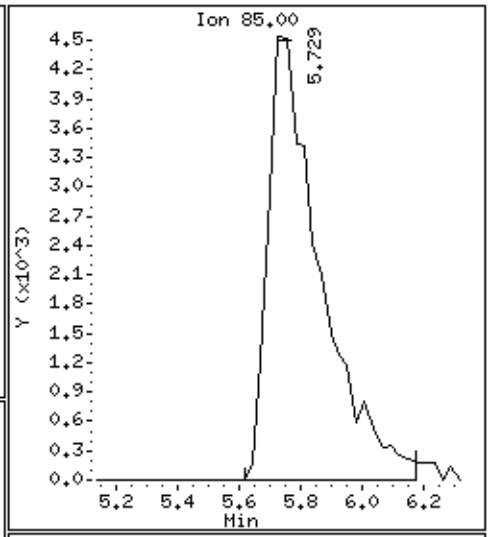
Column phase: RTx-624

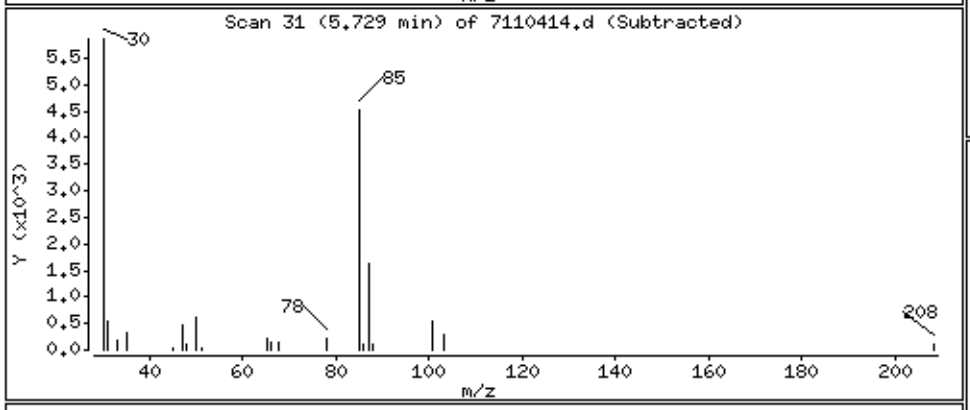
Column diameter: 0.53

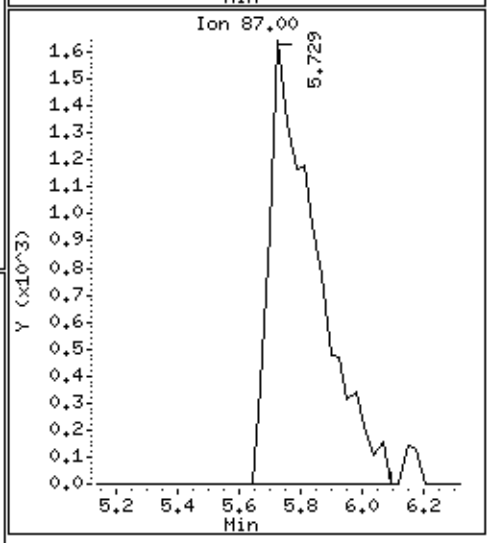
12 Dichlorodifluoromethane/Fr12

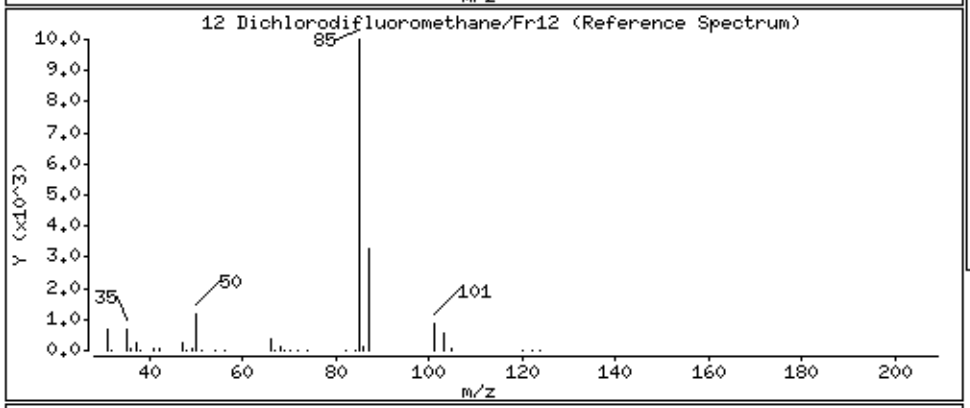
Concentration: 1.113 PPBV

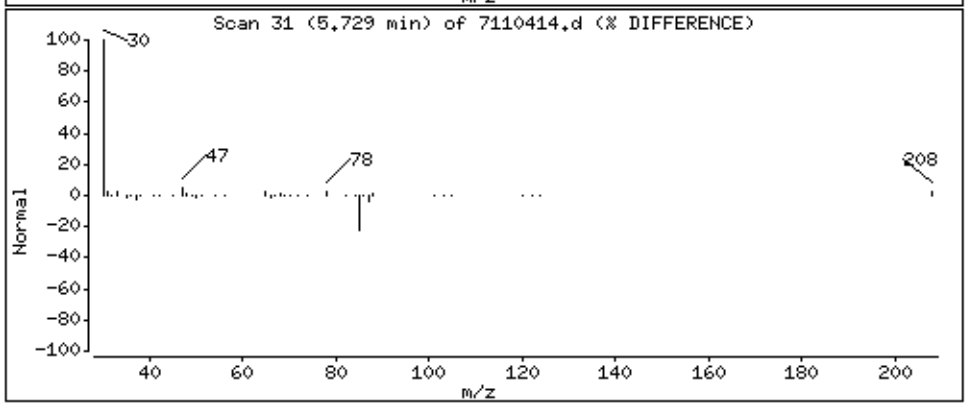












Data File: /chem/msd7.i/7-04nova.b/7110414.d

Date : 05-NOV-2007 03:15

Client ID:

Instrument: msd7.i

Sample Info: 200mL#TO-1556

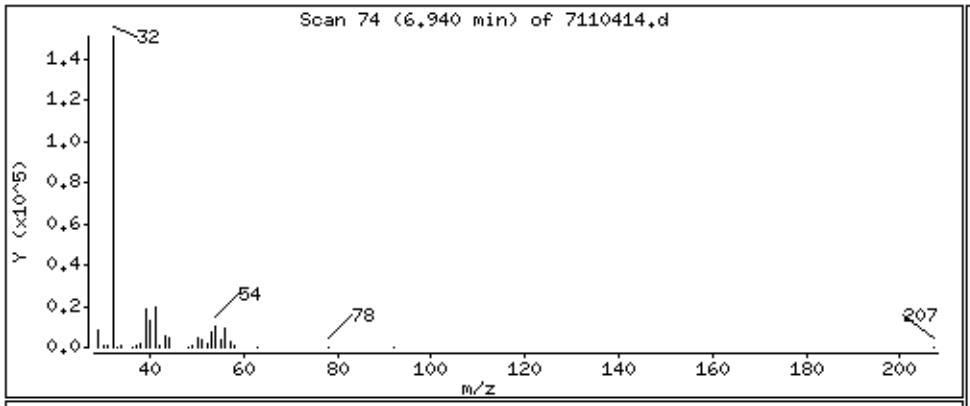
Operator: ab

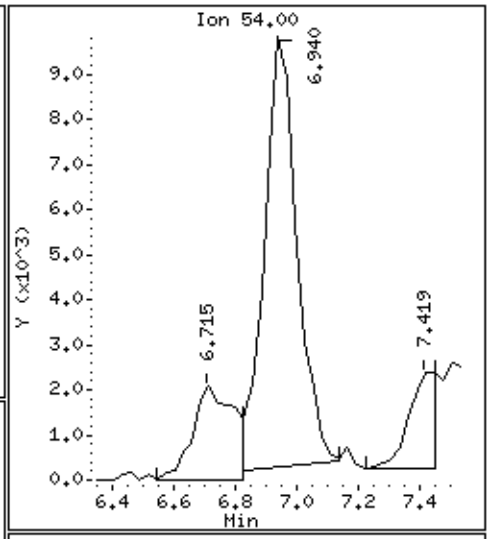
Column phase: RTx-624

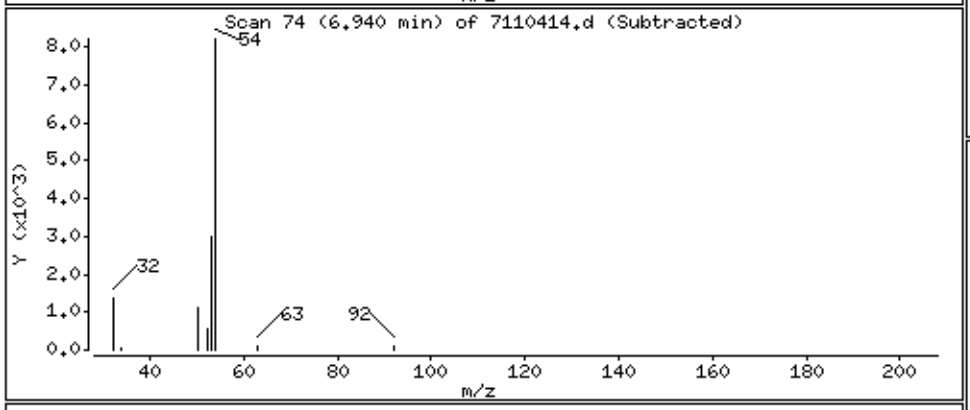
Column diameter: 0.53

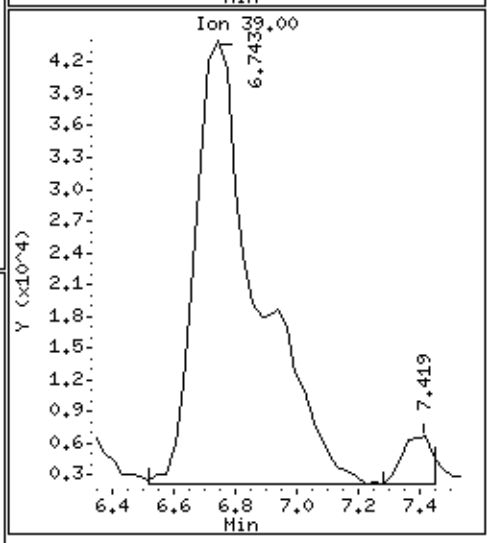
22 1,3-Butadiene

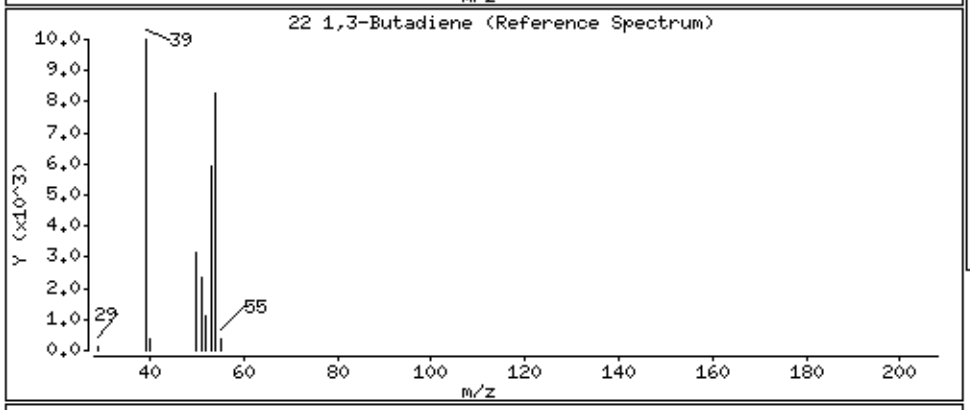
Concentration: 5.038 PPBV

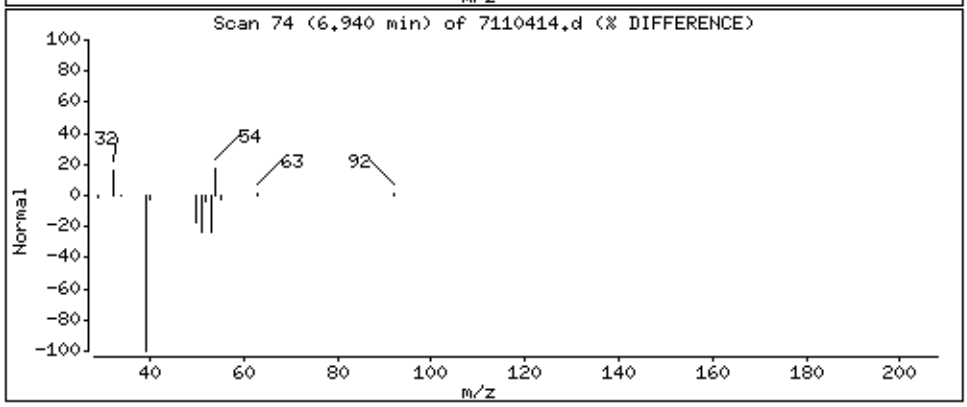












Data File: /chem/msd7.i/7-04nova.b/7110414.d

Date : 05-NOV-2007 03:15

Client ID:

Instrument: msd7.i

Sample Info: 200mL#TO-1556

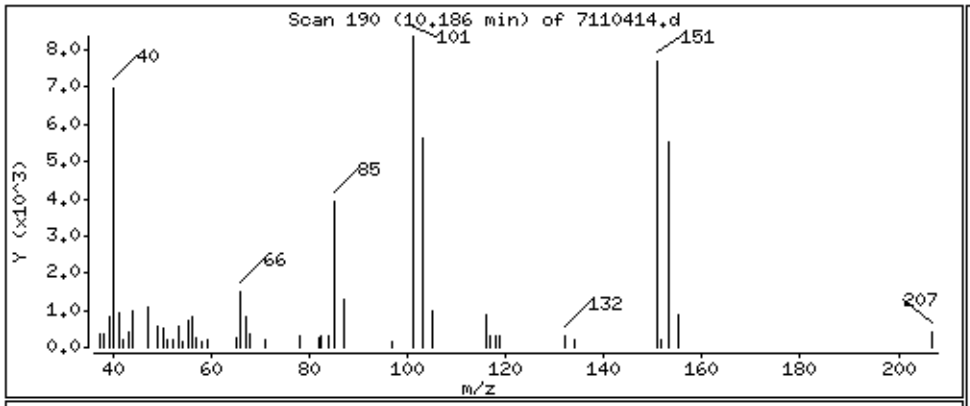
Operator: ab

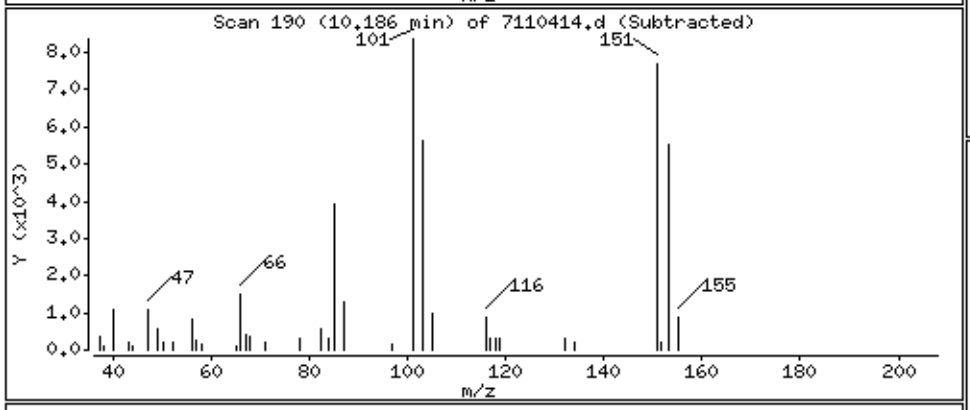
Column phase: RTx-624

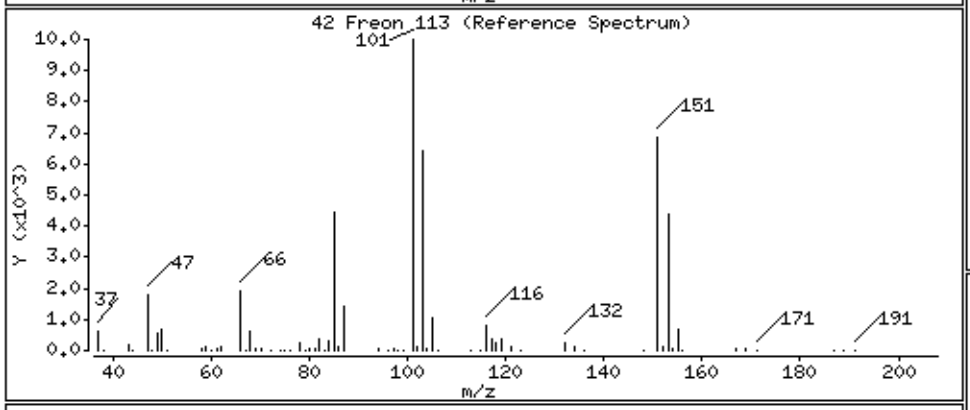
Column diameter: 0.53

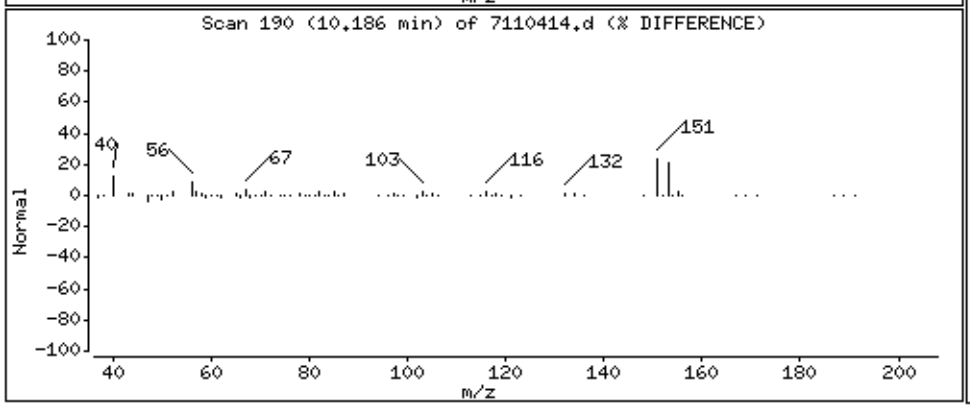
42 Freon 113

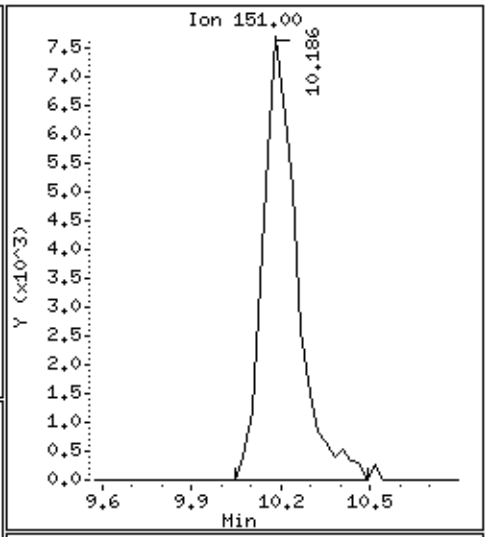
Concentration: 2.428 PPBV

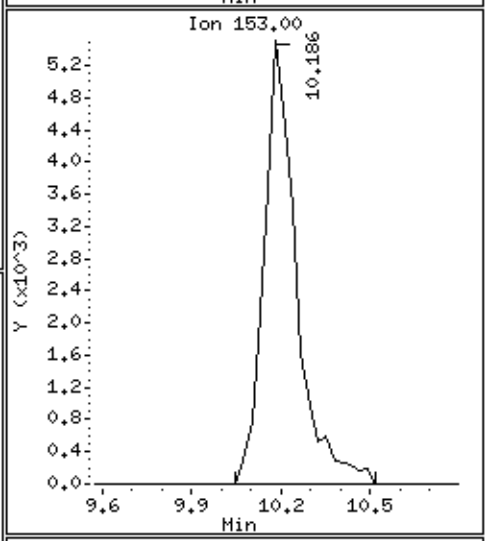


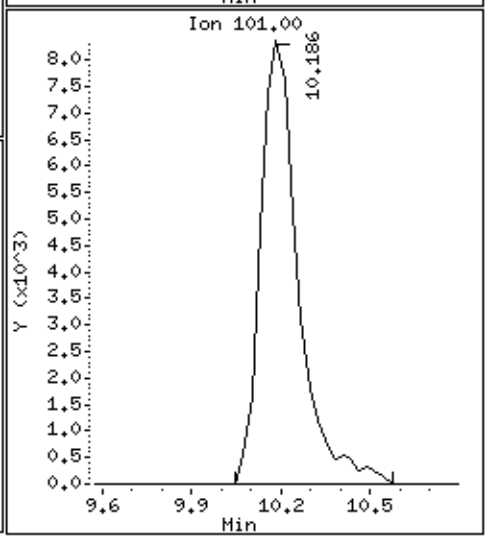












Data File: /chem/msd7.i/7-04nova.b/7110414.d

Date : 05-NOV-2007 03:15

Client ID:

Instrument: msd7.i

Sample Info: 200mL#TO-1556

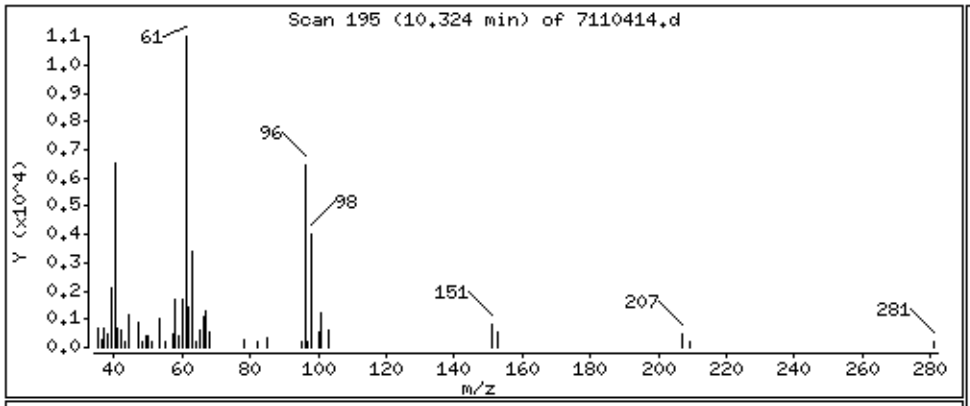
Operator: ab

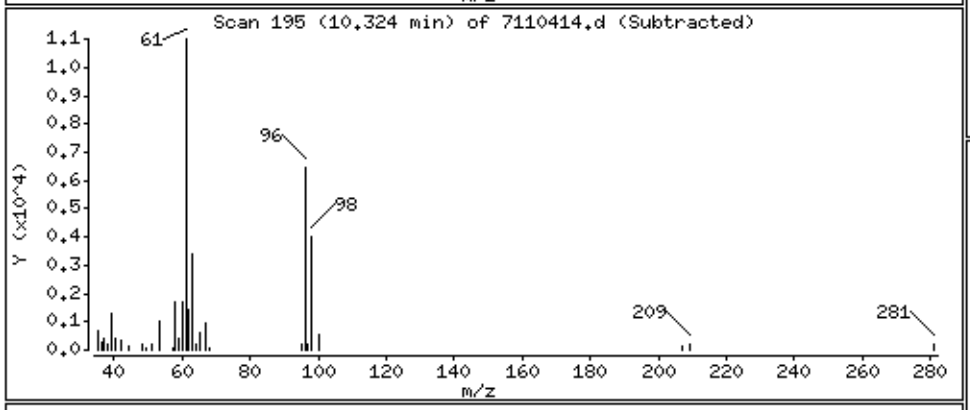
Column phase: RTx-624

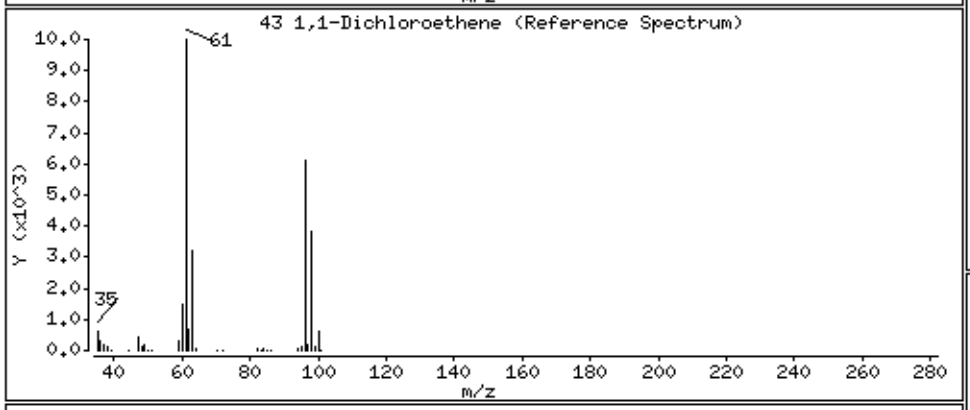
Column diameter: 0.53

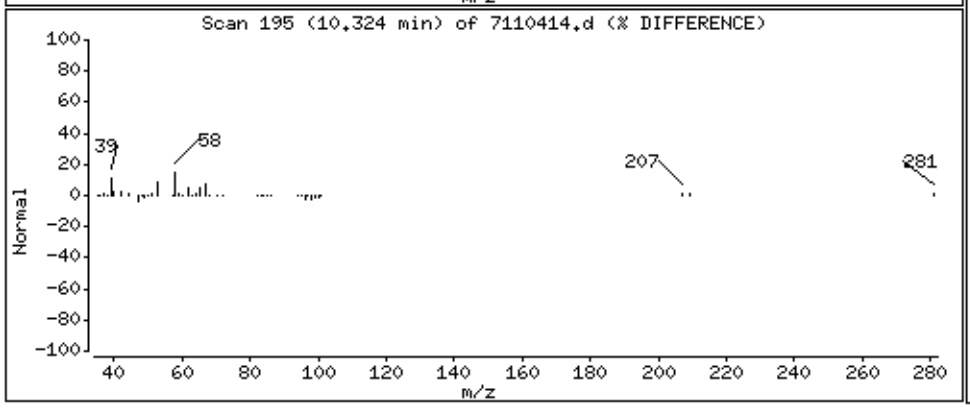
43 1,1-Dichloroethene

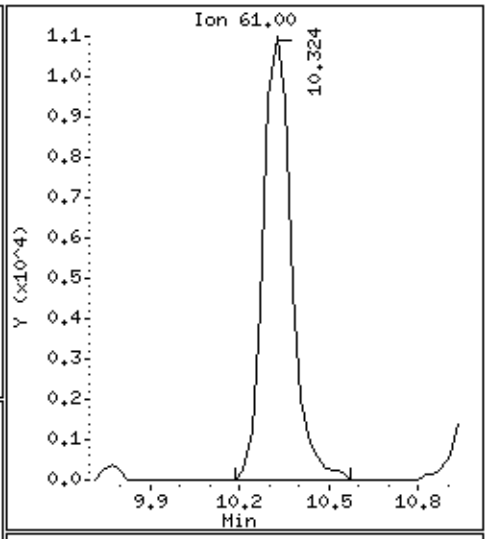
Concentration: 2.754 PPBV

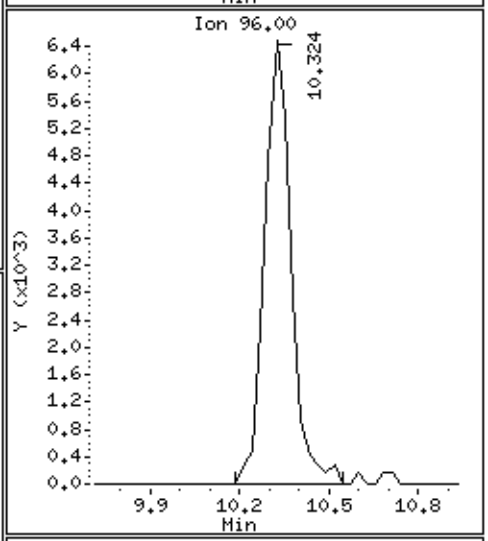


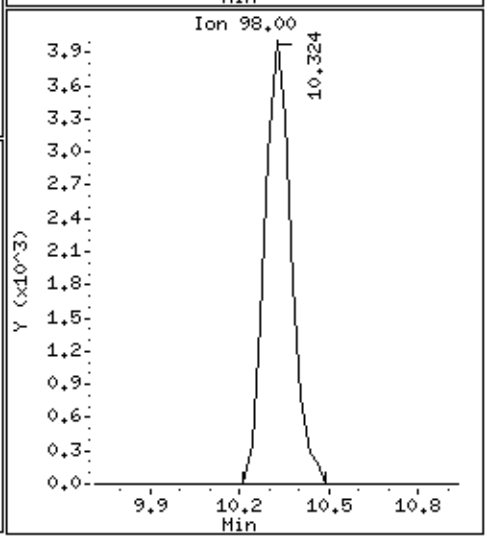












Data File: /chem/msd7.i/7-04nova.b/7110414.d

Date : 05-NOV-2007 03:15

Client ID:

Instrument: msd7.i

Sample Info: 200mL#TO-1556

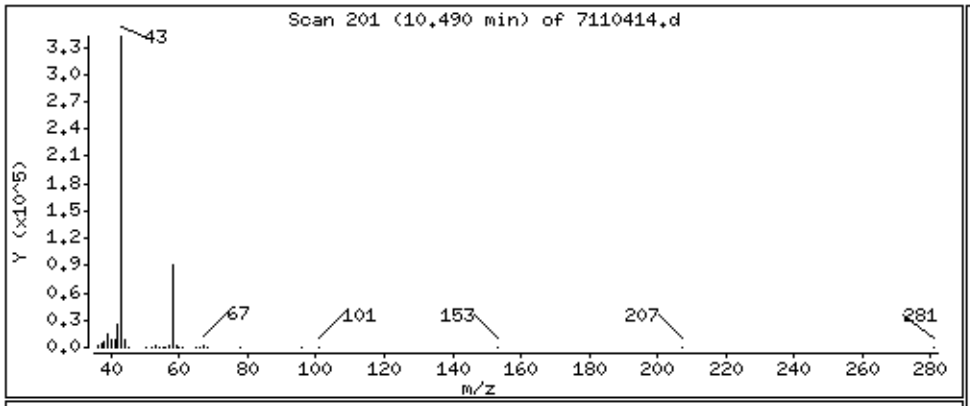
Operator: ab

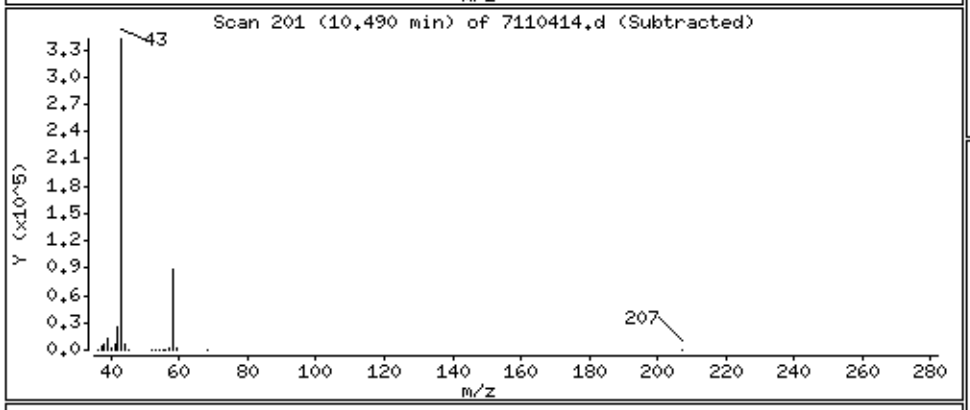
Column phase: RTx-624

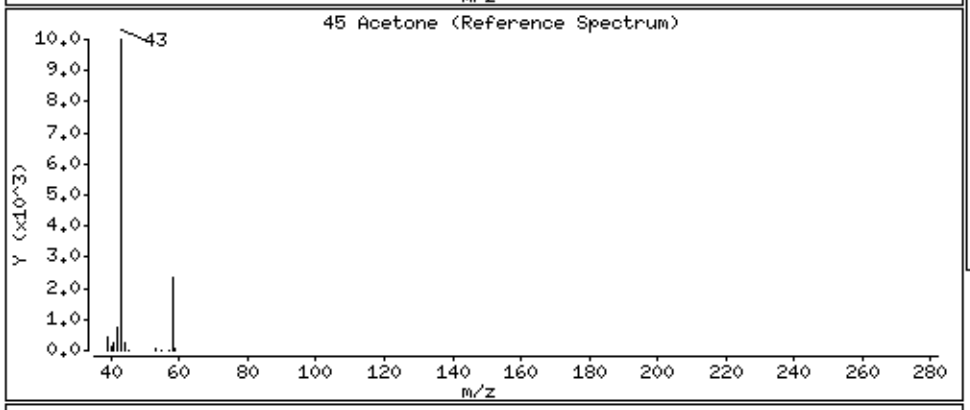
Column diameter: 0.53

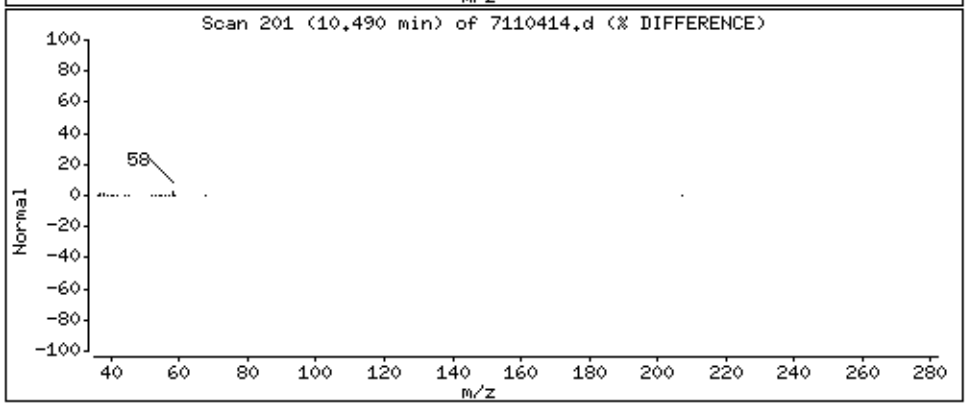
45 Acetone

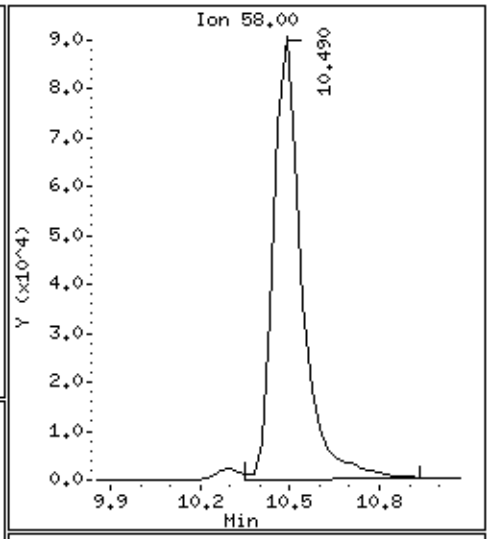
Concentration: 72.244 PPBV

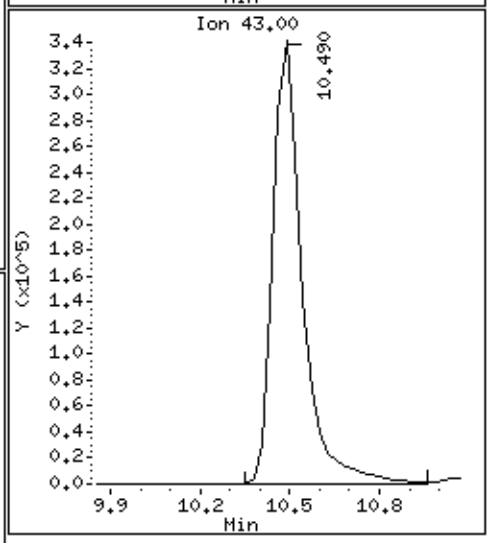












Data File: /chem/msd7.i/7-04nova.b/7110414.d

Date : 05-NOV-2007 03:15

Client ID:

Instrument: msd7.i

Sample Info: 200mL#TO-1556

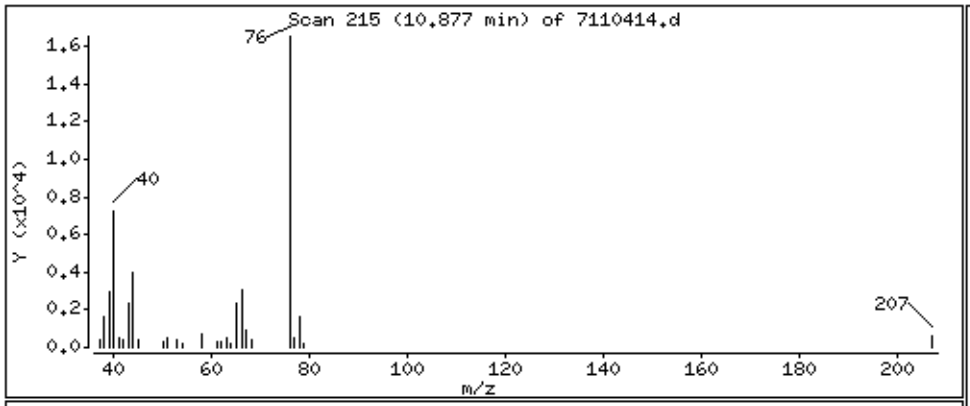
Operator: ab

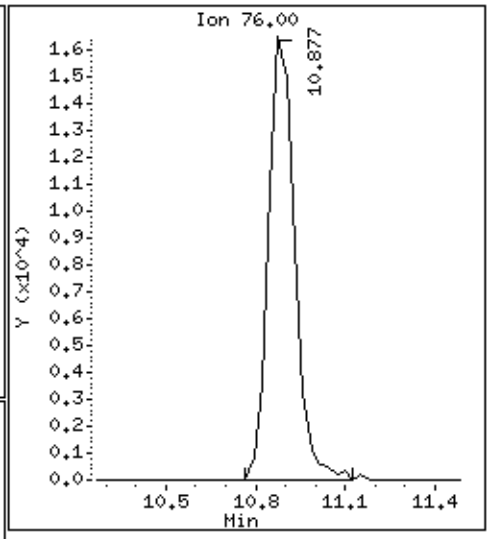
Column phase: RTx-624

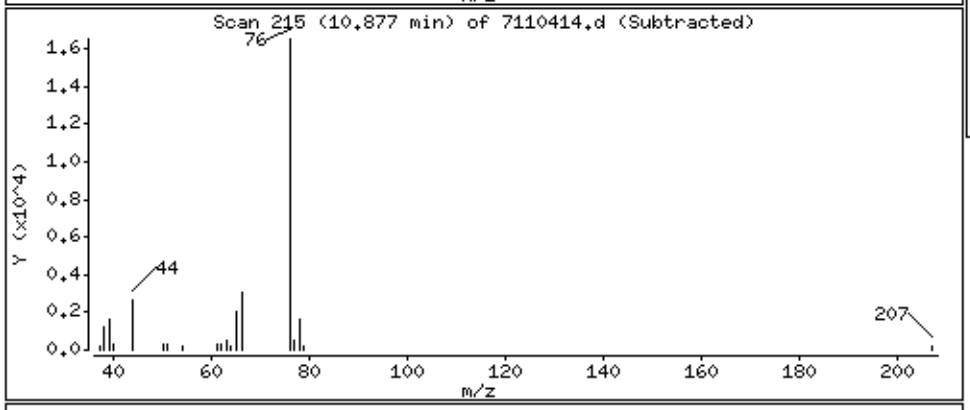
Column diameter: 0.53

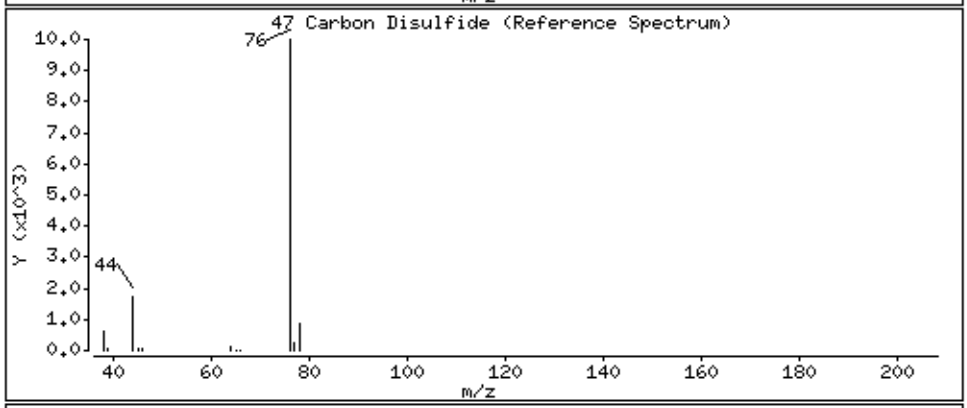
47 Carbon Disulfide

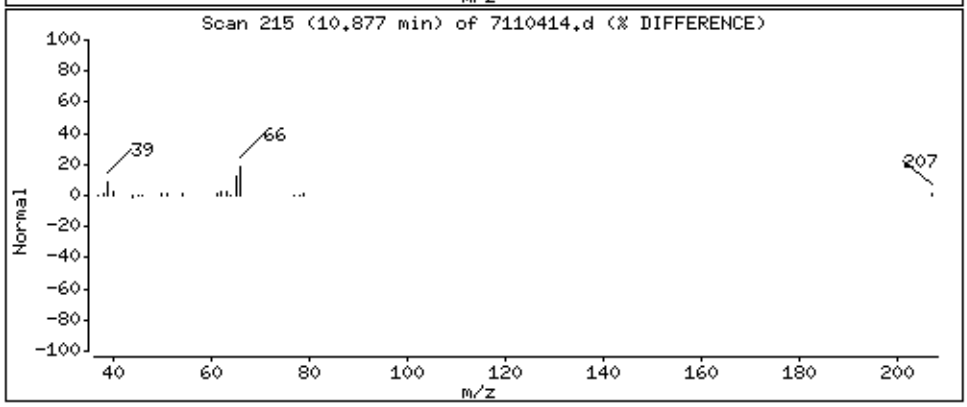
Concentration: 1.995 PPBV











Data File: /chem/msd7.i/7-04nova.b/7110414.d

Date : 05-NOV-2007 03:15

Client ID:

Instrument: msd7.i

Sample Info: 200mL#TO-1556

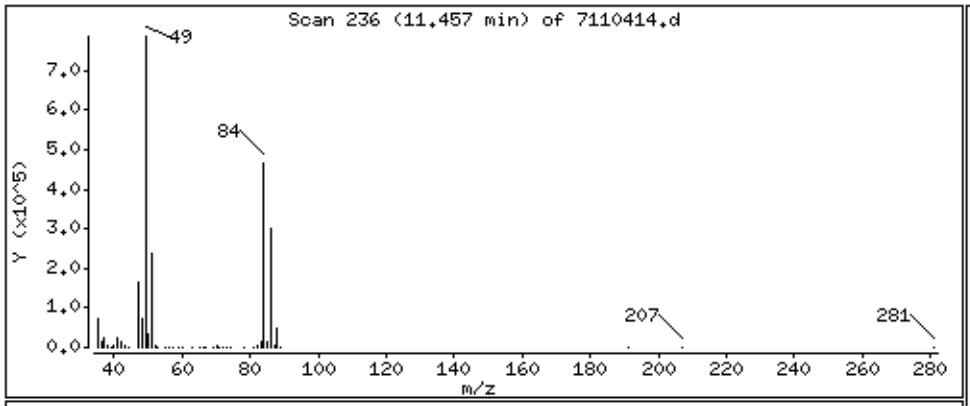
Operator: ab

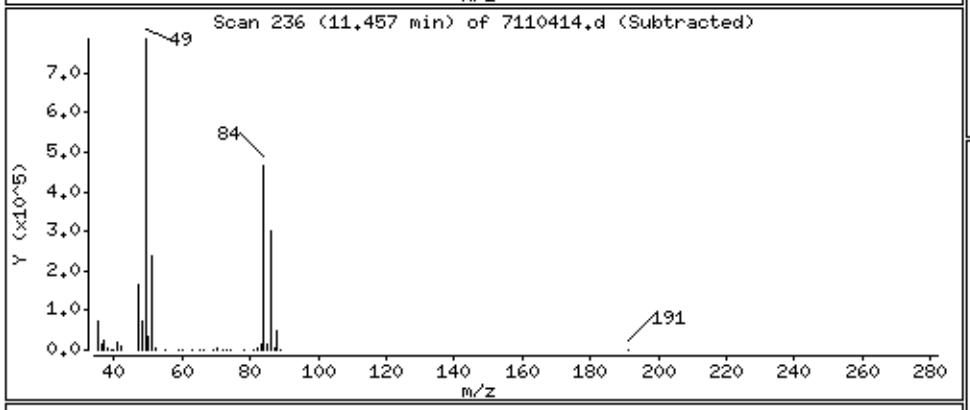
Column phase: RTx-624

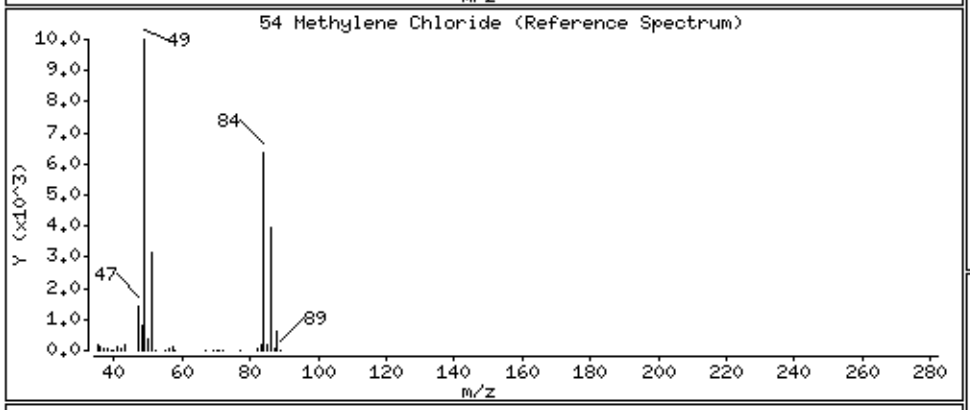
Column diameter: 0.53

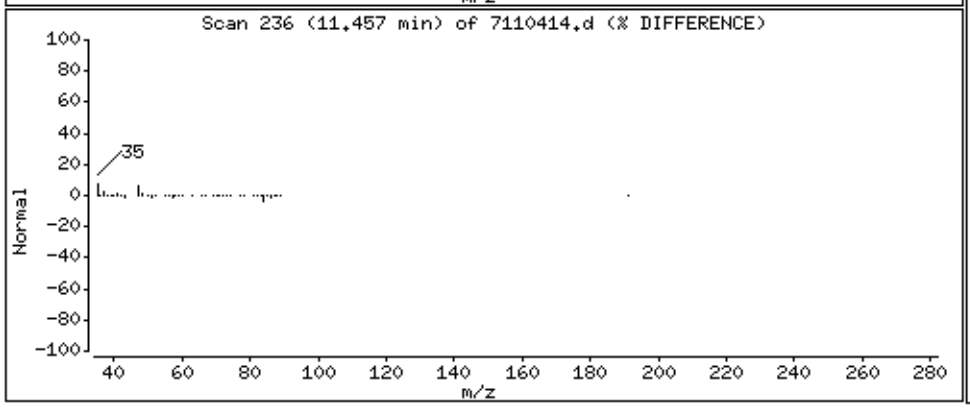
54 Methylene Chloride

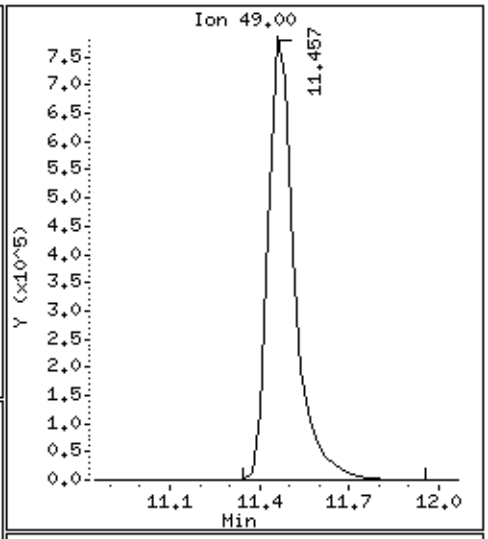
Concentration: 247.54 PPBV

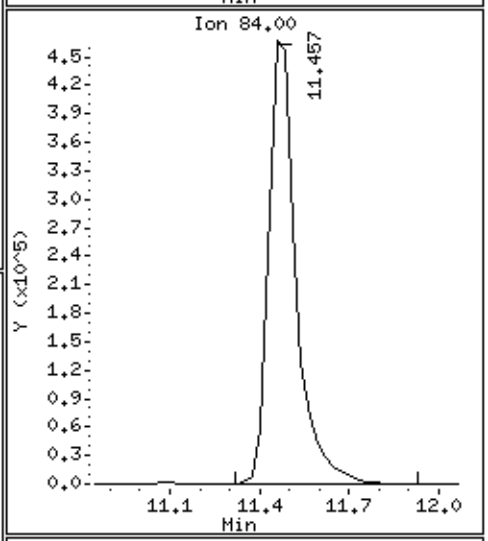


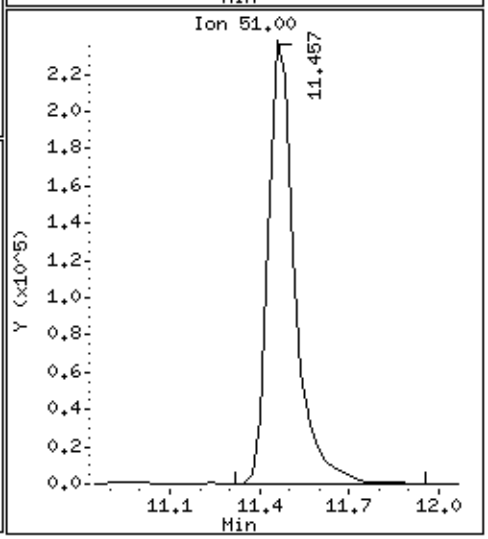












Data File: /chem/msd7.i/7-04nova.b/7110414.d

Date : 05-NOV-2007 03:15

Client ID:

Instrument: msd7.i

Sample Info: 200mL#TO-1556

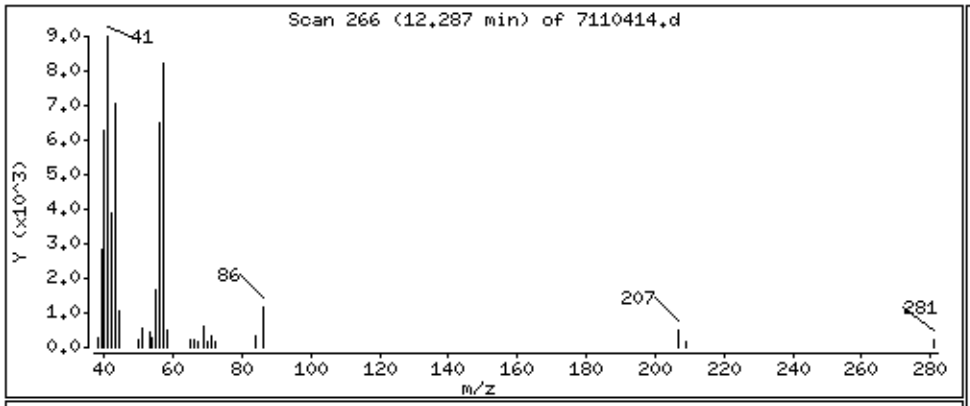
Operator: ab

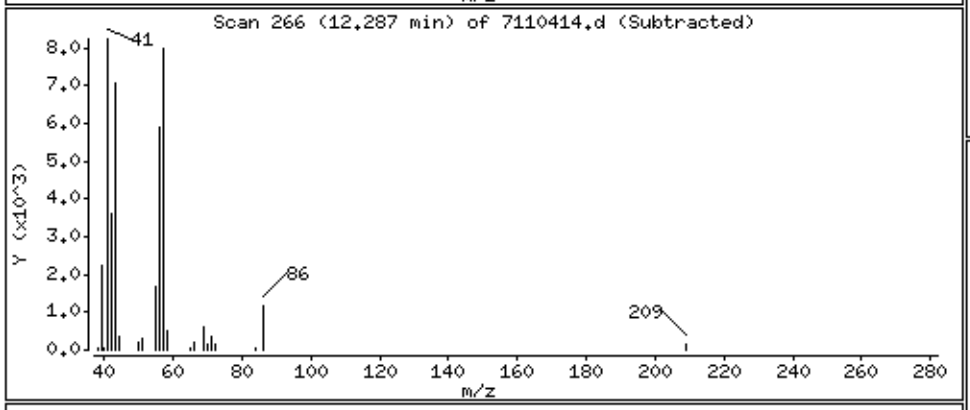
Column phase: RTx-624

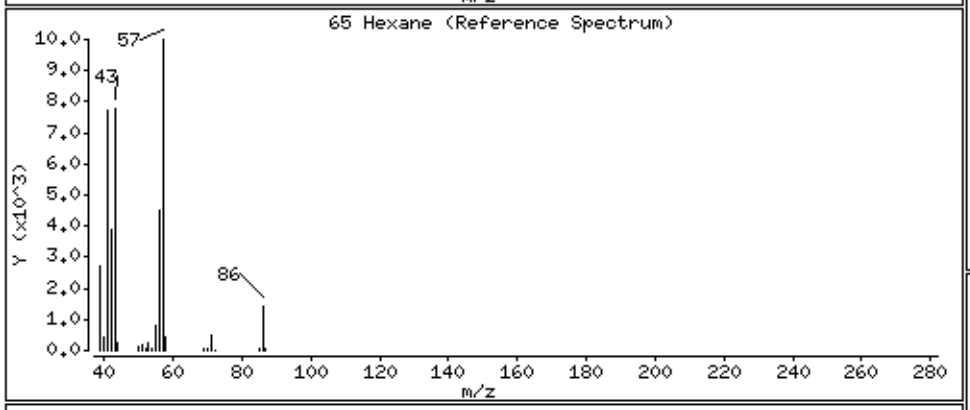
Column diameter: 0.53

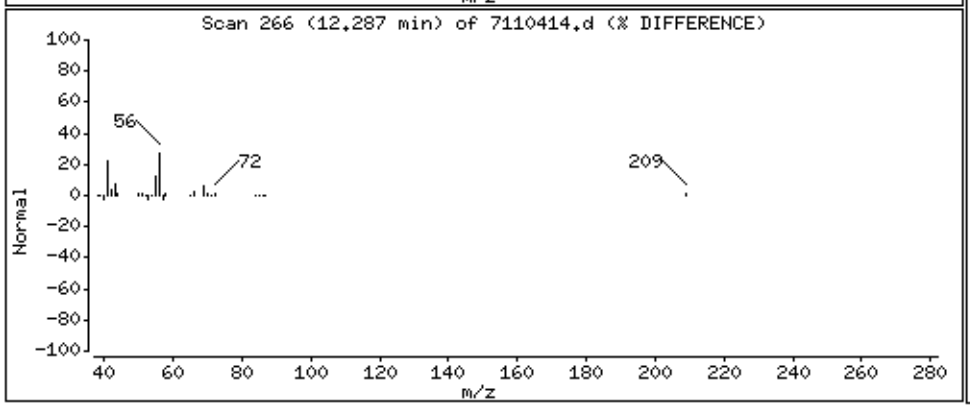
65 Hexane

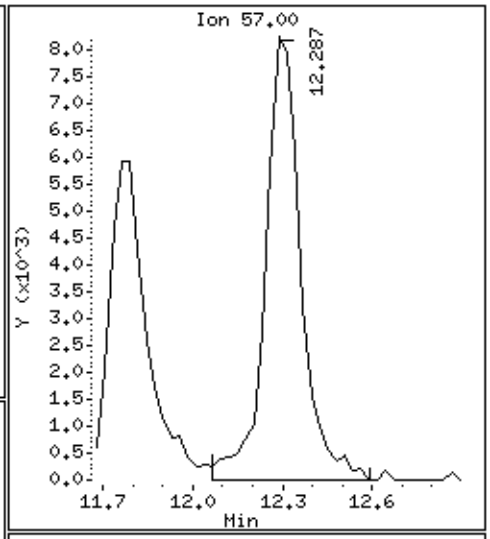
Concentration: 2.670 PPBV

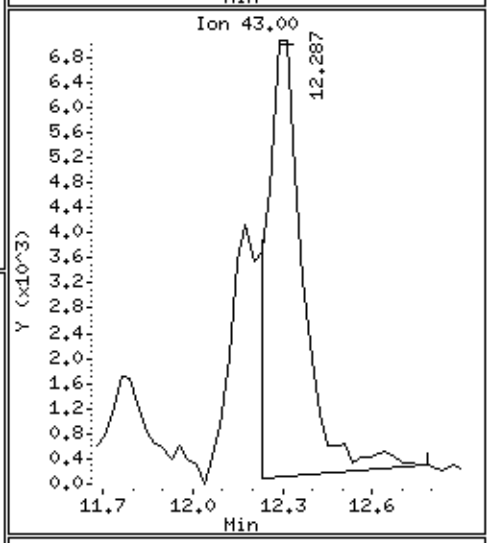


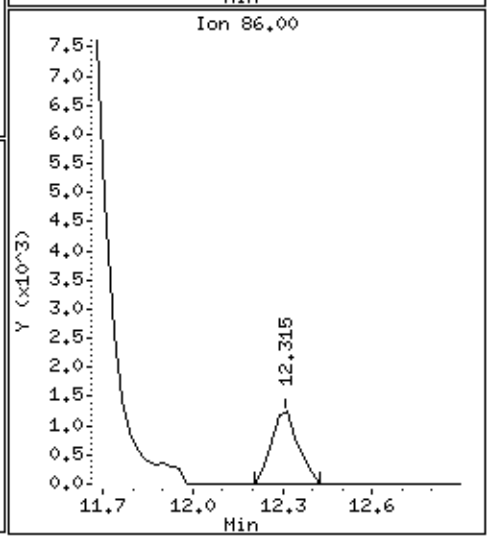












Data File: /chem/msd7.i/7-04nova.b/7110414.d

Date : 05-NOV-2007 03:15

Client ID:

Instrument: msd7.i

Sample Info: 200mL#TO-1556

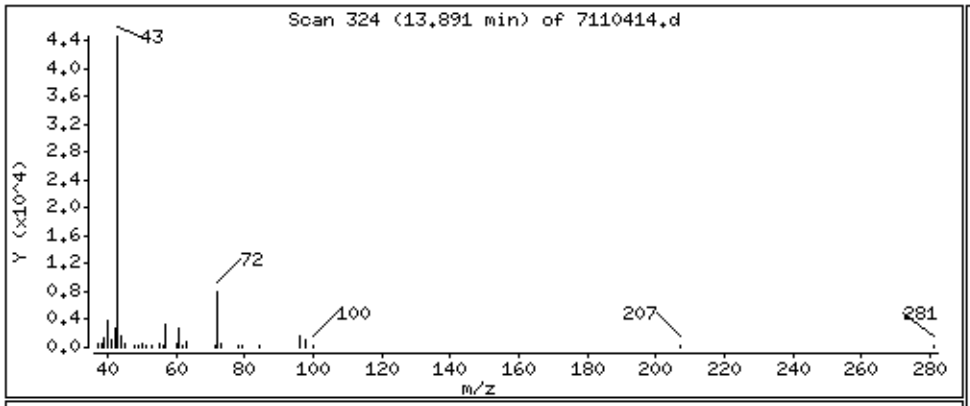
Operator: ab

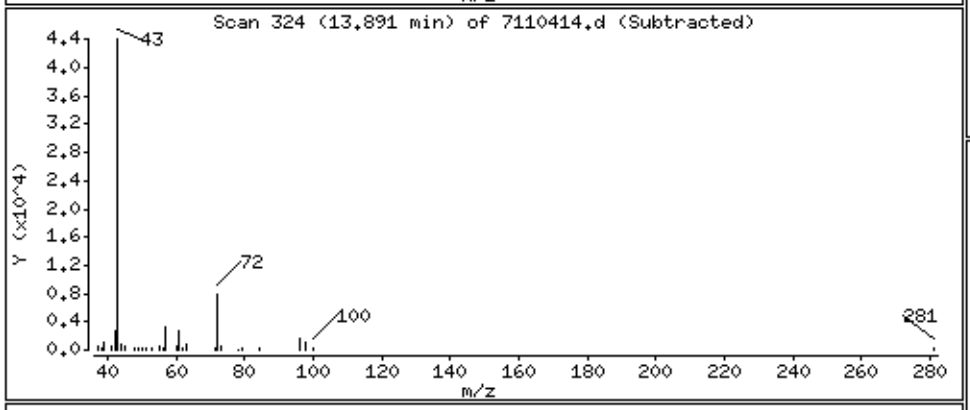
Column phase: RTx-624

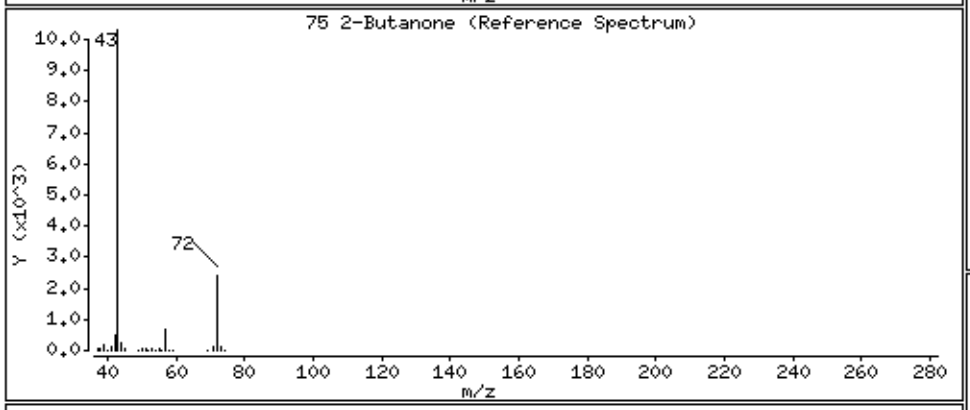
Column diameter: 0.53

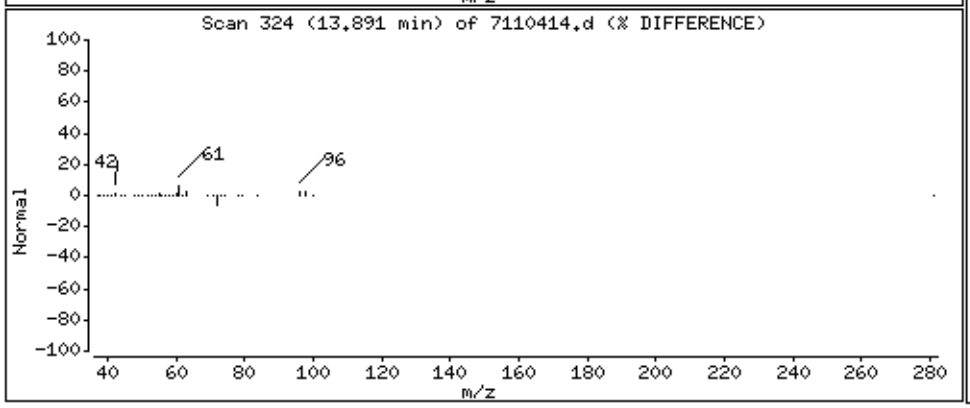
75 2-Butanone

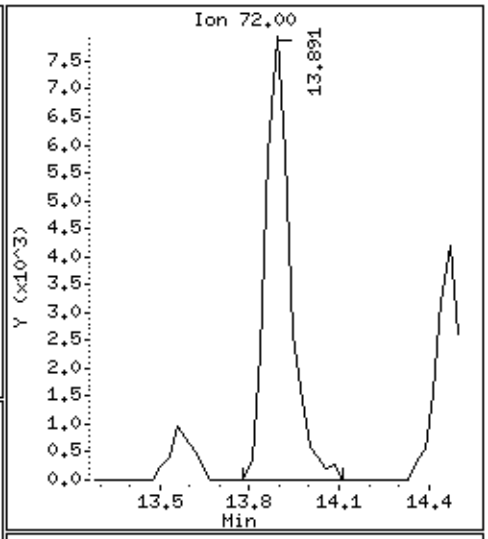
Concentration: 6.981 PPBV

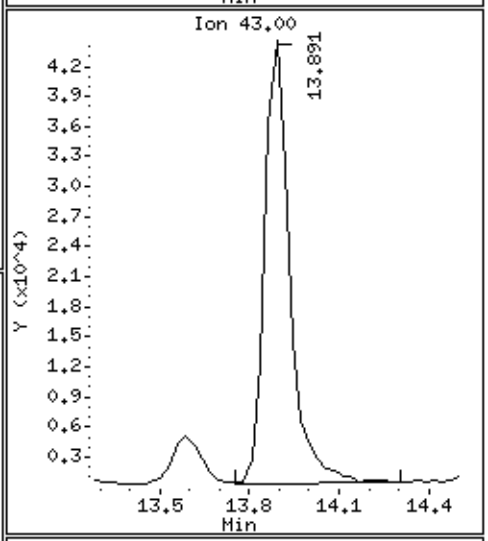


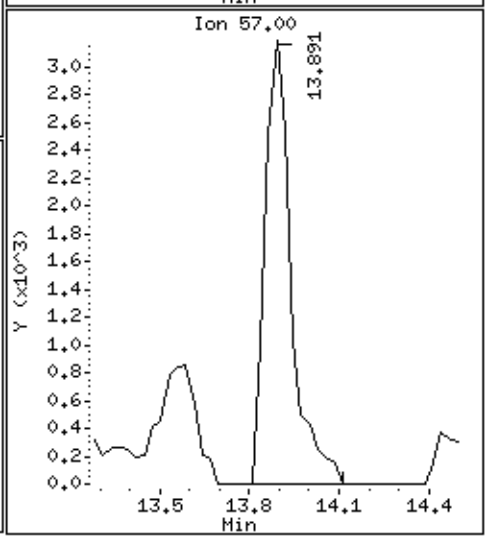












Data File: /chem/msd7.i/7-04nova.b/7110414.d

Date : 05-NOV-2007 03:15

Client ID:

Instrument: msd7.i

Sample Info: 200mL#TO-1556

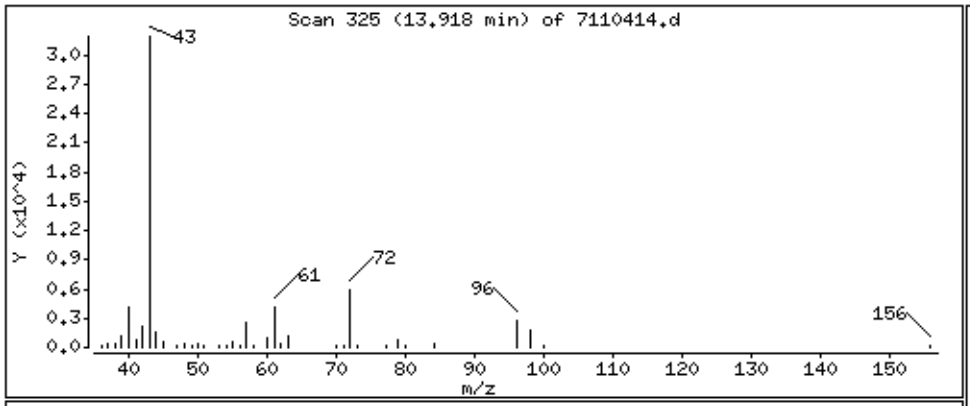
Operator: ab

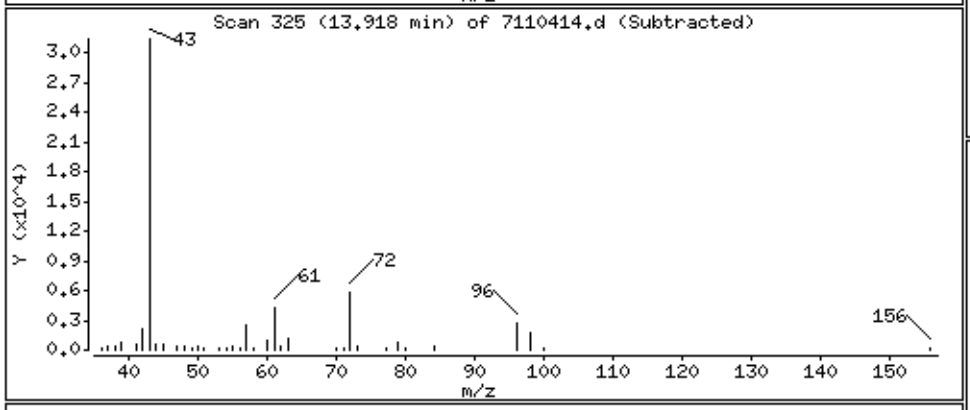
Column phase: RTx-624

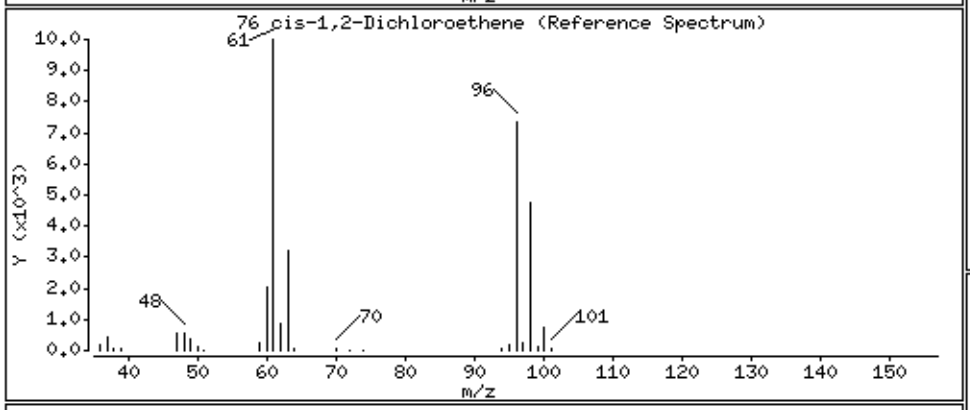
Column diameter: 0.53

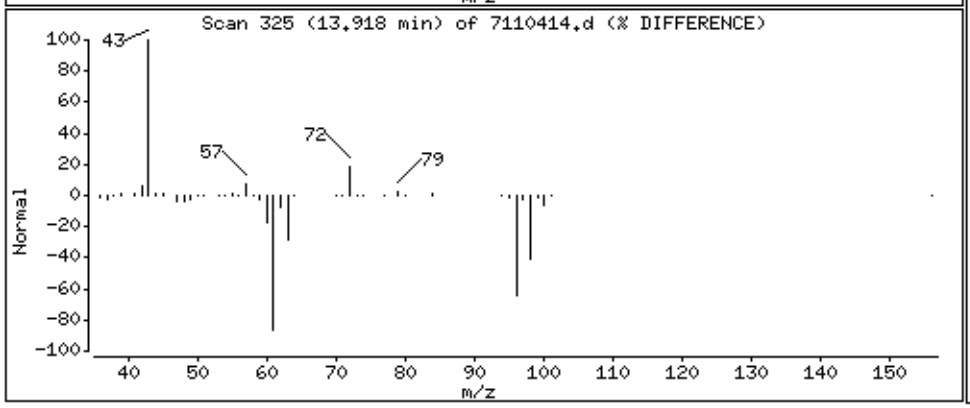
76 cis-1,2-Dichloroethene

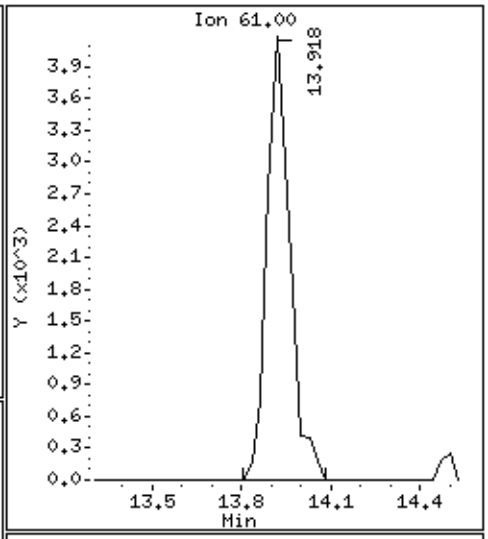
Concentration: 1.037 PPBV

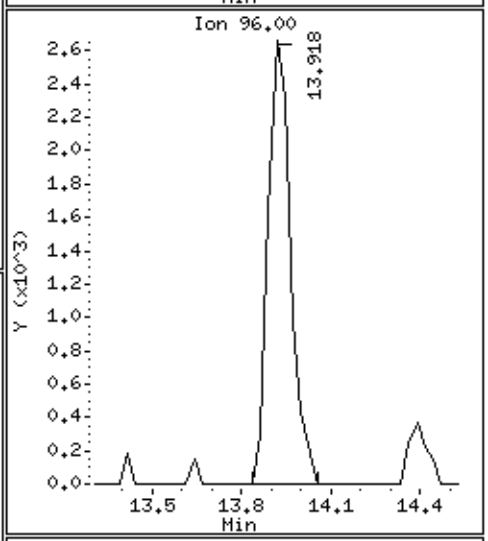


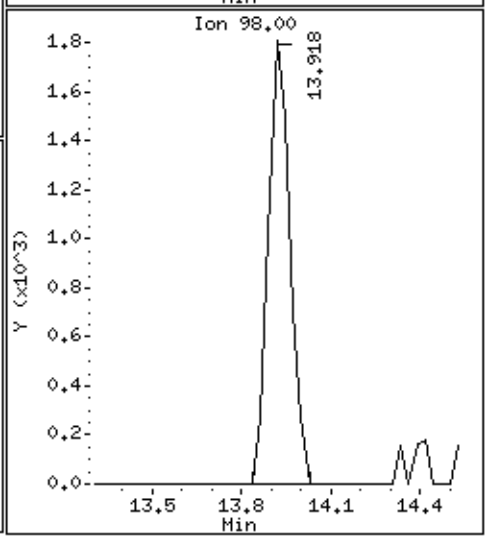












Data File: /chem/msd7.i/7-04nova.b/7110414.d

Date : 05-NOV-2007 03:15

Client ID:

Instrument: msd7.i

Sample Info: 200mL#TO-1556

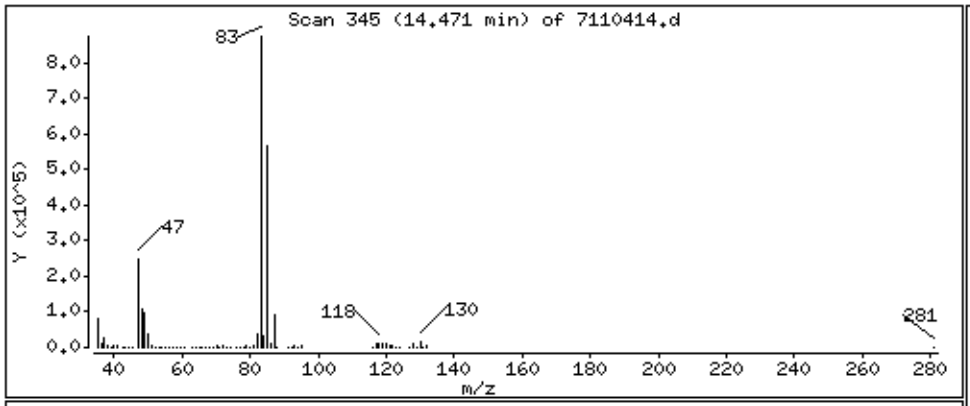
Operator: ab

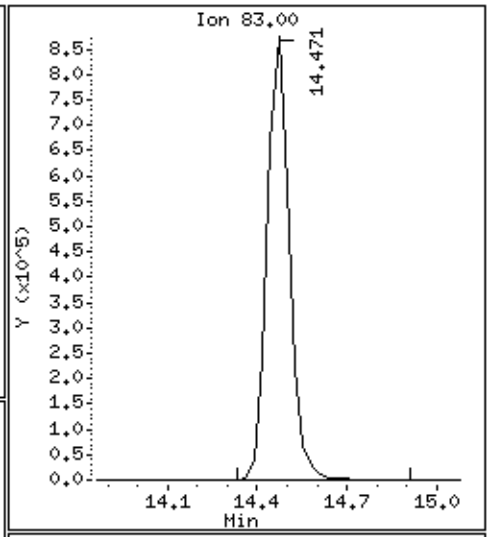
Column phase: RTx-624

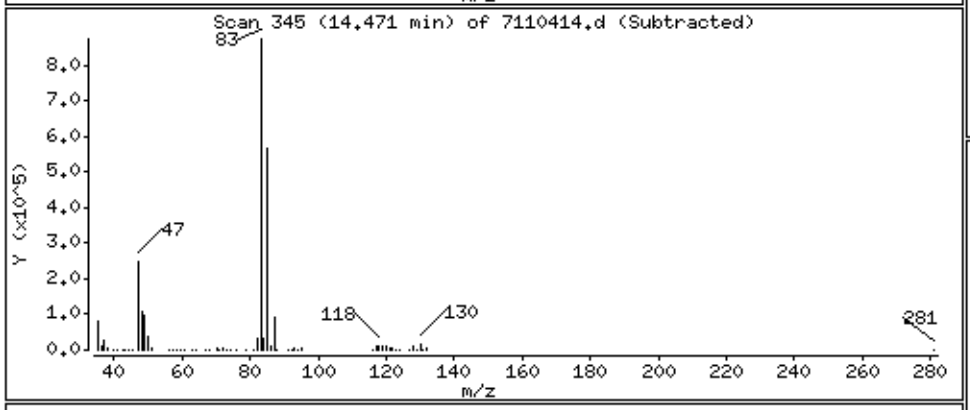
Column diameter: 0.53

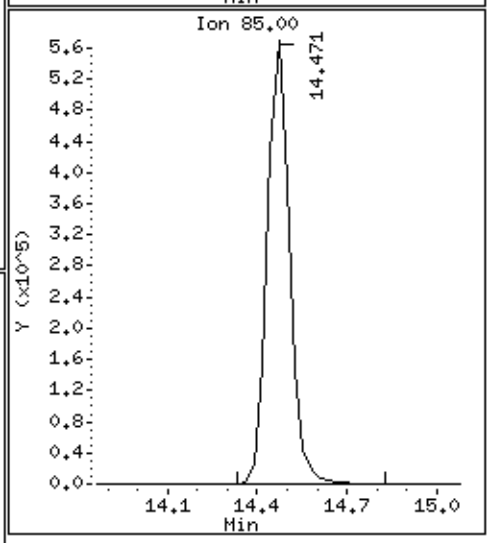
82 Chloroform

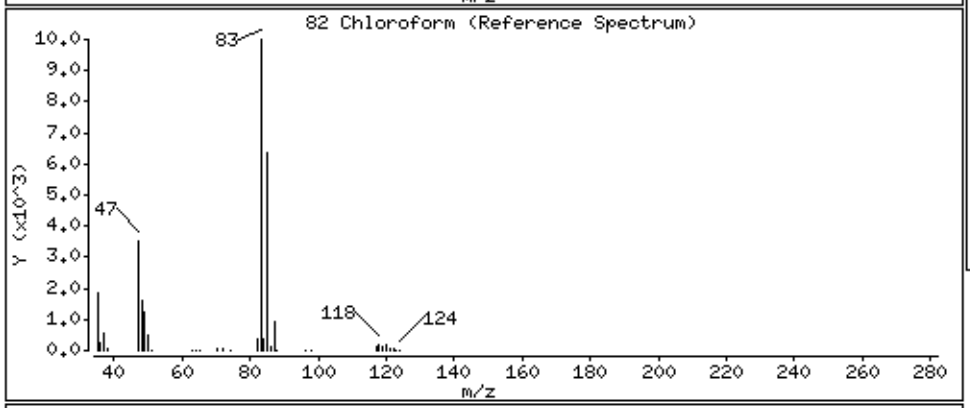
Concentration: 147.28 PPBV

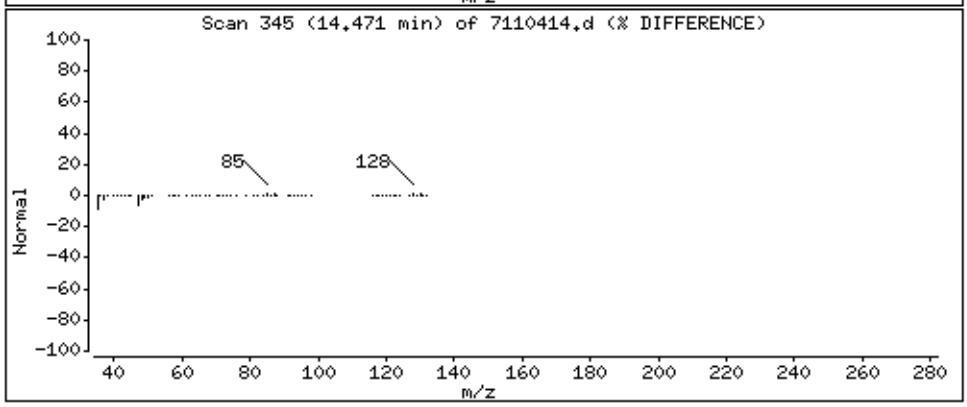












Data File: /chem/msd7.i/7-04nova.b/7110414.d

Date : 05-NOV-2007 03:15

Client ID:

Instrument: msd7.i

Sample Info: 200mL#TO-1556

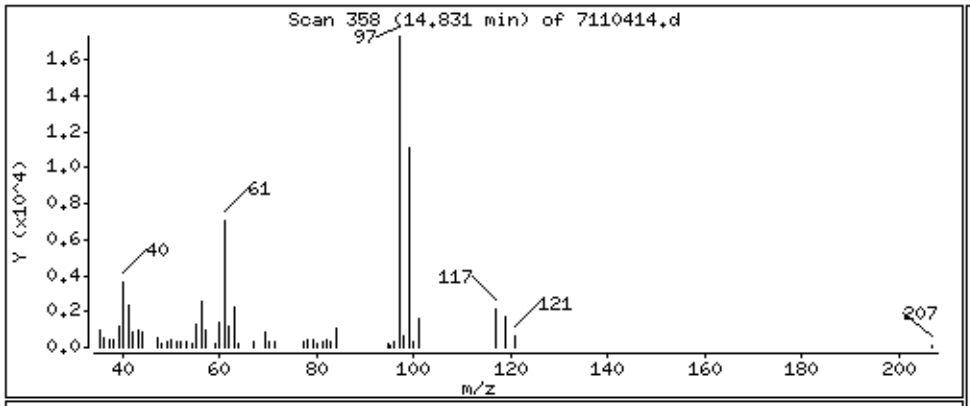
Operator: ab

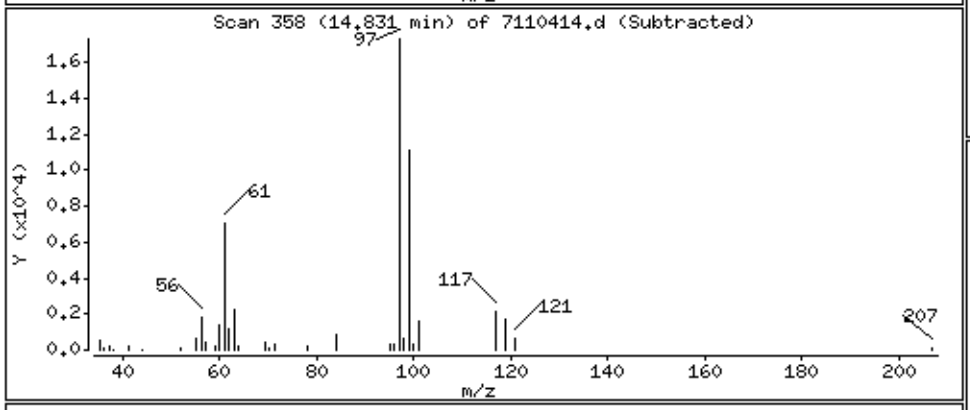
Column phase: RTx-624

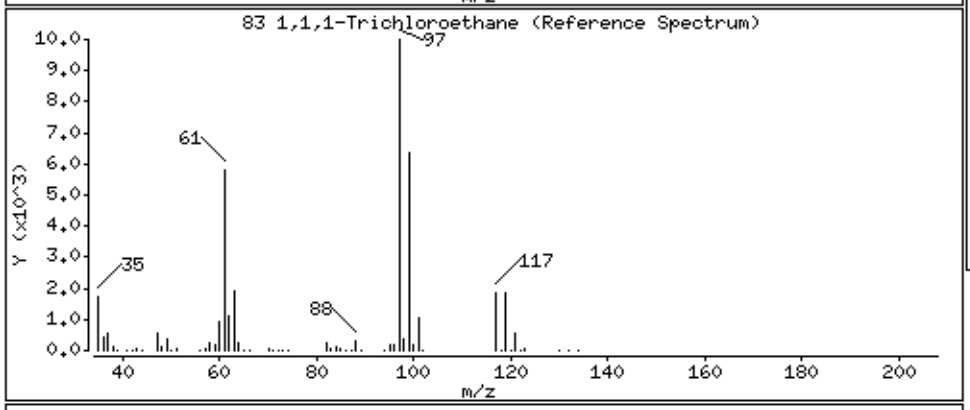
Column diameter: 0.53

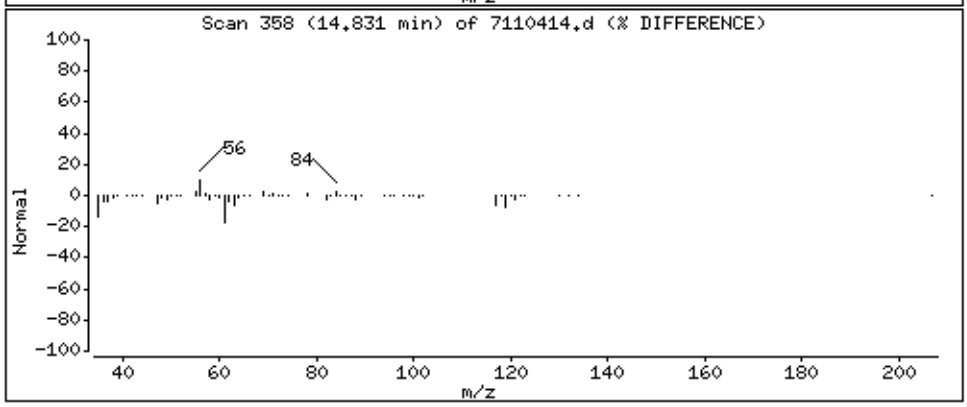
83 1,1,1-Trichloroethane

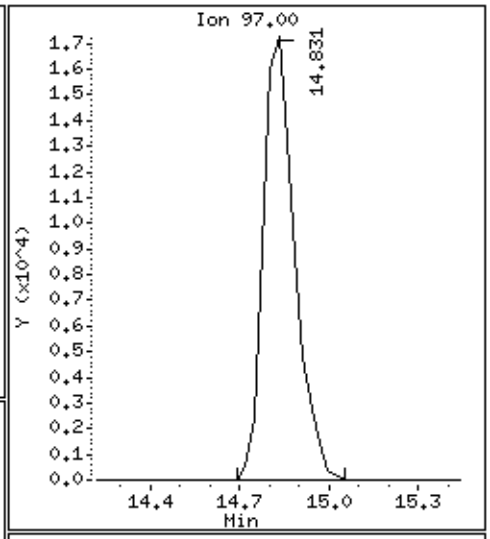
Concentration: 4.088 PPBV

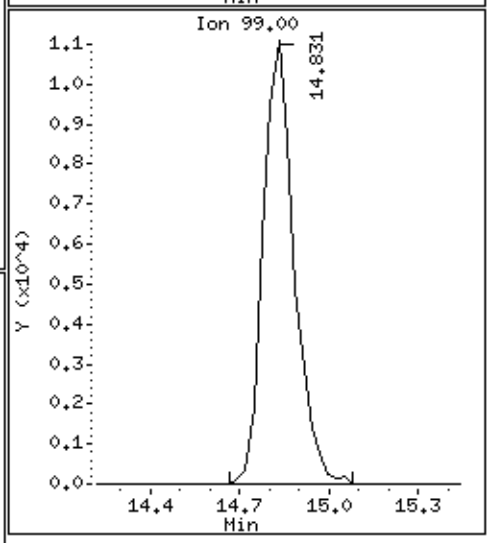












Data File: /chem/msd7.i/7-04nova.b/7110414.d

Date : 05-NOV-2007 03:15

Client ID:

Instrument: msd7.i

Sample Info: 200mL#TO-1556

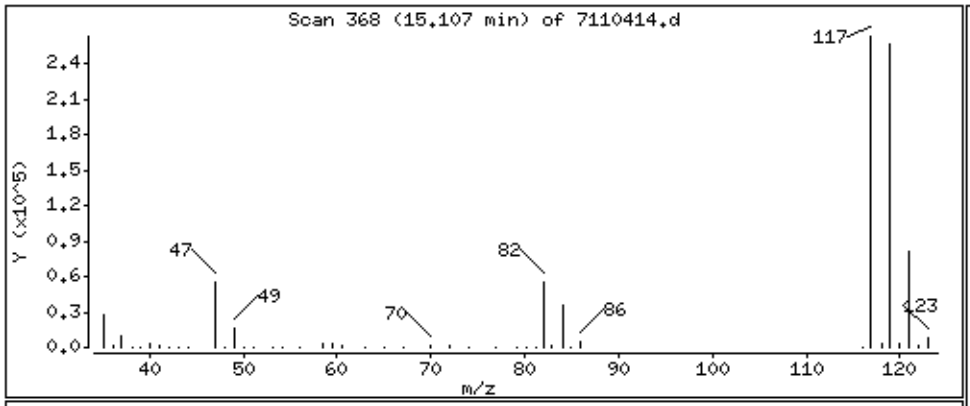
Operator: ab

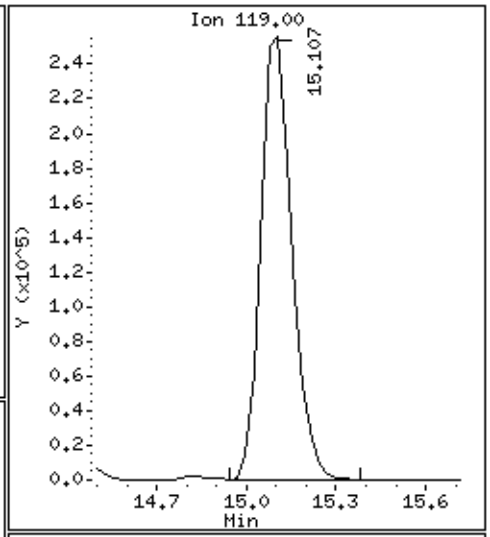
Column phase: RTx-624

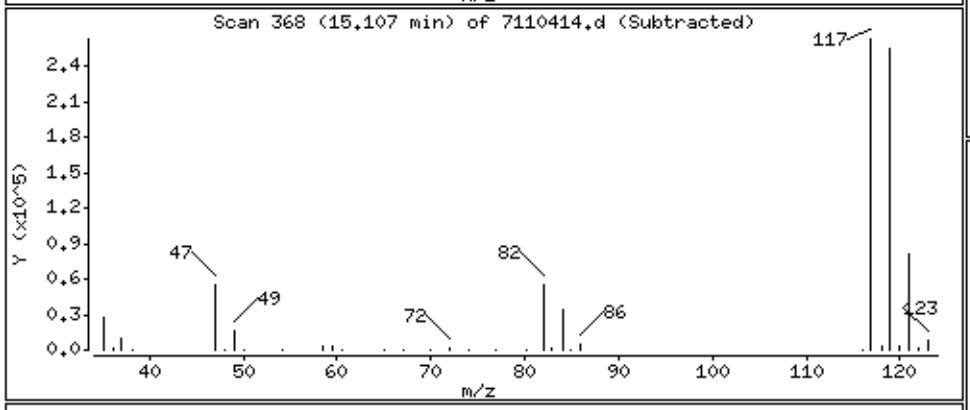
Column diameter: 0.53

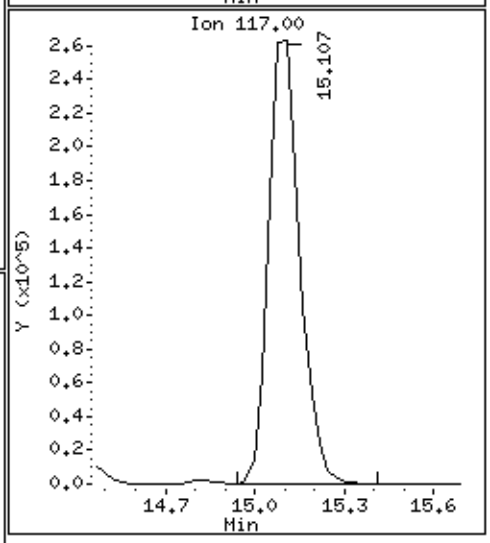
87 Carbon Tetrachloride

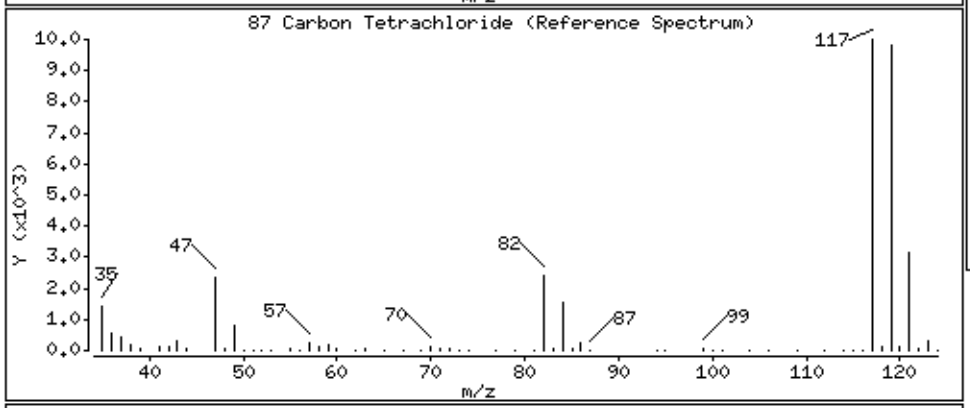
Concentration: 64.165 PPBV

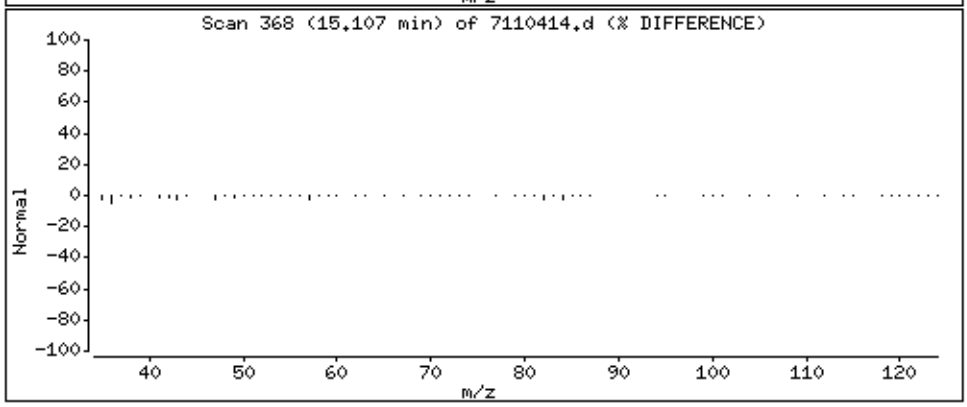












Data File: /chem/msd7.i/7-04nova.b/7110414.d

Date : 05-NOV-2007 03:15

Client ID:

Instrument: msd7.i

Sample Info: 200mL#TO-1556

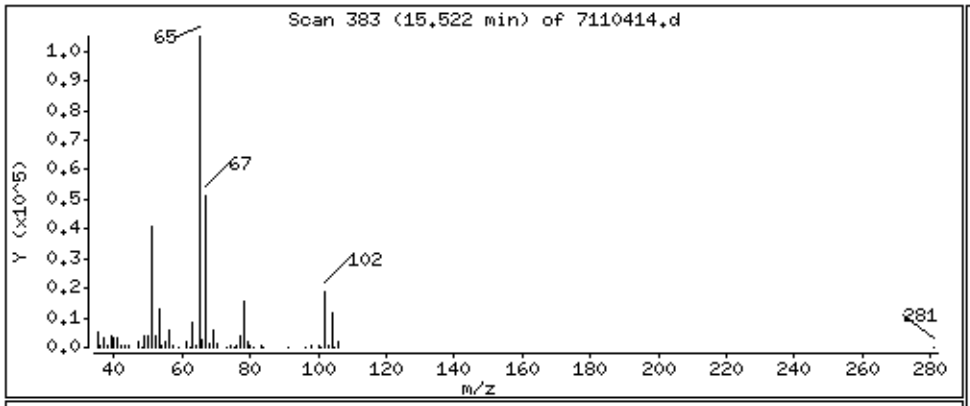
Operator: ab

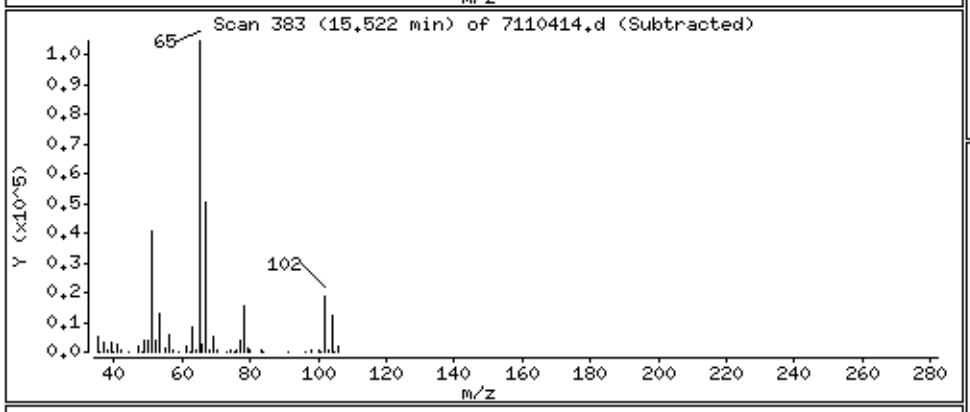
Column phase: RTx-624

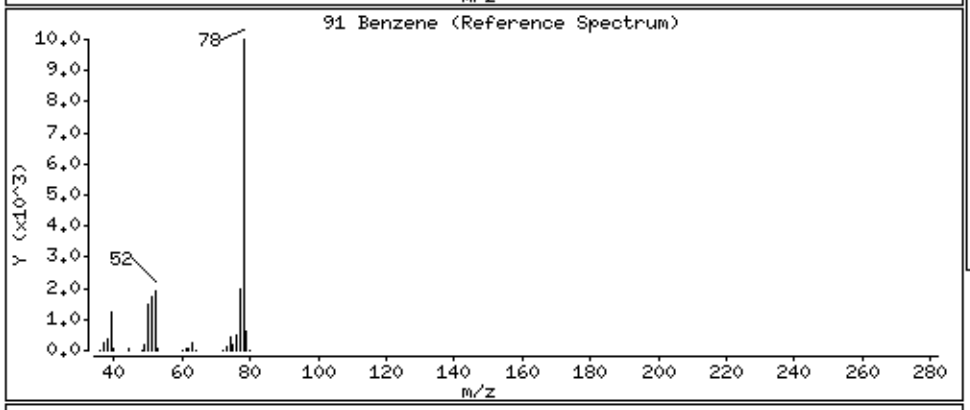
Column diameter: 0.53

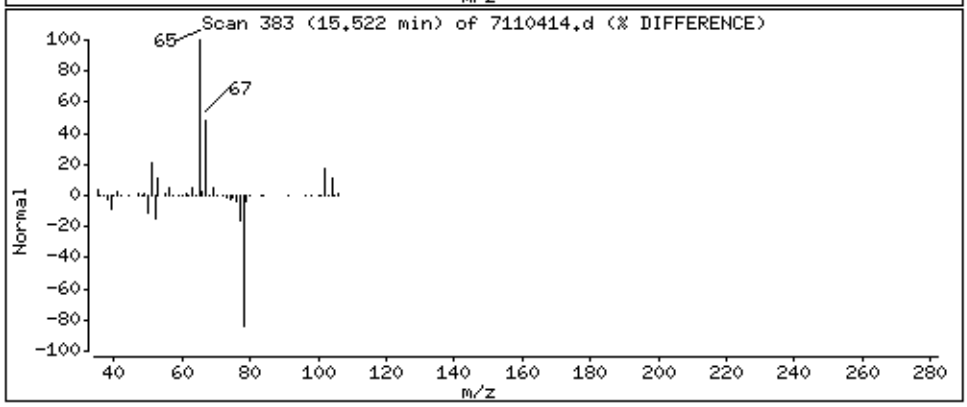
91 Benzene

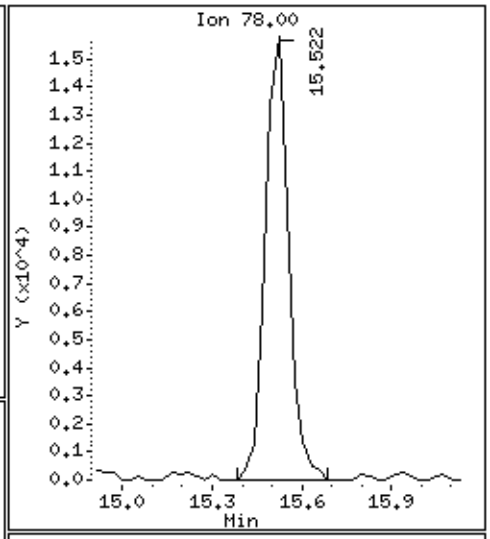
Concentration: 2.015 PPBV

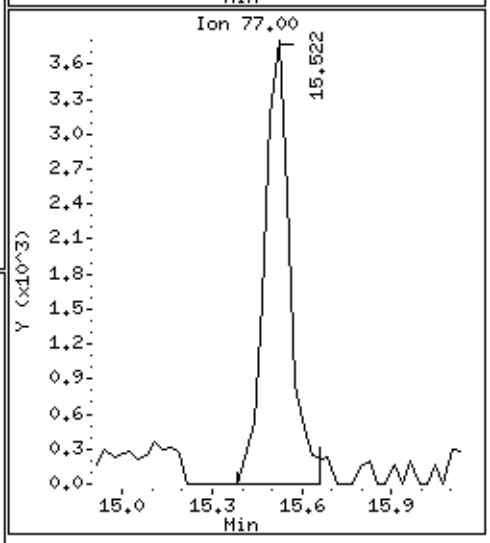












Data File: /chem/msd7.i/7-04nova.b/7110414.d

Date : 05-NOV-2007 03:15

Client ID:

Instrument: msd7.i

Sample Info: 200mL#TO-1556

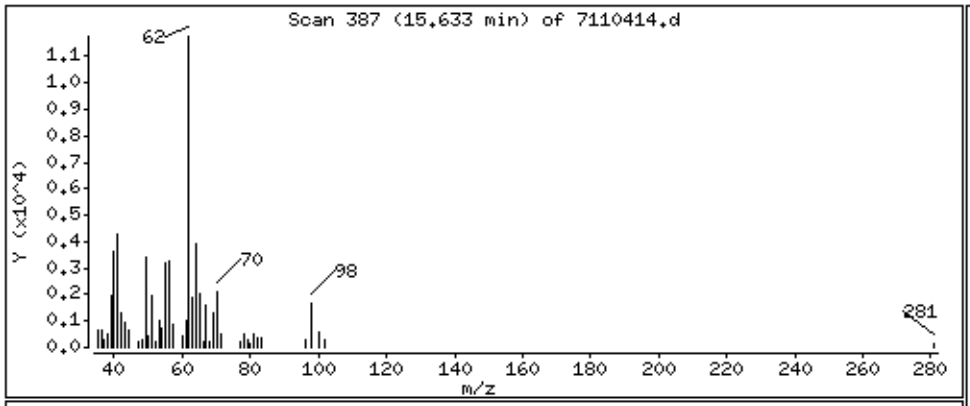
Operator: ab

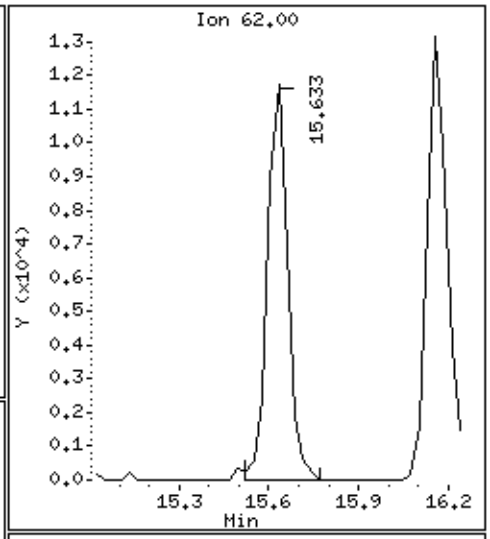
Column phase: RTx-624

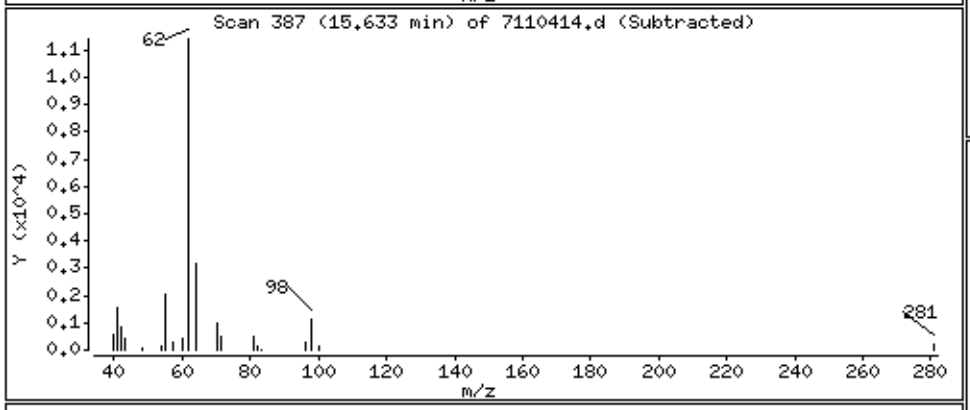
Column diameter: 0.53

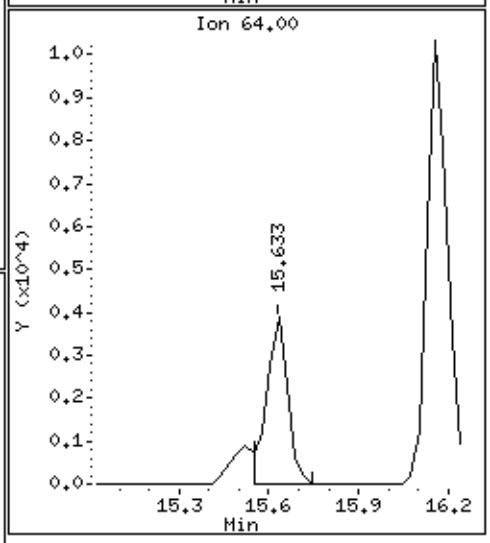
93 1,2-Dichloroethane

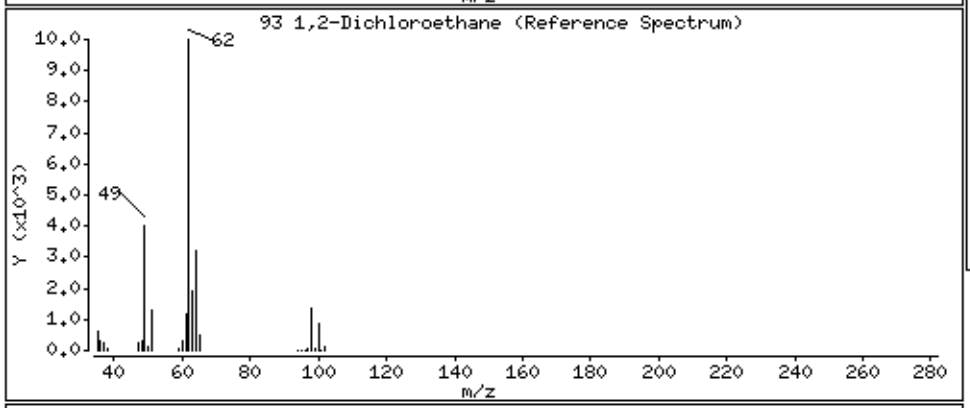
Concentration: 2.434 PPBV

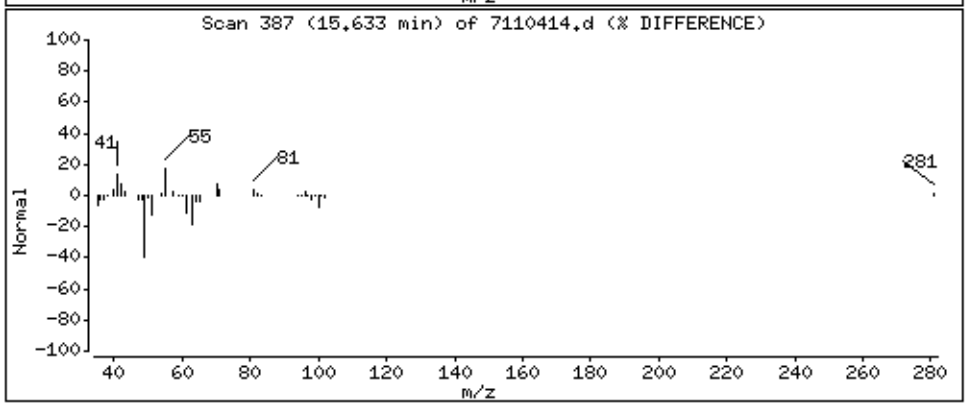












Data File: /chem/msd7.i/7-04nova.b/7110414.d

Date : 05-NOV-2007 03:15

Client ID:

Instrument: msd7.i

Sample Info: 200mL#TO-1556

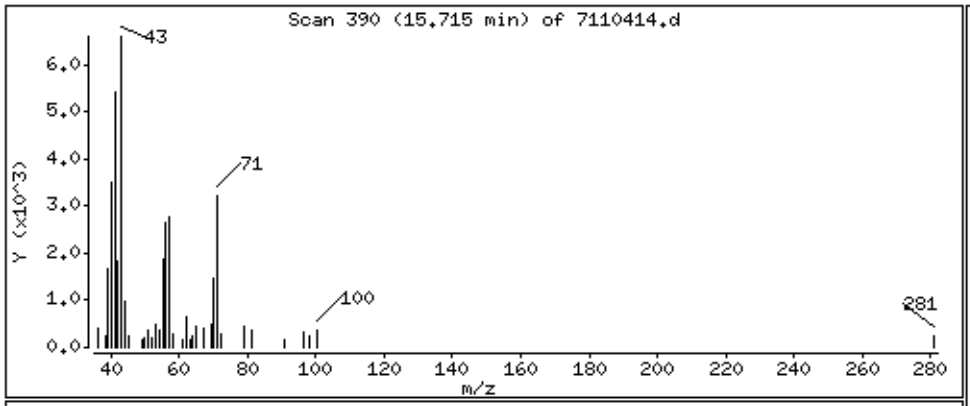
Operator: ab

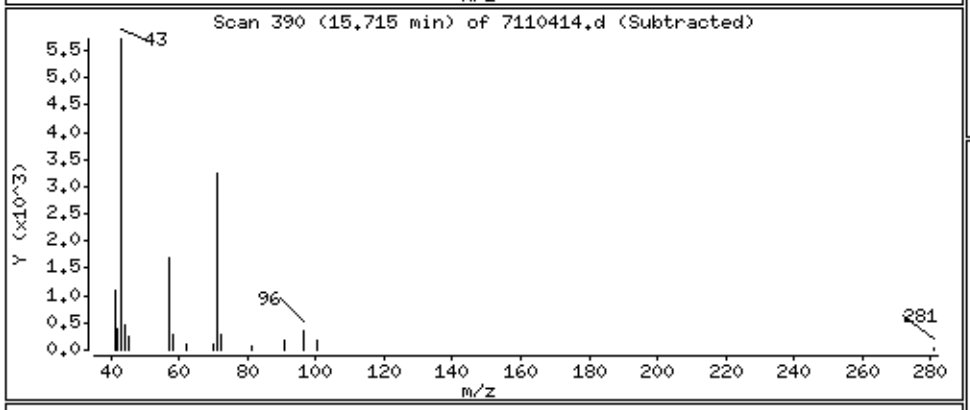
Column phase: RTx-624

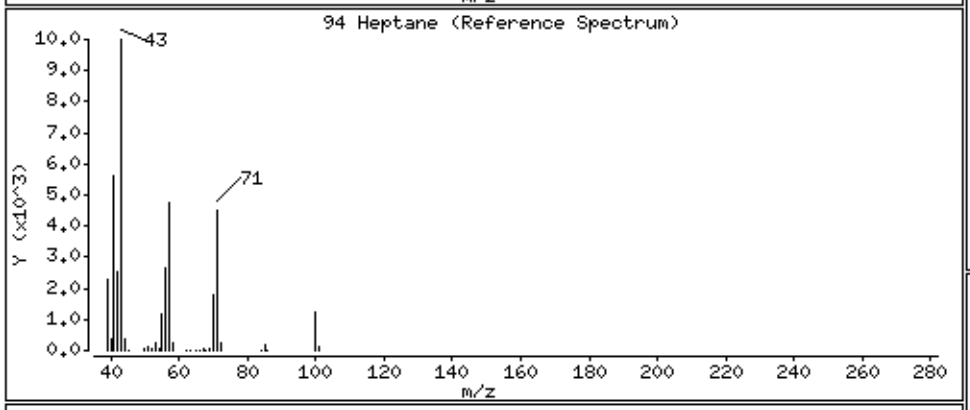
Column diameter: 0.53

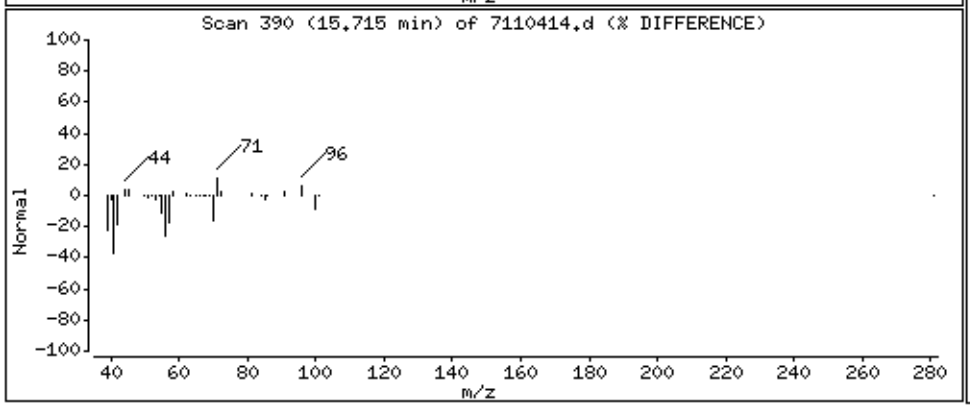
94 Heptane

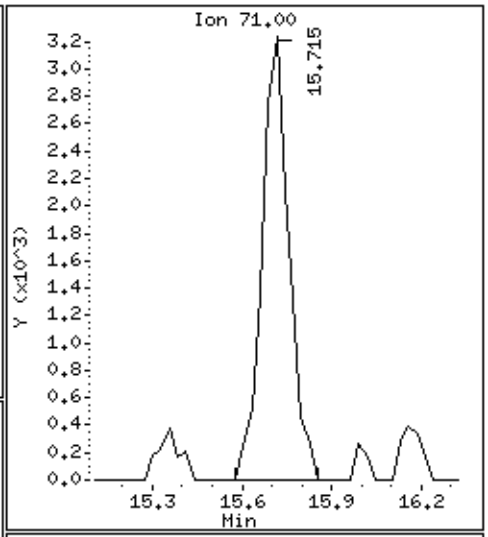
Concentration: 1.541 PPBV

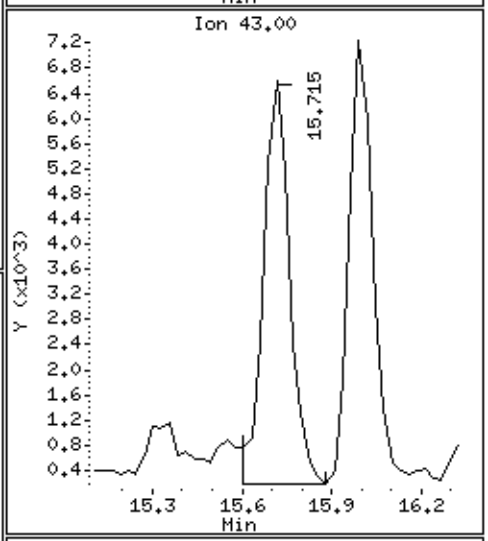


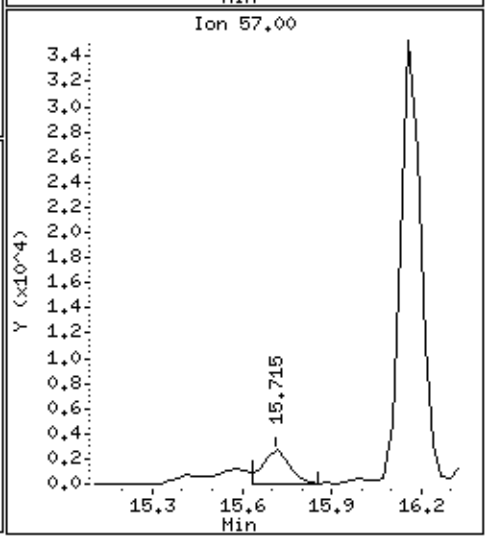












Data File: /chem/msd7.i/7-04nova.b/7110414.d

Date : 05-NOV-2007 03:15

Client ID:

Instrument: msd7.i

Sample Info: 200mL#TO-1556

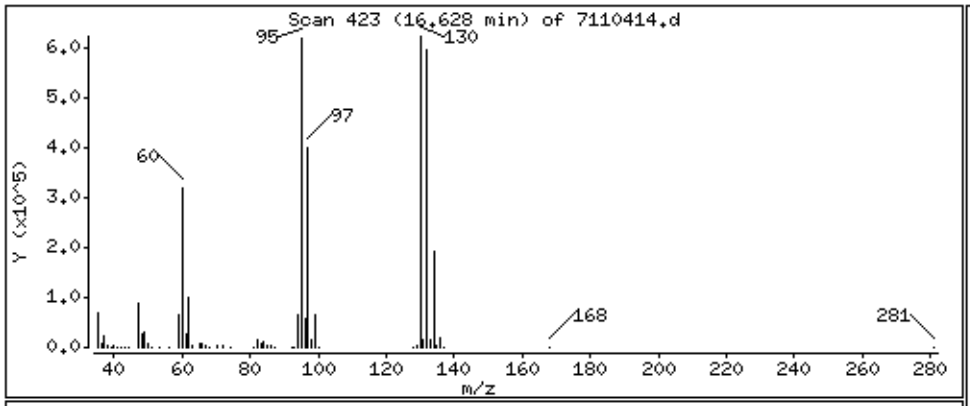
Operator: ab

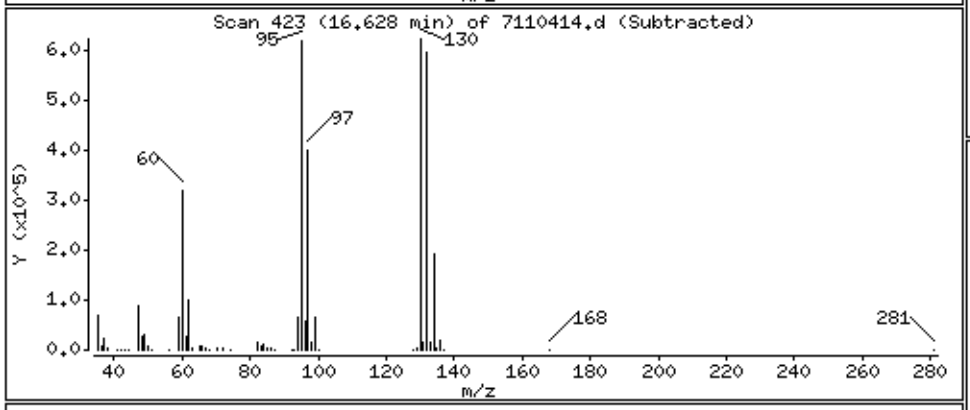
Column phase: RTx-624

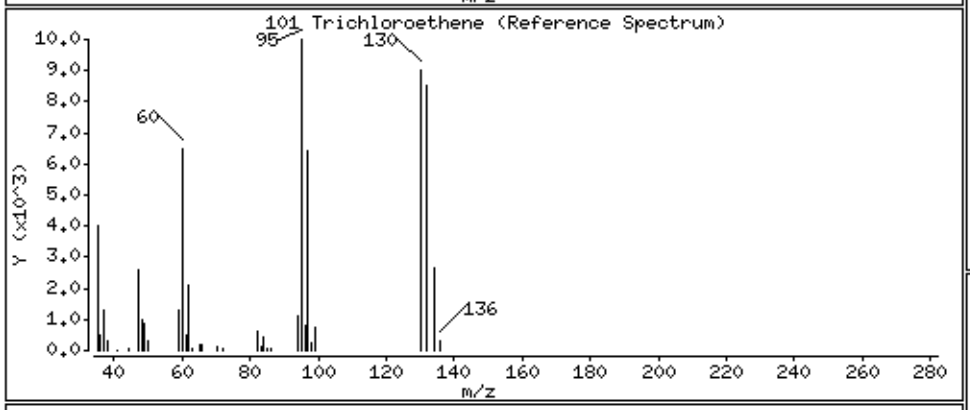
Column diameter: 0.53

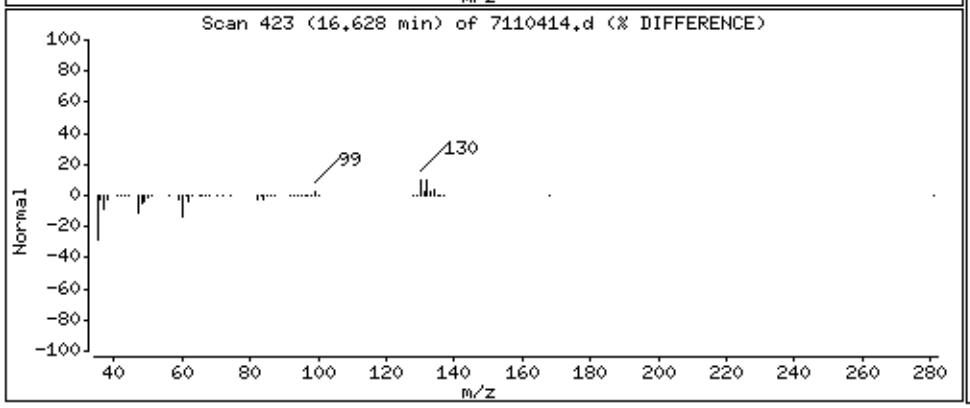
101 Trichloroethene

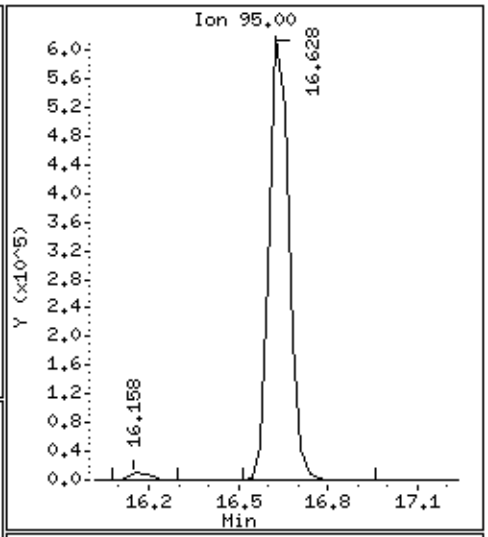
Concentration: 150.35 PPBV

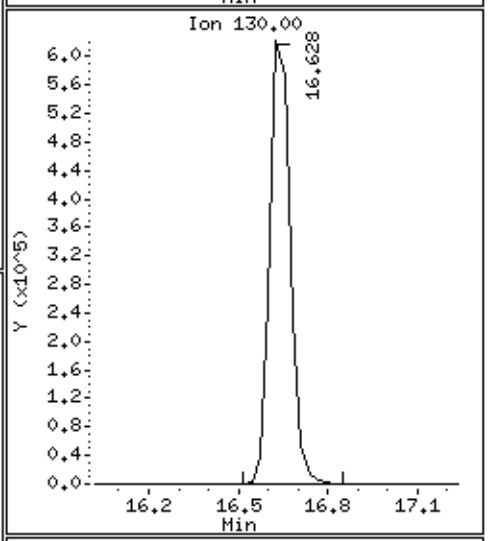


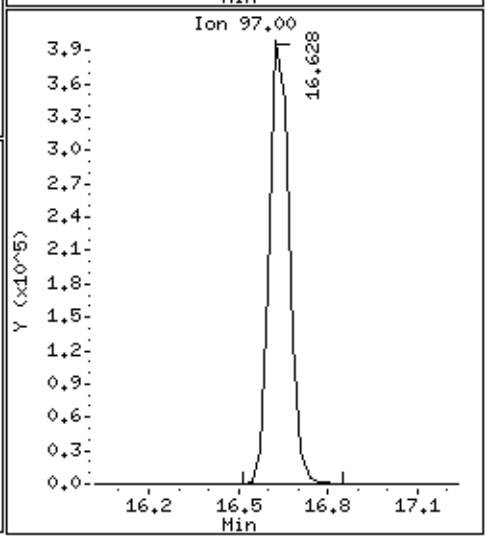












Data File: /chem/msd7.i/7-04nova.b/7110414.d

Date : 05-NOV-2007 03:15

Client ID:

Instrument: msd7.i

Sample Info: 200mL#TO-1556

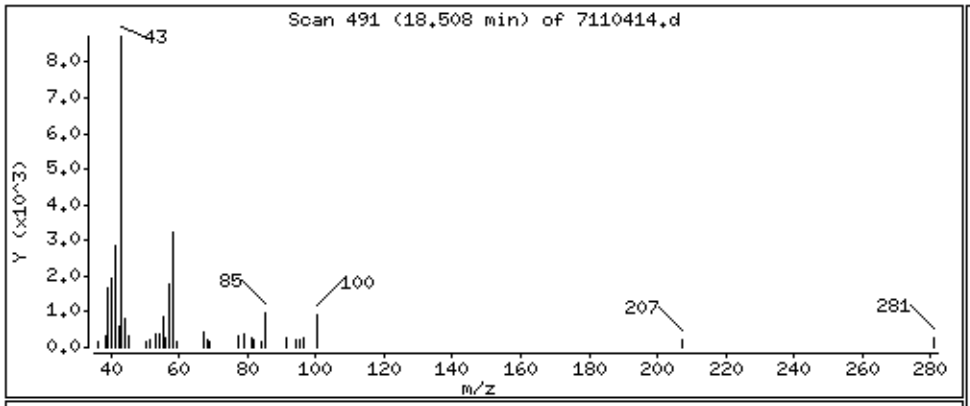
Operator: ab

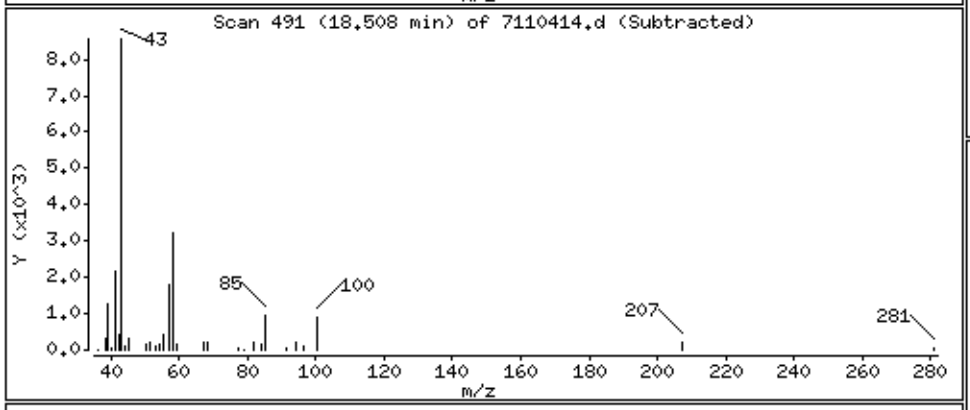
Column phase: RTx-624

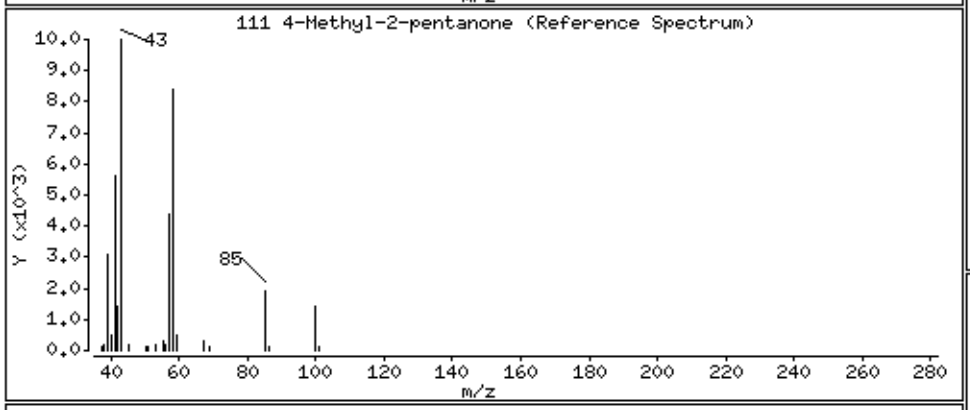
Column diameter: 0.53

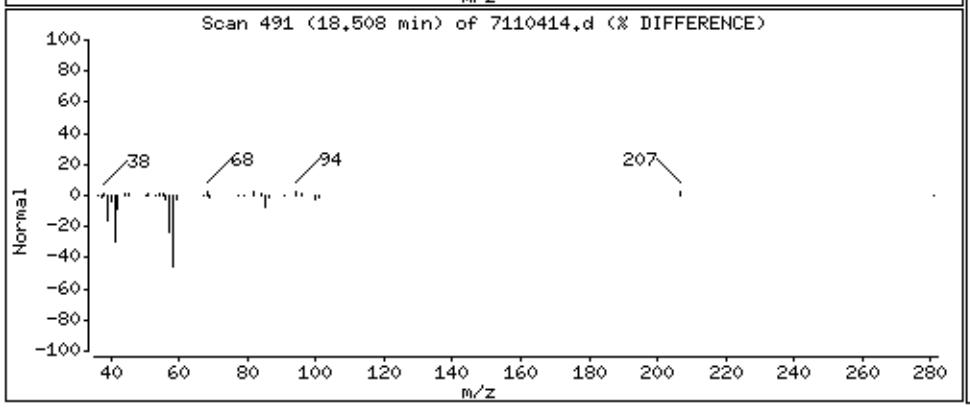
111 4-Methyl-2-pentanone

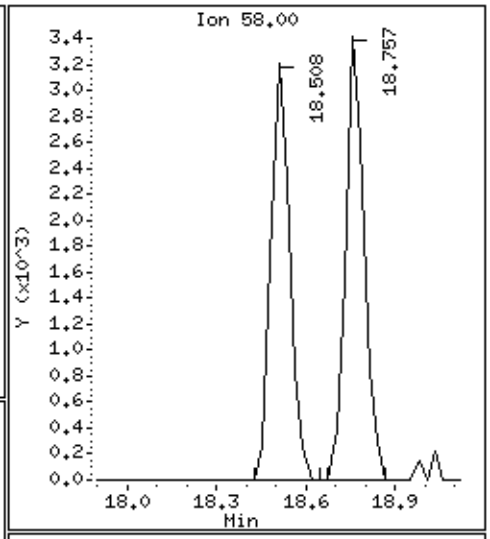
Concentration: 1.109 PPBV

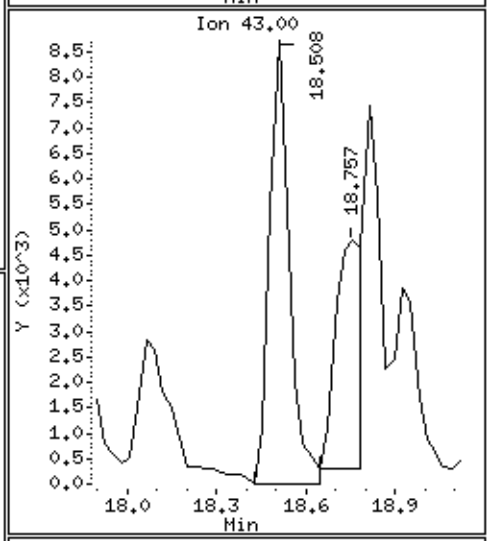


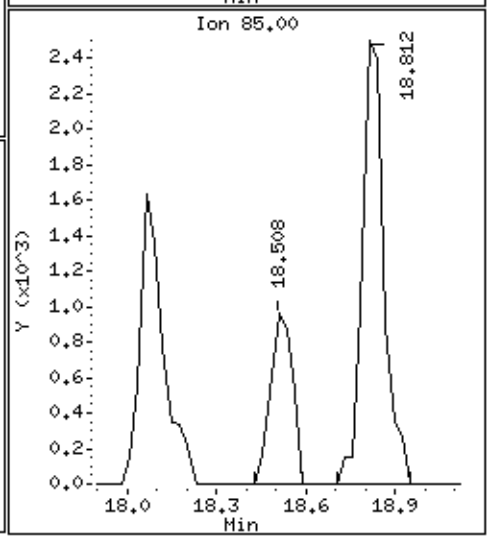












Data File: /chem/msd7.i/7-04nova.b/7110414.d

Date : 05-NOV-2007 03:15

Client ID:

Instrument: msd7.i

Sample Info: 200mL#TO-1556

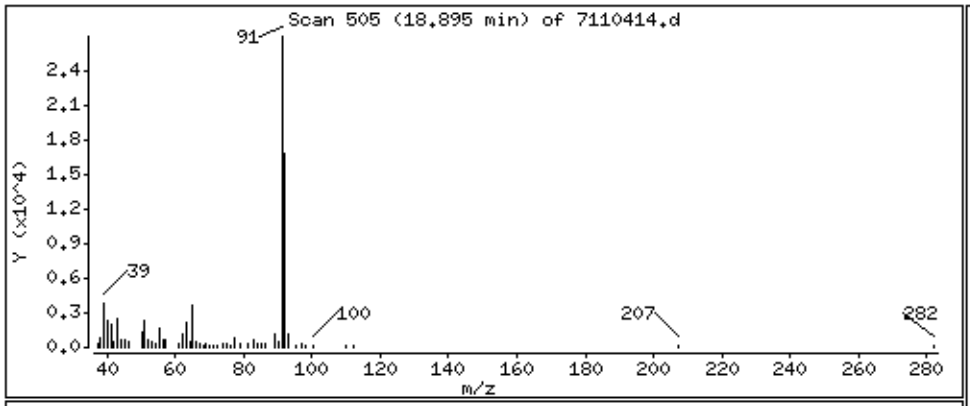
Operator: ab

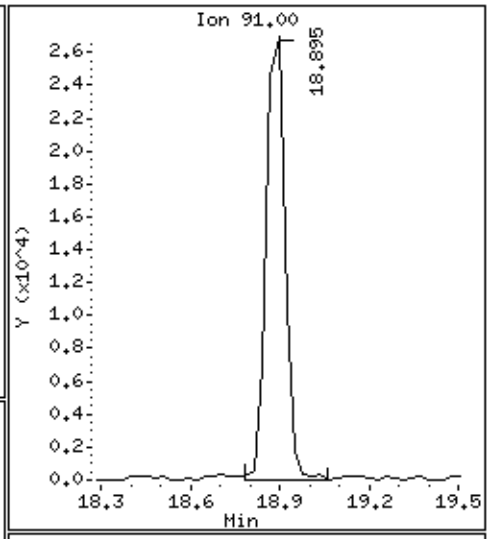
Column phase: RTx-624

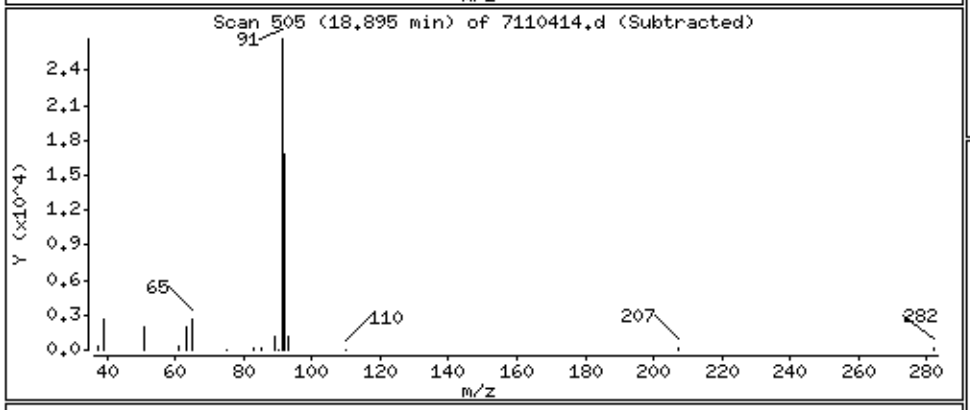
Column diameter: 0.53

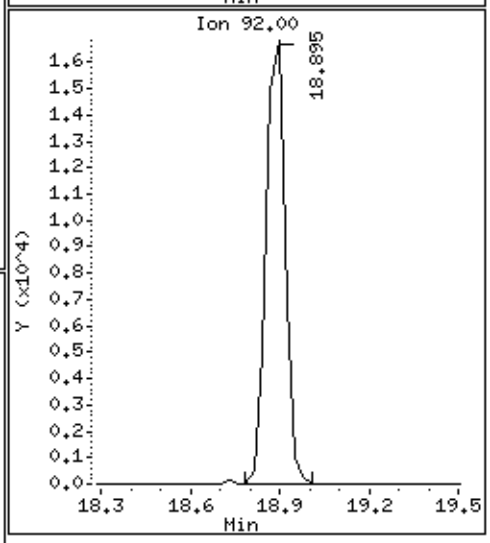
114 Toluene

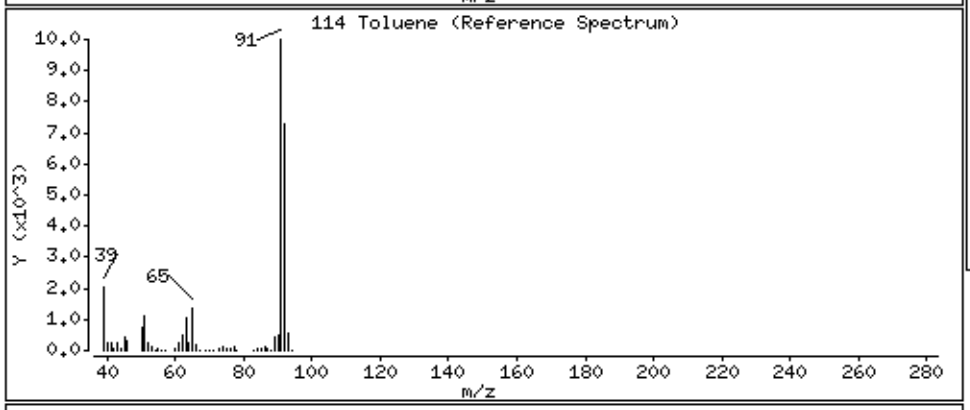
Concentration: 2.547 PPBV

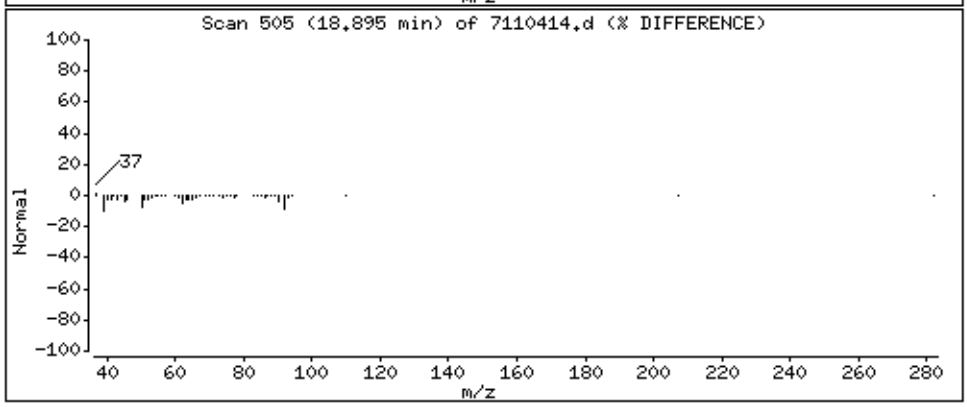












Data File: /chem/msd7.i/7-04nova.b/7110414.d

Date : 05-NOV-2007 03:15

Client ID:

Instrument: msd7.i

Sample Info: 200mL#TO-1556

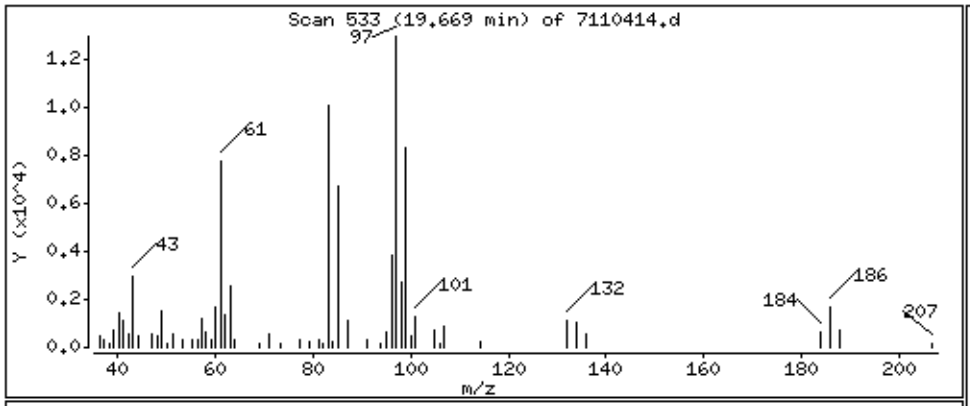
Operator: ab

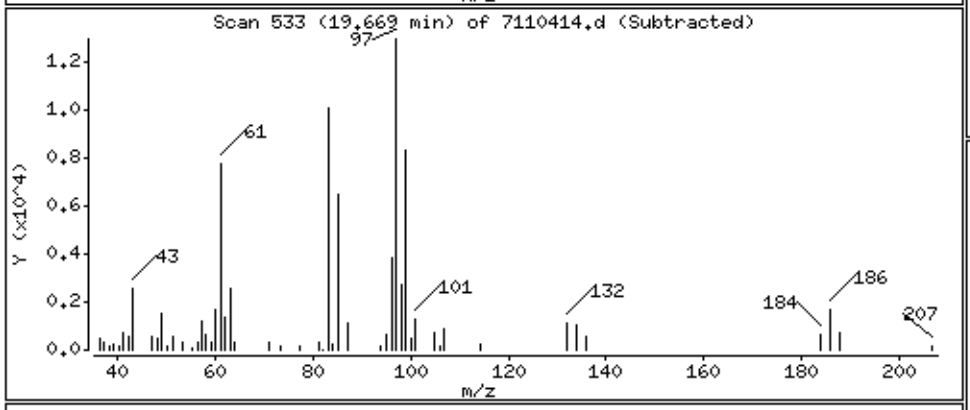
Column phase: RTx-624

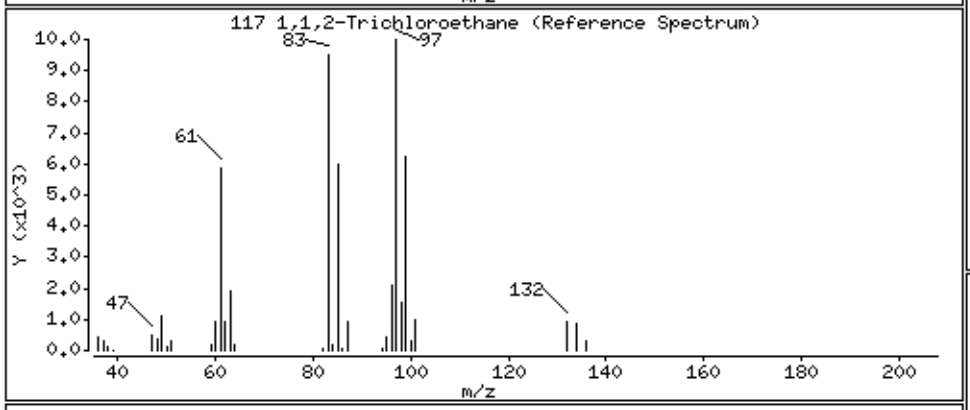
Column diameter: 0.53

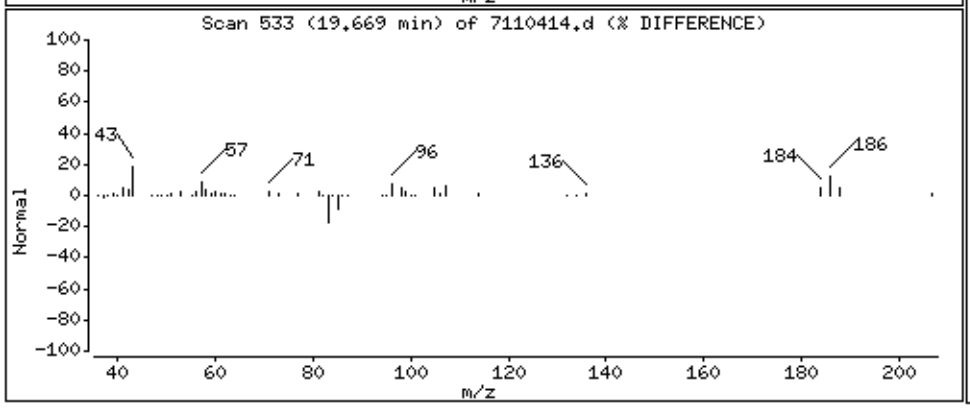
117 1,1,2-Trichloroethane

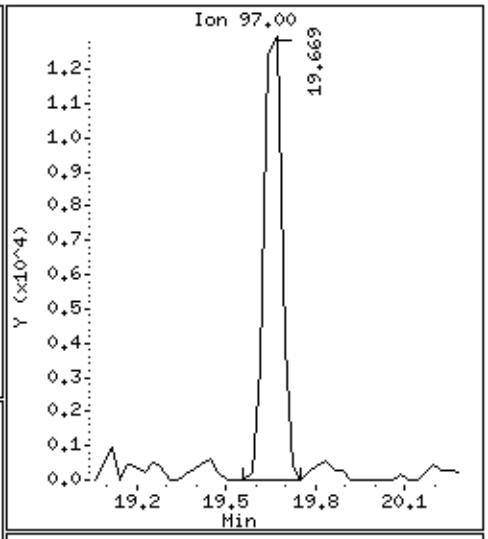
Concentration: 3.428 PPBV

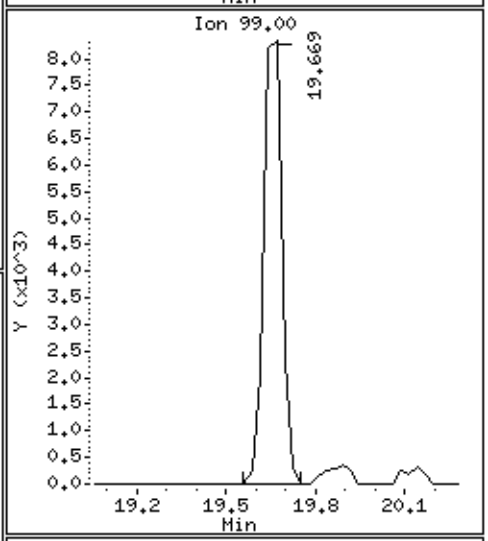


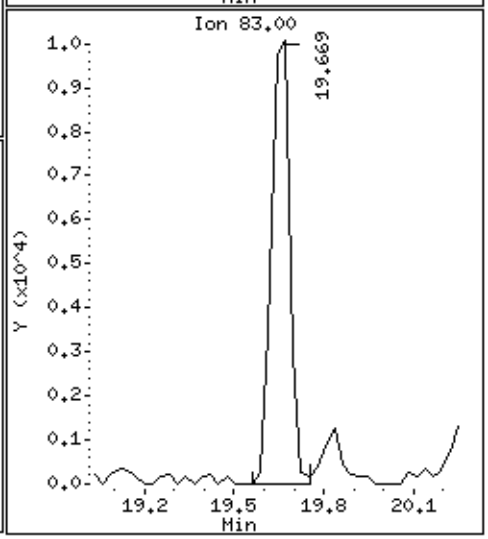












Data File: /chem/msd7.i/7-04nova.b/7110414.d

Date : 05-NOV-2007 03:15

Client ID:

Instrument: msd7.i

Sample Info: 200mL#TO-1556

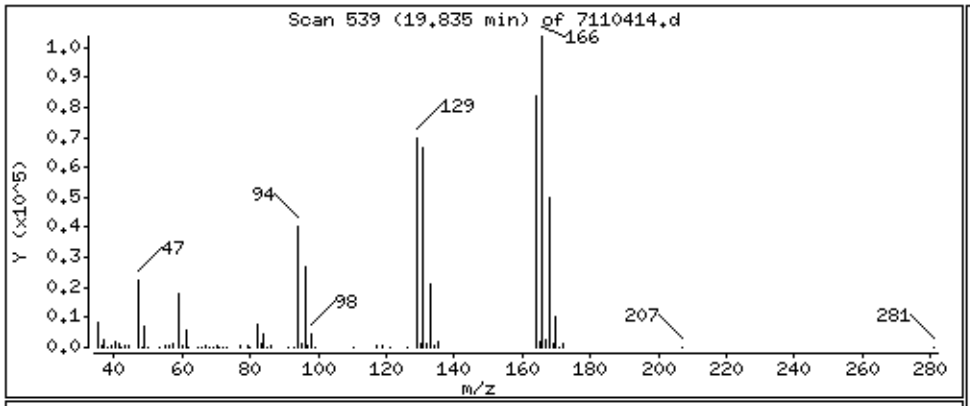
Operator: ab

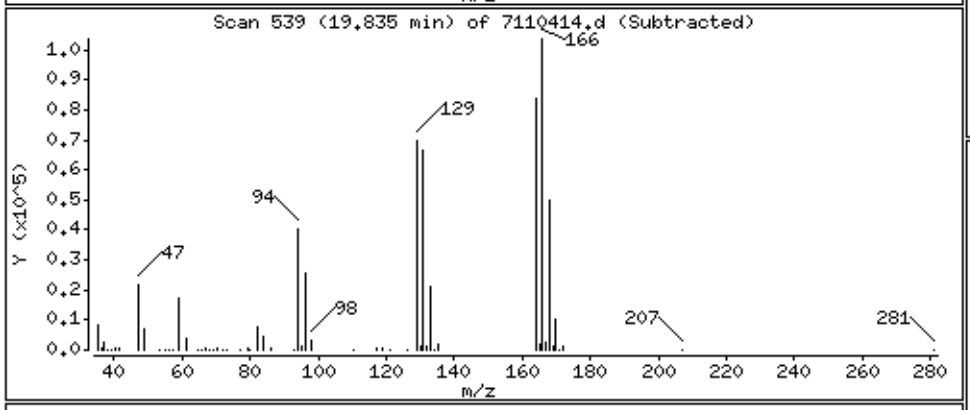
Column phase: RTx-624

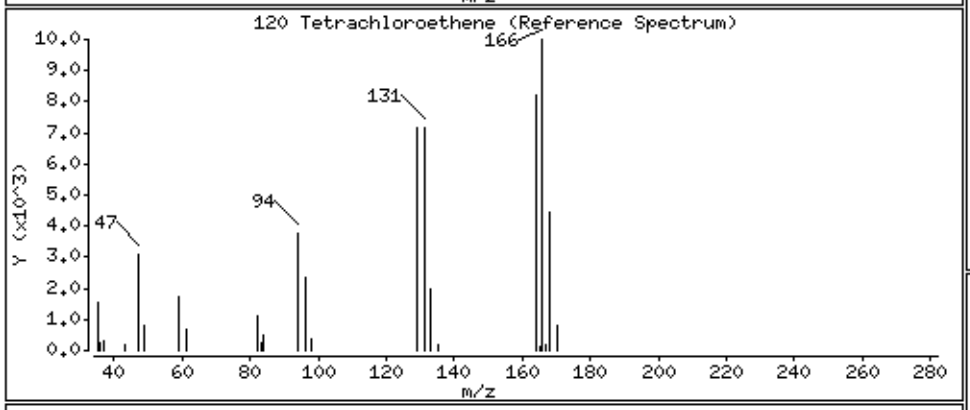
Column diameter: 0.53

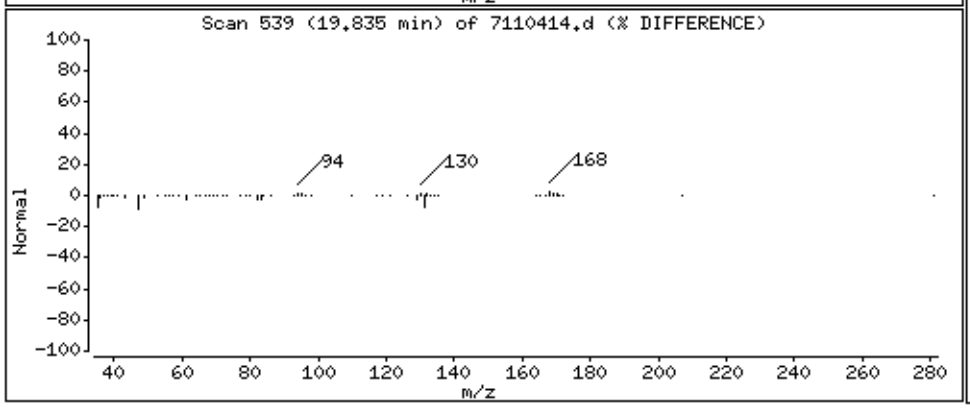
120 Tetrachloroethene

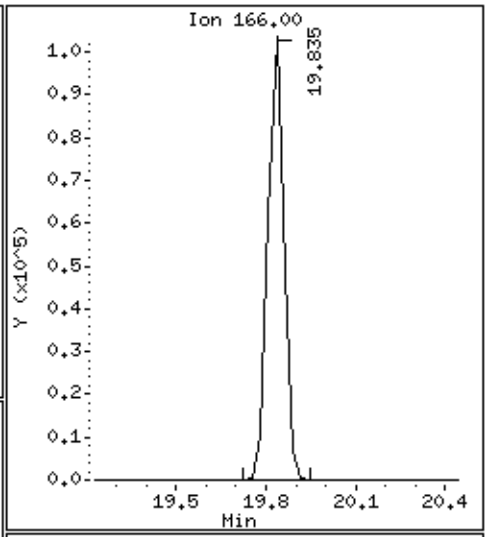
Concentration: 18.458 PPBV

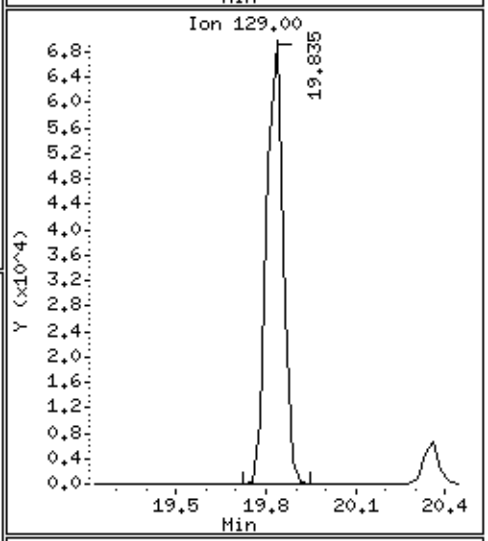


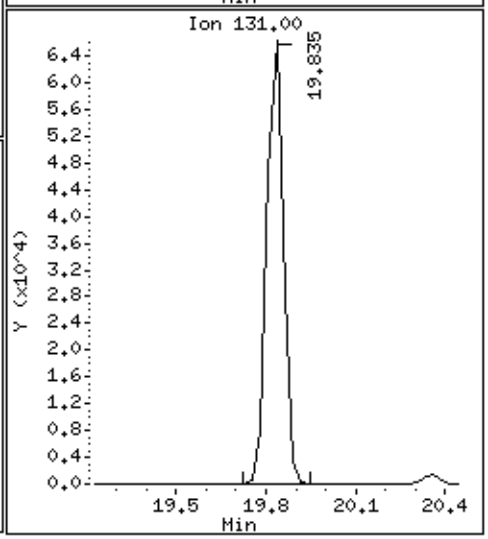












Data File: /chem/msd7.i/7-04nova.b/7110414.d

Date : 05-NOV-2007 03:15

Client ID:

Instrument: msd7.i

Sample Info: 200mL#TO-1556

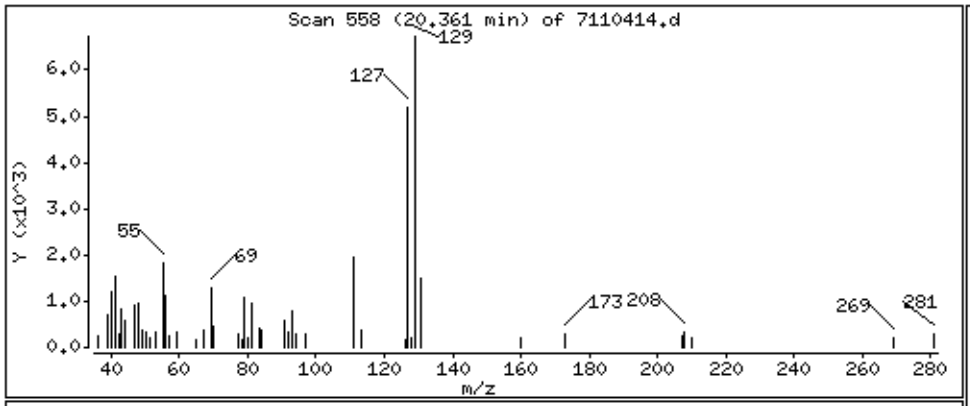
Operator: ab

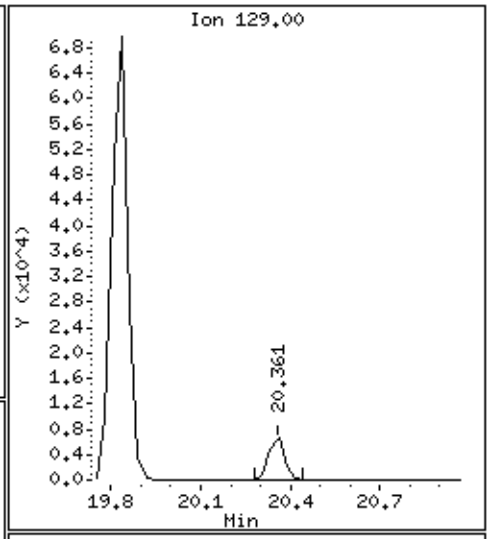
Column phase: RTx-624

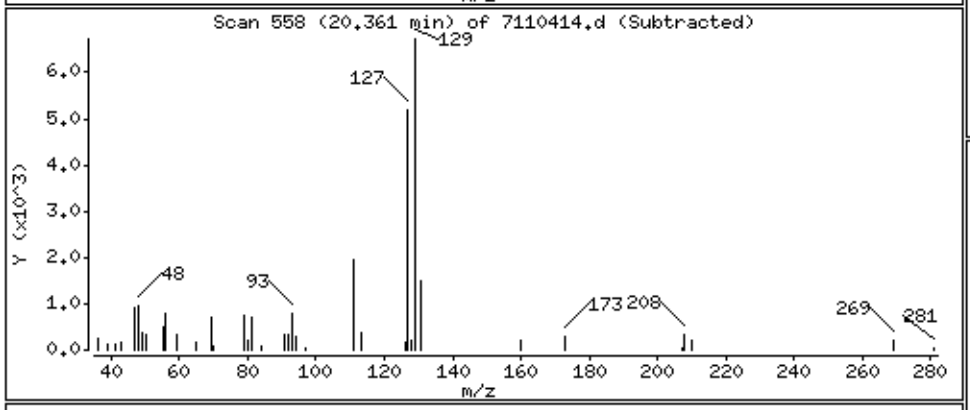
Column diameter: 0.53

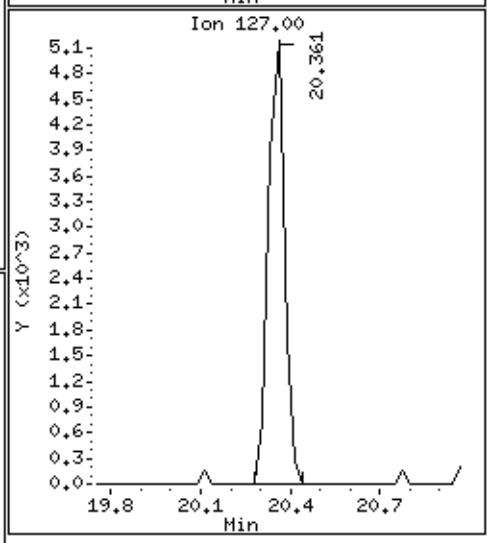
122 Dibromochloromethane

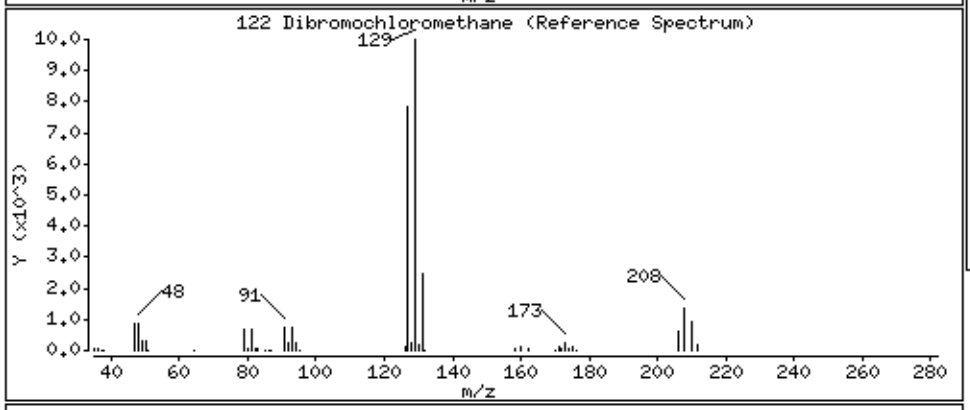
Concentration: 0.8604 PPBV

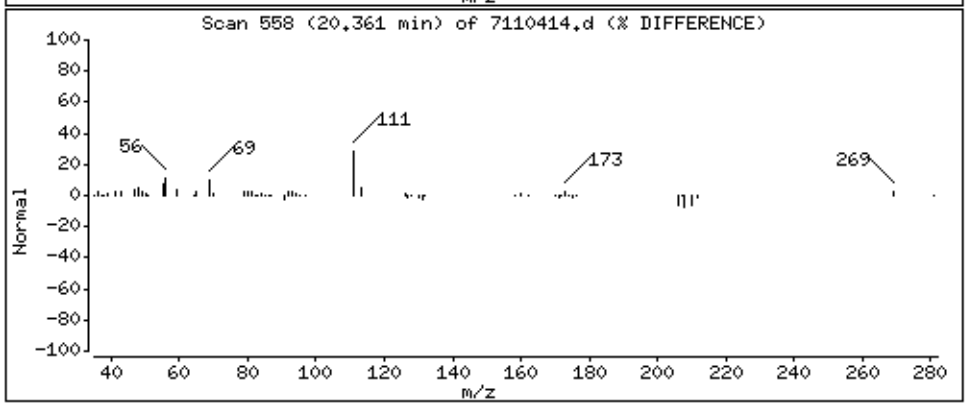












Data File: /chem/msd7.i/7-04nova.b/7110414.d

Date : 05-NOV-2007 03:15

Client ID:

Instrument: msd7.i

Sample Info: 200mL#TO-1556

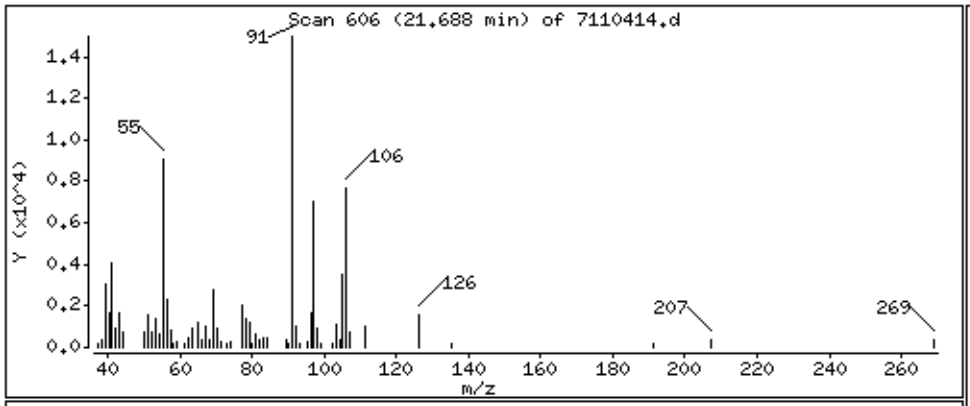
Operator: ab

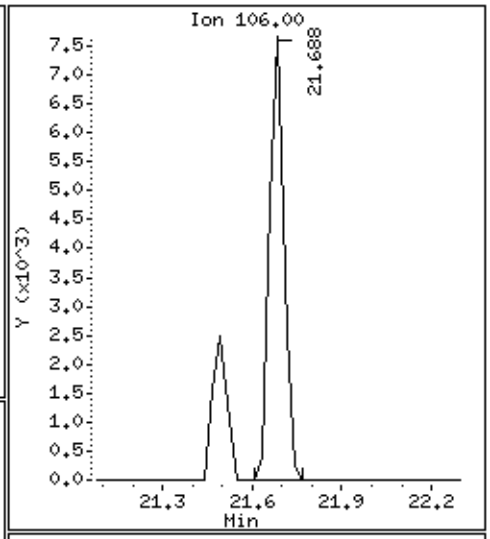
Column phase: RTx-624

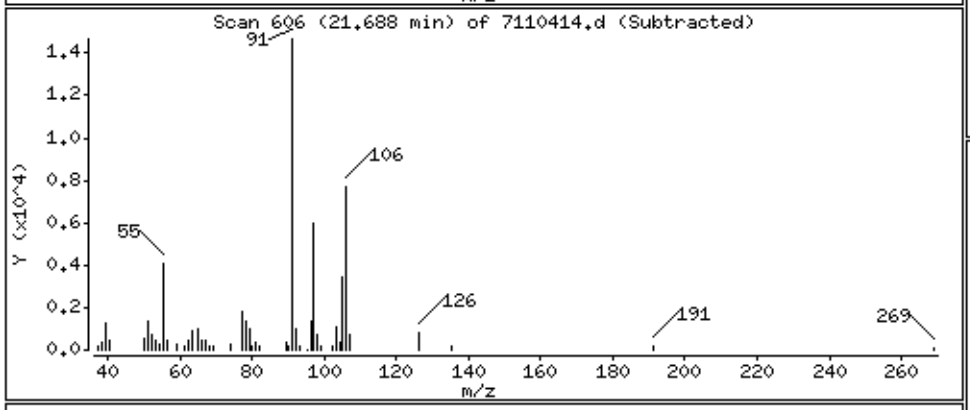
Column diameter: 0.53

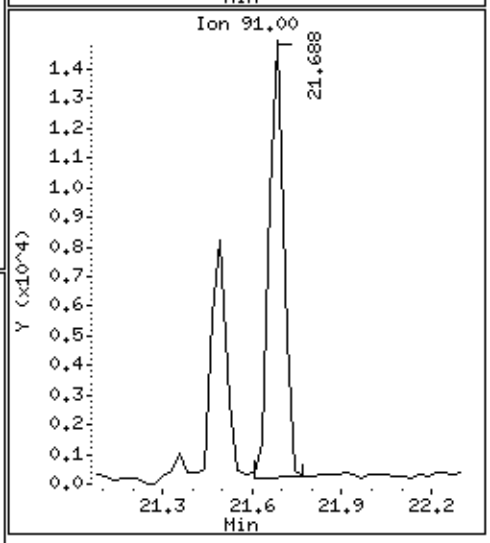
129 m,p-Xylene

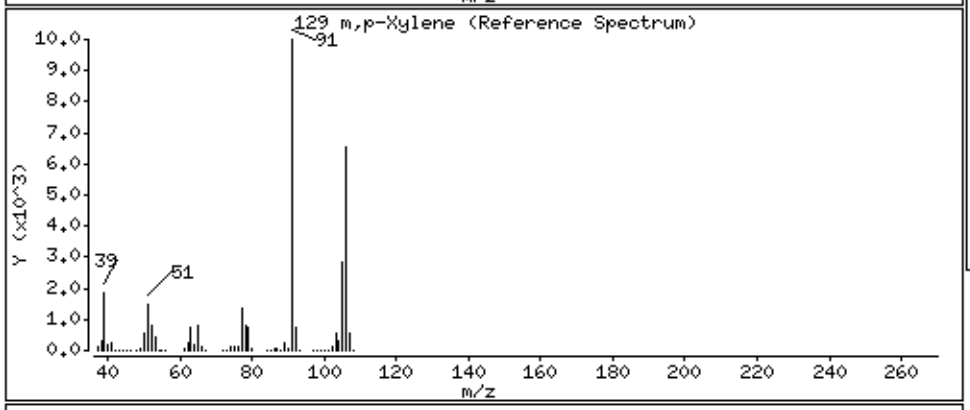
Concentration: 1.154 PPBV

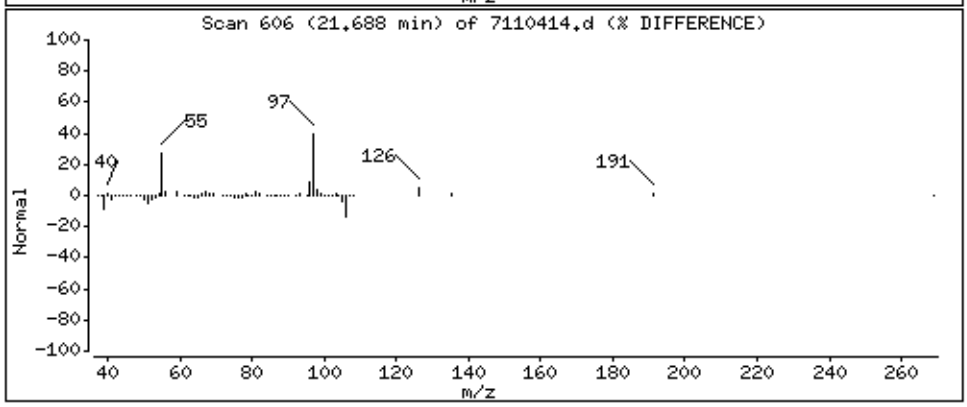












Data File: /chem/msd7.i/7-04nova.b/7110414.d

Date : 05-NOV-2007 03:15

Client ID:

Instrument: msd7.i

Sample Info: 200mL#TO-1556

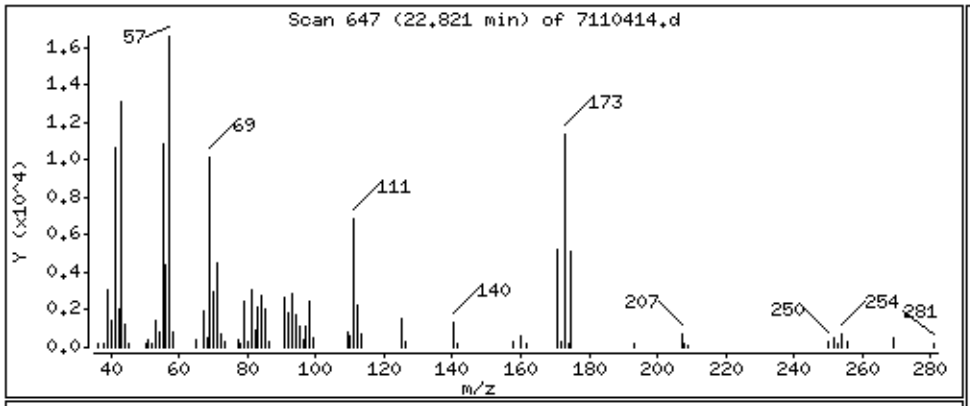
Operator: ab

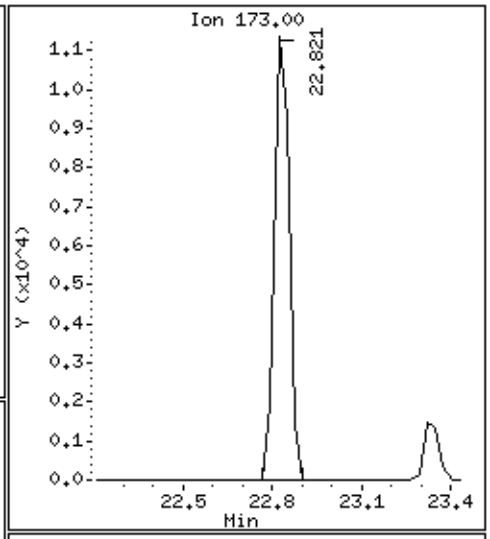
Column phase: RTx-624

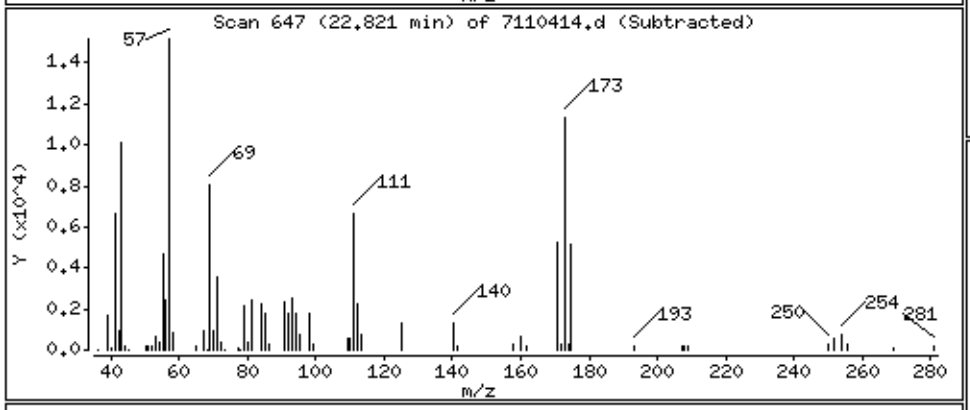
Column diameter: 0.53

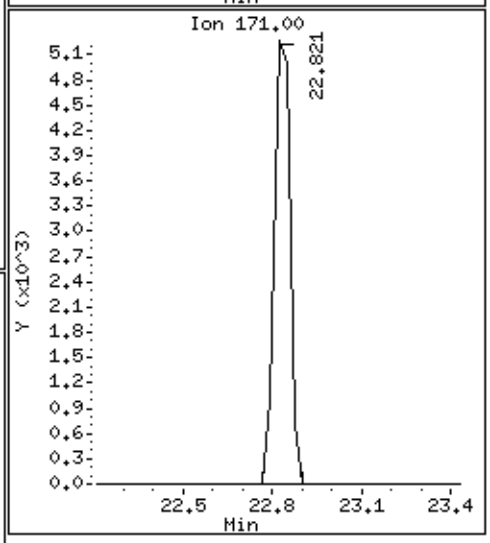
133 Bromoform

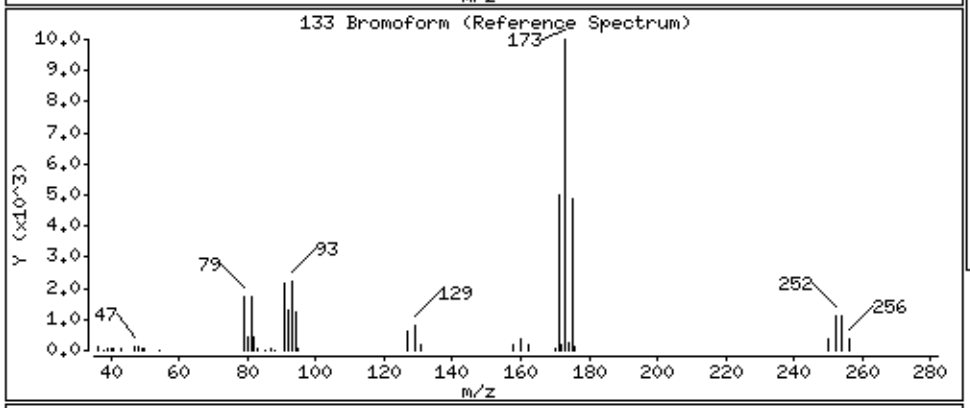
Concentration: 1.588 PPBV

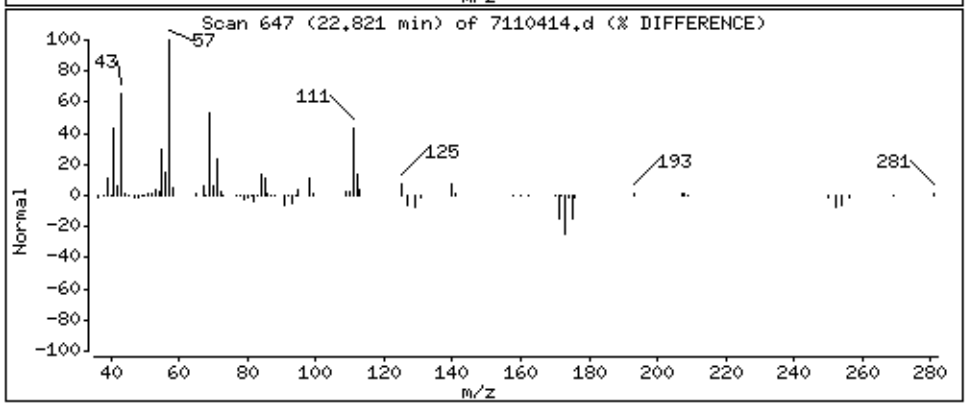












Data File: /chem/msd7.i/7-04nova.b/7110414.d

Date : 05-NOV-2007 03:15

Client ID:

Instrument: msd7.i

Sample Info: 200mL#TO-1556

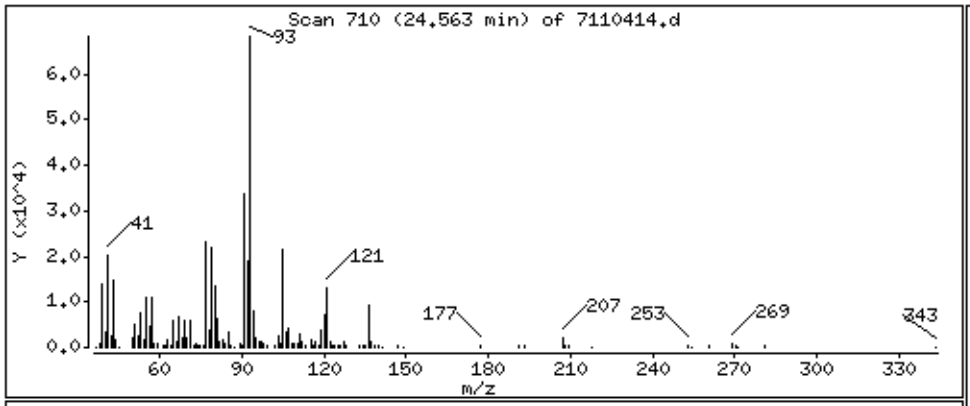
Operator: ab

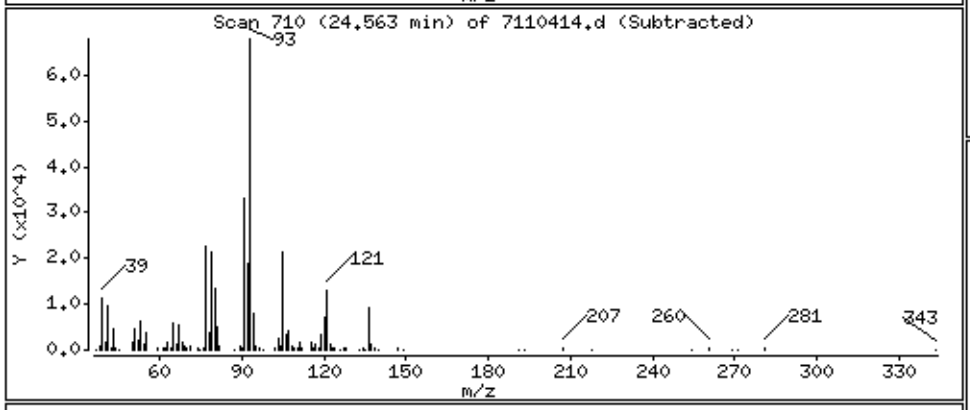
Column phase: RTx-624

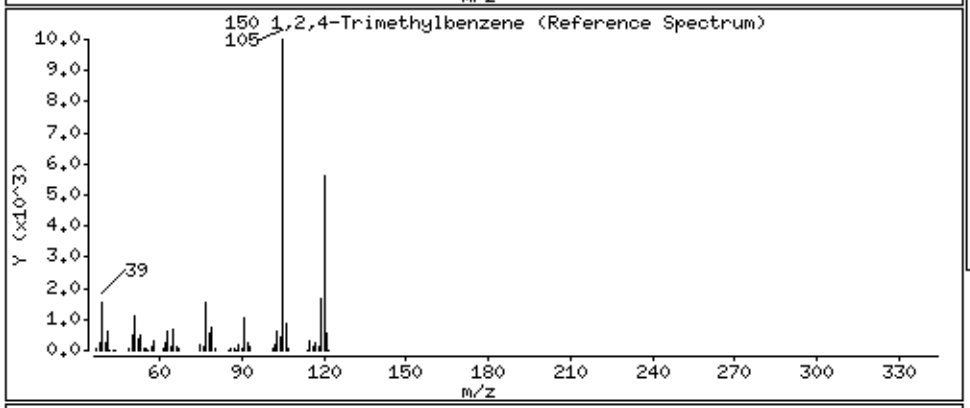
Column diameter: 0.53

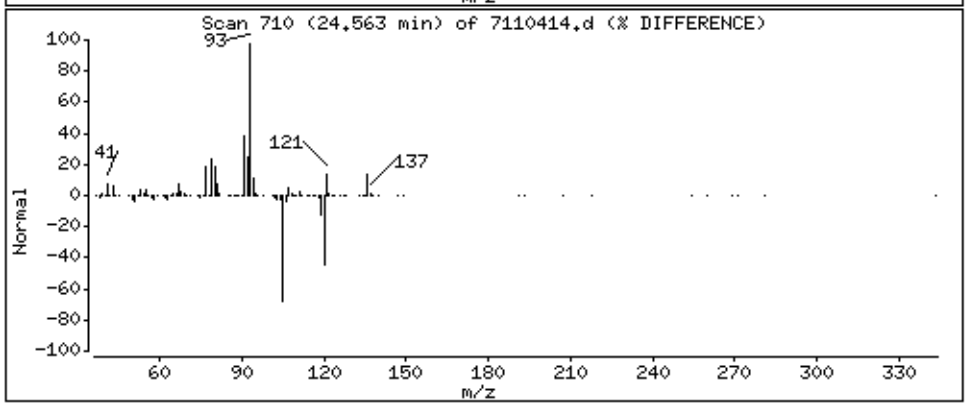
150 1,2,4-Trimethylbenzene

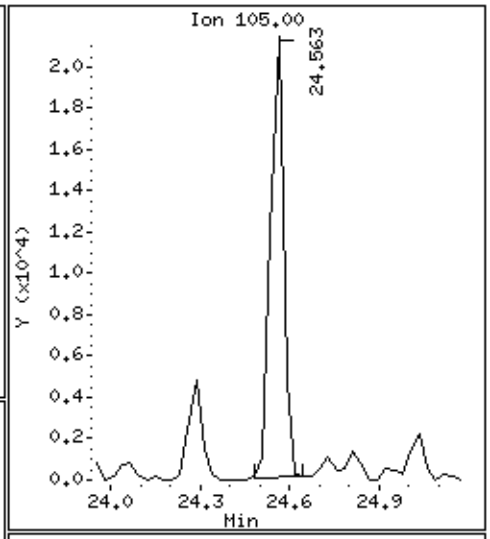
Concentration: 1.563 PPBV

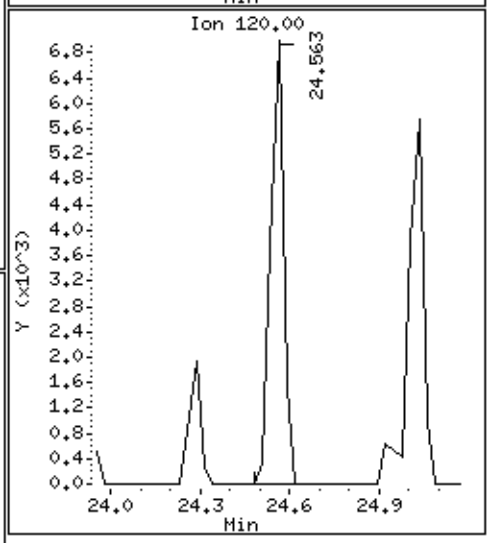












Data File: /chem/msd7.i/7-04nova.b/7110414.d

Date : 05-NOV-2007 03:15

Client ID:

Instrument: msd7.i

Sample Info: 200mL#TO-1556

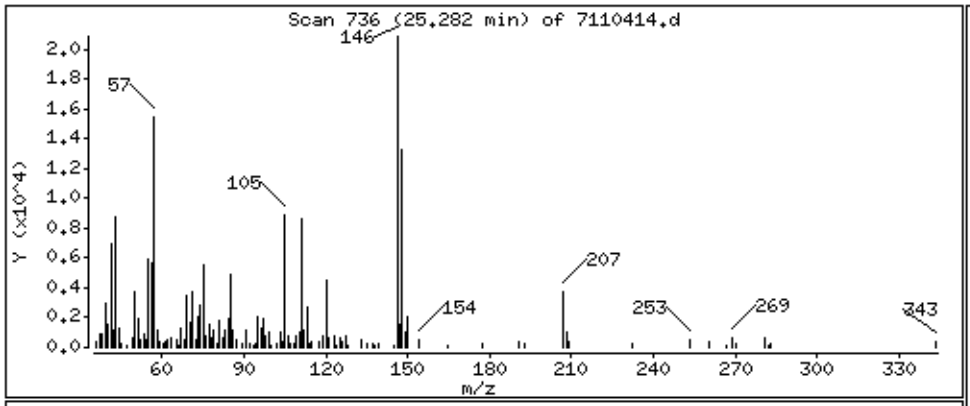
Operator: ab

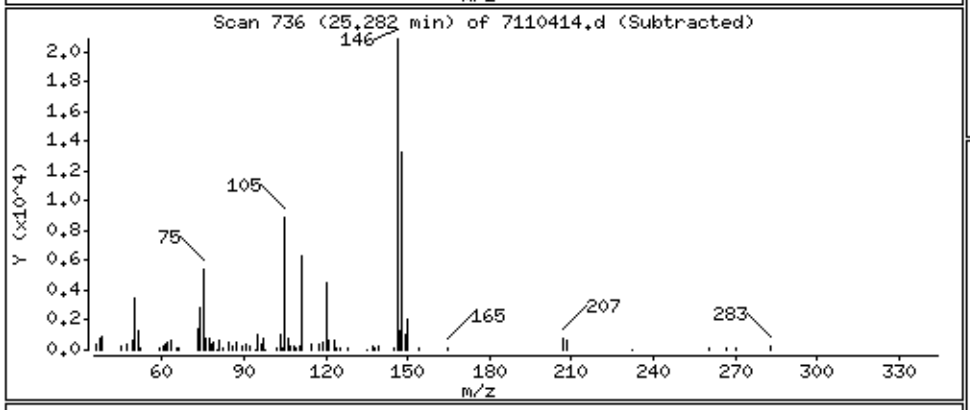
Column phase: RTx-624

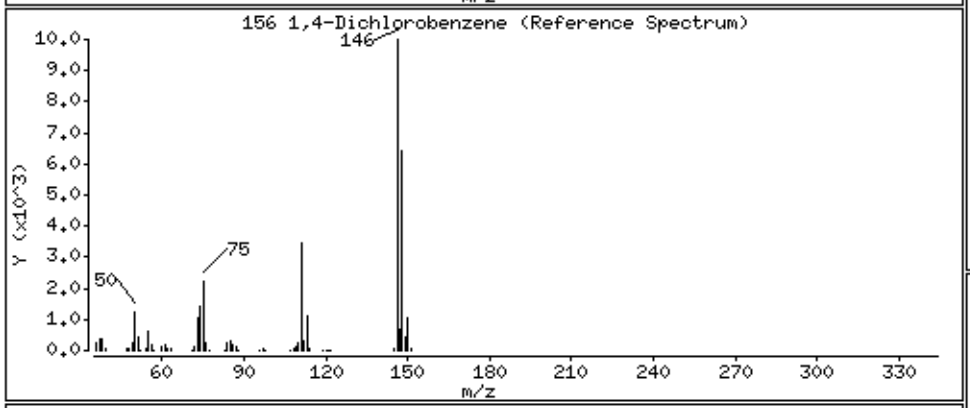
Column diameter: 0.53

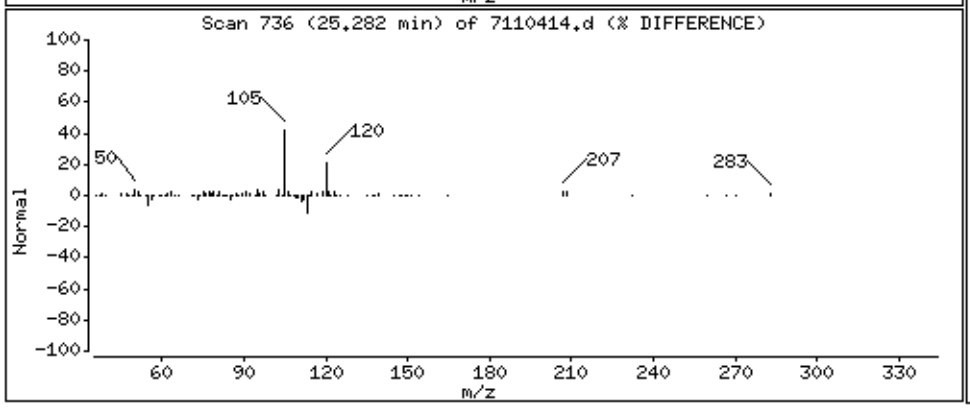
156 1,4-Dichlorobenzene

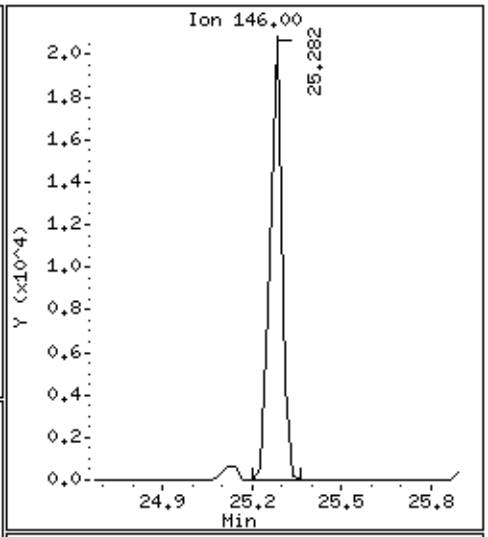
Concentration: 1.686 PPBV

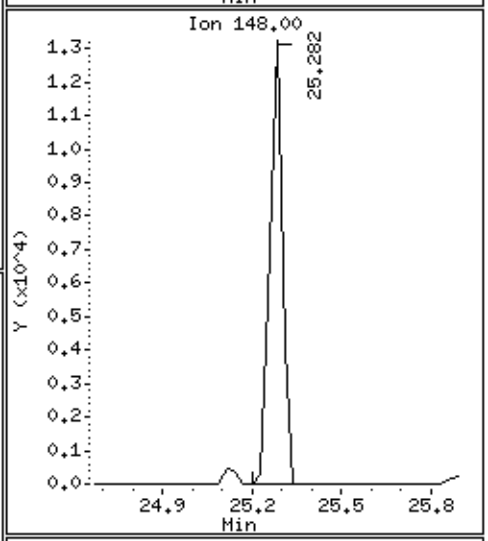


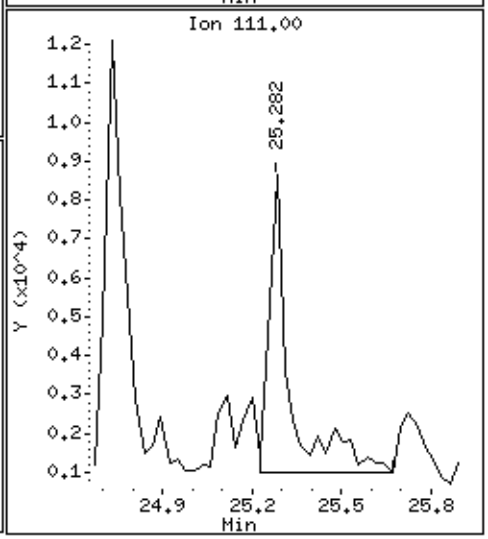












AN ENVIRONMENTAL ANALYTICAL LABORATORY

Summary of Detected Compounds
MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

Client Sample ID: MD21-07-6807

Lab ID#: 0711008-02A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Freon 12	0.90	1.0	4.4	5.1
1,3-Butadiene	0.90	3.5	2.0	7.8
Acetone	3.6	53	8.5	120
Carbon Disulfide	0.90	1.2	2.8	3.8
Methylene Chloride	0.90	2.1	3.1	7.2
Hexane	0.90	1.2	3.2	4.3
2-Butanone (Methyl Ethyl Ketone)	0.90	13	2.6	40
Chloroform	0.90	92	4.4	450
1,1,1-Trichloroethane	0.90	4.1	4.9	23
Carbon Tetrachloride	0.90	10	5.6	63
Benzene	0.90	1.2	2.8	3.9
Heptane	0.90	0.96	3.7	3.9
Trichloroethene	0.90	51	4.8	270
4-Methyl-2-pentanone	0.90	2.1	3.7	8.7
Toluene	0.90	1.5	3.4	5.7
Tetrachloroethene	0.90	96	6.1	650
2-Hexanone	3.6	7.2	15	29
m,p-Xylene	0.90	1.1	3.9	4.9
Bromoform	0.90	1.0	9.2	10
1,2,4-Trimethylbenzene	0.90	1.3	4.4	6.4
Propylene	3.6	49	6.2	85

AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: MD21-07-6807

Lab ID#: 0711008-02A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**7110415**	**Date of Collection:**	**10/30/07**
Dil. Factor:	**1.79**	**Date of Analysis:**	**11/5/07 04:30 AM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Freon 12	0.90	1.0	4.4	5.1
Freon 114	0.90	Not Detected	6.2	Not Detected
Chloromethane	3.6	Not Detected	7.4	Not Detected
Vinyl Chloride	0.90	Not Detected	2.3	Not Detected
1,3-Butadiene	0.90	3.5	2.0	7.8
Bromomethane	0.90	Not Detected	3.5	Not Detected
Chloroethane	0.90	Not Detected	2.4	Not Detected
Freon 11	0.90	Not Detected	5.0	Not Detected
Ethanol	3.6	Not Detected	6.7	Not Detected
Freon 113	0.90	Not Detected	6.8	Not Detected
1,1-Dichloroethene	0.90	Not Detected	3.5	Not Detected
Acetone	3.6	53	8.5	120
2-Propanol	3.6	Not Detected	8.8	Not Detected
Carbon Disulfide	0.90	1.2	2.8	3.8
Methylene Chloride	0.90	2.1	3.1	7.2
Methyl tert-butyl ether	0.90	Not Detected	3.2	Not Detected
trans-1,2-Dichloroethene	0.90	Not Detected	3.5	Not Detected
Hexane	0.90	1.2	3.2	4.3
1,1-Dichloroethane	0.90	Not Detected	3.6	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.90	13	2.6	40
cis-1,2-Dichloroethene	0.90	Not Detected	3.5	Not Detected
Tetrahydrofuran	0.90	Not Detected	2.6	Not Detected
Chloroform	0.90	92	4.4	450
1,1,1-Trichloroethane	0.90	4.1	4.9	23
Cyclohexane	0.90	Not Detected	3.1	Not Detected
Carbon Tetrachloride	0.90	10	5.6	63
Benzene	0.90	1.2	2.8	3.9
1,2-Dichloroethane	0.90	Not Detected	3.6	Not Detected
Heptane	0.90	0.96	3.7	3.9
Trichloroethene	0.90	51	4.8	270
1,2-Dichloropropane	0.90	Not Detected	4.1	Not Detected
1,4-Dioxane	3.6	Not Detected	13	Not Detected
Bromodichloromethane	0.90	Not Detected	6.0	Not Detected
cis-1,3-Dichloropropene	0.90	Not Detected	4.1	Not Detected
4-Methyl-2-pentanone	0.90	2.1	3.7	8.7
Toluene	0.90	1.5	3.4	5.7
trans-1,3-Dichloropropene	0.90	Not Detected	4.1	Not Detected
1,1,2-Trichloroethane	0.90	Not Detected	4.9	Not Detected
Tetrachloroethene	0.90	96	6.1	650

AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: MD21-07-6807

Lab ID#: 0711008-02A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**7110415**	**Date of Collection:**	**10/30/07**
Dil. Factor:	**1.79**	**Date of Analysis:**	**11/5/07 04:30 AM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
2-Hexanone	3.6	7.2	15	29
Dibromochloromethane	0.90	Not Detected	7.6	Not Detected
1,2-Dibromoethane (EDB)	0.90	Not Detected	6.9	Not Detected
Chlorobenzene	0.90	Not Detected	4.1	Not Detected
Ethyl Benzene	0.90	Not Detected	3.9	Not Detected
m,p-Xylene	0.90	1.1	3.9	4.9
o-Xylene	0.90	Not Detected	3.9	Not Detected
Styrene	0.90	Not Detected	3.8	Not Detected
Bromoform	0.90	1.0	9.2	10
1,1,2,2-Tetrachloroethane	0.90	Not Detected	6.1	Not Detected
4-Ethyltoluene	0.90	Not Detected	4.4	Not Detected
1,3,5-Trimethylbenzene	0.90	Not Detected	4.4	Not Detected
1,2,4-Trimethylbenzene	0.90	1.3	4.4	6.4
1,3-Dichlorobenzene	0.90	Not Detected	5.4	Not Detected
1,4-Dichlorobenzene	0.90	Not Detected	5.4	Not Detected
alpha-Chlorotoluene	0.90	Not Detected	4.6	Not Detected
1,2-Dichlorobenzene	0.90	Not Detected	5.4	Not Detected
1,2,4-Trichlorobenzene	3.6	Not Detected	26	Not Detected
Hexachlorobutadiene	3.6	Not Detected	38	Not Detected
Chlorodifluoromethane	3.6	Not Detected	13	Not Detected
Methanol	90	Not Detected	120	Not Detected
n-Butanol	3.6	Not Detected	11	Not Detected
Propylene	3.6	49	6.2	85

Container Type: 6 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	94	70-130
1,2-Dichloroethane-d4	97	70-130
4-Bromofluorobenzene	108	70-130

Air Toxics Ltd.

AMBIENT AIR METHOD TO14

Data file : /chem/msd7.i/7-04nova.b/7110415.d
Lab Smp Id: 0711008-02A
Inj Date : 05-NOV-2007 04:30
Operator : ab Inst ID: msd7.i
Smp Info : 200mL#34422
Misc Info : 7.5"Hg-5psi
Comment :
Method : /chem/msd7.i/7-04nova.b/t14qO18c.m
Meth Date : 05-Nov-2007 00:40 dmendoza Quant Type: ISTD
Cal Date : 30-OCT-2007 11:10 Cal File: 7103005.d
Als bottle: 1
Dil Factor: 1.79000
Integrator: HP RTE Compound Sublist: Los2153.sub
Target Version: 3.50 Sample Matrix: AIR
Processing Host: eeyore

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

RT	EXP RT (REL RT)	MASS	RESPONSE	CONCENTRATIONS ON-COL (PPBV)	FINAL (PPBV)	TARGET RANGE	RATIO
* 81 Bromochloromethane						CAS #: 74-97-5	
14.416	14.388 (1.000)	130	550117	25.0000		80.00- 120.00	100.00
14.416	14.388 (1.000)	128	426608			28.08- 128.08	77.55
14.416	14.388 (1.000)	49	1035280			128.80- 228.80	188.19
* 97 1,4-Difluorobenzene						CAS #: 540-36-3	
16.158	16.158 (1.000)	114	1878976	25.0000		80.00- 120.00	100.00
16.158	16.158 (1.000)	88	281149			0.00- 64.88	14.96
* 126 Chlorobenzene-d5						CAS #: 3114-55-4	
21.356	21.356 (1.000)	117	1415558	25.0000		80.00- 120.00	100.00
21.356	21.356 (1.000)	82	741236			4.45- 104.45	52.36
$ 90 1,2-Dichloroethane-d4						CAS #: 17060-07-0	
15.494	15.494 (1.075)	65	714493	24.1765	24.176	80.00- 120.00	100.00
15.494	15.494 (1.075)	67	358644			2.91- 102.91	50.20
$ 113 Toluene-d8						CAS #: 2037-26-5	
18.757	18.757 (1.161)	98	1561527	23.4109	23.411	80.00- 120.00	100.00
18.757	18.757 (1.161)	70	169219			0.00- 61.46	10.84

RT	EXP RT (REL RT)	MASS	RESPONSE	CONCENTRATIONS ON-COL (PPBV)	FINAL (PPBV)	TARGET RANGE	RATIO
$ 113 Toluene-d8 (continued)							
18.757	18.757 (1.161)	100	1074993			19.18- 119.18	68.84
$ 137 Bromofluorobenzene					CAS #: 460-00-4		
23.347	23.347 (1.093)	174	911864	27.0709	27.071	80.00- 120.00	100.00
23.319	23.319 (1.092)	95	1023748			63.49- 163.49	112.27
23.347	23.347 (1.093)	176	885632			46.77- 146.77	97.12
11 Propylene					CAS #: 115-07-1		
5.645	5.617 (0.392)	41	653662	27.5689	49.348	80.00- 120.00	100.00(H)
5.645	5.617 (0.392)	42	414111			21.19- 121.19	63.35
5.645	5.617 (0.392)	39	549920			24.83- 124.83	84.13
12 Dichlorodifluoromethane/Fr12					CAS #: 75-71-8		
5.786	5.729 (0.401)	85	50415	0.57993	1.038	80.00- 120.00	100.00
5.786	5.729 (0.401)	87	15590			0.00- 83.07	30.92
22 1,3-Butadiene					CAS #: 106-99-0		
6.968	6.940 (0.483)	54	50460	1.97370	3.533	80.00- 120.00	100.00
6.743	6.940 (0.468)	39	324674			55.97- 155.97	643.43
45 Acetone					CAS #: 67-64-1		
10.517	10.462 (0.730)	58	439487	29.6233	53.026	80.00- 120.00	100.00
10.490	10.462 (0.728)	43	1597031			247.10- 347.10	363.39
47 Carbon Disulfide					CAS #: 75-15-0		
10.904	10.877 (0.756)	76	62579	0.68336	1.223	80.00- 120.00	100.00
54 Methylene Chloride					CAS #: 75-09-2		
11.485	11.457 (0.797)	49	40638	1.15160	2.061	80.00- 120.00	100.00
11.457	11.457 (0.795)	84	28493			15.73- 115.73	70.11
11.457	11.457 (0.795)	51	14347			0.00- 80.85	35.30
65 Hexane					CAS #: 110-54-3		
12.315	12.287 (0.854)	57	31584	0.67868	1.215	80.00- 120.00	100.00
12.315	12.287 (0.854)	43	32644			17.84- 117.84	103.36
12.287	12.287 (0.852)	86	4409			0.00- 65.07	13.96
75 2-Butanone					CAS #: 78-93-3		
13.891	13.891 (0.964)	72	89501	7.51182	13.446	80.00- 120.00	100.00
13.891	13.891 (0.964)	43	492742			458.59- 558.59	550.54
13.891	13.891 (0.964)	57	35043			0.00- 86.57	39.15
82 Chloroform					CAS #: 67-66-3		
14.471	14.471 (1.004)	83	2836890	51.2180	91.680	80.00- 120.00	100.00
14.471	14.471 (1.004)	85	1832929			15.98- 115.98	64.61

RT	EXP RT (REL RT)	MASS	RESPONSE	CONCENTRATIONS ON-COL (PPBV)	FINAL (PPBV)	TARGET RANGE	RATIO
83 1,1,1-Trichloroethane					CAS #: 71-55-6		
14.831	14.831 (1.029)	97	129207	2.31648	4.146	80.00- 120.00	100.00
14.831	14.831 (1.029)	99	78835			14.42- 114.42	61.01
87 Carbon Tetrachloride					CAS #: 56-23-5		
15.107	15.107 (1.048)	119	291733	5.57967	9.988	80.00- 120.00	100.00
15.107	15.080 (1.048)	117	304510			54.21- 154.21	104.38
91 Benzene					CAS #: 71-43-2		
15.522	15.522 (0.961)	78	50473	0.67606	1.210	80.00- 120.00	100.00
15.522	15.522 (0.961)	77	15083			0.00- 71.87	29.88
94 Heptane					CAS #: 142-82-5		
15.715	15.716 (0.973)	71	12316	0.53640	0.9602	80.00- 120.00	100.00
15.715	15.716 (0.973)	43	22146			158.53- 258.53	179.81
15.715	15.716 (0.973)	57	9053			59.34- 159.34	73.51
101 Trichloroethene					CAS #: 79-01-6		
16.628	16.628 (1.029)	95	942990	28.4349	50.898	80.00- 120.00	100.00
16.655	16.628 (1.031)	130	980180			54.96- 154.96	103.94
16.628	16.628 (1.029)	97	610151			15.03- 115.03	64.70
111 4-Methyl-2-pentanone					CAS #: 108-10-1		
18.508	18.508 (1.145)	58	26421	1.18259	2.117	80.00- 120.00	100.00
18.508	18.508 (1.145)	43	67997			222.97- 322.97	257.36
18.508	18.508 (1.145)	85	9877			0.00- 90.48	37.38
114 Toluene					CAS #: 108-88-3		
18.895	18.895 (1.169)	91	69162	0.84579	1.514	80.00- 120.00	100.00
18.895	18.895 (1.169)	92	42672			12.81- 112.81	61.70
120 Tetrachloroethene					CAS #: 127-18-4		
19.835	19.835 (0.929)	166	2044126	53.7548	96.221	80.00- 120.00	100.00
19.835	19.835 (0.929)	129	1422028			18.66- 118.66	69.57
19.835	19.835 (0.929)	131	1372406			16.81- 116.81	67.14
121 2-Hexanone					CAS #: 591-78-6		
19.973	19.974 (0.935)	58	125786	4.00308	7.166	80.00- 120.00	100.00
19.973	19.974 (0.935)	43	244530			132.73- 232.73	194.40
19.973	19.974 (0.935)	100	22953			0.00- 67.05	18.25
129 m,p-Xylene					CAS #: 108-38-3		
21.688	21.688 (1.016)	106	25638	0.62660	1.122	80.00- 120.00	100.00
21.688	21.688 (1.016)	91	50331			145.05- 245.05	196.31
133 Bromoform					CAS #: 75-25-2		
22.821	22.821 (1.069)	173	25968	0.56926	1.019	80.00- 120.00	100.00

RT	EXP RT (REL RT)	MASS	RESPONSE	CONCENTRATIONS ON-COL (PPBV)	FINAL (PPBV)	TARGET RANGE	RATIO
133 Bromoform (continued)							
22.821	22.821 (1.069)	171	12422			1.50- 101.50	47.84
150 1,2,4-Trimethylbenzene					CAS #: 95-63-6		
24.563	24.563 (1.150)	105	55432	0.73224	1.311	80.00- 120.00	100.00
24.563	24.563 (1.150)	120	15578			0.00- 98.95	28.10

QC Flag Legend

H - Operator selected an alternate compound hit.

Report Date: 05-Nov-2007 11:31

Air Toxics Ltd.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd7.i
Lab File ID: 7110415.d
Lab Smp Id: 0711008-02A
Analysis Type: VOA
Quant Type: ISTD
Operator: ab
Method File: /chem/msd7.i/7-04nova.b/t14qO18c.m
Misc Info: 7.5"Hg-5psi

Calibration Date: 04-NOV-2007
Calibration Time: 22:27

Level: LOW
Sample Type: AIR

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
81 Bromochloromethan	651162	390697	911627	550117	-15.52
97 1,4-Difluorobenze	2188066	1312840	3063292	1878976	-14.13
126 Chlorobenzene-d5	1729248	1037549	2420947	1415558	-18.14

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
81 Bromochloromethan	14.39	14.06	14.72	14.42	0.19
97 1,4-Difluorobenze	16.16	15.83	16.49	16.16	0.00
126 Chlorobenzene-d5	21.36	21.03	21.69	21.36	0.00

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Report Date: 05-Nov-2007 11:31

Air Toxics Ltd.

RECOVERY REPORT

Client Name:
Client SDG: 7-04nova
Sample Matrix: GAS
Fraction: VOA
Lab Smp Id: 0711008-02A
Level: LOW
Operator: ab
Data Type: MS DATA
SampleType: SAMPLE
SpikeList File: 2926spectra.spk
Quant Type: ISTD
Sublist File: Los2153.sub
Method File: /chem/msd7.i/7-04nova.b/t14qO18c.m
Misc Info: 7.5"Hg-5psi

SURROGATE COMPOUND	CONC ADDED PPBV	CONC RECOVERED PPBV	% RECOVERED	LIMITS
$ 90 1,2-Dichloroethane	25.000	24.176	96.71	70-130
$ 113 Toluene-d8	25.000	23.411	93.64	70-130
$ 137 Bromofluorobenzene	25.000	27.071	108.28	70-130

Data File: /chem/msd7.i/7-04nova.b/7110415.d

Date : 05-NOV-2007 04:30

Client ID:

Sample Info: 200mL#34422

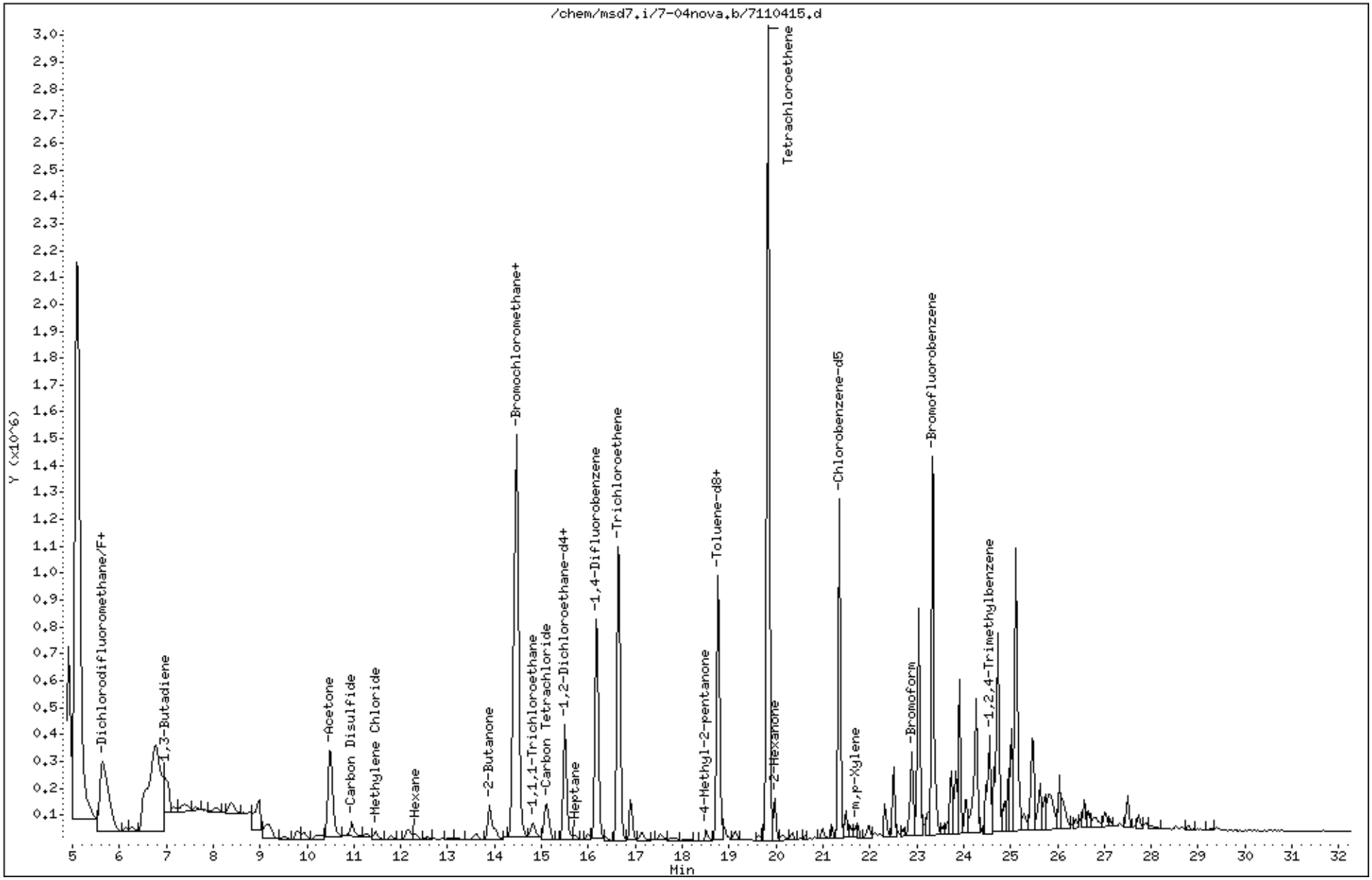
Column phase: RTx-624

Instrument: msd7.i

Operator: ab

Column diameter: 0.53

0052



Data File: /chem/msd7.i/7-04nova.b/7110415.d

Date : 05-NOV-2007 04:30

Client ID:

Instrument: msd7.i

Sample Info: 200mL#34422

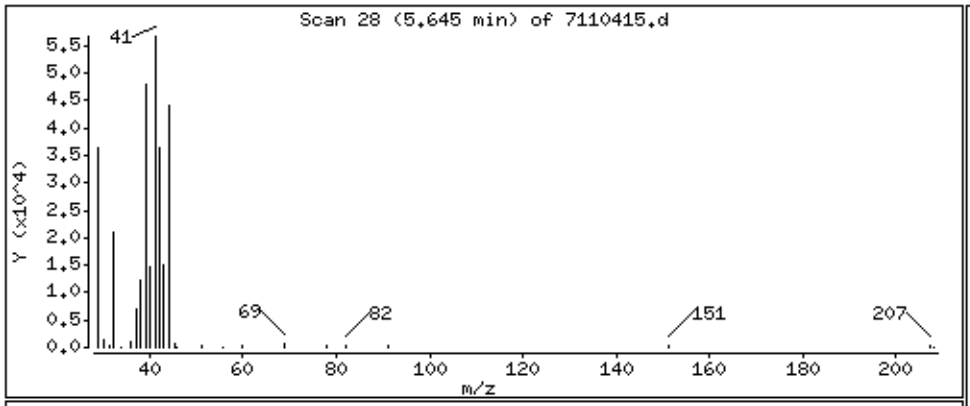
Operator: ab

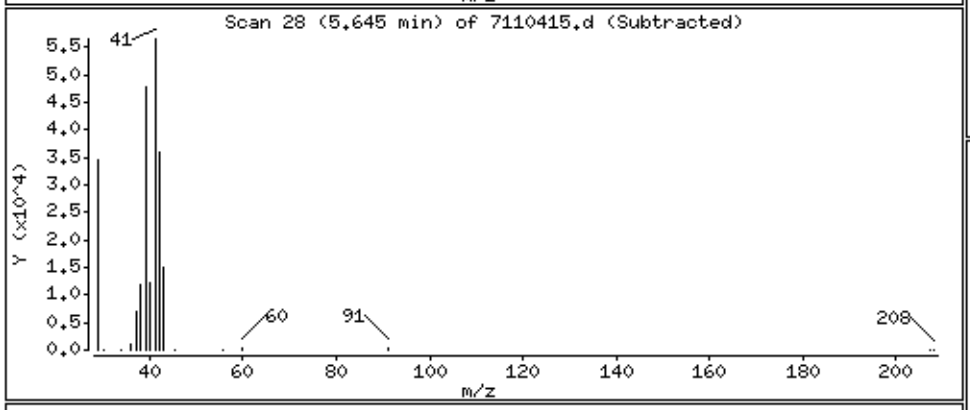
Column phase: RTx-624

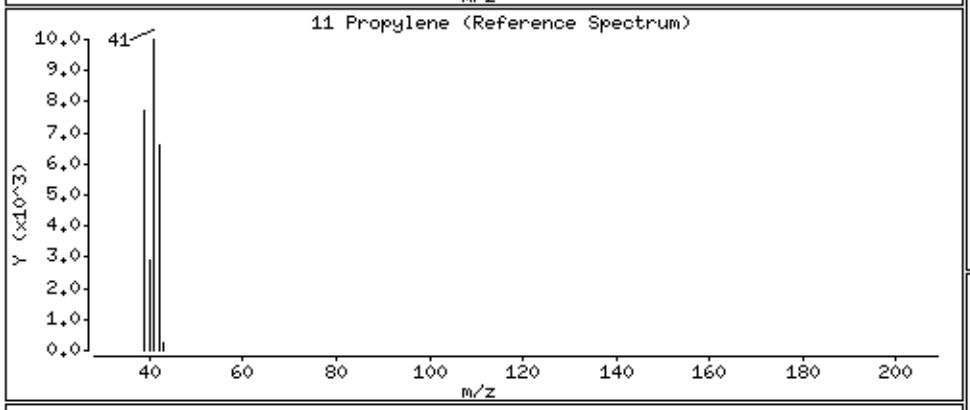
Column diameter: 0.53

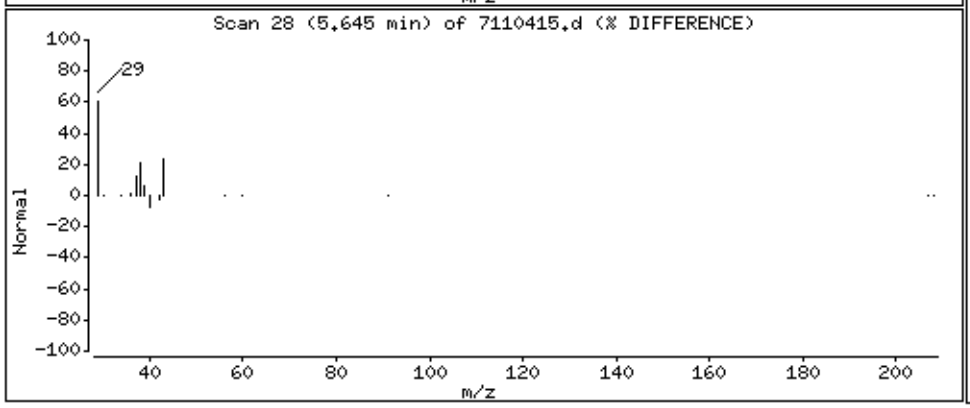
11 Propylene

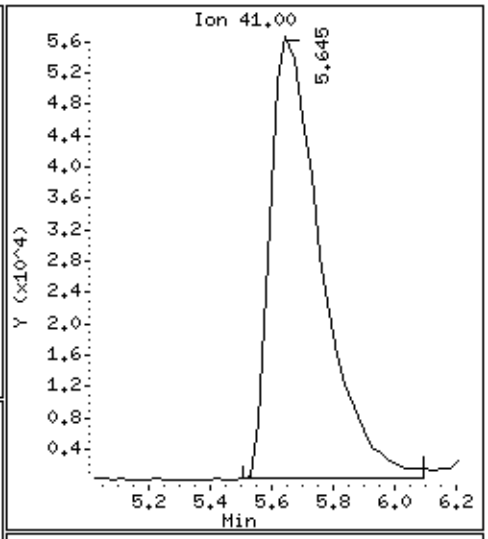
Concentration: 49.348 PPBV

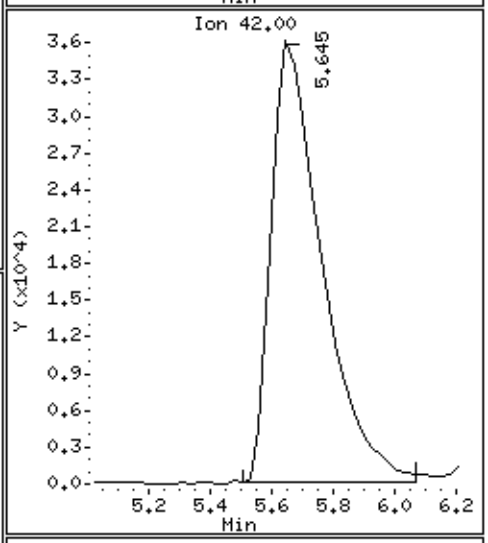


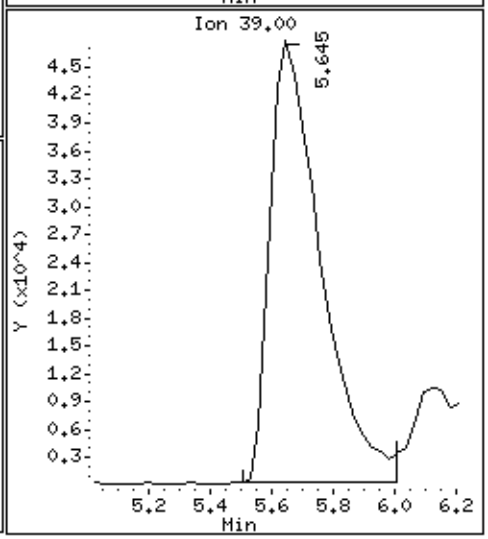












Data File: /chem/msd7.i/7-04nova.b/7110415.d

Date : 05-NOV-2007 04:30

Client ID:

Instrument: msd7.i

Sample Info: 200mL#34422

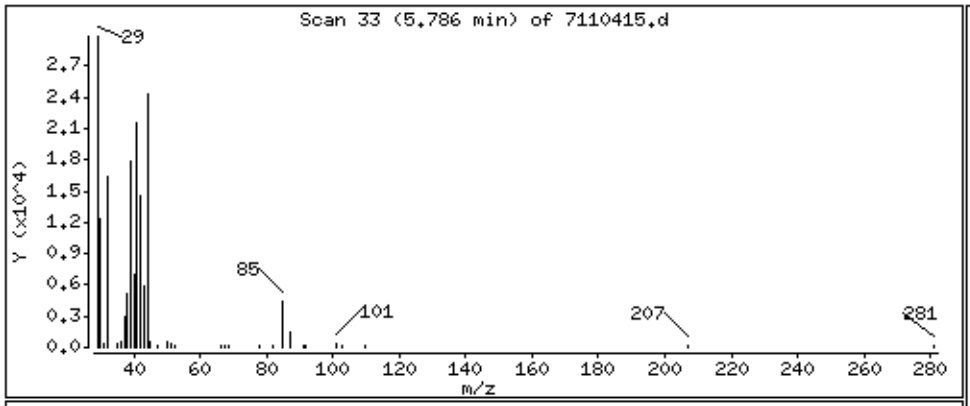
Operator: ab

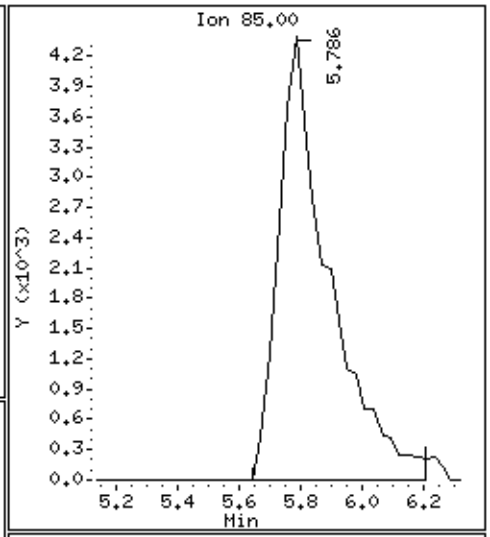
Column phase: RTx-624

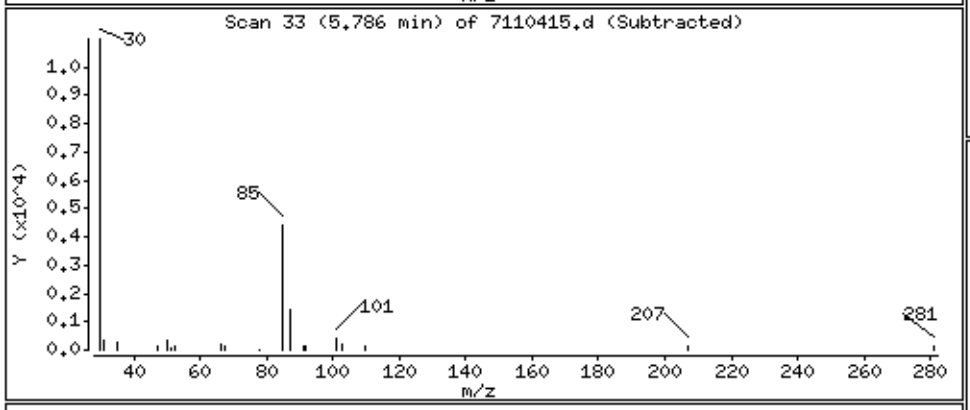
Column diameter: 0.53

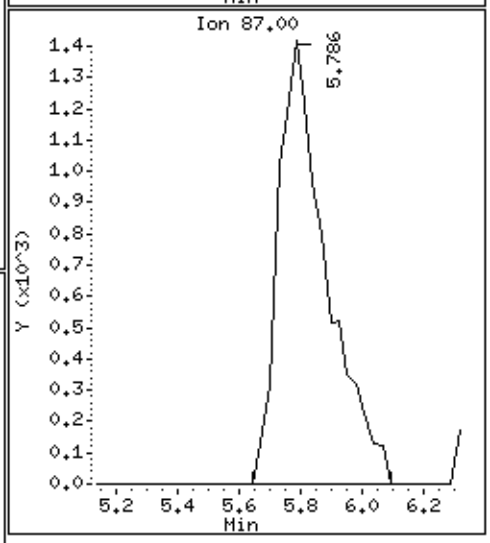
12 Dichlorodifluoromethane/Fr12

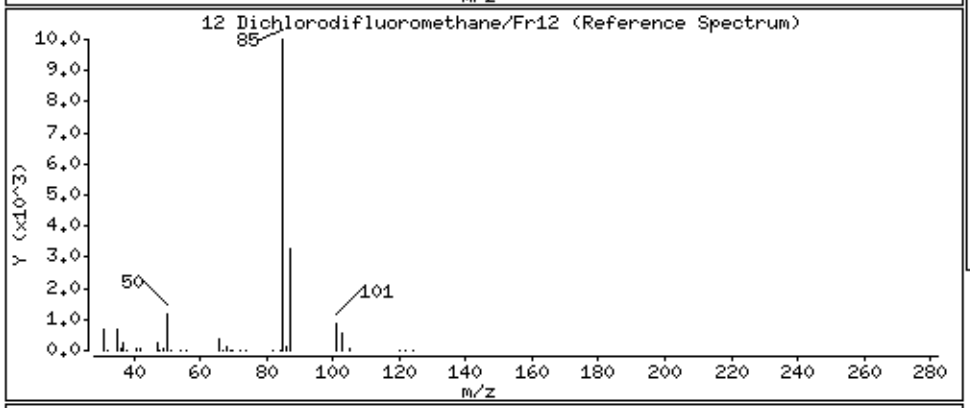
Concentration: 1.038 PPBV

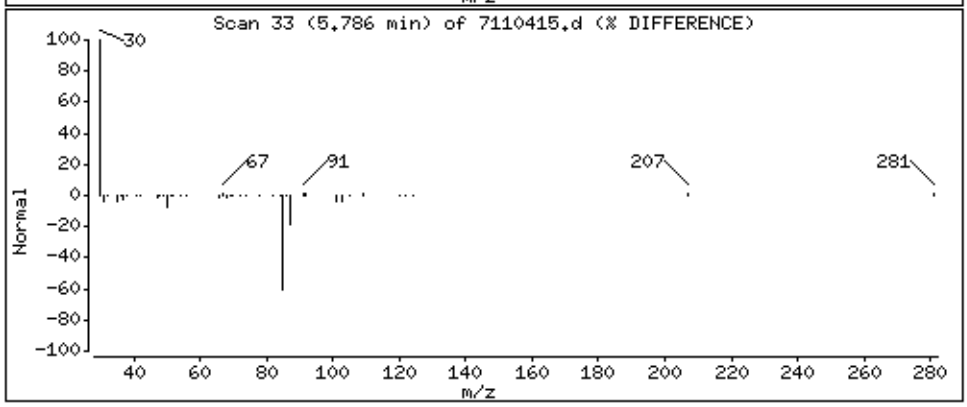












Data File: /chem/msd7.i/7-04nova.b/7110415.d

Date : 05-NOV-2007 04:30

Client ID:

Instrument: msd7.i

Sample Info: 200mL#34422

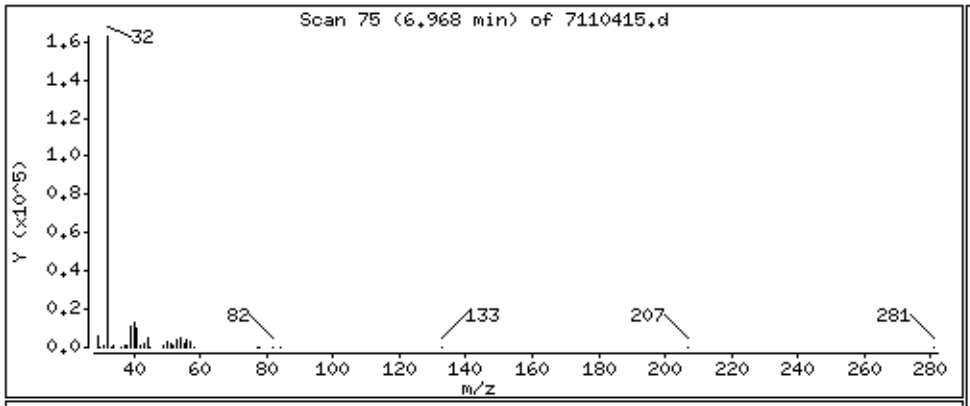
Operator: ab

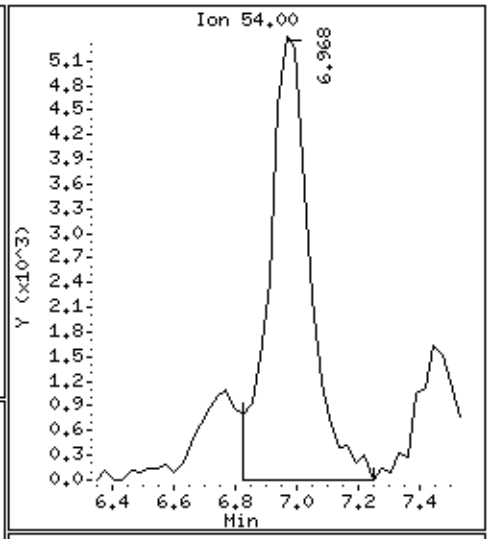
Column phase: RTx-624

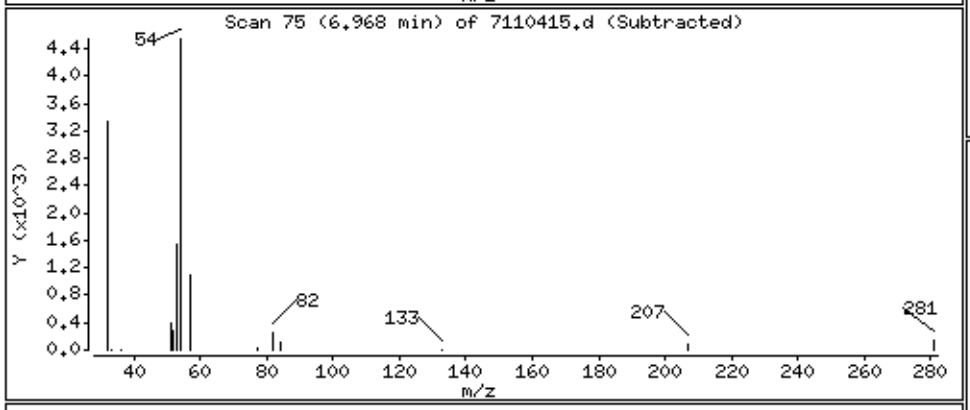
Column diameter: 0.53

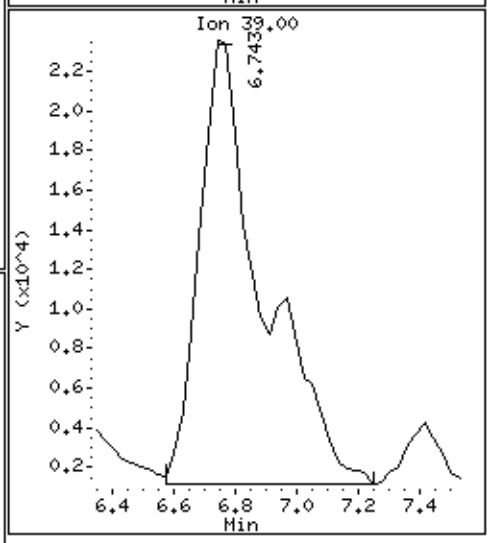
22 1,3-Butadiene

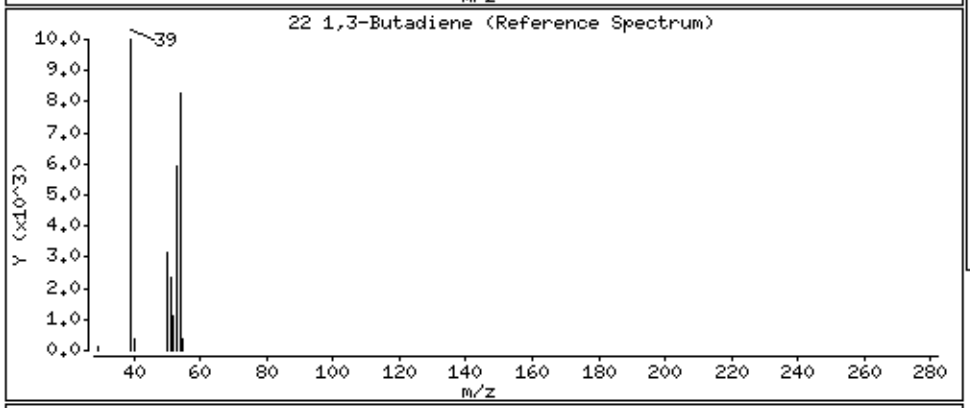
Concentration: 3.533 PPBV

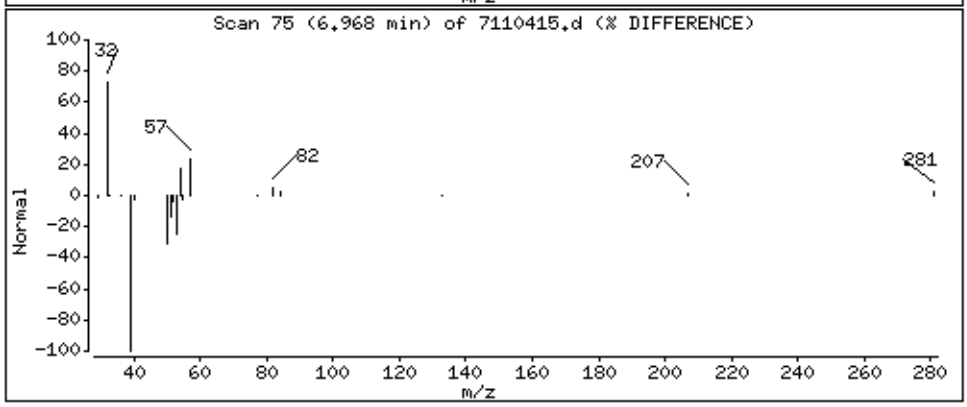












Data File: /chem/msd7.i/7-04nova.b/7110415.d

Date : 05-NOV-2007 04:30

Client ID:

Instrument: msd7.i

Sample Info: 200mL#34422

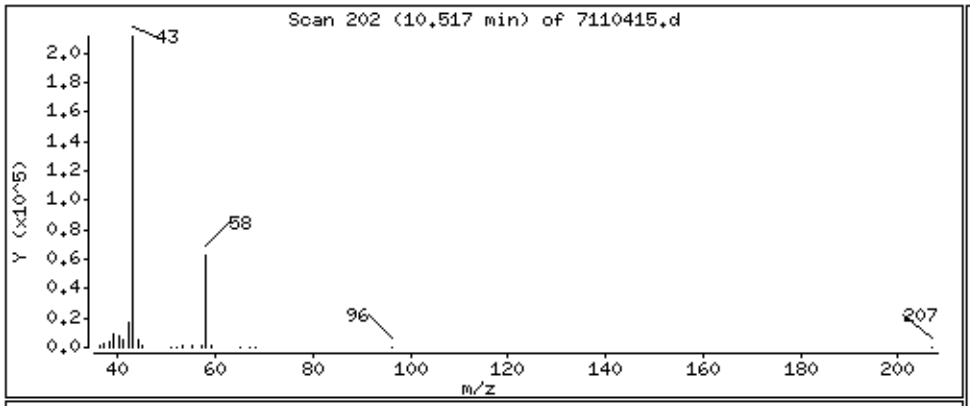
Operator: ab

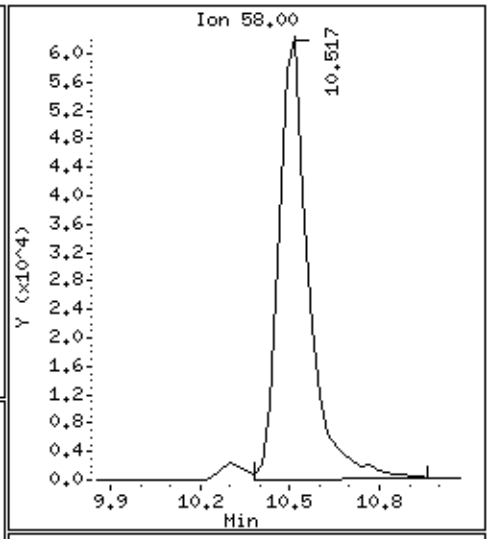
Column phase: RTx-624

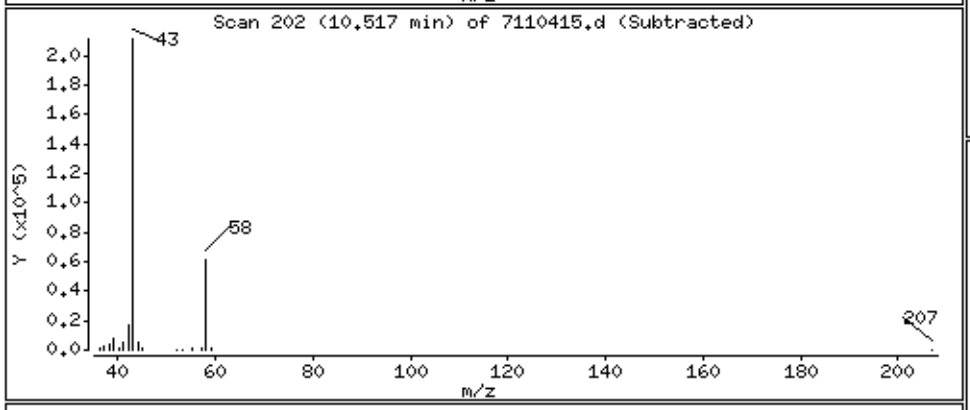
Column diameter: 0.53

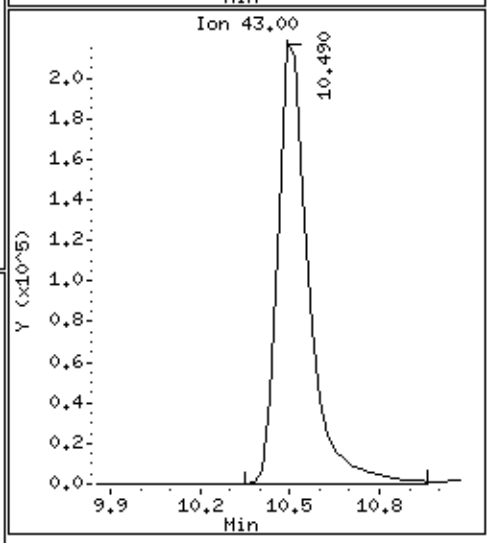
45 Acetone

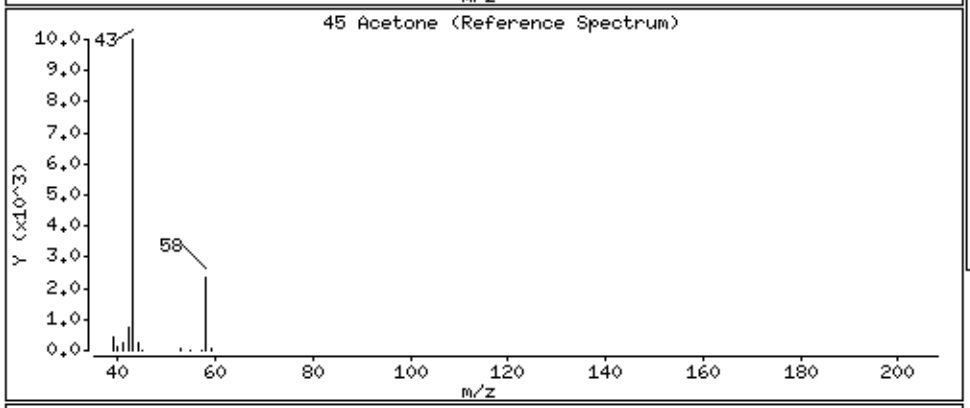
Concentration: 53.026 PPBV

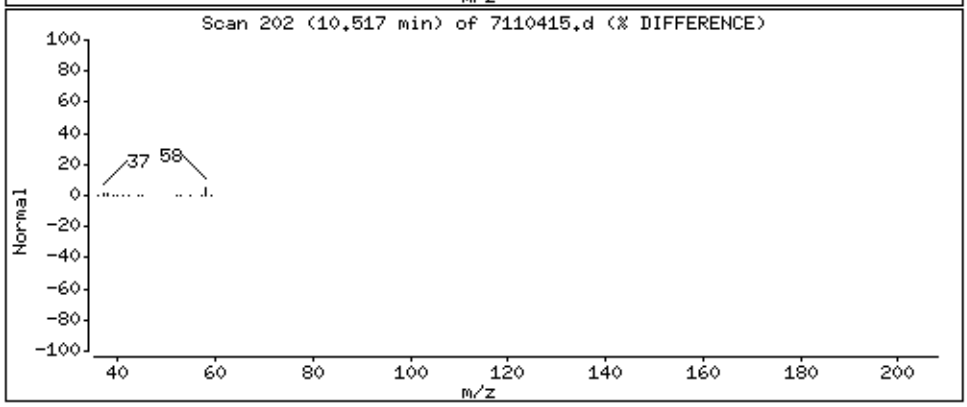












Data File: /chem/msd7.i/7-04nova.b/7110415.d

Date : 05-NOV-2007 04:30

Client ID:

Instrument: msd7.i

Sample Info: 200mL#34422

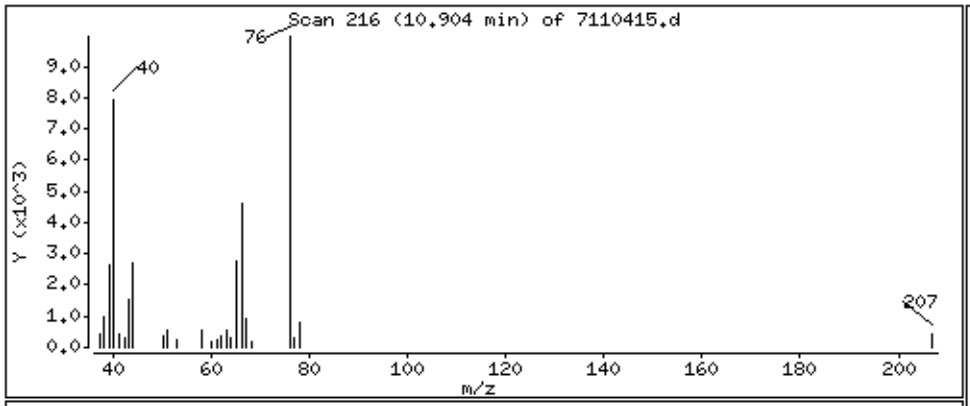
Operator: ab

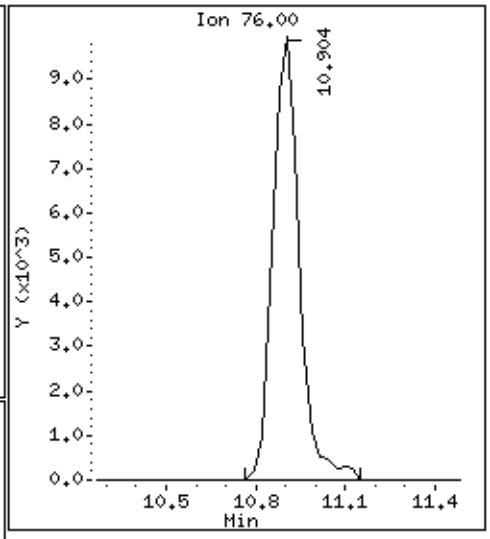
Column phase: RTx-624

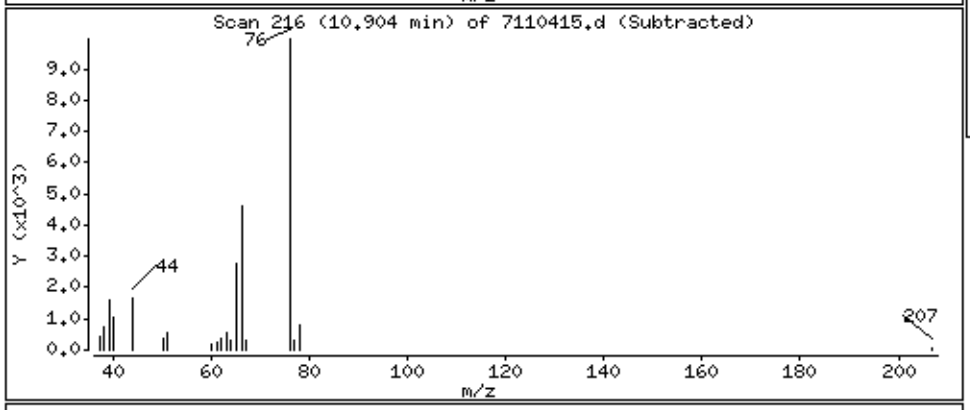
Column diameter: 0.53

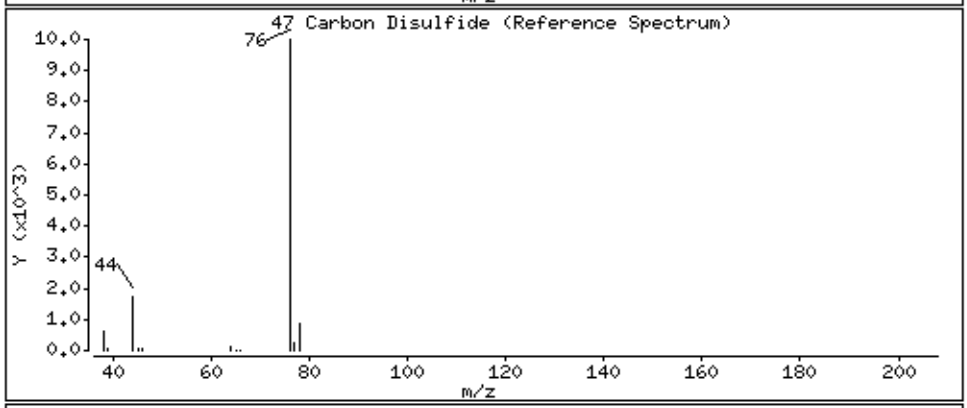
47 Carbon Disulfide

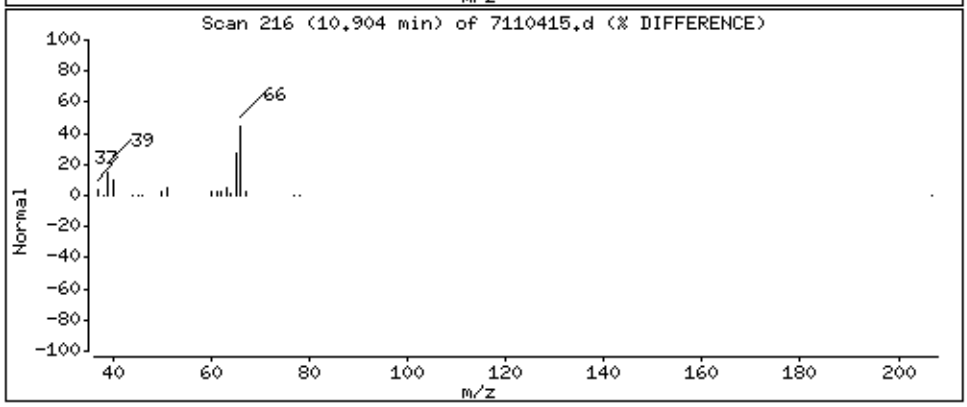
Concentration: 1.223 PPBV











Data File: /chem/msd7.i/7-04nova.b/7110415.d

Date : 05-NOV-2007 04:30

Client ID:

Instrument: msd7.i

Sample Info: 200mL#34422

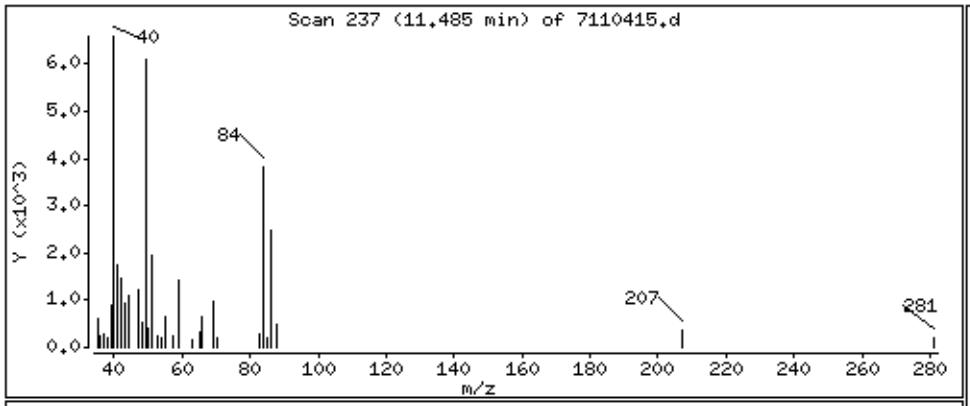
Operator: ab

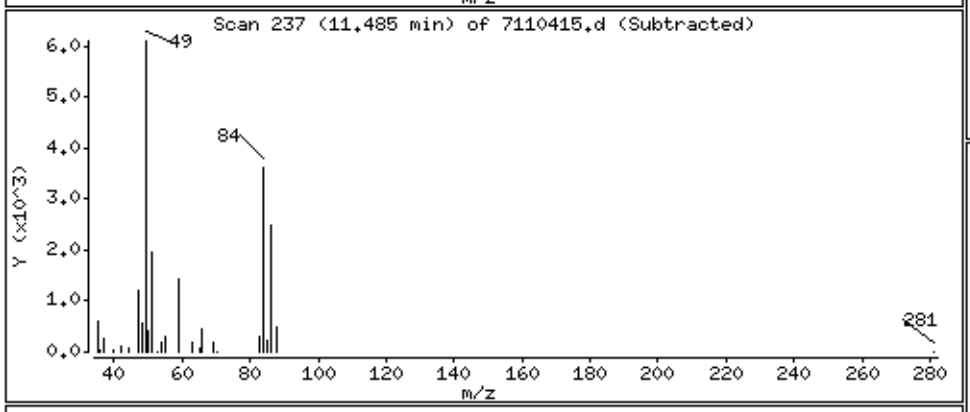
Column phase: RTx-624

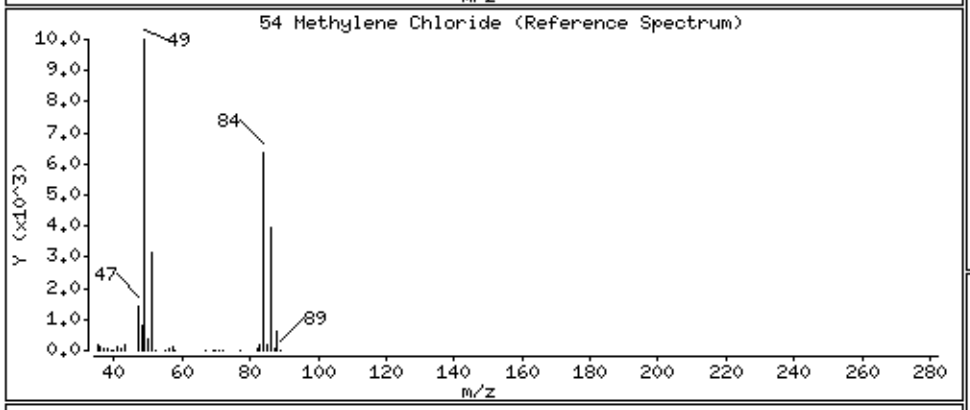
Column diameter: 0.53

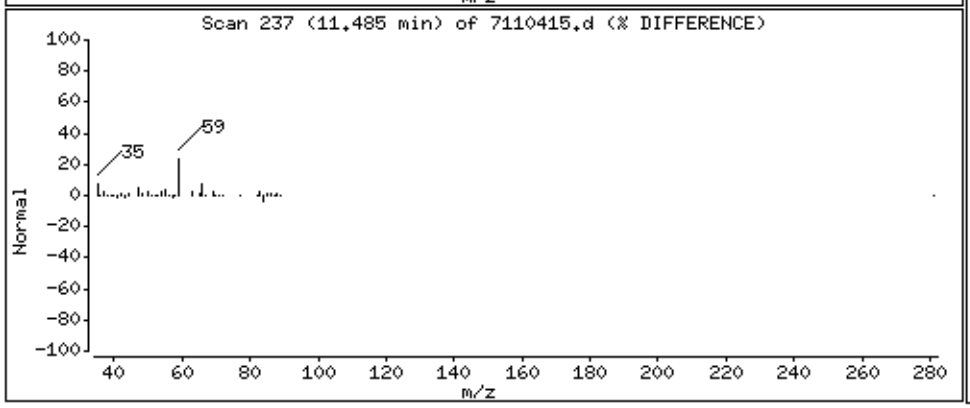
54 Methylene Chloride

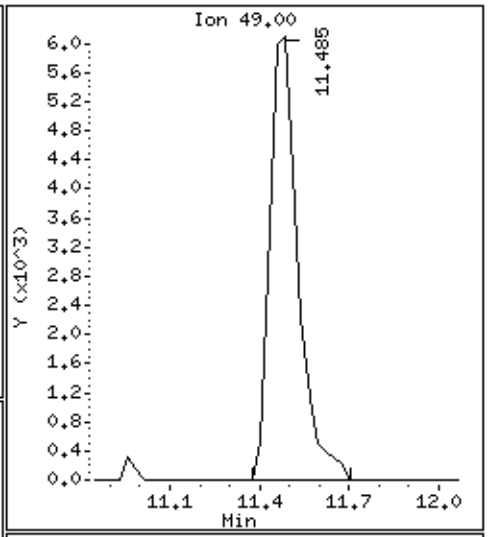
Concentration: 2.061 PPBV

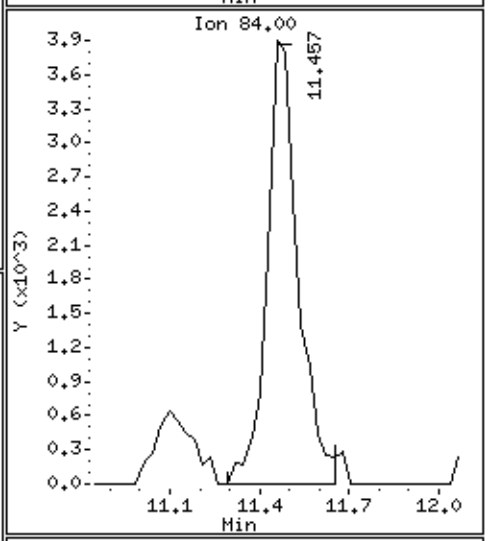


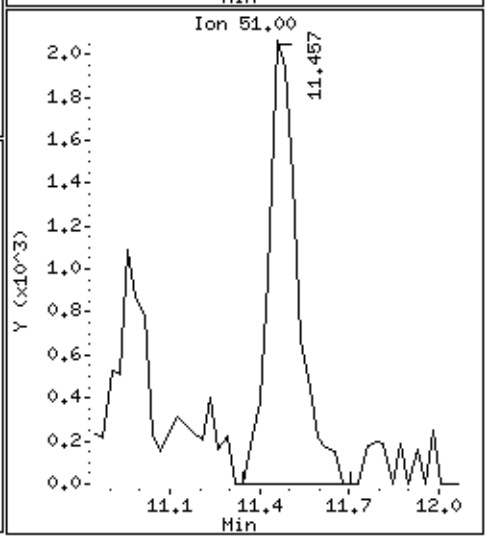












Data File: /chem/msd7.i/7-04nova.b/7110415.d

Date : 05-NOV-2007 04:30

Client ID:

Instrument: msd7.i

Sample Info: 200mL#34422

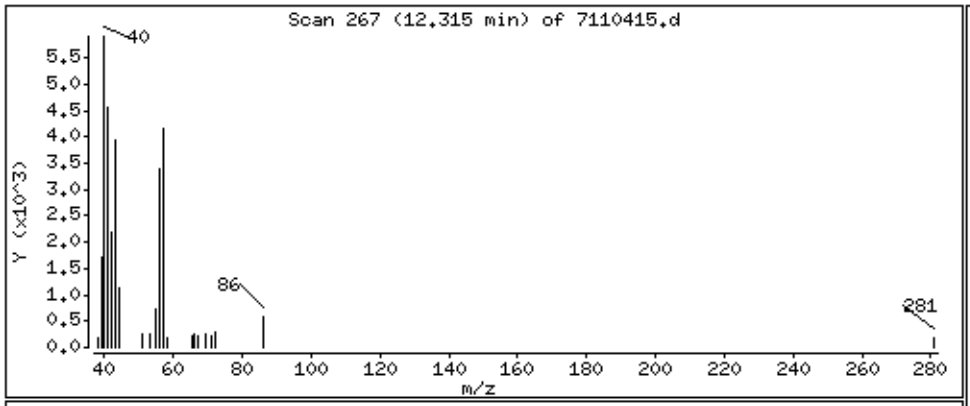
Operator: ab

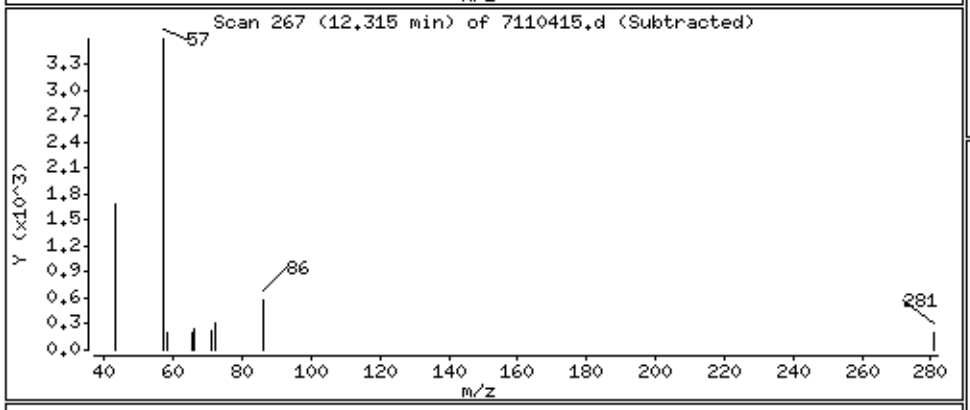
Column phase: RTx-624

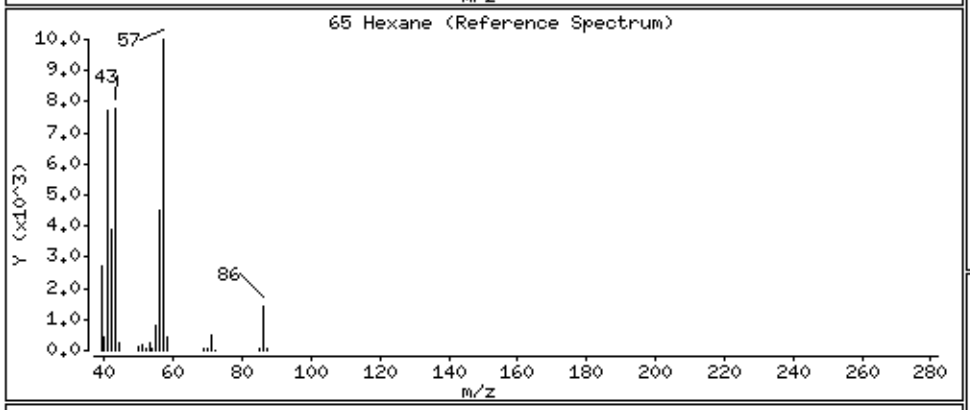
Column diameter: 0.53

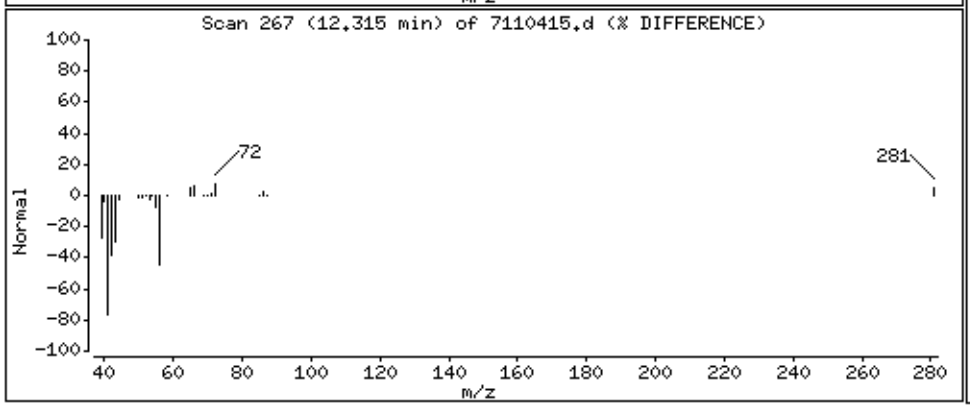
65 Hexane

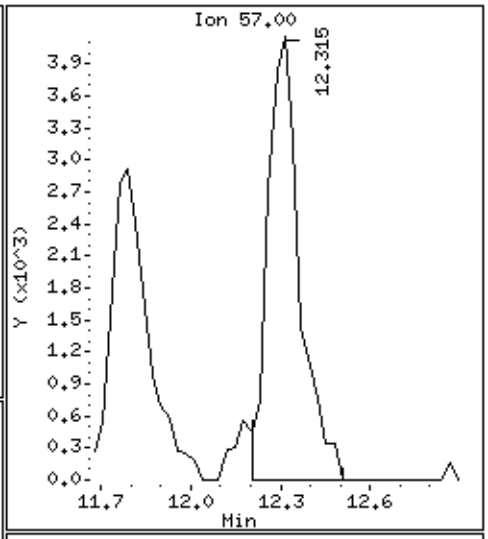
Concentration: 1.215 PPBV

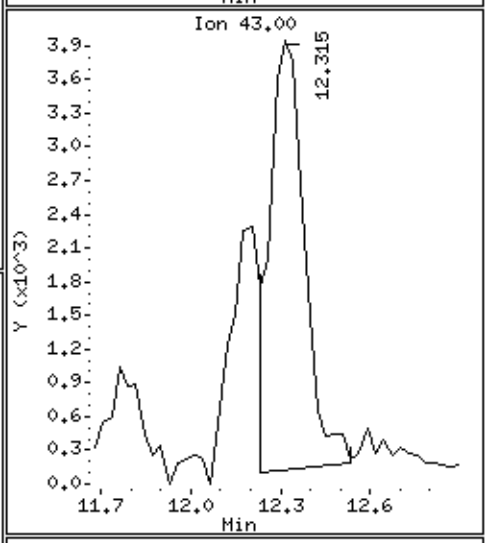


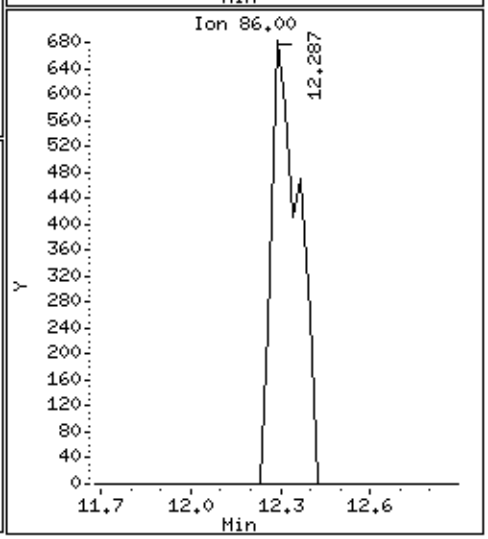












Data File: /chem/msd7.i/7-04nova.b/7110415.d

Date : 05-NOV-2007 04:30

Client ID:

Instrument: msd7.i

Sample Info: 200mL#34422

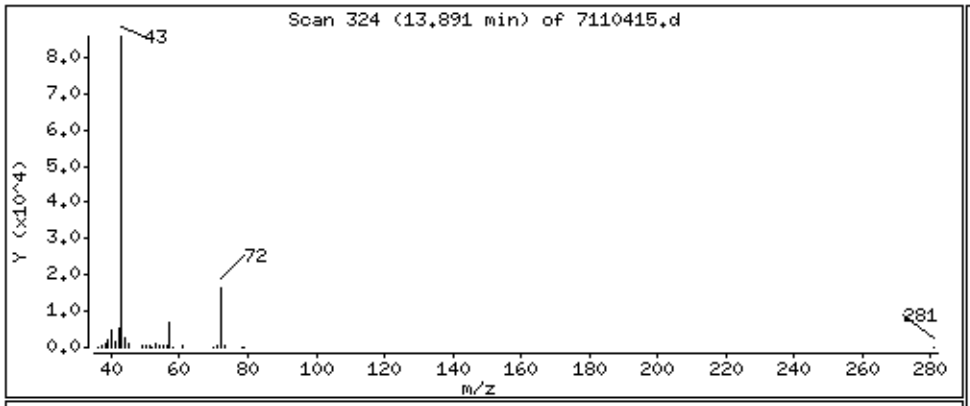
Operator: ab

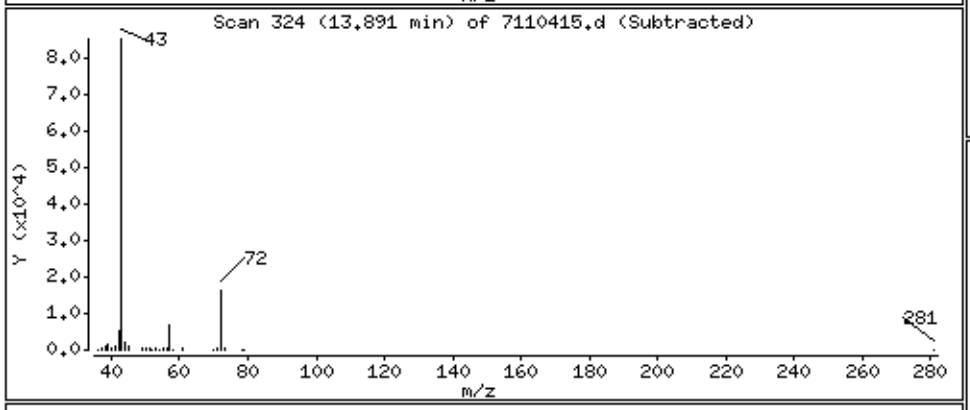
Column phase: RTx-624

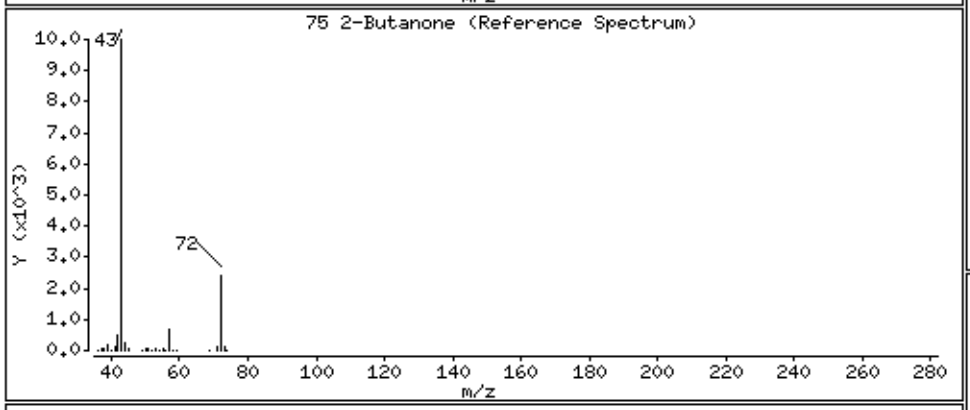
Column diameter: 0.53

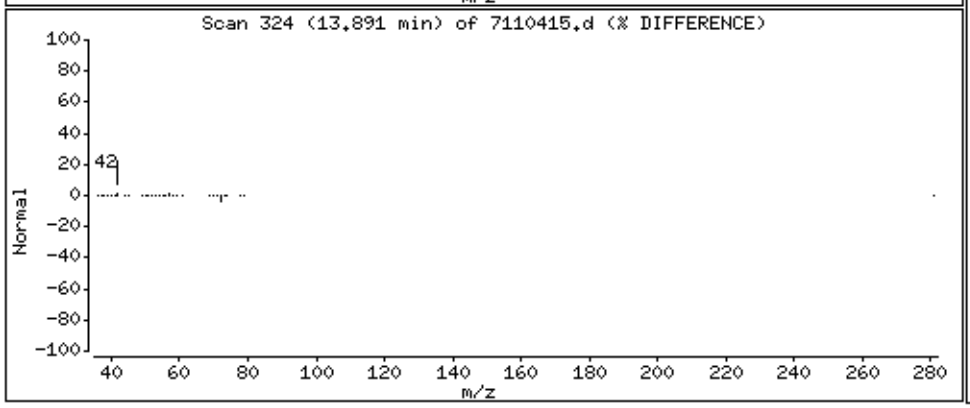
75 2-Butanone

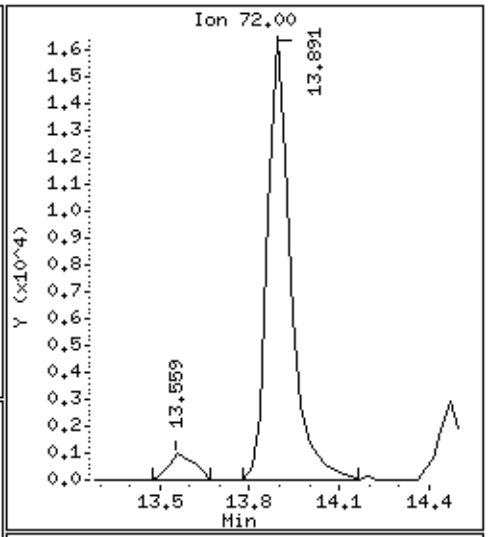
Concentration: 13.446 PPBV

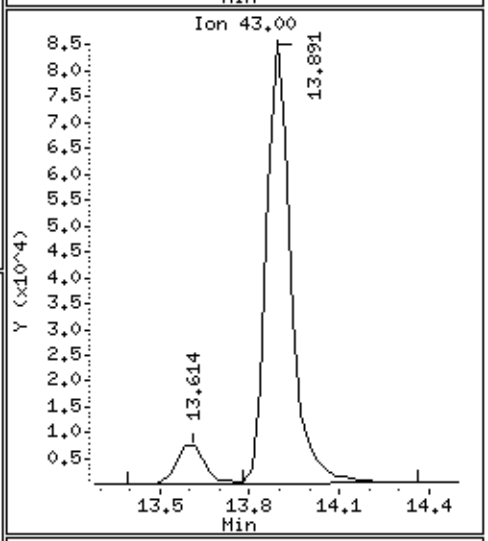


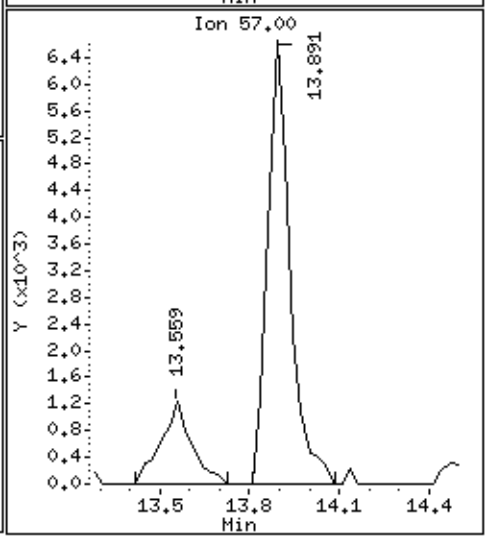












Data File: /chem/msd7.i/7-04nova.b/7110415.d

Date : 05-NOV-2007 04:30

Client ID:

Instrument: msd7.i

Sample Info: 200mL#34422

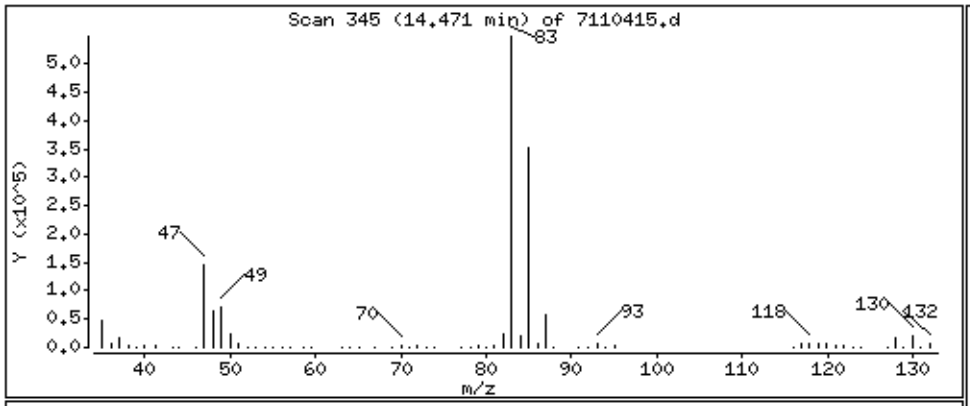
Operator: ab

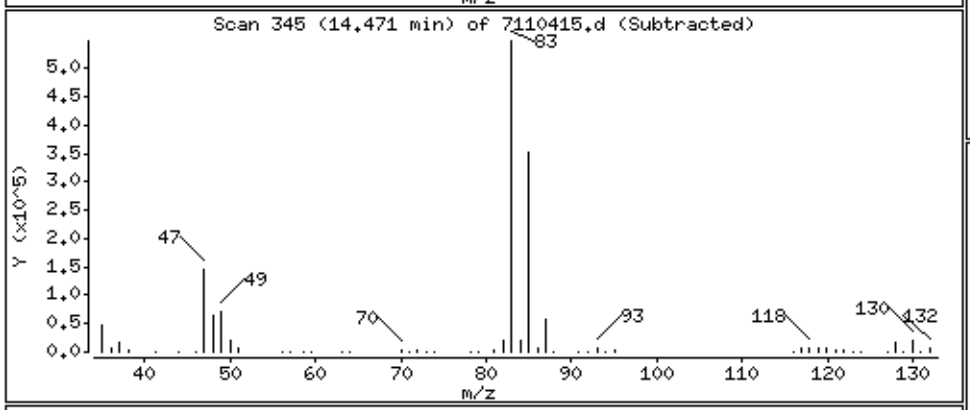
Column phase: RTx-624

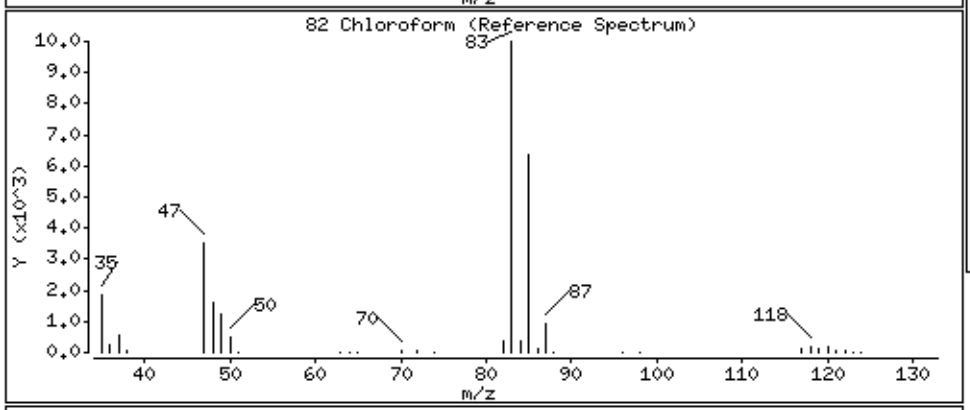
Column diameter: 0.53

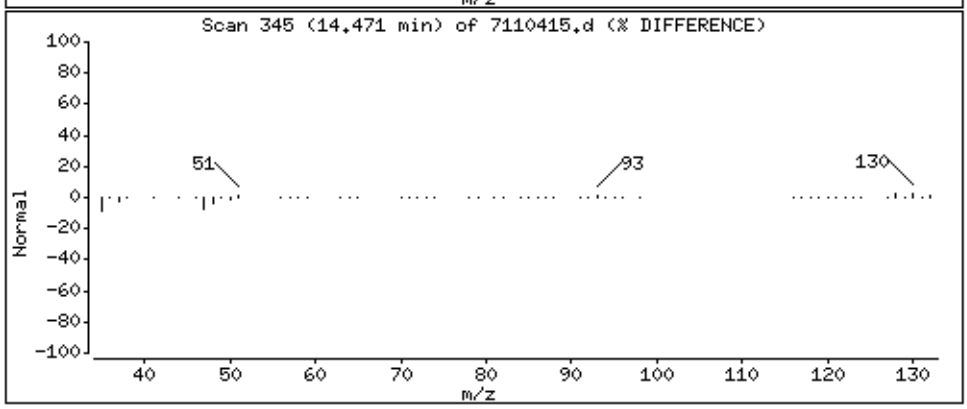
82 Chloroform

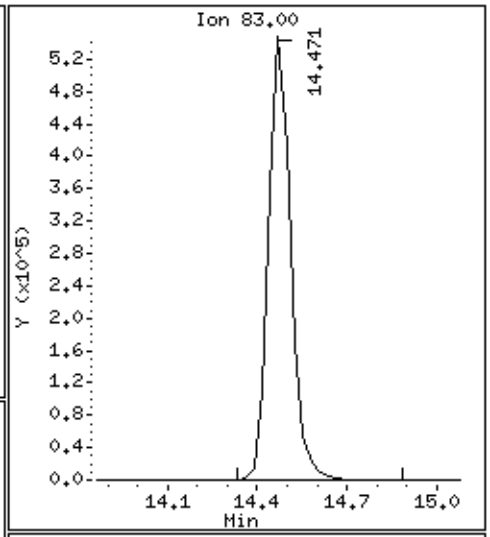
Concentration: 91.680 PPBV

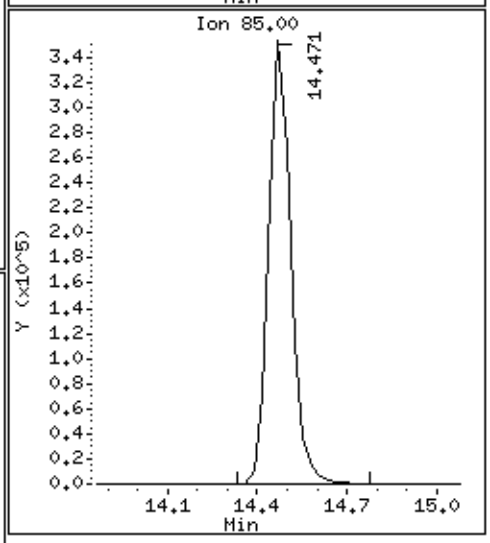












Data File: /chem/msd7.i/7-04nova.b/7110415.d

Date : 05-NOV-2007 04:30

Client ID:

Instrument: msd7.i

Sample Info: 200mL#34422

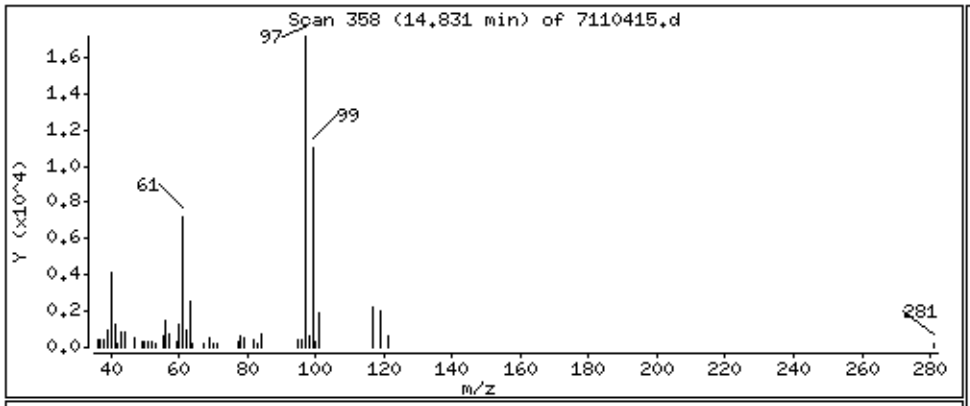
Operator: ab

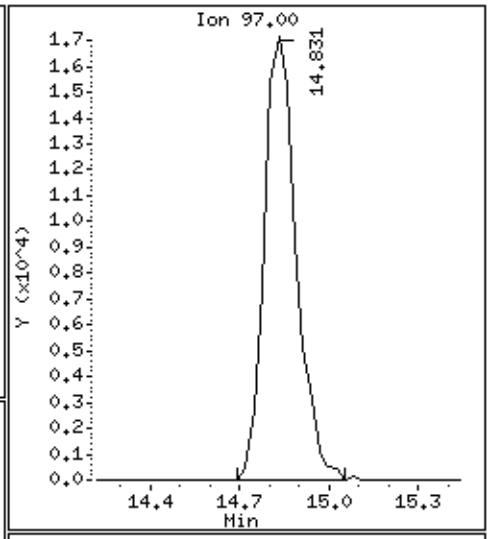
Column phase: RTx-624

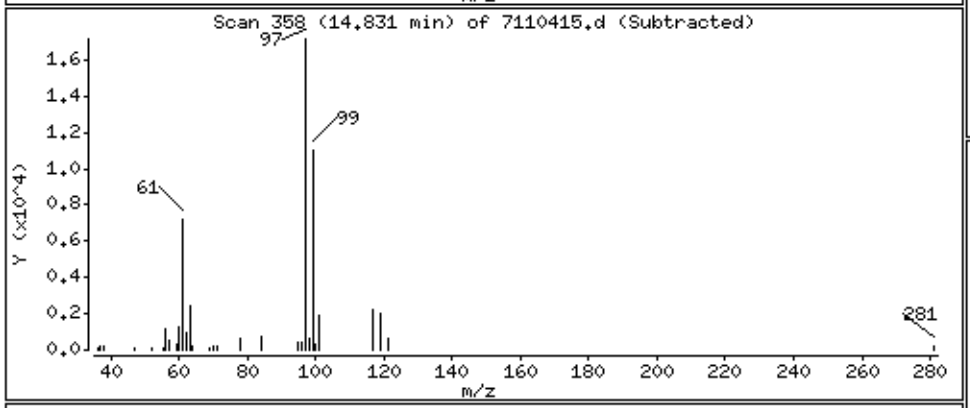
Column diameter: 0.53

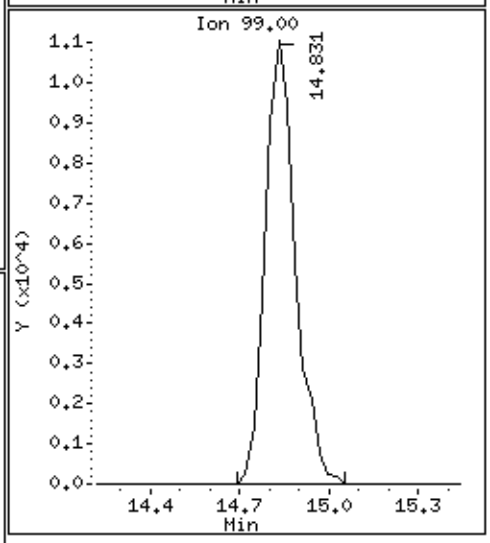
83 1,1,1-Trichloroethane

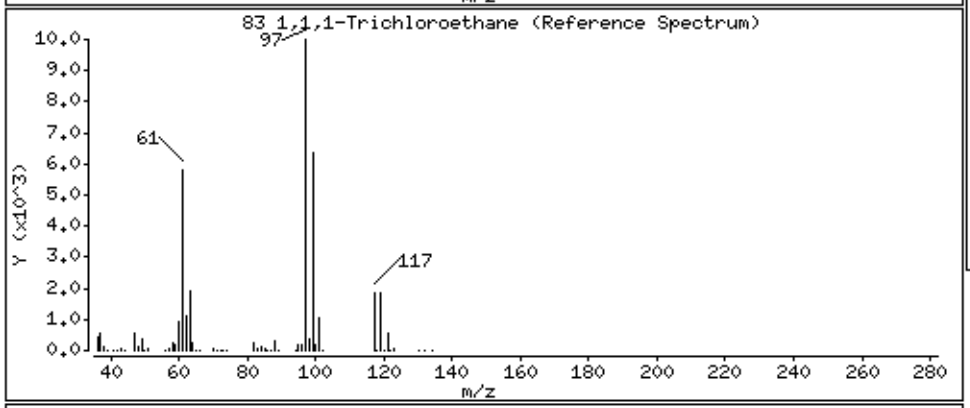
Concentration: 4.146 PPBV

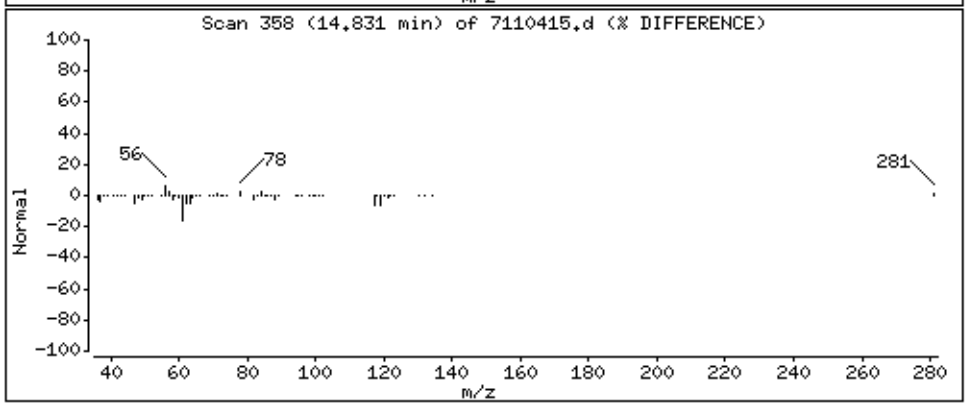












Data File: /chem/msd7.i/7-04nova.b/7110415.d

Date : 05-NOV-2007 04:30

Client ID:

Instrument: msd7.i

Sample Info: 200mL#34422

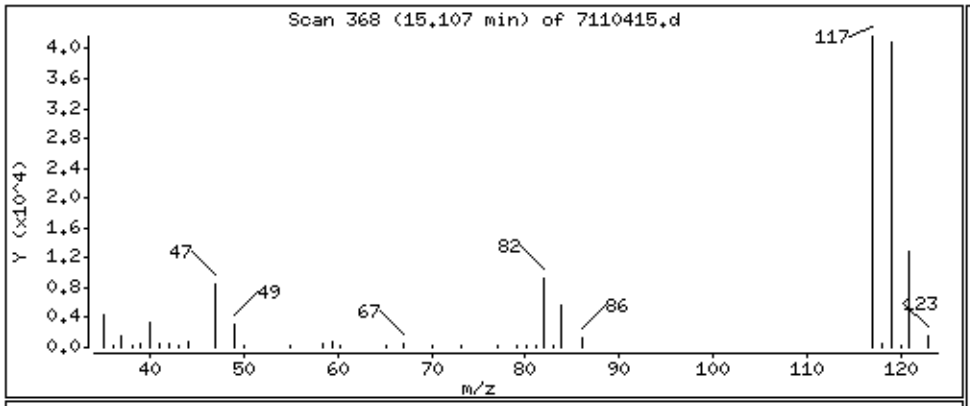
Operator: ab

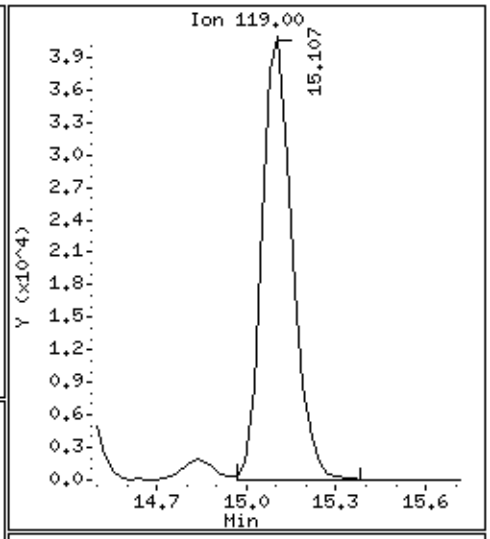
Column phase: RTx-624

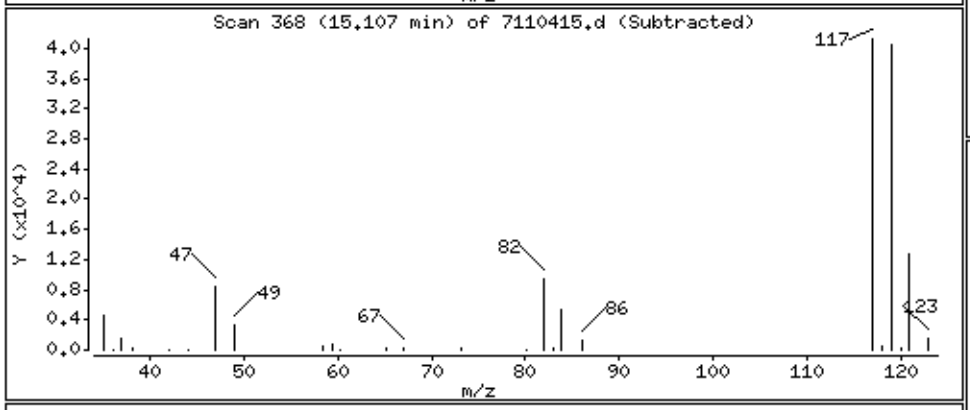
Column diameter: 0.53

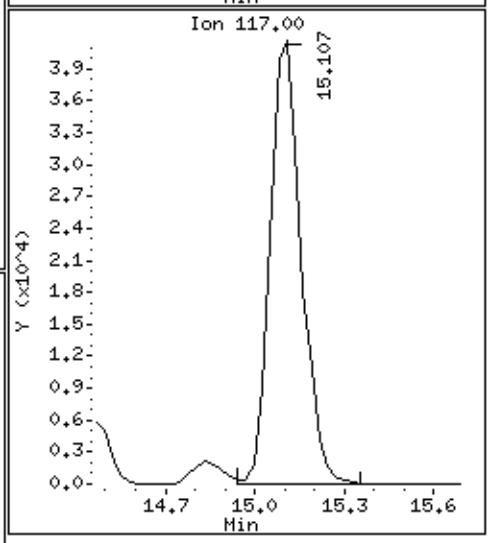
87 Carbon Tetrachloride

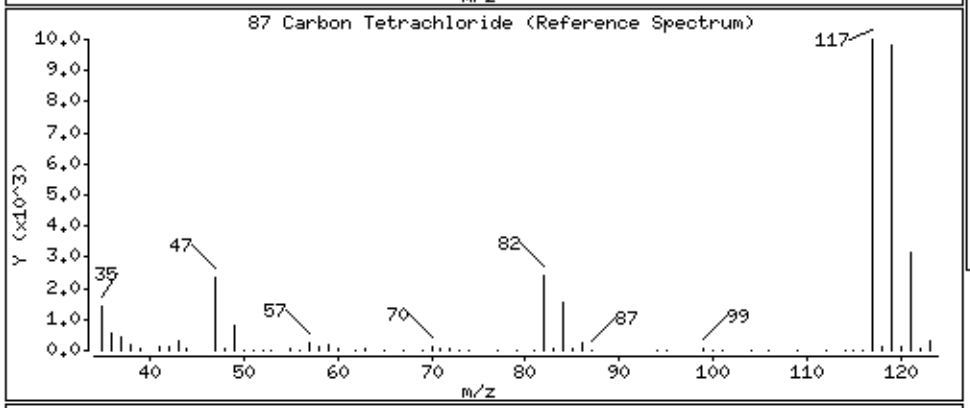
Concentration: 9.988 PPBV

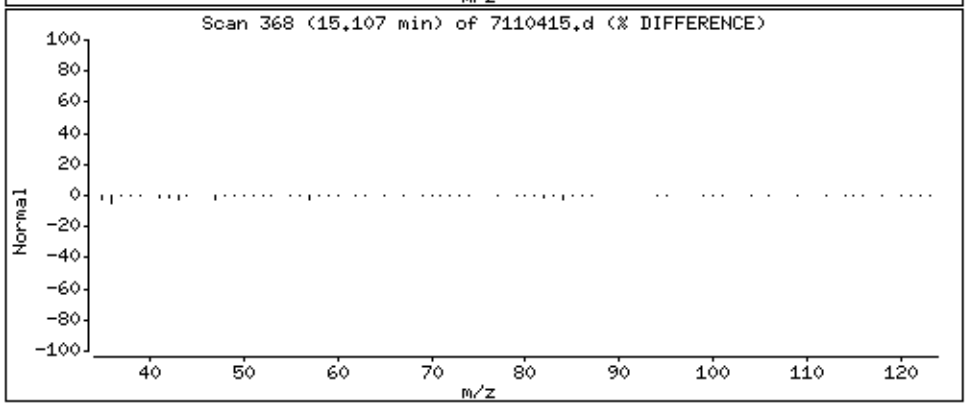












Data File: /chem/msd7.i/7-04nova.b/7110415.d

Date : 05-NOV-2007 04:30

Client ID:

Instrument: msd7.i

Sample Info: 200mL#34422

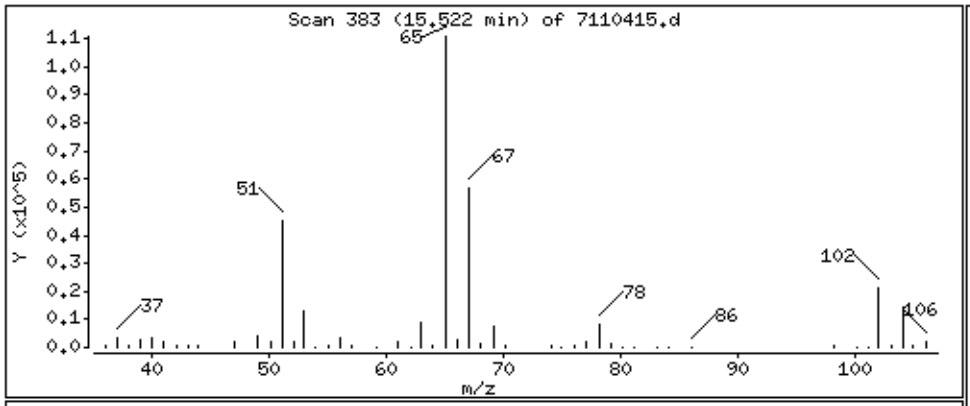
Operator: ab

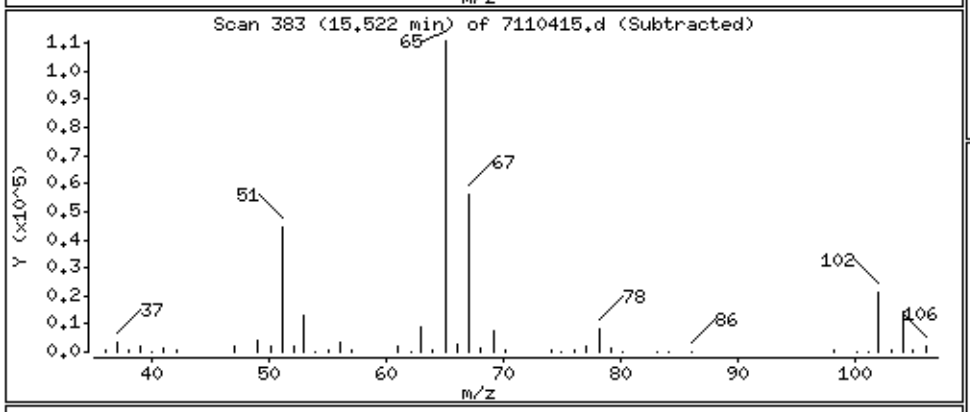
Column phase: RTx-624

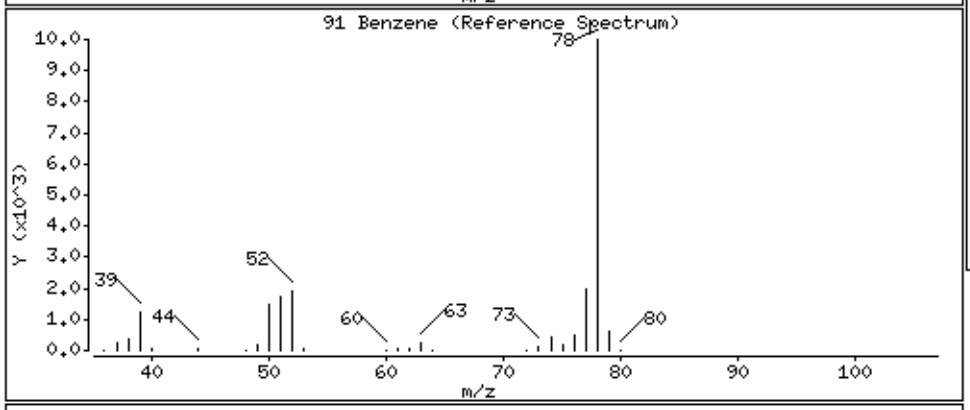
Column diameter: 0.53

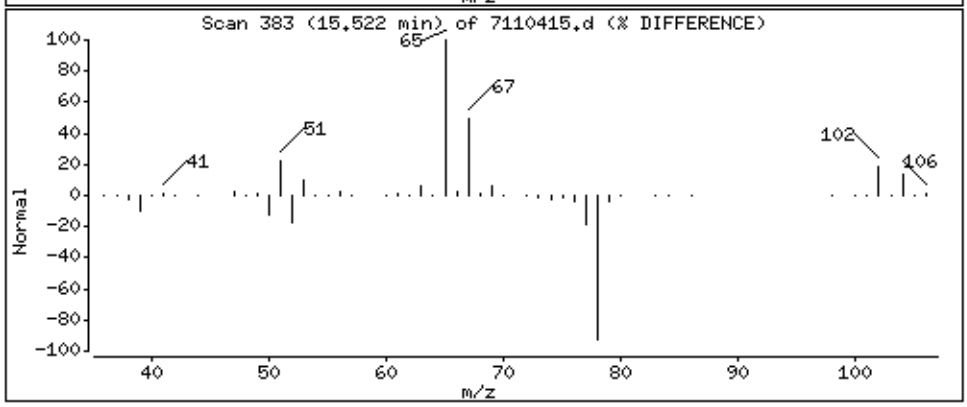
91 Benzene

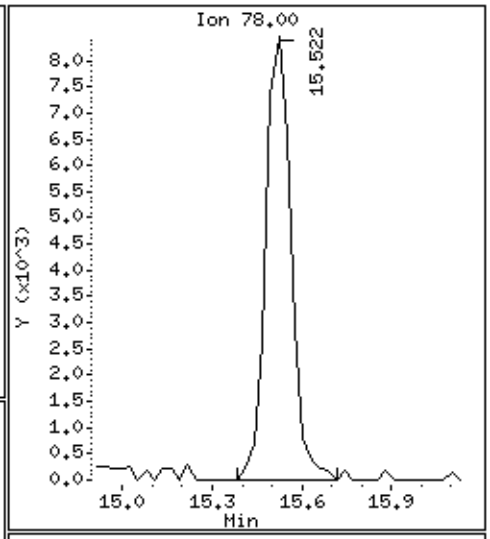
Concentration: 1.210 PPBV

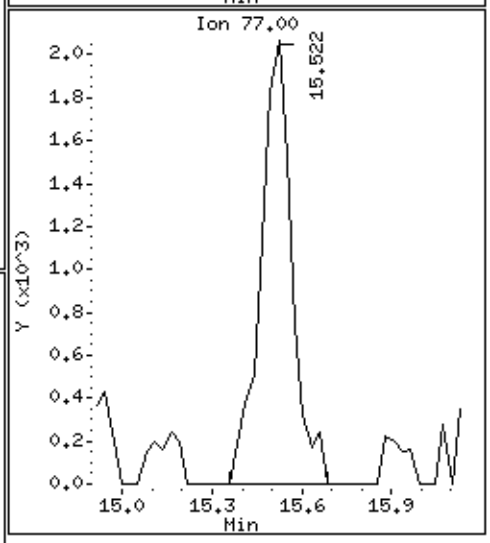












Data File: /chem/msd7.i/7-04nova.b/7110415.d

Date : 05-NOV-2007 04:30

Client ID:

Instrument: msd7.i

Sample Info: 200mL#34422

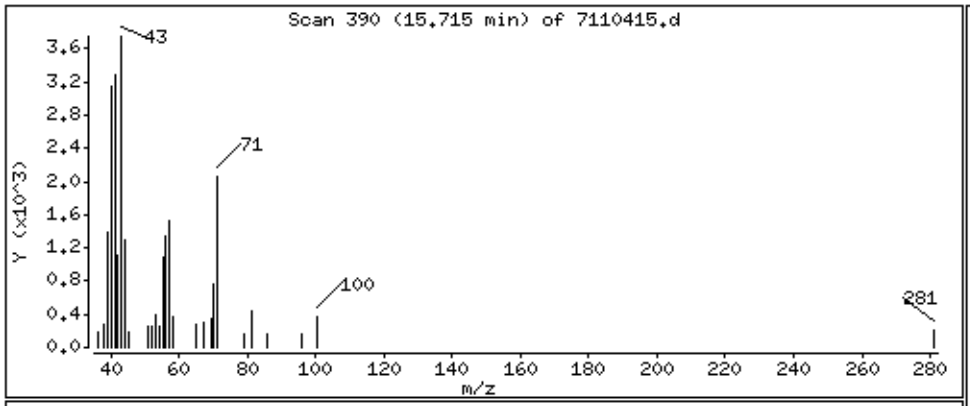
Operator: ab

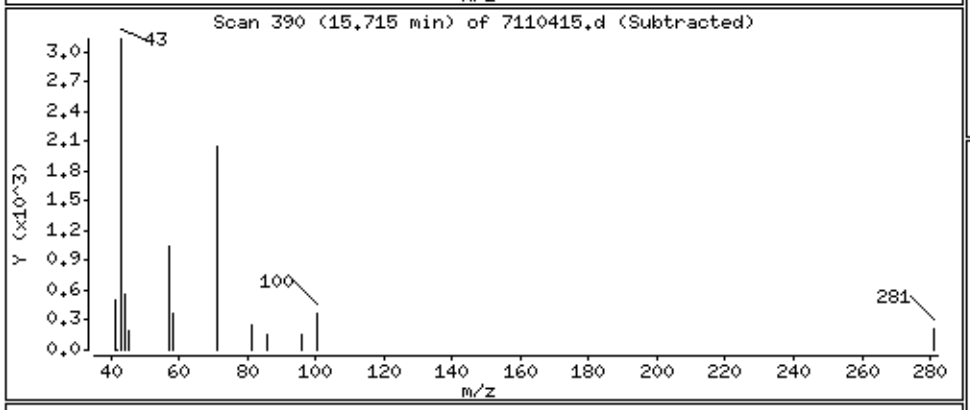
Column phase: RTx-624

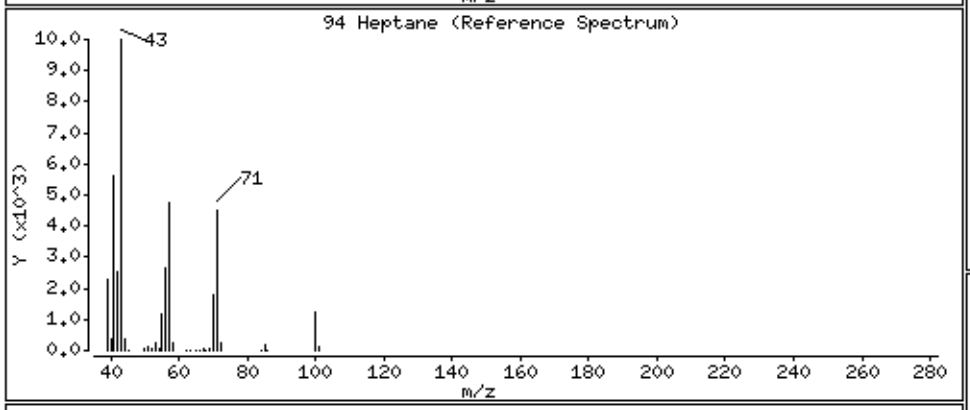
Column diameter: 0.53

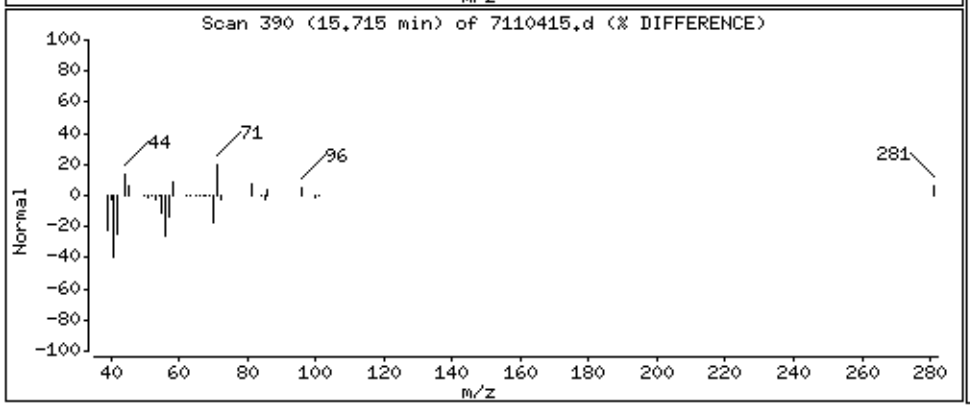
94 Heptane

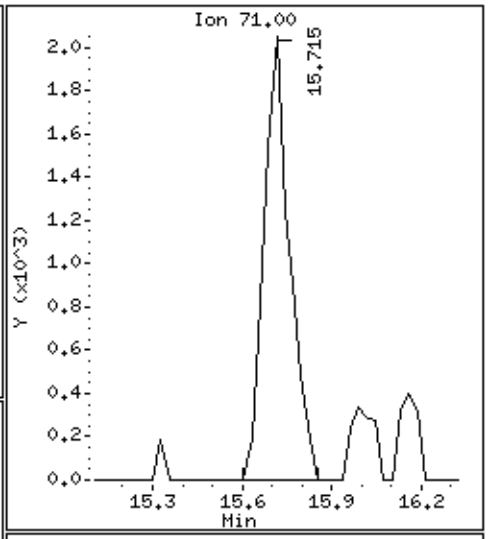
Concentration: 0.9602 PPBV

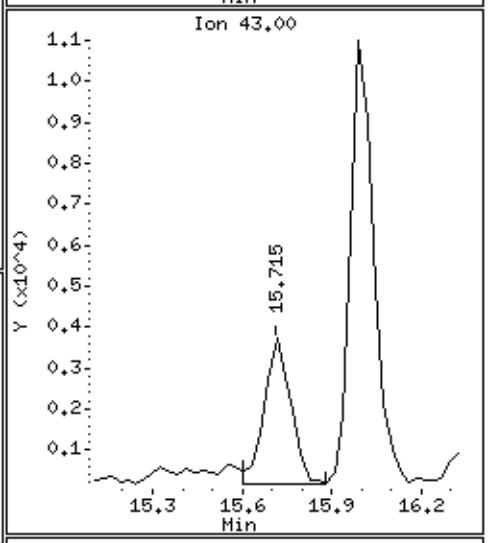


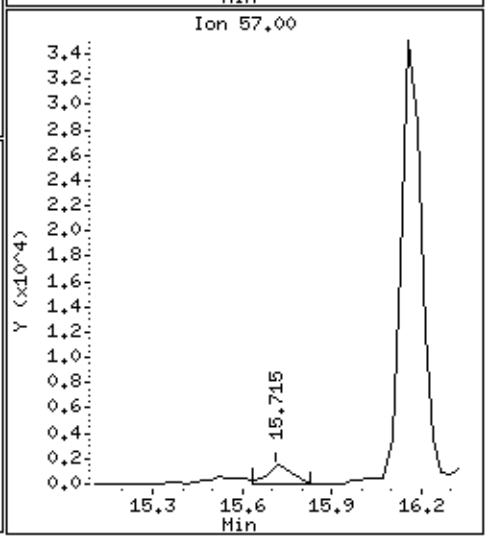












Data File: /chem/msd7.i/7-04nova.b/7110415.d

Date : 05-NOV-2007 04:30

Client ID:

Instrument: msd7.i

Sample Info: 200mL#34422

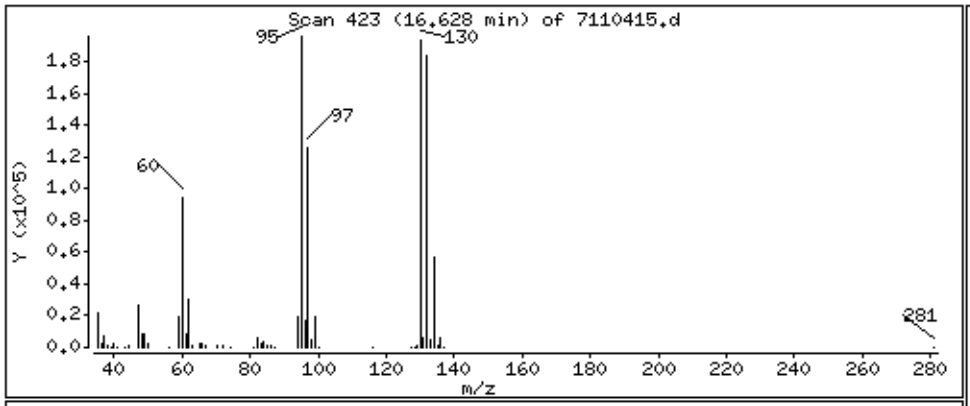
Operator: ab

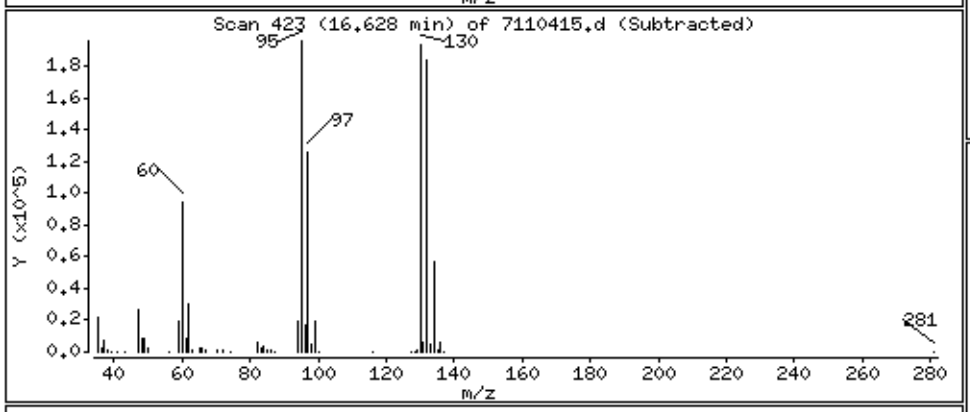
Column phase: RTx-624

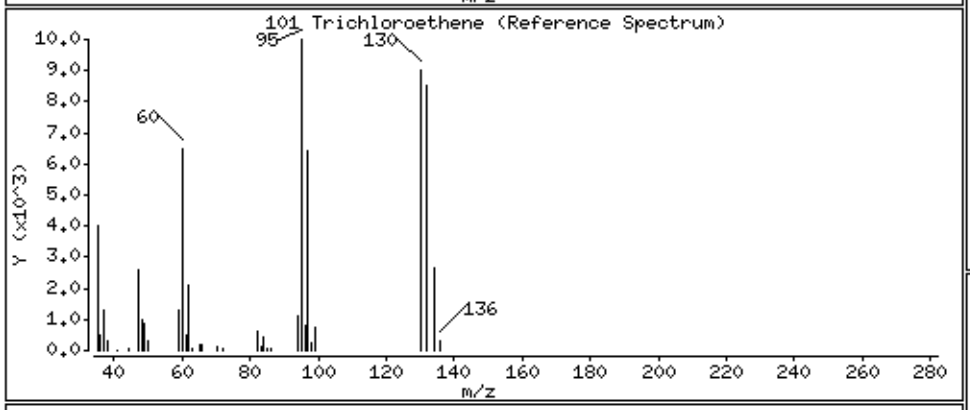
Column diameter: 0.53

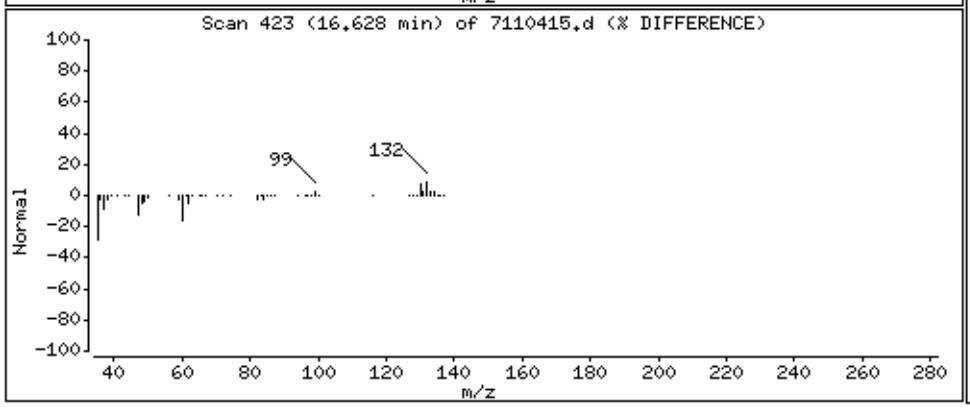
101 Trichloroethene

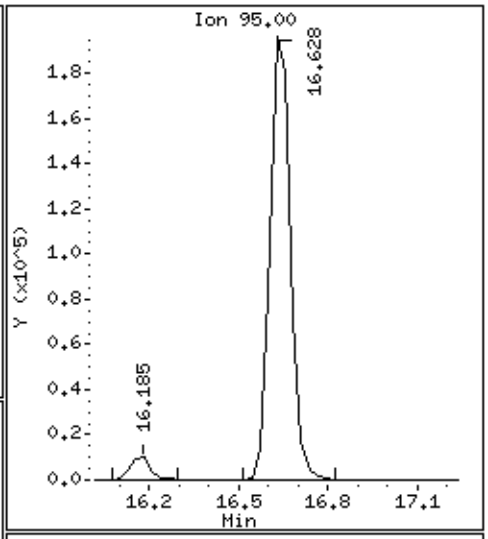
Concentration: 50.898 PPBV

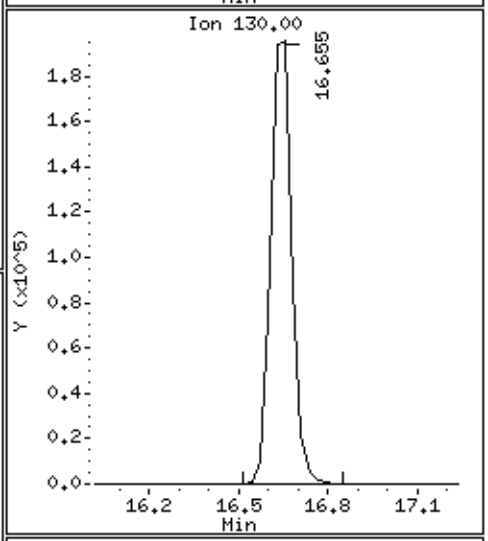


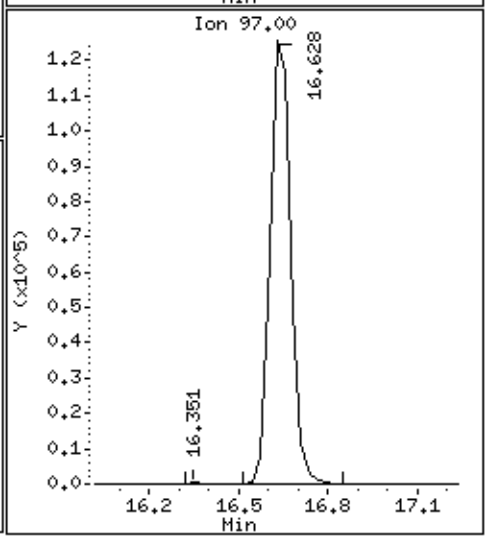












Data File: /chem/msd7.i/7-04nova.b/7110415.d

Date : 05-NOV-2007 04:30

Client ID:

Instrument: msd7.i

Sample Info: 200mL#34422

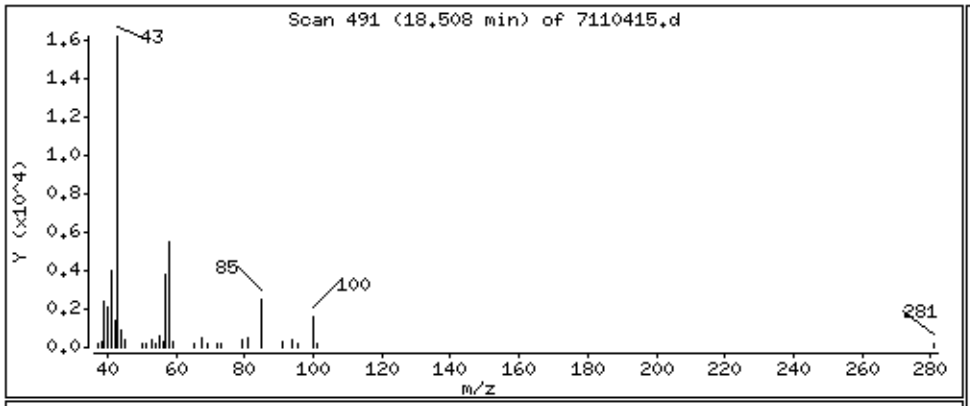
Operator: ab

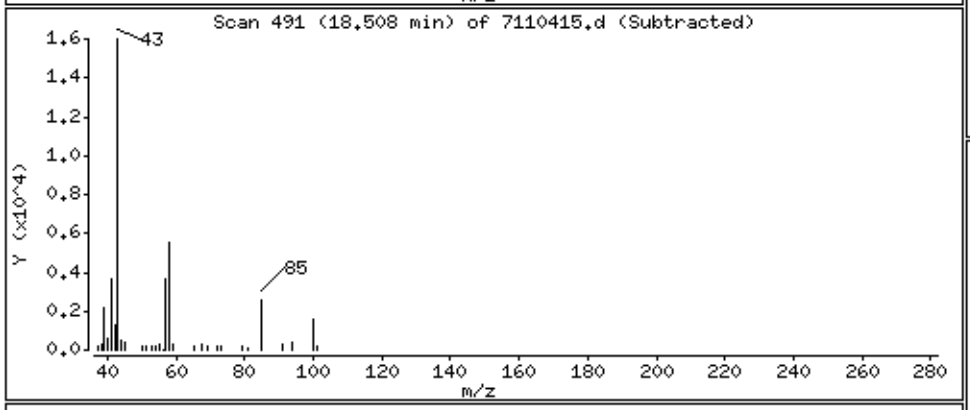
Column phase: RTx-624

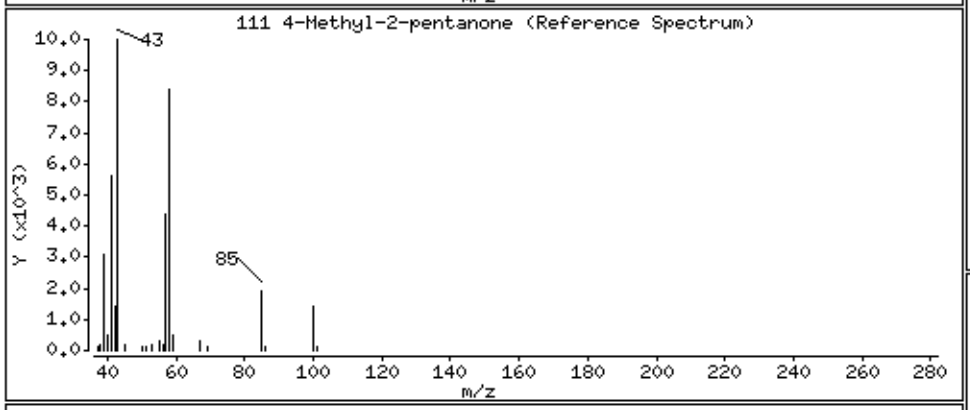
Column diameter: 0.53

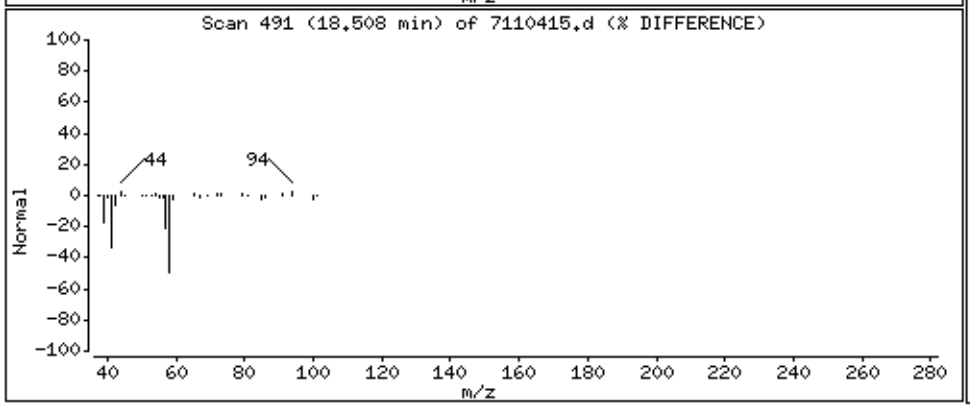
111 4-Methyl-2-pentanone

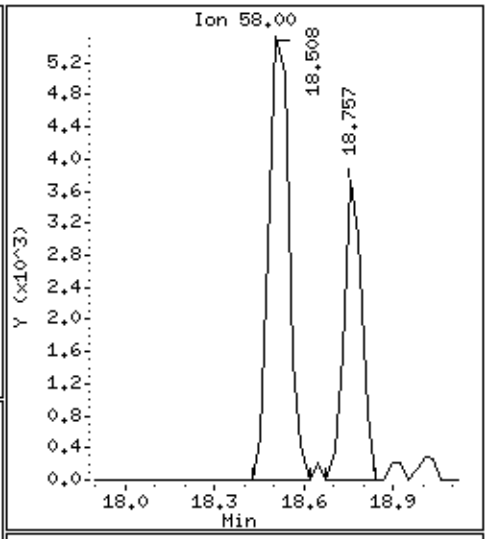
Concentration: 2.117 PPBV

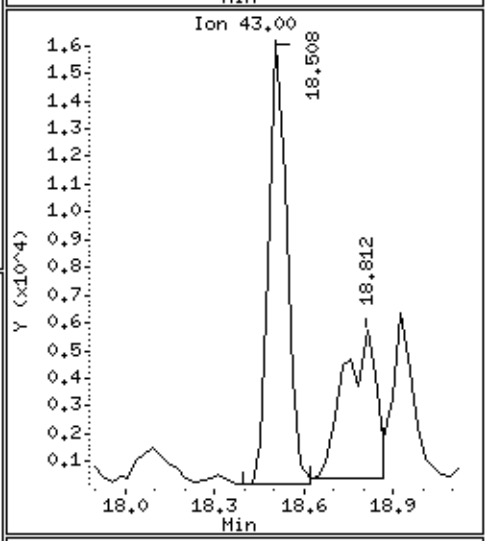


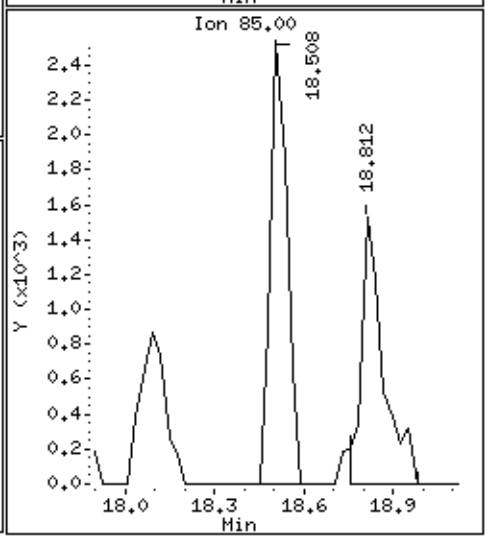












Data File: /chem/msd7.i/7-04nova.b/7110415.d

Date : 05-NOV-2007 04:30

Client ID:

Instrument: msd7.i

Sample Info: 200mL#34422

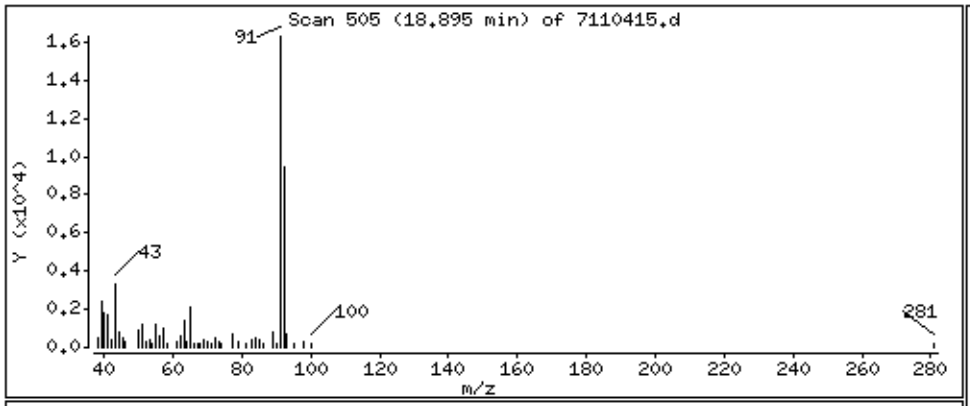
Operator: ab

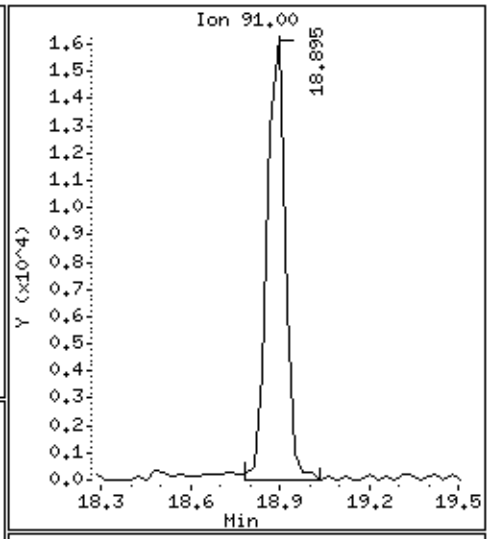
Column phase: RTx-624

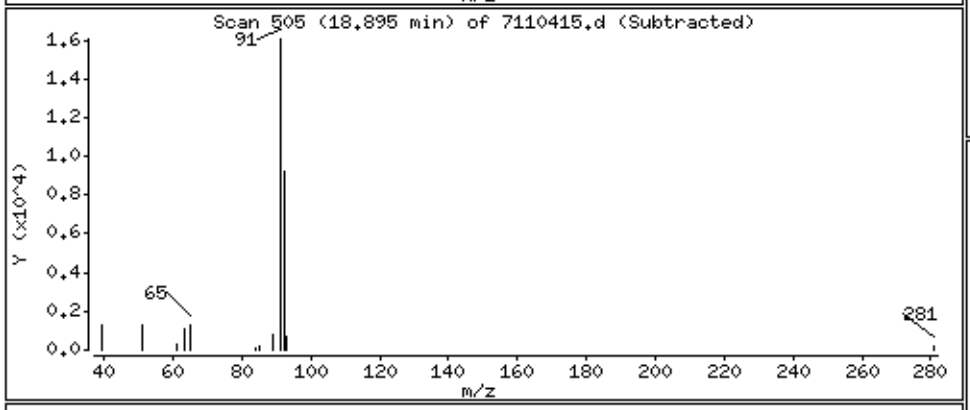
Column diameter: 0.53

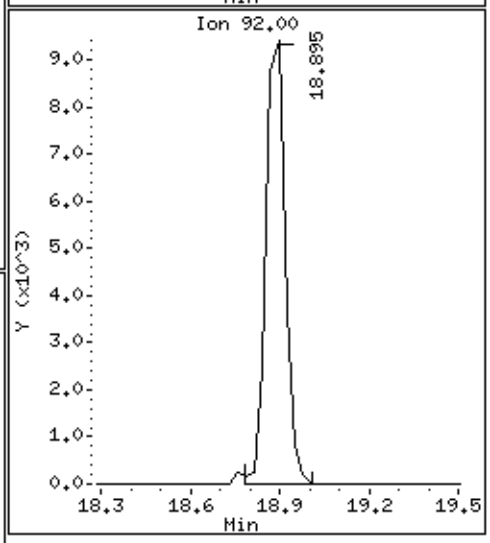
114 Toluene

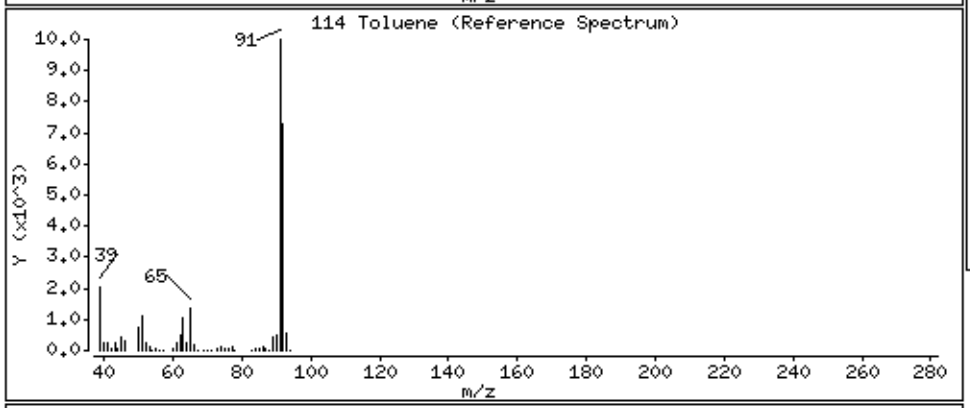
Concentration: 1.514 PPBV

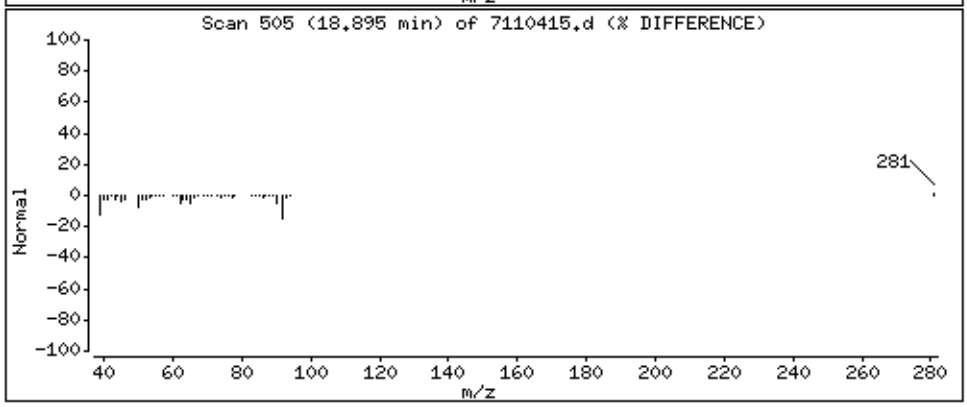












Data File: /chem/msd7.i/7-04nova.b/7110415.d

Date : 05-NOV-2007 04:30

Client ID:

Instrument: msd7.i

Sample Info: 200mL#34422

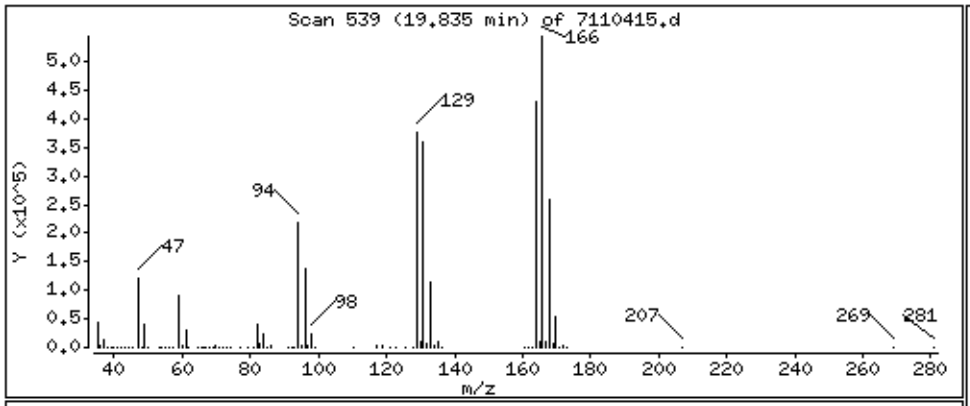
Operator: ab

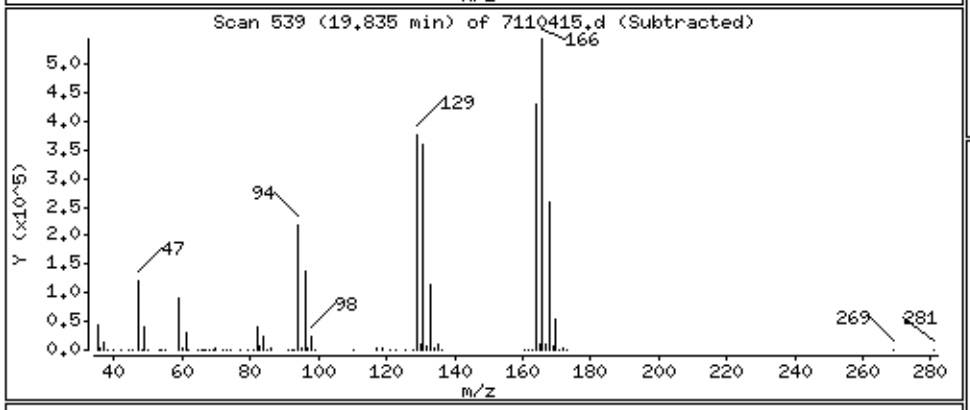
Column phase: RTx-624

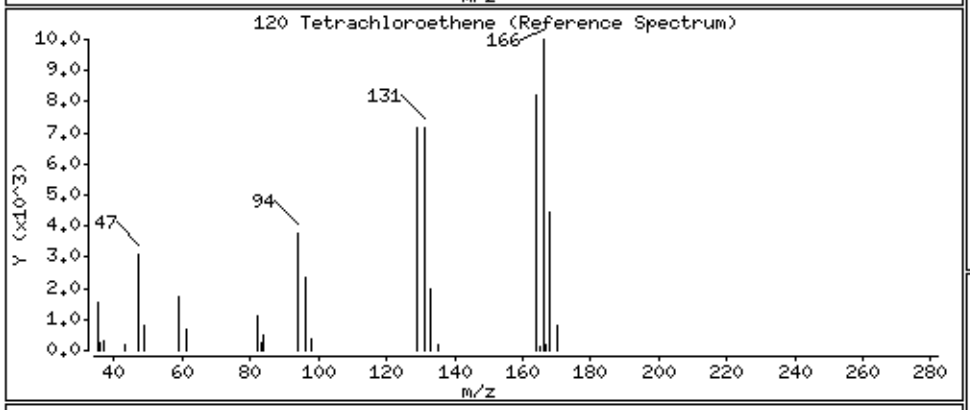
Column diameter: 0.53

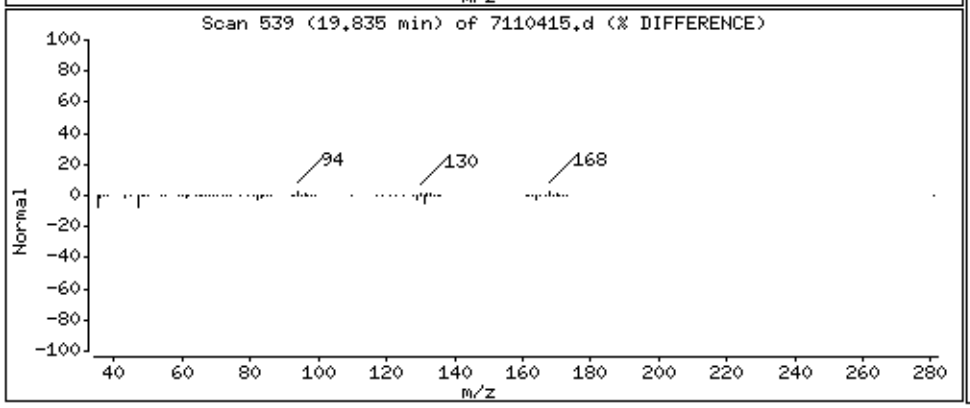
120 Tetrachloroethene

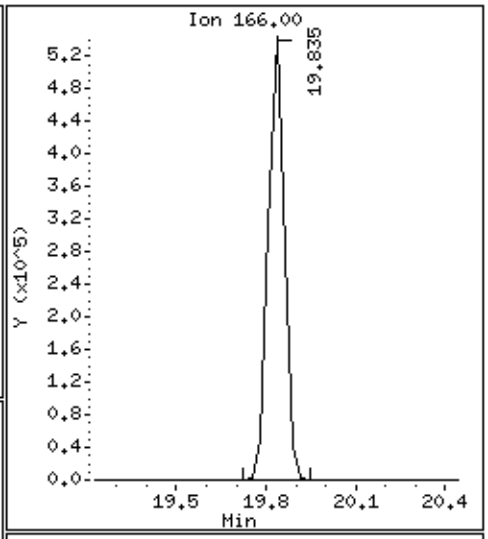
Concentration: 96.221 PPBV

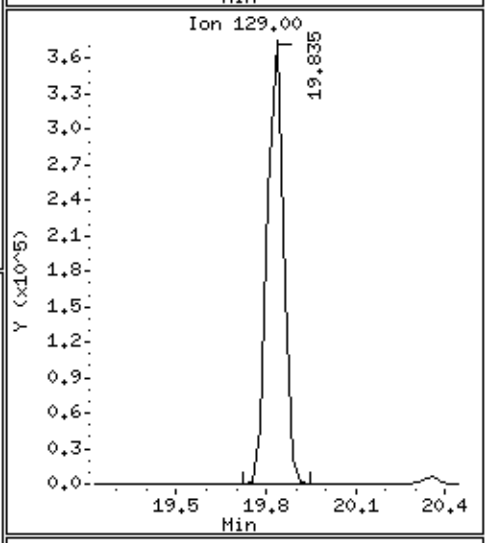


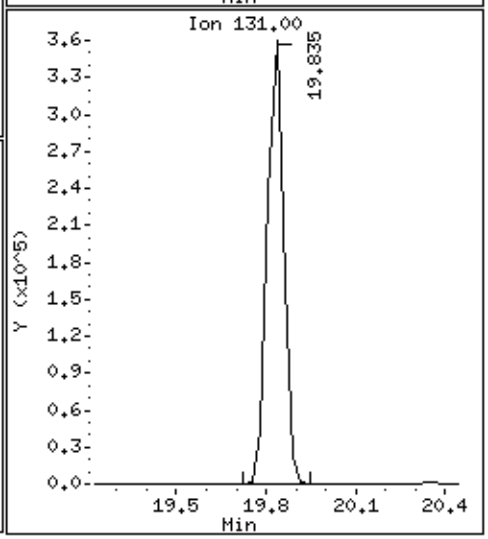












Data File: /chem/msd7.i/7-04nova.b/7110415.d

Date : 05-NOV-2007 04:30

Client ID:

Instrument: msd7.i

Sample Info: 200mL#34422

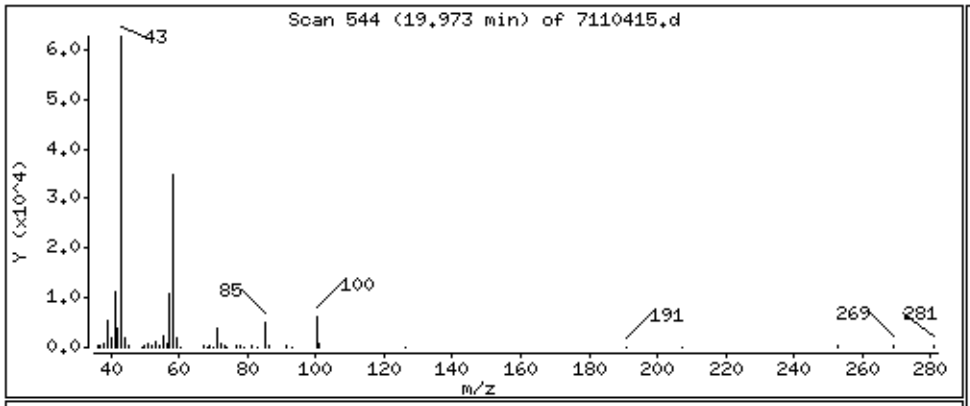
Operator: ab

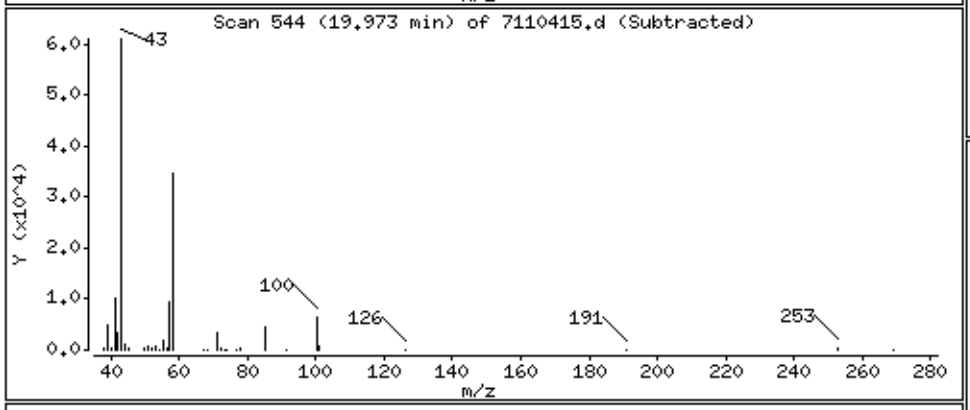
Column phase: RTx-624

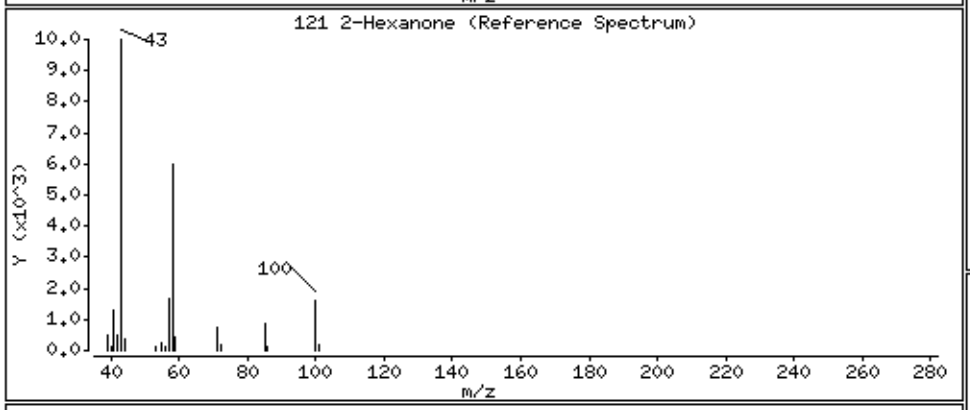
Column diameter: 0.53

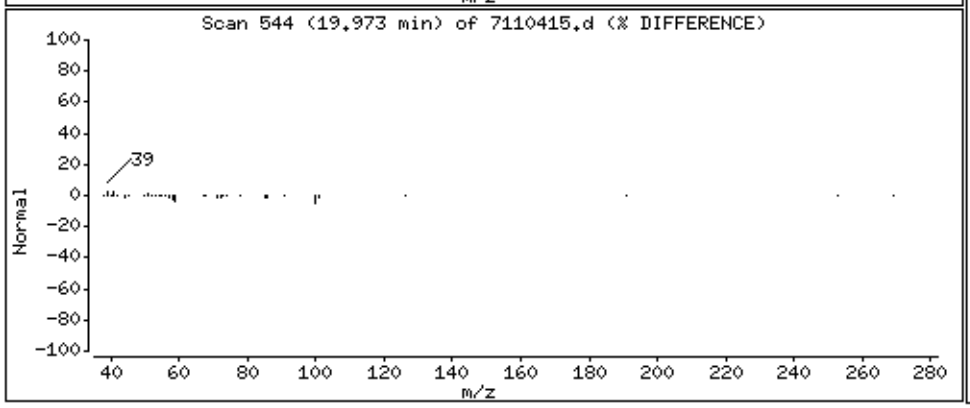
121 2-Hexanone

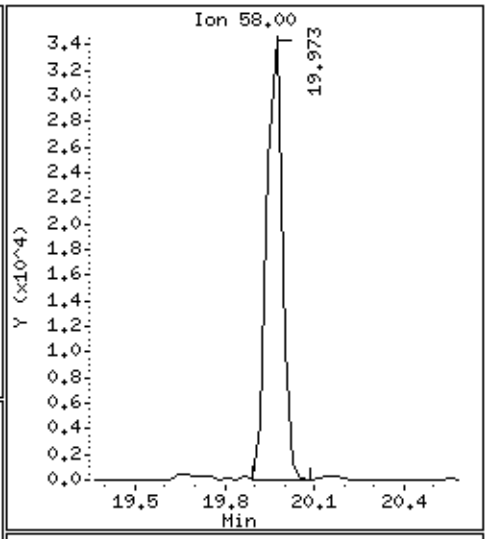
Concentration: 7.166 PPBV

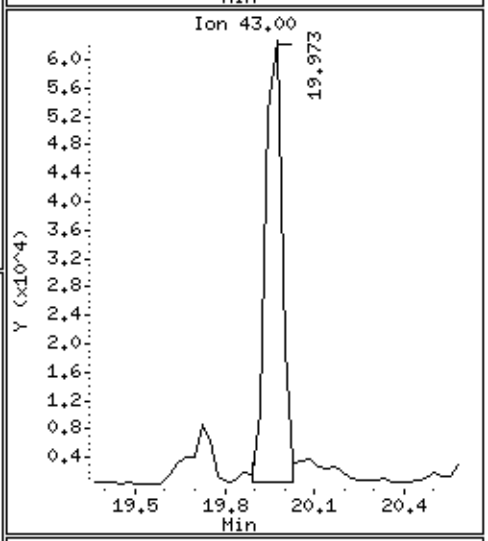


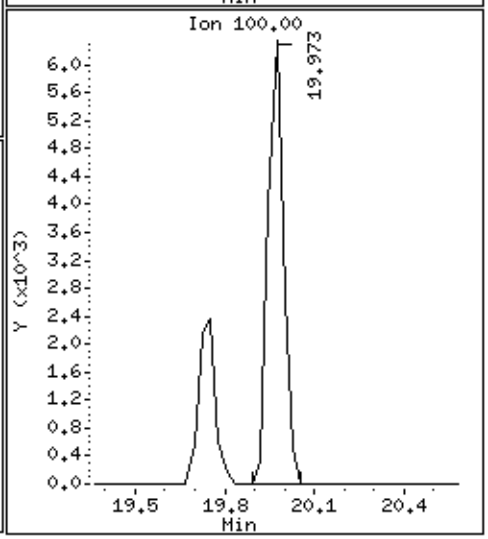












Data File: /chem/msd7.i/7-04nova.b/7110415.d

Date : 05-NOV-2007 04:30

Client ID:

Instrument: msd7.i

Sample Info: 200mL#34422

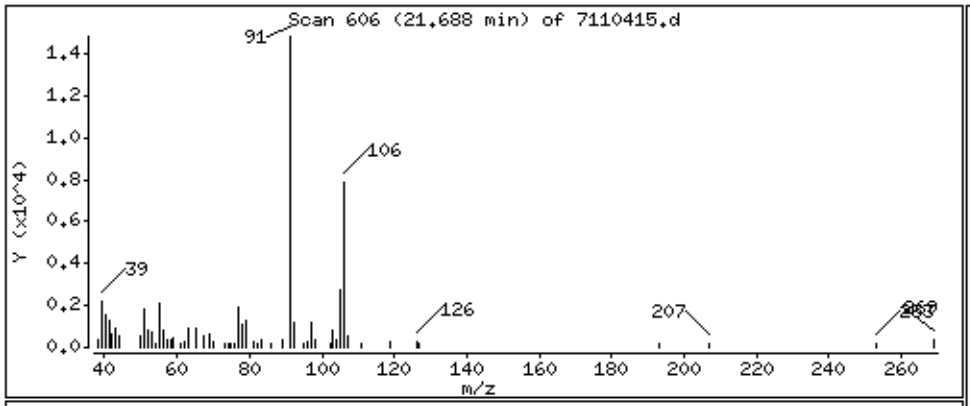
Operator: ab

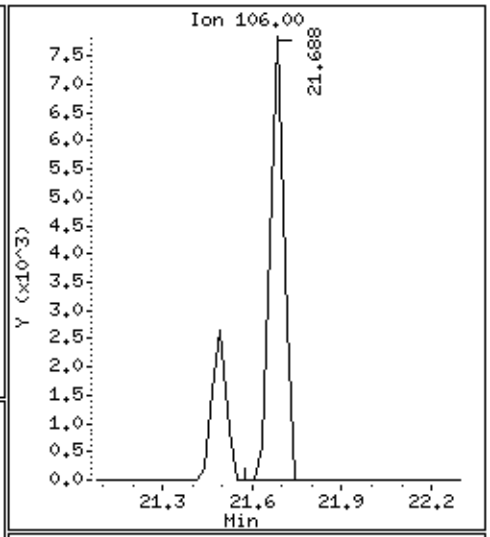
Column phase: RTx-624

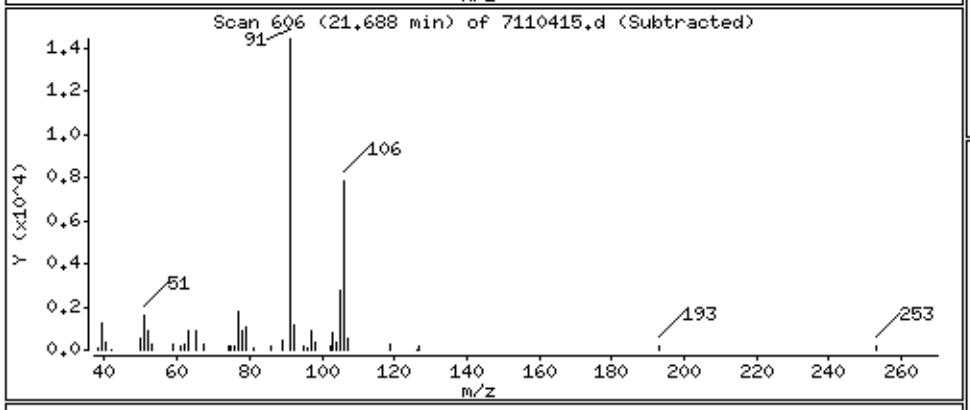
Column diameter: 0.53

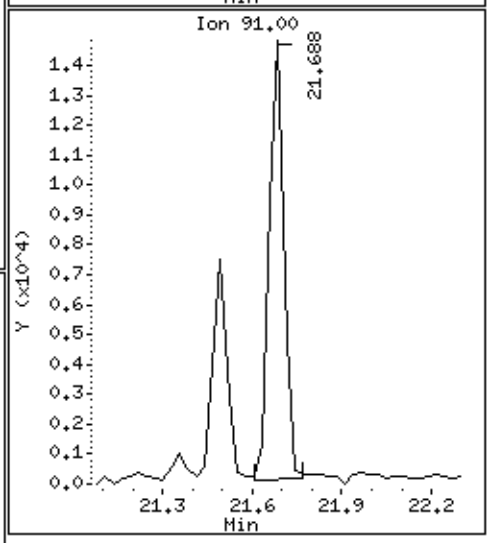
129 m,p-Xylene

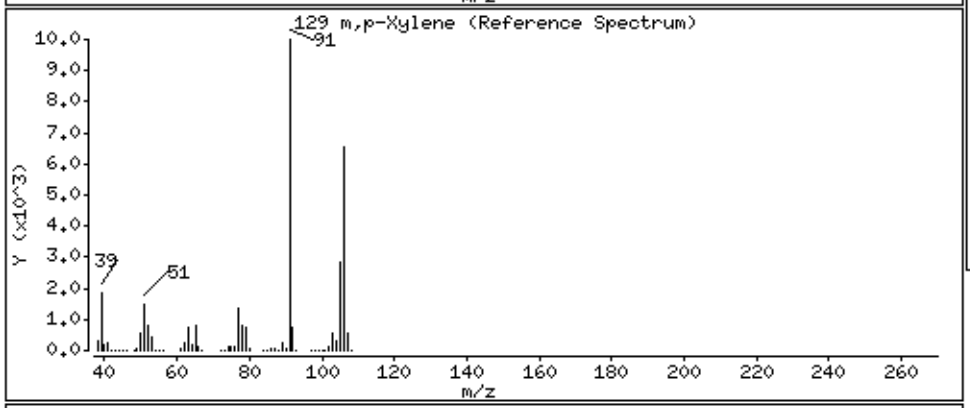
Concentration: 1.122 PPBV

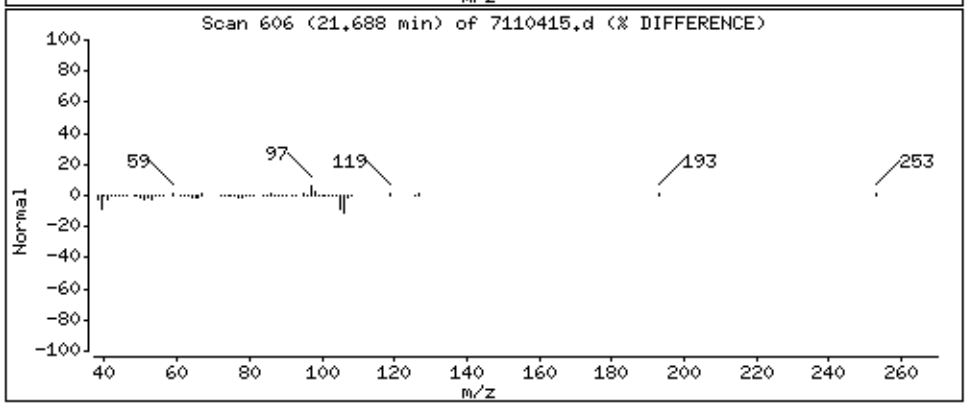












Data File: /chem/msd7.i/7-04nova.b/7110415.d

Date : 05-NOV-2007 04:30

Client ID:

Instrument: msd7.i

Sample Info: 200mL#34422

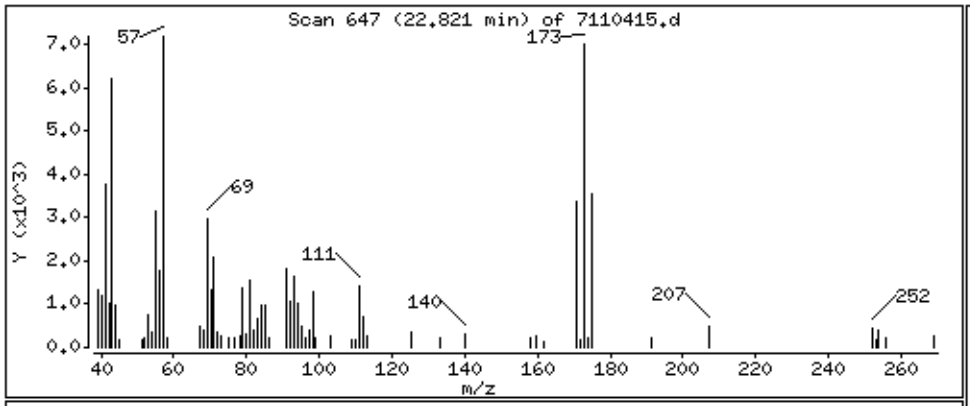
Operator: ab

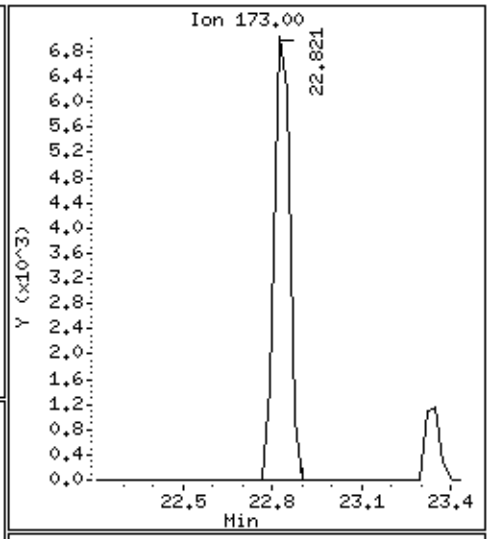
Column phase: RTx-624

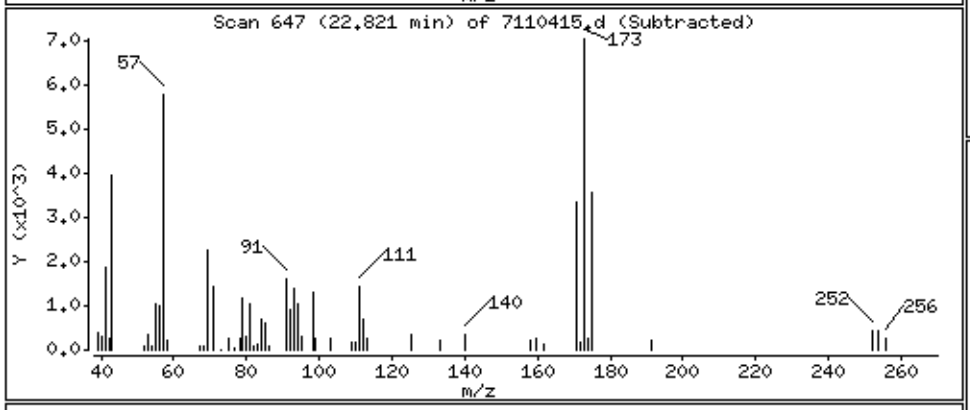
Column diameter: 0.53

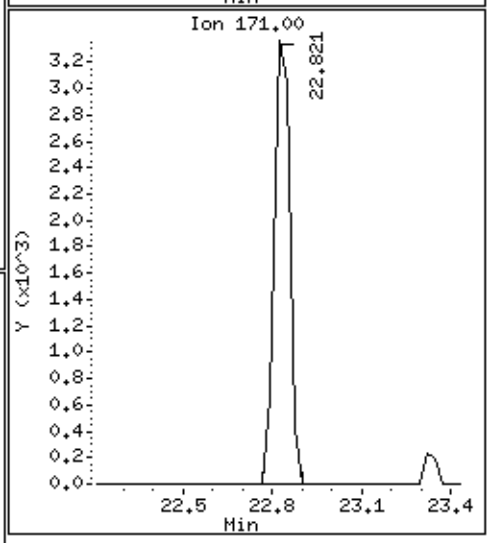
133 Bromoform

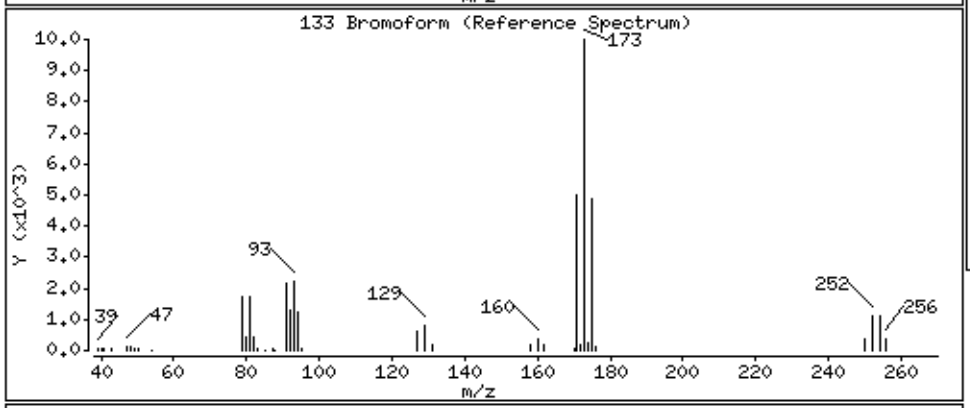
Concentration: 1.019 PPBV

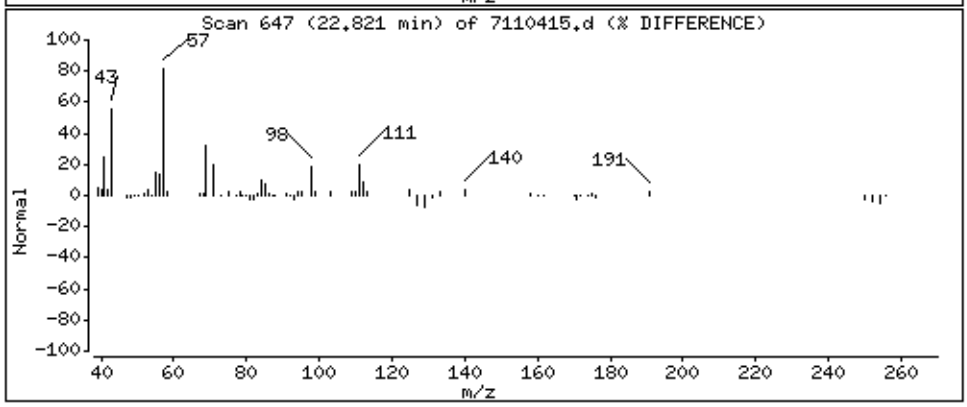












Data File: /chem/msd7.i/7-04nova.b/7110415.d

Date : 05-NOV-2007 04:30

Client ID:

Instrument: msd7.i

Sample Info: 200mL#34422

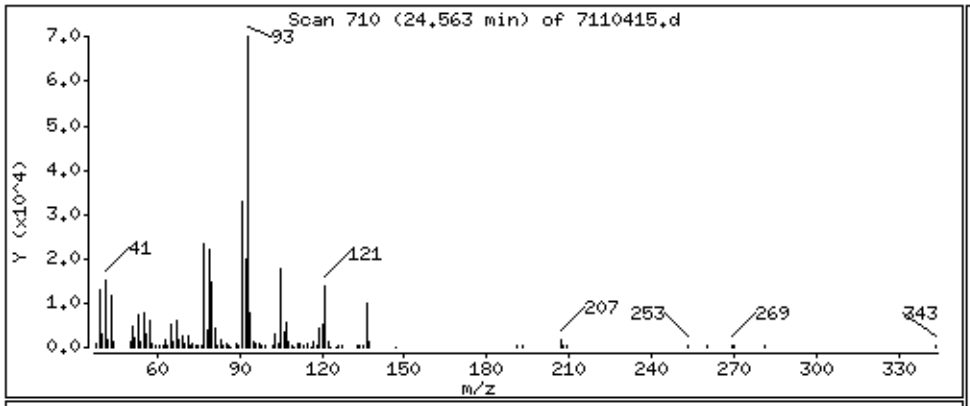
Operator: ab

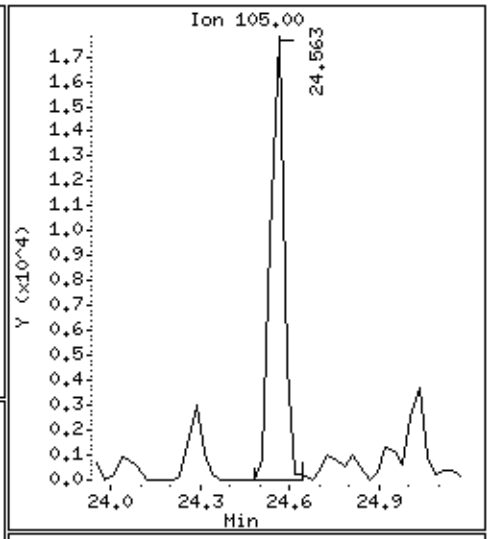
Column phase: RTx-624

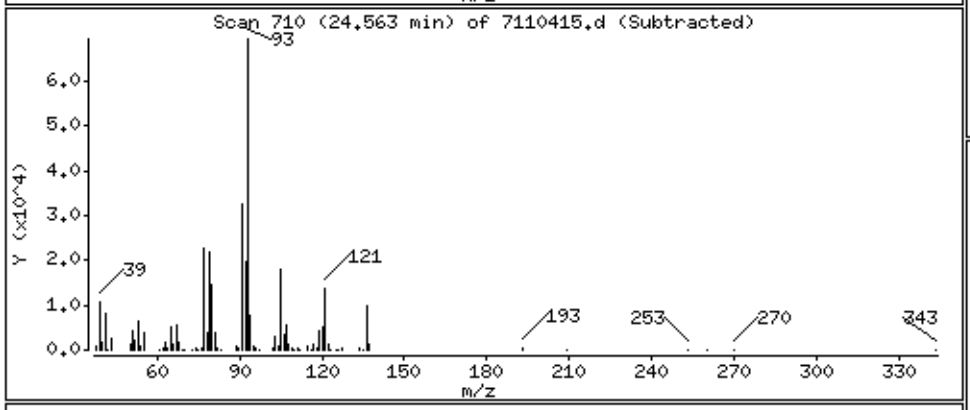
Column diameter: 0.53

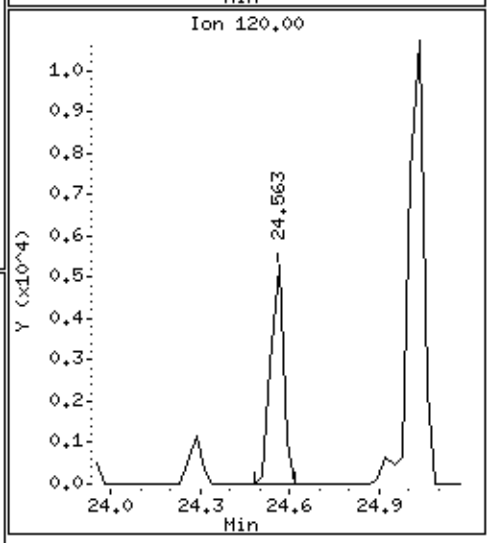
150 1,2,4-Trimethylbenzene

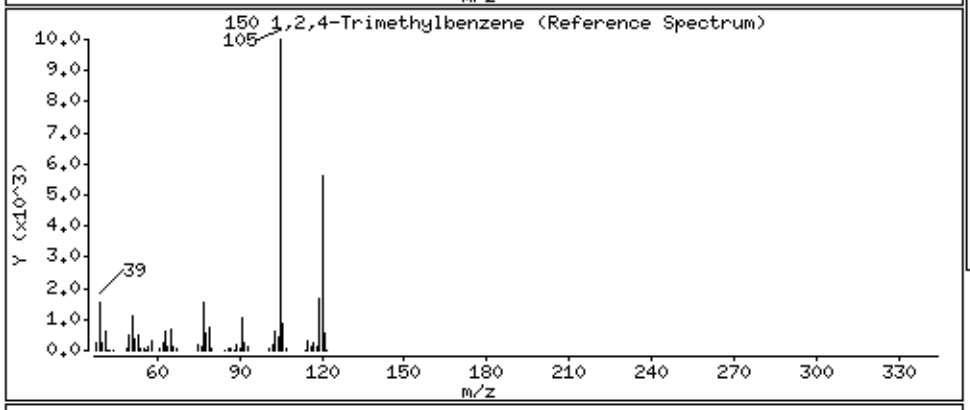
Concentration: 1.311 PPBV

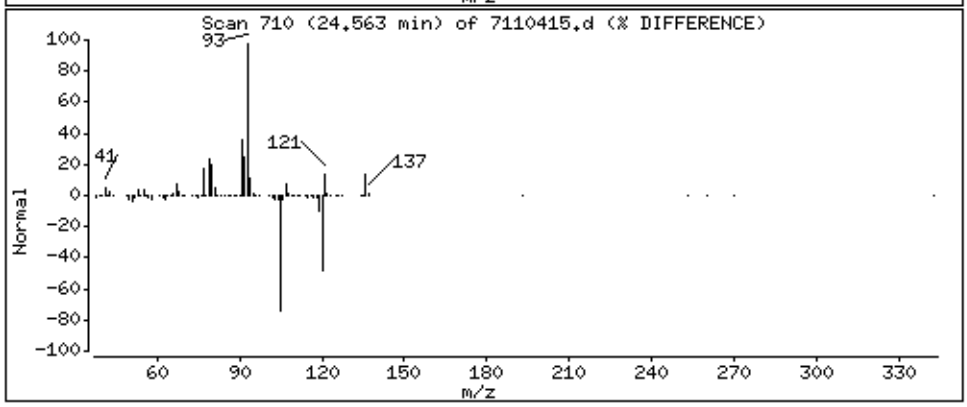












AN ENVIRONMENTAL ANALYTICAL LABORATORY

Summary of Detected Compounds
MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

Client Sample ID: MD21-07-6811

Lab ID#: 0711008-03A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Acetone	3.8	66	9.1	160
Methylene Chloride	0.96	81	3.3	280
2-Butanone (Methyl Ethyl Ketone)	0.96	7.2	2.8	21
Chloroform	0.96	23	4.7	110
Carbon Tetrachloride	0.96	1.0	6.0	6.4
1,2-Dichloroethane	0.96	0.97	3.9	3.9
Trichloroethene	0.96	8.8	5.1	47
1,1,2-Trichloroethane	0.96	1.2	5.2	6.3
Propylene	3.8	7.0	6.6	12

AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: MD21-07-6811

Lab ID#: 0711008-03A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**7110417**	**Date of Collection:**	**10/30/07**
Dil. Factor:	**1.91**	**Date of Analysis:**	**11/5/07 06:25 AM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Freon 12	0.96	Not Detected	4.7	Not Detected
Freon 114	0.96	Not Detected	6.7	Not Detected
Chloromethane	3.8	Not Detected	7.9	Not Detected
Vinyl Chloride	0.96	Not Detected	2.4	Not Detected
1,3-Butadiene	0.96	Not Detected	2.1	Not Detected
Bromomethane	0.96	Not Detected	3.7	Not Detected
Chloroethane	0.96	Not Detected	2.5	Not Detected
Freon 11	0.96	Not Detected	5.4	Not Detected
Ethanol	3.8	Not Detected	7.2	Not Detected
Freon 113	0.96	Not Detected	7.3	Not Detected
1,1-Dichloroethene	0.96	Not Detected	3.8	Not Detected
Acetone	3.8	66	9.1	160
2-Propanol	3.8	Not Detected	9.4	Not Detected
Carbon Disulfide	0.96	Not Detected	3.0	Not Detected
Methylene Chloride	0.96	81	3.3	280
Methyl tert-butyl ether	0.96	Not Detected	3.4	Not Detected
trans-1,2-Dichloroethene	0.96	Not Detected	3.8	Not Detected
Hexane	0.96	Not Detected	3.4	Not Detected
1,1-Dichloroethane	0.96	Not Detected	3.9	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.96	7.2	2.8	21
cis-1,2-Dichloroethene	0.96	Not Detected	3.8	Not Detected
Tetrahydrofuran	0.96	Not Detected	2.8	Not Detected
Chloroform	0.96	23	4.7	110
1,1,1-Trichloroethane	0.96	Not Detected	5.2	Not Detected
Cyclohexane	0.96	Not Detected	3.3	Not Detected
Carbon Tetrachloride	0.96	1.0	6.0	6.4
Benzene	0.96	Not Detected	3.0	Not Detected
1,2-Dichloroethane	0.96	0.97	3.9	3.9
Heptane	0.96	Not Detected	3.9	Not Detected
Trichloroethene	0.96	8.8	5.1	47
1,2-Dichloropropane	0.96	Not Detected	4.4	Not Detected
1,4-Dioxane	3.8	Not Detected	14	Not Detected
Bromodichloromethane	0.96	Not Detected	6.4	Not Detected
cis-1,3-Dichloropropene	0.96	Not Detected	4.3	Not Detected
4-Methyl-2-pentanone	0.96	Not Detected	3.9	Not Detected
Toluene	0.96	Not Detected	3.6	Not Detected
trans-1,3-Dichloropropene	0.96	Not Detected	4.3	Not Detected
1,1,2-Trichloroethane	0.96	1.2	5.2	6.3
Tetrachloroethene	0.96	Not Detected	6.5	Not Detected

AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: MD21-07-6811

Lab ID#: 0711008-03A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**7110417**	**Date of Collection:**	**10/30/07**
Dil. Factor:	**1.91**	**Date of Analysis:**	**11/5/07 06:25 AM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
2-Hexanone	3.8	Not Detected	16	Not Detected
Dibromochloromethane	0.96	Not Detected	8.1	Not Detected
1,2-Dibromoethane (EDB)	0.96	Not Detected	7.3	Not Detected
Chlorobenzene	0.96	Not Detected	4.4	Not Detected
Ethyl Benzene	0.96	Not Detected	4.1	Not Detected
m,p-Xylene	0.96	Not Detected	4.1	Not Detected
o-Xylene	0.96	Not Detected	4.1	Not Detected
Styrene	0.96	Not Detected	4.1	Not Detected
Bromoform	0.96	Not Detected	9.9	Not Detected
1,1,2,2-Tetrachloroethane	0.96	Not Detected	6.6	Not Detected
4-Ethyltoluene	0.96	Not Detected	4.7	Not Detected
1,3,5-Trimethylbenzene	0.96	Not Detected	4.7	Not Detected
1,2,4-Trimethylbenzene	0.96	Not Detected	4.7	Not Detected
1,3-Dichlorobenzene	0.96	Not Detected	5.7	Not Detected
1,4-Dichlorobenzene	0.96	Not Detected	5.7	Not Detected
alpha-Chlorotoluene	0.96	Not Detected	4.9	Not Detected
1,2-Dichlorobenzene	0.96	Not Detected	5.7	Not Detected
1,2,4-Trichlorobenzene	3.8	Not Detected	28	Not Detected
Hexachlorobutadiene	3.8	Not Detected	41	Not Detected
Chlorodifluoromethane	3.8	Not Detected	14	Not Detected
Methanol	96	Not Detected	120	Not Detected
n-Butanol	3.8	Not Detected	12	Not Detected
Propylene	3.8	7.0	6.6	12

Container Type: 6 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	91	70-130
1,2-Dichloroethane-d4	86	70-130
4-Bromofluorobenzene	102	70-130

Air Toxics Ltd.

AMBIENT AIR METHOD TO14

Data file : /chem/msd7.i/7-04nova.b/7110417.d
Lab Smp Id: 0711008-03A
Inj Date : 05-NOV-2007 06:25
Operator : ab Inst ID: msd7.i
Smp Info : 200mL#34327
Misc Info : 9.0"Hg-5psi
Comment :
Method : /chem/msd7.i/7-04nova.b/t14qO18c.m
Meth Date : 05-Nov-2007 00:40 dmendoza Quant Type: ISTD
Cal Date : 30-OCT-2007 11:10 Cal File: 7103005.d
Als bottle: 1
Dil Factor: 1.91000
Integrator: HP RTE Compound Sublist: Los2153.sub
Target Version: 3.50 Sample Matrix: AIR
Processing Host: eeyore

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

RT	EXP RT (REL RT)	MASS	RESPONSE	CONCENTRATIONS ON-COL (PPBV)	FINAL (PPBV)	TARGET RANGE	RATIO
* 81 Bromochloromethane					CAS #: 74-97-5		
14.416	14.388 (1.000)	130	578639	25.0000		80.00- 120.00	100.00
14.416	14.388 (1.000)	128	449305			28.08- 128.08	77.65
14.416	14.388 (1.000)	49	852423			128.80- 228.80	147.32
* 97 1,4-Difluorobenzene					CAS #: 540-36-3		
16.186	16.158 (1.000)	114	1897401	25.0000		80.00- 120.00	100.00
16.158	16.158 (1.000)	88	284004			0.00- 64.88	14.97
* 126 Chlorobenzene-d5					CAS #: 3114-55-4		
21.356	21.356 (1.000)	117	1350084	25.0000		80.00- 120.00	100.00
21.356	21.356 (1.000)	82	685485			4.45- 104.45	50.77
$ 90 1,2-Dichloroethane-d4					CAS #: 17060-07-0		
15.494	15.494 (1.075)	65	665972	21.4239	21.424	80.00- 120.00	100.00
15.494	15.494 (1.075)	67	342636			2.91- 102.91	51.45
$ 113 Toluene-d8					CAS #: 2037-26-5		
18.757	18.757 (1.159)	98	1530659	22.7253	22.725	80.00- 120.00	100.00
18.757	18.757 (1.159)	70	161560			0.00- 61.46	10.55

```
                                        CONCENTRATIONS
                                        ON-COL    FINAL
   RT   EXP RT (REL RT)  MASS  RESPONSE ( PPBV)  ( PPBV)   TARGET RANGE    RATIO
   ==   ====== ========  ====  ======== =======  =======   ============    =====

$ 113 Toluene-d8 (continued)
 18.757  18.757 (1.159)   100   1056021                   19.18- 119.18    68.99
-------------------------------------------------------------------------------
$ 137 Bromofluorobenzene                            CAS #: 460-00-4
 23.347  23.347 (1.093)   174    819173 25.4985   25.498  80.00- 120.00   100.00
 23.319  23.319 (1.092)    95    938898                   63.49- 163.49   114.62
 23.347  23.347 (1.093)   176    777111                   46.77- 146.77    94.87
-------------------------------------------------------------------------------
   11 Propylene                                     CAS #: 115-07-1
  5.645   5.617 (0.392)    41     91860 3.68332    7.035  80.00- 120.00   100.00(H)
  5.645   5.617 (0.392)    42     58136                   21.19- 121.19    63.29
  5.645   5.617 (0.392)    39     79598                   24.83- 124.83    86.65
-------------------------------------------------------------------------------
   45 Acetone                                       CAS #: 67-64-1
 10.490  10.462 (0.728)    58    537099 34.4183   65.739  80.00- 120.00   100.00
 10.490  10.462 (0.728)    43   1816984                  247.10- 347.10   338.30
-------------------------------------------------------------------------------
   54 Methylene Chloride                            CAS #: 75-09-2
 11.485  11.457 (0.797)    49   1573098 42.3812   80.948  80.00- 120.00   100.00
 11.485  11.457 (0.797)    84   1072612                   15.73- 115.73    68.18
 11.485  11.457 (0.797)    51    480162                    0.00-  80.85    30.52
-------------------------------------------------------------------------------
   75 2-Butanone                                    CAS #: 78-93-3
 13.891  13.891 (0.964)    72     47454 3.78650    7.232  80.00- 120.00   100.00
 13.891  13.891 (0.964)    43    241132                  458.59- 558.59   508.14
 13.891  13.891 (0.964)    57     17840                    0.00-  86.57    37.59
-------------------------------------------------------------------------------
   82 Chloroform                                    CAS #: 67-66-3
 14.471  14.471 (1.004)    83    711501 12.2124   23.326  80.00- 120.00   100.00
 14.471  14.471 (1.004)    85    462326                   15.98- 115.98    64.98
-------------------------------------------------------------------------------
   87 Carbon Tetrachloride                          CAS #: 56-23-5
 15.107  15.107 (1.048)   119     29171 0.53042    1.013  80.00- 120.00   100.00
 15.107  15.080 (1.048)   117     30578                   54.21- 154.21   104.82
-------------------------------------------------------------------------------
   93 1,2-Dichloroethane                            CAS #: 107-06-2
 15.633  15.633 (0.966)    62     20282 0.50635   0.9671  80.00- 120.00   100.00
 15.633  15.633 (0.966)    64      7651                    0.00-  82.89    37.72
-------------------------------------------------------------------------------
  101 Trichloroethene                               CAS #: 79-01-6
 16.628  16.628 (1.027)    95    153645 4.58802    8.763  80.00- 120.00   100.00
 16.656  16.628 (1.029)   130    158067                   54.96- 154.96   102.88
 16.628  16.628 (1.027)    97     96382                   15.03- 115.03    62.73
-------------------------------------------------------------------------------
  117 1,1,2-Trichloroethane                         CAS #: 79-00-5
 19.669  19.669 (0.921)    97     16971 0.60689    1.159  80.00- 120.00   100.00
```

RT	EXP RT	(REL RT)	MASS	RESPONSE	CONCENTRATIONS ON-COL (PPBV)	FINAL (PPBV)	TARGET RANGE	RATIO
117 1,1,2-Trichloroethane (continued)								
19.642	19.669	(0.920)	99	11107			12.57- 112.57	65.45
19.642	19.642	(0.920)	83	14524			31.77- 131.77	85.58

QC Flag Legend

H - Operator selected an alternate compound hit.

Report Date: 05-Nov-2007 11:30

Air Toxics Ltd.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd7.i
Lab File ID: 7110417.d
Lab Smp Id: 0711008-03A
Analysis Type: VOA
Quant Type: ISTD
Operator: ab
Method File: /chem/msd7.i/7-04nova.b/t14qO18c.m
Misc Info: 9.0"Hg-5psi

Calibration Date: 04-NOV-2007
Calibration Time: 22:27

Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
81 Bromochloromethan	651162	390697	911627	578639	-11.14
97 1,4-Difluorobenze	2188066	1312840	3063292	1897401	-13.28
126 Chlorobenzene-d5	1729248	1037549	2420947	1350084	-21.93

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
81 Bromochloromethan	14.39	14.06	14.72	14.42	0.19
97 1,4-Difluorobenze	16.16	15.83	16.49	16.19	0.17
126 Chlorobenzene-d5	21.36	21.03	21.69	21.36	0.00

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Report Date: 05-Nov-2007 11:30

Air Toxics Ltd.

RECOVERY REPORT

Client Name:
Client SDG: 7-04nova
Sample Matrix: GAS
Fraction: VOA
Lab Smp Id: 0711008-03A
Level: LOW
Operator: ab
Data Type: MS DATA
SampleType: SAMPLE
SpikeList File: 2926spectra.spk
Quant Type: ISTD
Sublist File: Los2153.sub
Method File: /chem/msd7.i/7-04nova.b/t14qO18c.m
Misc Info: 9.0"Hg-5psi

SURROGATE COMPOUND	CONC ADDED PPBV	CONC RECOVERED PPBV	% RECOVERED	LIMITS
$ 90 1,2-Dichloroethane	25.000	21.424	85.70	70-130
$ 113 Toluene-d8	25.000	22.725	90.90	70-130
$ 137 Bromofluorobenzene	25.000	25.498	101.99	70-130

Data File: /chem/msd7.i/7-04nova.b/7110417.d

Date : 05-NOV-2007 06:25

Client ID:

Sample Info: 200mL#34327

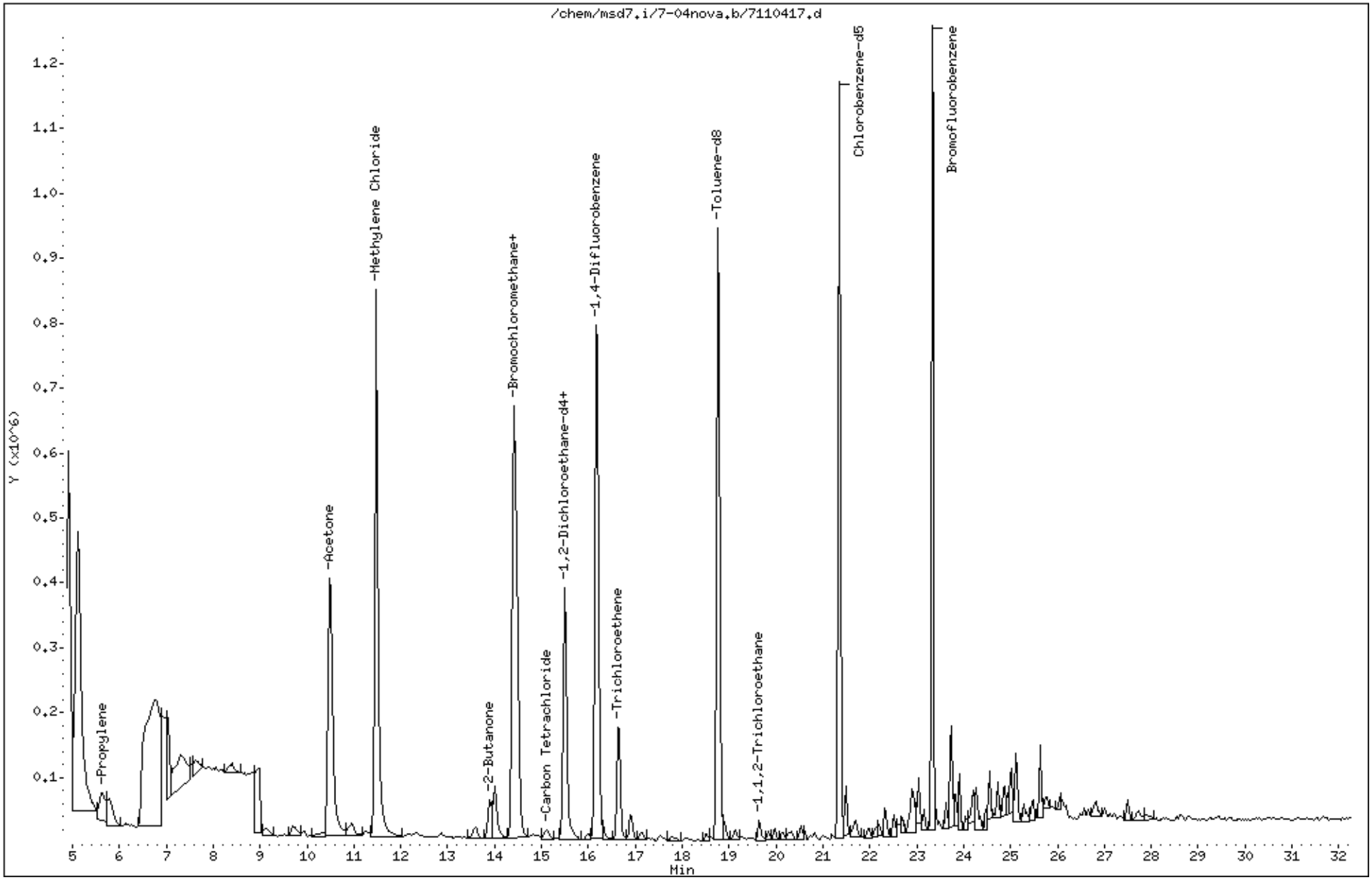
Column phase: RTx-624

Instrument: msd7.i

Operator: ab

Column diameter: 0.53

0082



Data File: /chem/msd7.i/7-04nova.b/7110417.d

Date : 05-NOV-2007 06:25

Client ID:

Instrument: msd7.i

Sample Info: 200mL#34327

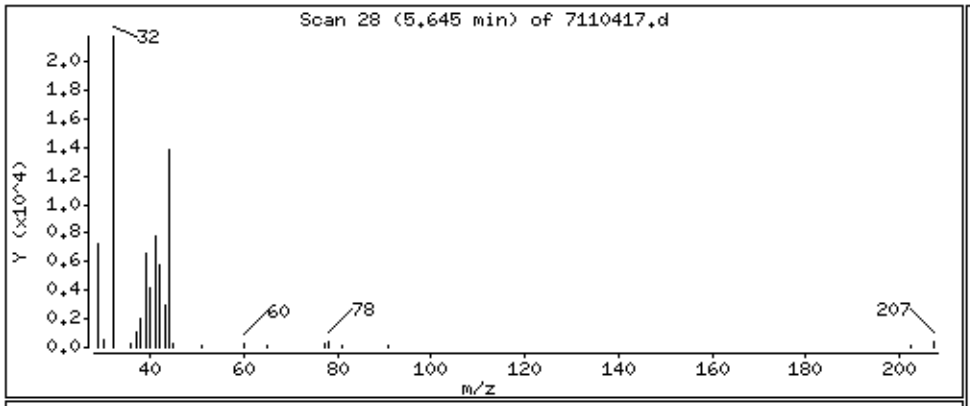
Operator: ab

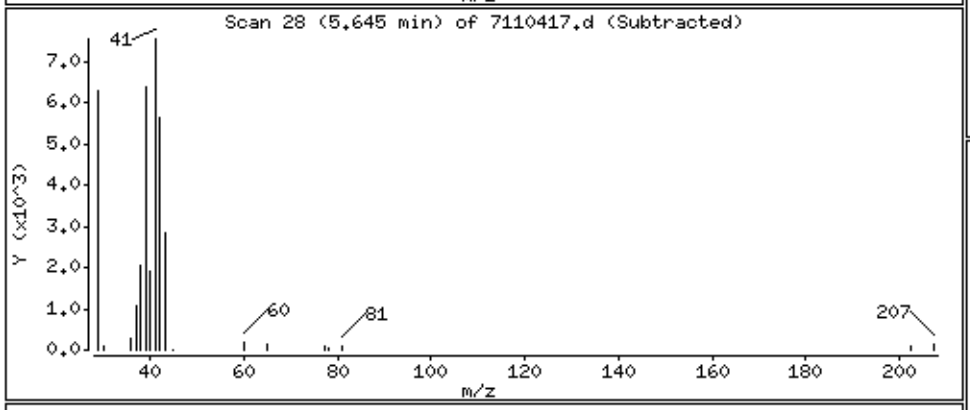
Column phase: RTx-624

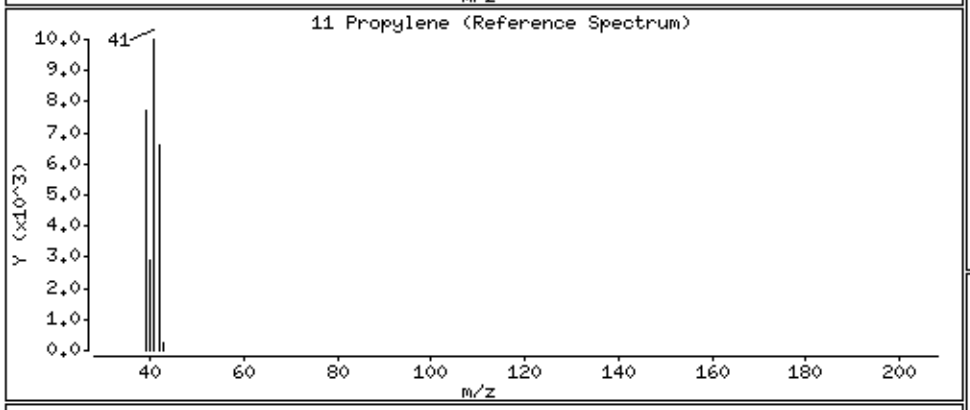
Column diameter: 0.53

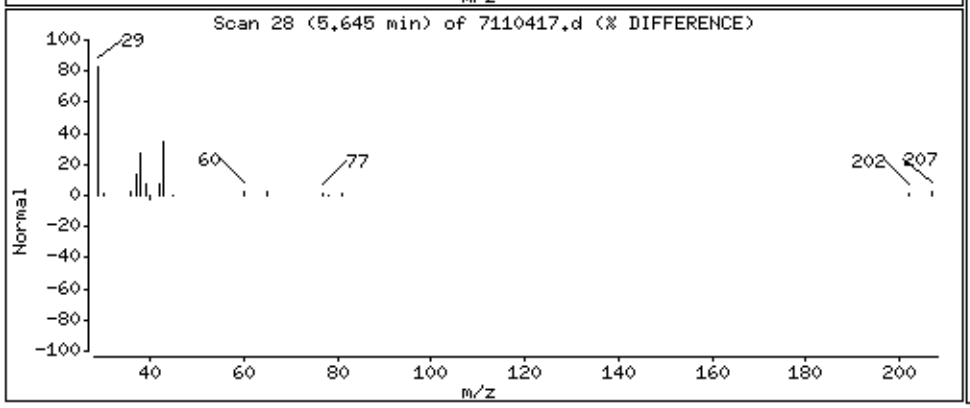
11 Propylene

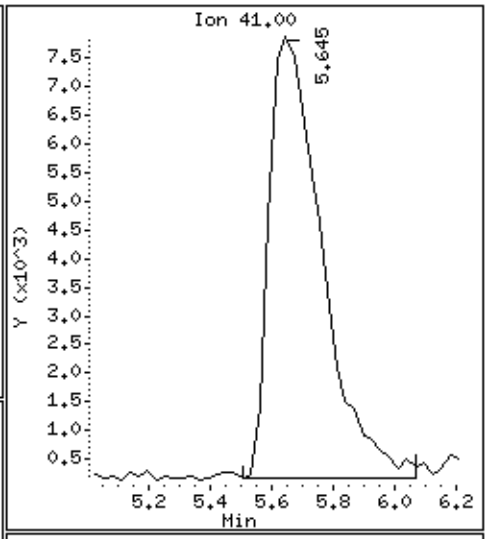
Concentration: 7.035 PPBV

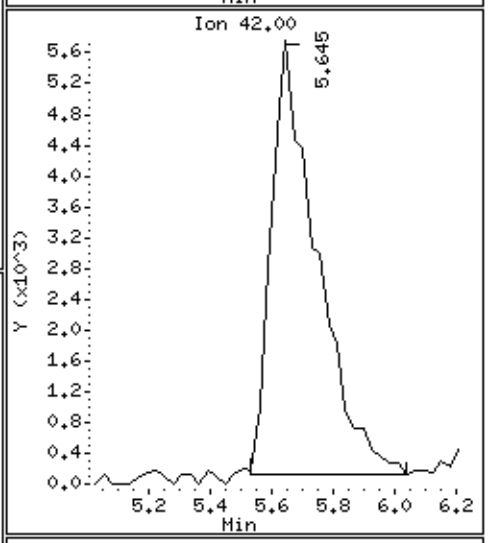


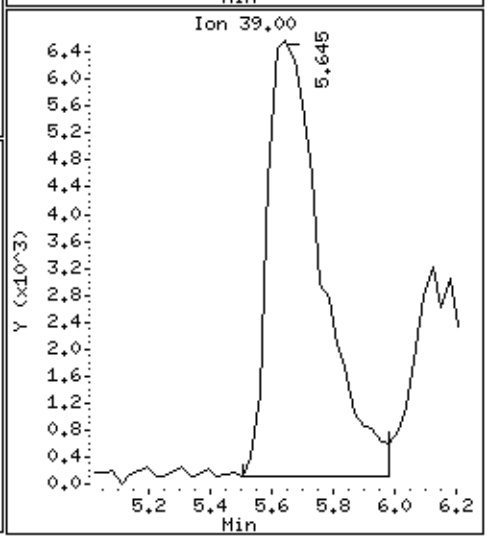












Data File: /chem/msd7.i/7-04nova.b/7110417.d

Date : 05-NOV-2007 06:25

Client ID:

Instrument: msd7.i

Sample Info: 200mL#34327

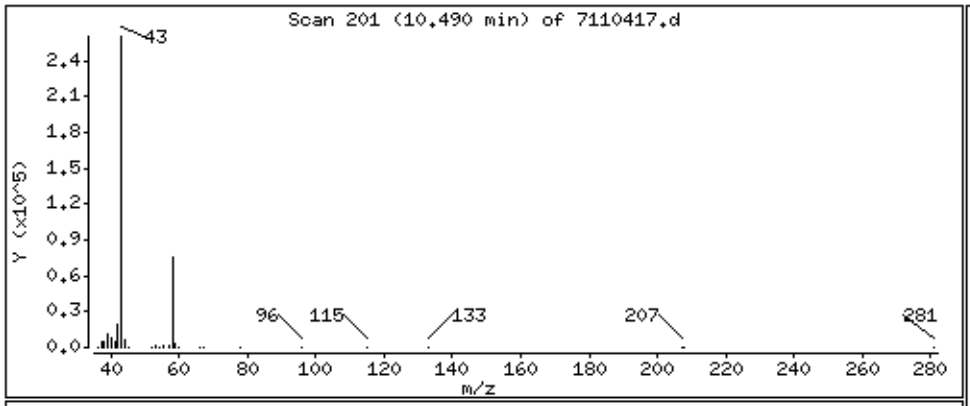
Operator: ab

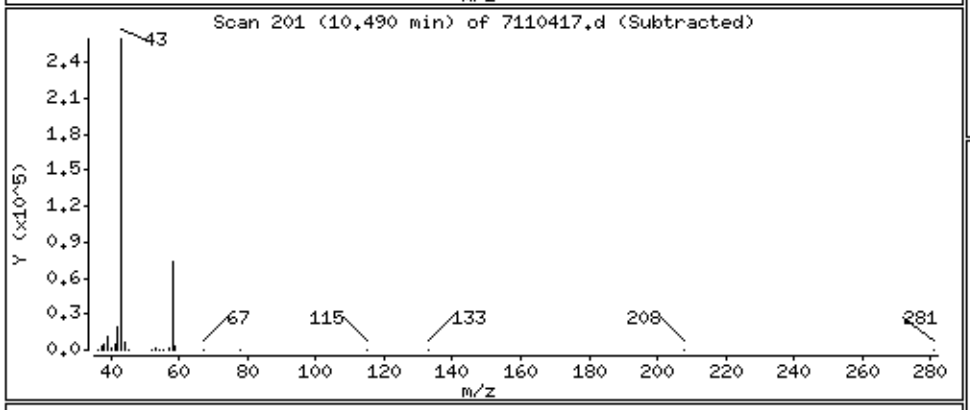
Column phase: RTx-624

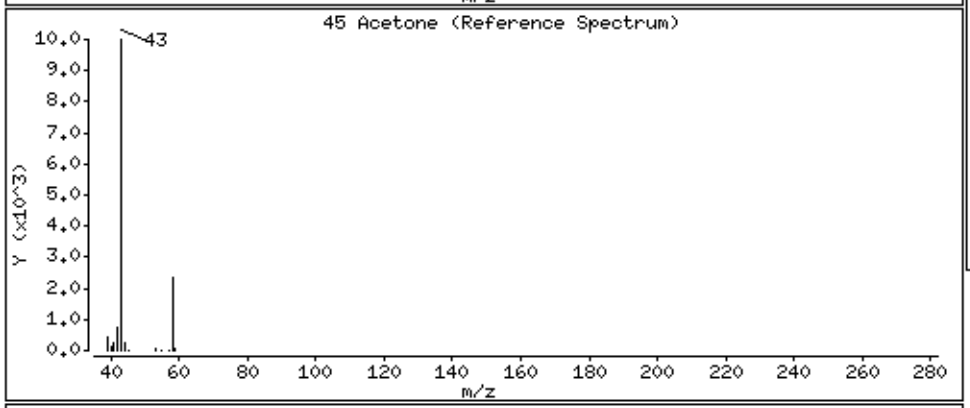
Column diameter: 0.53

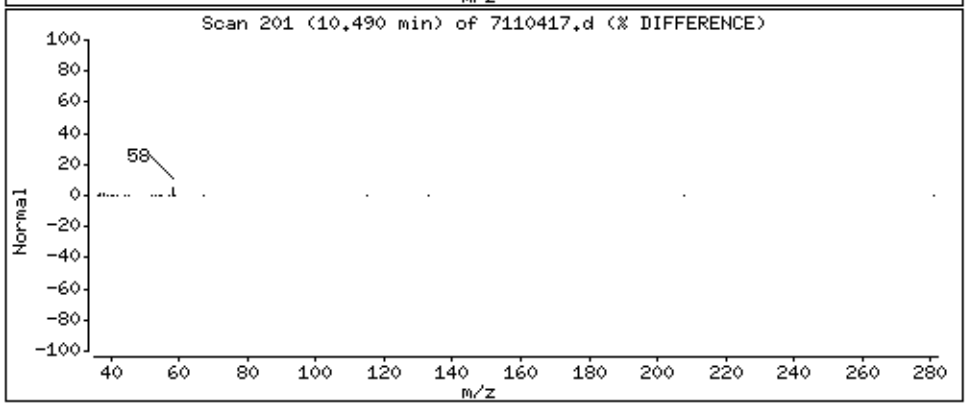
45 Acetone

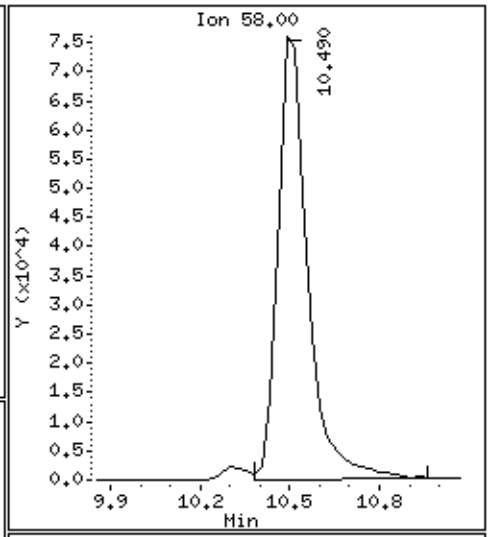
Concentration: 65.739 PPBV

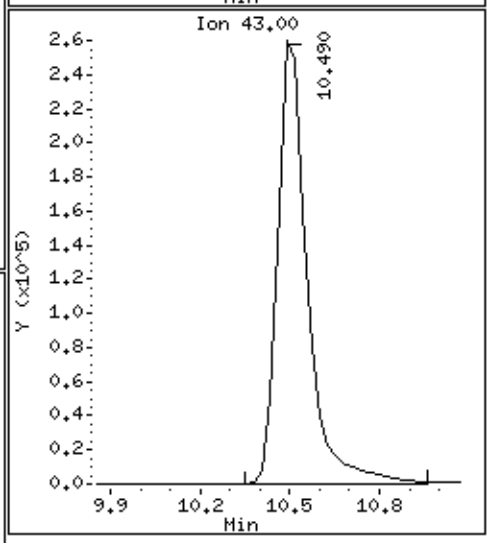












Data File: /chem/msd7.i/7-04nova.b/7110417.d

Date : 05-NOV-2007 06:25

Client ID:

Instrument: msd7.i

Sample Info: 200mL#34327

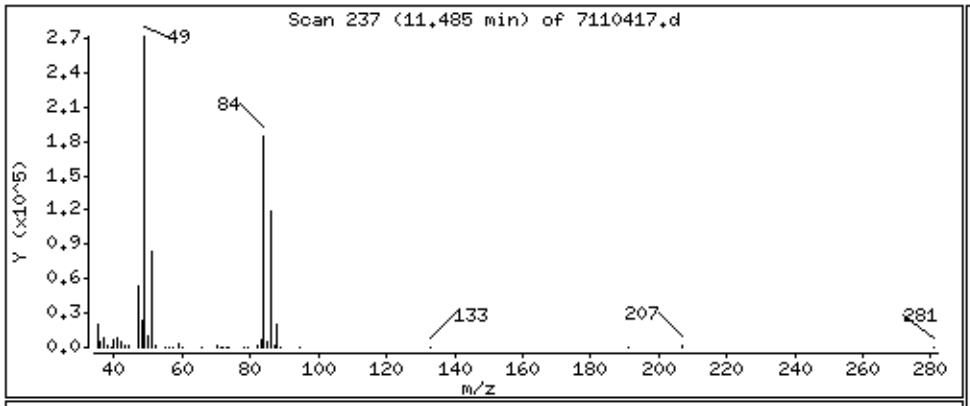
Operator: ab

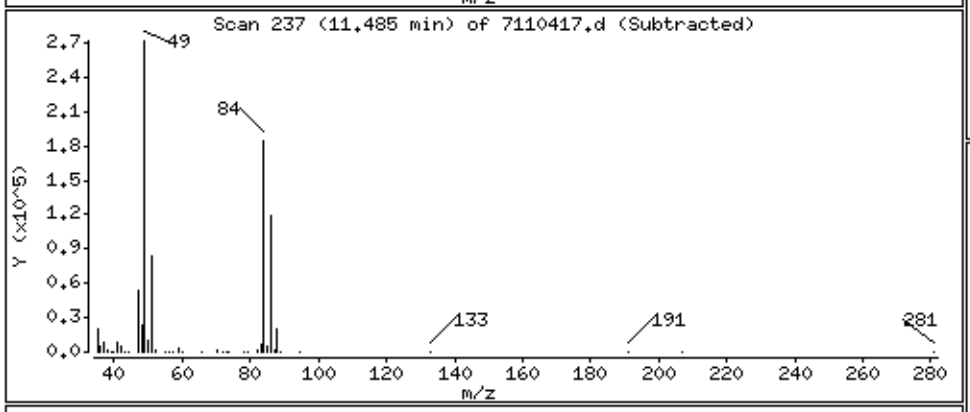
Column phase: RTx-624

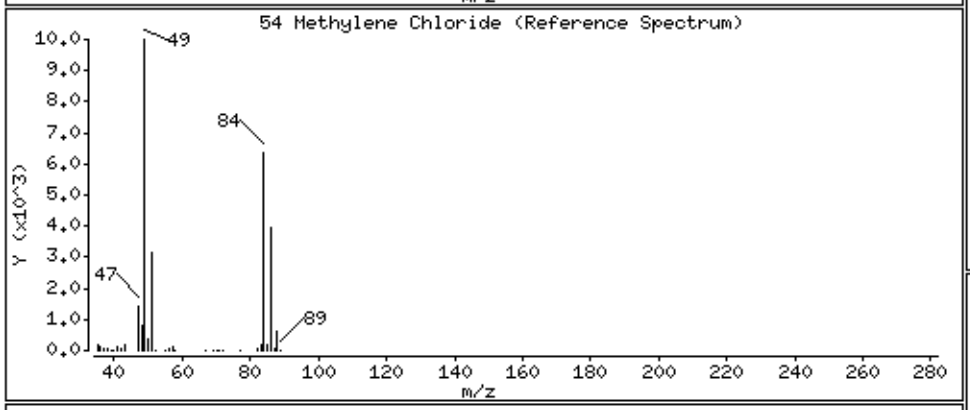
Column diameter: 0.53

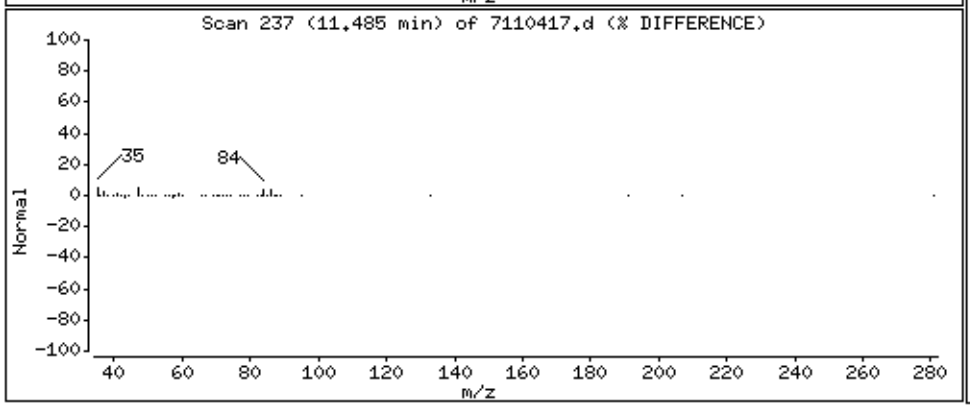
54 Methylene Chloride

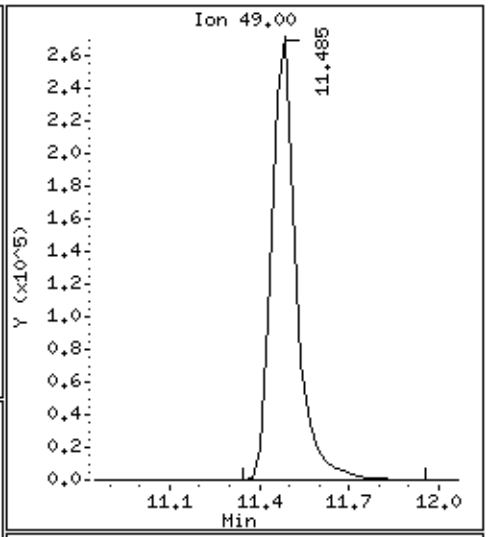
Concentration: 80.948 PPBV

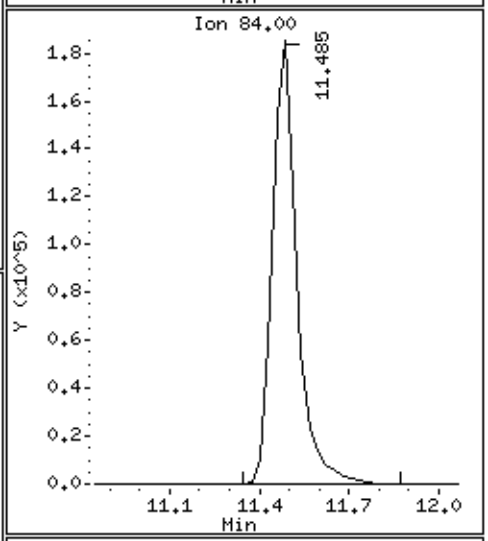


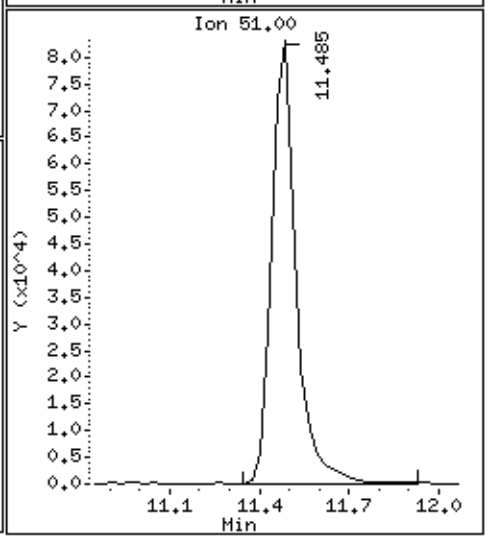












Data File: /chem/msd7.i/7-04nova.b/7110417.d

Date : 05-NOV-2007 06:25

Client ID:

Instrument: msd7.i

Sample Info: 200mL#34327

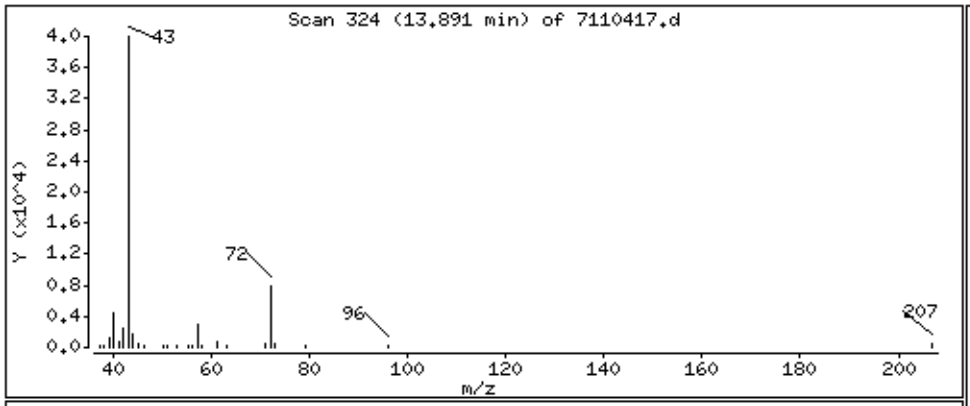
Operator: ab

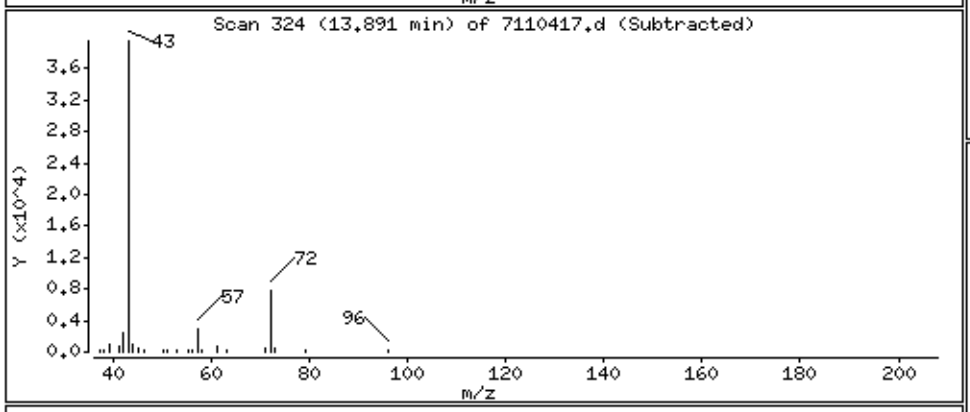
Column phase: RTx-624

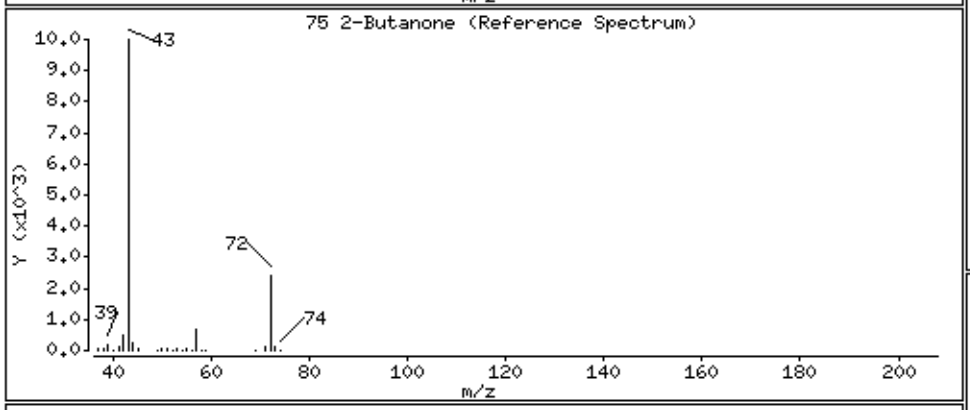
Column diameter: 0.53

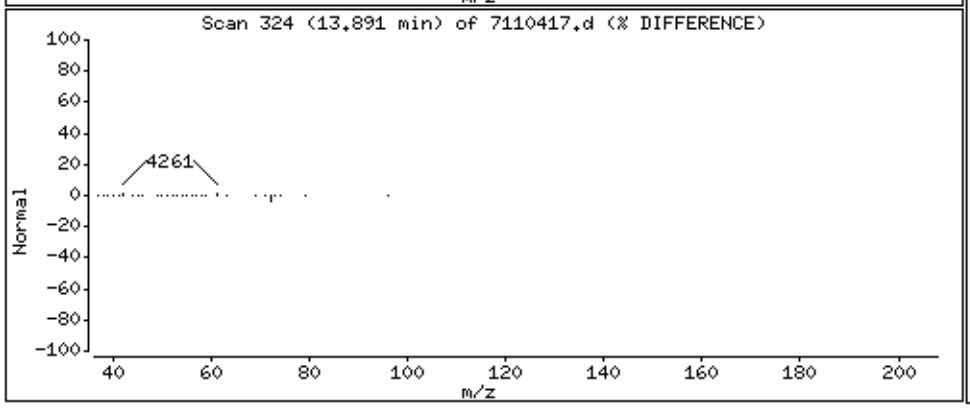
75 2-Butanone

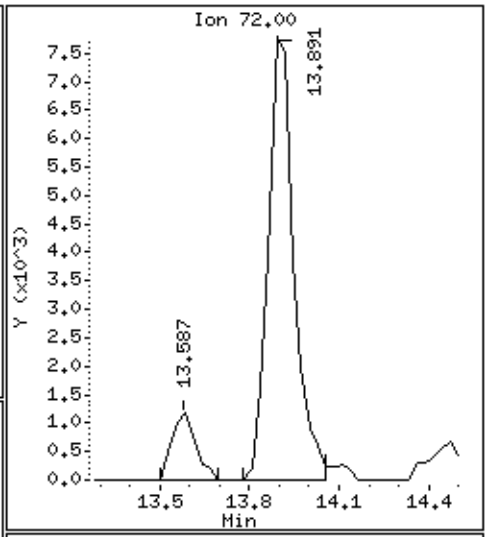
Concentration: 7.232 PPBV

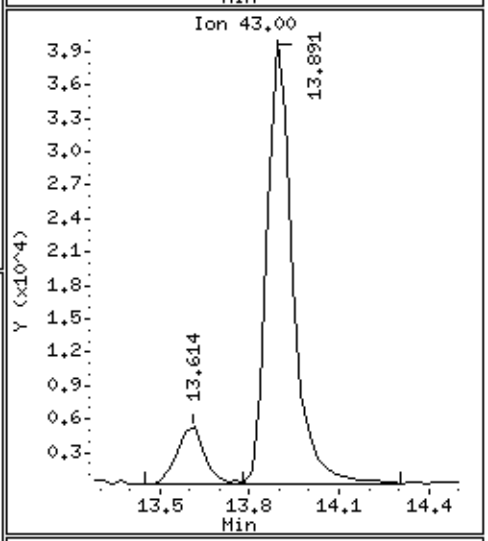


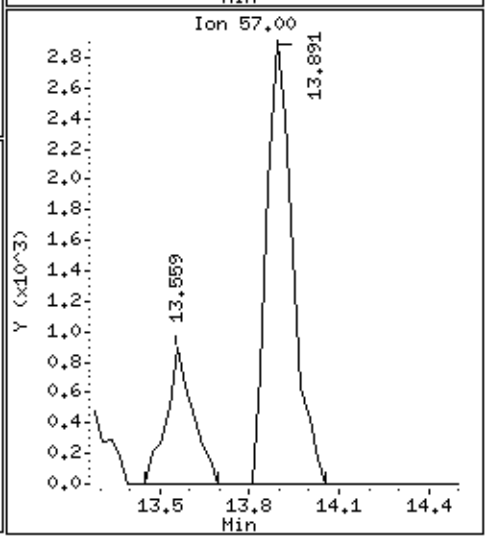












Data File: /chem/msd7.i/7-04nova.b/7110417.d

Date : 05-NOV-2007 06:25

Client ID:

Instrument: msd7.i

Sample Info: 200mL#34327

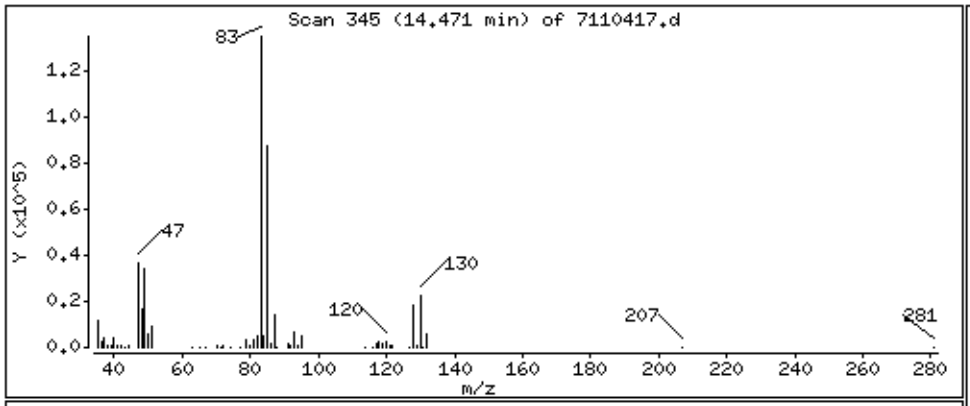
Operator: ab

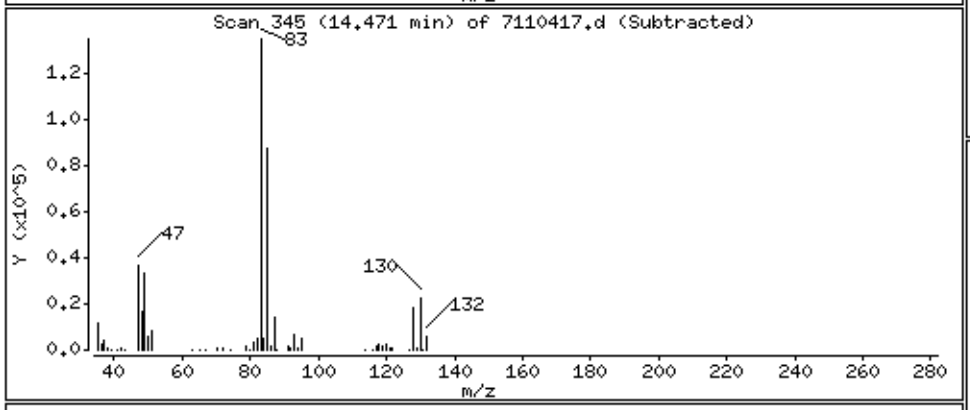
Column phase: RTx-624

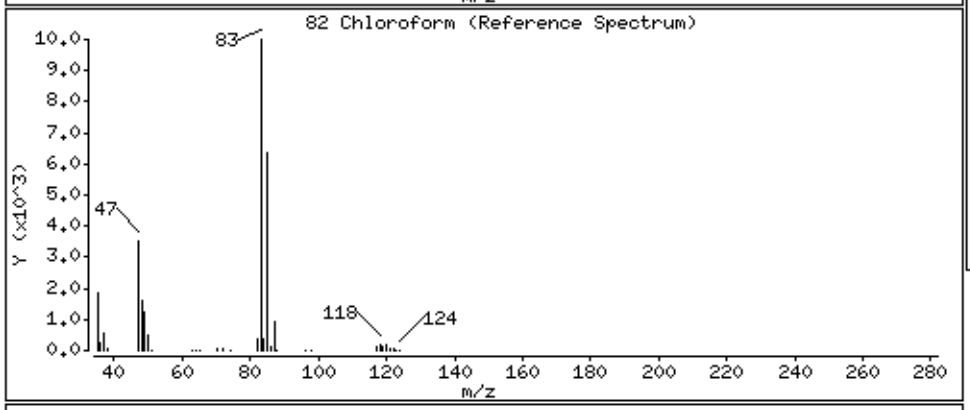
Column diameter: 0.53

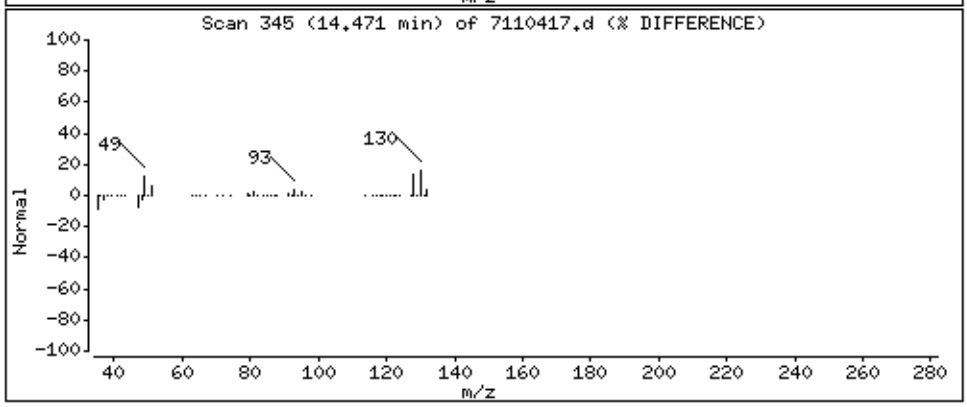
82 Chloroform

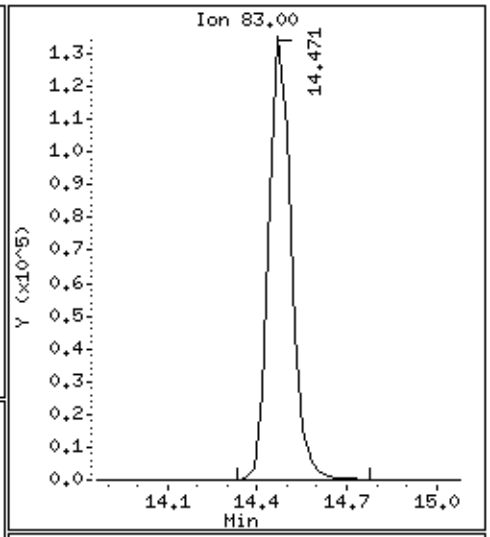
Concentration: 23.326 PPBV

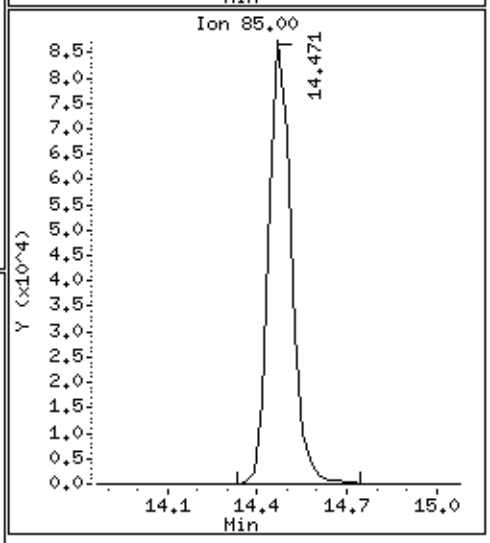












Data File: /chem/msd7.i/7-04nova.b/7110417.d

Date : 05-NOV-2007 06:25

Client ID:

Instrument: msd7.i

Sample Info: 200mL#34327

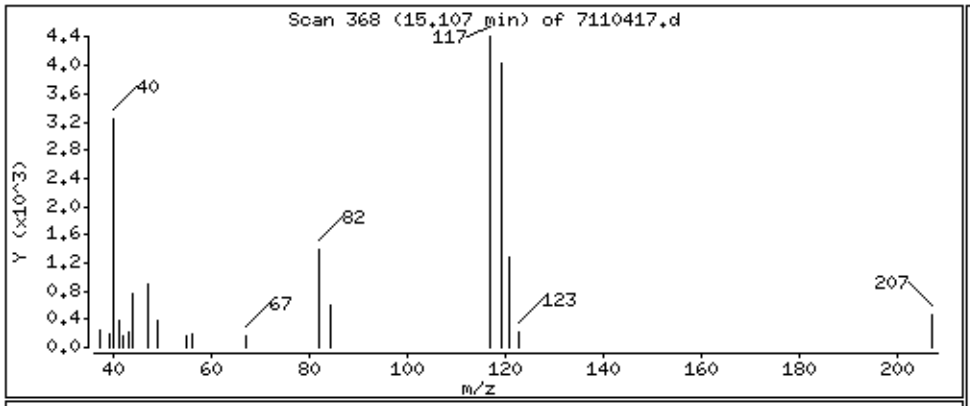
Operator: ab

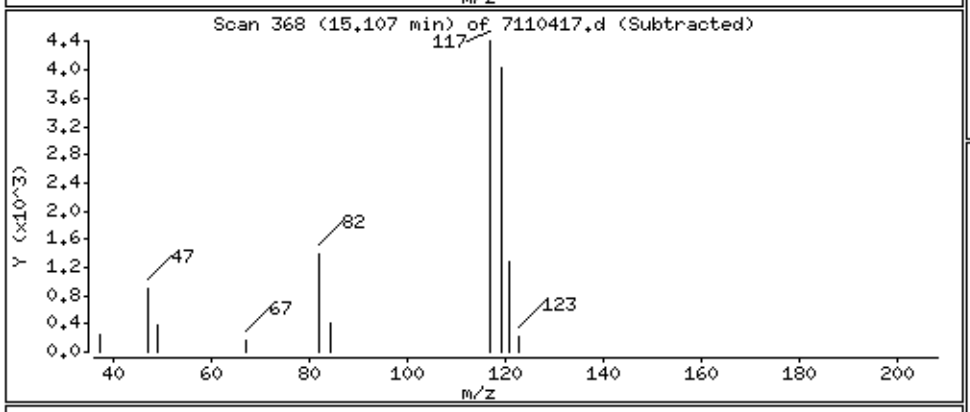
Column phase: RTx-624

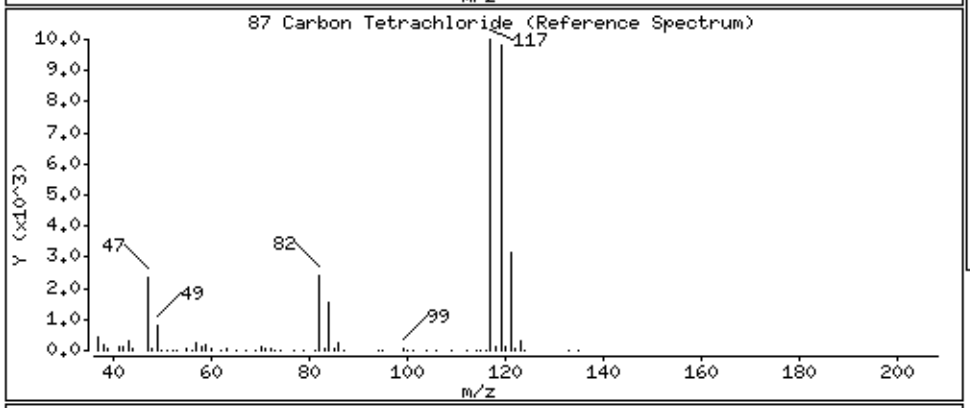
Column diameter: 0.53

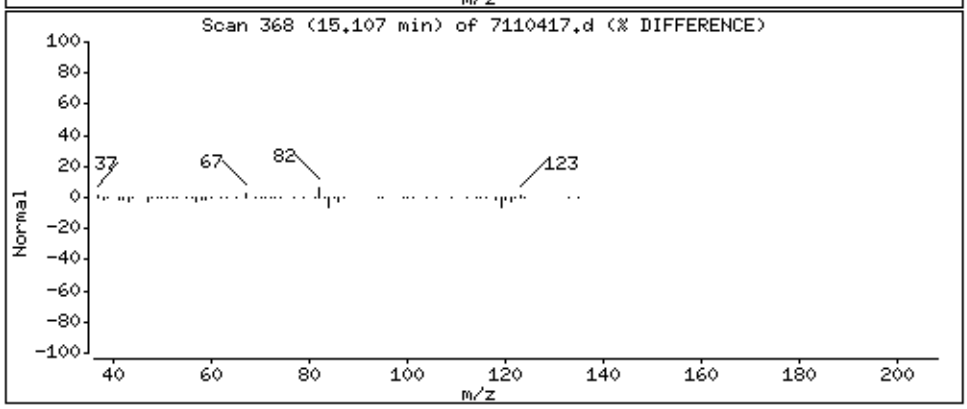
87 Carbon Tetrachloride

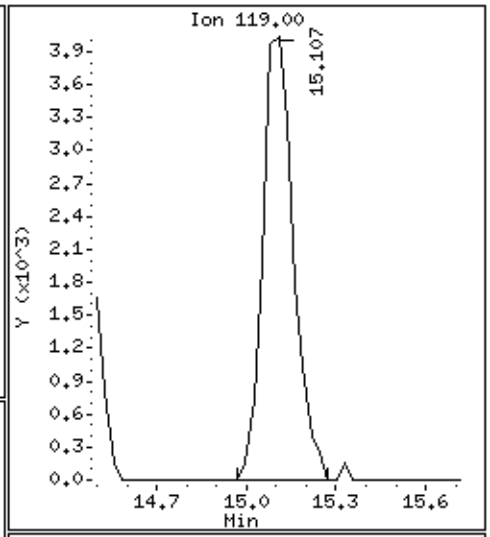
Concentration: 1.013 PPBV

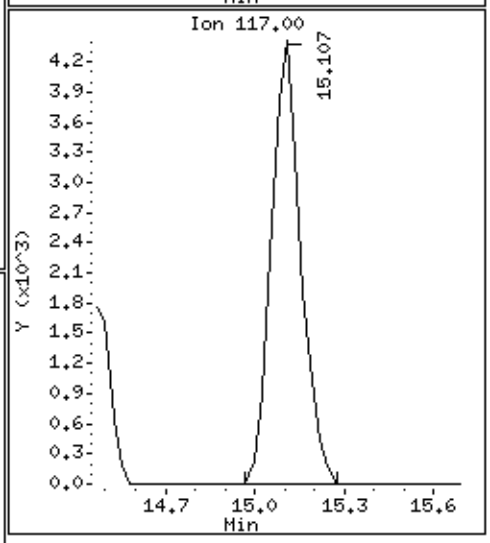












Data File: /chem/msd7.i/7-04nova.b/7110417.d

Date : 05-NOV-2007 06:25

Client ID:

Instrument: msd7.i

Sample Info: 200mL#34327

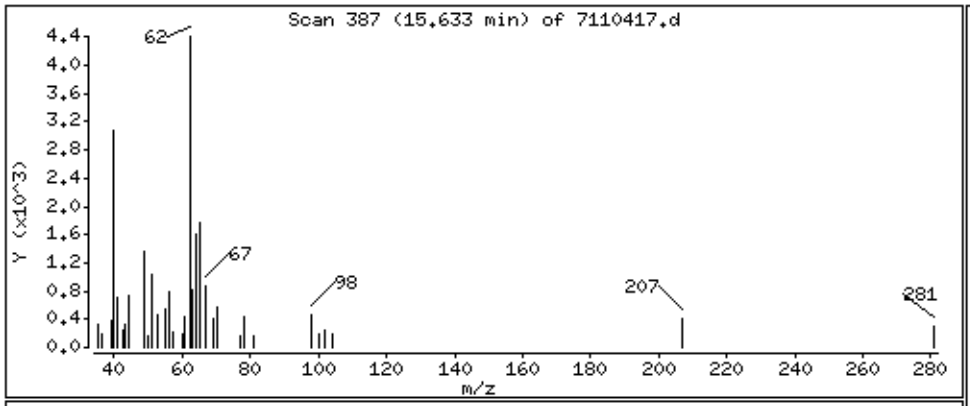
Operator: ab

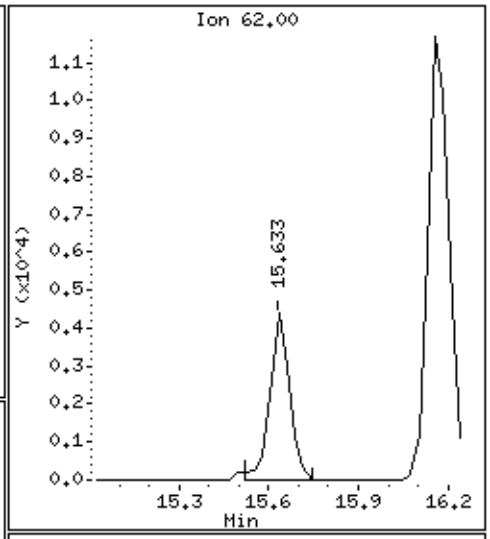
Column phase: RTx-624

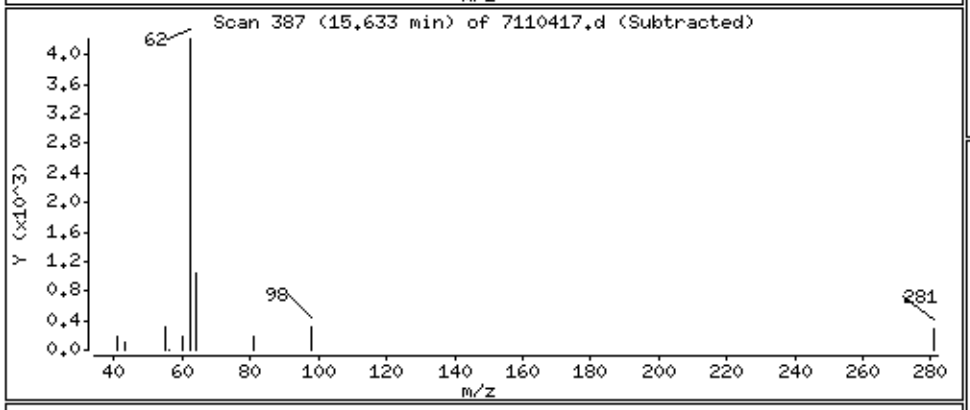
Column diameter: 0.53

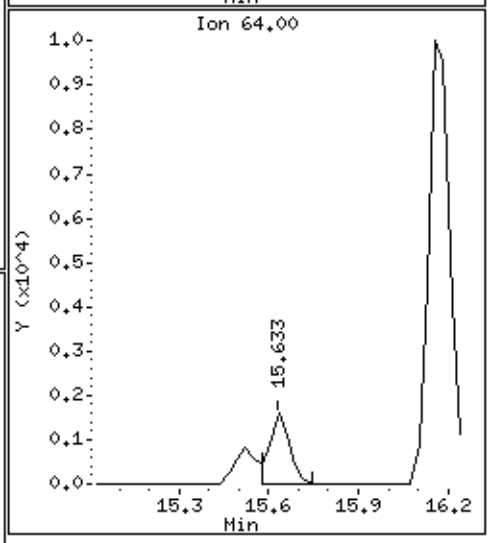
93 1,2-Dichloroethane

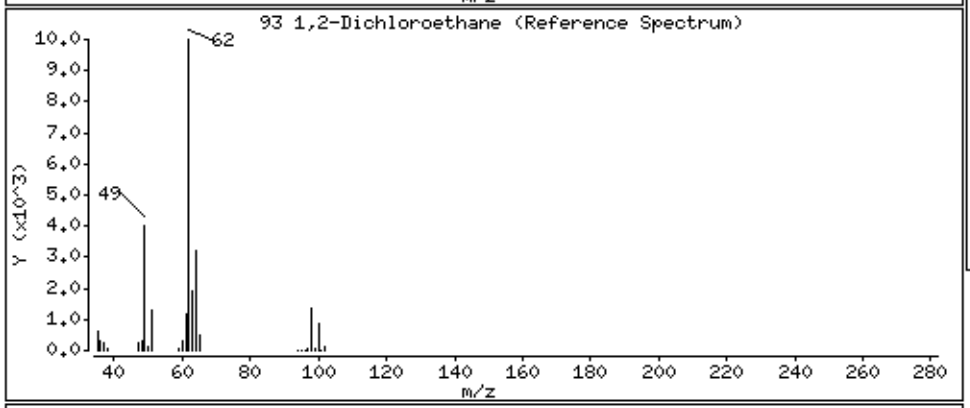
Concentration: 0.9671 PPBV

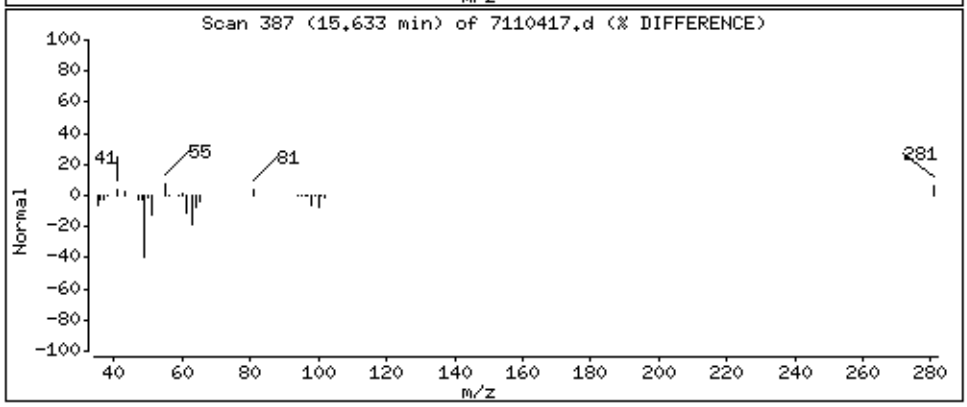












Data File: /chem/msd7.i/7-04nova.b/7110417.d

Date : 05-NOV-2007 06:25

Client ID:

Instrument: msd7.i

Sample Info: 200mL#34327

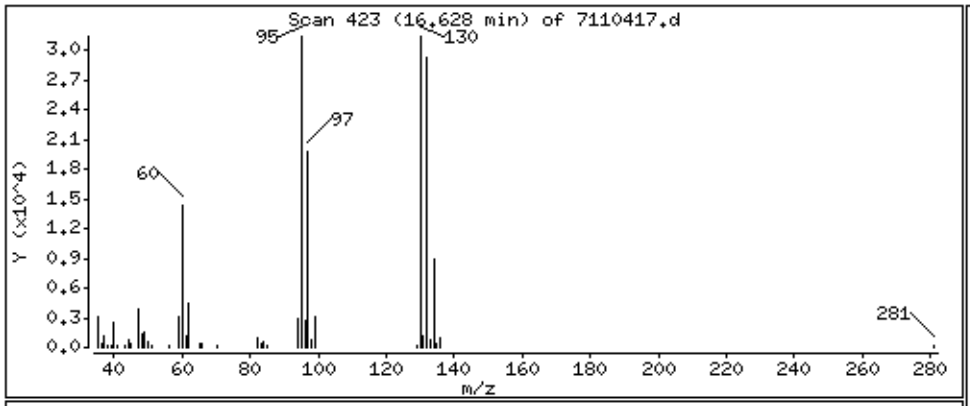
Operator: ab

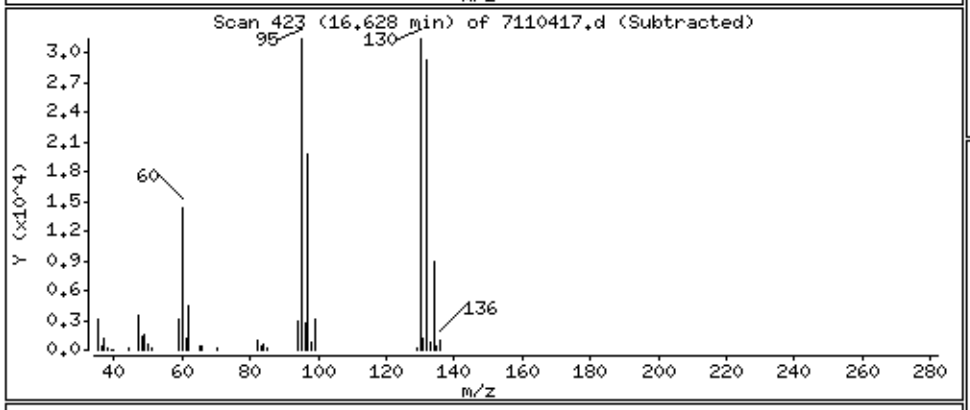
Column phase: RTx-624

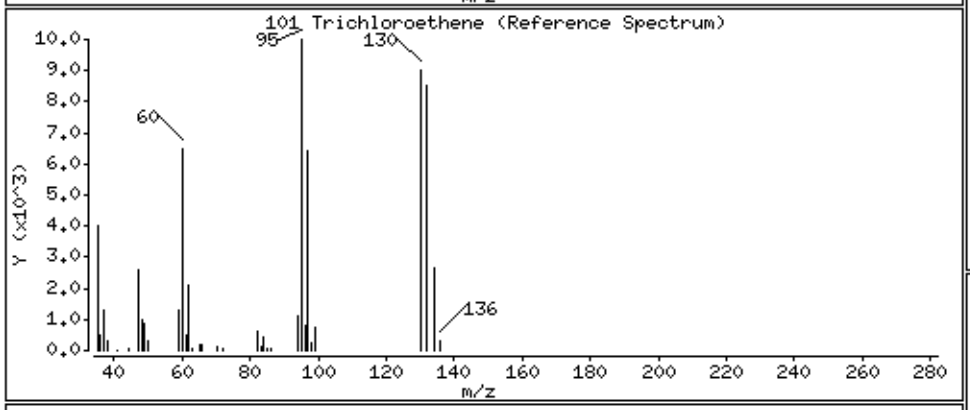
Column diameter: 0.53

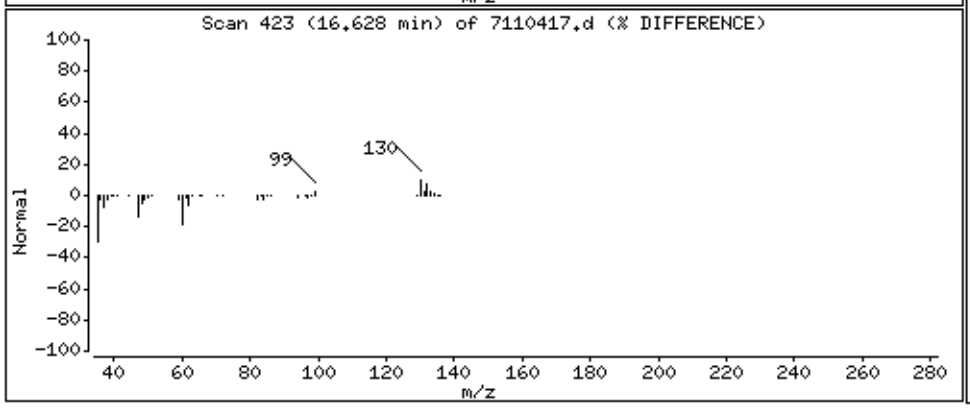
101 Trichloroethene

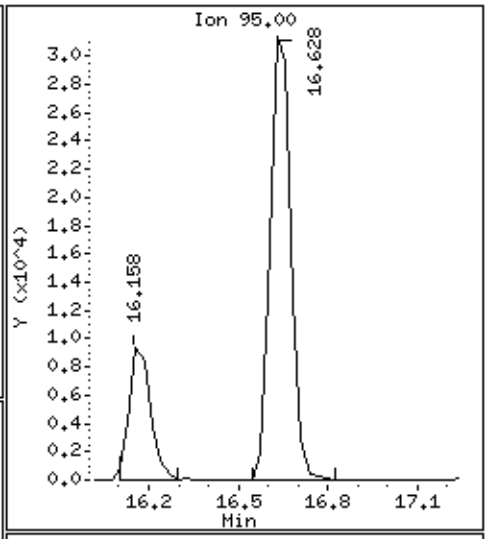
Concentration: 8.763 PPBV

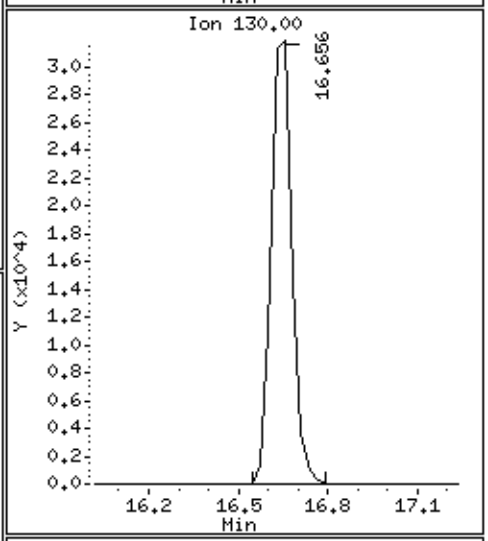


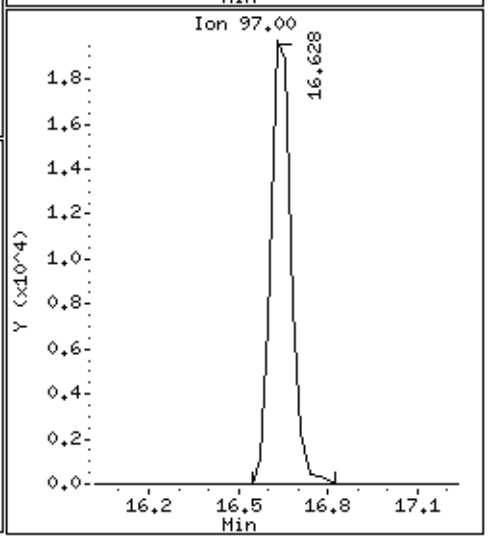












Data File: /chem/msd7.i/7-04nova.b/7110417.d

Date : 05-NOV-2007 06:25

Client ID:

Instrument: msd7.i

Sample Info: 200mL#34327

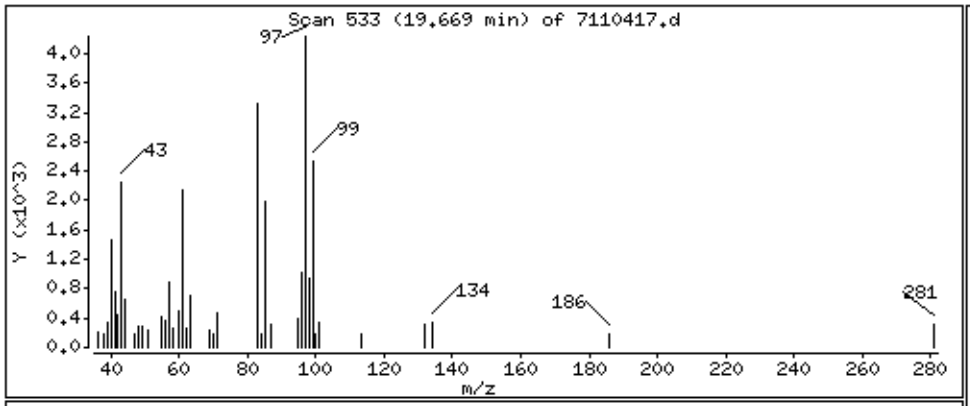
Operator: ab

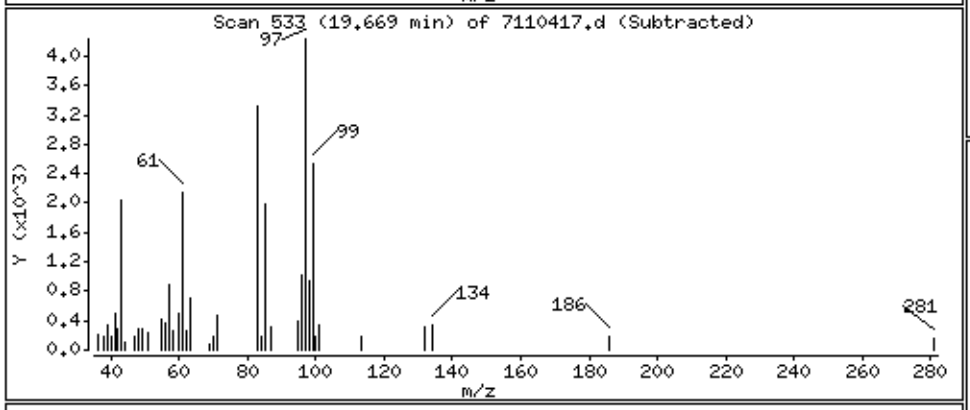
Column phase: RTx-624

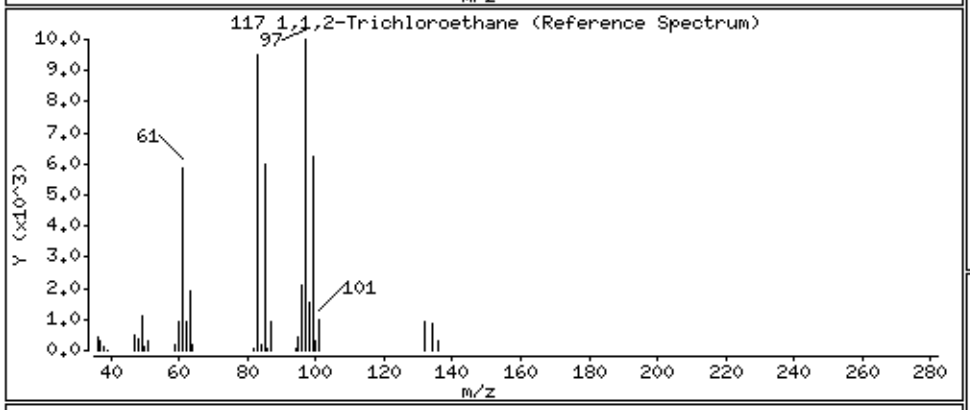
Column diameter: 0.53

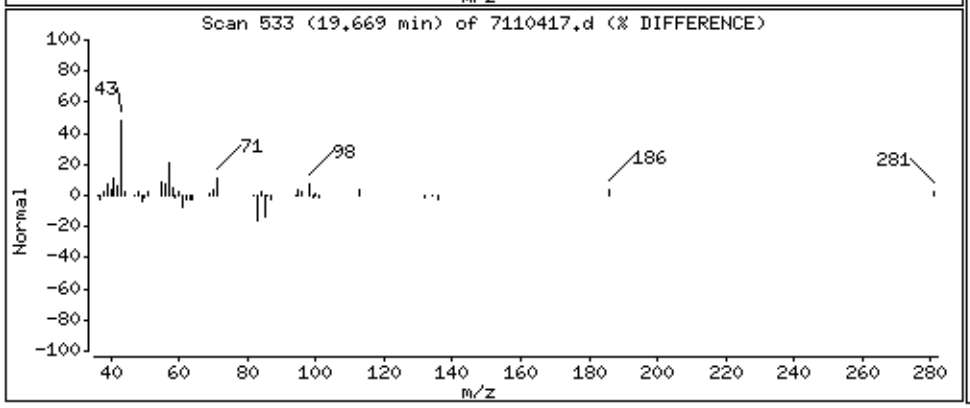
117 1,1,2-Trichloroethane

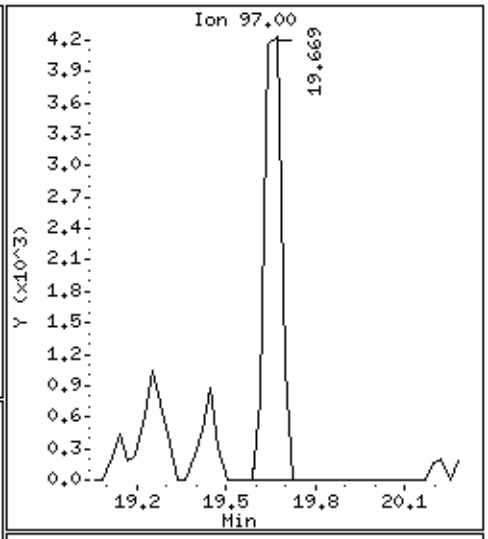
Concentration: 1.159 PPBV

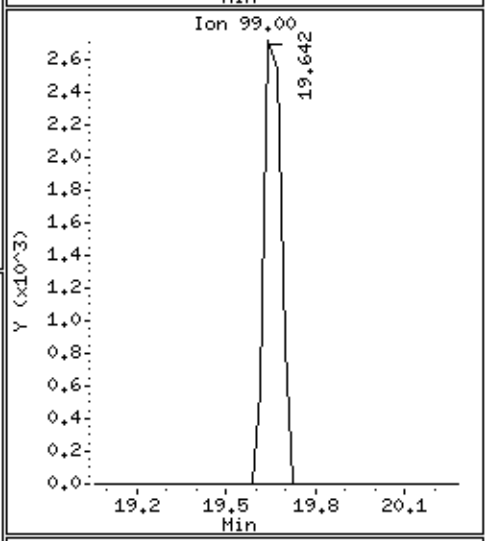


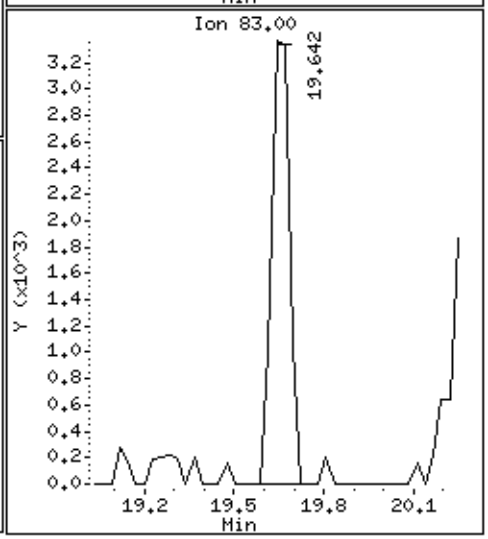












AN ENVIRONMENTAL ANALYTICAL LABORATORY

Summary of Detected Compounds
MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

Client Sample ID: MD21-07-6809

Lab ID#: 0711008-04A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Freon 12	0.92	1.4	4.5	6.8
1,3-Butadiene	0.92	4.7	2.0	10
Freon 113	0.92	3.4	7.0	26
1,1-Dichloroethene	0.92	2.4	3.6	9.7
Acetone	3.7	86	8.7	200
Carbon Disulfide	0.92	1.8	2.8	5.7
Methylene Chloride	0.92	120	3.2	420
Hexane	0.92	2.4	3.2	8.3
2-Butanone (Methyl Ethyl Ketone)	0.92	23	2.7	69
Chloroform	0.92	140	4.5	680
1,1,1-Trichloroethane	0.92	6.7	5.0	36
Carbon Tetrachloride	0.92	64	5.8	400
Benzene	0.92	1.5	2.9	4.9
1,2-Dichloroethane	0.92	1.2	3.7	5.0
Heptane	0.92	1.6	3.7	6.4
Trichloroethene	0.92	150	4.9	790
Bromodichloromethane	0.92	0.96	6.1	6.4
4-Methyl-2-pentanone	0.92	2.2	3.7	8.9
Toluene	0.92	1.5	3.4	5.8
1,1,2-Trichloroethane	0.92	2.4	5.0	13
Tetrachloroethene	0.92	40	6.2	270
2-Hexanone	3.7	9.0	15	37
m,p-Xylene	0.92	1.1	4.0	4.8
1,2,4-Trimethylbenzene	0.92	0.97	4.5	4.8
1,4-Dichlorobenzene	0.92	1.0	5.5	6.0
Propylene	3.7	88	6.3	150

AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: MD21-07-6809

Lab ID#: 0711008-04A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**7110416**	**Date of Collection:**	**10/30/07**
Dil. Factor:	**1.83**	**Date of Analysis:**	**11/5/07 05:36 AM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Freon 12	0.92	1.4	4.5	6.8
Freon 114	0.92	Not Detected	6.4	Not Detected
Chloromethane	3.7	Not Detected	7.6	Not Detected
Vinyl Chloride	0.92	Not Detected	2.3	Not Detected
1,3-Butadiene	0.92	4.7	2.0	10
Bromomethane	0.92	Not Detected	3.6	Not Detected
Chloroethane	0.92	Not Detected	2.4	Not Detected
Freon 11	0.92	Not Detected	5.1	Not Detected
Ethanol	3.7	Not Detected	6.9	Not Detected
Freon 113	0.92	3.4	7.0	26
1,1-Dichloroethene	0.92	2.4	3.6	9.7
Acetone	3.7	86	8.7	200
2-Propanol	3.7	Not Detected	9.0	Not Detected
Carbon Disulfide	0.92	1.8	2.8	5.7
Methylene Chloride	0.92	120	3.2	420
Methyl tert-butyl ether	0.92	Not Detected	3.3	Not Detected
trans-1,2-Dichloroethene	0.92	Not Detected	3.6	Not Detected
Hexane	0.92	2.4	3.2	8.3
1,1-Dichloroethane	0.92	Not Detected	3.7	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.92	23	2.7	69
cis-1,2-Dichloroethene	0.92	Not Detected	3.6	Not Detected
Tetrahydrofuran	0.92	Not Detected	2.7	Not Detected
Chloroform	0.92	140	4.5	680
1,1,1-Trichloroethane	0.92	6.7	5.0	36
Cyclohexane	0.92	Not Detected	3.1	Not Detected
Carbon Tetrachloride	0.92	64	5.8	400
Benzene	0.92	1.5	2.9	4.9
1,2-Dichloroethane	0.92	1.2	3.7	5.0
Heptane	0.92	1.6	3.7	6.4
Trichloroethene	0.92	150	4.9	790
1,2-Dichloropropane	0.92	Not Detected	4.2	Not Detected
1,4-Dioxane	3.7	Not Detected	13	Not Detected
Bromodichloromethane	0.92	0.96	6.1	6.4
cis-1,3-Dichloropropene	0.92	Not Detected	4.2	Not Detected
4-Methyl-2-pentanone	0.92	2.2	3.7	8.9
Toluene	0.92	1.5	3.4	5.8
trans-1,3-Dichloropropene	0.92	Not Detected	4.2	Not Detected
1,1,2-Trichloroethane	0.92	2.4	5.0	13
Tetrachloroethene	0.92	40	6.2	270

AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: MD21-07-6809

Lab ID#: 0711008-04A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**7110416**	**Date of Collection:**	**10/30/07**
Dil. Factor:	**1.83**	**Date of Analysis:**	**11/5/07 05:36 AM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
2-Hexanone	3.7	9.0	15	37
Dibromochloromethane	0.92	Not Detected	7.8	Not Detected
1,2-Dibromoethane (EDB)	0.92	Not Detected	7.0	Not Detected
Chlorobenzene	0.92	Not Detected	4.2	Not Detected
Ethyl Benzene	0.92	Not Detected	4.0	Not Detected
m,p-Xylene	0.92	1.1	4.0	4.8
o-Xylene	0.92	Not Detected	4.0	Not Detected
Styrene	0.92	Not Detected	3.9	Not Detected
Bromoform	0.92	Not Detected	9.4	Not Detected
1,1,2,2-Tetrachloroethane	0.92	Not Detected	6.3	Not Detected
4-Ethyltoluene	0.92	Not Detected	4.5	Not Detected
1,3,5-Trimethylbenzene	0.92	Not Detected	4.5	Not Detected
1,2,4-Trimethylbenzene	0.92	0.97	4.5	4.8
1,3-Dichlorobenzene	0.92	Not Detected	5.5	Not Detected
1,4-Dichlorobenzene	0.92	1.0	5.5	6.0
alpha-Chlorotoluene	0.92	Not Detected	4.7	Not Detected
1,2-Dichlorobenzene	0.92	Not Detected	5.5	Not Detected
1,2,4-Trichlorobenzene	3.7	Not Detected	27	Not Detected
Hexachlorobutadiene	3.7	Not Detected	39	Not Detected
Chlorodifluoromethane	3.7	Not Detected	13	Not Detected
Methanol	92	Not Detected	120	Not Detected
n-Butanol	3.7	Not Detected	11	Not Detected
Propylene	3.7	88	6.3	150

Container Type: 6 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	91	70-130
1,2-Dichloroethane-d4	93	70-130
4-Bromofluorobenzene	108	70-130

Air Toxics Ltd.

AMBIENT AIR METHOD TO14

Data file : /chem/msd7.i/7-04nova.b/7110416.d
Lab Smp Id: 0711008-04A
Inj Date : 05-NOV-2007 05:36
Operator : ab Inst ID: msd7.i
Smp Info : 200mL#R11
Misc Info : 8.0"Hg-5psi
Comment :
Method : /chem/msd7.i/7-04nova.b/t14qO18c.m
Meth Date : 05-Nov-2007 00:40 dmendoza Quant Type: ISTD
Cal Date : 30-OCT-2007 11:10 Cal File: 7103005.d
Als bottle: 1
Dil Factor: 1.83000
Integrator: HP RTE Compound Sublist: Los2153.sub
Target Version: 3.50 Sample Matrix: AIR
Processing Host: eeyore

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

RT	EXP RT (REL RT)	MASS	RESPONSE	CONCENTRATIONS ON-COL (PPBV)	FINAL (PPBV)	TARGET RANGE	RATIO
* 81 Bromochloromethane					CAS #: 74-97-5		
14.416	14.388 (1.000)	130	600905	25.0000		80.00- 120.00	100.00
14.416	14.388 (1.000)	128	462178			28.08- 128.08	76.91
14.388	14.388 (1.000)	49	1222529			128.80- 228.80	203.45
* 97 1,4-Difluorobenzene					CAS #: 540-36-3		
16.158	16.158 (1.000)	114	2082380	25.0000		80.00- 120.00	100.00
16.158	16.158 (1.000)	88	302722			0.00- 64.88	14.54
* 126 Chlorobenzene-d5					CAS #: 3114-55-4		
21.356	21.356 (1.000)	117	1492758	25.0000		80.00- 120.00	100.00
21.356	21.356 (1.000)	82	770269			4.45- 104.45	51.60
$ 90 1,2-Dichloroethane-d4					CAS #: 17060-07-0		
15.494	15.494 (1.075)	65	747951	23.1695	23.170	80.00- 120.00	100.00
15.494	15.494 (1.075)	67	388823			2.91- 102.91	51.99
$ 113 Toluene-d8					CAS #: 2037-26-5		
18.757	18.757 (1.161)	98	1685002	22.7945	22.794	80.00- 120.00	100.00
18.757	18.757 (1.161)	70	188965			0.00- 61.46	11.21

RT	EXP RT (REL RT)	MASS	RESPONSE	CONCENTRATIONS ON-COL (PPBV)	FINAL (PPBV)	TARGET RANGE	RATIO
$ 113 Toluene-d8 (continued)							
18.757	18.757 (1.161)	100	1165399			19.18- 119.18	69.16
$ 137 Bromofluorobenzene					CAS #: 460-00-4		
23.347	23.347 (1.093)	174	963794	27.1328	27.133	80.00- 120.00	100.00
23.319	23.319 (1.092)	95	1096323			63.49- 163.49	113.75
23.347	23.347 (1.093)	176	938373			46.77- 146.77	97.36
11 Propylene					CAS #: 115-07-1		
5.617	5.617 (0.390)	41	1252614	48.3651	88.508	80.00- 120.00	100.00(H)
5.617	5.617 (0.390)	42	792862			21.19- 121.19	63.30
5.617	5.617 (0.390)	39	1047844			24.83- 124.83	83.65
12 Dichlorodifluoromethane/Fr12					CAS #: 75-71-8		
5.758	5.729 (0.399)	85	71300	0.75085	1.374	80.00- 120.00	100.00
5.729	5.729 (0.397)	87	23223			0.00- 83.07	32.57
22 1,3-Butadiene					CAS #: 106-99-0		
6.940	6.940 (0.481)	54	71397	2.55660	4.678	80.00- 120.00	100.00
6.715	6.940 (0.466)	39	561996			55.97- 155.97	787.14
42 Freon 113					CAS #: 76-13-1		
10.186	10.186 (0.707)	151	90597	1.83874	3.365	80.00- 120.00	100.00
10.213	10.186 (0.708)	153	56143			13.28- 113.28	61.97
10.186	10.186 (0.707)	101	105554			60.51- 160.51	116.51
43 1,1-Dichloroethene					CAS #: 75-35-4		
10.324	10.324 (0.716)	61	70375	1.34230	2.456	80.00- 120.00	100.00
10.324	10.324 (0.716)	96	40401			8.23- 108.23	57.41
10.324	10.324 (0.716)	98	26033			0.00- 87.38	36.99
45 Acetone					CAS #: 67-64-1		
10.490	10.462 (0.728)	58	760676	46.9393	85.899	80.00- 120.00	100.00
10.490	10.462 (0.728)	43	2648542			247.10- 347.10	348.18
47 Carbon Disulfide					CAS #: 75-15-0		
10.877	10.877 (0.754)	76	100928	1.00898	1.846	80.00- 120.00	100.00
54 Methylene Chloride					CAS #: 75-09-2		
11.457	11.457 (0.795)	49	2581375	66.9684	122.55	80.00- 120.00	100.00
11.457	11.457 (0.795)	84	1723102			15.73- 115.73	66.75
11.457	11.457 (0.795)	51	783500			0.00- 80.85	30.35
65 Hexane					CAS #: 110-54-3		
12.287	12.287 (0.852)	57	65737	1.29318	2.366	80.00- 120.00	100.00
12.287	12.287 (0.852)	43	55473			17.84- 117.84	84.39

RT	EXP RT (REL RT)	MASS	RESPONSE	CONCENTRATIONS ON-COL (PPBV)	FINAL (PPBV)	TARGET RANGE	RATIO
65 Hexane (continued)							
12.287	12.287 (0.852)	86	8912			0.00- 65.07	13.56
75 2-Butanone					CAS #: 78-93-3		
13.891	13.891 (0.964)	72	166693	12.8081	23.439	80.00- 120.00	100.00
13.891	13.891 (0.964)	43	867292			458.59- 558.59	520.29
13.891	13.891 (0.964)	57	65670			0.00- 86.57	39.40
82 Chloroform					CAS #: 67-66-3		
14.471	14.471 (1.004)	83	4635796	76.6220	140.22	80.00- 120.00	100.00
14.471	14.471 (1.004)	85	3012464			15.98- 115.98	64.98
83 1,1,1-Trichloroethane					CAS #: 71-55-6		
14.831	14.831 (1.029)	97	221763	3.63983	6.661	80.00- 120.00	100.00
14.831	14.831 (1.029)	99	140729			14.42- 114.42	63.46
87 Carbon Tetrachloride					CAS #: 56-23-5		
15.079	15.107 (1.046)	119	1987334	34.7971	63.679	80.00- 120.00	100.00
15.107	15.080 (1.048)	117	2032553			54.21- 154.21	102.28
91 Benzene					CAS #: 71-43-2		
15.522	15.522 (0.961)	78	69378	0.83852	1.534	80.00- 120.00	100.00
15.494	15.522 (0.959)	77	18763			0.00- 71.87	27.04
93 1,2-Dichloroethane					CAS #: 107-06-2		
15.632	15.633 (0.967)	62	29697	0.67554	1.236	80.00- 120.00	100.00
15.632	15.633 (0.967)	64	10532			0.00- 82.89	35.46
94 Heptane					CAS #: 142-82-5		
15.715	15.716 (0.973)	71	21839	0.85825	1.570	80.00- 120.00	100.00
15.715	15.716 (0.973)	43	44456			158.53- 258.53	203.56
15.715	15.716 (0.973)	57	18038			59.34- 159.34	82.60
101 Trichloroethene					CAS #: 79-01-6		
16.628	16.628 (1.029)	95	2967445	80.7399	147.75	80.00- 120.00	100.00
16.628	16.628 (1.029)	130	3102046			54.96- 154.96	104.54
16.628	16.628 (1.029)	97	1932068			15.03- 115.03	65.11
107 Bromodichloromethane					CAS #: 75-27-4		
17.540	17.540 (1.086)	83	33559	0.52593	0.9624	80.00- 120.00	100.00
17.540	17.540 (1.086)	85	20964			14.07- 114.07	62.47
111 4-Methyl-2-pentanone					CAS #: 108-10-1		
18.508	18.508 (1.145)	58	29314	1.18392	2.166	80.00- 120.00	100.00
18.508	18.508 (1.145)	43	74942			222.97- 322.97	255.65
18.508	18.508 (1.145)	85	12191			0.00- 90.48	41.59

RT	EXP RT (REL RT)	MASS	RESPONSE	CONCENTRATIONS ON-COL (PPBV)	FINAL (PPBV)	TARGET RANGE	RATIO
114 Toluene					CAS #: 108-88-3		
18.895	18.895 (1.169)	91	76328	0.84225	1.541	80.00- 120.00	100.00
18.895	18.895 (1.169)	92	44970			12.81- 112.81	58.92
117 1,1,2-Trichloroethane					CAS #: 79-00-5		
19.669	19.669 (0.921)	97	40753	1.31806	2.412	80.00- 120.00	100.00
19.669	19.669 (0.921)	99	24677			12.57- 112.57	60.55
19.642	19.642 (0.920)	83	34811			31.77- 131.77	85.42
120 Tetrachloroethene					CAS #: 127-18-4		
19.835	19.835 (0.929)	166	873717	21.7881	39.872	80.00- 120.00	100.00
19.835	19.835 (0.929)	129	612809			18.66- 118.66	70.14
19.835	19.835 (0.929)	131	581447			16.81- 116.81	66.55
121 2-Hexanone					CAS #: 591-78-6		
19.973	19.974 (0.935)	58	162379	4.90038	8.968	80.00- 120.00	100.00
19.973	19.974 (0.935)	43	306540			132.73- 232.73	188.78
19.973	19.974 (0.935)	100	29966			0.00- 67.05	18.45
129 m,p-Xylene					CAS #: 108-38-3		
21.688	21.688 (1.016)	106	25809	0.59816	1.095	80.00- 120.00	100.00
21.688	21.688 (1.016)	91	49496			145.05- 245.05	191.78
150 1,2,4-Trimethylbenzene					CAS #: 95-63-6		
24.563	24.563 (1.150)	105	42365	0.53069	0.9712	80.00- 120.00	100.00
24.563	24.563 (1.150)	120	16266			0.00- 98.95	38.39
156 1,4-Dichlorobenzene					CAS #: 106-46-7		
25.282	25.282 (1.184)	146	35095	0.54511	0.9975	80.00- 120.00	100.00
25.282	25.282 (1.184)	148	22080			13.81- 113.81	62.91
25.282	25.282 (1.184)	111	15657			0.00- 87.35	44.61

QC Flag Legend

H - Operator selected an alternate compound hit.

Report Date: 05-Nov-2007 11:56

Air Toxics Ltd.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd7.i
Lab File ID: 7110416.d
Lab Smp Id: 0711008-04A
Analysis Type: VOA
Quant Type: ISTD
Operator: ab
Method File: /chem/msd7.i/7-04nova.b/t14qO18c.m
Misc Info: 8.0"Hg-5psi

Calibration Date: 04-NOV-2007
Calibration Time: 22:27

Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
81 Bromochloromethan	651162	390697	911627	600905	-7.72
97 1,4-Difluorobenze	2188066	1312840	3063292	2082380	-4.83
126 Chlorobenzene-d5	1729248	1037549	2420947	1492758	-13.68

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
81 Bromochloromethan	14.39	14.06	14.72	14.42	0.19
97 1,4-Difluorobenze	16.16	15.83	16.49	16.16	0.00
126 Chlorobenzene-d5	21.36	21.03	21.69	21.36	0.00

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Report Date: 05-Nov-2007 11:56

Air Toxics Ltd.

RECOVERY REPORT

Client Name:
Client SDG: 7-04nova
Sample Matrix: GAS
Fraction: VOA
Lab Smp Id: 0711008-04A
Level: LOW
Operator: ab
Data Type: MS DATA
SampleType: SAMPLE
SpikeList File: 2926spectra.spk
Quant Type: ISTD
Sublist File: Los2153.sub
Method File: /chem/msd7.i/7-04nova.b/t14qO18c.m
Misc Info: 8.0"Hg-5psi

SURROGATE COMPOUND	CONC ADDED PPBV	CONC RECOVERED PPBV	% RECOVERED	LIMITS
$ 90 1,2-Dichloroethane	25.000	23.170	92.68	70-130
$ 113 Toluene-d8	25.000	22.794	91.18	70-130
$ 137 Bromofluorobenzene	25.000	27.133	108.53	70-130

Data File: /chem/msd7.i/7-04nova.b/7110416.d

Date : 05-NOV-2007 05:36

Client ID:

Sample Info: 200mL#R11

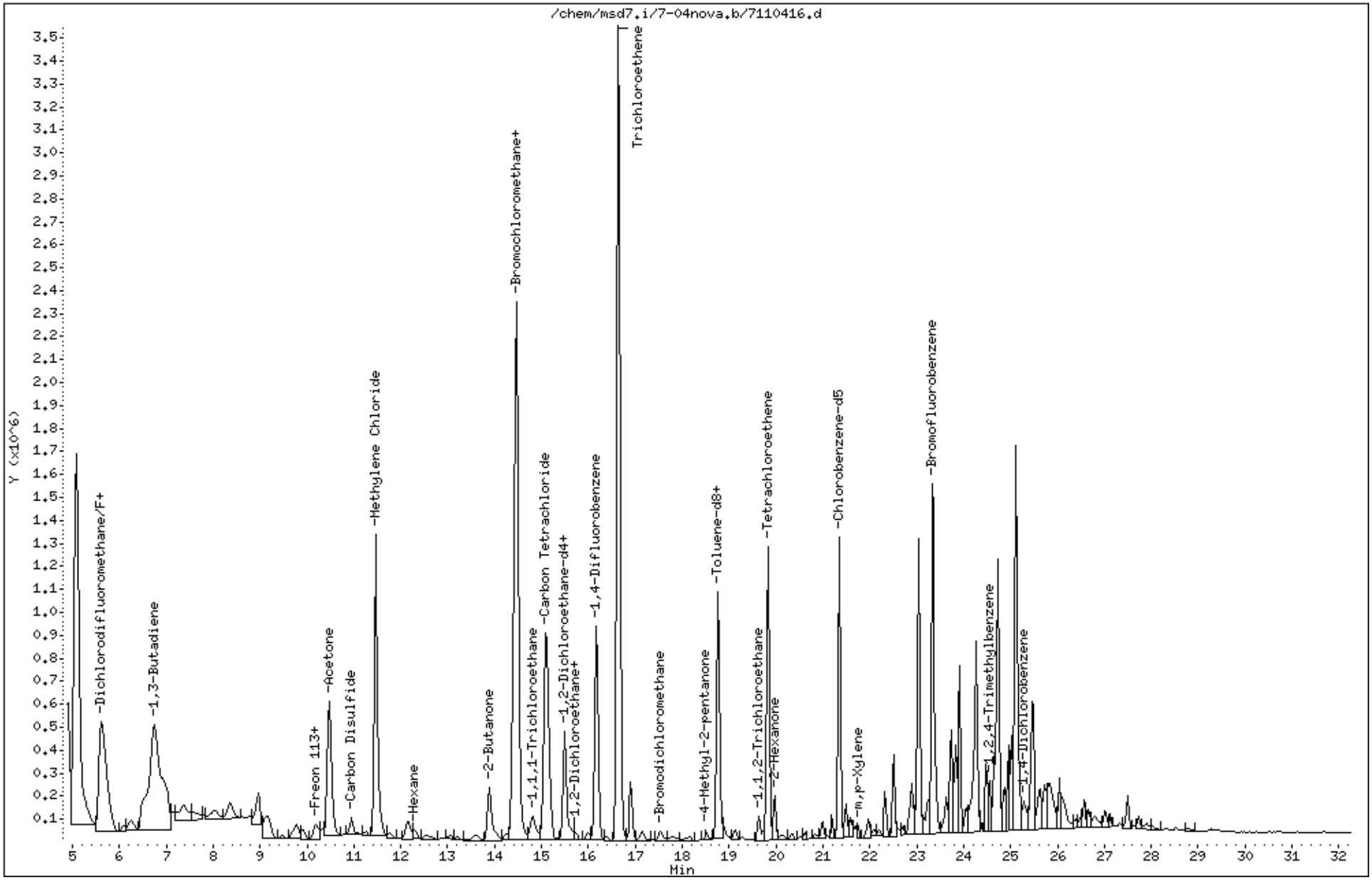
Column phase: RTx-624

Instrument: msd7.i

Operator: ab

Column diameter: 0.53

0101



Data File: /chem/msd7.i/7-04nova.b/7110416.d

Date : 05-NOV-2007 05:36

Client ID:

Instrument: msd7.i

Sample Info: 200mL#R11

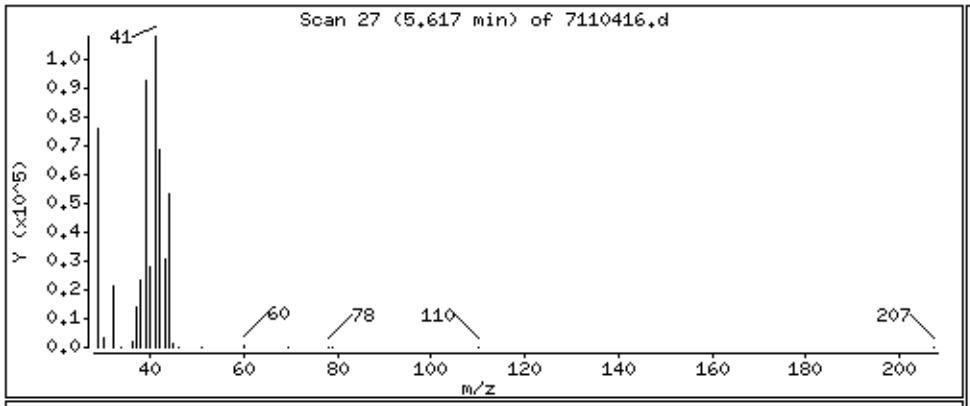
Operator: ab

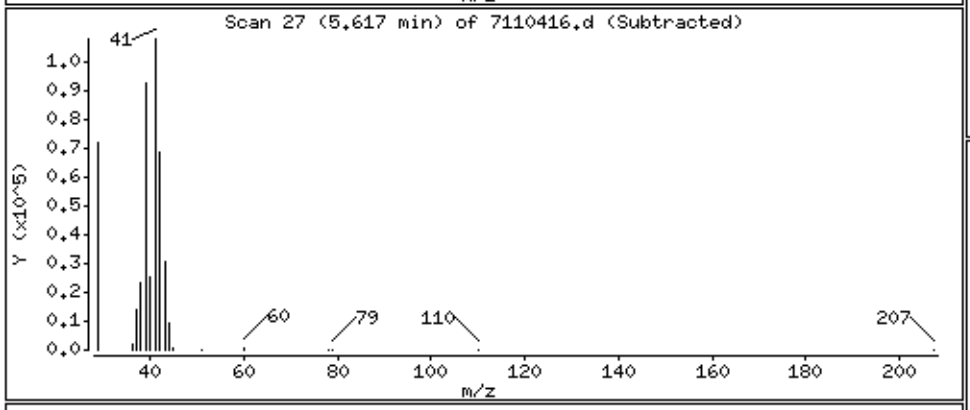
Column phase: RTx-624

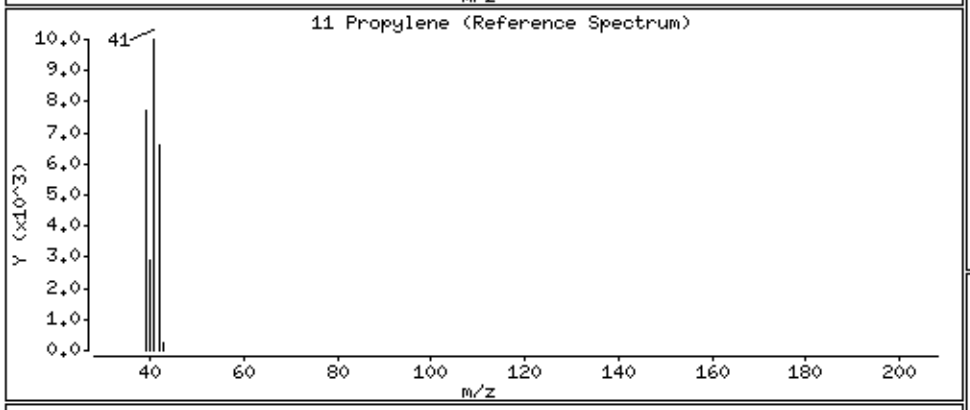
Column diameter: 0.53

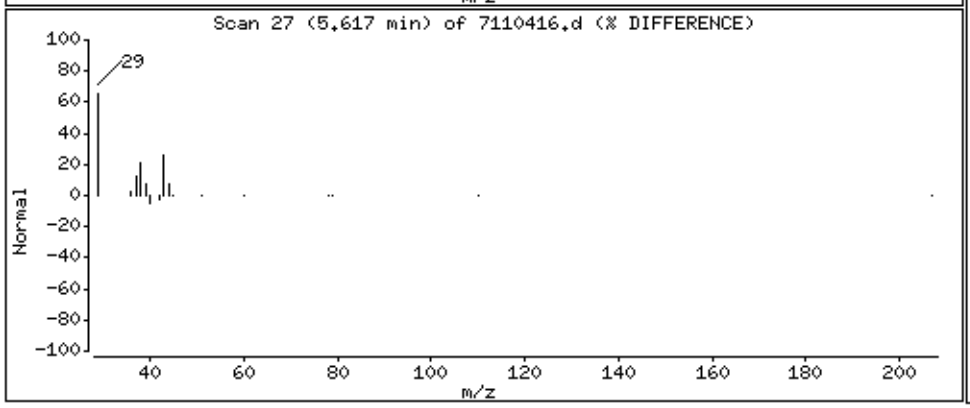
11 Propylene

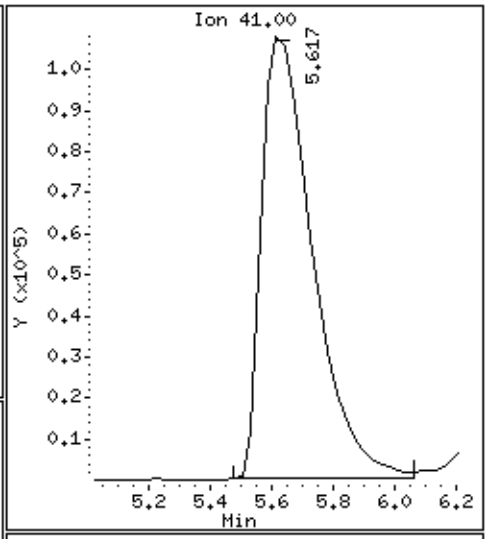
Concentration: 88.508 PPBV

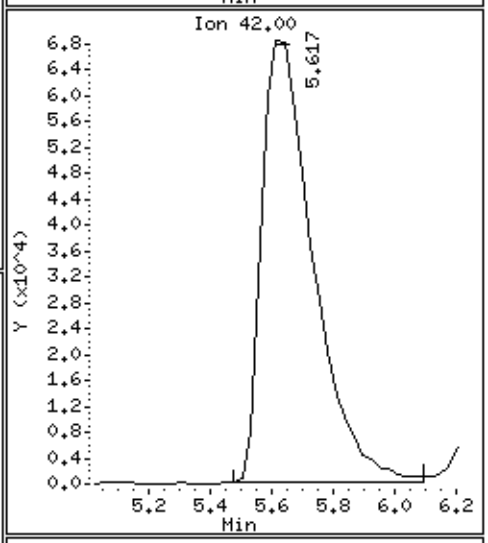


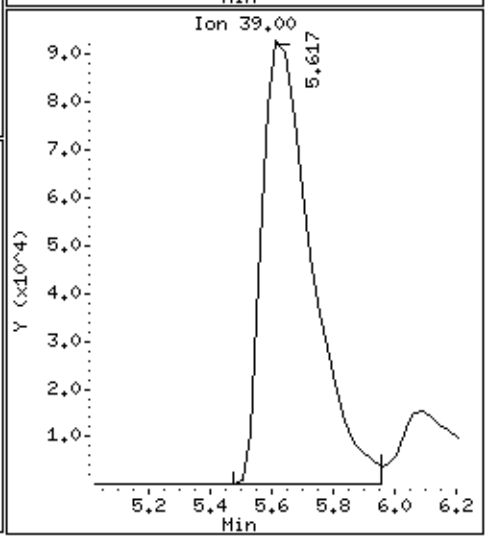












Data File: /chem/msd7.i/7-04nova.b/7110416.d

Date : 05-NOV-2007 05:36

Client ID:

Instrument: msd7.i

Sample Info: 200mL#R11

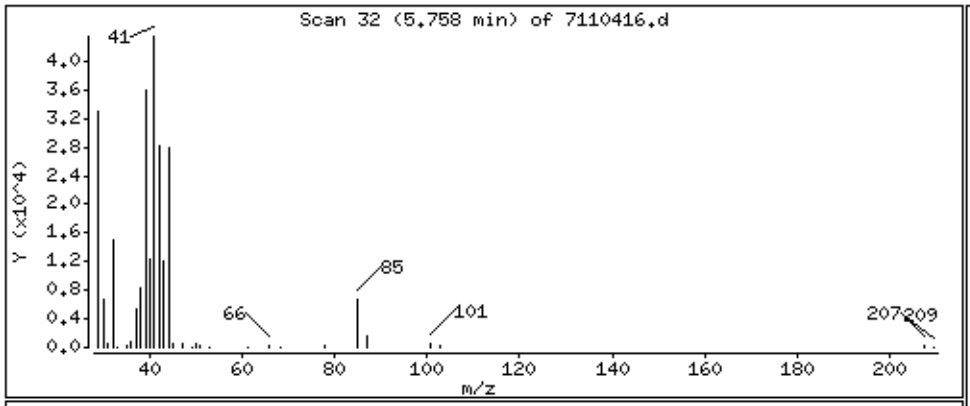
Operator: ab

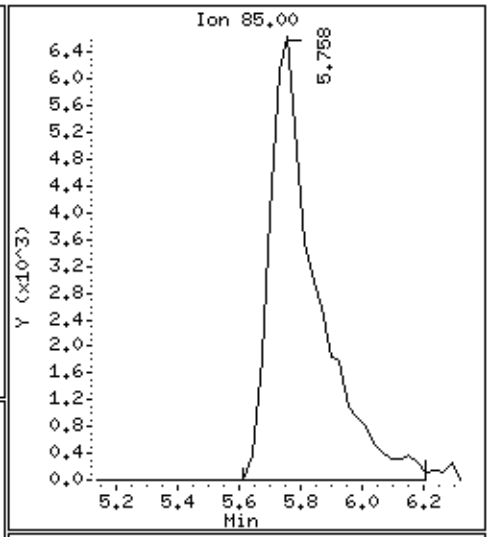
Column phase: RTx-624

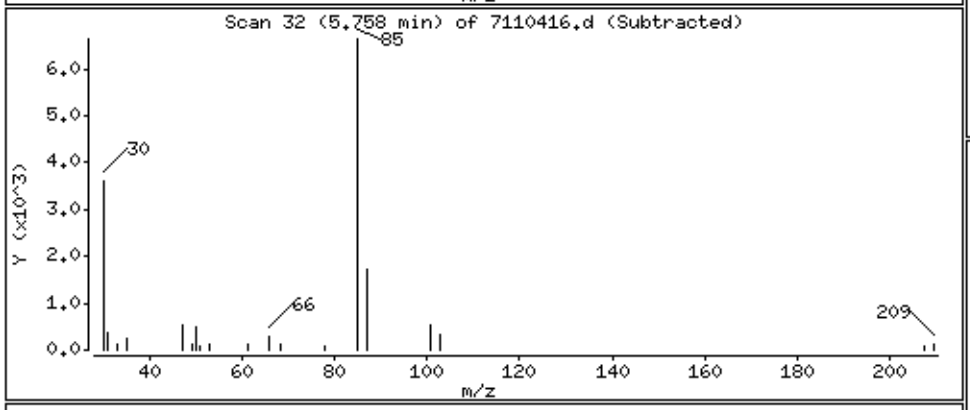
Column diameter: 0.53

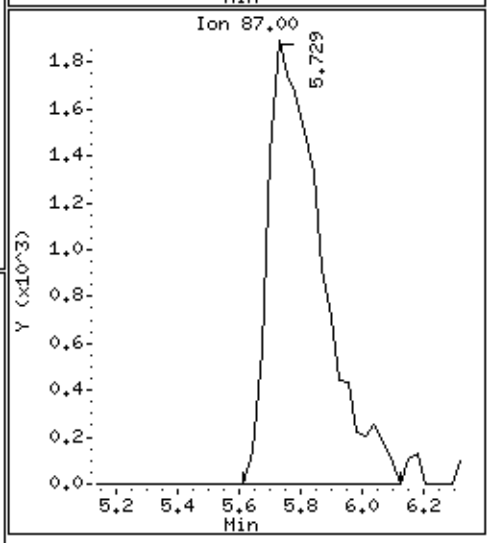
12 Dichlorodifluoromethane/Fr12

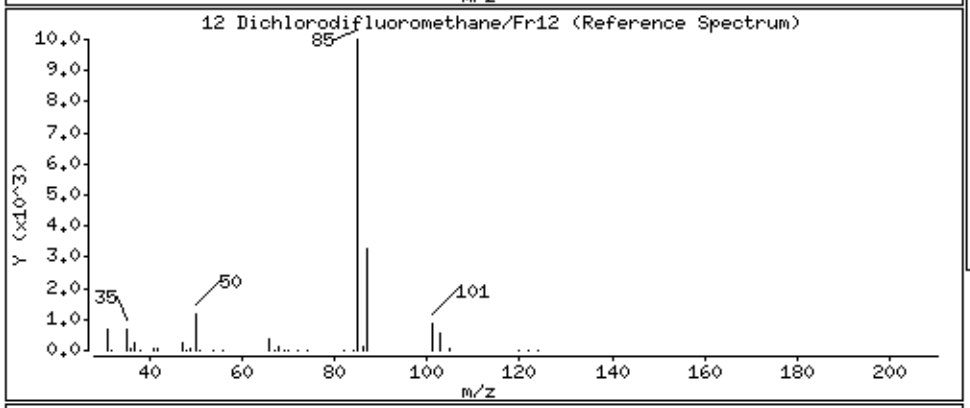
Concentration: 1.374 PPBV

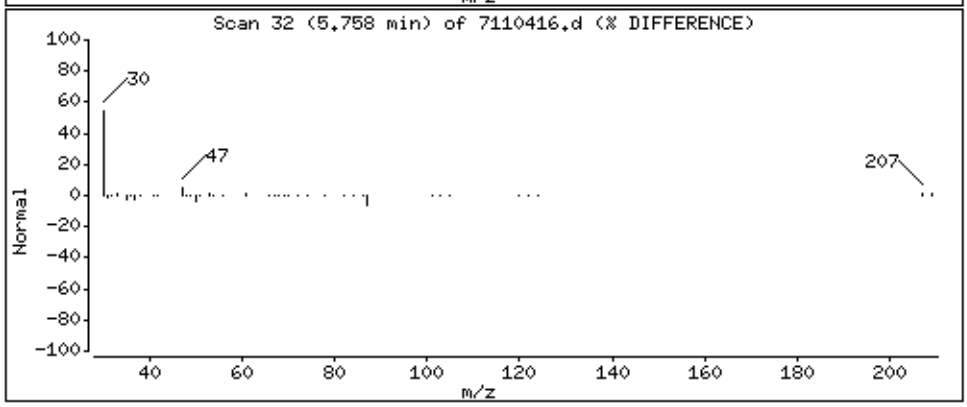












Data File: /chem/msd7.i/7-04nova.b/7110416.d

Date : 05-NOV-2007 05:36

Client ID:

Instrument: msd7.i

Sample Info: 200mL#R11

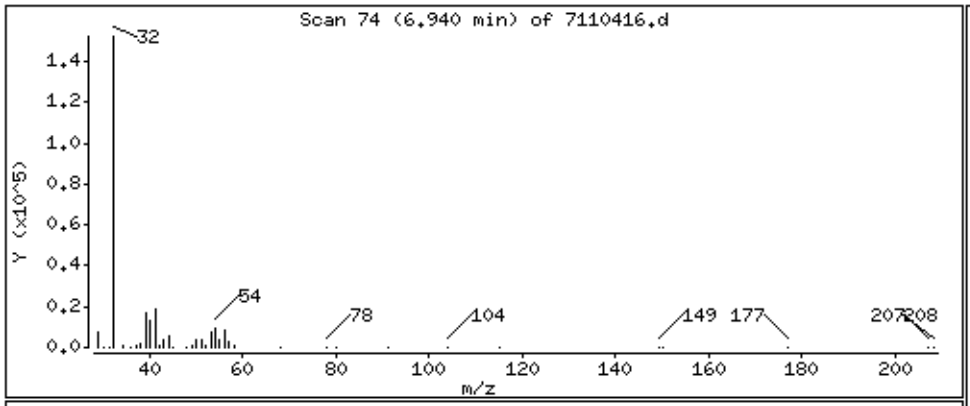
Operator: ab

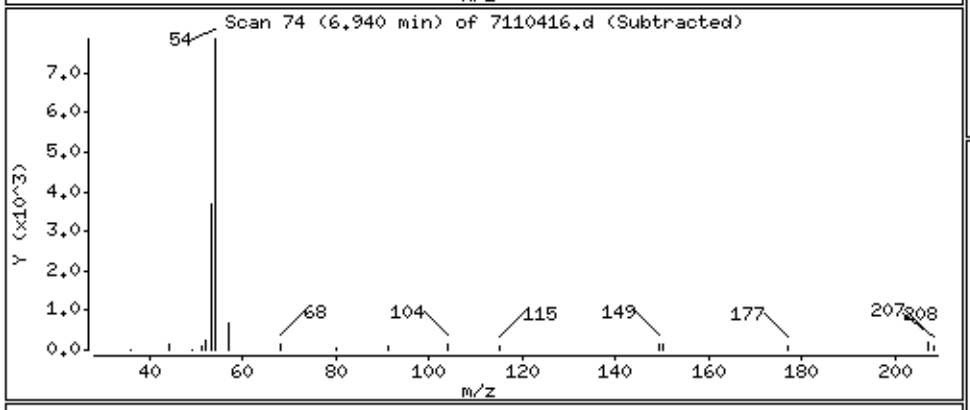
Column phase: RTx-624

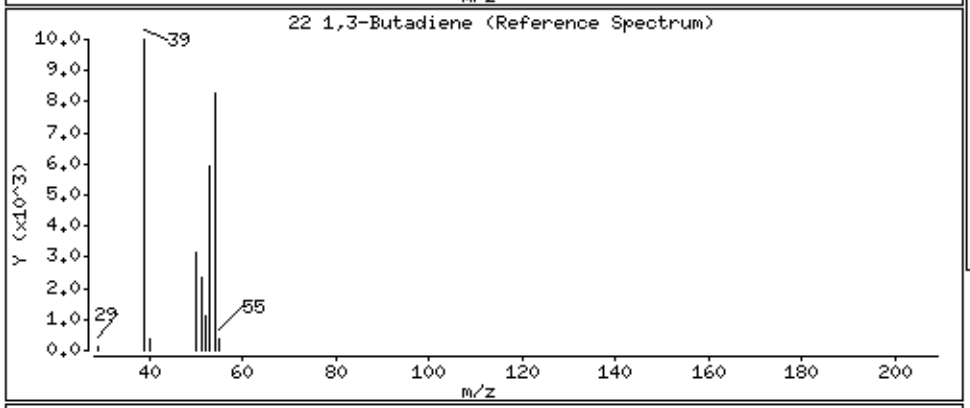
Column diameter: 0.53

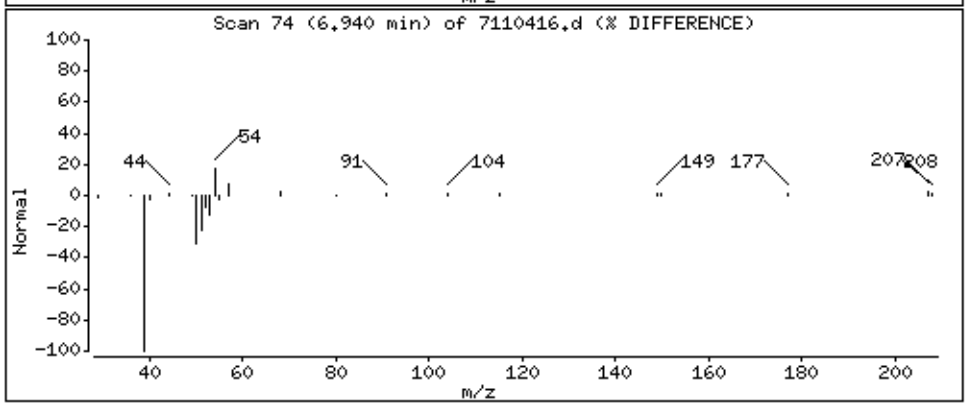
22 1,3-Butadiene

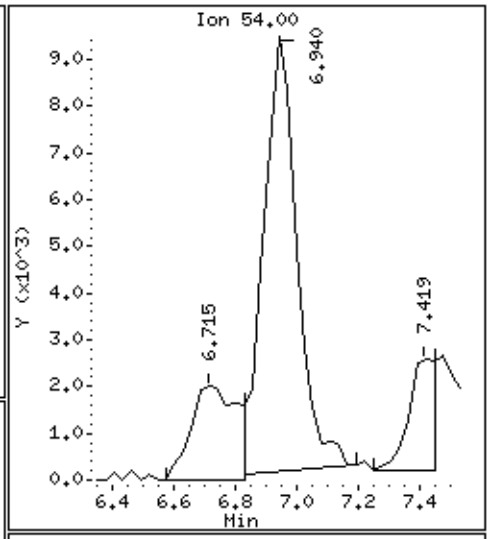
Concentration: 4.678 PPBV

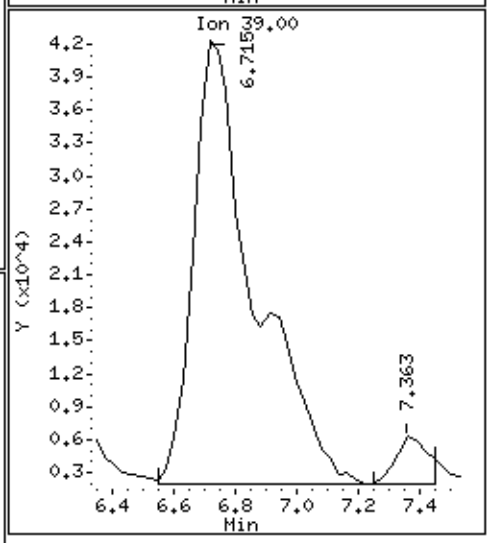












Data File: /chem/msd7.i/7-04nova.b/7110416.d

Date : 05-NOV-2007 05:36

Client ID:

Instrument: msd7.i

Sample Info: 200mL#R11

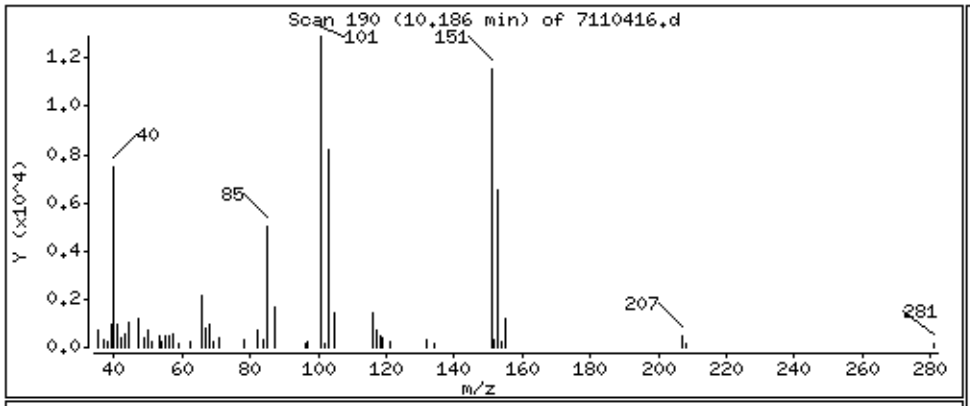
Operator: ab

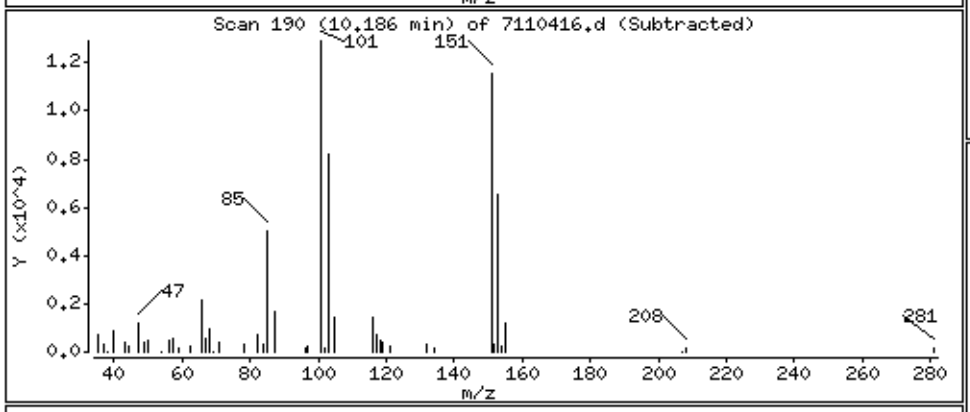
Column phase: RTx-624

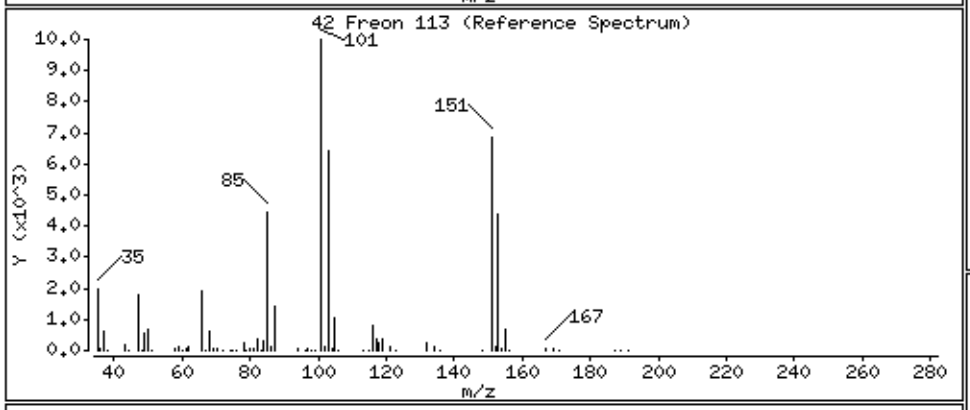
Column diameter: 0.53

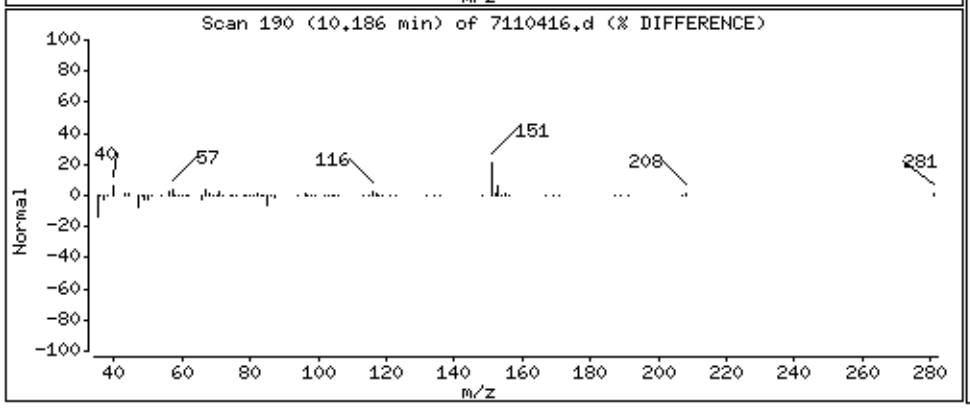
42 Freon 113

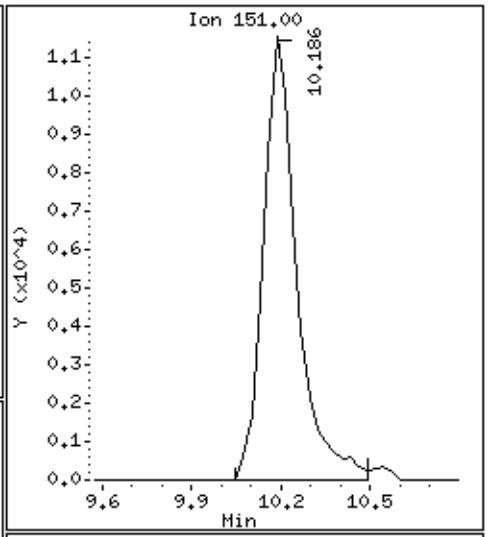
Concentration: 3.365 PPBV

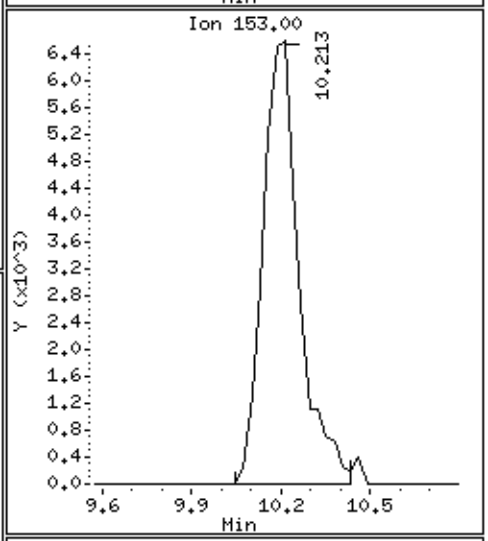


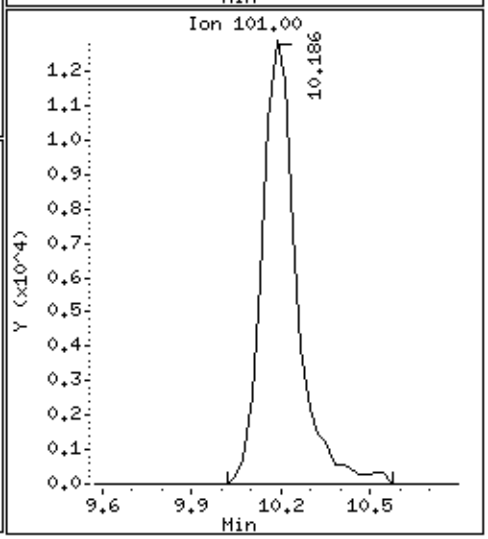












Data File: /chem/msd7.i/7-04nova.b/7110416.d

Date : 05-NOV-2007 05:36

Client ID:

Instrument: msd7.i

Sample Info: 200mL#R11

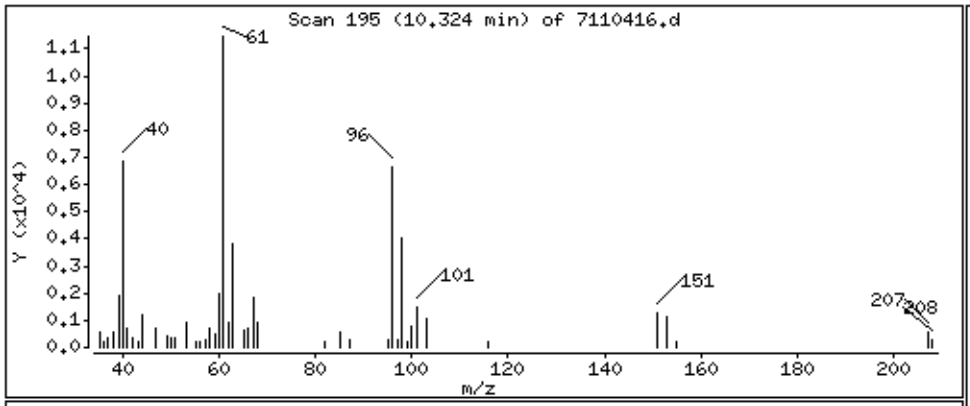
Operator: ab

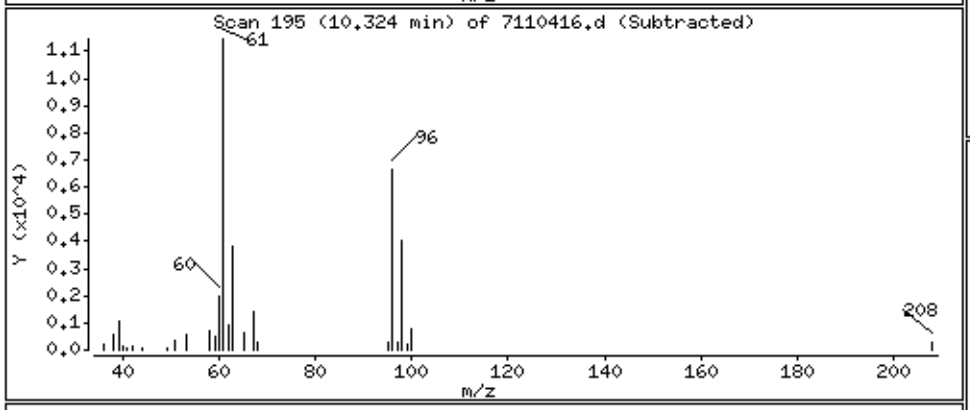
Column phase: RTx-624

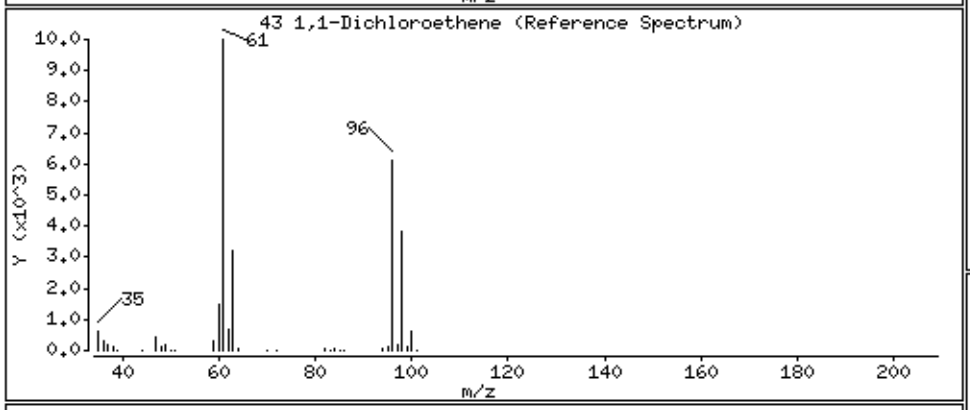
Column diameter: 0.53

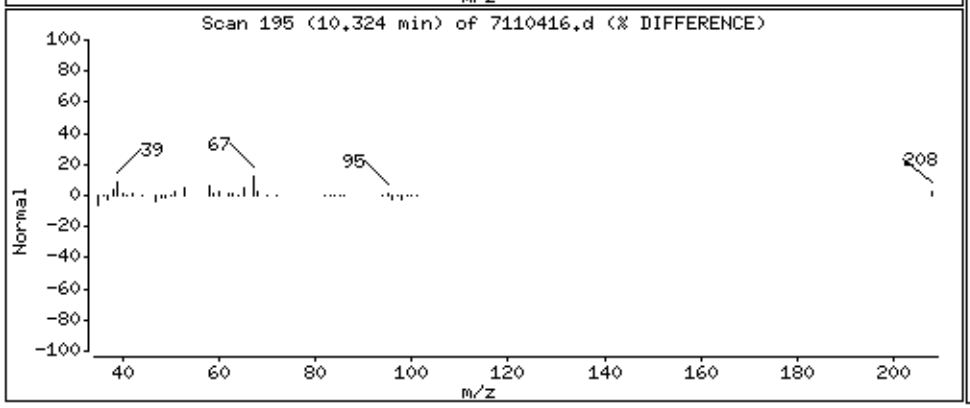
43 1,1-Dichloroethene

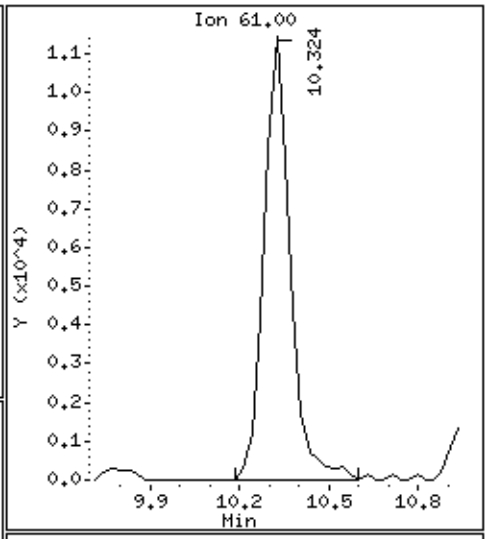
Concentration: 2.456 PPBV

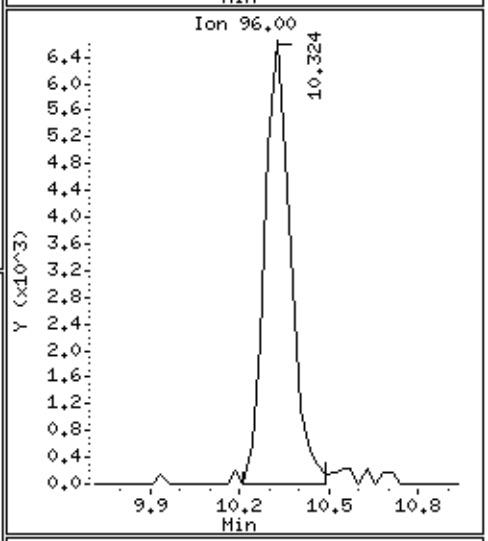


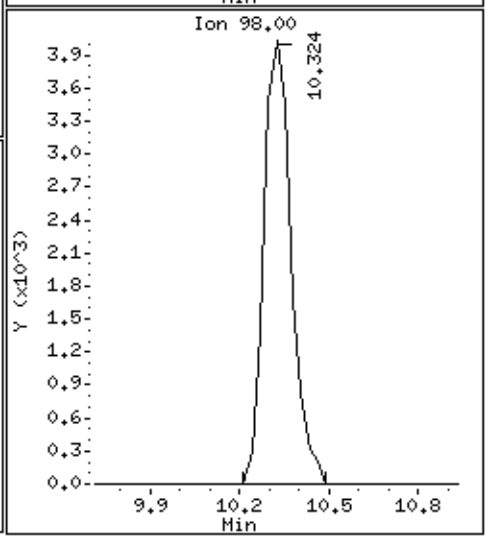












Data File: /chem/msd7.i/7-04nova.b/7110416.d

Date : 05-NOV-2007 05:36

Client ID:

Instrument: msd7.i

Sample Info: 200mL#R11

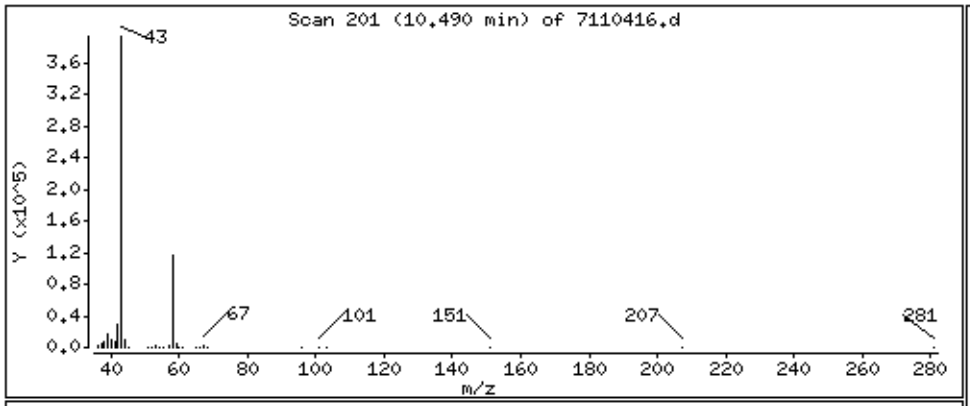
Operator: ab

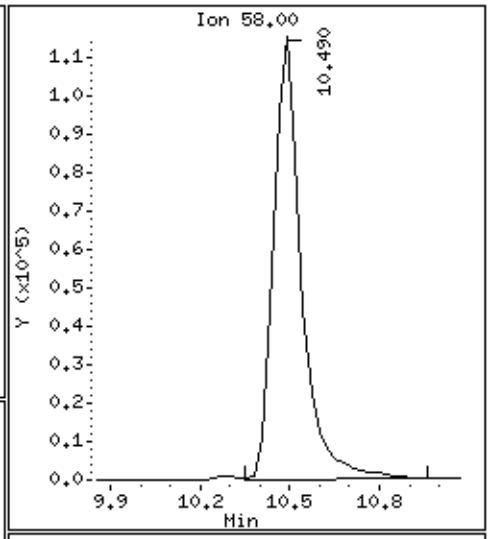
Column phase: RTx-624

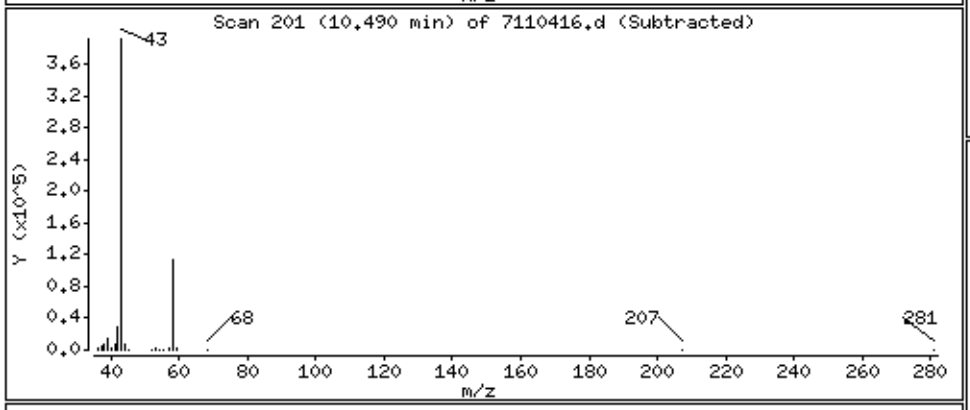
Column diameter: 0.53

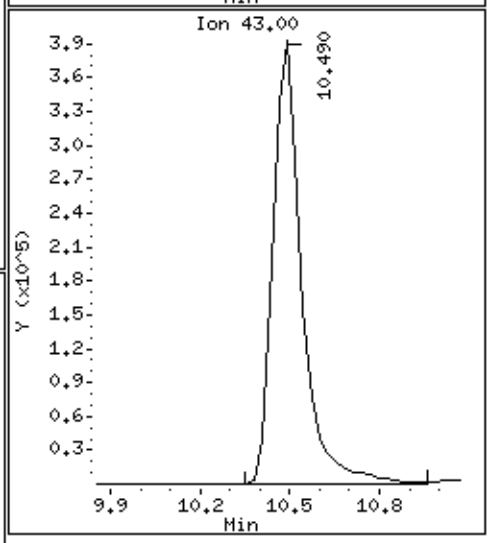
45 Acetone

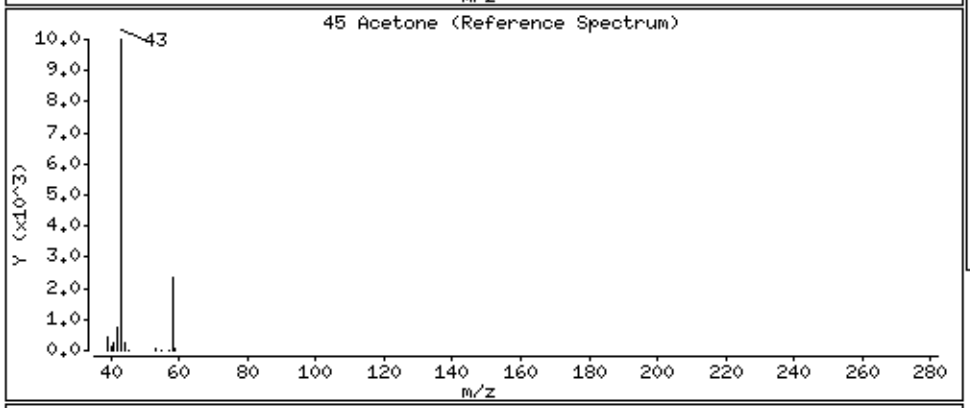
Concentration: 85.899 PPBV

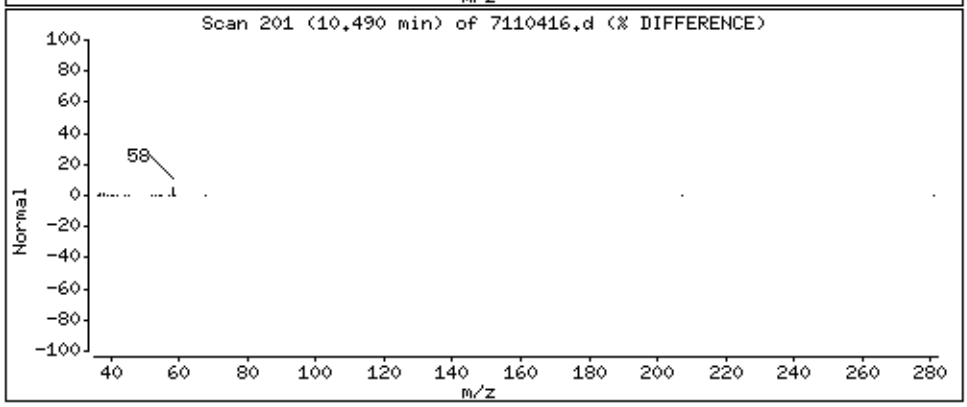












Data File: /chem/msd7.i/7-04nova.b/7110416.d

Date : 05-NOV-2007 05:36

Client ID:

Instrument: msd7.i

Sample Info: 200mL#R11

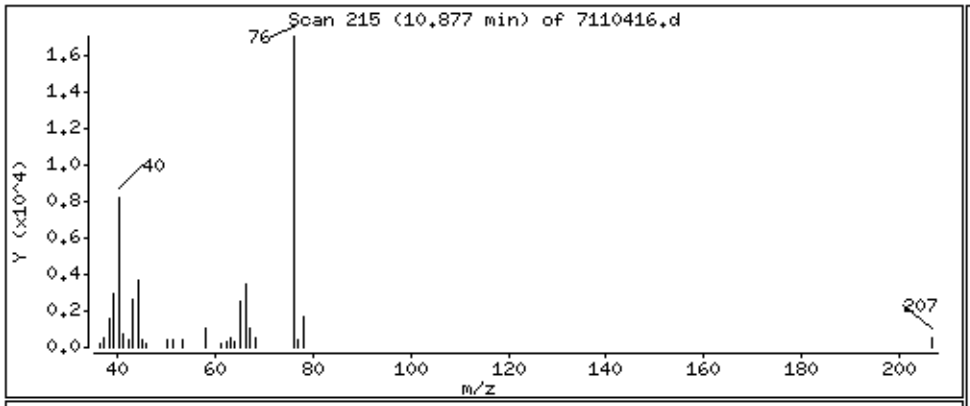
Operator: ab

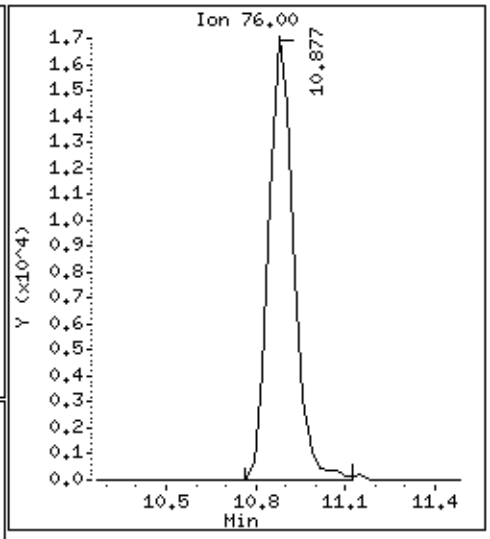
Column phase: RTx-624

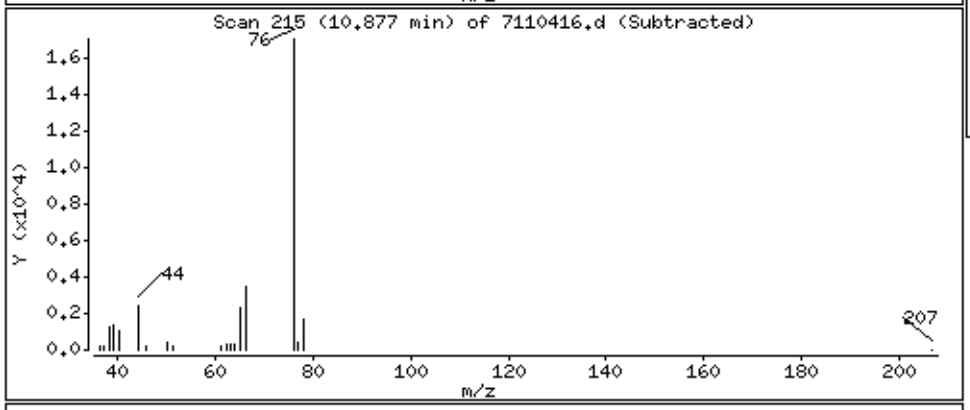
Column diameter: 0.53

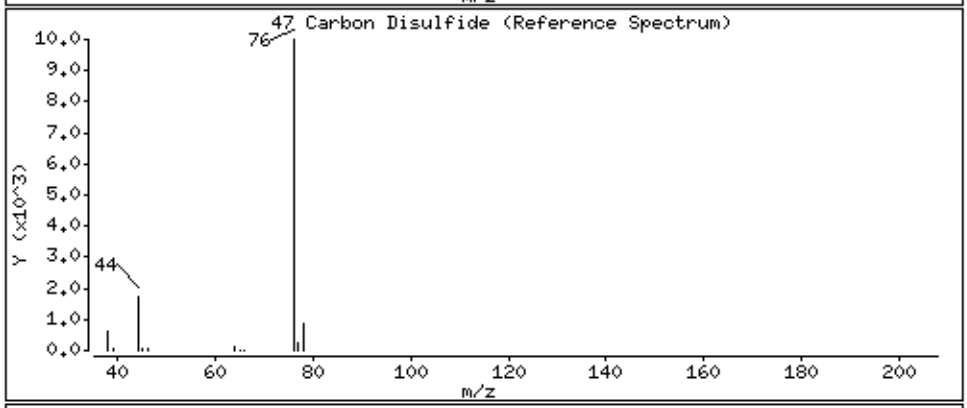
47 Carbon Disulfide

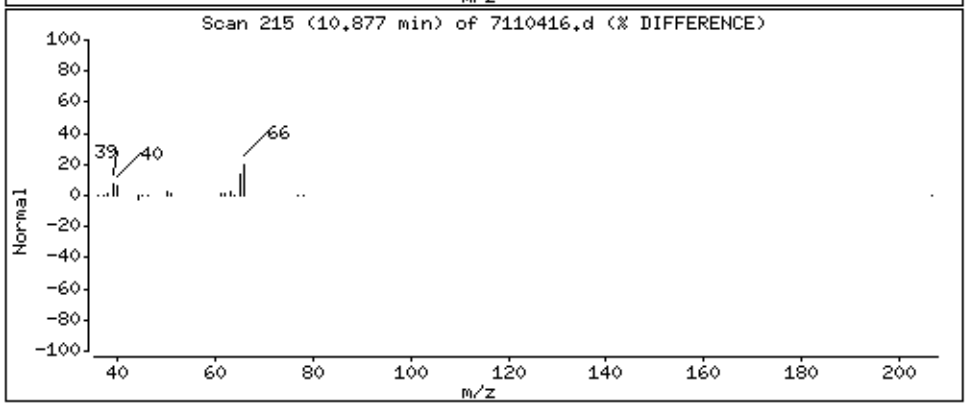
Concentration: 1.846 PPBV











Data File: /chem/msd7.i/7-04nova.b/7110416.d

Date : 05-NOV-2007 05:36

Client ID:

Instrument: msd7.i

Sample Info: 200mL#R11

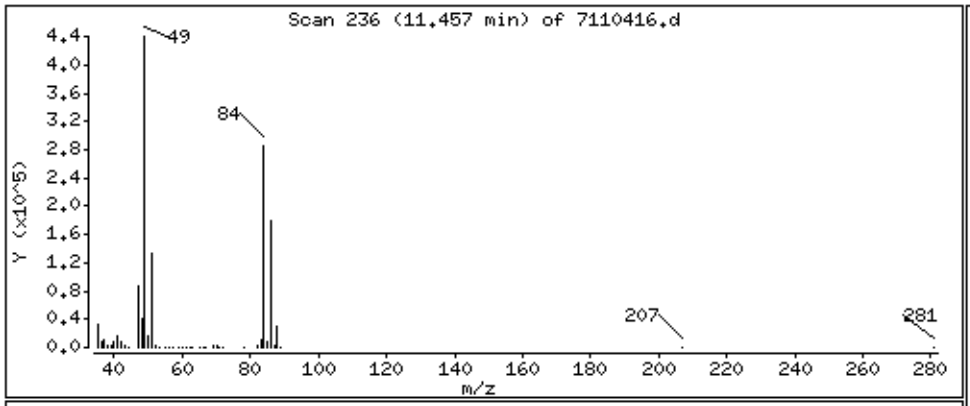
Operator: ab

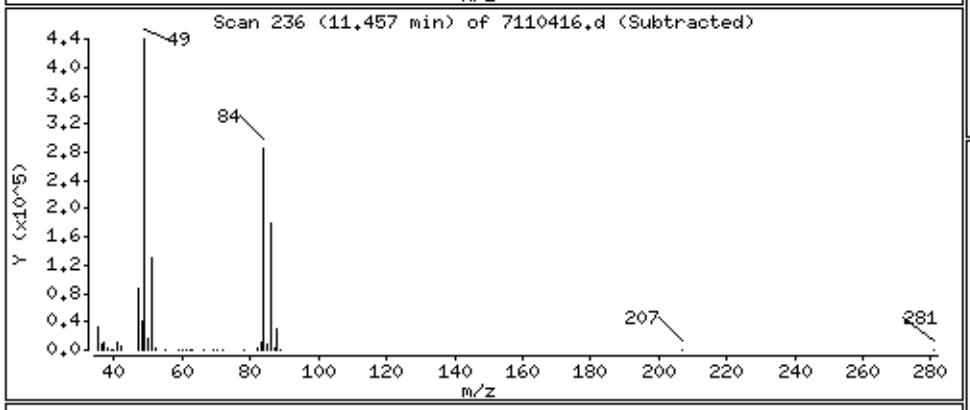
Column phase: RTx-624

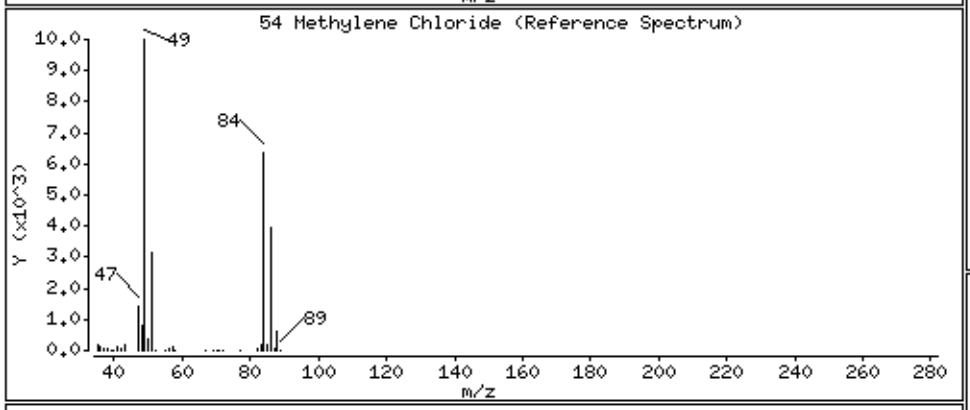
Column diameter: 0.53

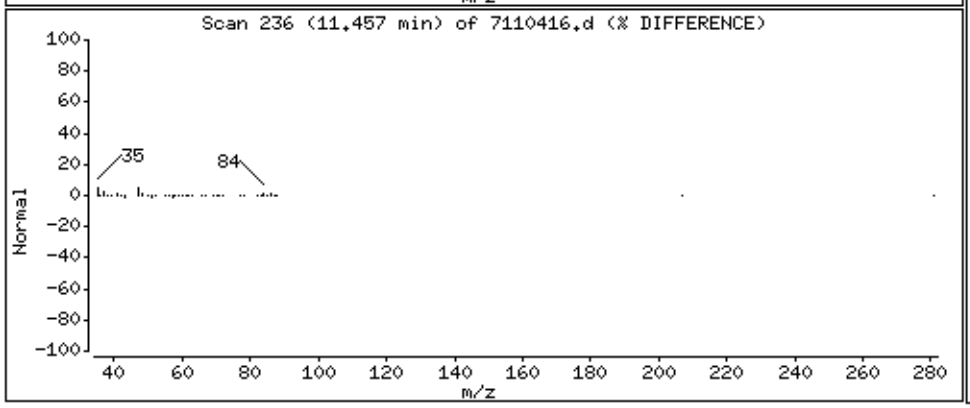
54 Methylene Chloride

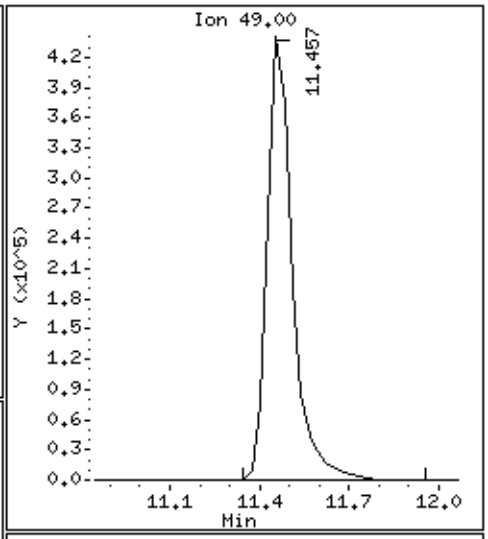
Concentration: 122.55 PPBV

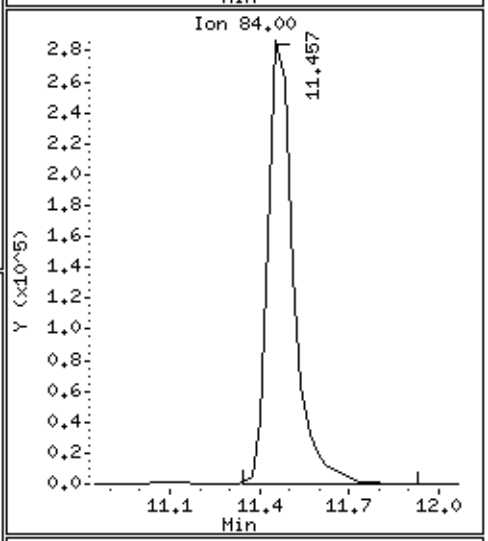


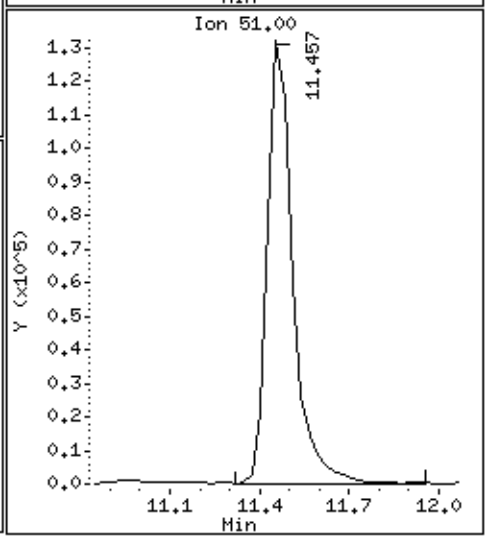












Data File: /chem/msd7.i/7-04nova.b/7110416.d

Date : 05-NOV-2007 05:36

Client ID:

Instrument: msd7.i

Sample Info: 200mL#R11

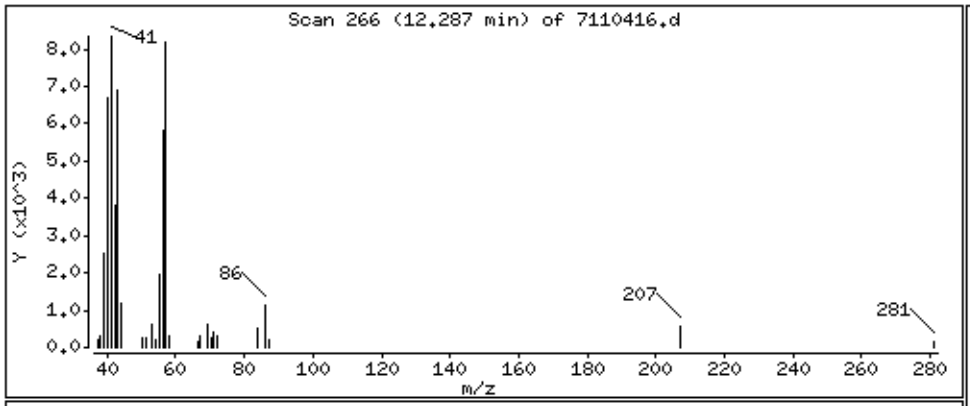
Operator: ab

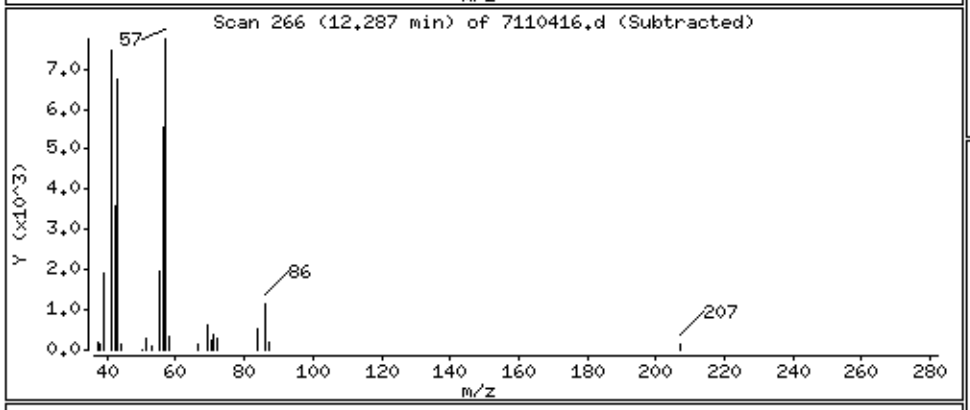
Column phase: RTx-624

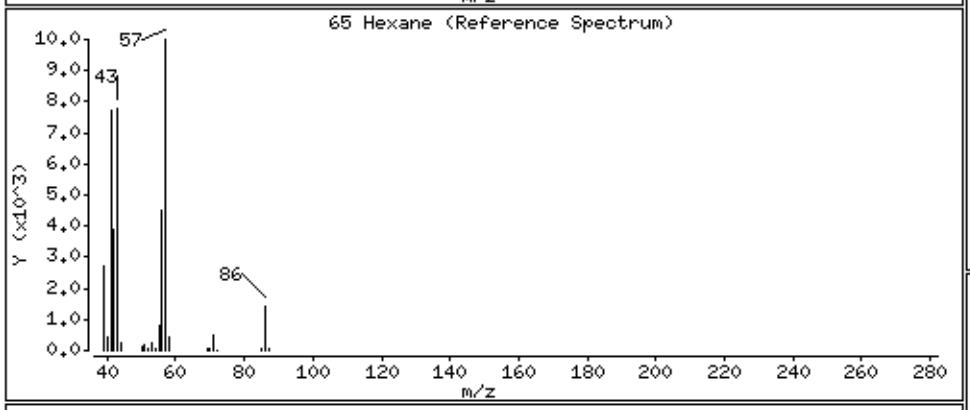
Column diameter: 0.53

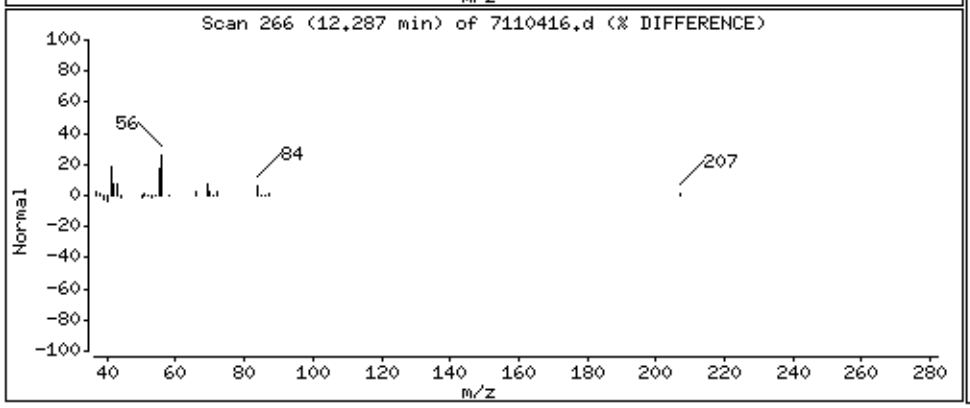
65 Hexane

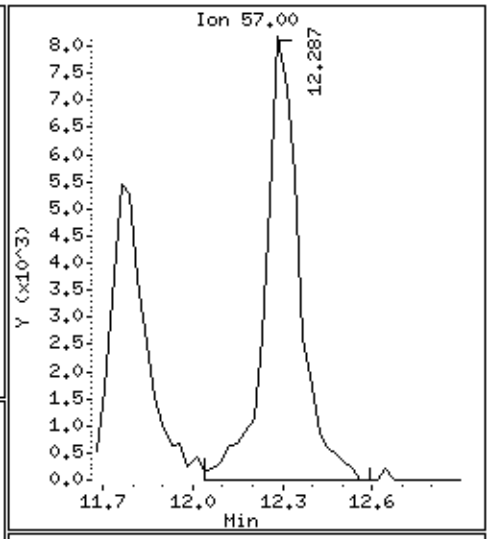
Concentration: 2.366 PPBV

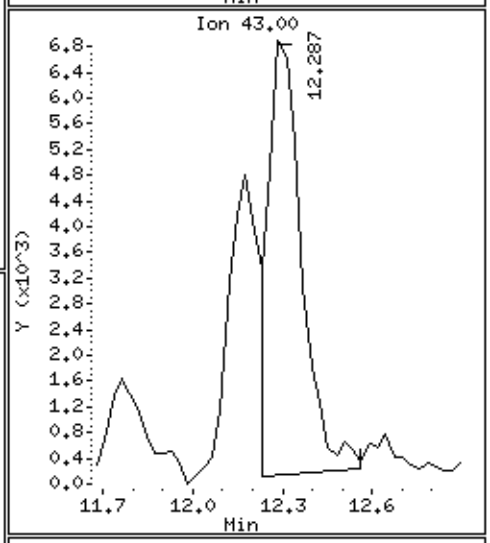


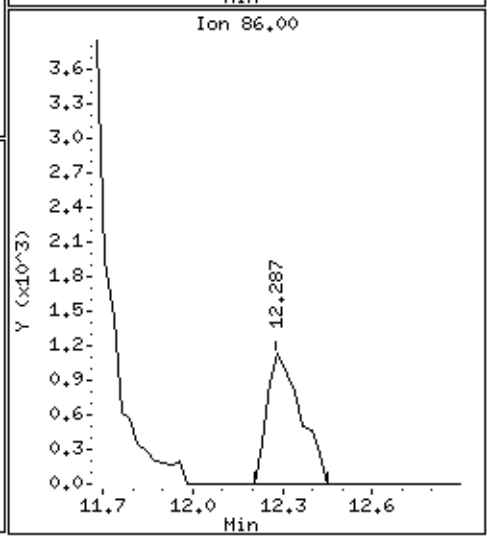












Data File: /chem/msd7.i/7-04nova.b/7110416.d

Date : 05-NOV-2007 05:36

Client ID:

Instrument: msd7.i

Sample Info: 200mL#R11

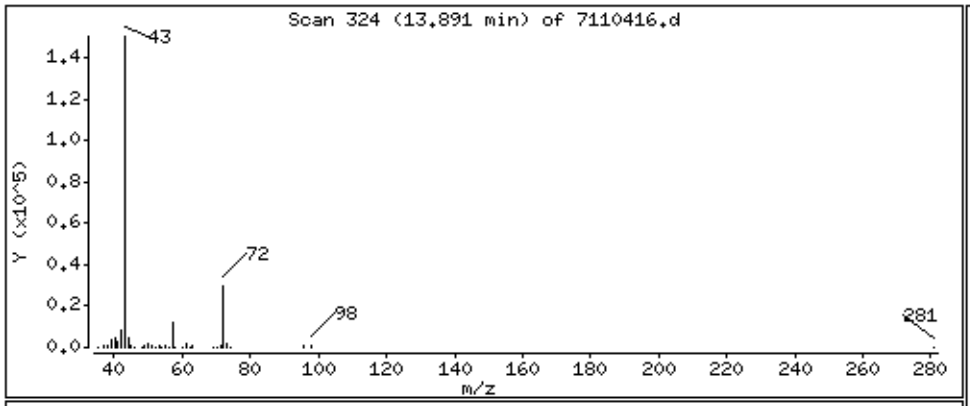
Operator: ab

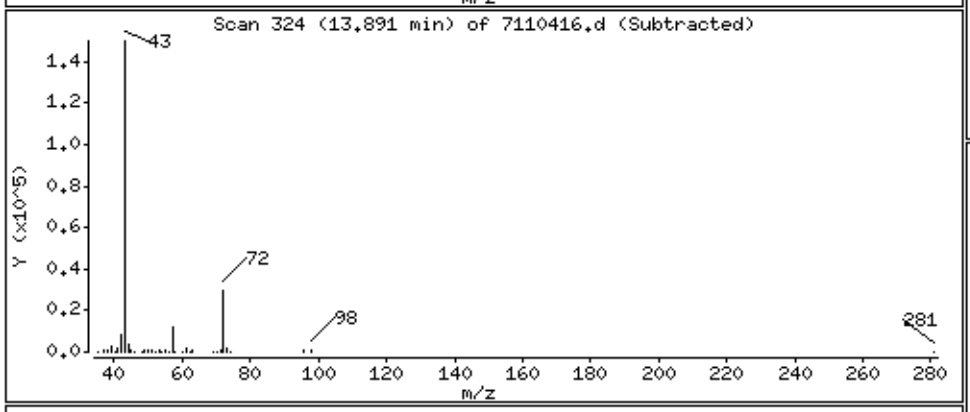
Column phase: RTx-624

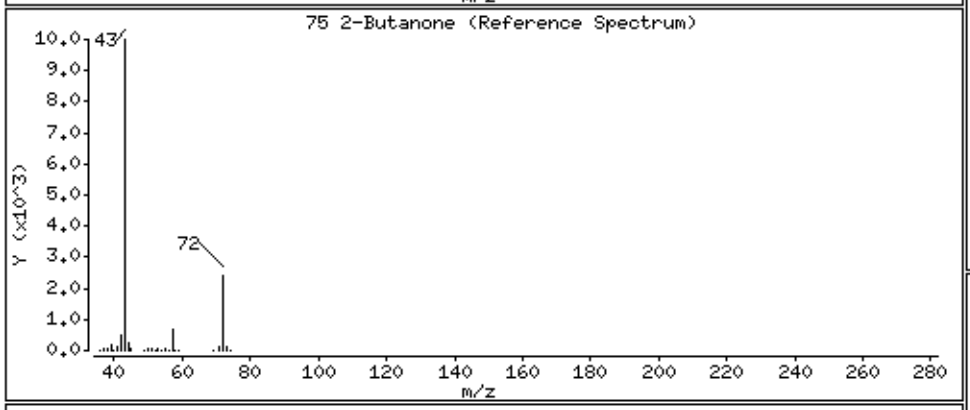
Column diameter: 0.53

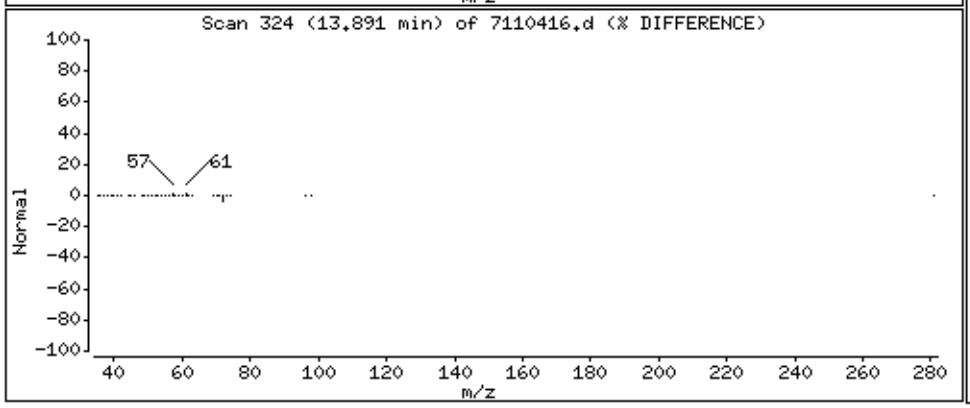
75 2-Butanone

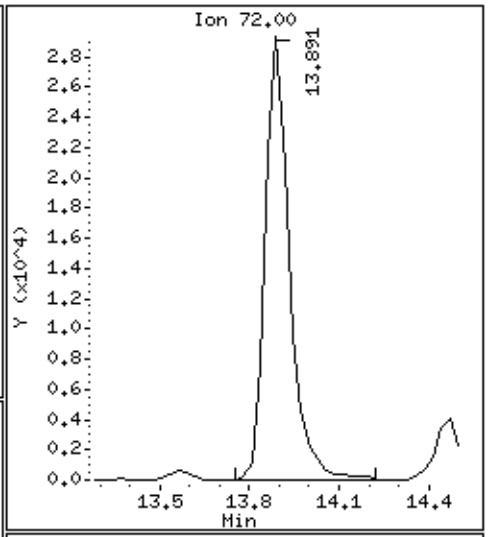
Concentration: 23.439 PPBV

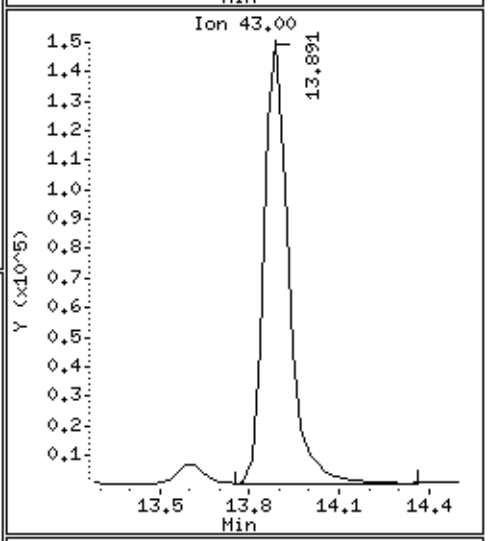


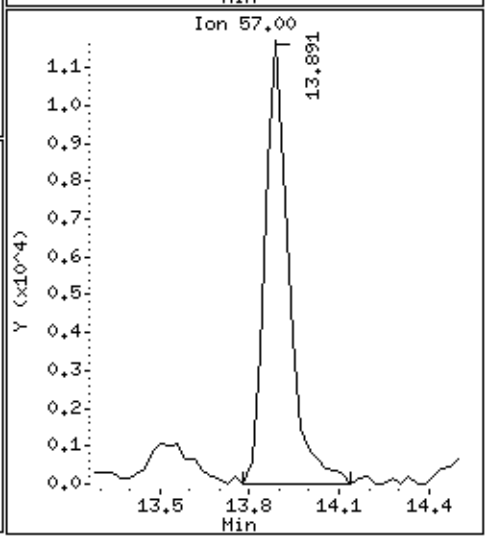












Data File: /chem/msd7.i/7-04nova.b/7110416.d

Date : 05-NOV-2007 05:36

Client ID:

Instrument: msd7.i

Sample Info: 200mL#R11

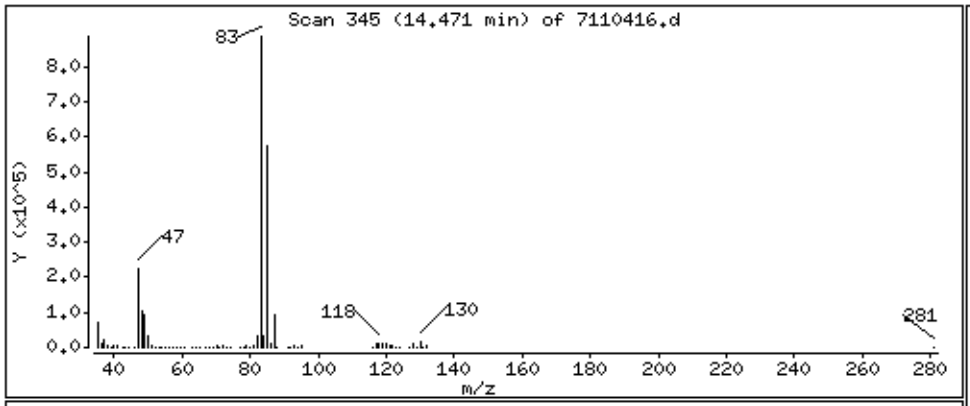
Operator: ab

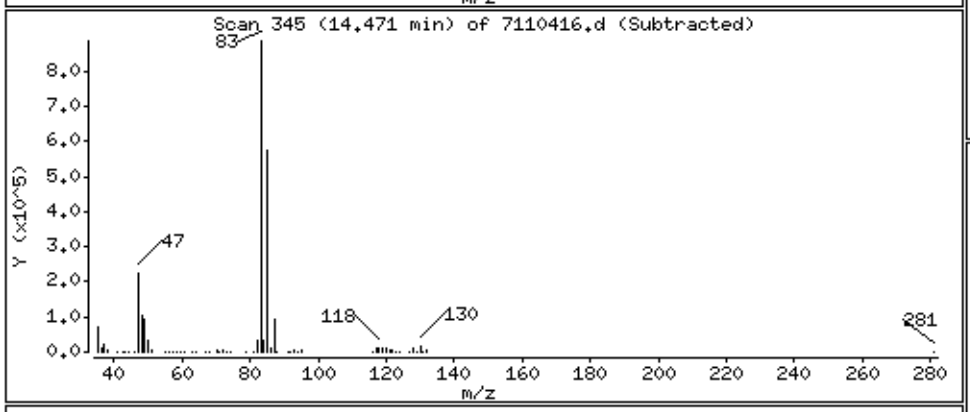
Column phase: RTx-624

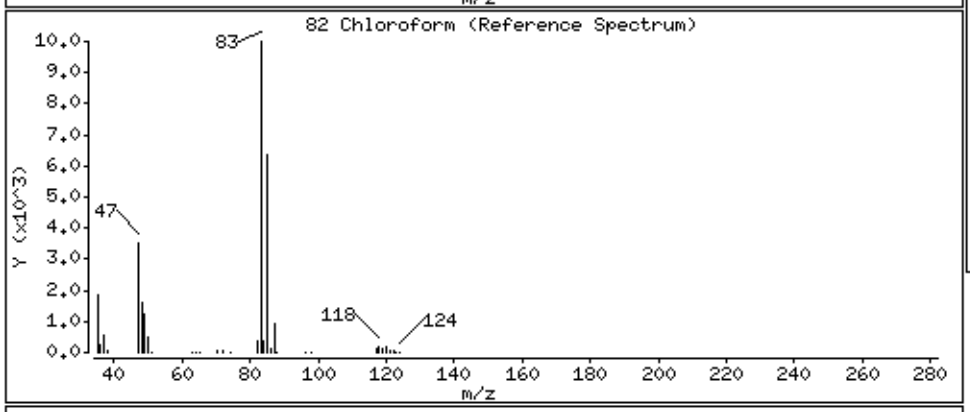
Column diameter: 0.53

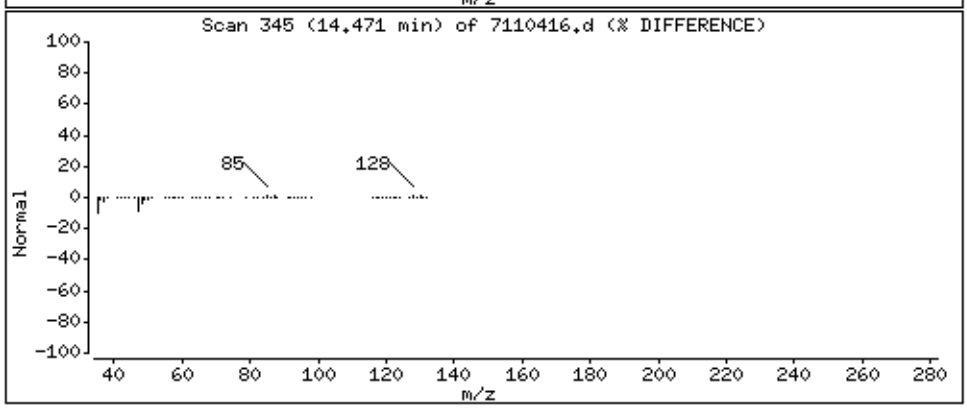
82 Chloroform

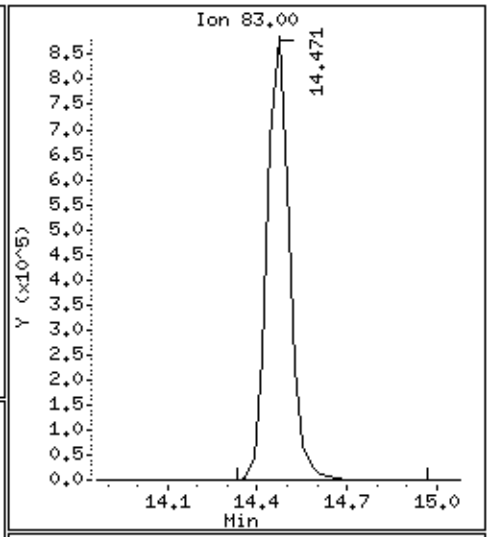
Concentration: 140.22 PPBV

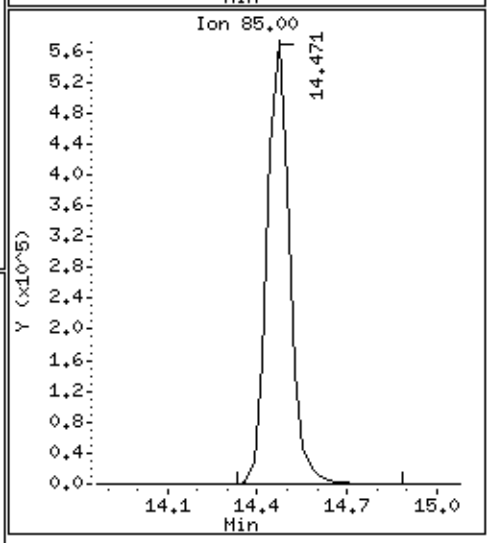












Data File: /chem/msd7.i/7-04nova.b/7110416.d

Date : 05-NOV-2007 05:36

Client ID:

Instrument: msd7.i

Sample Info: 200mL#R11

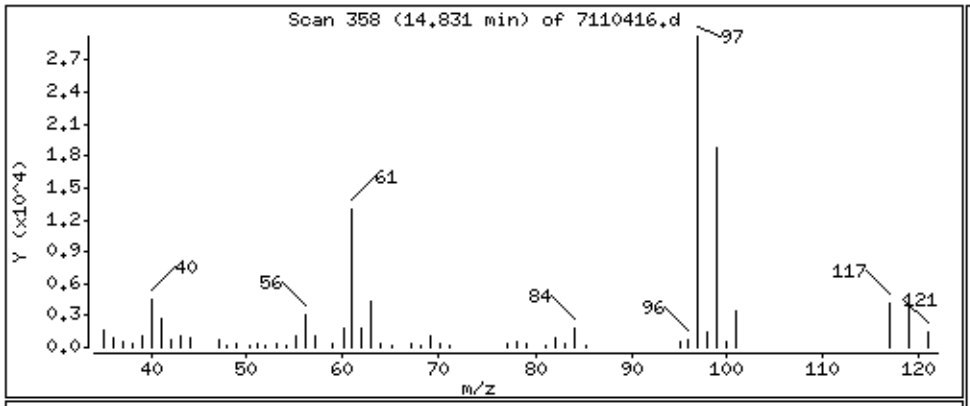
Operator: ab

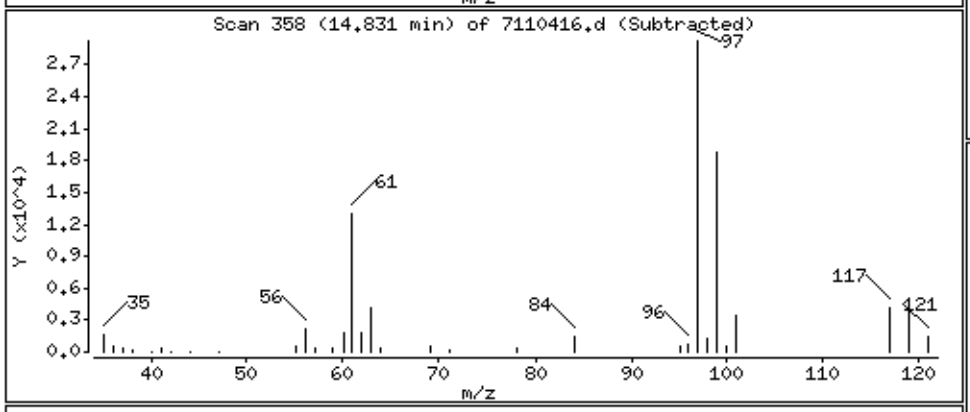
Column phase: RTx-624

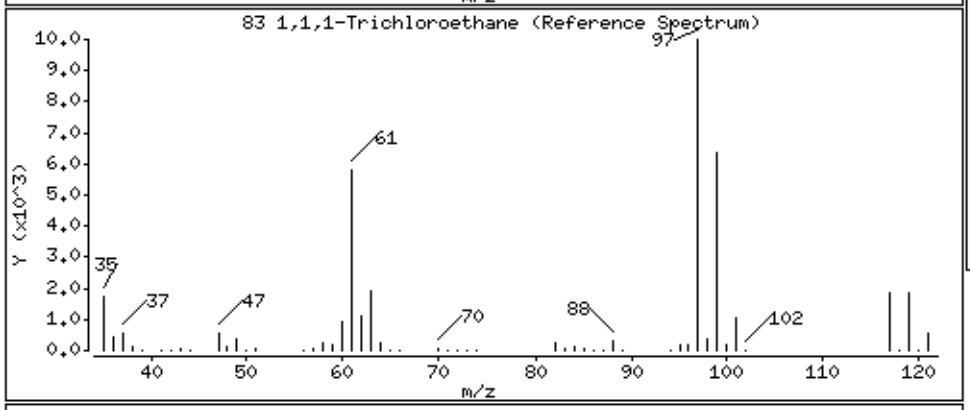
Column diameter: 0.53

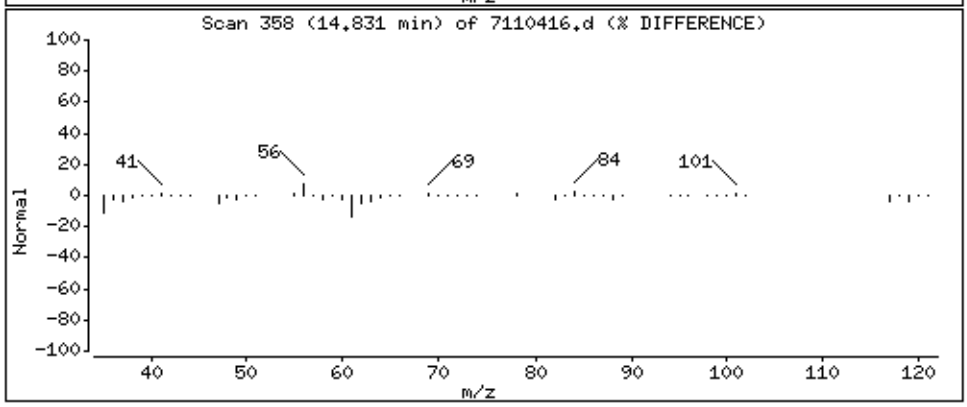
83 1,1,1-Trichloroethane

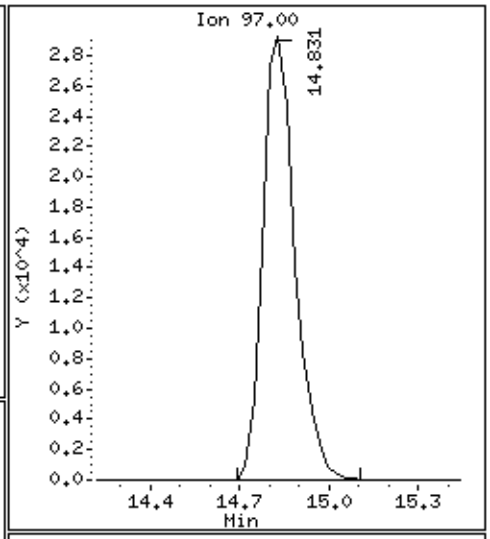
Concentration: 6.661 PPBV

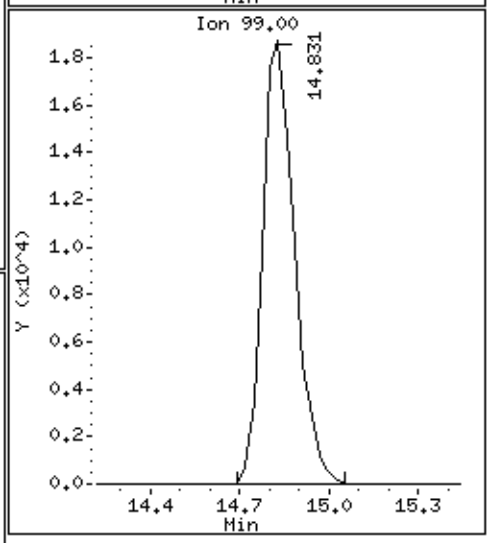












Data File: /chem/msd7.i/7-04nova.b/7110416.d

Date : 05-NOV-2007 05:36

Client ID:

Instrument: msd7.i

Sample Info: 200mL#R11

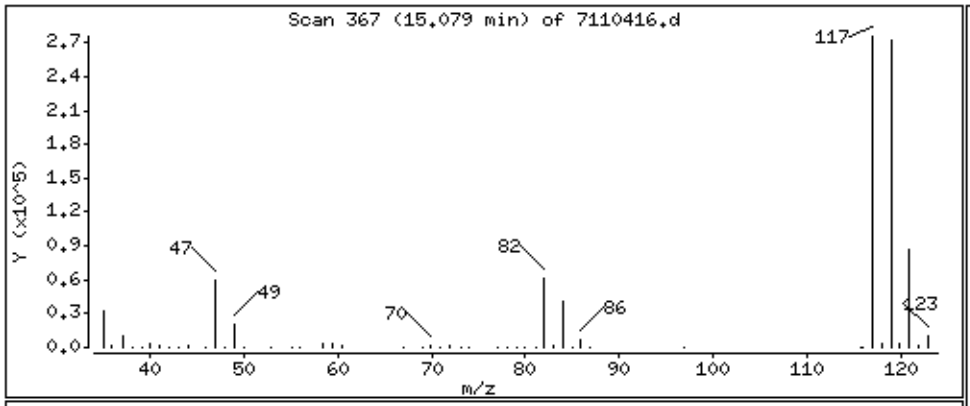
Operator: ab

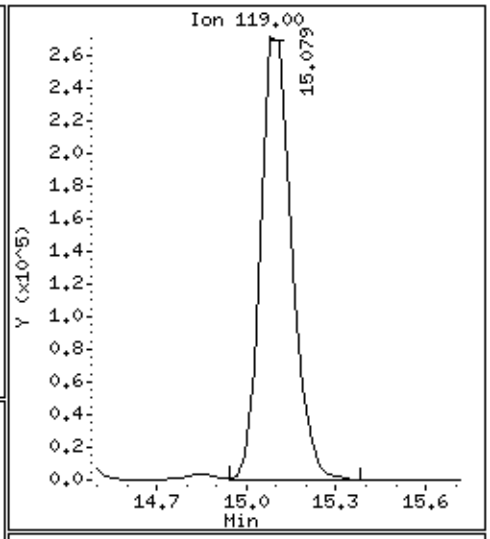
Column phase: RTx-624

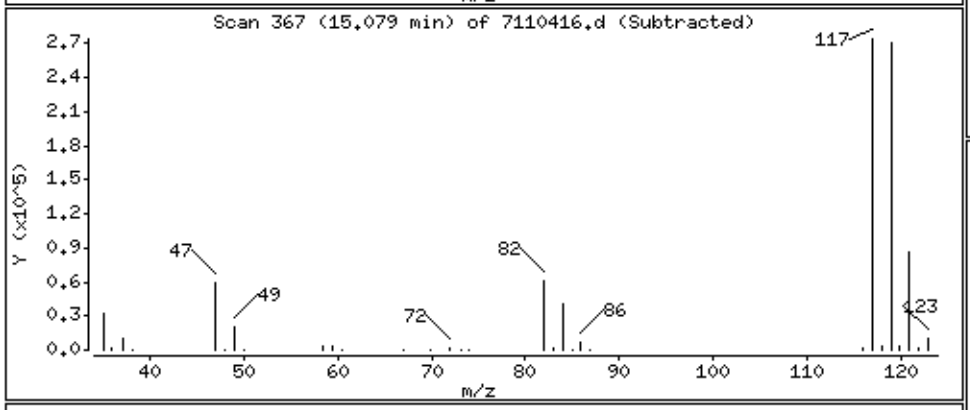
Column diameter: 0.53

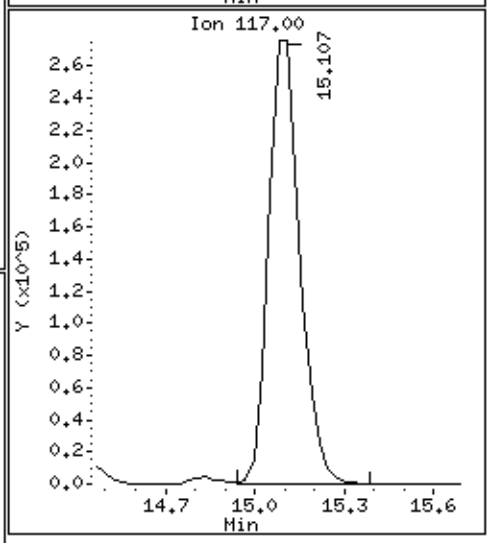
87 Carbon Tetrachloride

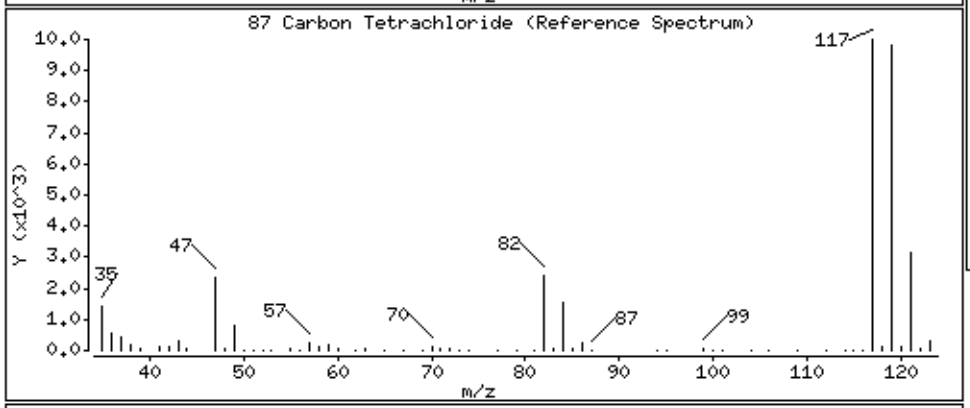
Concentration: 63.679 PPBV

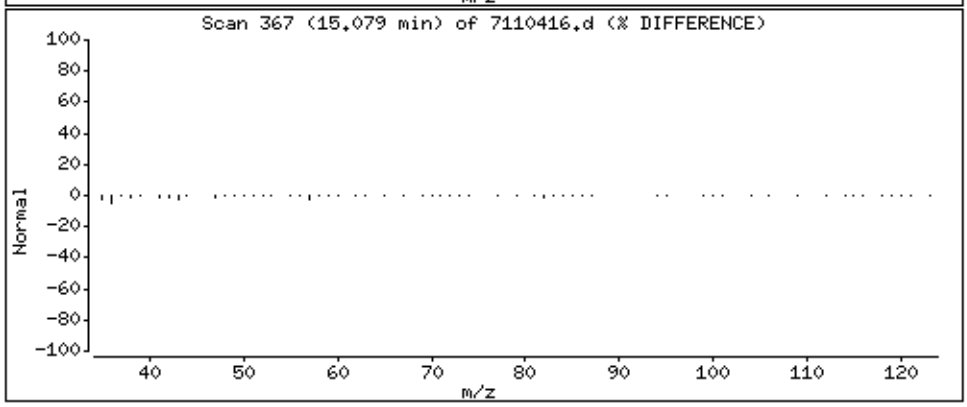












Data File: /chem/msd7.i/7-04nova.b/7110416.d

Date : 05-NOV-2007 05:36

Client ID:

Instrument: msd7.i

Sample Info: 200mL#R11

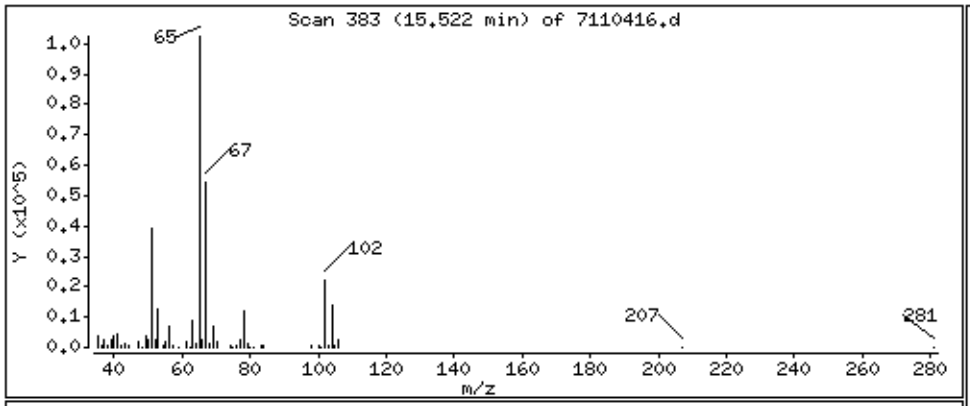
Operator: ab

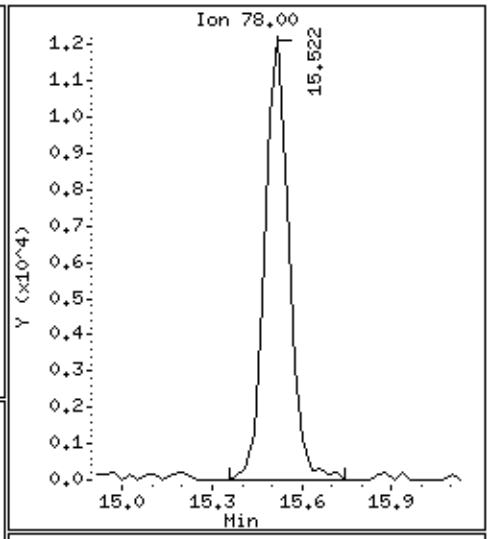
Column phase: RTx-624

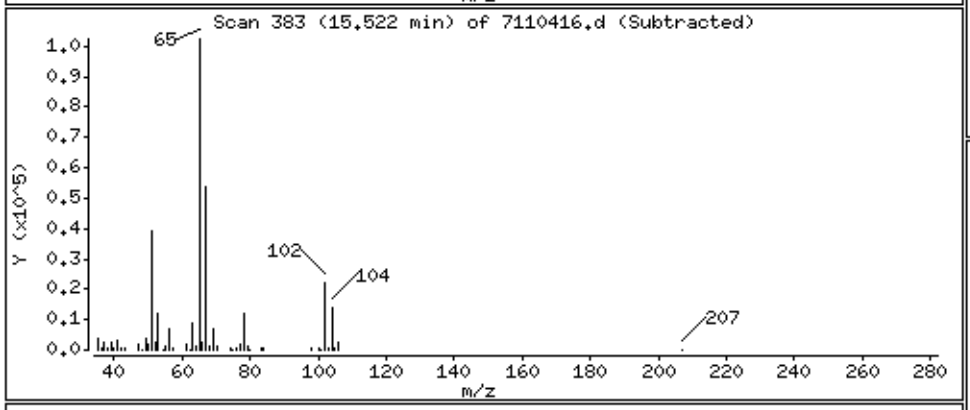
Column diameter: 0.53

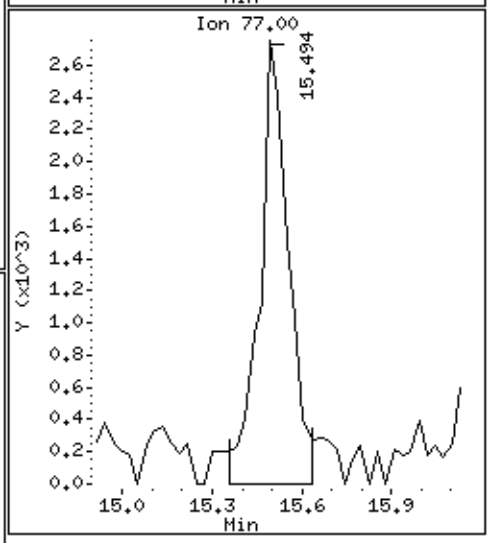
91 Benzene

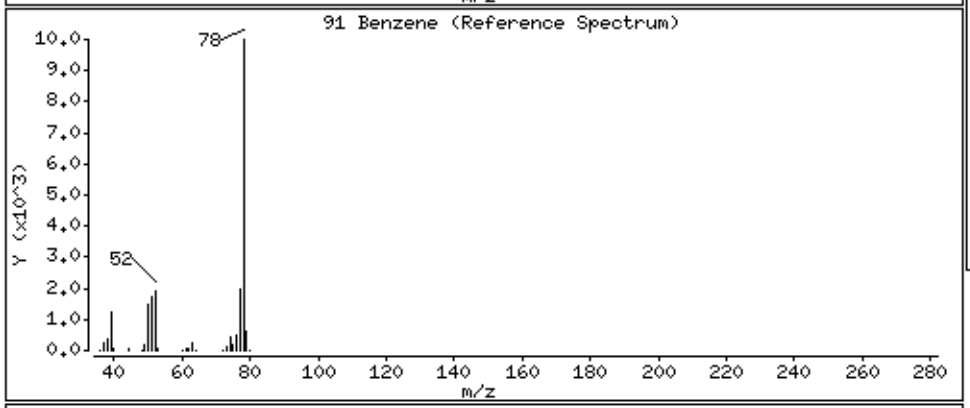
Concentration: 1.534 PPBV

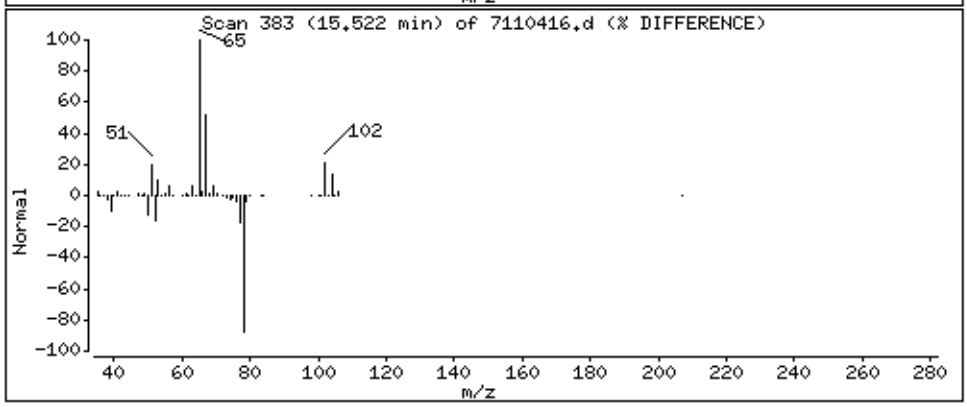












Data File: /chem/msd7.i/7-04nova.b/7110416.d

Date : 05-NOV-2007 05:36

Client ID:

Instrument: msd7.i

Sample Info: 200mL#R11

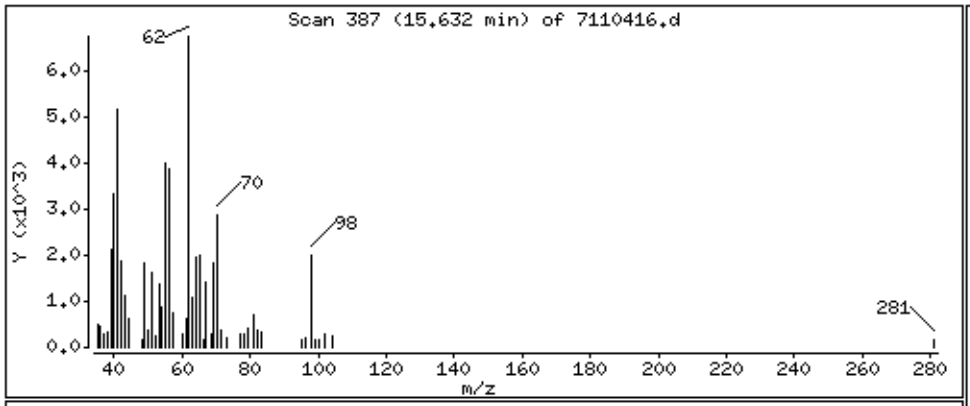
Operator: ab

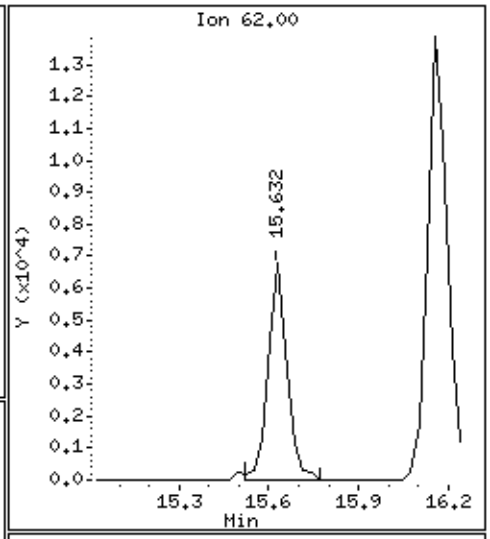
Column phase: RTx-624

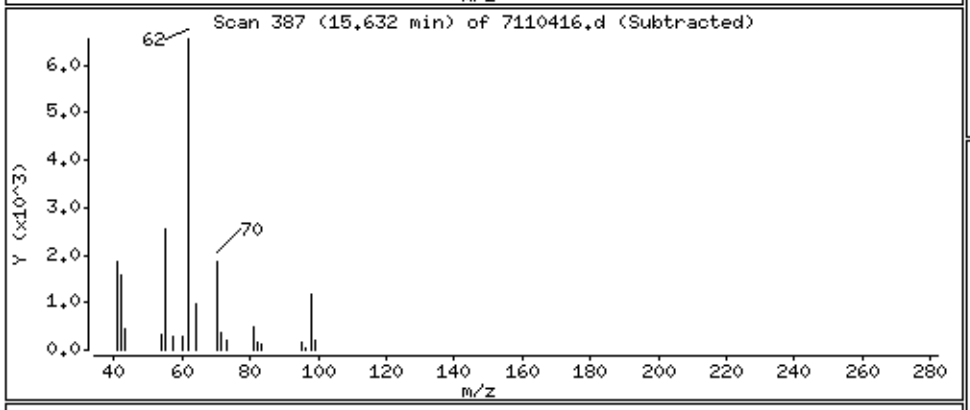
Column diameter: 0.53

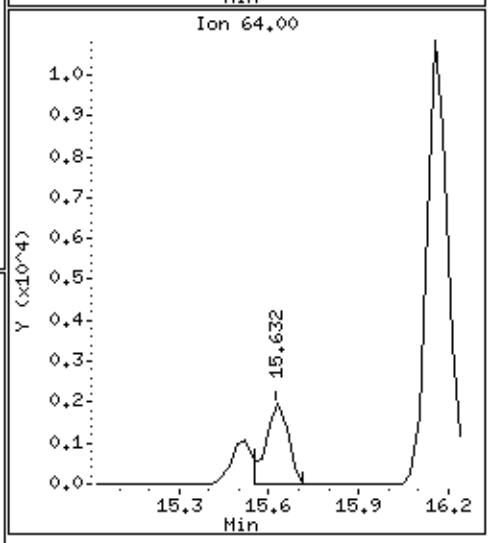
93 1,2-Dichloroethane

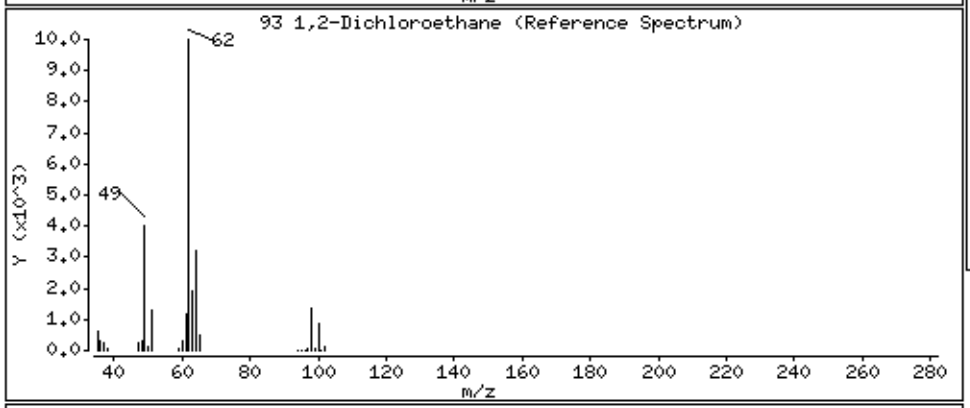
Concentration: 1.236 PPBV

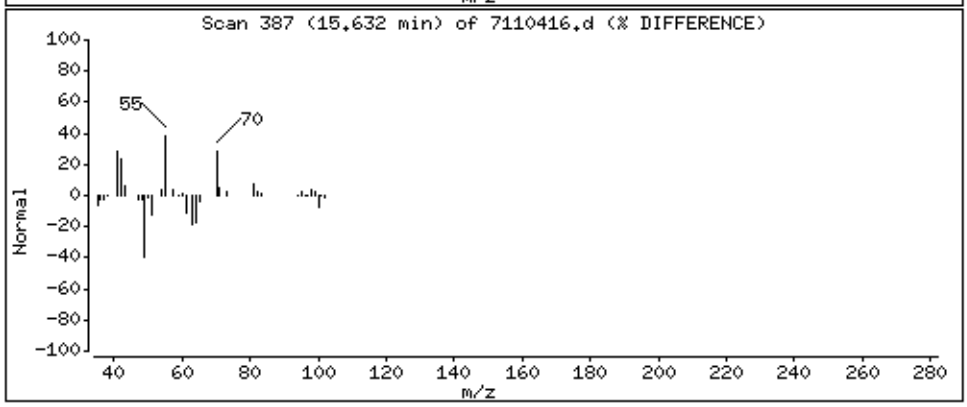












Data File: /chem/msd7.i/7-04nova.b/7110416.d

Date : 05-NOV-2007 05:36

Client ID:

Instrument: msd7.i

Sample Info: 200mL#R11

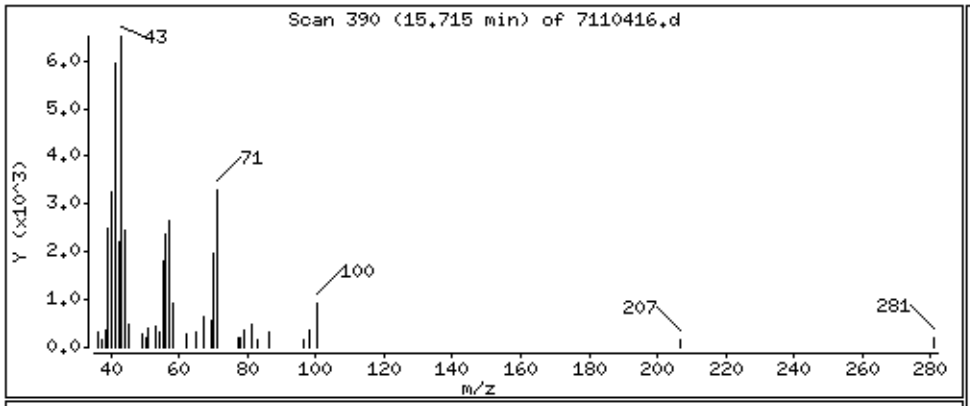
Operator: ab

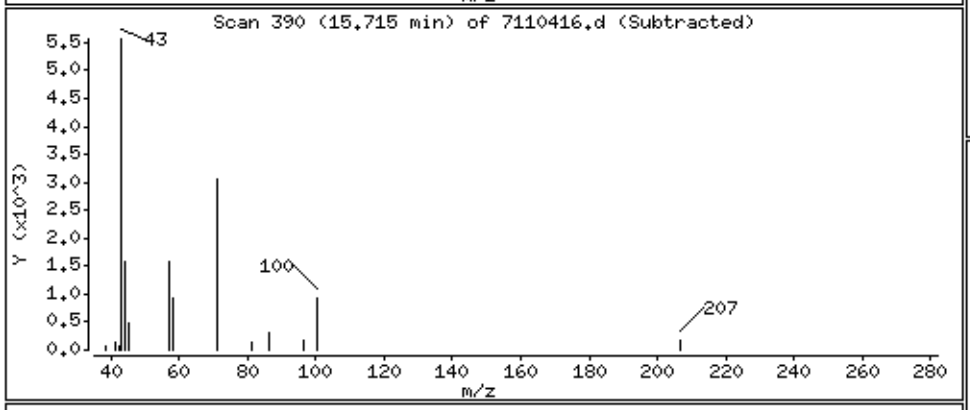
Column phase: RTx-624

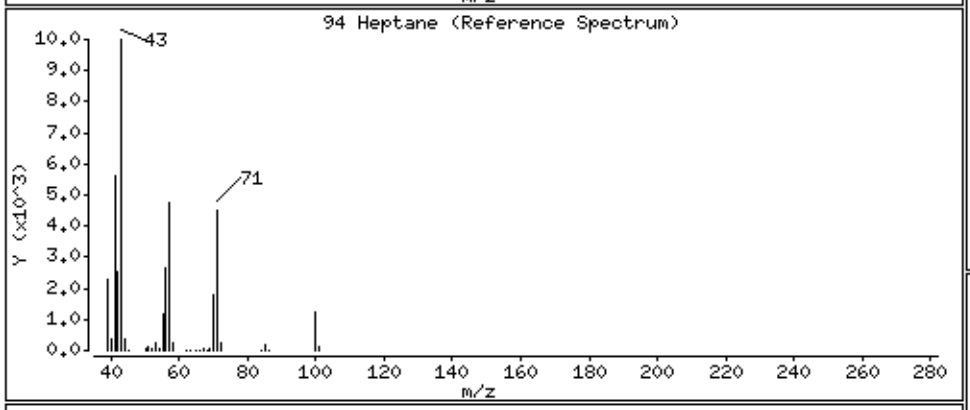
Column diameter: 0.53

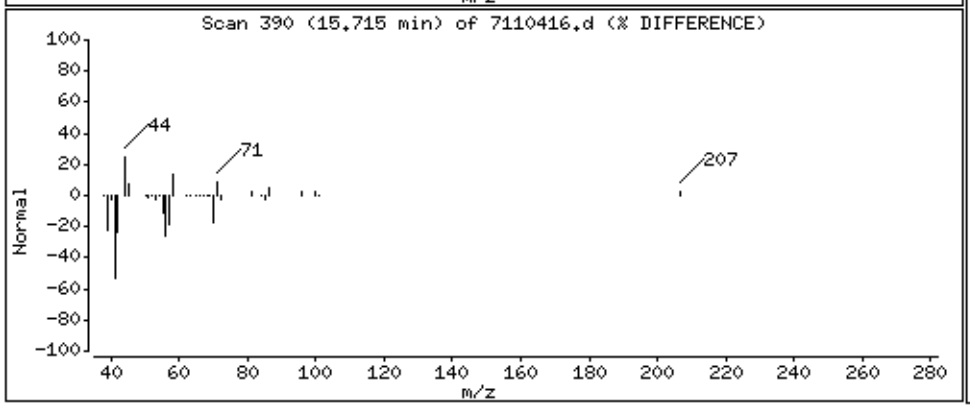
94 Heptane

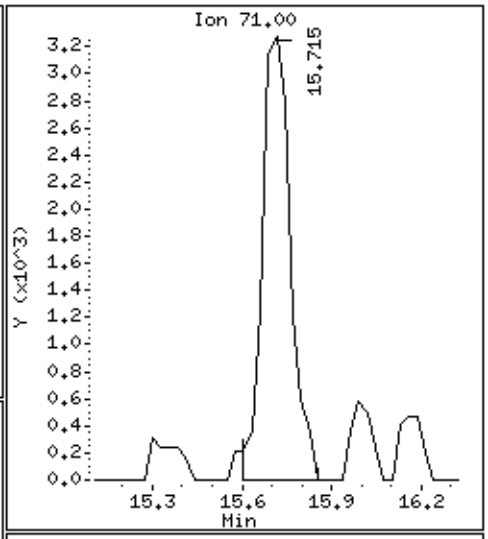
Concentration: 1.570 PPBV

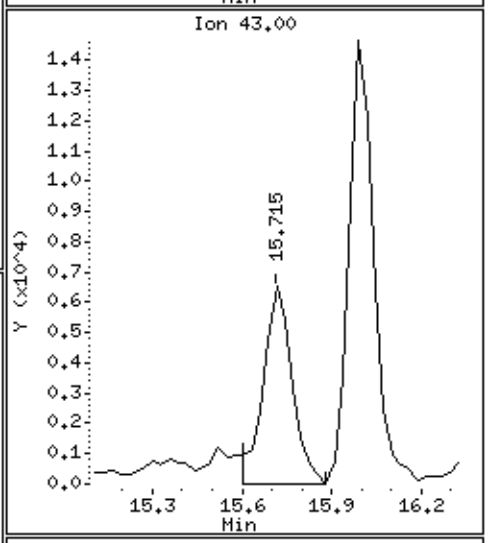


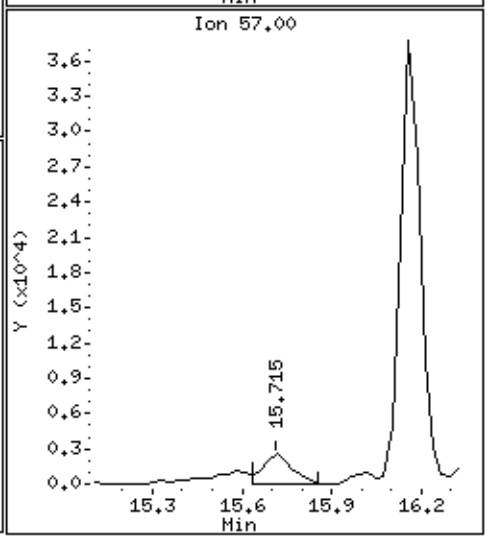












Data File: /chem/msd7.i/7-04nova.b/7110416.d

Date : 05-NOV-2007 05:36

Client ID:

Instrument: msd7.i

Sample Info: 200mL#R11

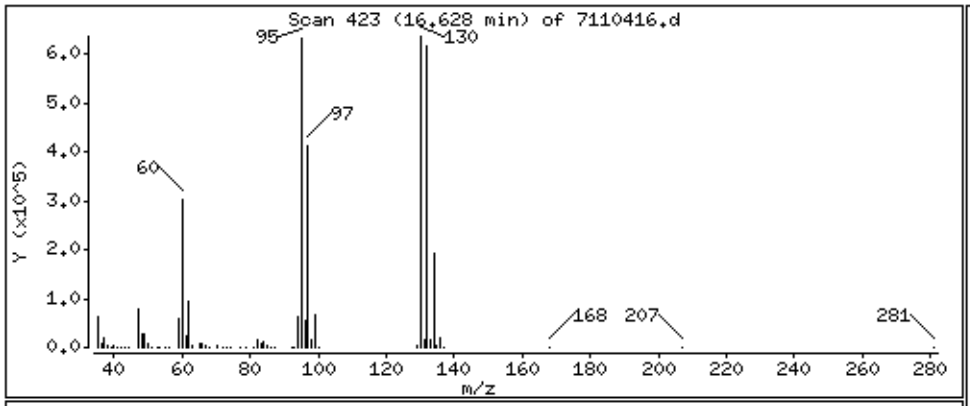
Operator: ab

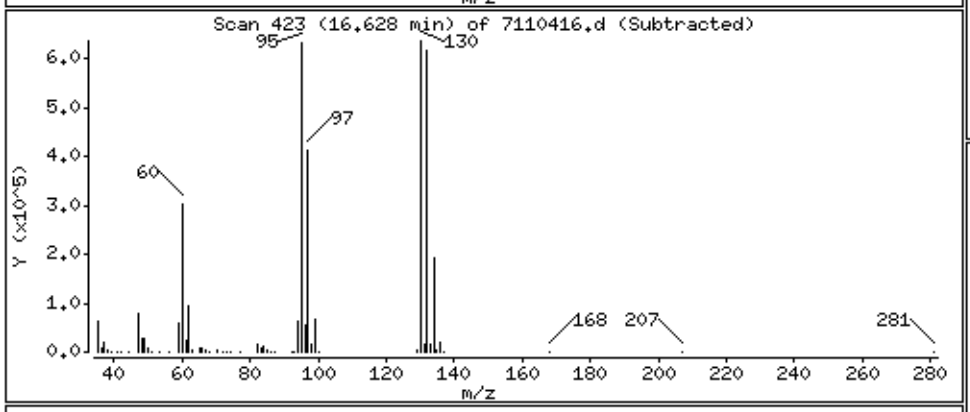
Column phase: RTx-624

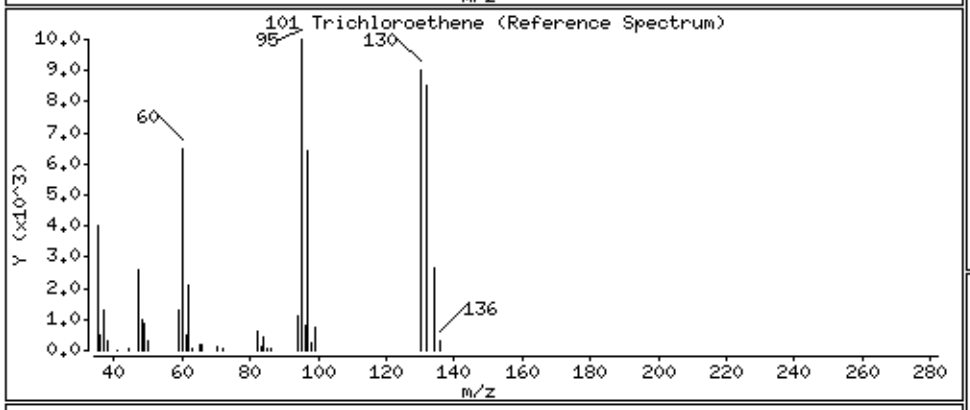
Column diameter: 0.53

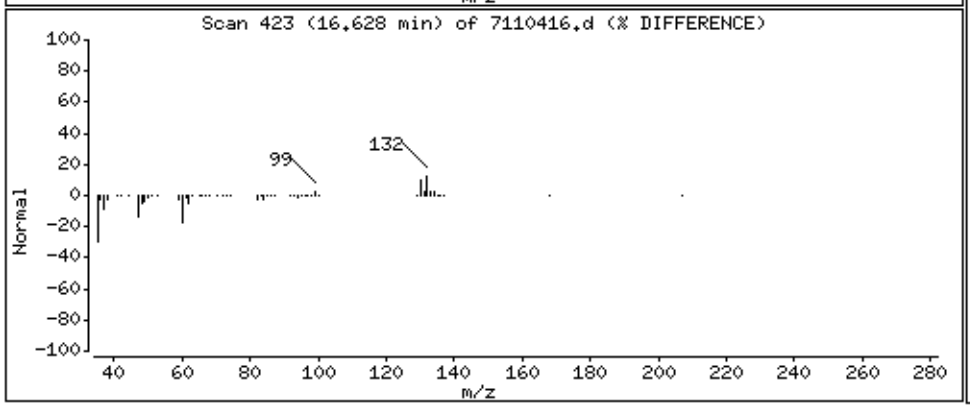
101 Trichloroethene

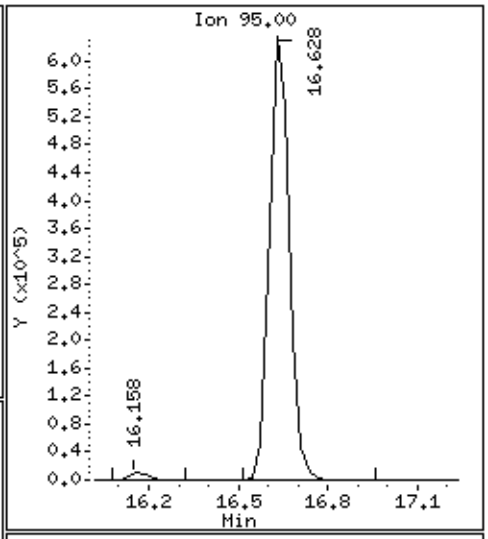
Concentration: 147.75 PPBV

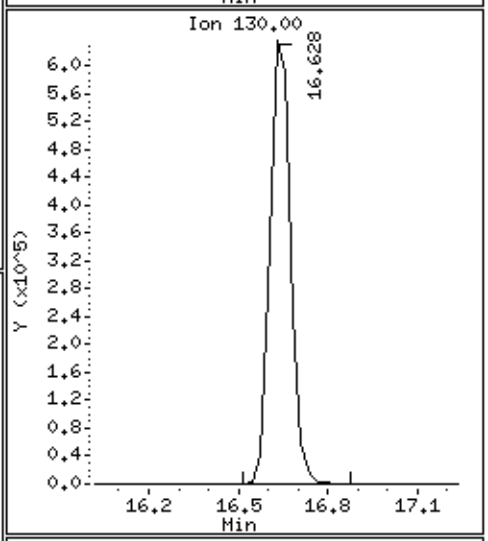


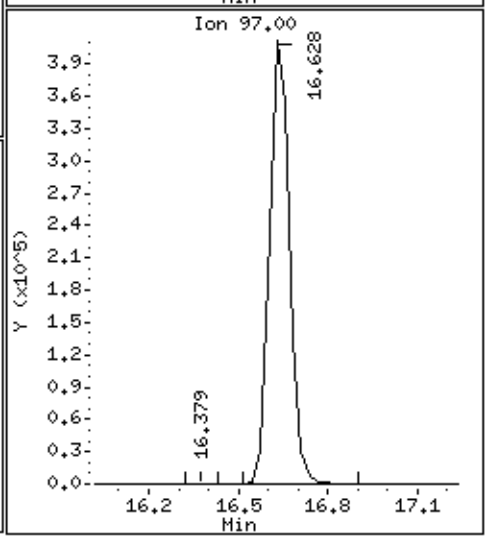












Data File: /chem/msd7.i/7-04nova.b/7110416.d

Date : 05-NOV-2007 05:36

Client ID:

Instrument: msd7.i

Sample Info: 200mL#R11

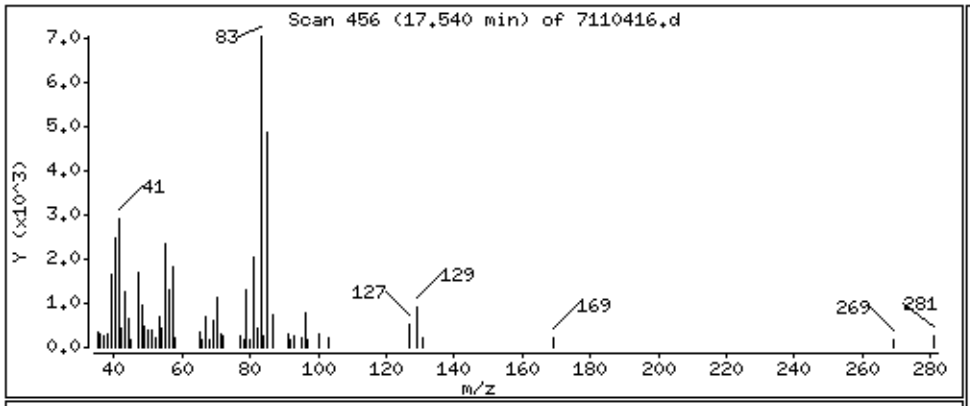
Operator: ab

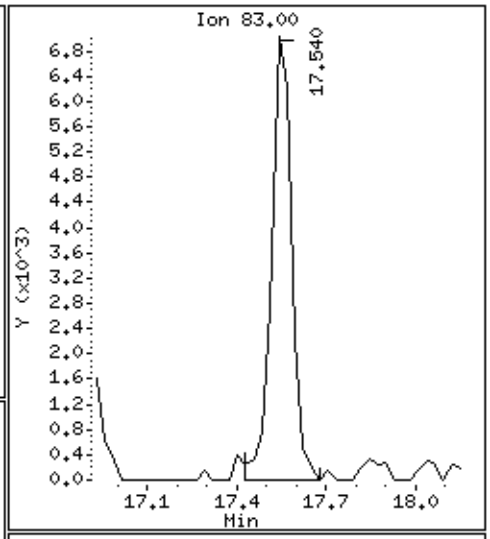
Column phase: RTx-624

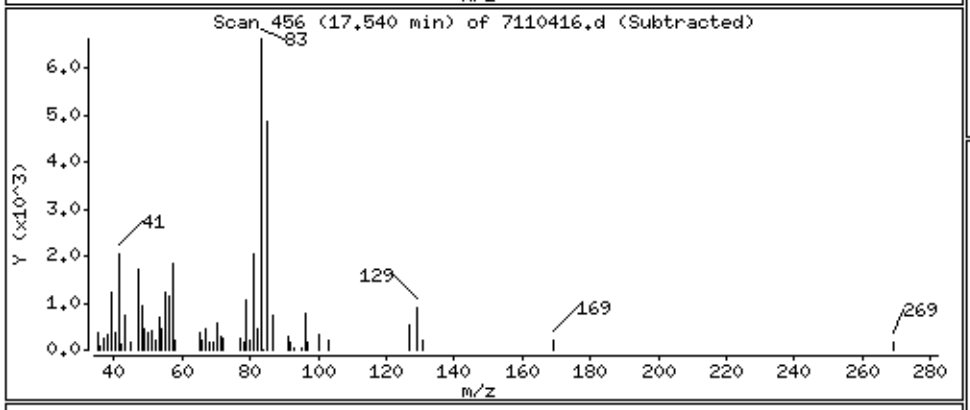
Column diameter: 0.53

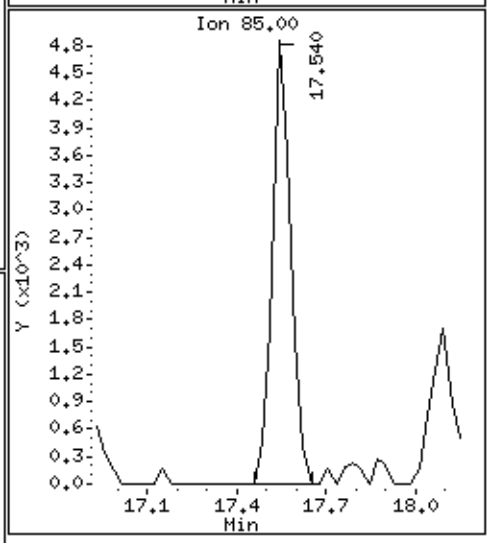
107 Bromodichloromethane

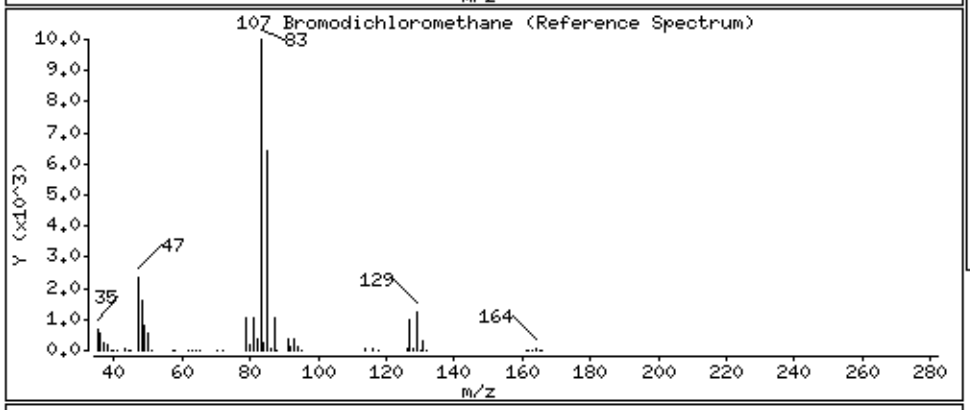
Concentration: 0.9624 PPBV

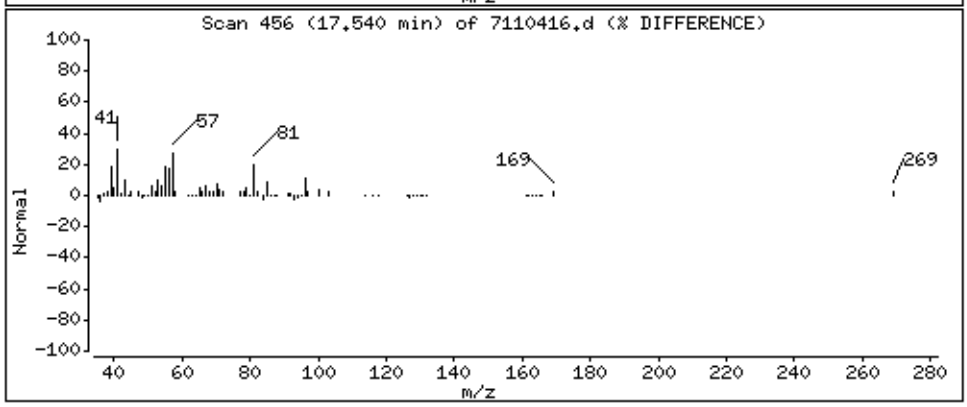












Data File: /chem/msd7.i/7-04nova.b/7110416.d

Date : 05-NOV-2007 05:36

Client ID:

Instrument: msd7.i

Sample Info: 200mL#R11

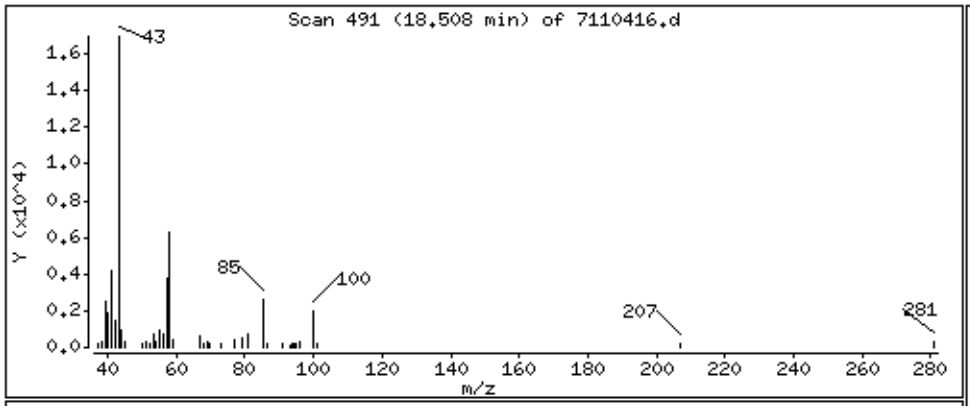
Operator: ab

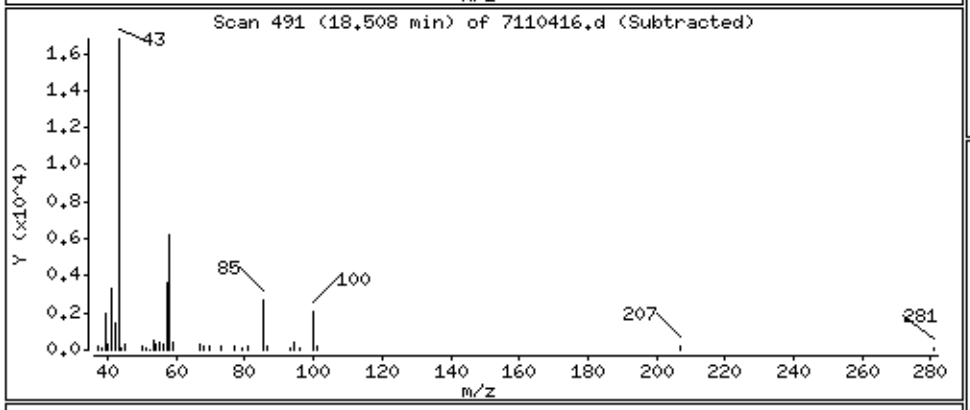
Column phase: RTx-624

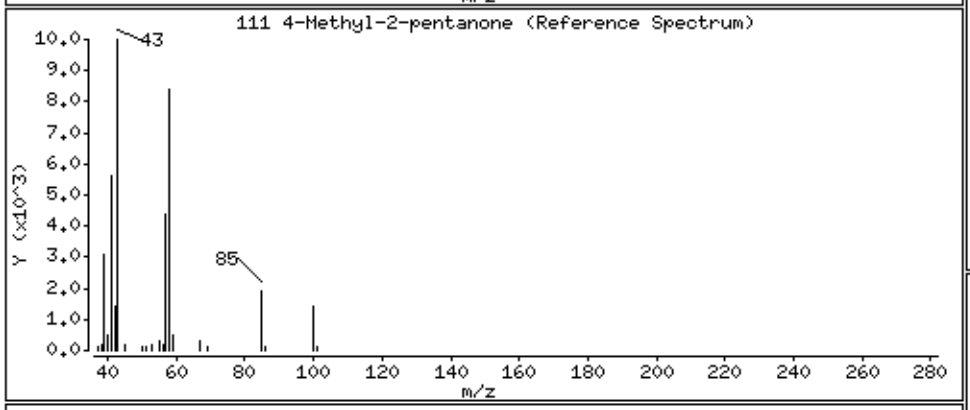
Column diameter: 0.53

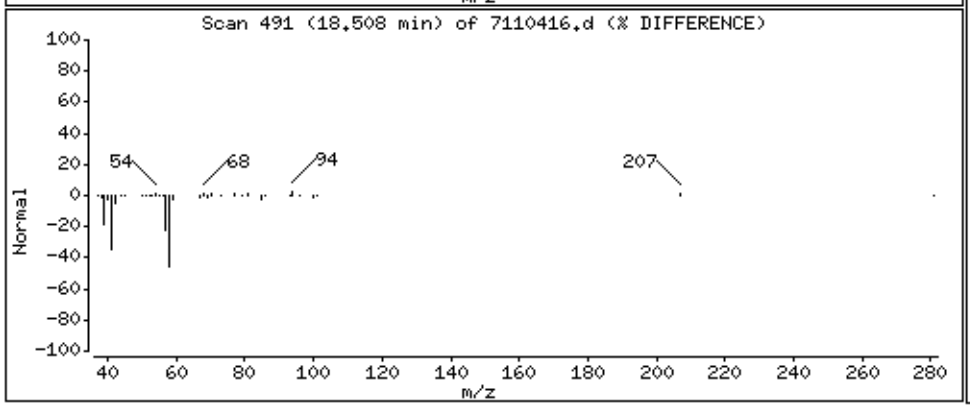
111 4-Methyl-2-pentanone

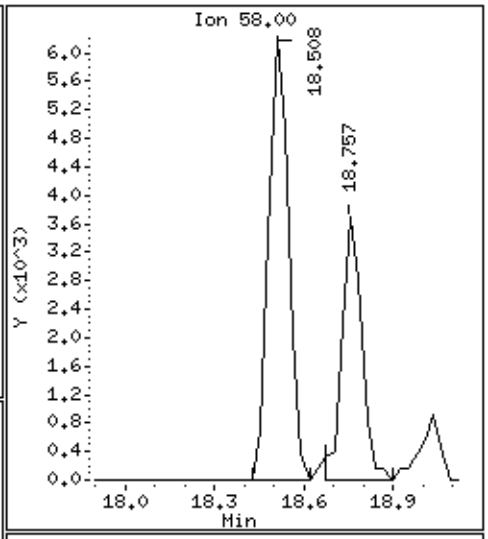
Concentration: 2.166 PPBV

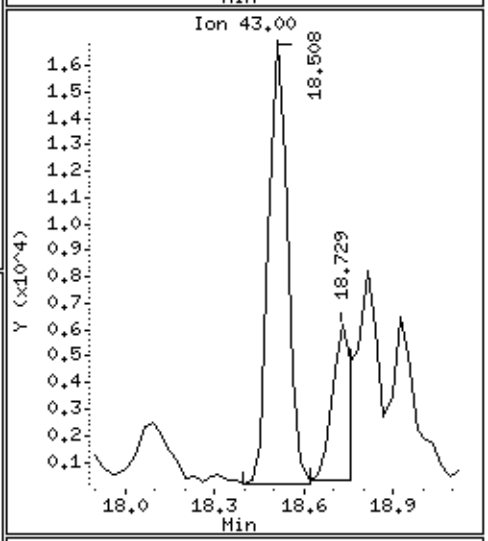


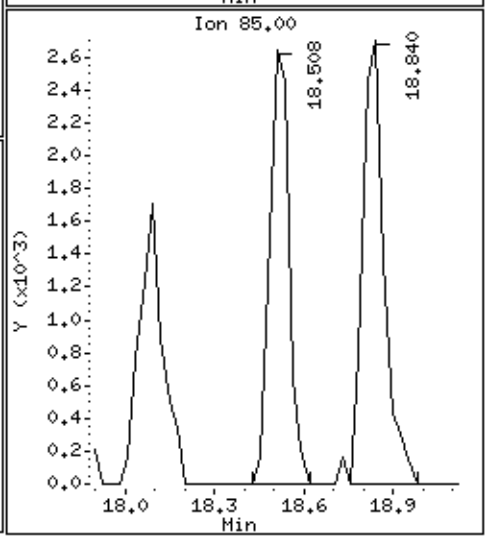












Data File: /chem/msd7.i/7-04nova.b/7110416.d

Date : 05-NOV-2007 05:36

Client ID:

Instrument: msd7.i

Sample Info: 200mL#R11

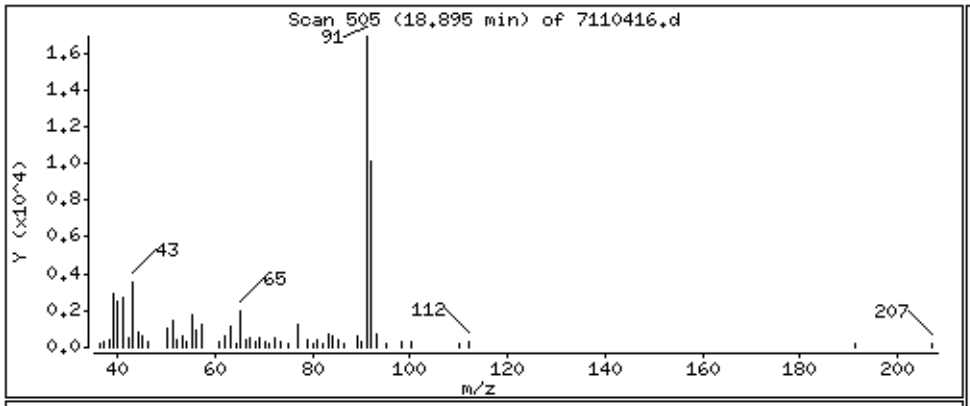
Operator: ab

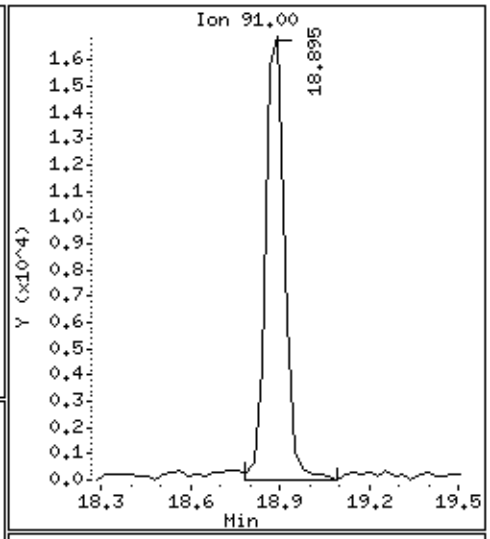
Column phase: RTx-624

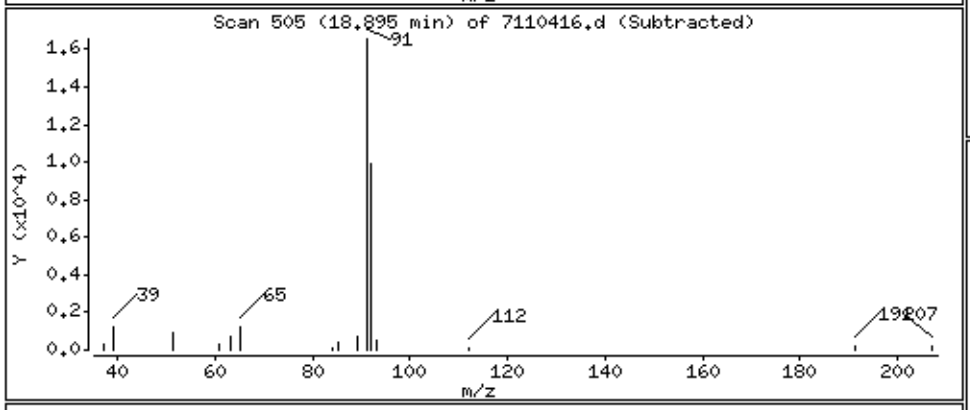
Column diameter: 0.53

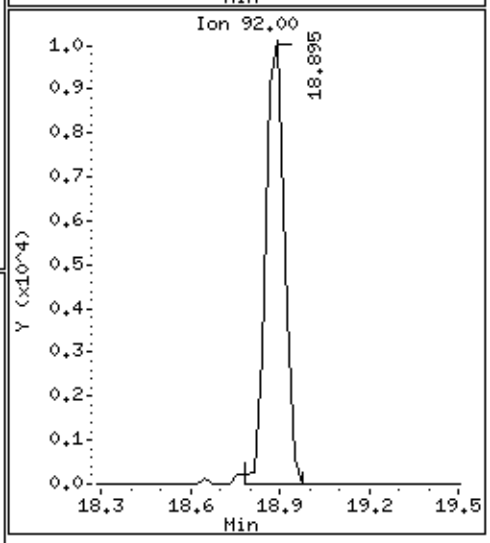
114 Toluene

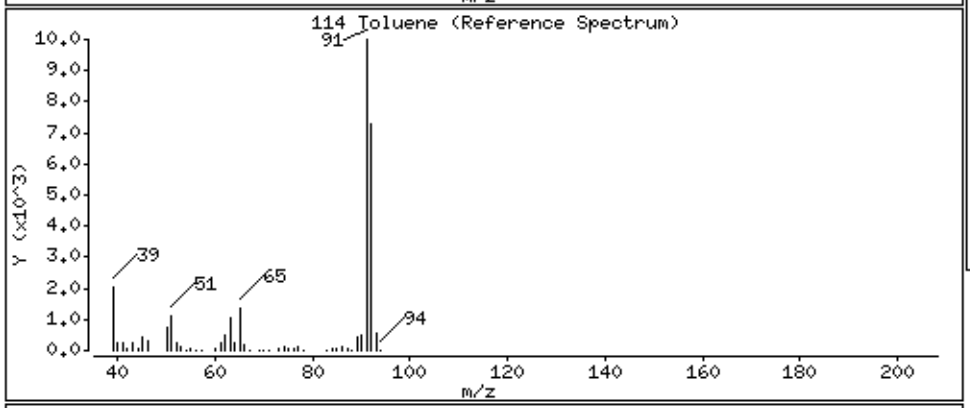
Concentration: 1.541 PPBV

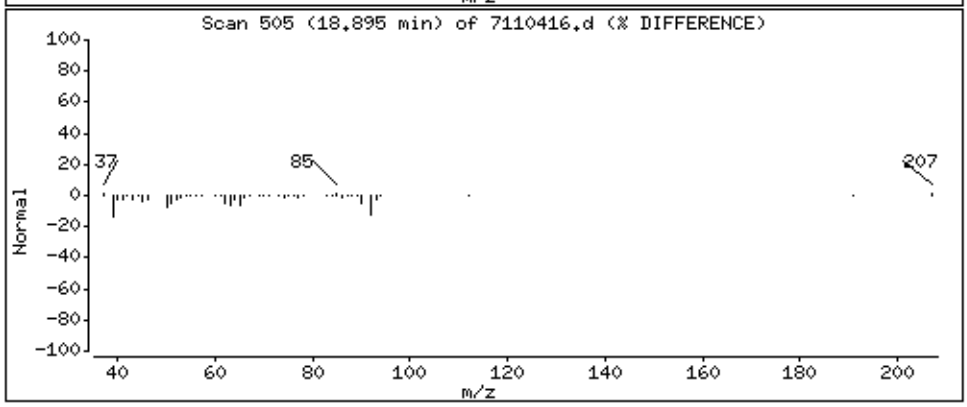












Data File: /chem/msd7.i/7-04nova.b/7110416.d

Date : 05-NOV-2007 05:36

Client ID:

Instrument: msd7.i

Sample Info: 200mL#R11

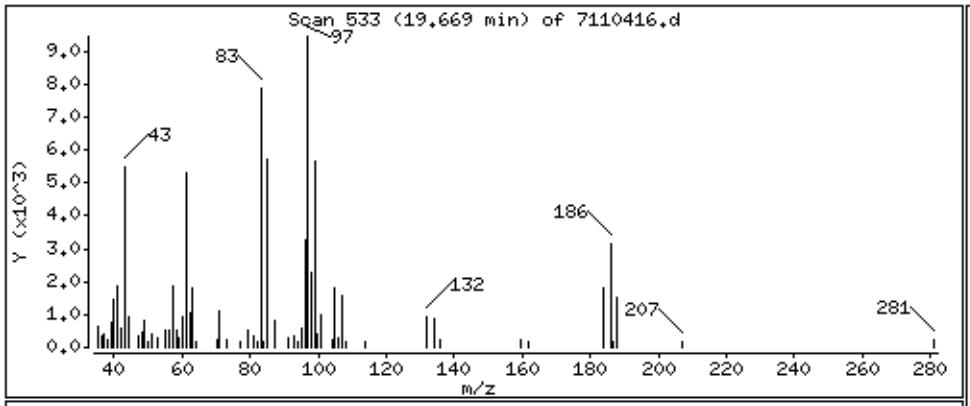
Operator: ab

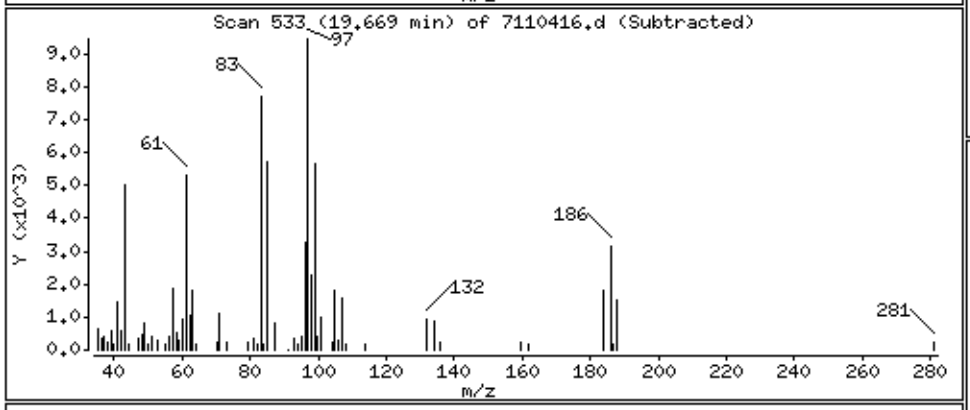
Column phase: RTx-624

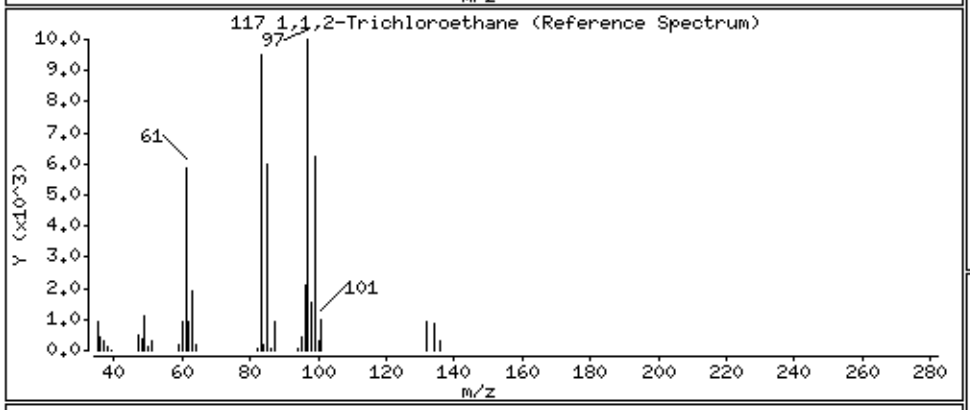
Column diameter: 0.53

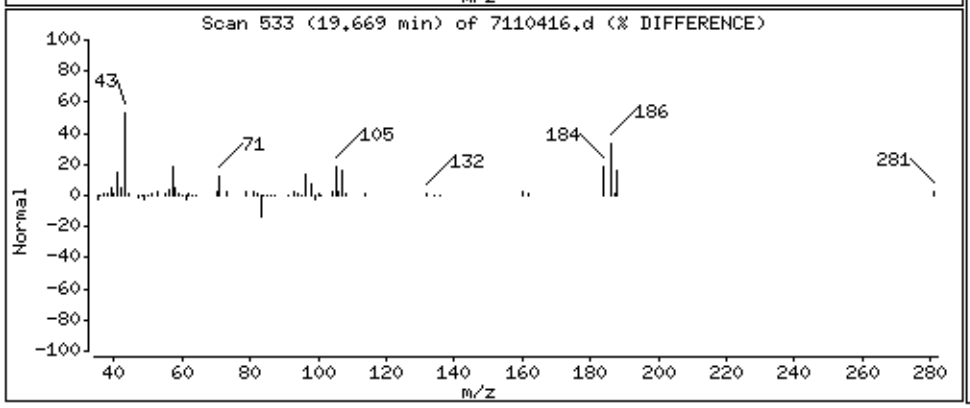
117 1,1,2-Trichloroethane

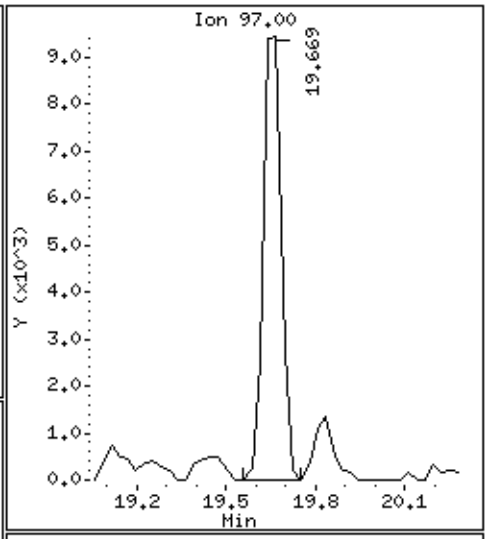
Concentration: 2.412 PPBV

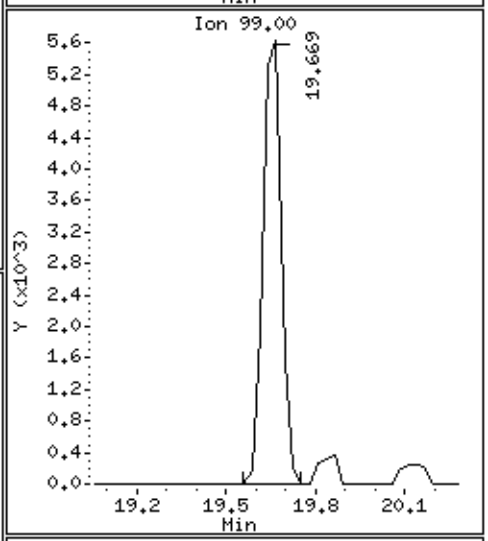


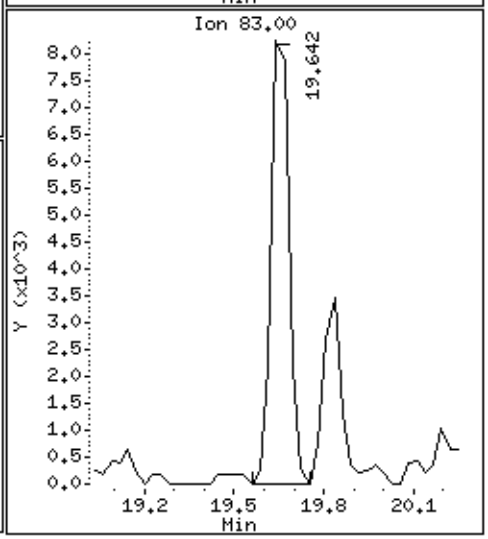












Data File: /chem/msd7.i/7-04nova.b/7110416.d

Date : 05-NOV-2007 05:36

Client ID:

Instrument: msd7.i

Sample Info: 200mL#R11

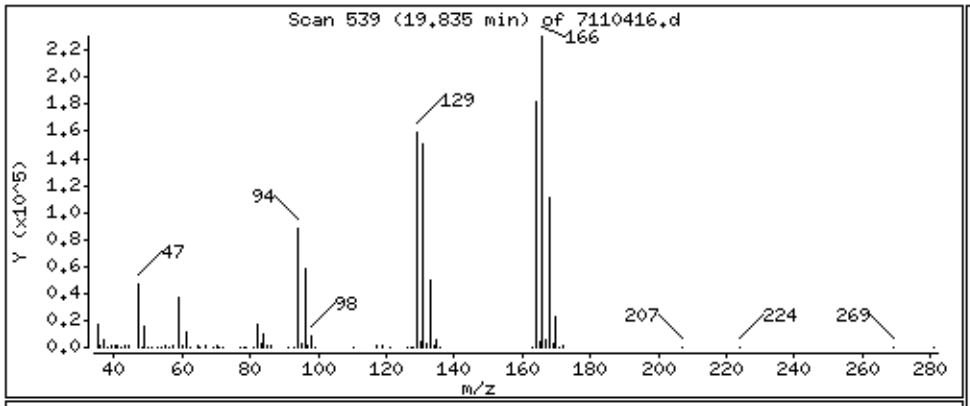
Operator: ab

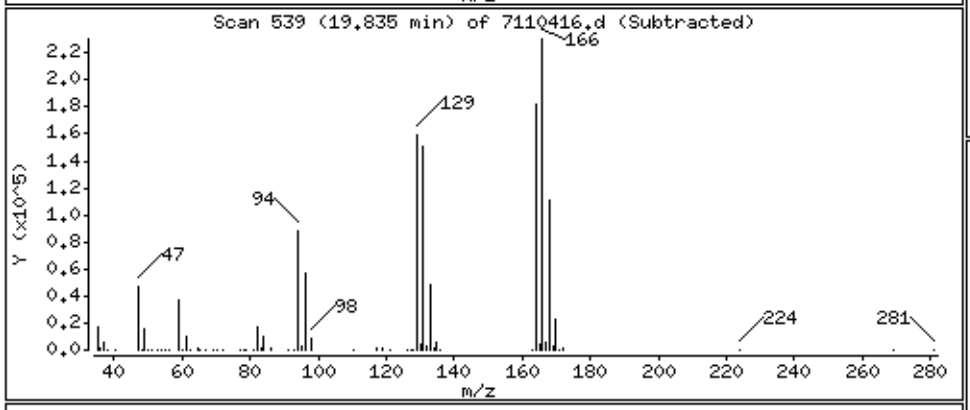
Column phase: RTx-624

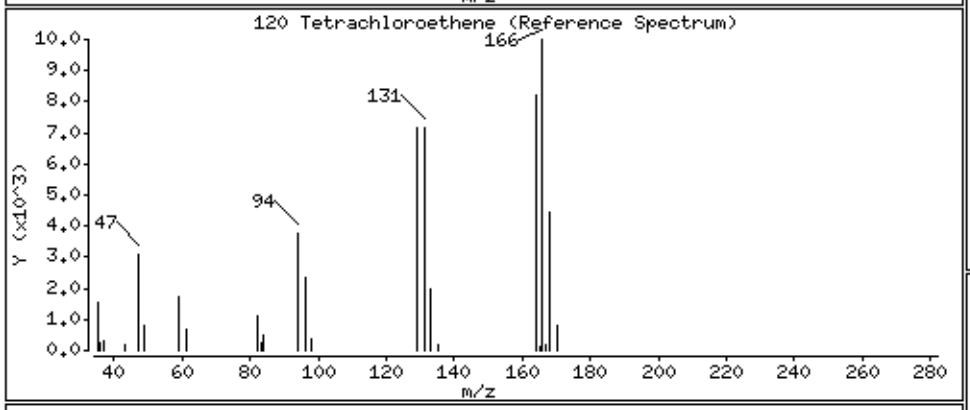
Column diameter: 0.53

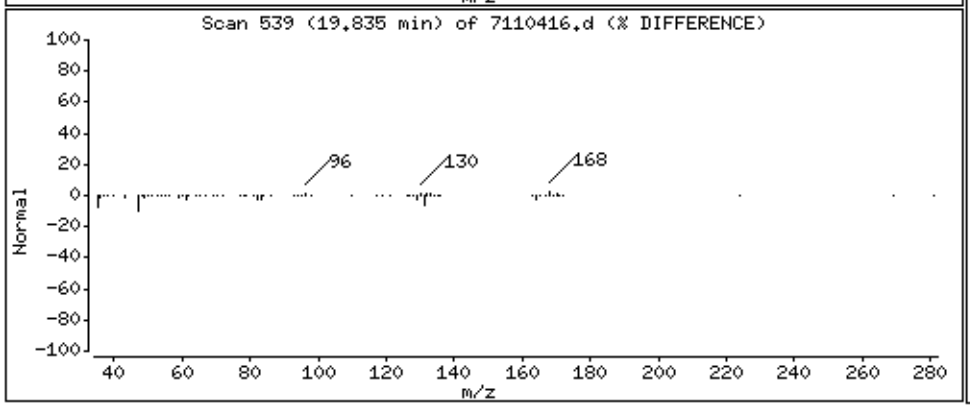
120 Tetrachloroethene

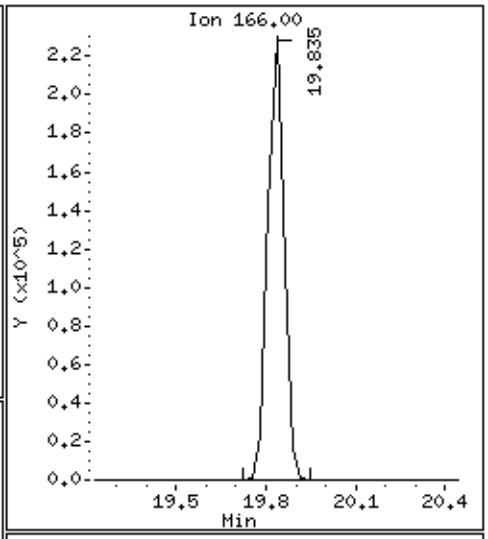
Concentration: 39.872 PPBV

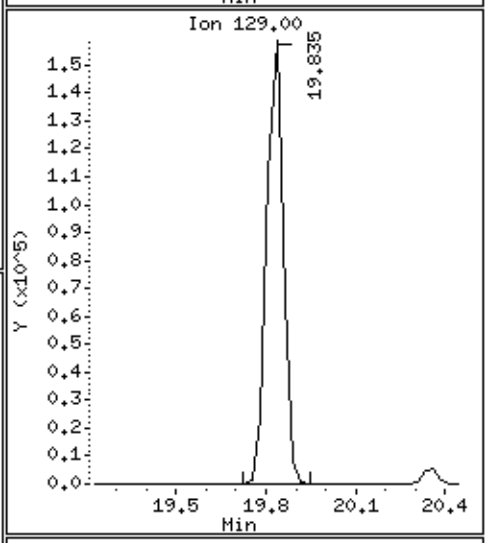


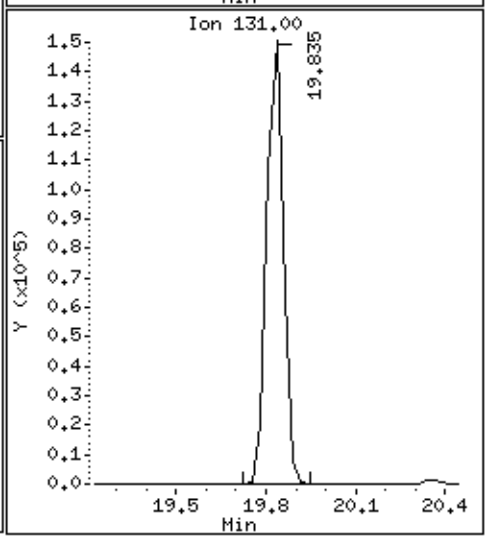












Data File: /chem/msd7.i/7-04nova.b/7110416.d

Date : 05-NOV-2007 05:36

Client ID:

Instrument: msd7.i

Sample Info: 200mL#R11

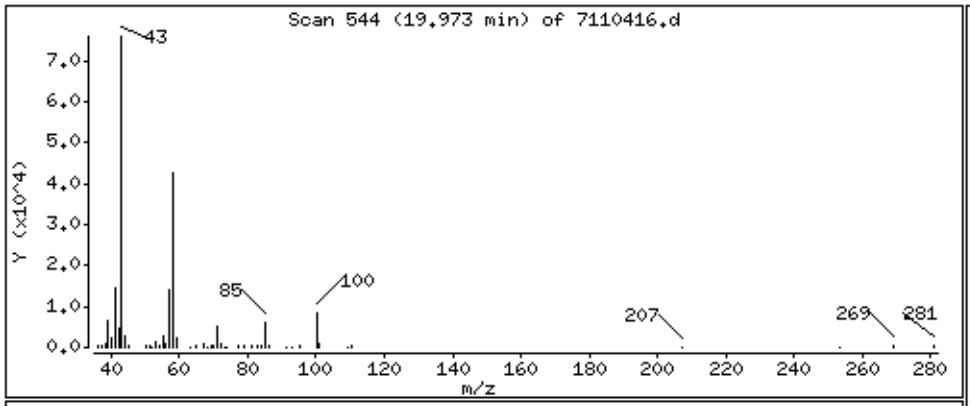
Operator: ab

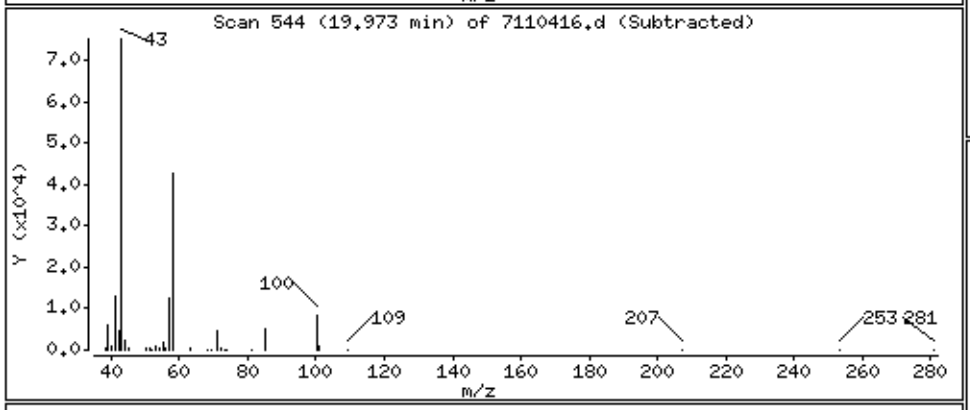
Column phase: RTx-624

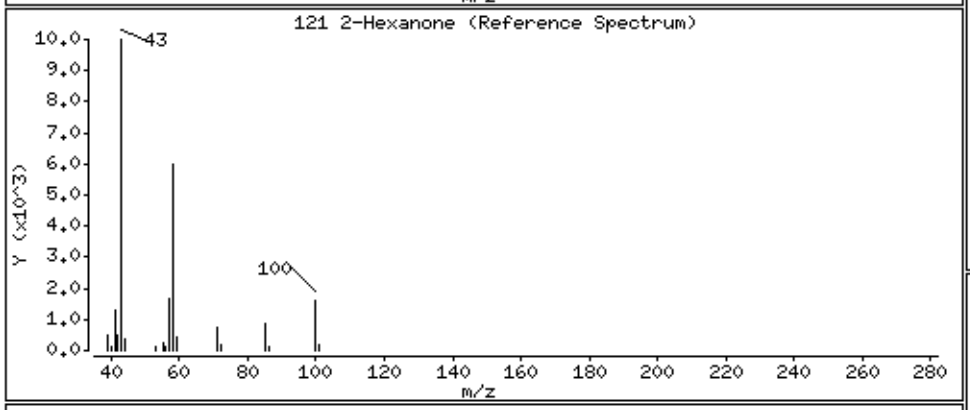
Column diameter: 0.53

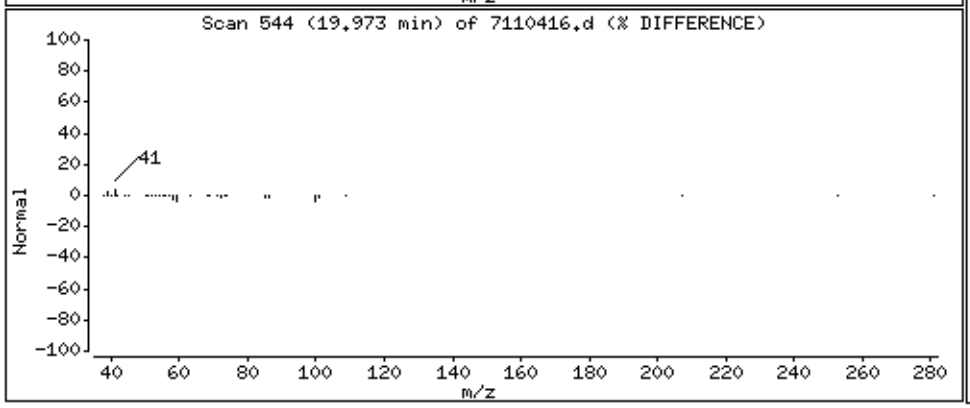
121 2-Hexanone

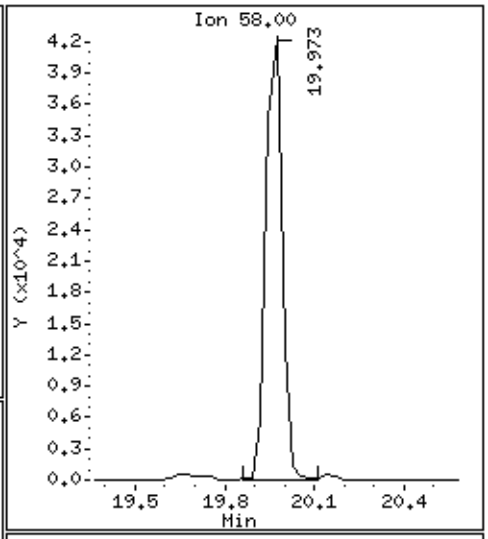
Concentration: 8.968 PPBV

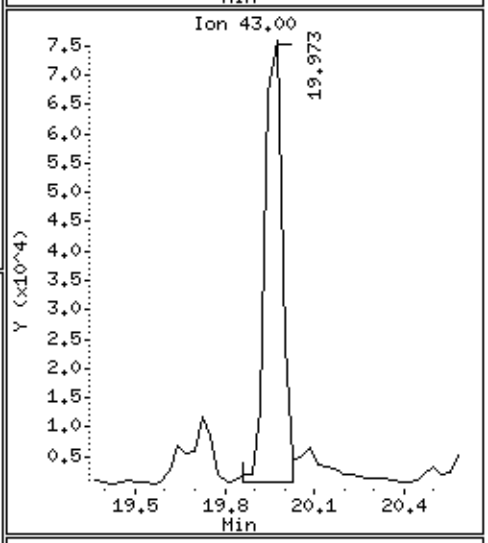


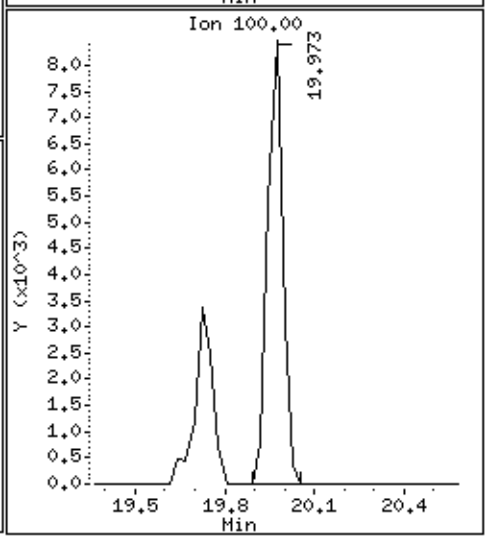












Data File: /chem/msd7.i/7-04nova.b/7110416.d

Date : 05-NOV-2007 05:36

Client ID:

Instrument: msd7.i

Sample Info: 200mL#R11

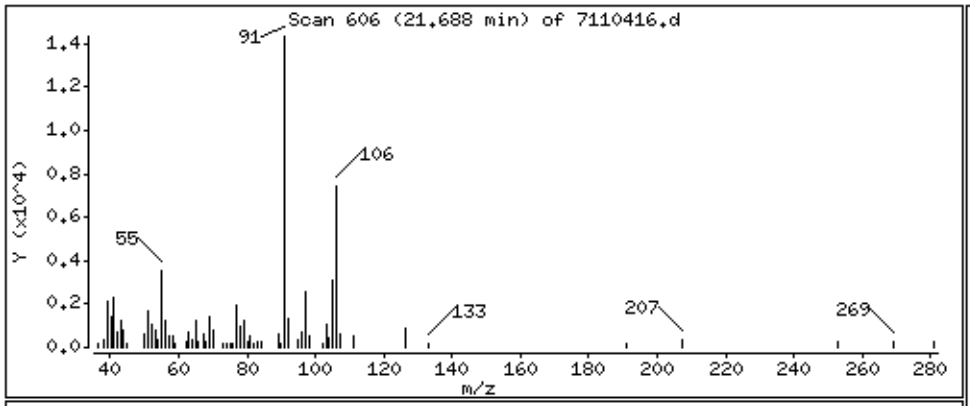
Operator: ab

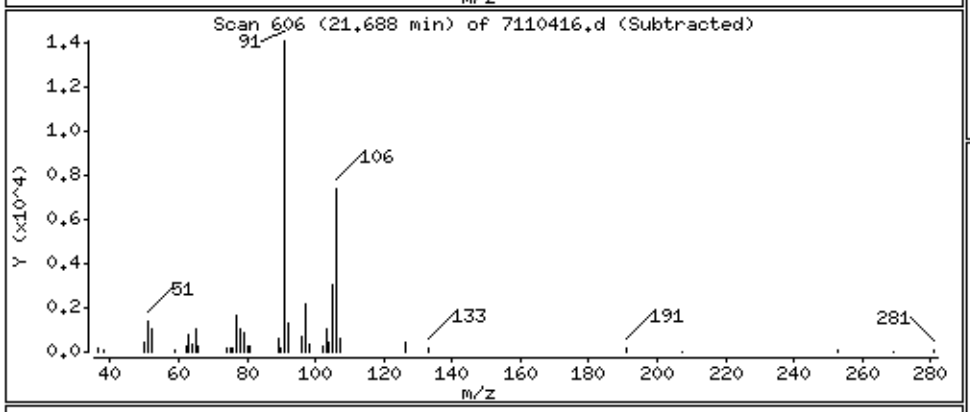
Column phase: RTx-624

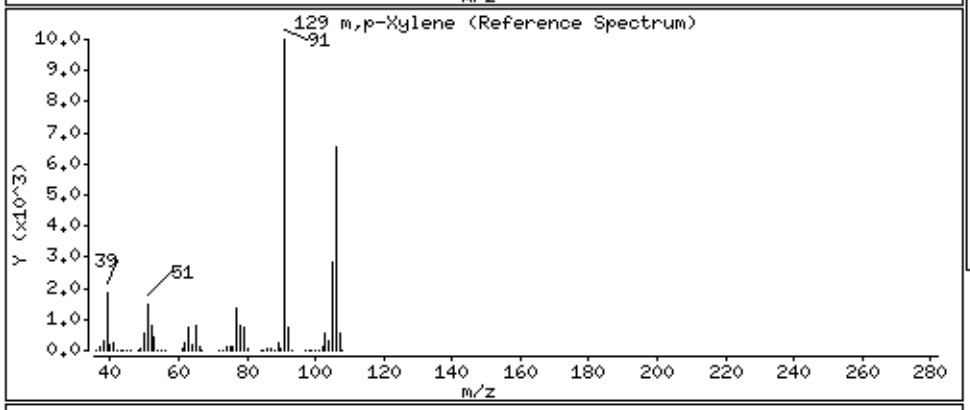
Column diameter: 0.53

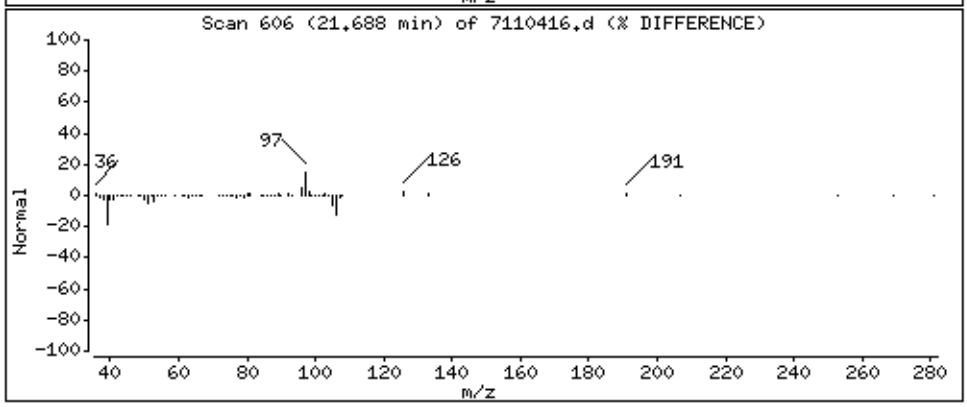
129 m,p-Xylene

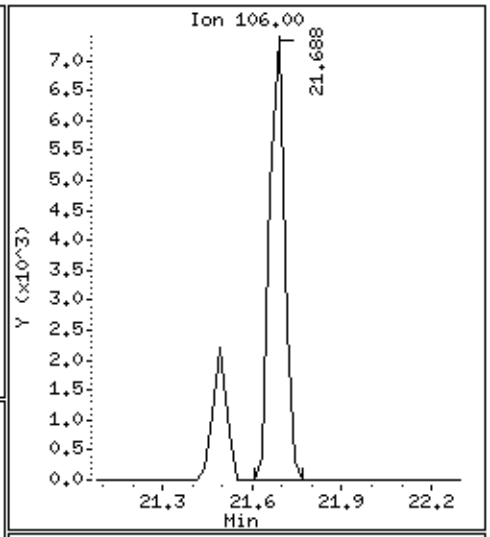
Concentration: 1.095 PPBV

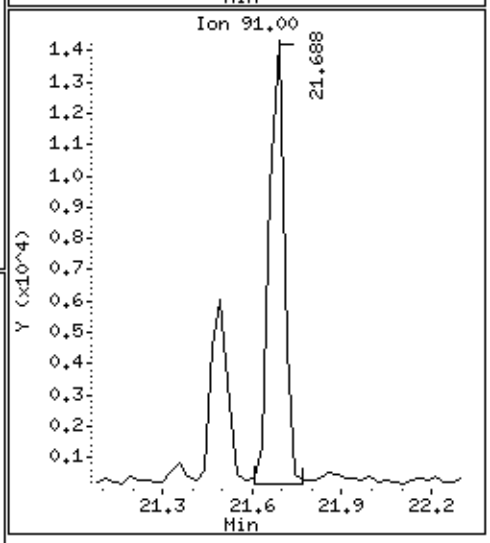












Data File: /chem/msd7.i/7-04nova.b/7110416.d

Date : 05-NOV-2007 05:36

Client ID:

Instrument: msd7.i

Sample Info: 200mL#R11

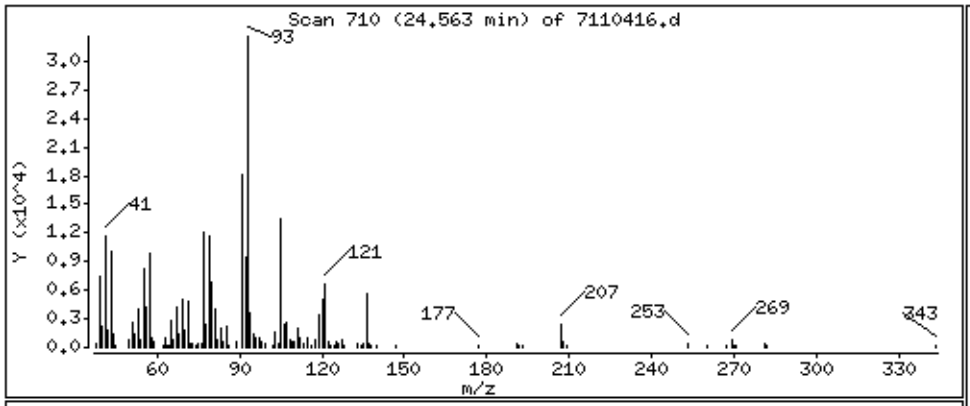
Operator: ab

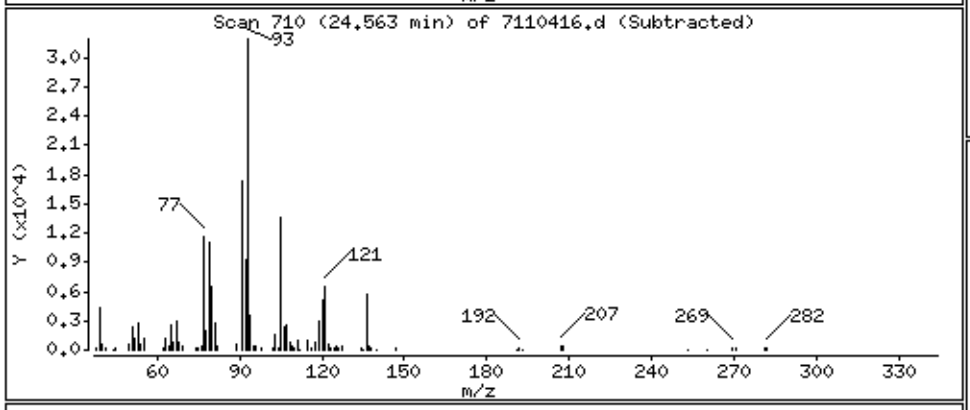
Column phase: RTx-624

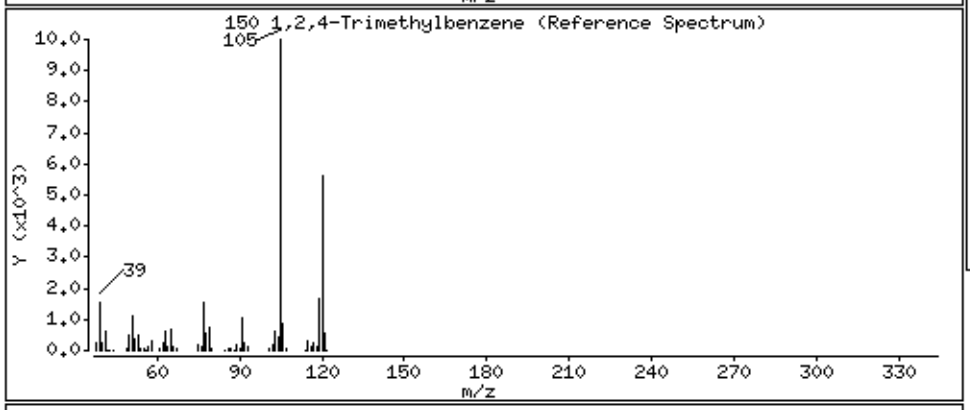
Column diameter: 0.53

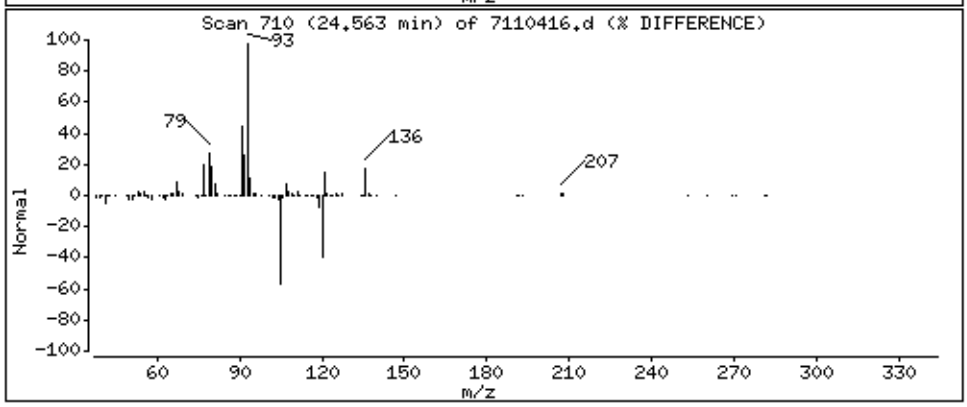
150 1,2,4-Trimethylbenzene

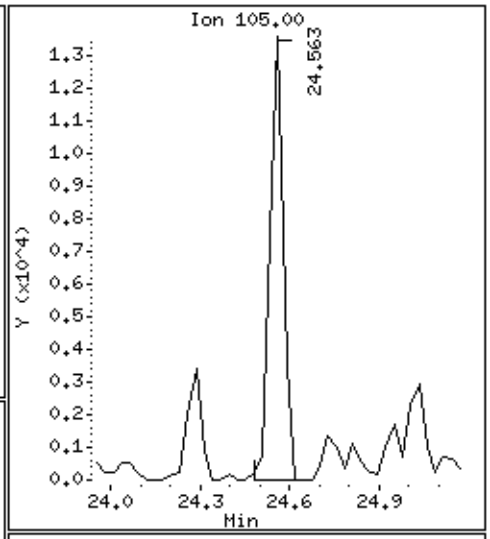
Concentration: 0.9712 PPBV

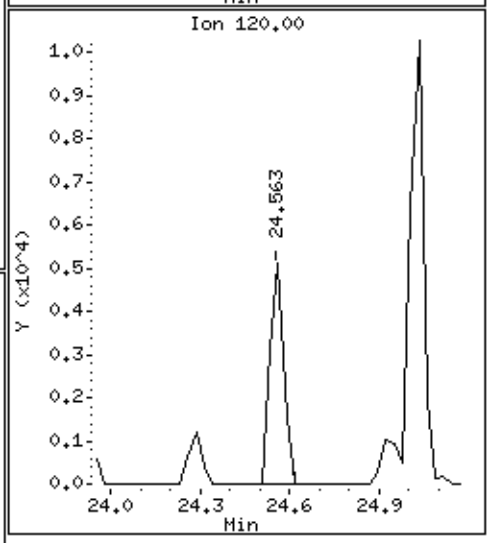












Data File: /chem/msd7.i/7-04nova.b/7110416.d

Date : 05-NOV-2007 05:36

Client ID:

Instrument: msd7.i

Sample Info: 200mL#R11

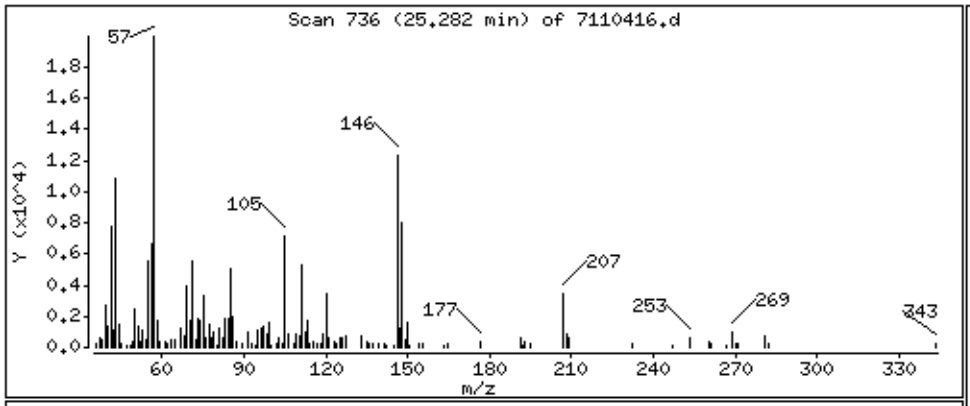
Operator: ab

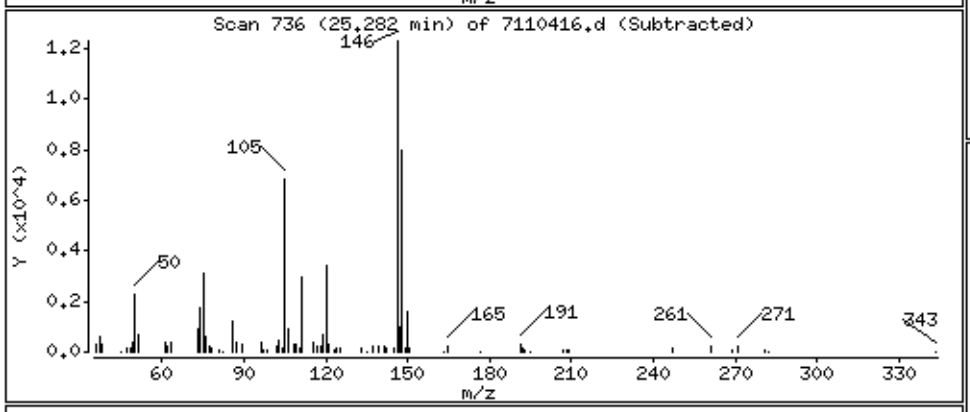
Column phase: RTx-624

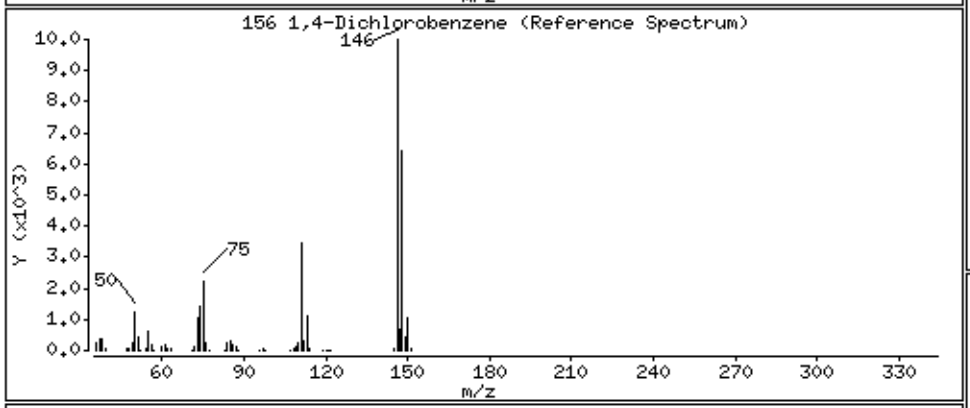
Column diameter: 0.53

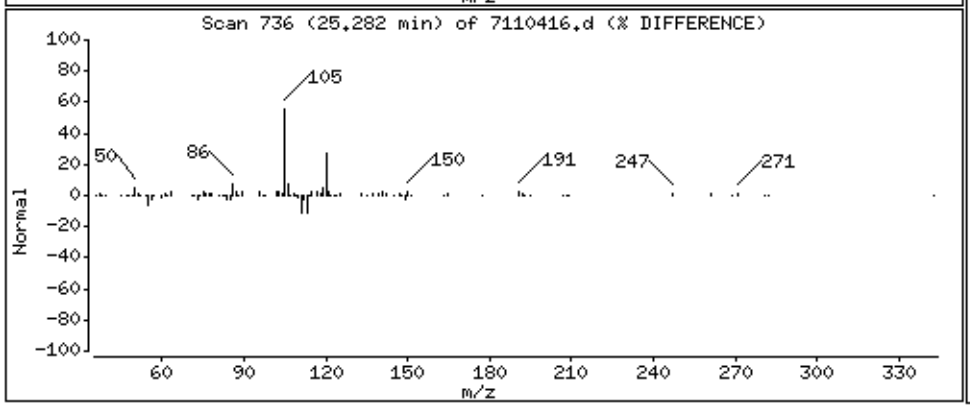
156 1,4-Dichlorobenzene

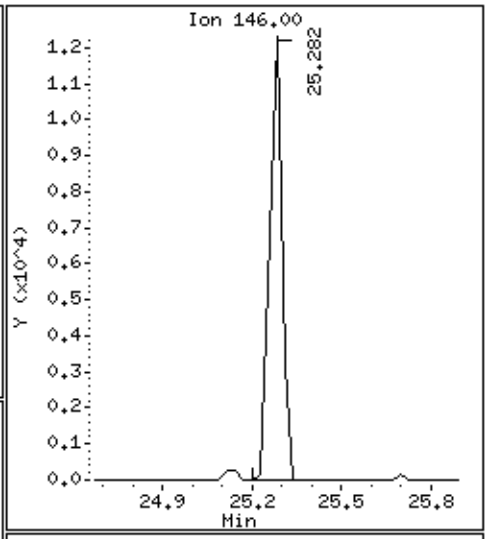
Concentration: 0.9975 PPBV

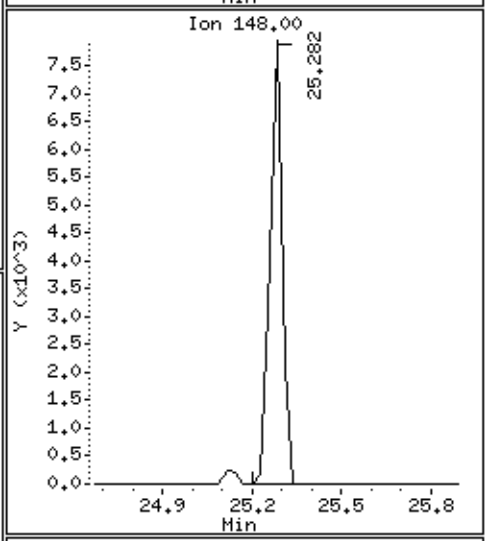


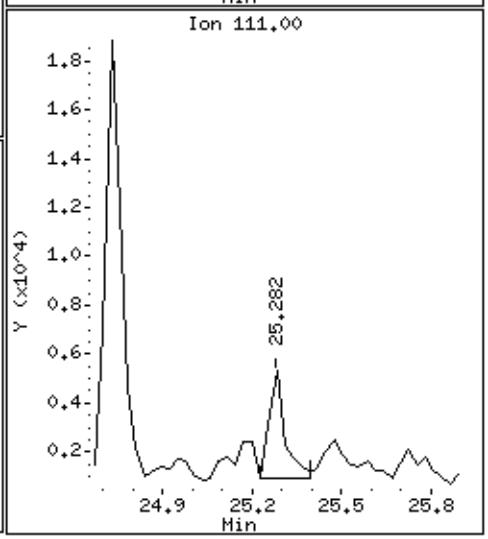












AN ENVIRONMENTAL ANALYTICAL LABORATORY

Summary of Detected Compounds
MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

Client Sample ID: MD21-07-6808

Lab ID#: 0711008-05A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Freon 12	0.92	1.4	4.5	6.9
1,3-Butadiene	0.92	17	2.0	38
Ethanol	3.7	4.6	6.9	8.6
Freon 113	0.92	1.1	7.0	8.5
Acetone	3.7	15	8.7	35
Carbon Disulfide	0.92	4.0	2.8	12
Methylene Chloride	0.92	15	3.2	52
Hexane	0.92	10	3.2	36
2-Butanone (Methyl Ethyl Ketone)	0.92	5.9	2.7	17
Tetrahydrofuran	0.92	1.6	2.7	4.9
Chloroform	0.92	68	4.5	330
1,1,1-Trichloroethane	0.92	3.2	5.0	17
Carbon Tetrachloride	0.92	16	5.8	100
Benzene	0.92	2.6	2.9	8.4
Heptane	0.92	5.8	3.7	24
Trichloroethene	0.92	51	4.9	280
Bromodichloromethane	0.92	0.99	6.1	6.6
4-Methyl-2-pentanone	0.92	1.3	3.7	5.5
Toluene	0.92	3.9	3.4	14
Tetrachloroethene	0.92	31	6.2	210
Dibromochloromethane	0.92	1.1	7.8	9.7
Ethyl Benzene	0.92	1.7	4.0	7.5
m,p-Xylene	0.92	4.8	4.0	21
o-Xylene	0.92	2.3	4.0	9.9
Bromoform	0.92	1.4	9.4	15
4-Ethyltoluene	0.92	2.0	4.5	9.8
1,3,5-Trimethylbenzene	0.92	0.92	4.5	4.5
1,2,4-Trimethylbenzene	0.92	11	4.5	54
n-Butanol	3.7	14	11	42
Propylene	3.7	400 E	6.3	690 E

AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: MD21-07-6808

Lab ID#: 0711008-05A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**7110418**	**Date of Collection:**	**10/30/07**
Dil. Factor:	**1.83**	**Date of Analysis:**	**11/5/07 07:24 AM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Freon 12	0.92	1.4	4.5	6.9
Freon 114	0.92	Not Detected	6.4	Not Detected
Chloromethane	3.7	Not Detected	7.6	Not Detected
Vinyl Chloride	0.92	Not Detected	2.3	Not Detected
1,3-Butadiene	0.92	17	2.0	38
Bromomethane	0.92	Not Detected	3.6	Not Detected
Chloroethane	0.92	Not Detected	2.4	Not Detected
Freon 11	0.92	Not Detected	5.1	Not Detected
Ethanol	3.7	4.6	6.9	8.6
Freon 113	0.92	1.1	7.0	8.5
1,1-Dichloroethene	0.92	Not Detected	3.6	Not Detected
Acetone	3.7	15	8.7	35
2-Propanol	3.7	Not Detected	9.0	Not Detected
Carbon Disulfide	0.92	4.0	2.8	12
Methylene Chloride	0.92	15	3.2	52
Methyl tert-butyl ether	0.92	Not Detected	3.3	Not Detected
trans-1,2-Dichloroethene	0.92	Not Detected	3.6	Not Detected
Hexane	0.92	10	3.2	36
1,1-Dichloroethane	0.92	Not Detected	3.7	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.92	5.9	2.7	17
cis-1,2-Dichloroethene	0.92	Not Detected	3.6	Not Detected
Tetrahydrofuran	0.92	1.6	2.7	4.9
Chloroform	0.92	68	4.5	330
1,1,1-Trichloroethane	0.92	3.2	5.0	17
Cyclohexane	0.92	Not Detected	3.1	Not Detected
Carbon Tetrachloride	0.92	16	5.8	100
Benzene	0.92	2.6	2.9	8.4
1,2-Dichloroethane	0.92	Not Detected	3.7	Not Detected
Heptane	0.92	5.8	3.7	24
Trichloroethene	0.92	51	4.9	280
1,2-Dichloropropane	0.92	Not Detected	4.2	Not Detected
1,4-Dioxane	3.7	Not Detected	13	Not Detected
Bromodichloromethane	0.92	0.99	6.1	6.6
cis-1,3-Dichloropropene	0.92	Not Detected	4.2	Not Detected
4-Methyl-2-pentanone	0.92	1.3	3.7	5.5
Toluene	0.92	3.9	3.4	14
trans-1,3-Dichloropropene	0.92	Not Detected	4.2	Not Detected
1,1,2-Trichloroethane	0.92	Not Detected	5.0	Not Detected
Tetrachloroethene	0.92	31	6.2	210

AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: MD21-07-6808

Lab ID#: 0711008-05A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**7110418**	**Date of Collection:**	**10/30/07**
Dil. Factor:	**1.83**	**Date of Analysis:**	**11/5/07 07:24 AM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
2-Hexanone	3.7	Not Detected	15	Not Detected
Dibromochloromethane	0.92	1.1	7.8	9.7
1,2-Dibromoethane (EDB)	0.92	Not Detected	7.0	Not Detected
Chlorobenzene	0.92	Not Detected	4.2	Not Detected
Ethyl Benzene	0.92	1.7	4.0	7.5
m,p-Xylene	0.92	4.8	4.0	21
o-Xylene	0.92	2.3	4.0	9.9
Styrene	0.92	Not Detected	3.9	Not Detected
Bromoform	0.92	1.4	9.4	15
1,1,2,2-Tetrachloroethane	0.92	Not Detected	6.3	Not Detected
4-Ethyltoluene	0.92	2.0	4.5	9.8
1,3,5-Trimethylbenzene	0.92	0.92	4.5	4.5
1,2,4-Trimethylbenzene	0.92	11	4.5	54
1,3-Dichlorobenzene	0.92	Not Detected	5.5	Not Detected
1,4-Dichlorobenzene	0.92	Not Detected	5.5	Not Detected
alpha-Chlorotoluene	0.92	Not Detected	4.7	Not Detected
1,2-Dichlorobenzene	0.92	Not Detected	5.5	Not Detected
1,2,4-Trichlorobenzene	3.7	Not Detected	27	Not Detected
Hexachlorobutadiene	3.7	Not Detected	39	Not Detected
Chlorodifluoromethane	3.7	Not Detected	13	Not Detected
Methanol	92	Not Detected	120	Not Detected
n-Butanol	3.7	14	11	42
Propylene	3.7	400 E	6.3	690 E

E = Exceeds instrument calibration range.

Container Type: 6 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	94	70-130
1,2-Dichloroethane-d4	89	70-130
4-Bromofluorobenzene	102	70-130

Air Toxics Ltd.

AMBIENT AIR METHOD TO14

Data file : /chem/msd7.i/7-04nova.b/7110418.d
Lab Smp Id: 0711008-05A
Inj Date : 05-NOV-2007 07:24
Operator : lo Inst ID: msd7.i
Smp Info : 200mL#14003
Misc Info : 8.0"Hg-5psi
Comment :
Method : /chem/msd7.i/7-04nova.b/t14qO18c.m
Meth Date : 05-Nov-2007 00:40 dmendoza Quant Type: ISTD
Cal Date : 30-OCT-2007 11:10 Cal File: 7103005.d
Als bottle: 1
Dil Factor: 1.83000
Integrator: HP RTE Compound Sublist: Los2153.sub
Target Version: 3.50 Sample Matrix: AIR
Processing Host: eeyore

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

RT	EXP RT (REL RT)	MASS	RESPONSE	CONCENTRATIONS ON-COL (PPBV)	FINAL (PPBV)	TARGET RANGE	RATIO
* 81 Bromochloromethane					CAS #: 74-97-5		
14.416	14.388 (1.000)	130	627788	25.0000		80.00- 120.00	100.00
14.416	14.388 (1.000)	128	483452			28.08- 128.08	77.01
14.416	14.388 (1.000)	49	1048785			128.80- 228.80	167.06
* 97 1,4-Difluorobenzene					CAS #: 540-36-3		
16.158	16.158 (1.000)	114	2116809	25.0000		80.00- 120.00	100.00
16.158	16.158 (1.000)	88	311715			0.00- 64.88	14.73
* 126 Chlorobenzene-d5					CAS #: 3114-55-4		
21.356	21.356 (1.000)	117	1715571	25.0000		80.00- 120.00	100.00
21.356	21.356 (1.000)	82	869038			4.45- 104.45	50.66
$ 90 1,2-Dichloroethane-d4					CAS #: 17060-07-0		
15.494	15.494 (1.075)	65	749801	22.2322	22.232	80.00- 120.00	100.00
15.494	15.494 (1.075)	67	415327			2.91- 102.91	55.39
$ 113 Toluene-d8					CAS #: 2037-26-5		
18.757	18.757 (1.161)	98	1775906	23.6335	23.633	80.00- 120.00	100.00
18.757	18.757 (1.161)	70	292241			0.00- 61.46	16.46

```
                                        CONCENTRATIONS
                                        ON-COL    FINAL
   RT   EXP RT (REL RT)  MASS  RESPONSE ( PPBV)  ( PPBV)   TARGET RANGE    RATIO
   ==   ====== ========  ====  ======== =======  =======   ============    =====

$ 113 Toluene-d8 (continued)
 18.757  18.757 (1.161)   100   1245533                   19.18- 119.18    70.14
-------------------------------------------------------------------------------
$ 137 Bromofluorobenzene                            CAS #: 460-00-4
 23.347  23.347 (1.093)   174   1037986 25.4263   25.426  80.00- 120.00   100.00
 23.319  23.319 (1.092)    95   1239414                   63.49- 163.49   119.41
 23.347  23.347 (1.093)   176   1005705                   46.77- 146.77    96.89
-------------------------------------------------------------------------------
   11 Propylene                                     CAS #: 115-07-1
  5.645   5.617 (0.392)    41   5948808 219.856   402.34  80.00- 120.00   100.00(AH)
  5.645   5.617 (0.392)    42   3886422                   21.19- 121.19    65.33
  5.645   5.617 (0.392)    39   4857556                   24.83- 124.83    81.66
-------------------------------------------------------------------------------
   12 Dichlorodifluoromethane/Fr12                  CAS #: 75-71-8
  5.758   5.729 (0.399)    85     75604 0.76208    1.395  80.00- 120.00   100.00
  5.758   5.729 (0.399)    87     22892                    0.00-  83.07    30.28
-------------------------------------------------------------------------------
   22 1,3-Butadiene                                 CAS #: 106-99-0
  6.968   6.940 (0.483)    54    271533 9.30674   17.031  80.00- 120.00   100.00
  6.743   6.940 (0.468)    39   2807279                   55.97- 155.97  1033.86
-------------------------------------------------------------------------------
   38 Ethanol                                       CAS #: 64-17-5
  9.467   9.439 (0.657)    45     31559 2.50000    4.575  80.00- 120.00   100.00
  9.467   9.439 (0.657)    43     17699                    0.00-  72.83    56.08
  9.467   9.439 (0.657)    46     12054                    0.00-  88.20    38.20
-------------------------------------------------------------------------------
   42 Freon 113                                     CAS #: 76-13-1
 10.186  10.186 (0.707)   151     31368 0.60938    1.115  80.00- 120.00   100.00
 10.186  10.186 (0.707)   153     20556                   13.28- 113.28    65.53
 10.213  10.186 (0.708)   101     34757                   60.51- 160.51   110.80
-------------------------------------------------------------------------------
   45 Acetone                                       CAS #: 67-64-1
 10.490  10.462 (0.728)    58    137785 8.13827   14.893  80.00- 120.00   100.00
 10.490  10.462 (0.728)    43    458799                  247.10- 347.10   332.98
-------------------------------------------------------------------------------
   47 Carbon Disulfide                              CAS #: 75-15-0
 10.904  10.877 (0.756)    76    226876 2.17097    3.973  80.00- 120.00   100.00
-------------------------------------------------------------------------------
   54 Methylene Chloride                            CAS #: 75-09-2
 11.485  11.457 (0.797)    49    328728 8.16298   14.938  80.00- 120.00   100.00
 11.457  11.457 (0.795)    84    272459                   15.73- 115.73    82.88
 11.457  11.457 (0.795)    51     98475                    0.00-  80.85    29.96
-------------------------------------------------------------------------------
   65 Hexane                                        CAS #: 110-54-3
 12.287  12.287 (0.852)    57    295605 5.56613   10.186  80.00- 120.00   100.00
 12.287  12.287 (0.852)    43    243027                   17.84- 117.84    82.21
```

RT	EXP RT (REL RT)	MASS	RESPONSE	CONCENTRATIONS ON-COL (PPBV)	FINAL (PPBV)	TARGET RANGE	RATIO
65 Hexane (continued)							
12.315	12.287 (0.854)	86	41204			0.00- 65.07	13.94
75 2-Butanone					CAS #: 78-93-3		
13.891	13.891 (0.964)	72	43858	3.22558	5.903	80.00- 120.00	100.00
13.891	13.891 (0.964)	43	251064			458.59- 558.59	572.45
13.891	13.891 (0.964)	57	17300			0.00- 86.57	39.45
80 Tetrahydrofuran					CAS #: 109-99-9		
14.388	14.388 (0.998)	42	32080	0.90490	1.656	80.00- 120.00	100.00
14.388	14.388 (0.998)	71	19835			0.00- 83.57	61.83
14.444	14.388 (1.002)	72	25077			0.00- 87.82	78.17
82 Chloroform					CAS #: 67-66-3		
14.471	14.471 (1.004)	83	2352332	37.2152	68.104	80.00- 120.00	100.00
14.471	14.471 (1.004)	85	1630357			15.98- 115.98	69.31
83 1,1,1-Trichloroethane					CAS #: 71-55-6		
14.831	14.831 (1.029)	97	110580	1.73725	3.179	80.00- 120.00	100.00
14.831	14.831 (1.029)	99	72120			14.42- 114.42	65.22
87 Carbon Tetrachloride					CAS #: 56-23-5		
15.107	15.107 (1.048)	119	518246	8.68562	15.895	80.00- 120.00	100.00
15.080	15.080 (1.046)	117	525332			54.21- 154.21	101.37
91 Benzene					CAS #: 71-43-2		
15.522	15.522 (0.961)	78	120563	1.43345	2.623	80.00- 120.00	100.00
15.522	15.522 (0.961)	77	36137			0.00- 71.87	29.97
94 Heptane					CAS #: 142-82-5		
15.715	15.716 (0.973)	71	81747	3.16032	5.783	80.00- 120.00	100.00
15.715	15.716 (0.973)	43	155998			158.53- 258.53	190.83
15.715	15.716 (0.973)	57	87766			59.34- 159.34	107.36
101 Trichloroethene					CAS #: 79-01-6		
16.628	16.628 (1.029)	95	1047706	28.0429	51.318	80.00- 120.00	100.00
16.628	16.628 (1.029)	130	1098335			54.96- 154.96	104.83
16.628	16.628 (1.029)	97	690986			15.03- 115.03	65.95
107 Bromodichloromethane					CAS #: 75-27-4		
17.540	17.540 (1.086)	83	35079	0.54081	0.9897	80.00- 120.00	100.00
17.540	17.540 (1.086)	85	15018			14.07- 114.07	42.81
111 4-Methyl-2-pentanone					CAS #: 108-10-1		
18.508	18.508 (1.145)	58	18453	0.73315	1.342	80.00- 120.00	100.00
18.508	18.508 (1.145)	43	47737			222.97- 322.97	258.70

RT	EXP RT (REL RT)	MASS	RESPONSE	CONCENTRATIONS ON-COL (PPBV)	FINAL (PPBV)	TARGET RANGE	RATIO
111 4-Methyl-2-pentanone (continued)							
18.508	18.508 (1.145)	85	6473			0.00- 90.48	35.08
114 Toluene					CAS #: 108-88-3		
18.895	18.895 (1.169)	91	195010	2.11685	3.874	80.00- 120.00	100.00
18.895	18.895 (1.169)	92	125798			12.81- 112.81	64.51
120 Tetrachloroethene					CAS #: 127-18-4		
19.835	19.835 (0.929)	166	773125	16.7756	30.699	80.00- 120.00	100.00
19.835	19.835 (0.929)	129	535135			18.66- 118.66	69.22
19.835	19.835 (0.929)	131	519568			16.81- 116.81	67.20
122 Dibromochloromethane					CAS #: 124-48-1		
20.361	20.361 (0.953)	129	39155	0.62190	1.138	80.00- 120.00	100.00
20.361	20.361 (0.953)	127	29667			27.62- 127.62	75.77
128 Ethyl Benzene					CAS #: 100-41-4		
21.494	21.494 (1.006)	106	37607	0.94926	1.737	80.00- 120.00	100.00
21.494	21.494 (1.006)	91	109497			261.69- 361.69	291.16
129 m,p-Xylene					CAS #: 108-38-3		
21.688	21.688 (1.016)	106	129501	2.61156	4.779	80.00- 120.00	100.00
21.688	21.688 (1.016)	91	252541			145.05- 245.05	195.01
130 o-Xylene					CAS #: 95-47-6		
22.379	22.379 (1.048)	106	53530	1.24568	2.280	80.00- 120.00	100.00
22.379	22.379 (1.048)	91	104573			150.06- 250.06	195.35
133 Bromoform					CAS #: 75-25-2		
22.821	22.821 (1.069)	173	43480	0.78646	1.439	80.00- 120.00	100.00
22.821	22.821 (1.069)	171	23010			1.50- 101.50	52.92
145 4-Ethyltoluene					CAS #: 622-96-8		
23.789	23.817 (1.114)	105	140238	1.09116	1.997	80.00- 120.00	100.00
23.789	23.817 (1.114)	120	47180			0.00- 82.38	33.64
147 1,3,5-Trimethylbenzene					CAS #: 108-67-8		
23.927	23.927 (1.120)	105	50497	0.50021	0.9154	80.00- 120.00	100.00
23.927	23.927 (1.120)	120	28126			3.80- 103.80	55.70
150 1,2,4-Trimethylbenzene					CAS #: 95-63-6		
24.563	24.563 (1.150)	105	555393	6.05357	11.078	80.00- 120.00	100.00
24.563	24.563 (1.150)	120	87872			0.00- 98.95	15.82
98 1-Butanol					CAS #: 71-36-3		
16.324	16.324 (1.010)	56	156058	7.54159	13.801	80.00- 120.00	100.00

RT	EXP RT (REL RT)	MASS	RESPONSE	CONCENTRATIONS ON-COL (PPBV)	FINAL (PPBV)	TARGET RANGE	RATIO
98 1-Butanol (continued)							
16.324	16.324 (1.010)	41	149874			21.86- 121.86	96.04
16.324	16.324 (1.010)	43	75856			9.15- 109.15	48.61

QC Flag Legend

A - Target compound detected but, quantitated amount exceeded maximum amount.
H - Operator selected an alternate compound hit.

Report Date: 05-Nov-2007 12:05

Air Toxics Ltd.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd7.i
Lab File ID: 7110418.d
Lab Smp Id: 0711008-05A
Analysis Type: VOA
Quant Type: ISTD
Operator: lo
Method File: /chem/msd7.i/7-04nova.b/t14qO18c.m
Misc Info: 8.0"Hg-5psi

Calibration Date: 04-NOV-2007
Calibration Time: 22:27

Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
81 Bromochloromethan	651162	390697	911627	627788	-3.59
97 1,4-Difluorobenze	2188066	1312840	3063292	2116809	-3.26
126 Chlorobenzene-d5	1729248	1037549	2420947	1715571	-0.79

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
81 Bromochloromethan	14.39	14.06	14.72	14.42	0.19
97 1,4-Difluorobenze	16.16	15.83	16.49	16.16	0.00
126 Chlorobenzene-d5	21.36	21.03	21.69	21.36	0.00

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Report Date: 05-Nov-2007 12:05

Air Toxics Ltd.

RECOVERY REPORT

Client Name:
Client SDG: 7-04nova
Sample Matrix: GAS
Fraction: VOA
Lab Smp Id: 0711008-05A
Level: LOW
Operator: lo
Data Type: MS DATA
SampleType: SAMPLE
SpikeList File: 2926spectra.spk
Quant Type: ISTD
Sublist File: Los2153.sub
Method File: /chem/msd7.i/7-04nova.b/t14qO18c.m
Misc Info: 8.0"Hg-5psi

SURROGATE COMPOUND	CONC ADDED PPBV	CONC RECOVERED PPBV	% RECOVERED	LIMITS
$ 90 1,2-Dichloroethane	25.000	22.232	88.93	70-130
$ 113 Toluene-d8	25.000	23.633	94.53	70-130
$ 137 Bromofluorobenzene	25.000	25.426	101.71	70-130

Data File: /chem/msd7.i/7-04nova.b/7110418.d

Date : 05-NOV-2007 07:24

Client ID:

Sample Info: 200mL#14003

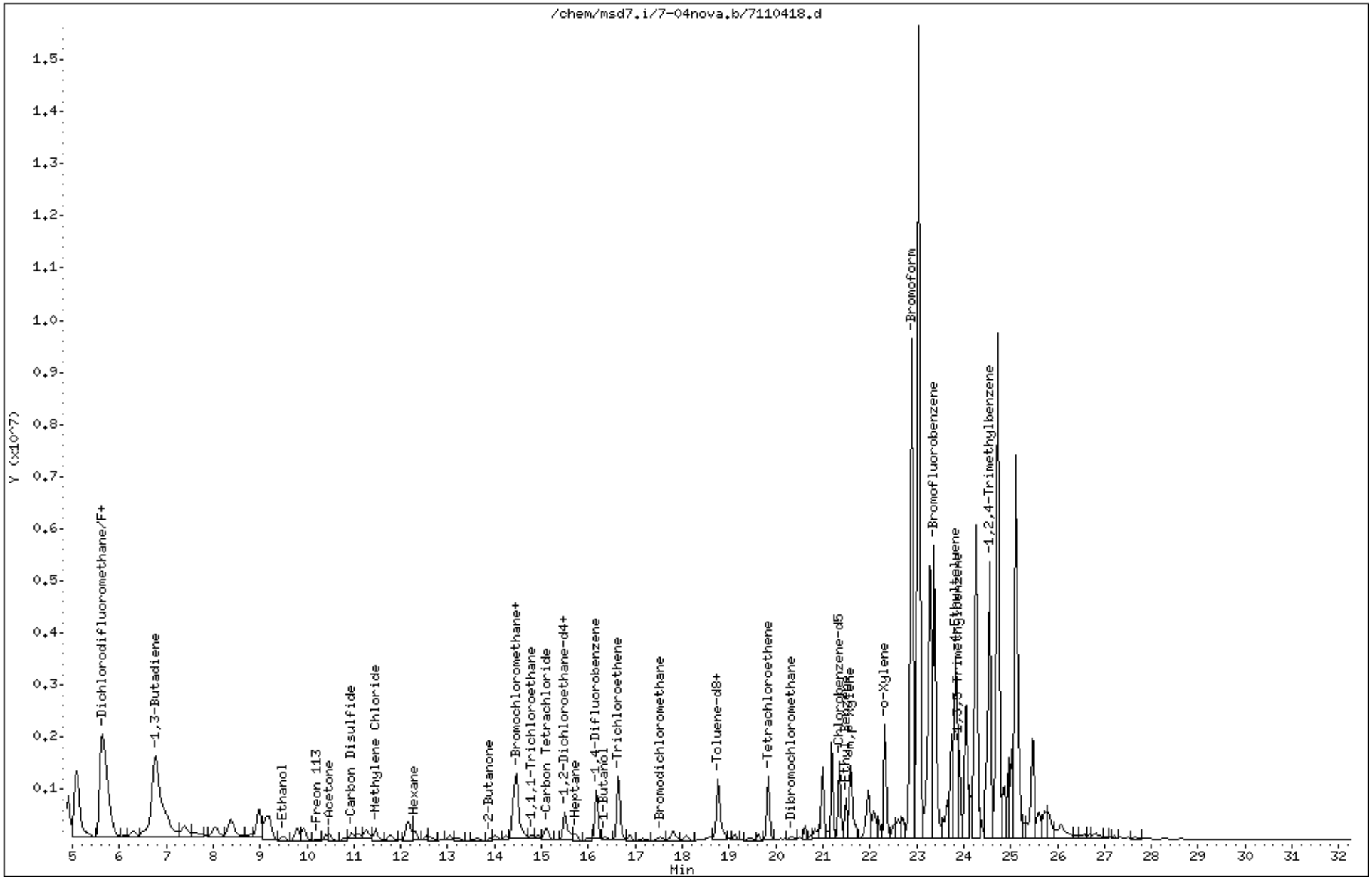
Column phase: RTx-624

Instrument: msd7.i

Operator: lo

Column diameter: 0.53

0138



Data File: /chem/msd7.i/7-04nova.b/7110418.d

Date : 05-NOV-2007 07:24

Client ID:

Instrument: msd7.i

Sample Info: 200mL#14003

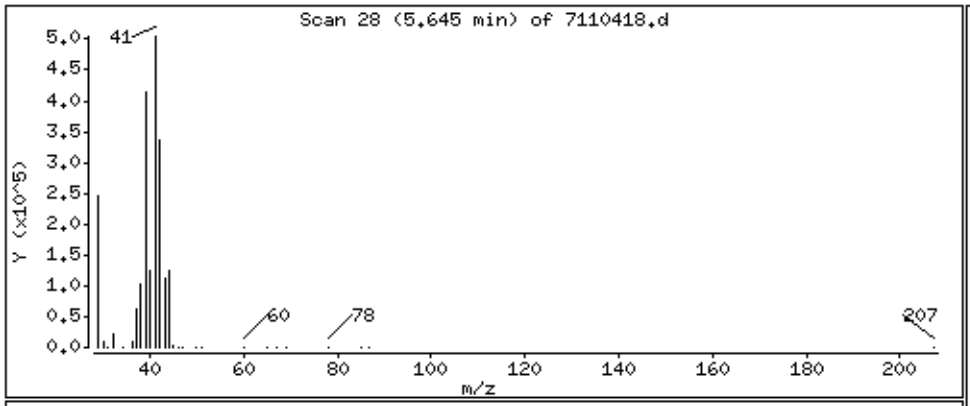
Operator: lo

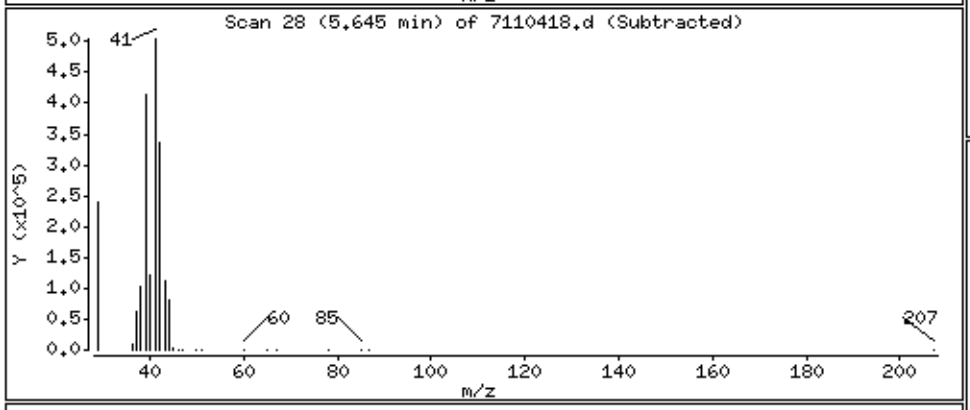
Column phase: RTx-624

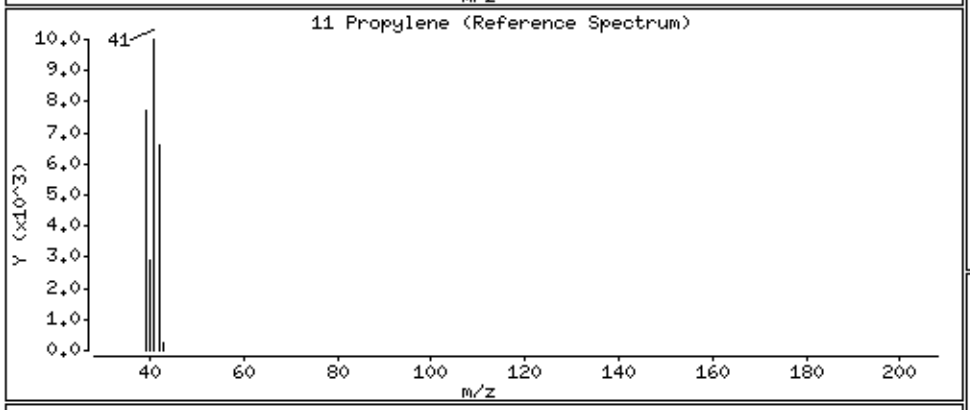
Column diameter: 0.53

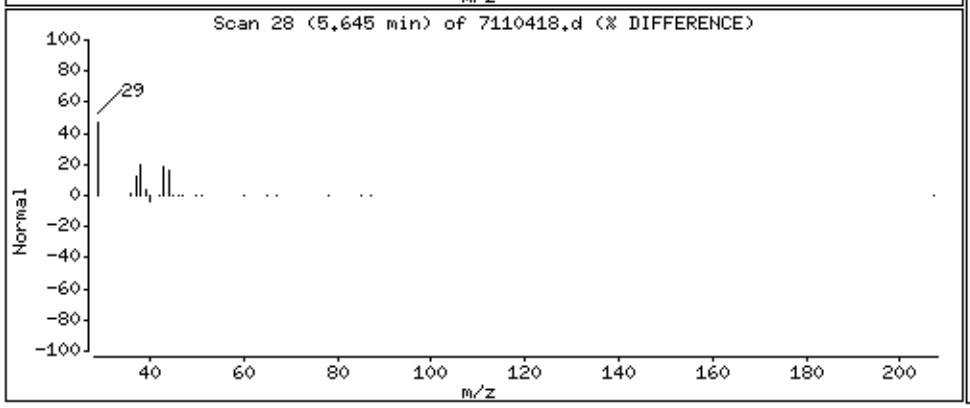
11 Propylene

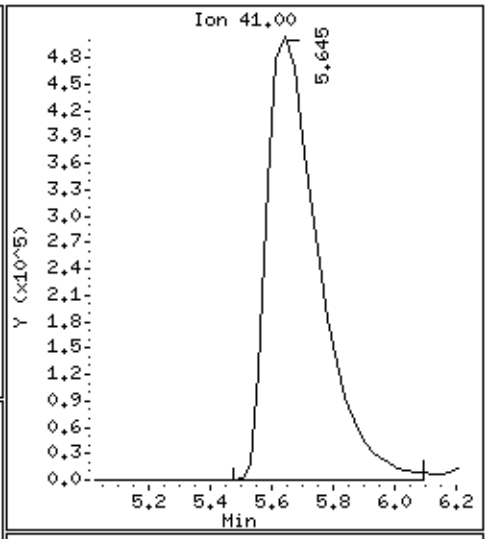
Concentration: 402.34 PPBV

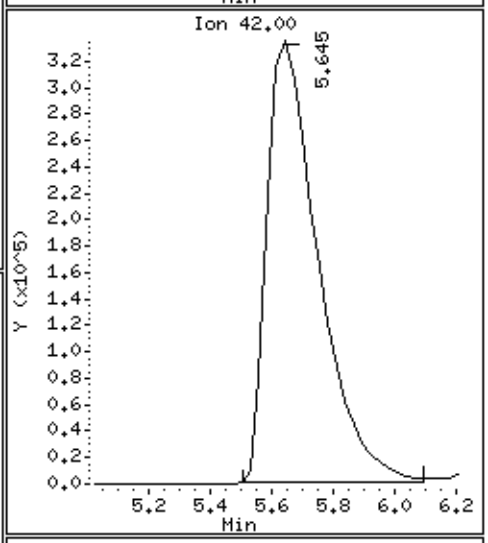


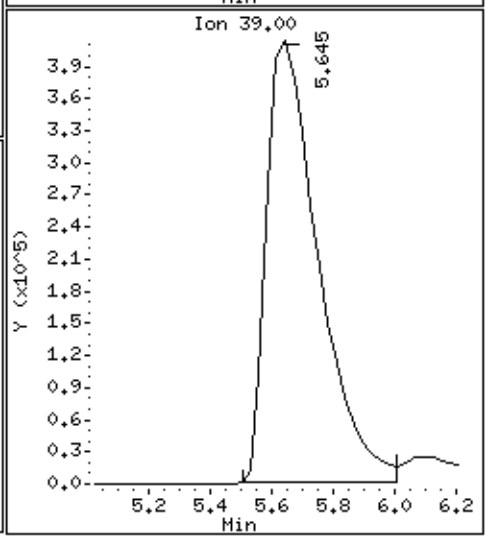












Data File: /chem/msd7.i/7-04nova.b/7110418.d

Date : 05-NOV-2007 07:24

Client ID:

Instrument: msd7.i

Sample Info: 200mL#14003

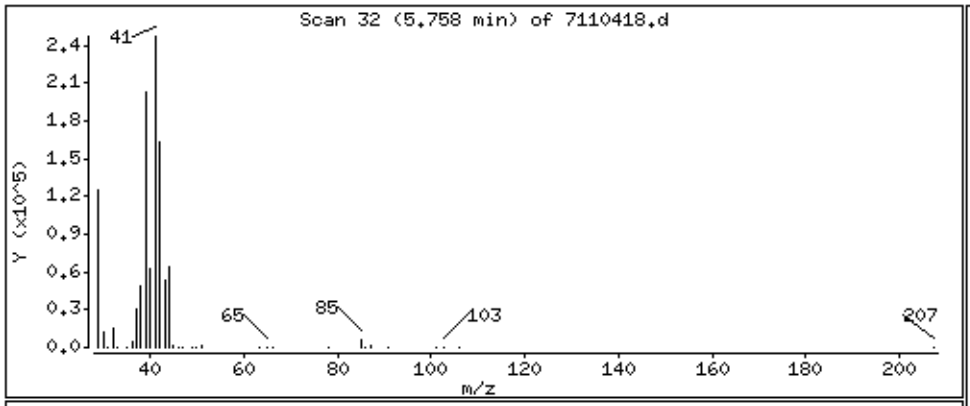
Operator: lo

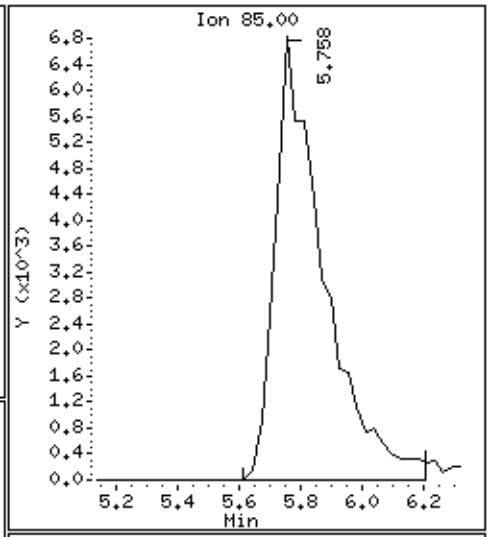
Column phase: RTx-624

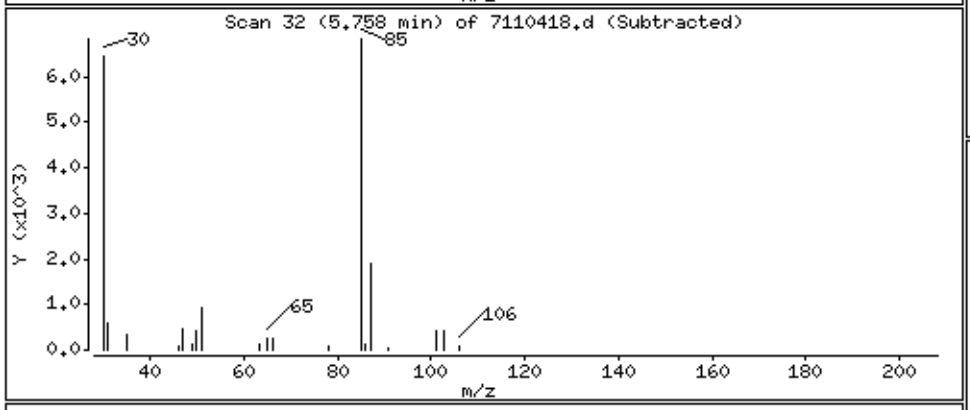
Column diameter: 0.53

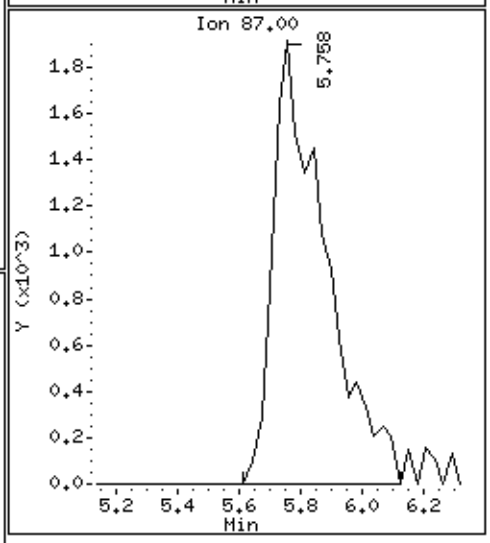
12 Dichlorodifluoromethane/Fr12

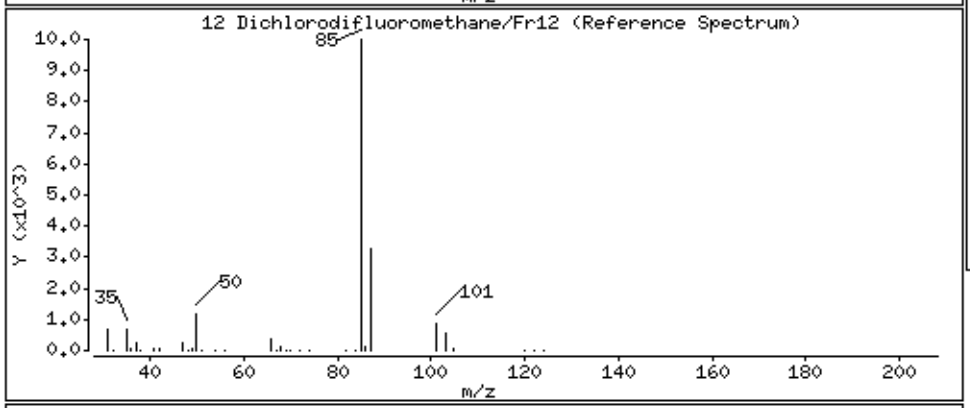
Concentration: 1.395 PPBV

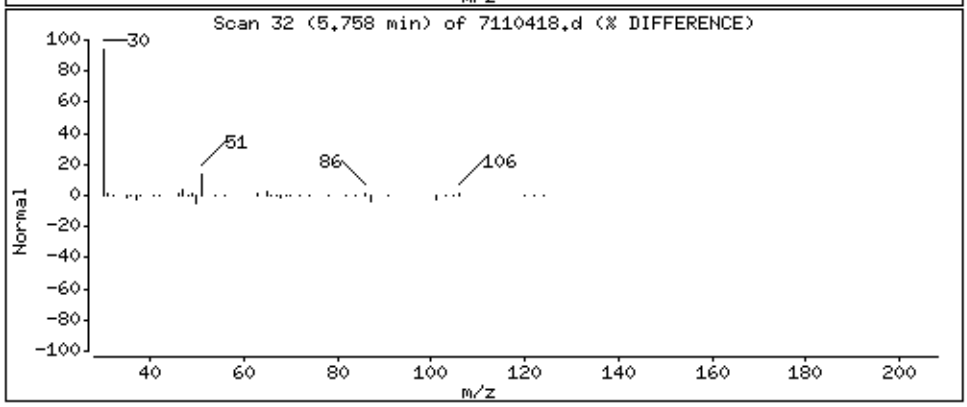












Data File: /chem/msd7.i/7-04nova.b/7110418.d

Date : 05-NOV-2007 07:24

Client ID:

Instrument: msd7.i

Sample Info: 200mL#14003

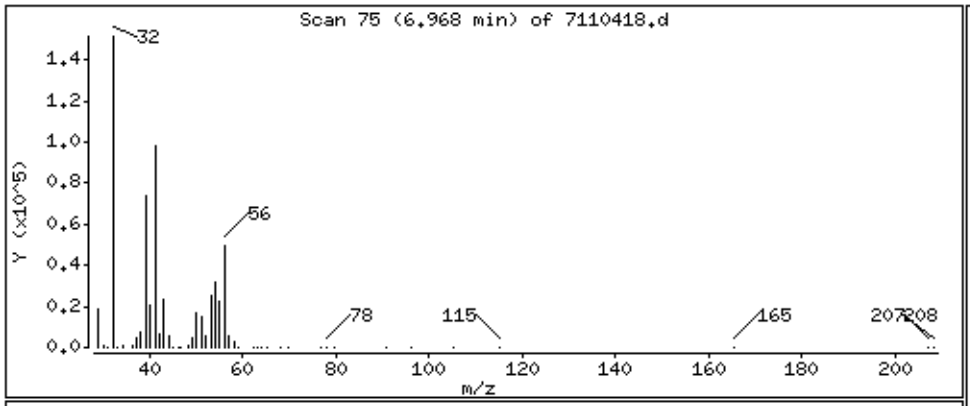
Operator: lo

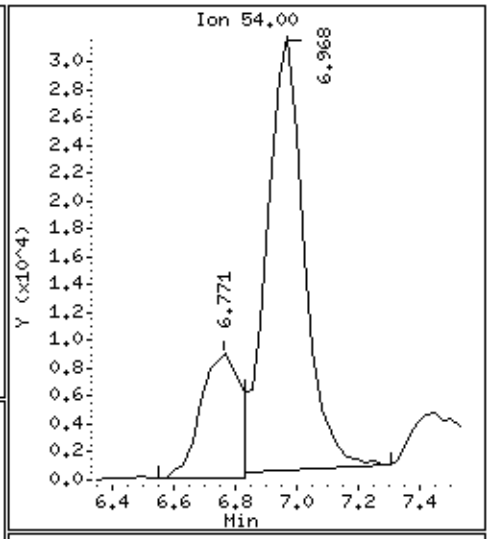
Column phase: RTx-624

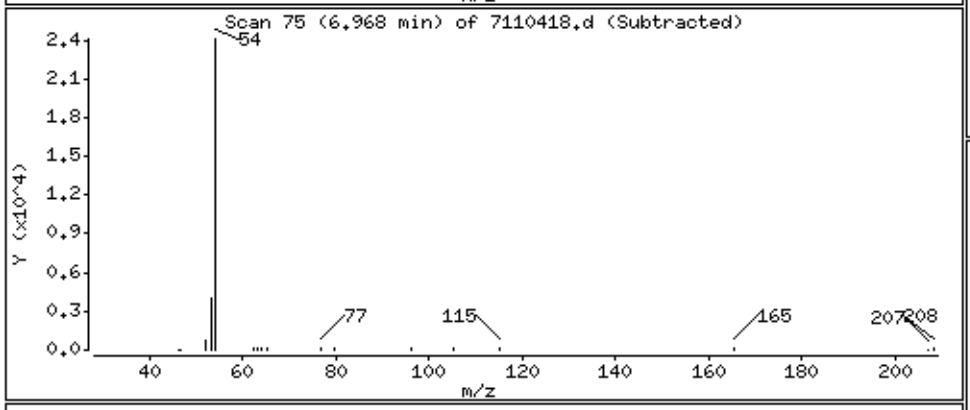
Column diameter: 0.53

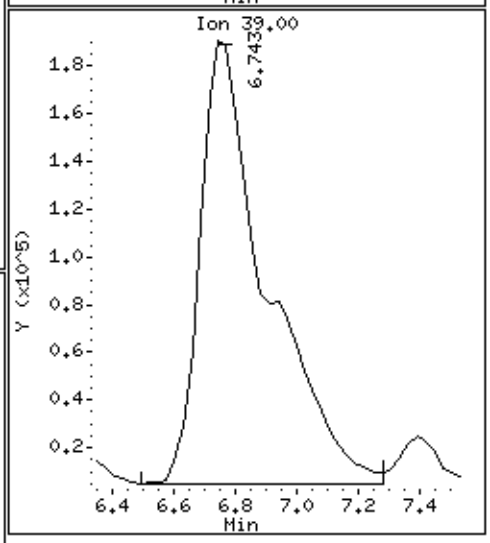
22 1,3-Butadiene

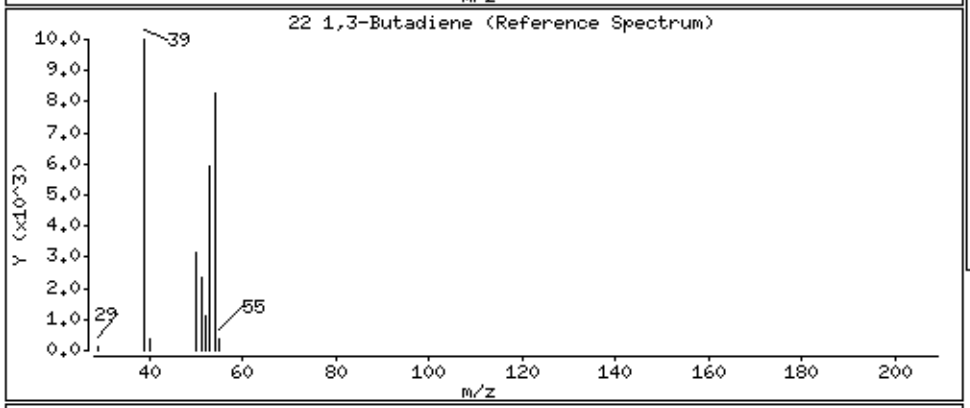
Concentration: 17.031 PPBV

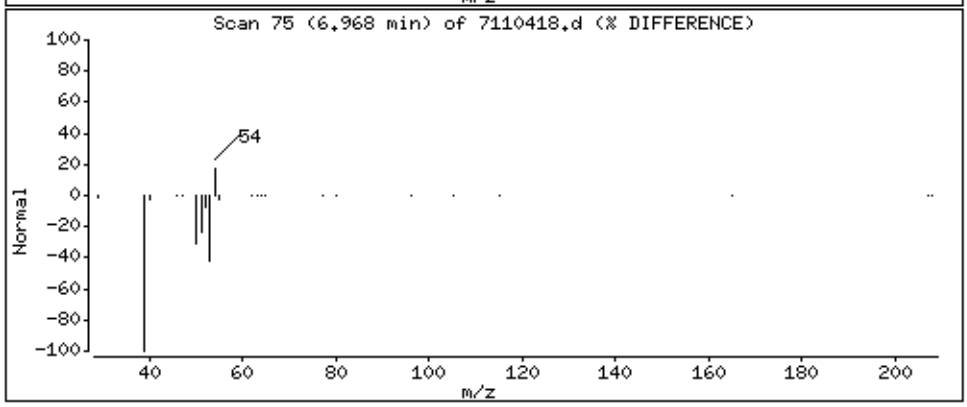












Data File: /chem/msd7.i/7-04nova.b/7110418.d

Date : 05-NOV-2007 07:24

Client ID:

Instrument: msd7.i

Sample Info: 200mL#14003

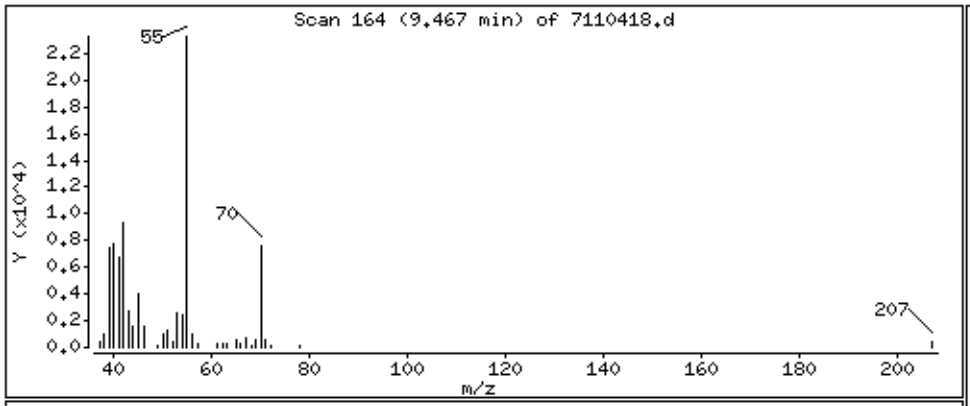
Operator: lo

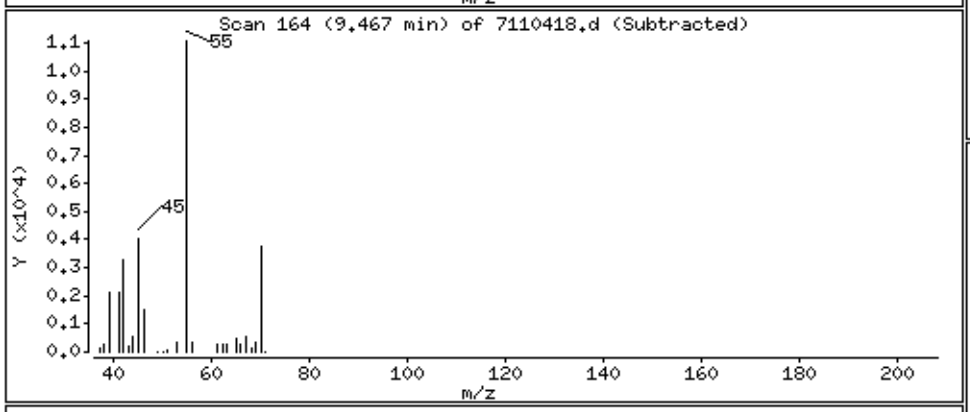
Column phase: RTx-624

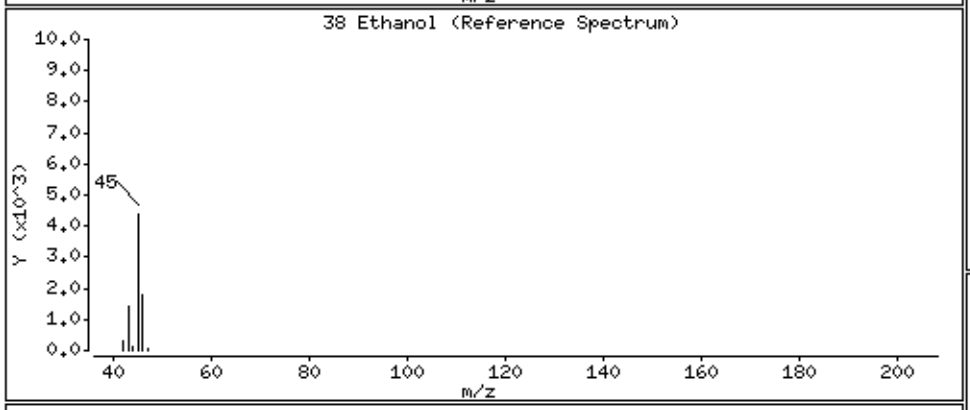
Column diameter: 0.53

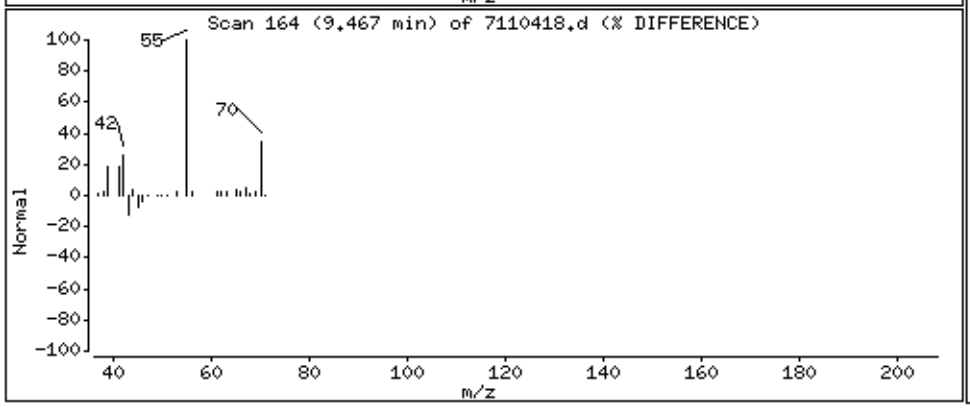
38 Ethanol

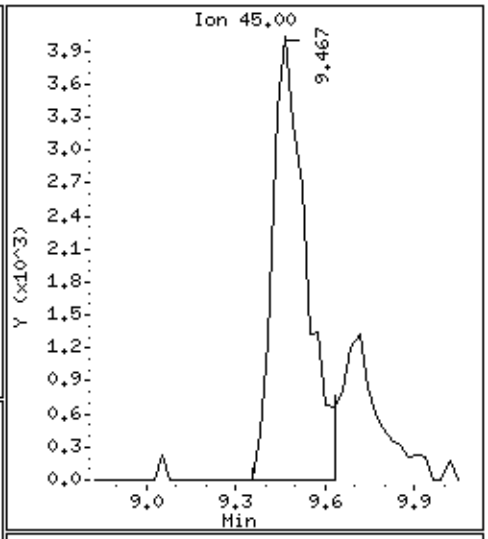
Concentration: 4.575 PPBV

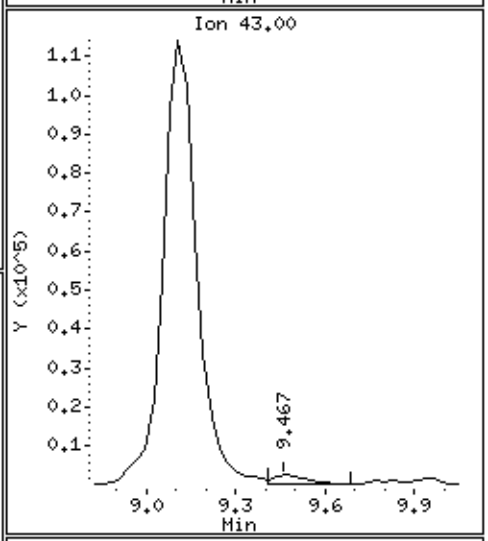


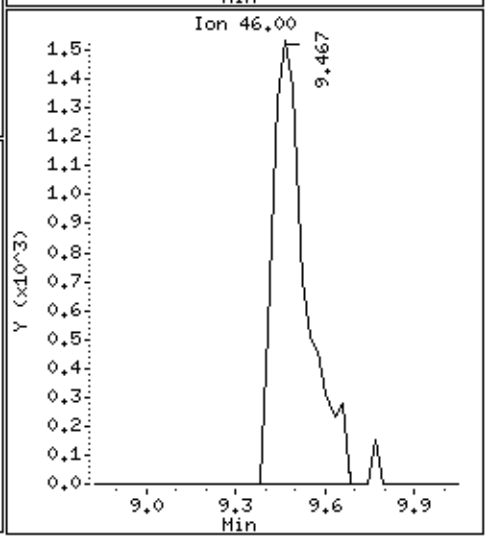












Data File: /chem/msd7.i/7-04nova.b/7110418.d

Date : 05-NOV-2007 07:24

Client ID:

Instrument: msd7.i

Sample Info: 200mL#14003

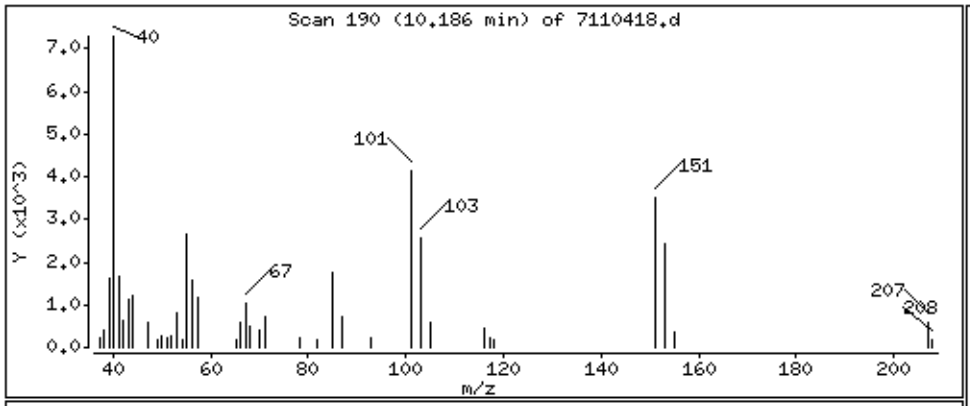
Operator: lo

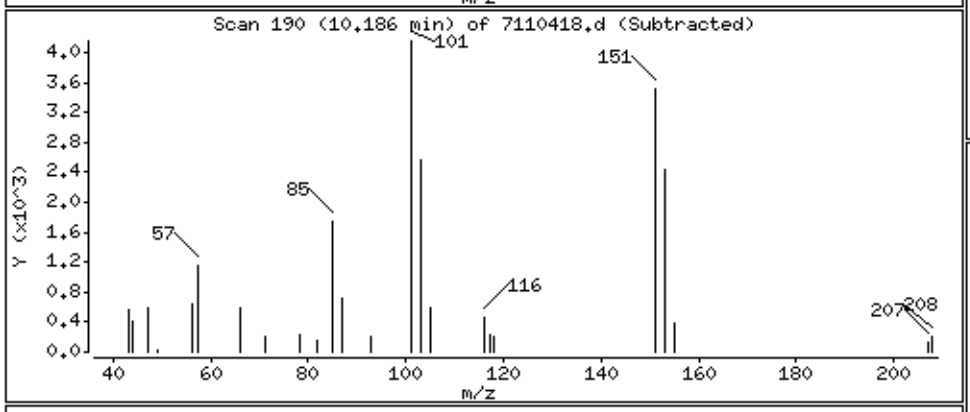
Column phase: RTx-624

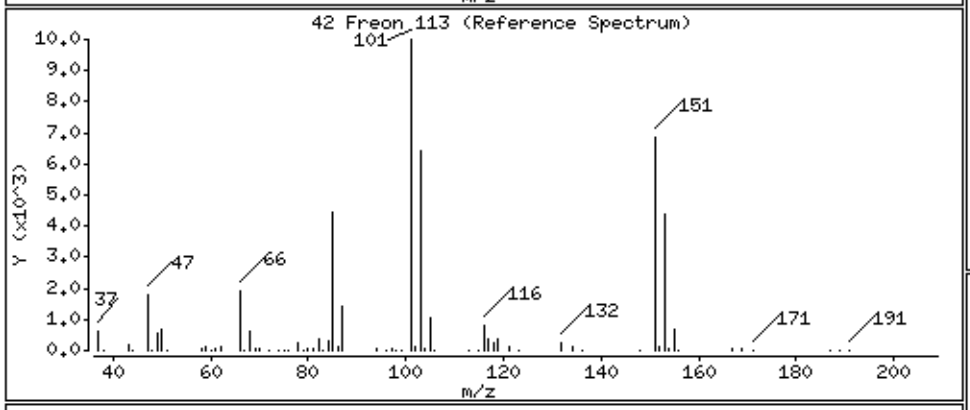
Column diameter: 0.53

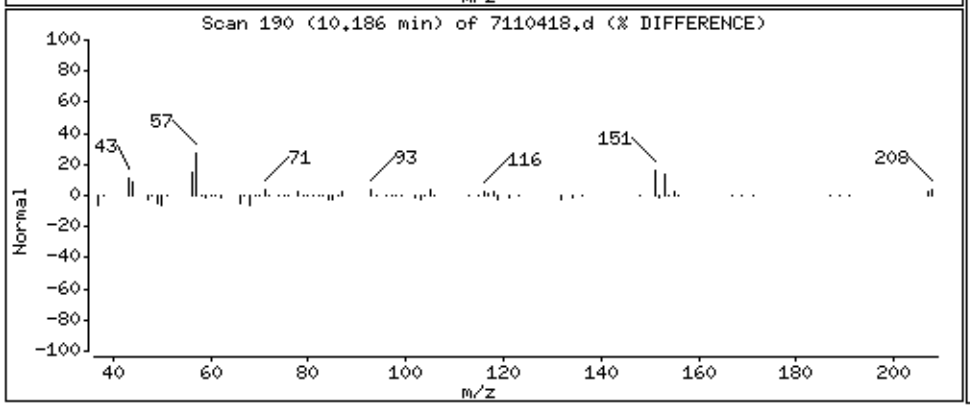
42 Freon 113

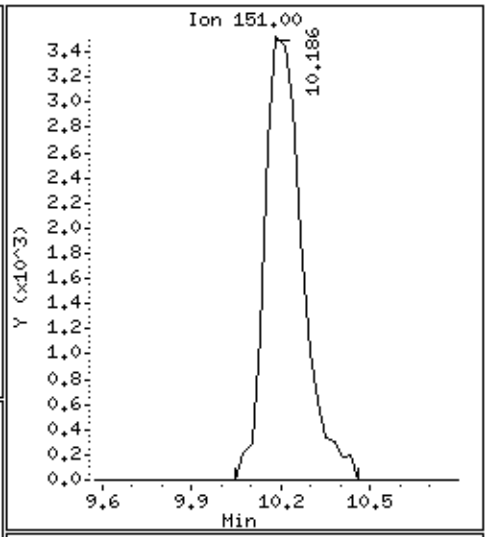
Concentration: 1.115 PPBV

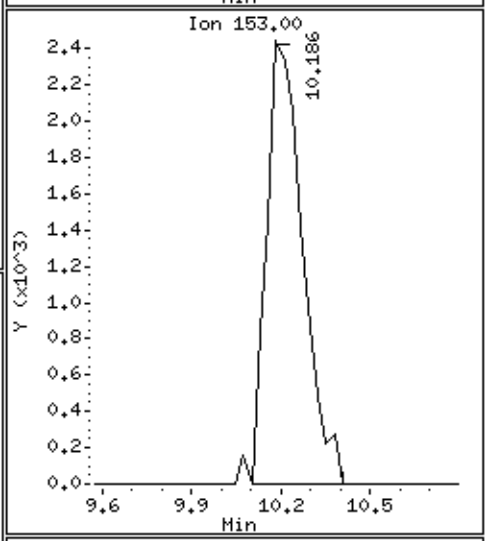


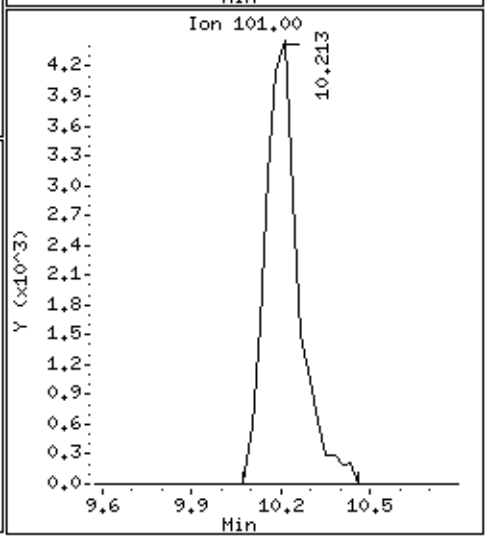












Data File: /chem/msd7.i/7-04nova.b/7110418.d

Date : 05-NOV-2007 07:24

Client ID:

Instrument: msd7.i

Sample Info: 200mL#14003

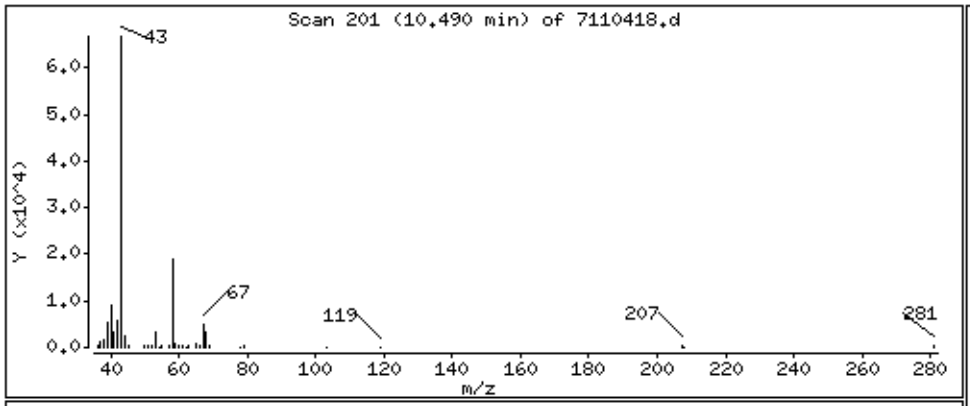
Operator: lo

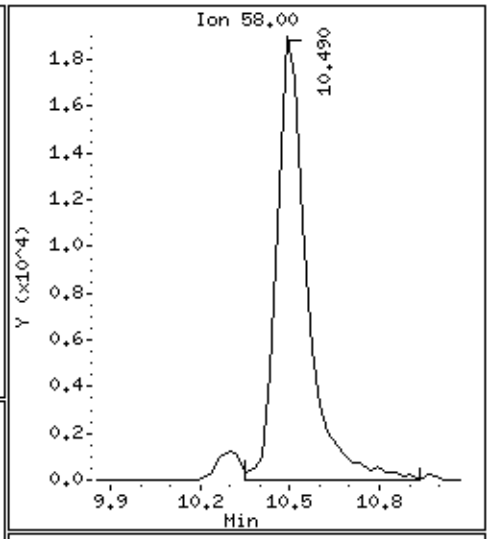
Column phase: RTx-624

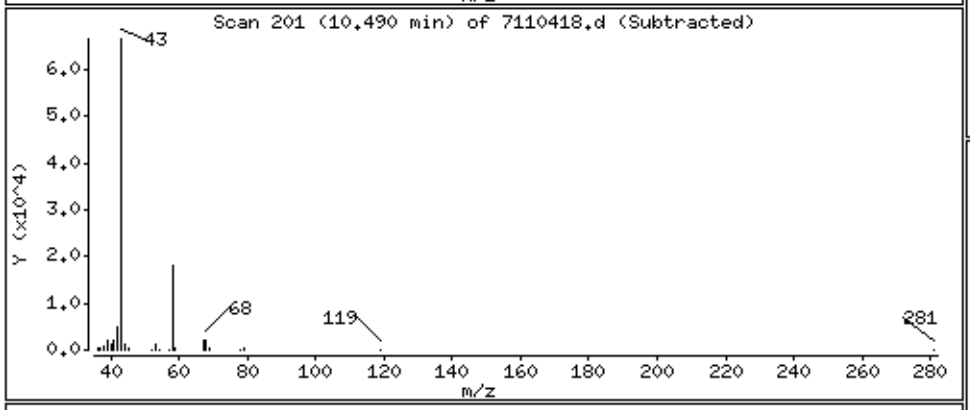
Column diameter: 0.53

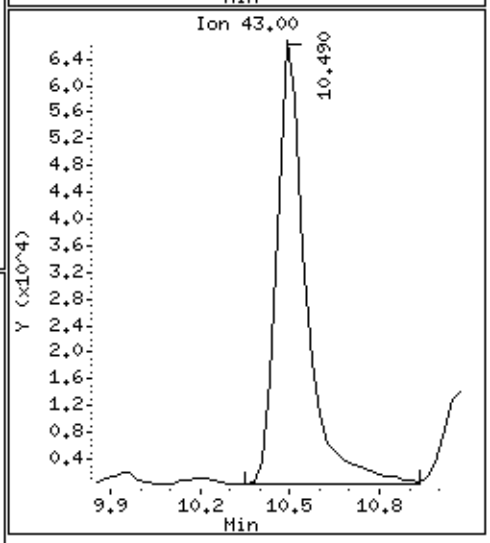
45 Acetone

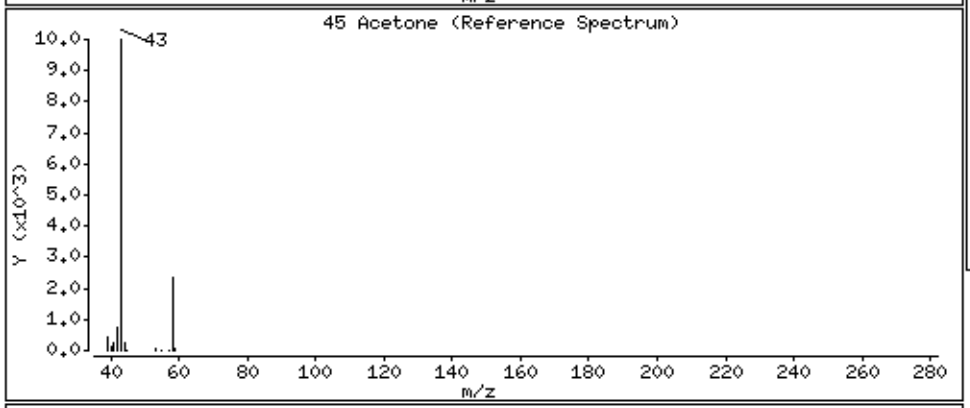
Concentration: 14.893 PPBV

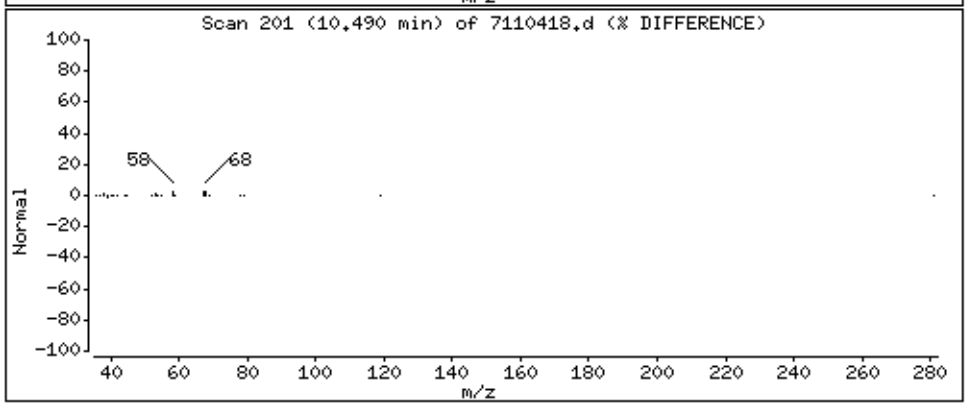












Data File: /chem/msd7.i/7-04nova.b/7110418.d

Date : 05-NOV-2007 07:24

Client ID:

Instrument: msd7.i

Sample Info: 200mL#14003

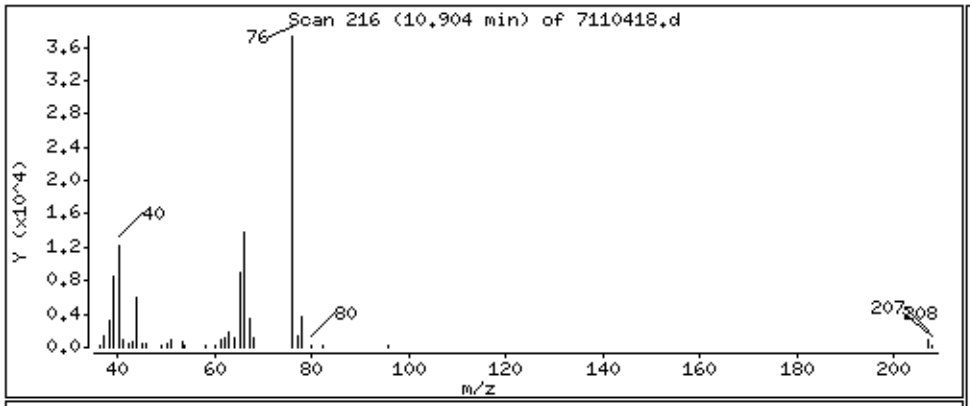
Operator: lo

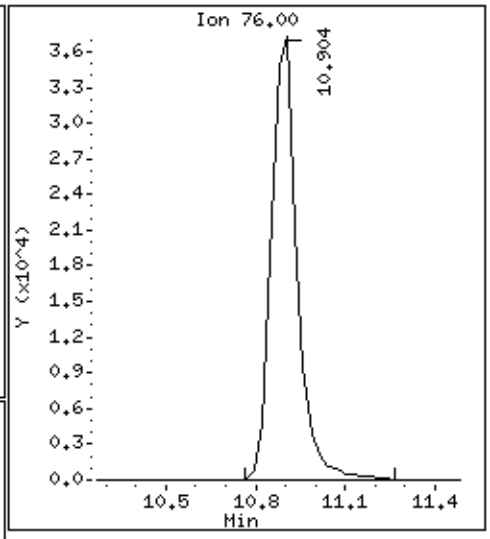
Column phase: RTx-624

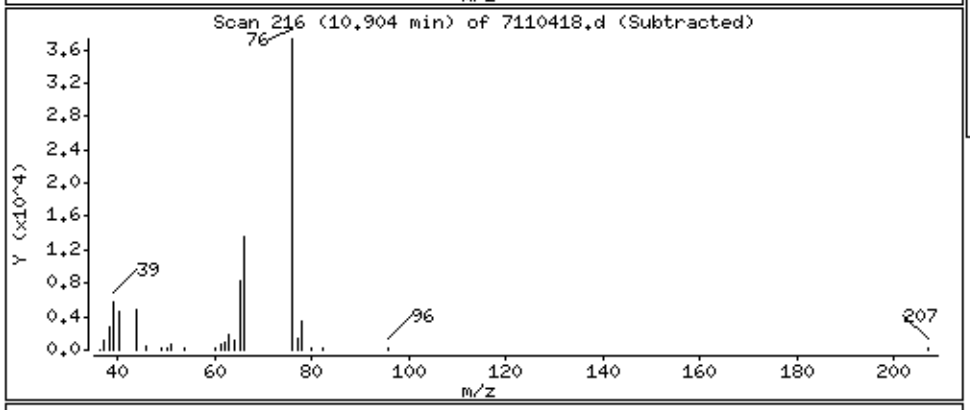
Column diameter: 0.53

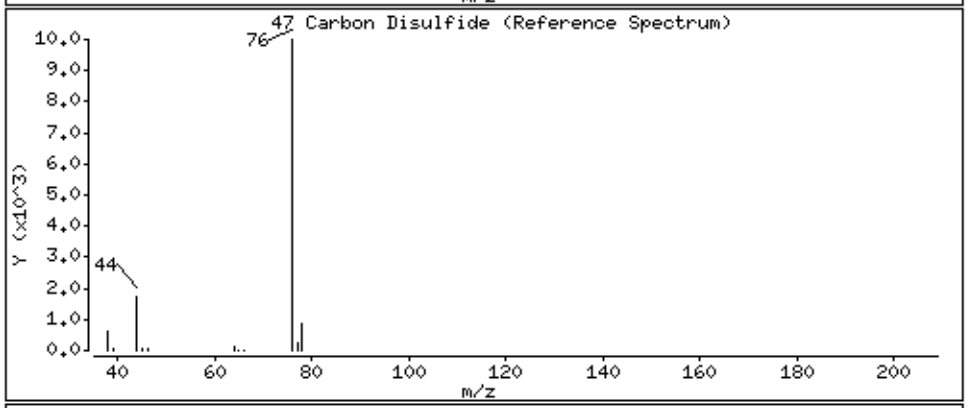
47 Carbon Disulfide

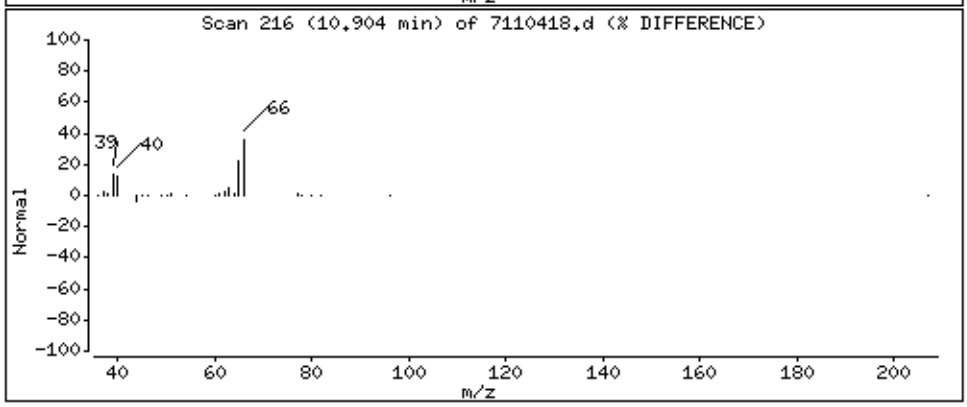
Concentration: 3.973 PPBV











Data File: /chem/msd7.i/7-04nova.b/7110418.d

Date : 05-NOV-2007 07:24

Client ID:

Instrument: msd7.i

Sample Info: 200mL#14003

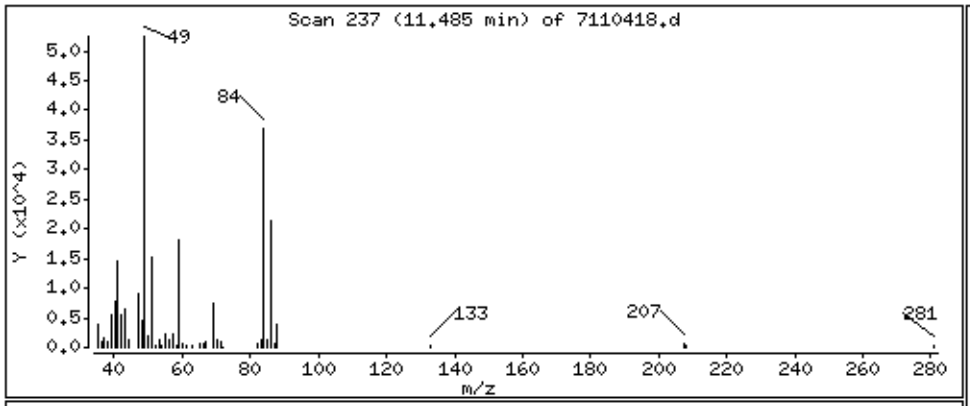
Operator: lo

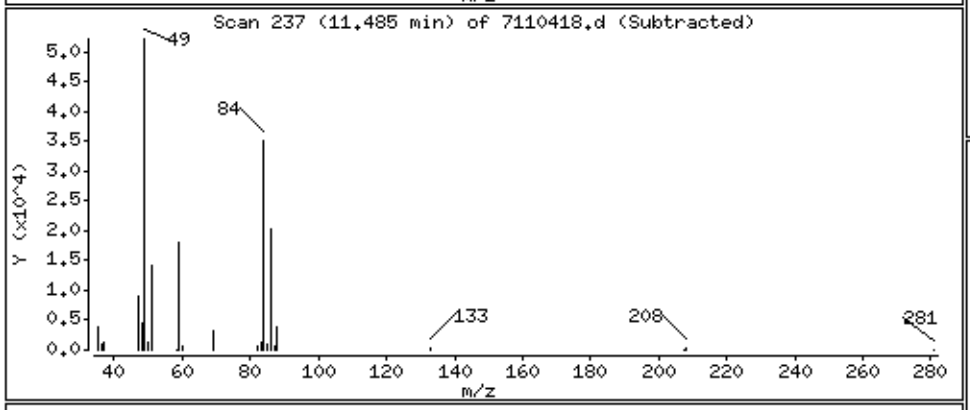
Column phase: RTx-624

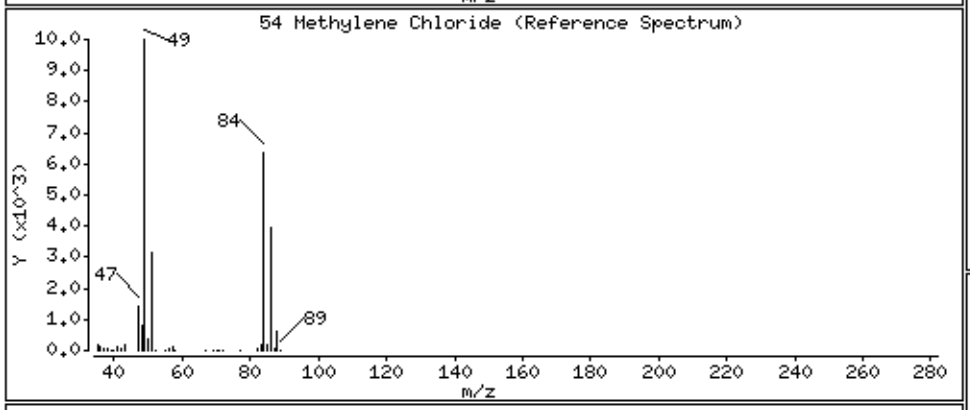
Column diameter: 0.53

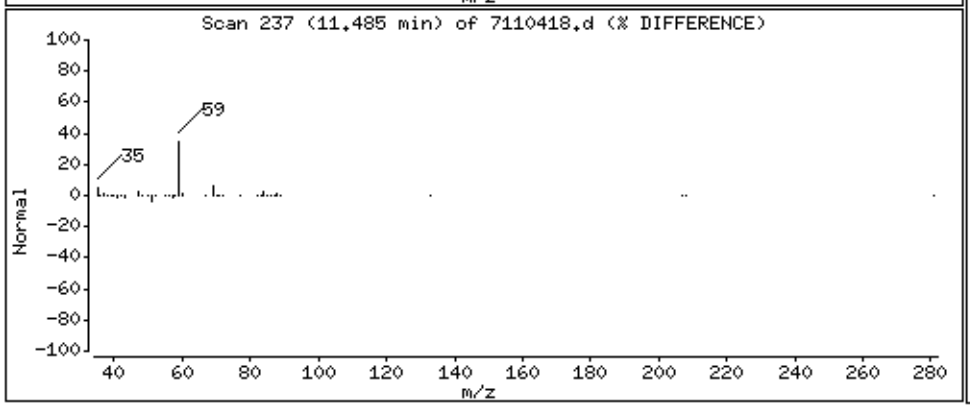
54 Methylene Chloride

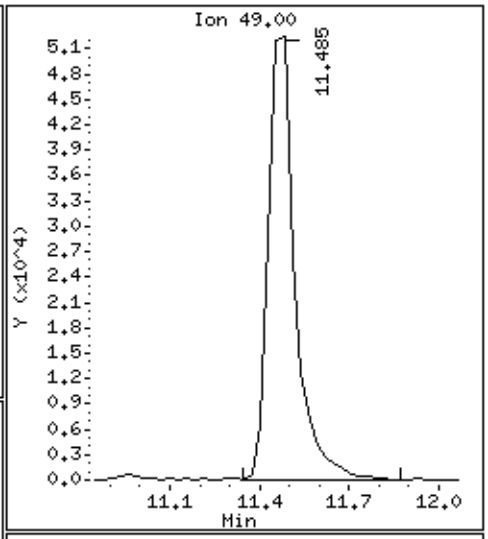
Concentration: 14.938 PPBV

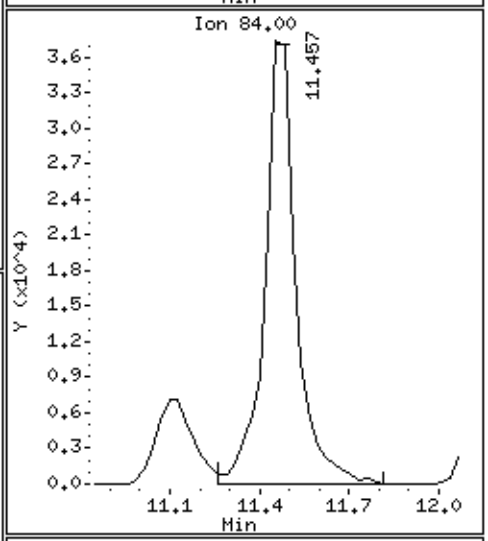


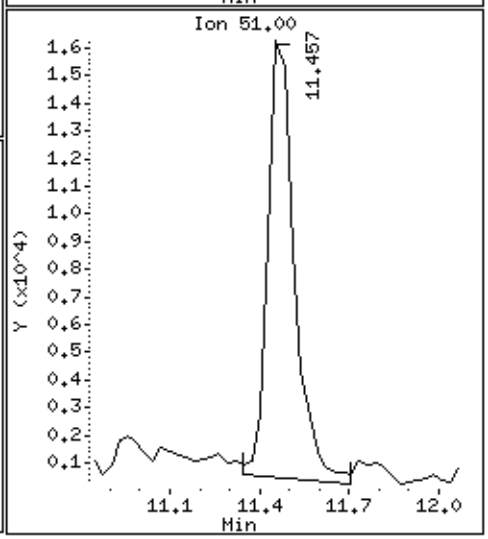












Data File: /chem/msd7.i/7-04nova.b/7110418.d

Date : 05-NOV-2007 07:24

Client ID:

Instrument: msd7.i

Sample Info: 200mL#14003

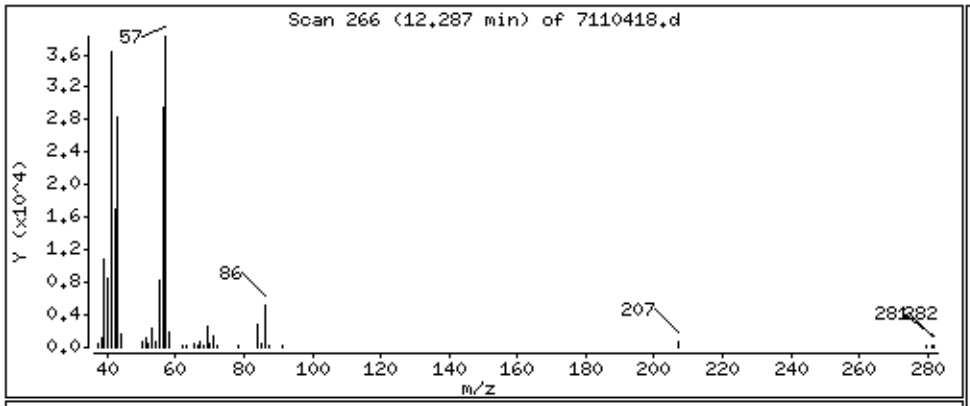
Operator: lo

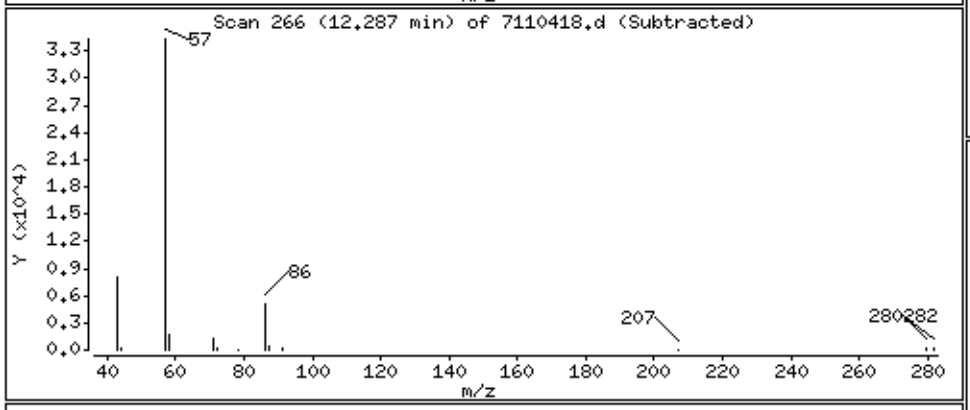
Column phase: RTx-624

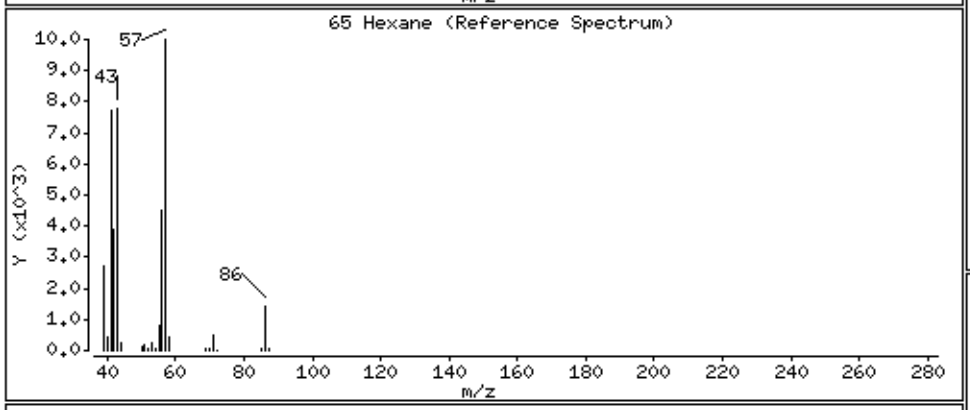
Column diameter: 0.53

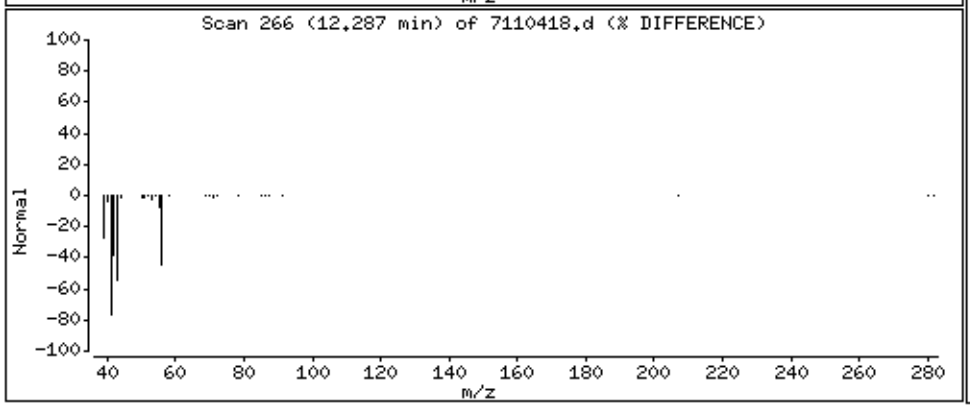
65 Hexane

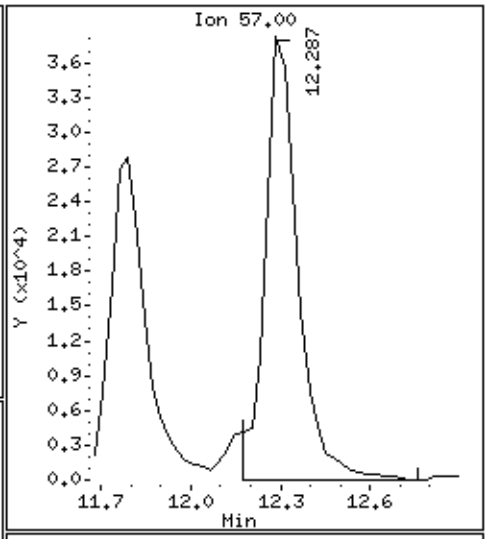
Concentration: 10.186 PPBV

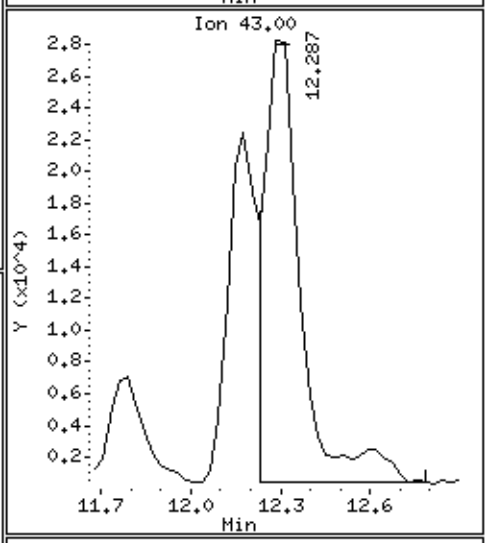


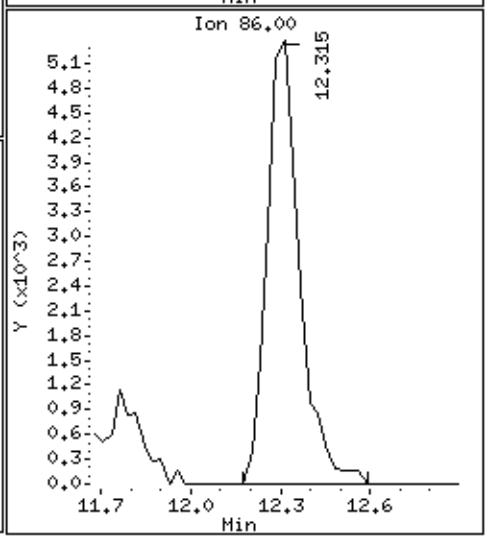












Data File: /chem/msd7.i/7-04nova.b/7110418.d

Date : 05-NOV-2007 07:24

Client ID:

Instrument: msd7.i

Sample Info: 200mL#14003

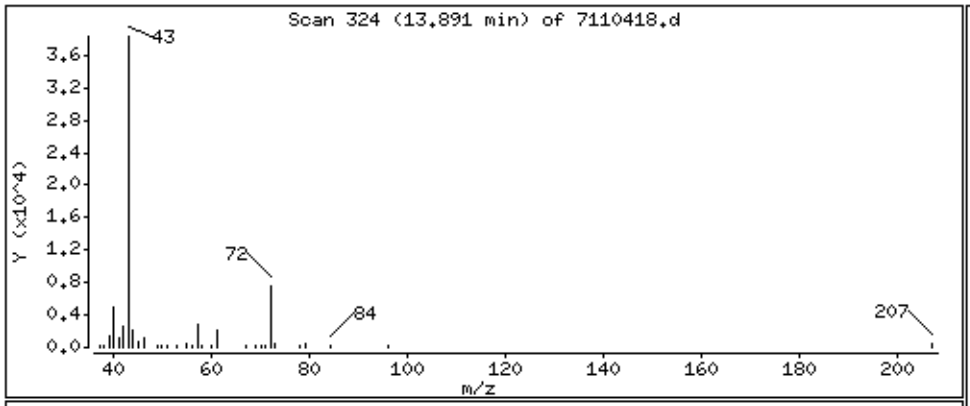
Operator: lo

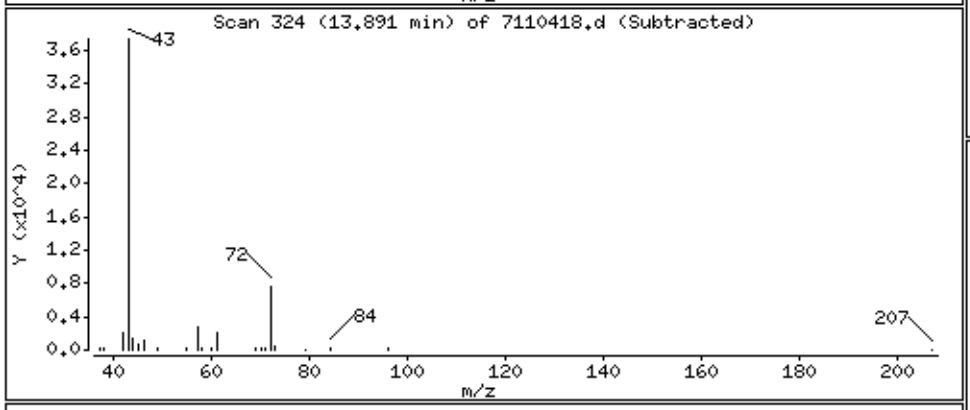
Column phase: RTx-624

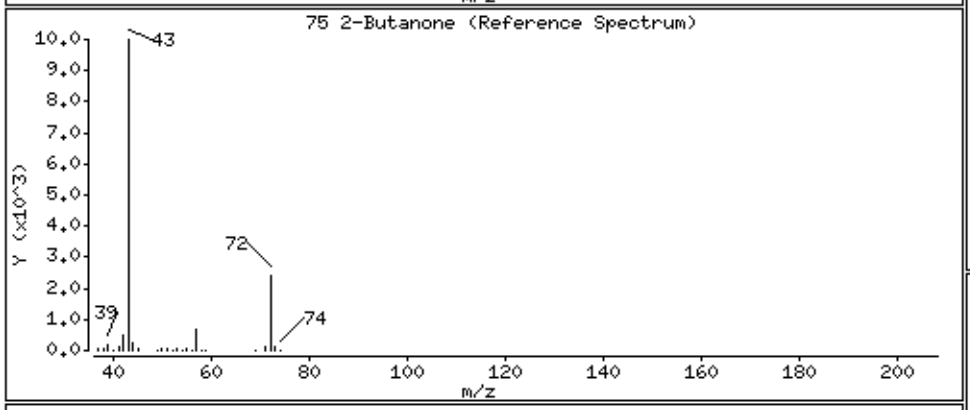
Column diameter: 0.53

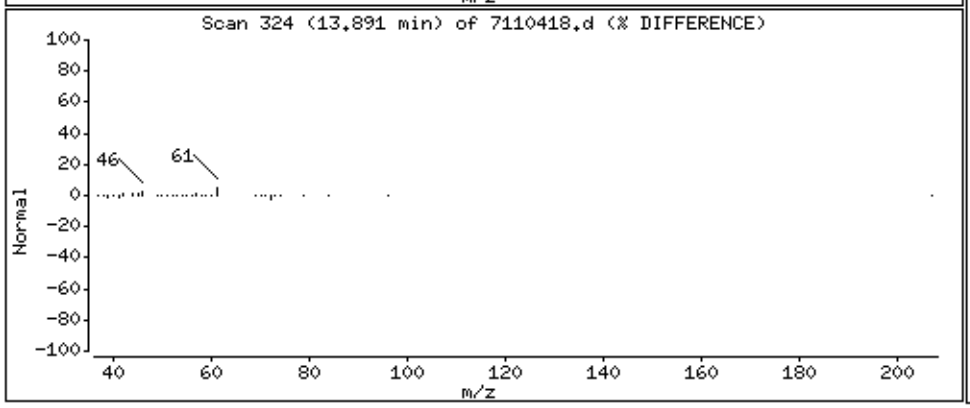
75 2-Butanone

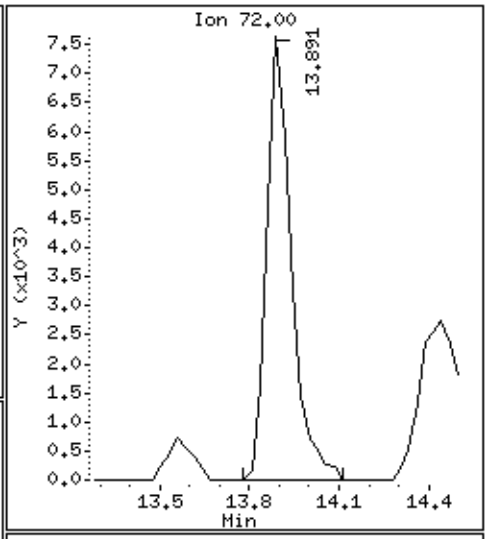
Concentration: 5.903 PPBV

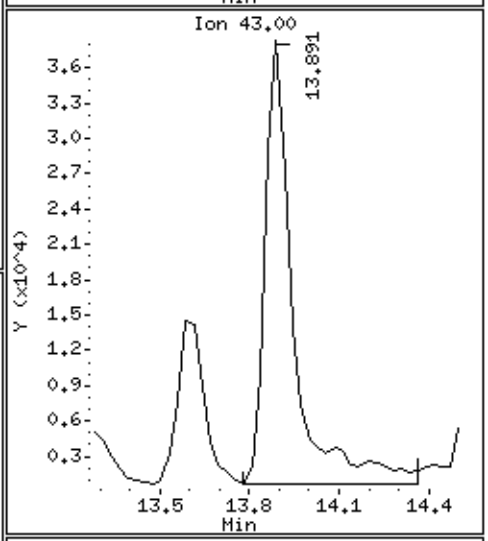


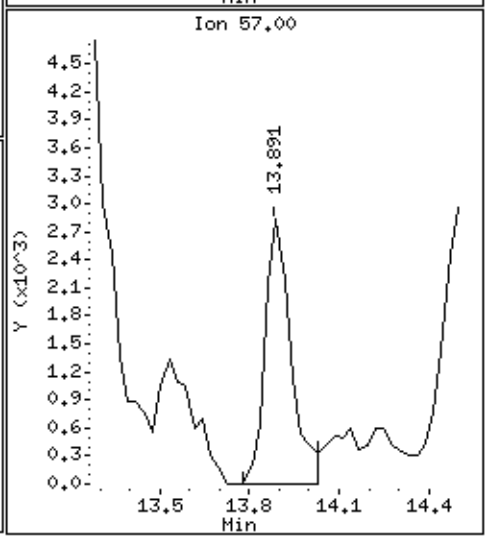












Data File: /chem/msd7.i/7-04nova.b/7110418.d

Date : 05-NOV-2007 07:24

Client ID:

Instrument: msd7.i

Sample Info: 200mL#14003

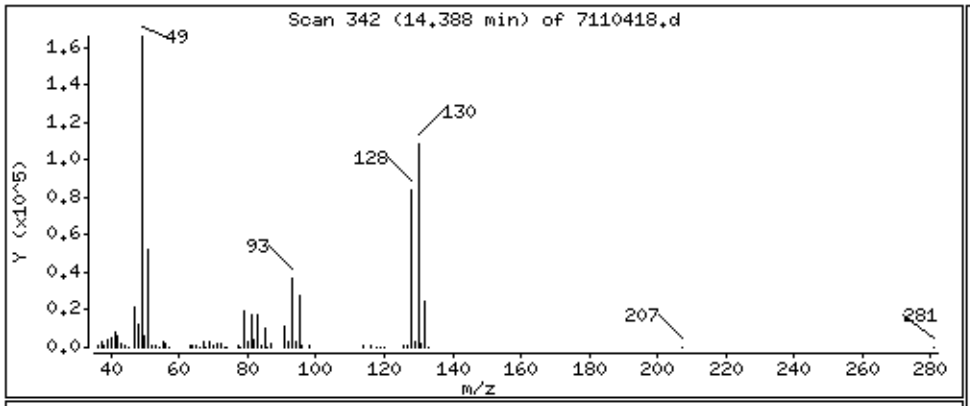
Operator: lo

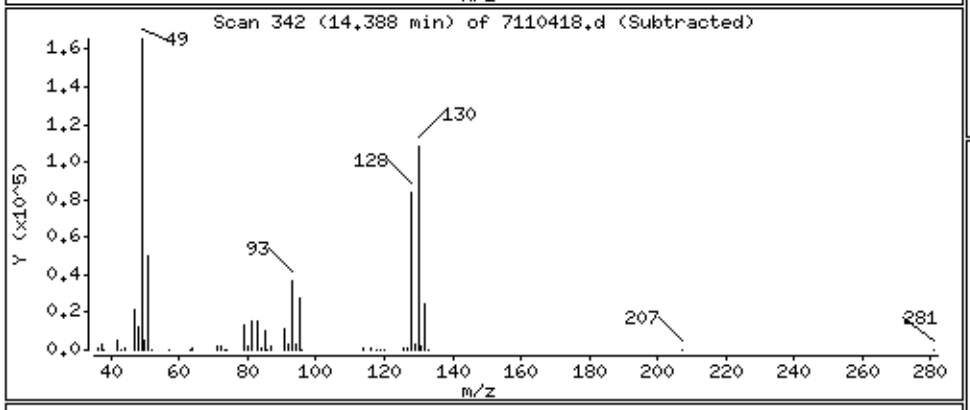
Column phase: RTx-624

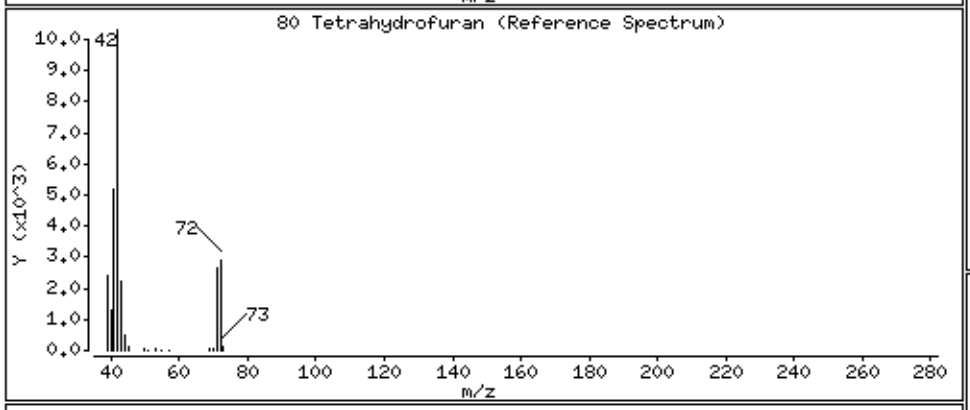
Column diameter: 0.53

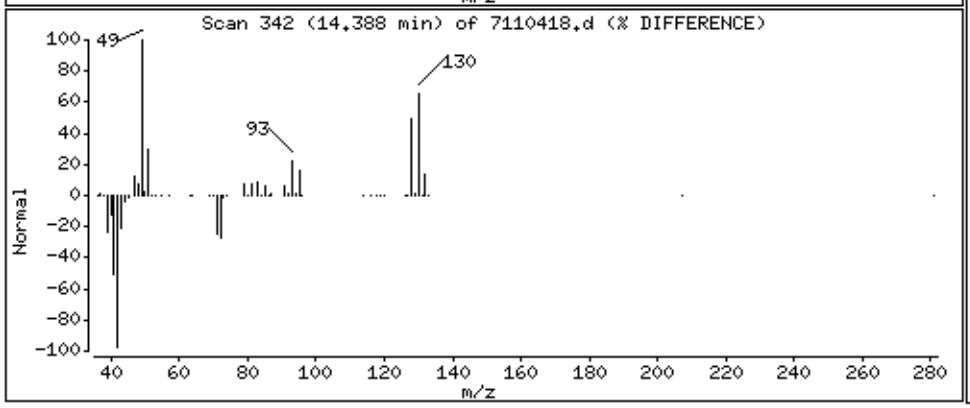
80 Tetrahydrofuran

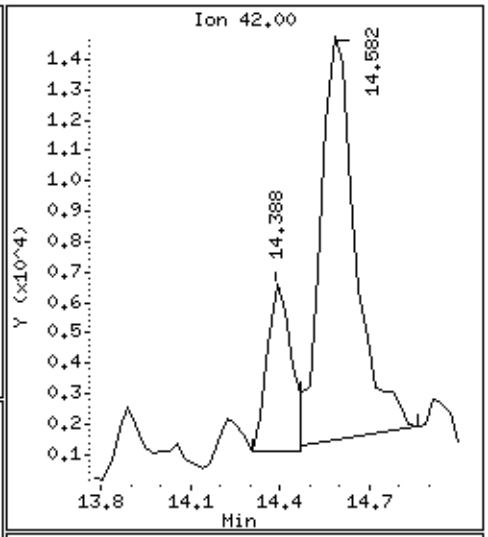
Concentration: 1.656 PPBV

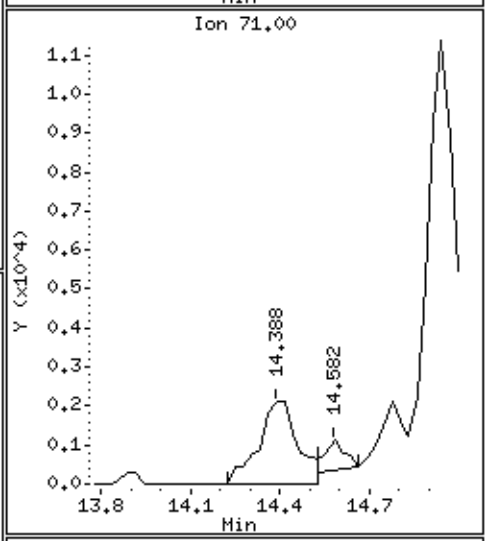


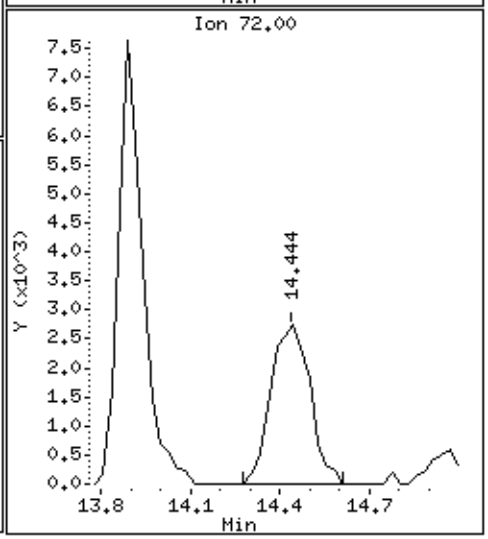












Data File: /chem/msd7.i/7-04nova.b/7110418.d

Date : 05-NOV-2007 07:24

Client ID:

Instrument: msd7.i

Sample Info: 200mL#14003

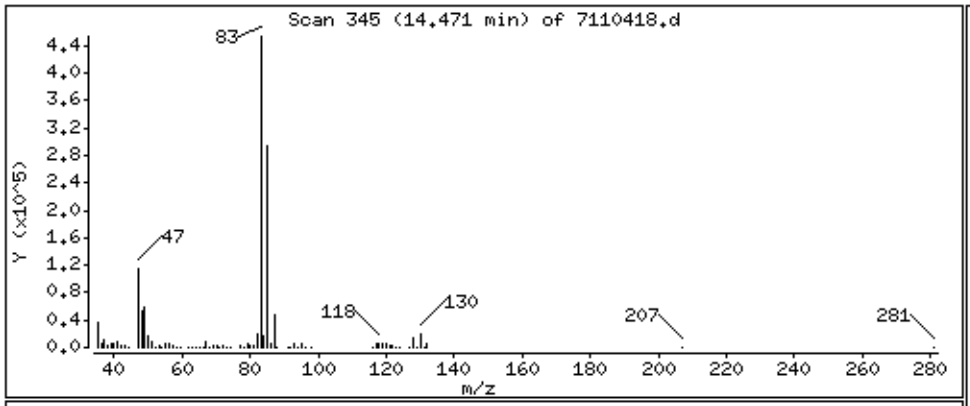
Operator: lo

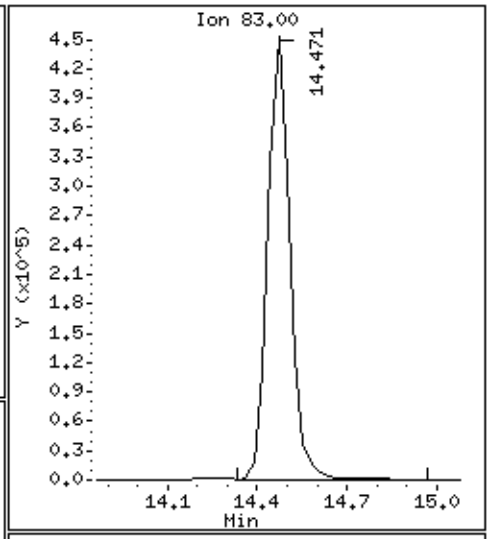
Column phase: RTx-624

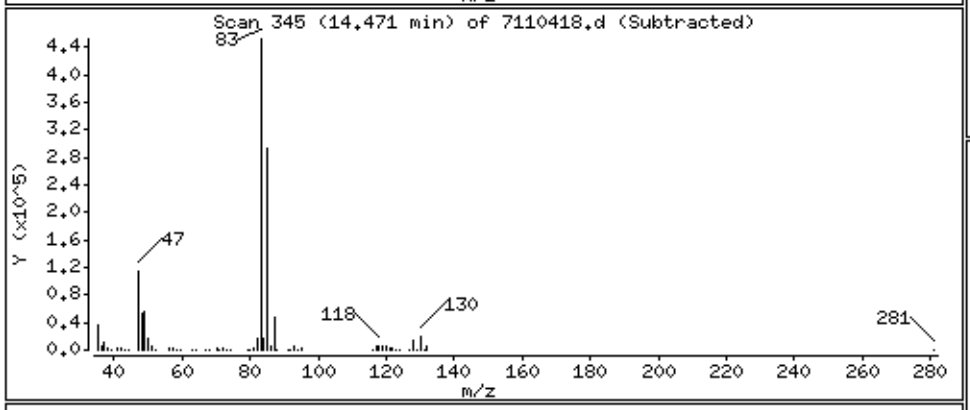
Column diameter: 0.53

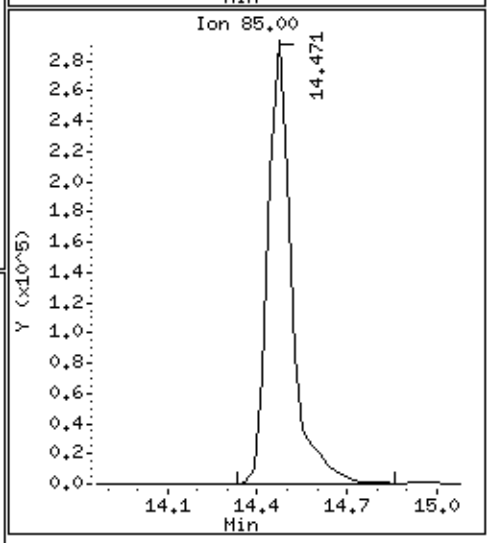
82 Chloroform

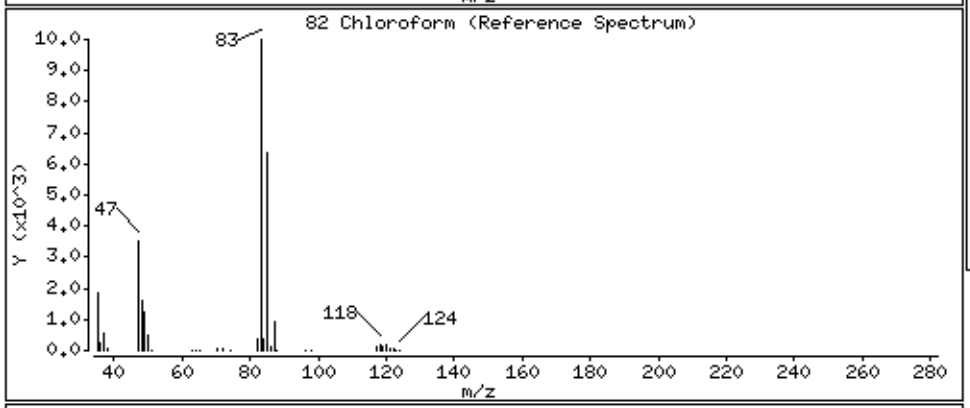
Concentration: 68.104 PPBV

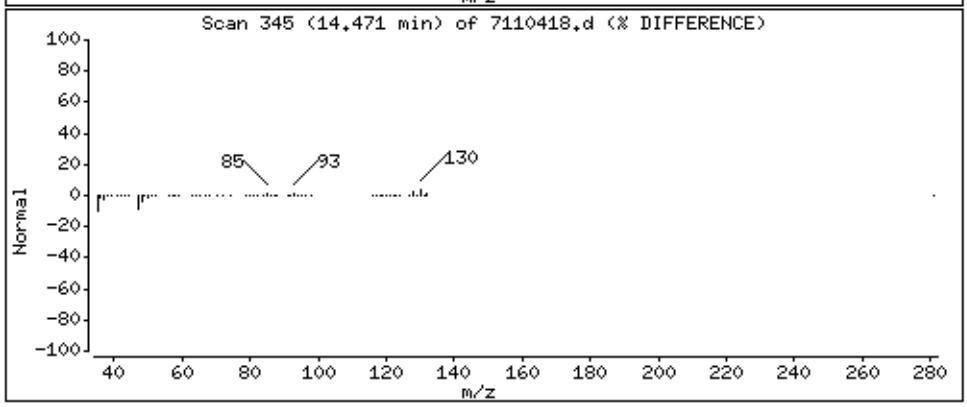












Data File: /chem/msd7.i/7-04nova.b/7110418.d

Date : 05-NOV-2007 07:24

Client ID:

Instrument: msd7.i

Sample Info: 200mL#14003

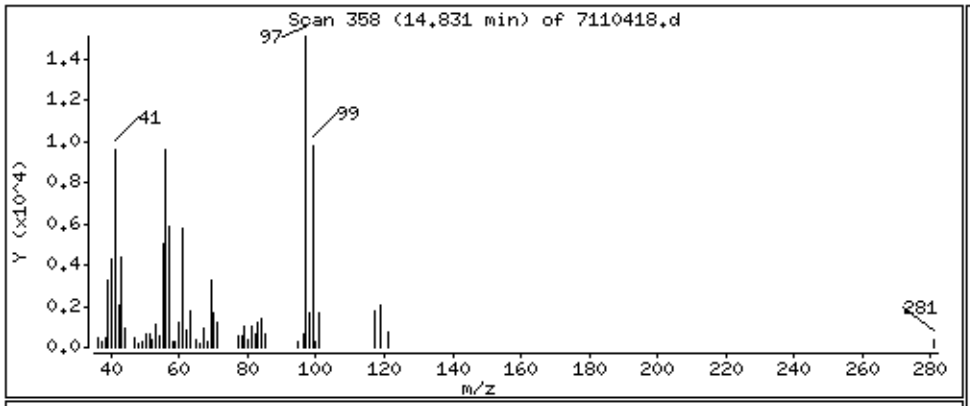
Operator: lo

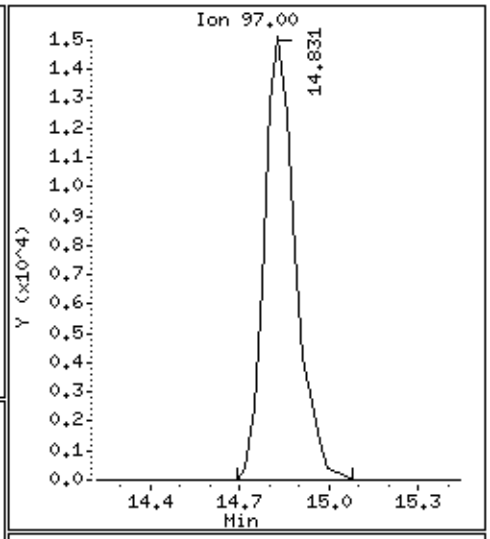
Column phase: RTx-624

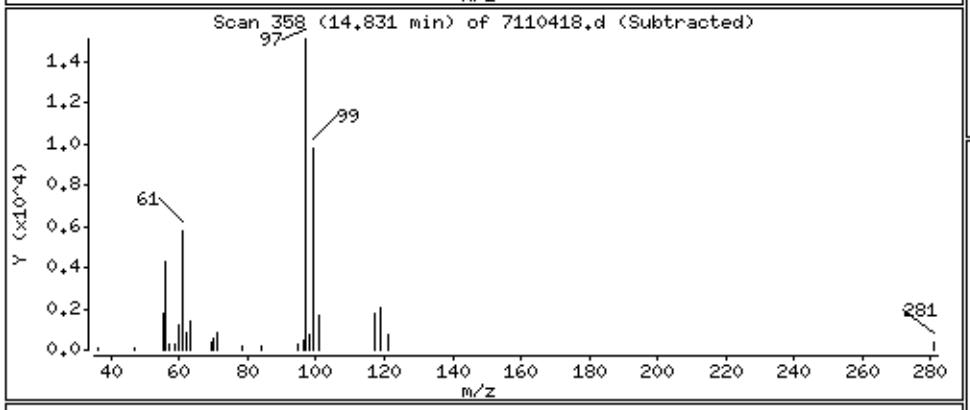
Column diameter: 0.53

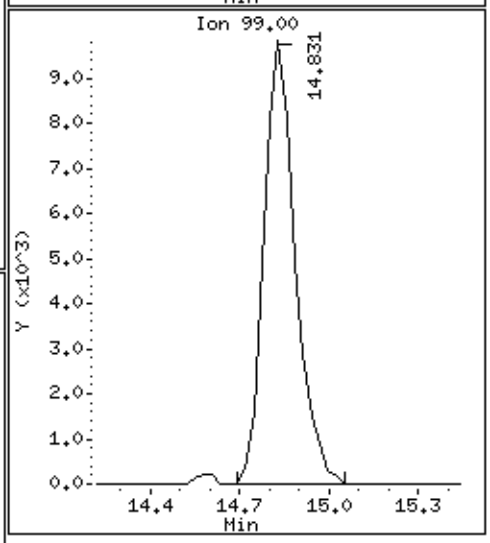
83 1,1,1-Trichloroethane

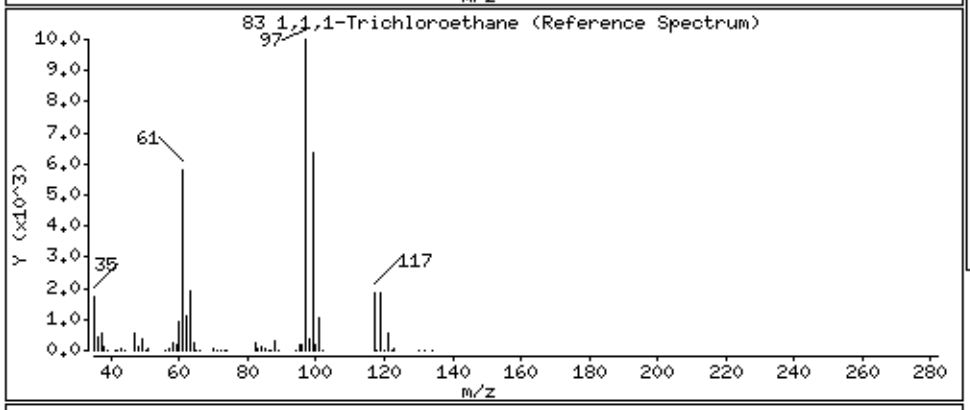
Concentration: 3.179 PPBV

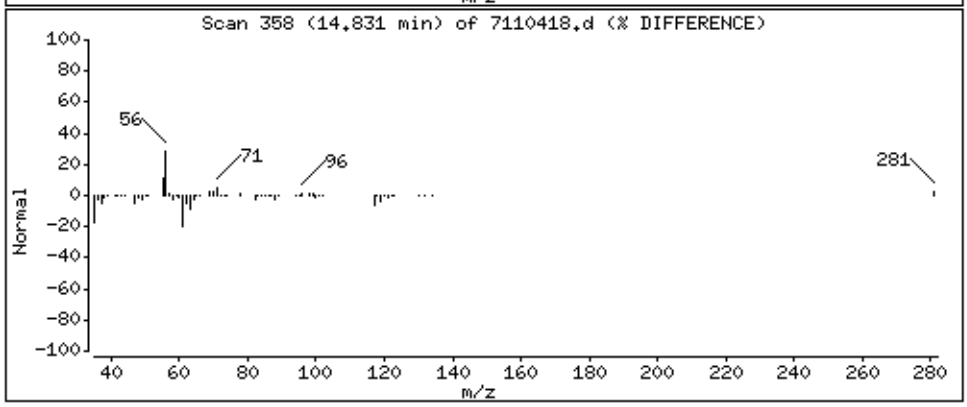












Data File: /chem/msd7.i/7-04nova.b/7110418.d

Date : 05-NOV-2007 07:24

Client ID:

Instrument: msd7.i

Sample Info: 200mL#14003

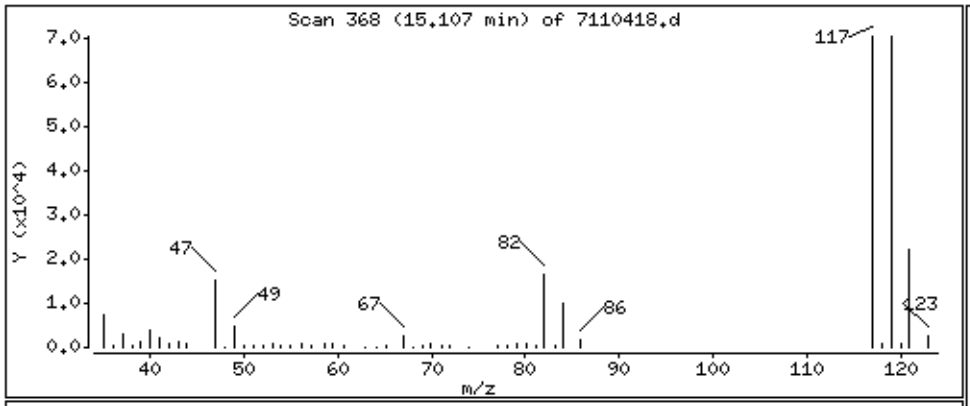
Operator: lo

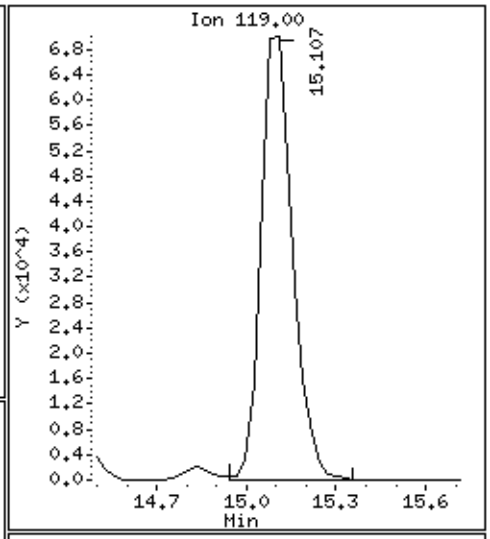
Column phase: RTx-624

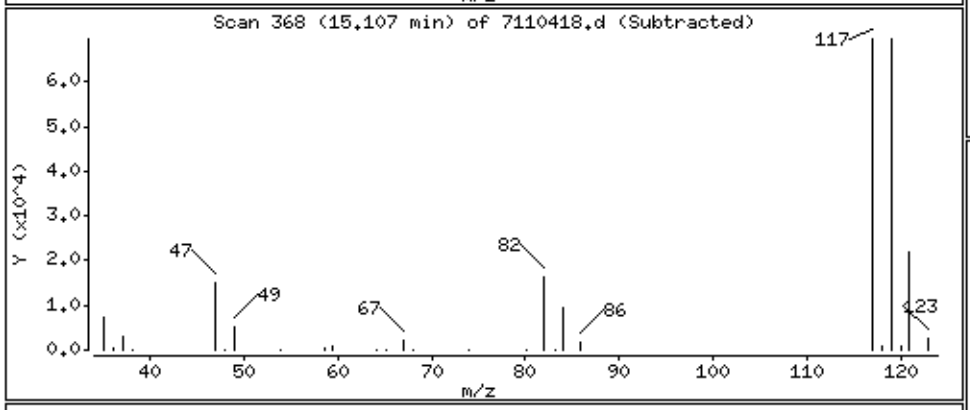
Column diameter: 0.53

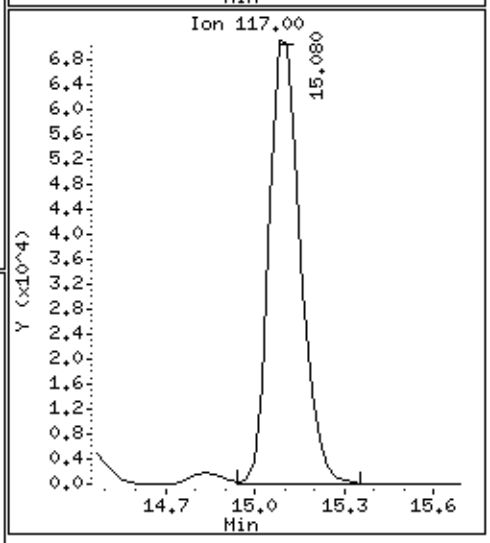
87 Carbon Tetrachloride

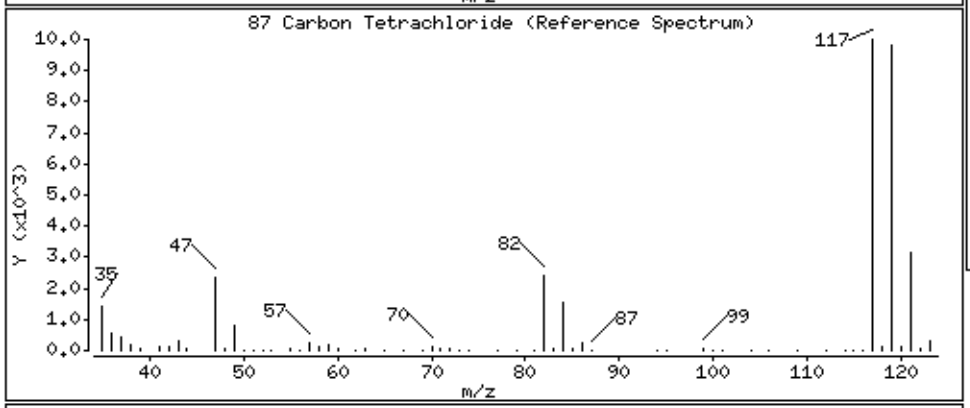
Concentration: 15.895 PPBV

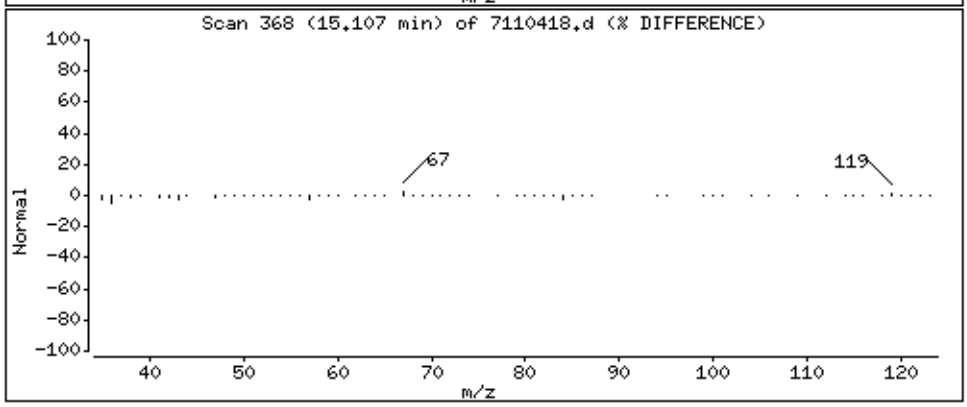












Data File: /chem/msd7.i/7-04nova.b/7110418.d

Date : 05-NOV-2007 07:24

Client ID:

Instrument: msd7.i

Sample Info: 200mL#14003

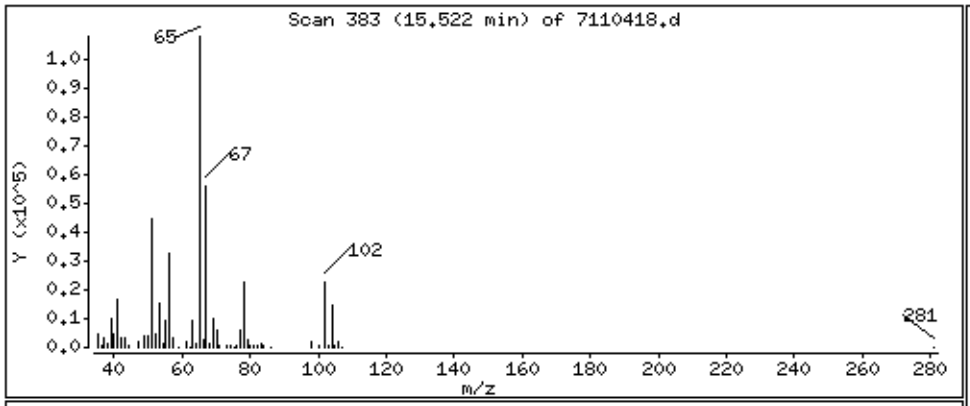
Operator: lo

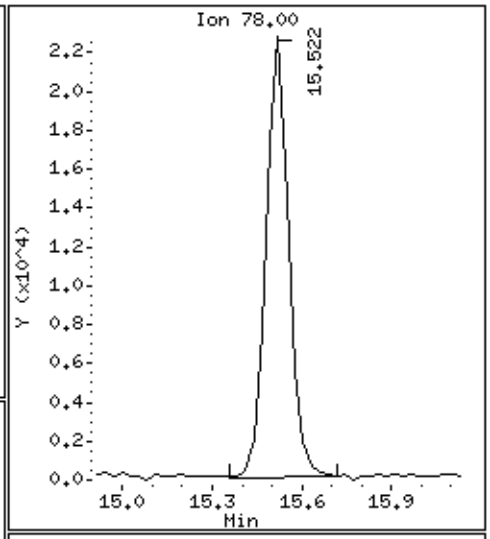
Column phase: RTx-624

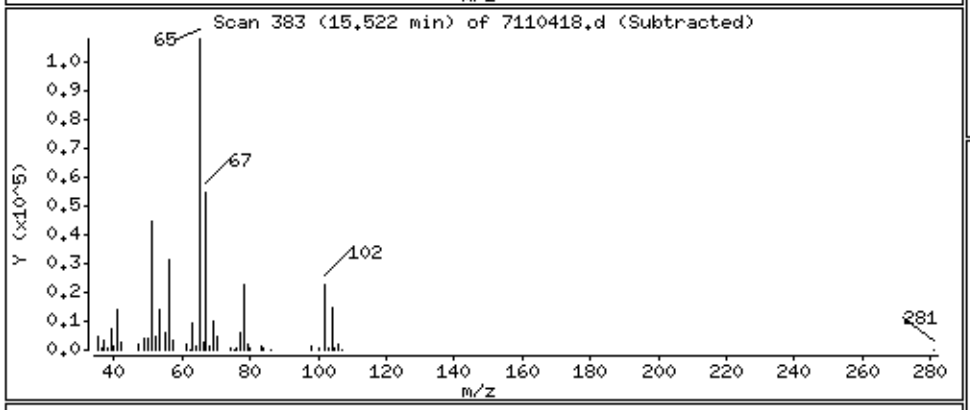
Column diameter: 0.53

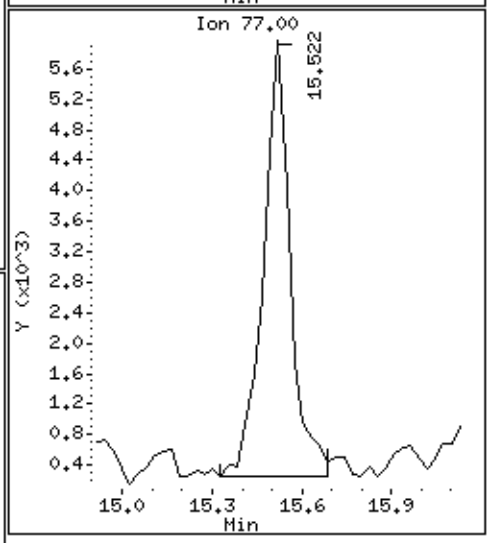
91 Benzene

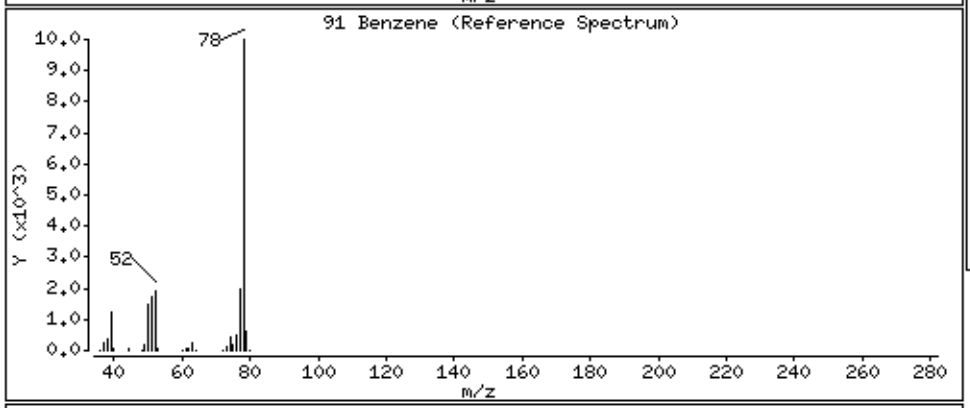
Concentration: 2.623 PPBV

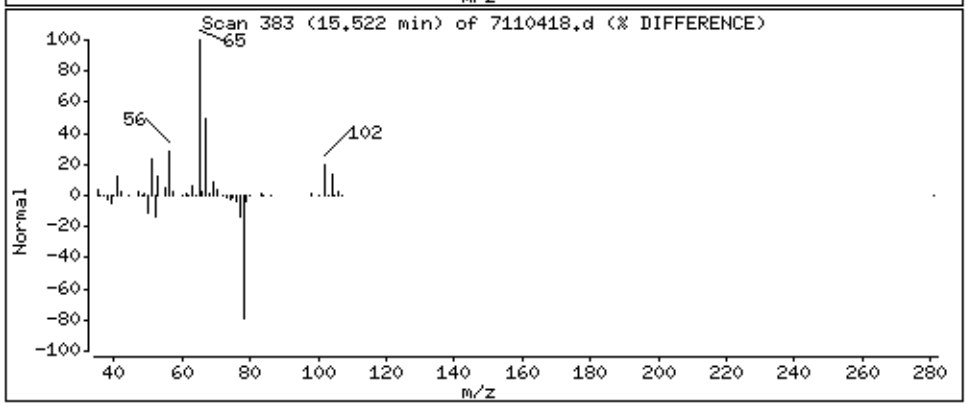












Data File: /chem/msd7.i/7-04nova.b/7110418.d

Date : 05-NOV-2007 07:24

Client ID:

Instrument: msd7.i

Sample Info: 200mL#14003

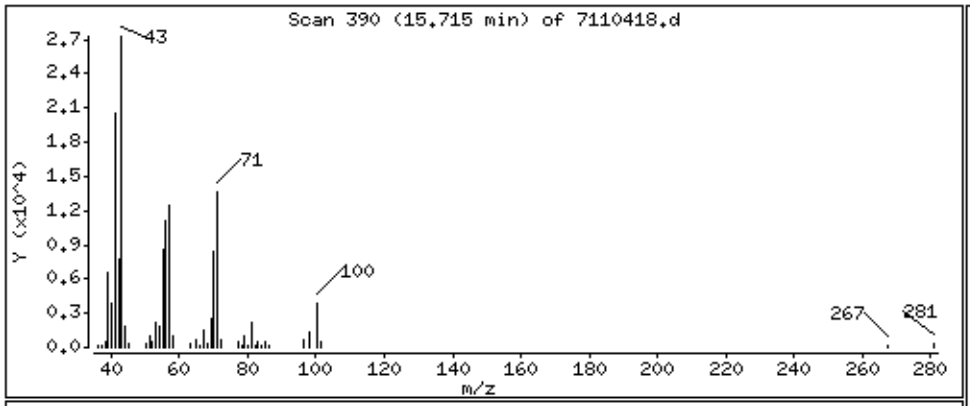
Operator: lo

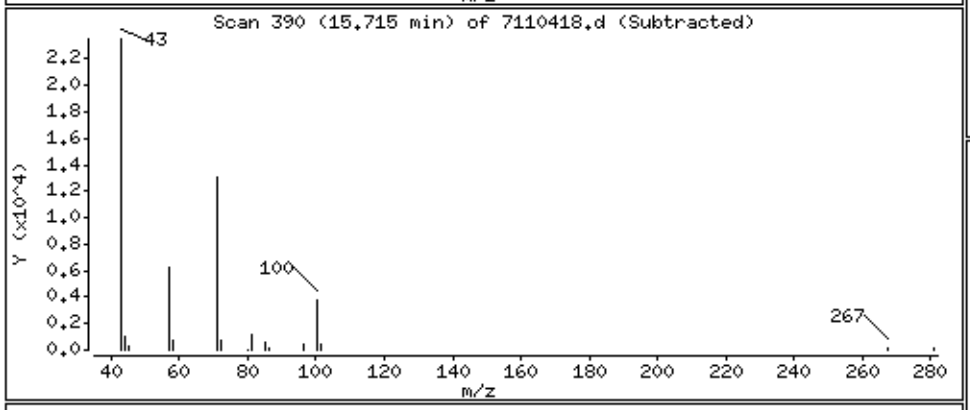
Column phase: RTx-624

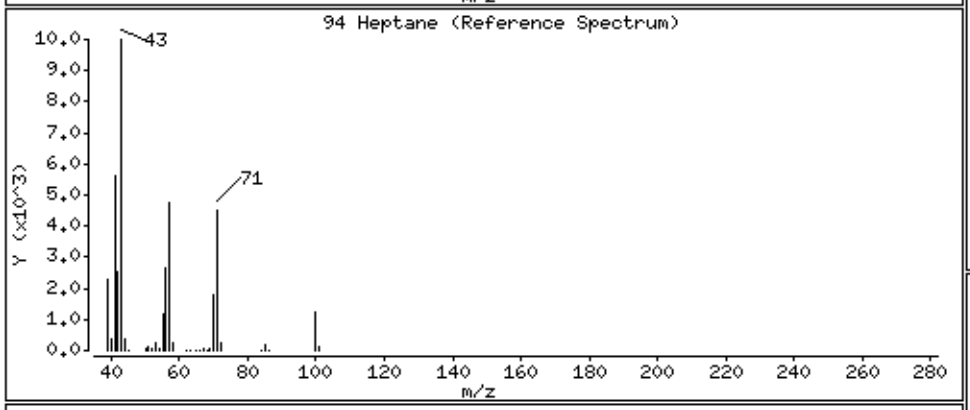
Column diameter: 0.53

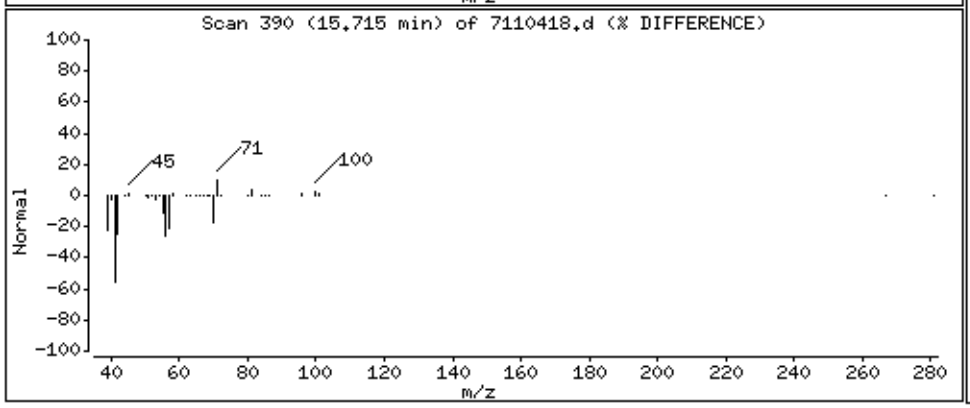
94 Heptane

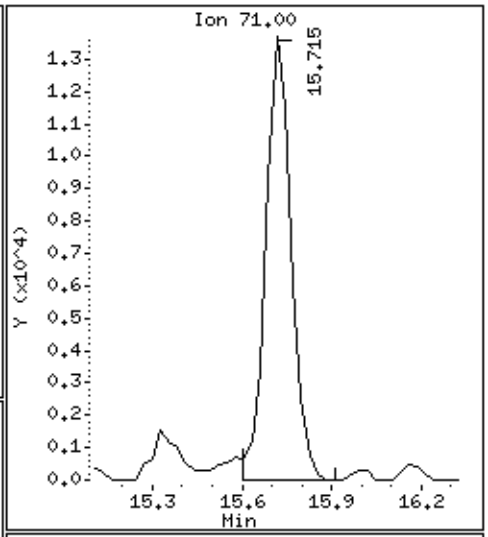
Concentration: 5.783 PPBV

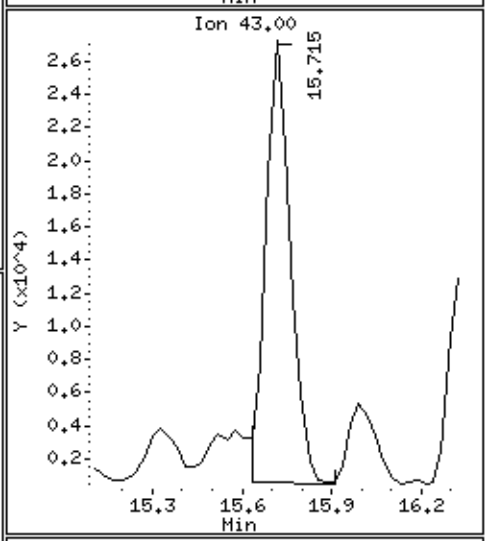


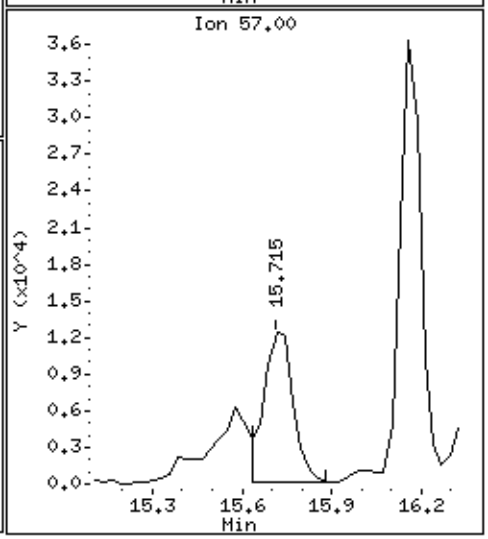












Data File: /chem/msd7.i/7-04nova.b/7110418.d

Date : 05-NOV-2007 07:24

Client ID:

Instrument: msd7.i

Sample Info: 200mL#14003

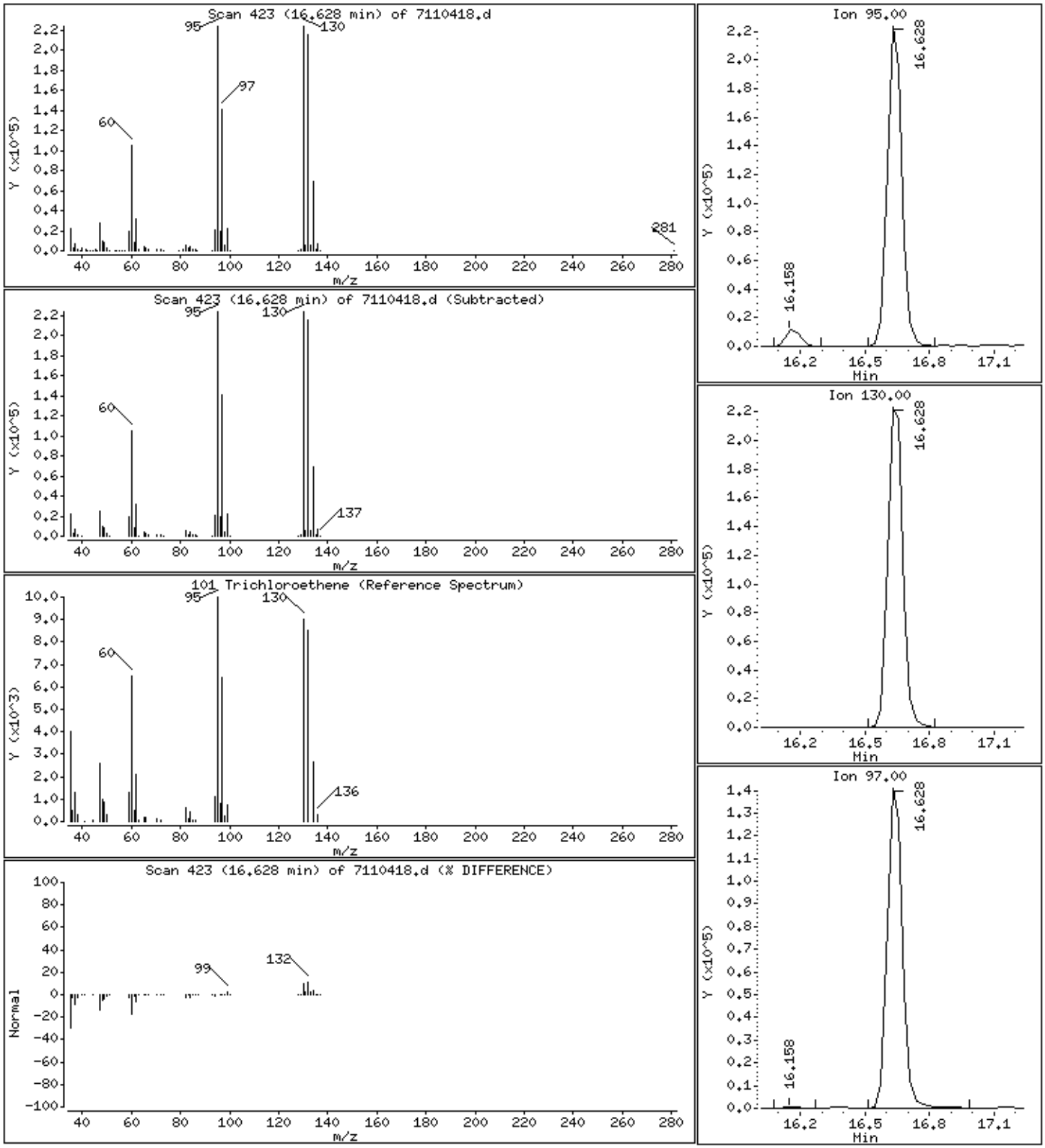
Operator: lo

Column phase: RTx-624

Column diameter: 0.53

101 Trichloroethene

Concentration: 51.318 PPBV



Data File: /chem/msd7.i/7-04nova.b/7110418.d

Date : 05-NOV-2007 07:24

Client ID:

Instrument: msd7.i

Sample Info: 200mL#14003

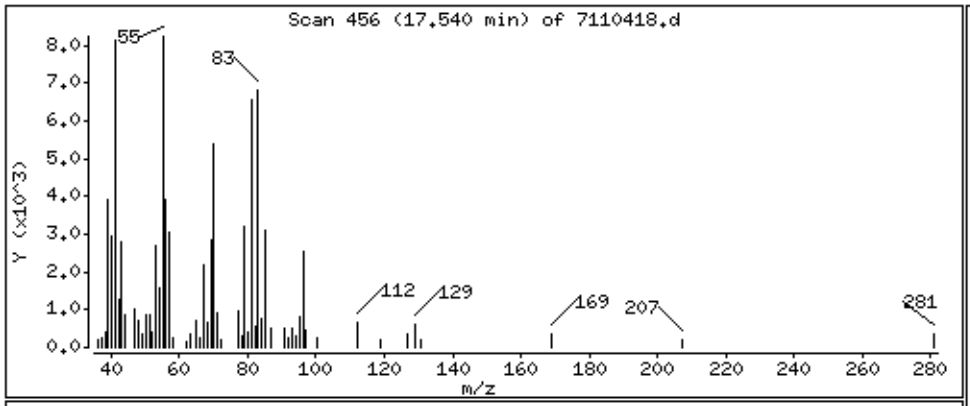
Operator: lo

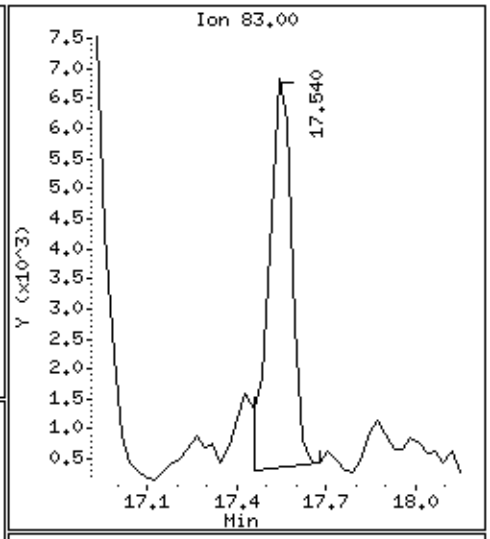
Column phase: RTx-624

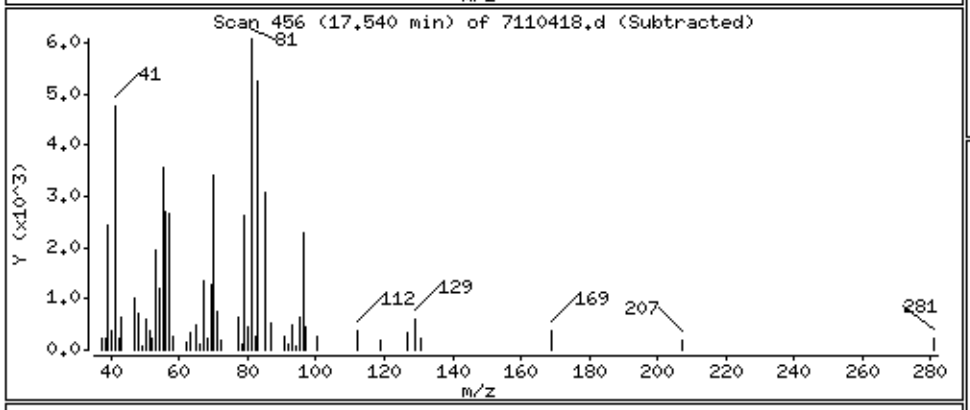
Column diameter: 0.53

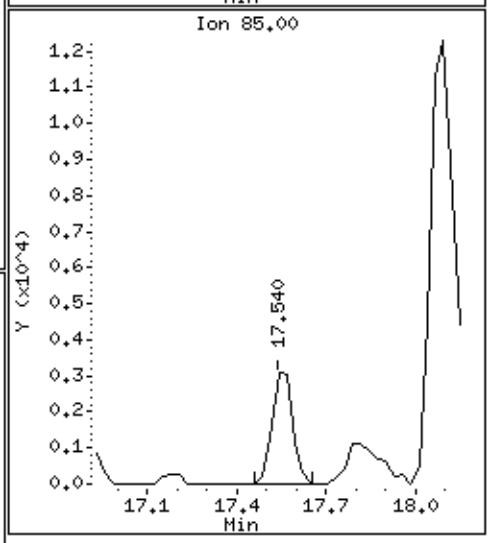
107 Bromodichloromethane

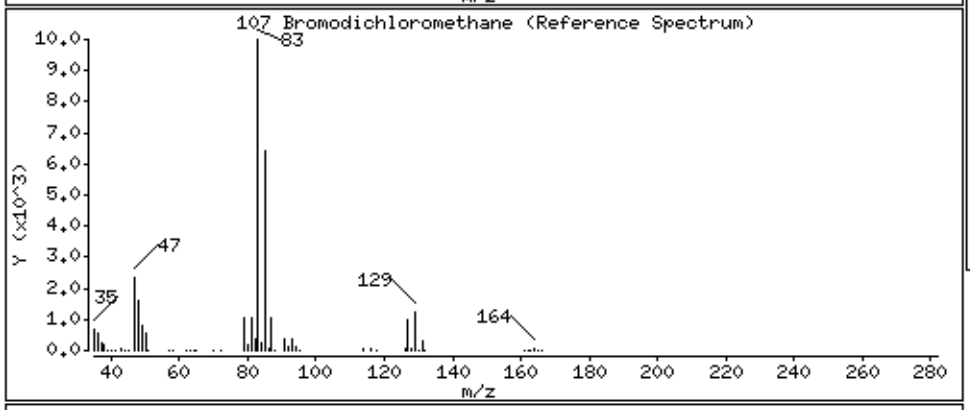
Concentration: 0.9897 PPBV

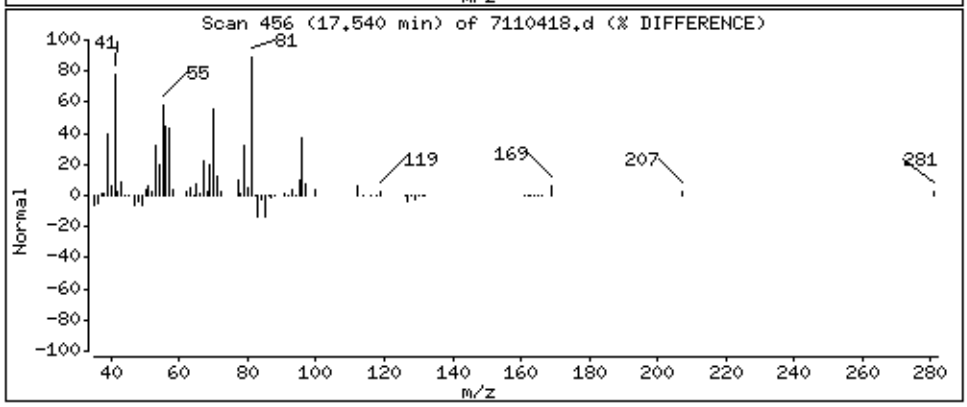












Data File: /chem/msd7.i/7-04nova.b/7110418.d

Date : 05-NOV-2007 07:24

Client ID:

Instrument: msd7.i

Sample Info: 200mL#14003

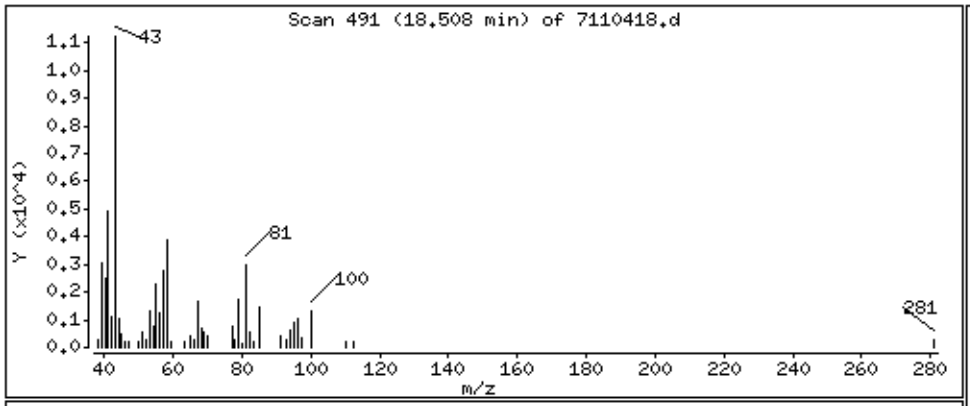
Operator: lo

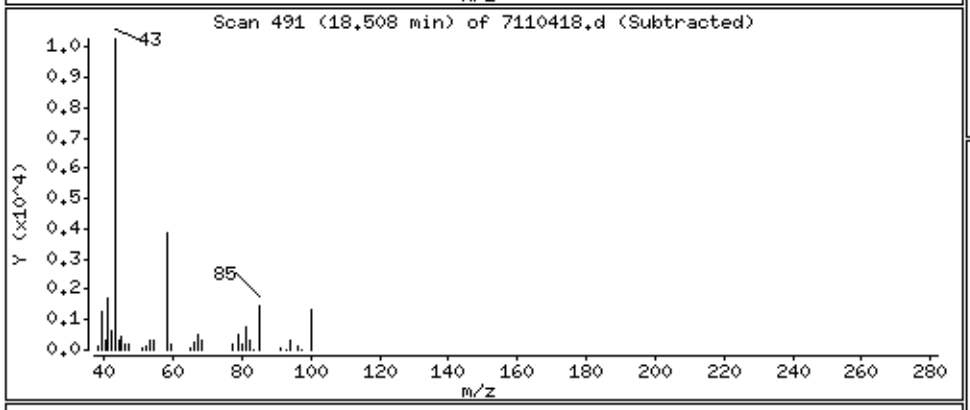
Column phase: RTx-624

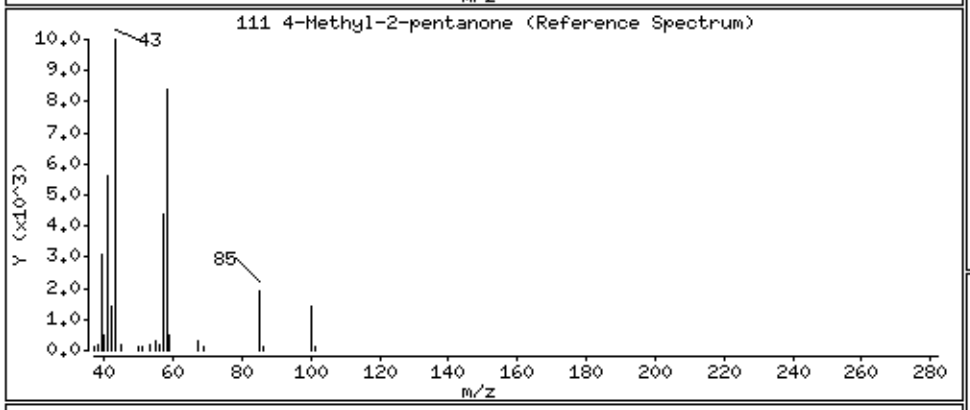
Column diameter: 0.53

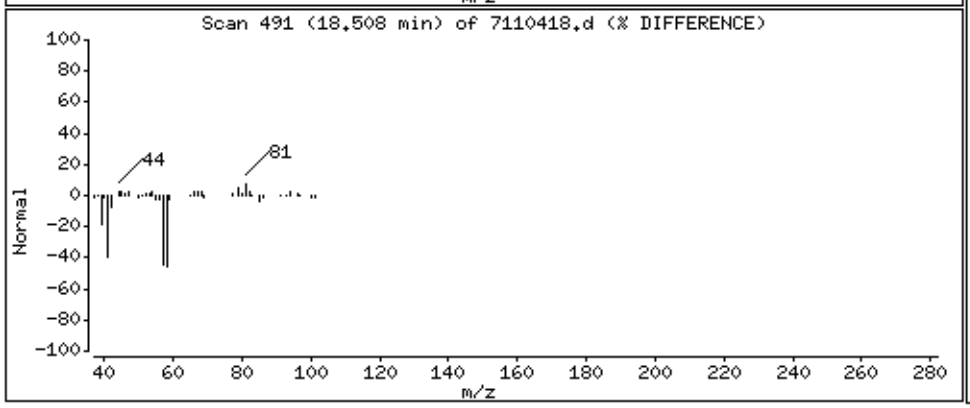
111 4-Methyl-2-pentanone

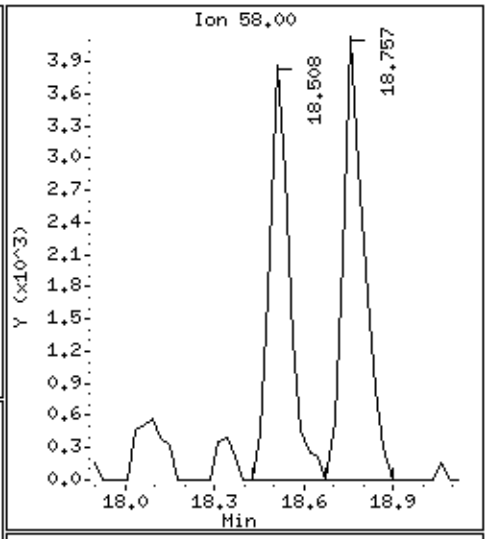
Concentration: 1.342 PPBV

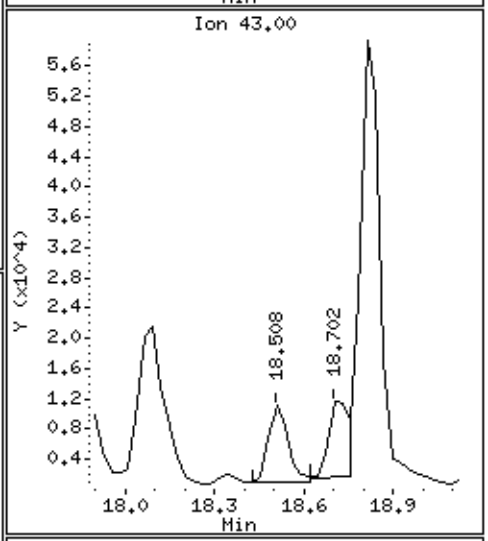


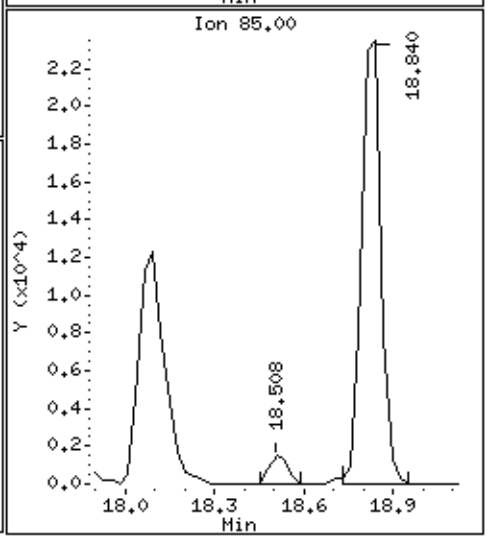












Data File: /chem/msd7.i/7-04nova.b/7110418.d

Date : 05-NOV-2007 07:24

Client ID:

Instrument: msd7.i

Sample Info: 200mL#14003

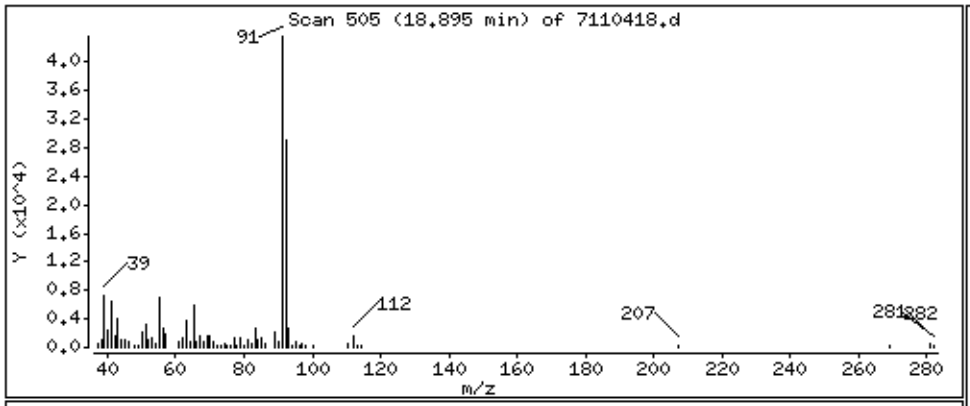
Operator: lo

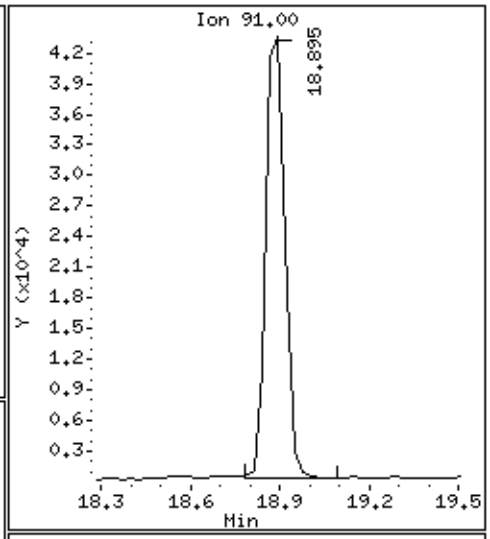
Column phase: RTx-624

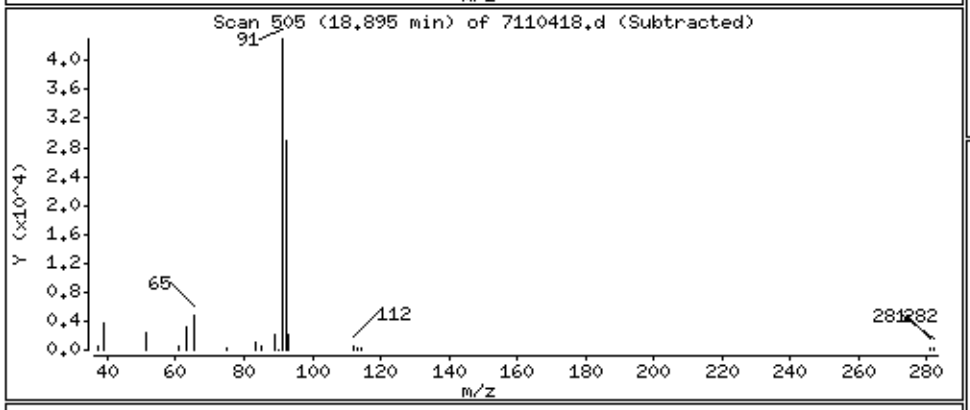
Column diameter: 0.53

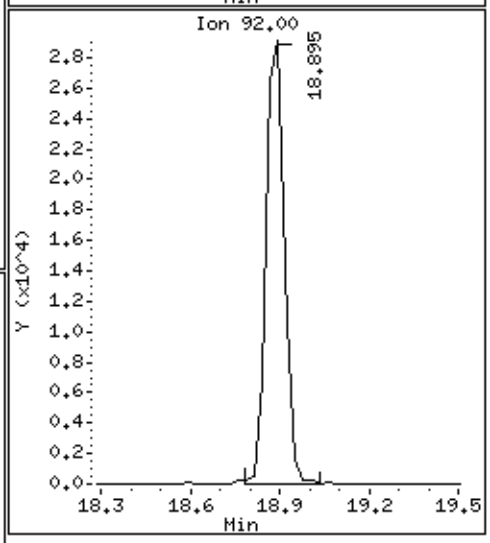
114 Toluene

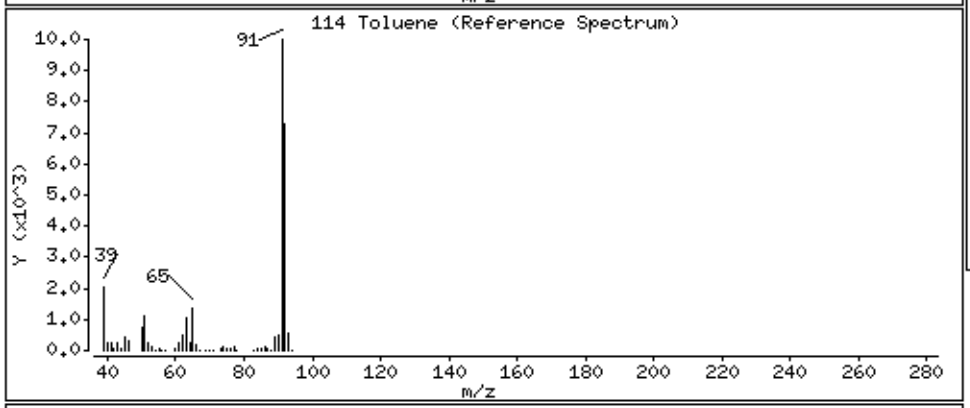
Concentration: 3.874 PPBV

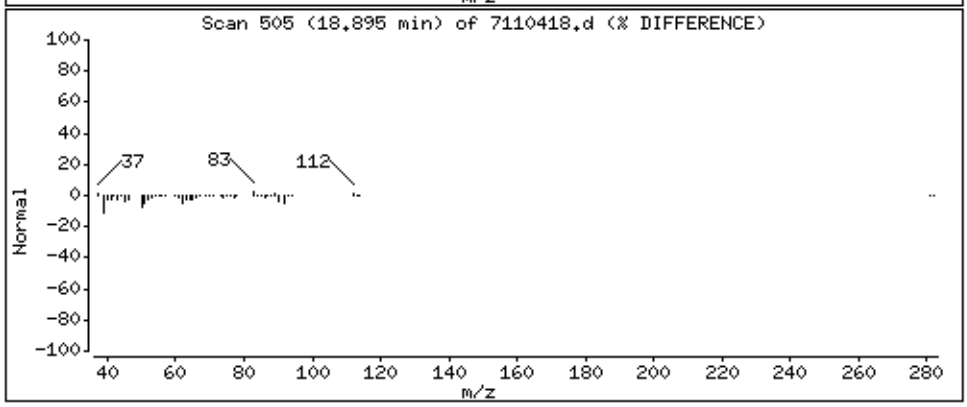












Data File: /chem/msd7.i/7-04nova.b/7110418.d

Date : 05-NOV-2007 07:24

Client ID:

Instrument: msd7.i

Sample Info: 200mL#14003

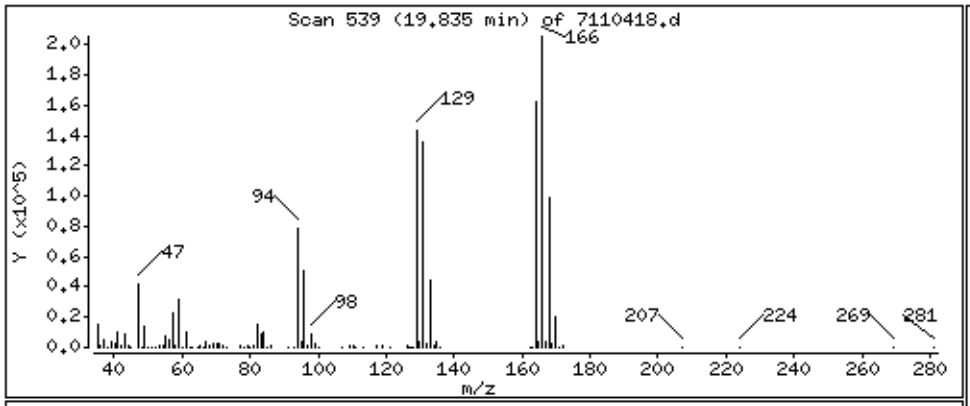
Operator: lo

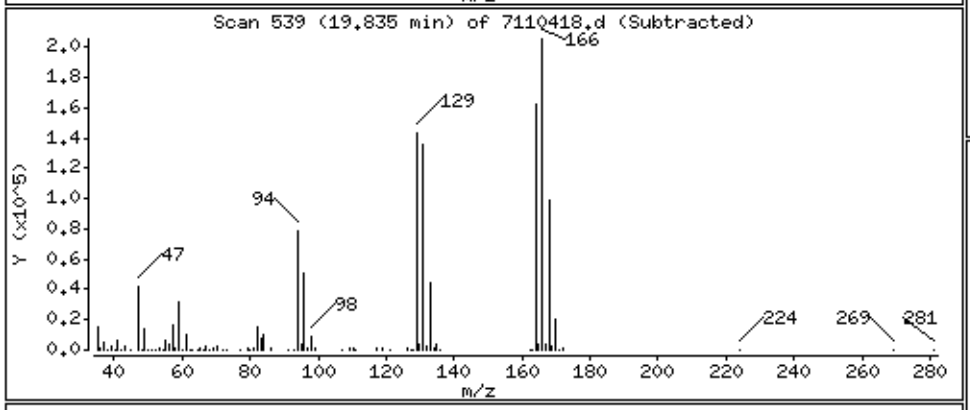
Column phase: RTx-624

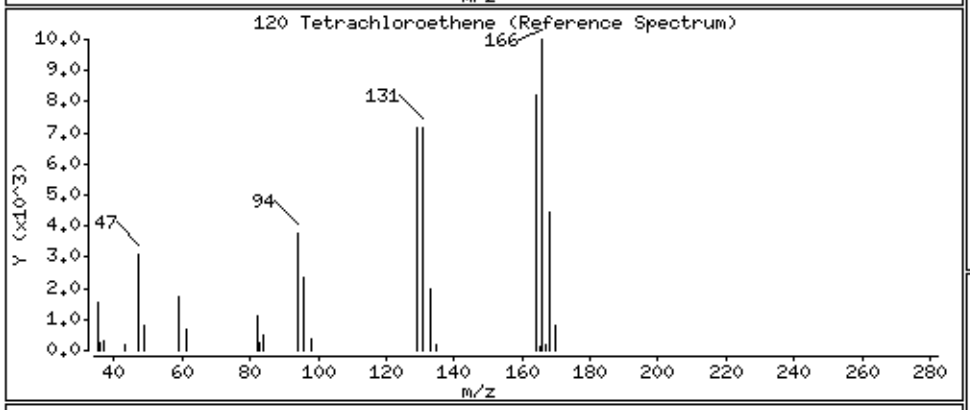
Column diameter: 0.53

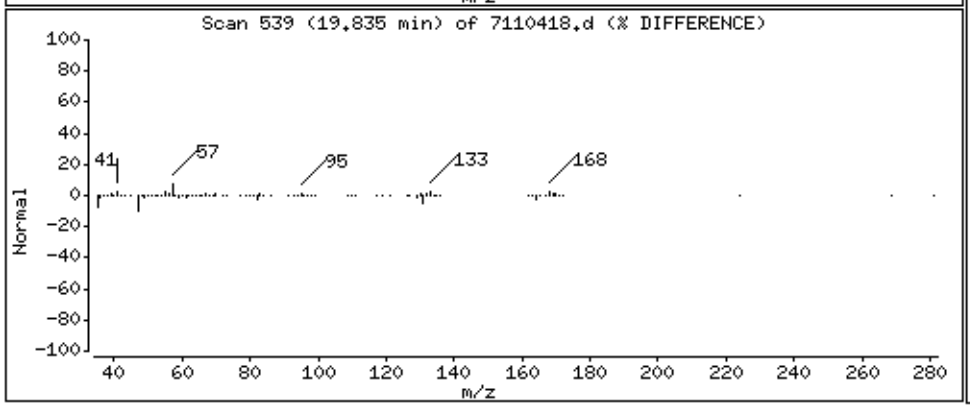
120 Tetrachloroethene

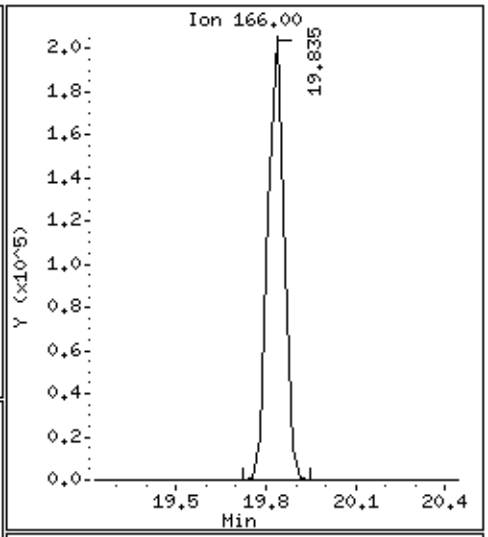
Concentration: 30.699 PPBV

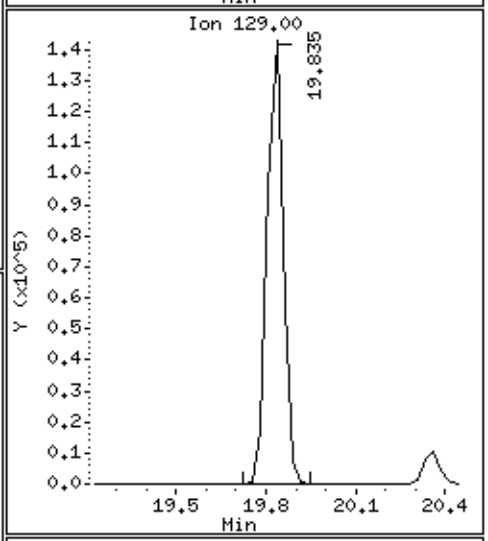


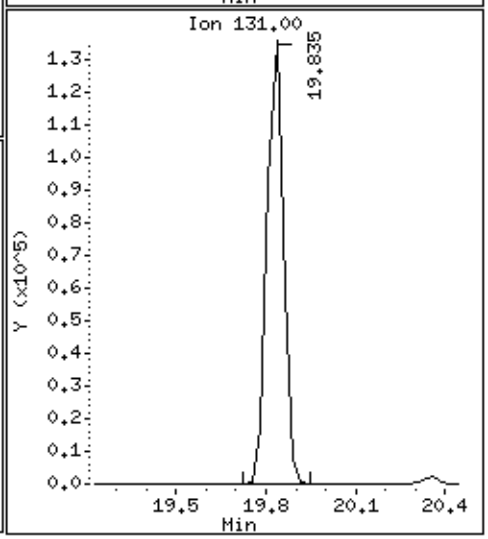












Data File: /chem/msd7.i/7-04nova.b/7110418.d

Date : 05-NOV-2007 07:24

Client ID:

Instrument: msd7.i

Sample Info: 200mL#14003

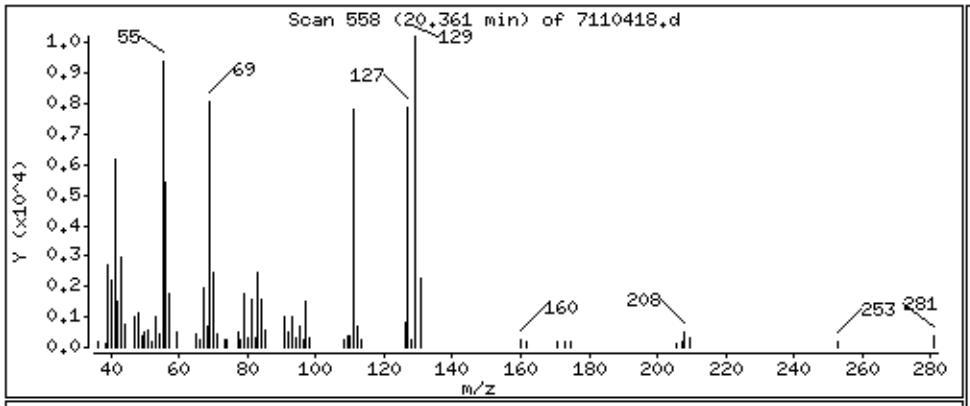
Operator: lo

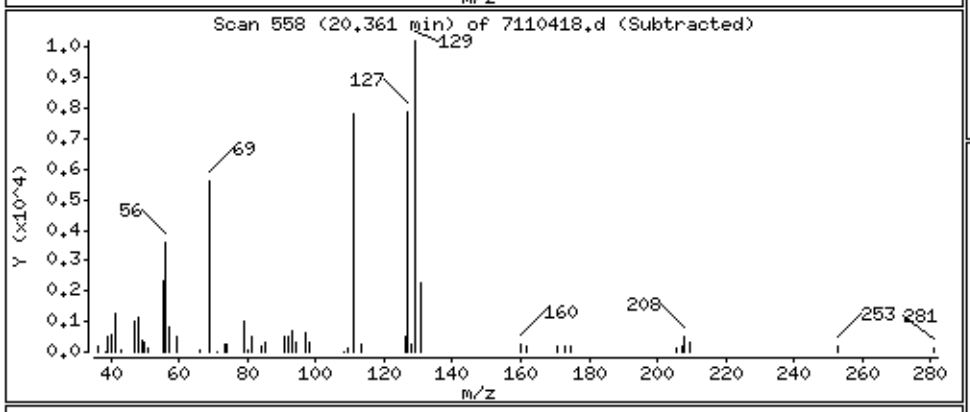
Column phase: RTx-624

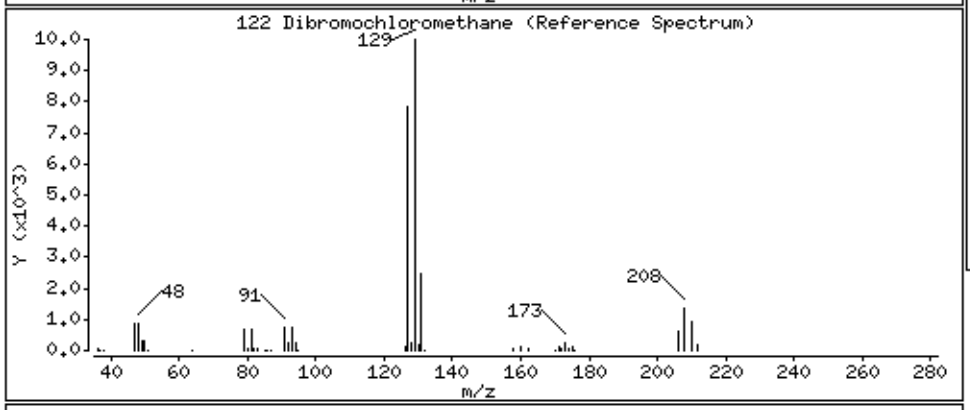
Column diameter: 0.53

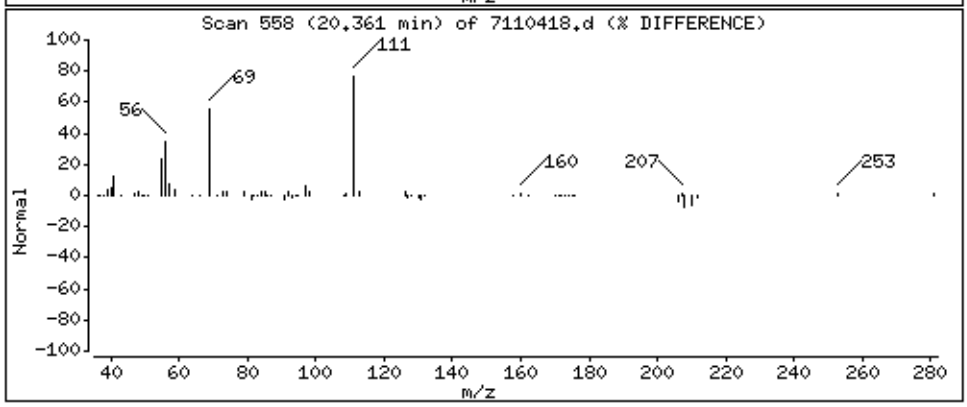
122 Dibromochloromethane

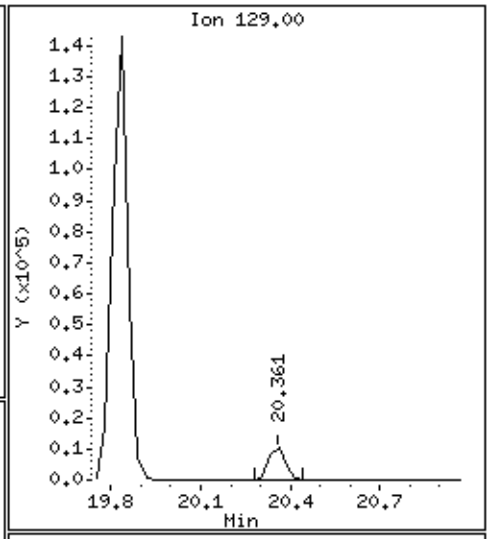
Concentration: 1.138 PPBV

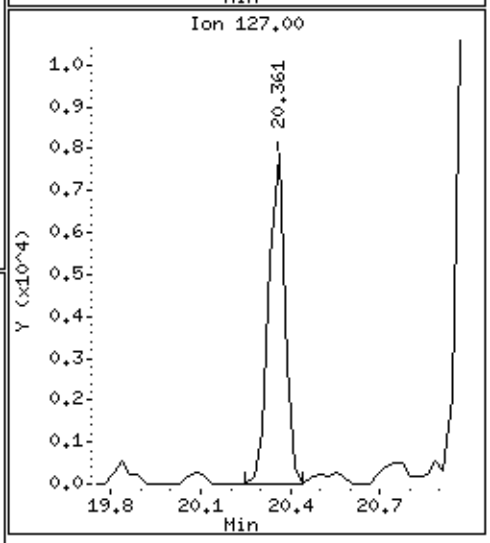












Data File: /chem/msd7.i/7-04nova.b/7110418.d

Date : 05-NOV-2007 07:24

Client ID:

Instrument: msd7.i

Sample Info: 200mL#14003

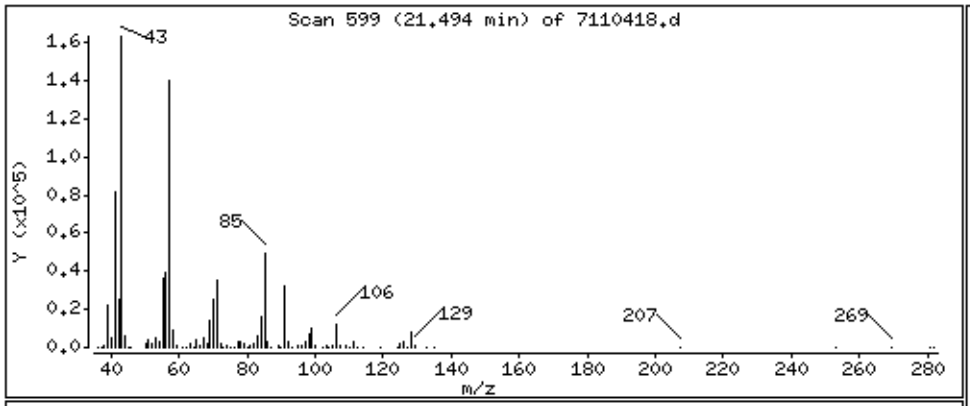
Operator: lo

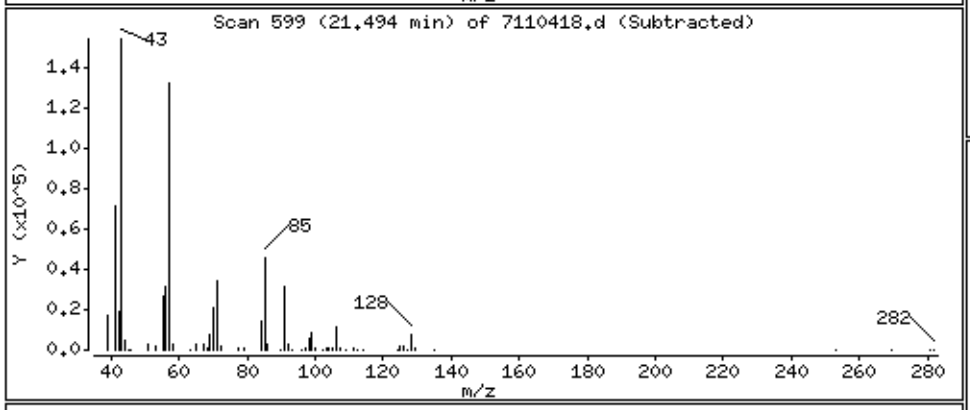
Column phase: RTx-624

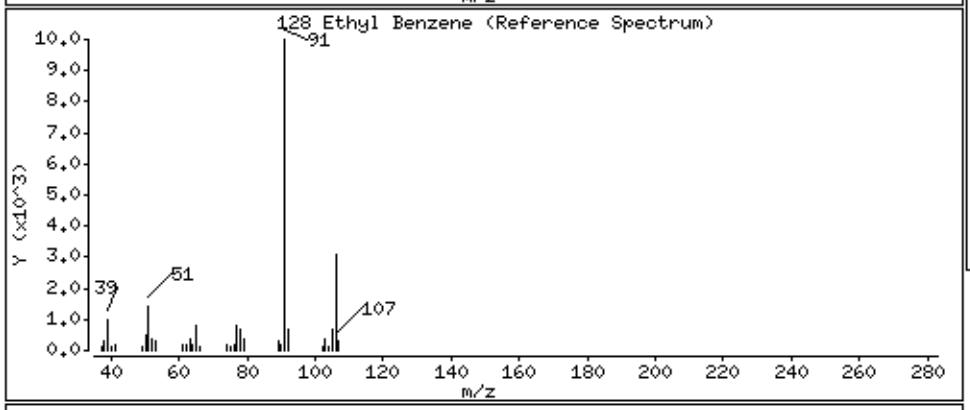
Column diameter: 0.53

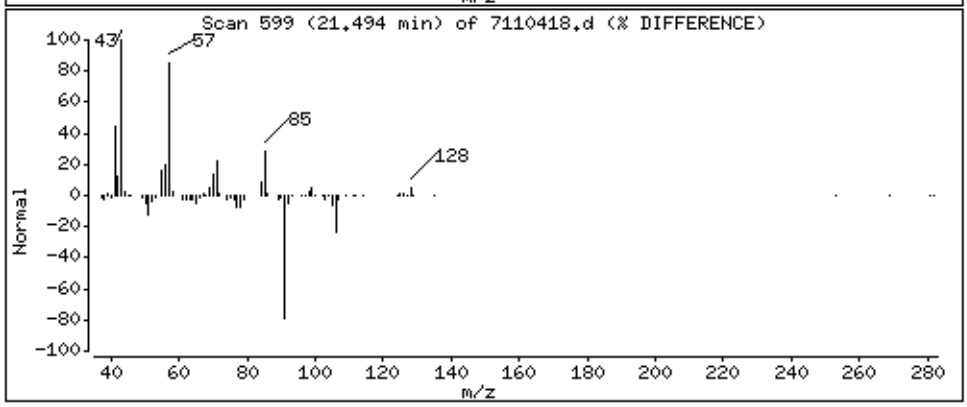
128 Ethyl Benzene

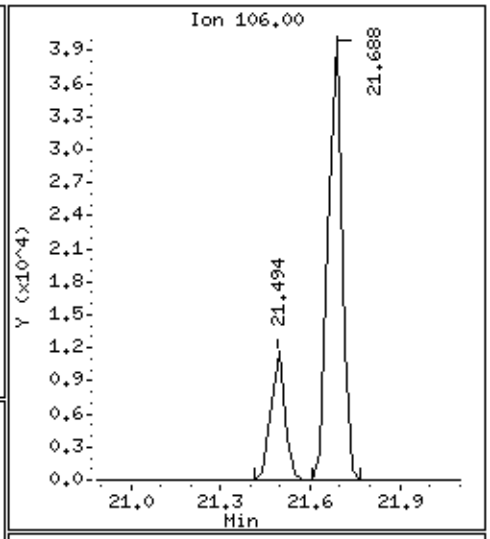
Concentration: 1.737 PPBV

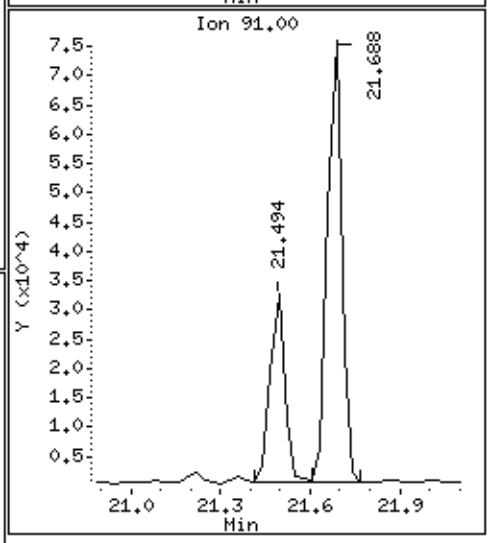












Data File: /chem/msd7.i/7-04nova.b/7110418.d

Date : 05-NOV-2007 07:24

Client ID:

Instrument: msd7.i

Sample Info: 200mL#14003

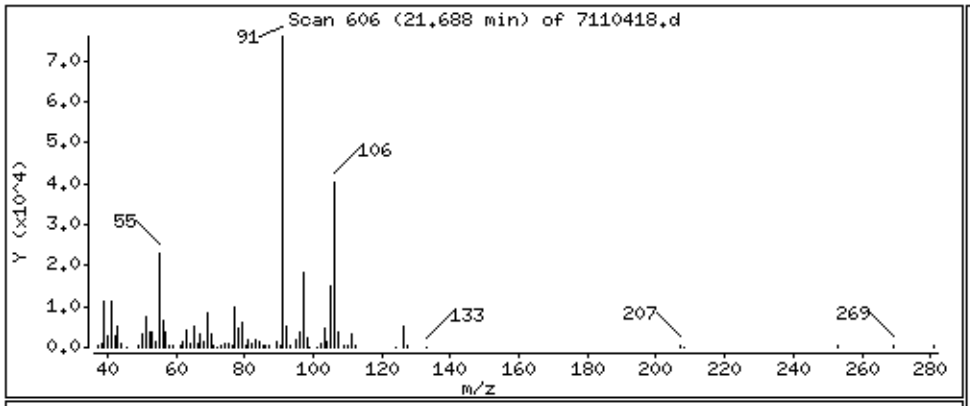
Operator: lo

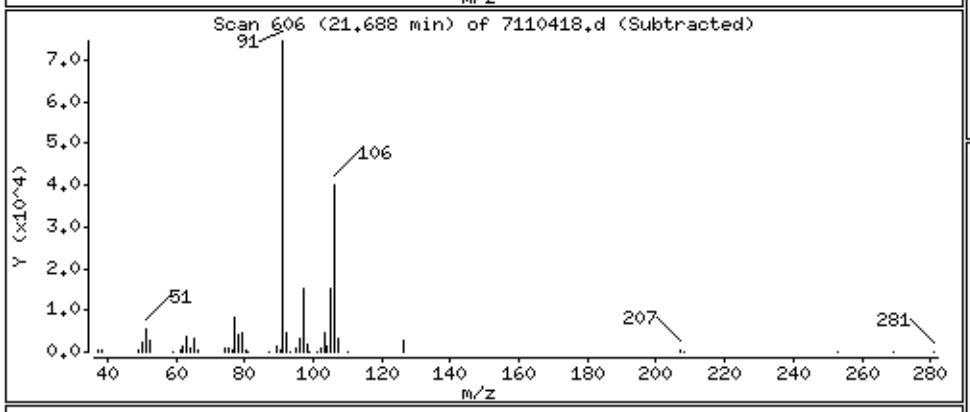
Column phase: RTx-624

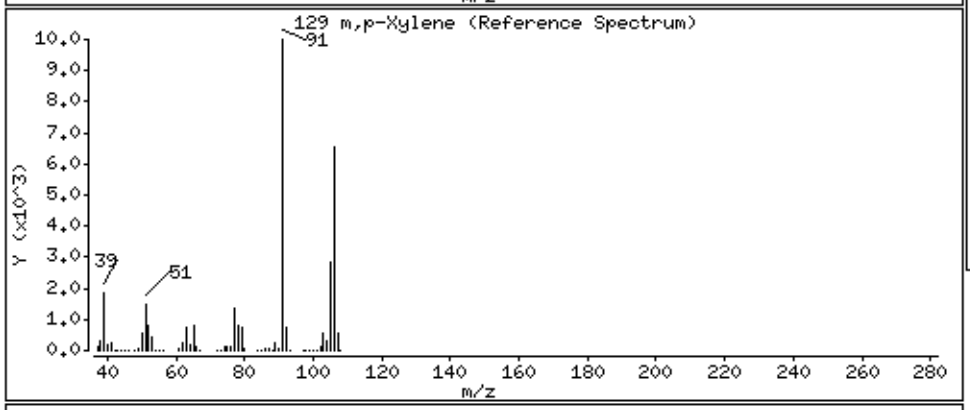
Column diameter: 0.53

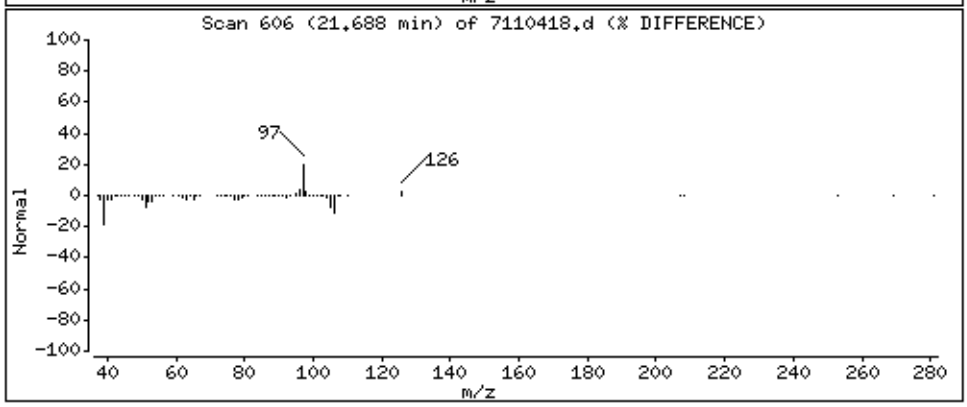
129 m,p-Xylene

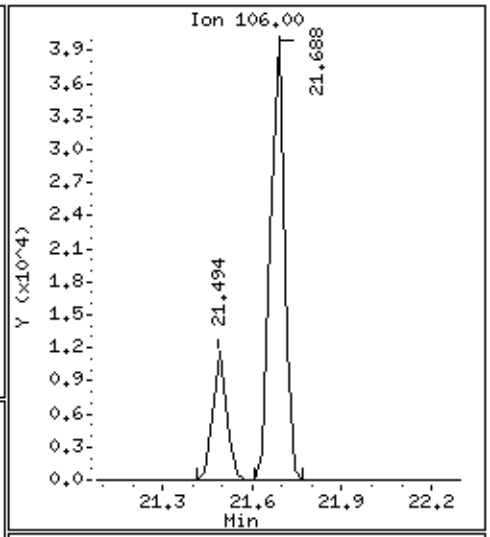
Concentration: 4.779 PPBV

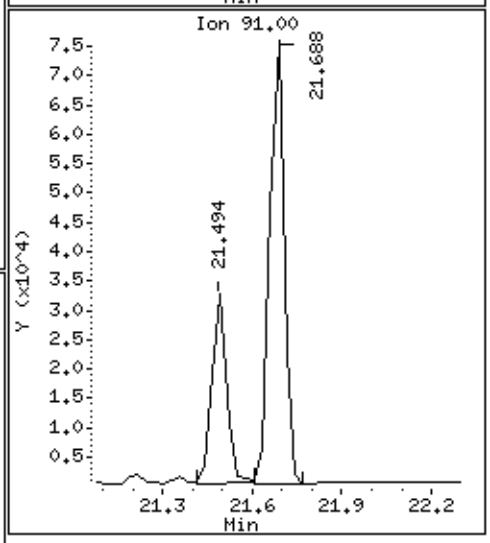












Data File: /chem/msd7.i/7-04nova.b/7110418.d

Date : 05-NOV-2007 07:24

Client ID:

Instrument: msd7.i

Sample Info: 200mL#14003

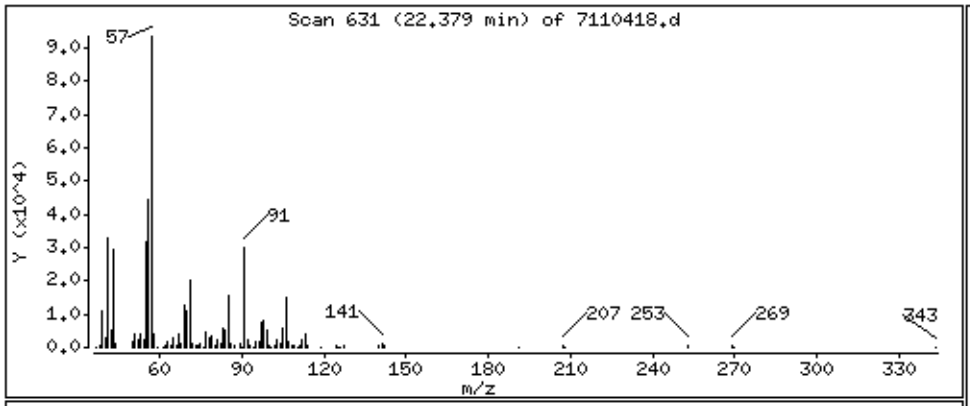
Operator: lo

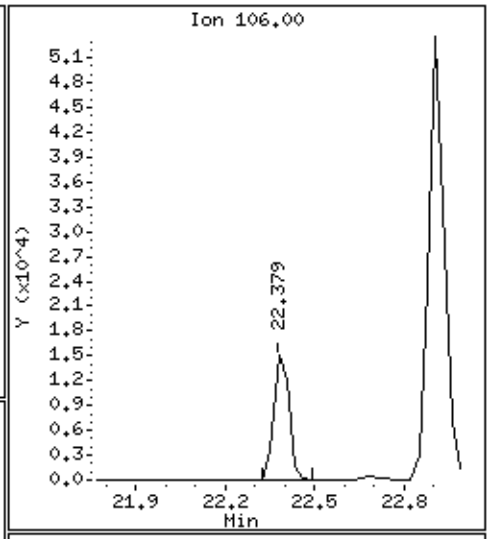
Column phase: RTx-624

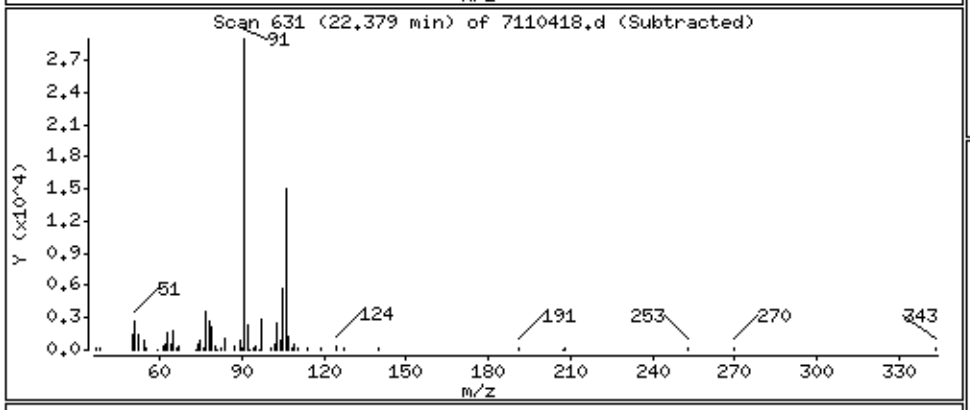
Column diameter: 0.53

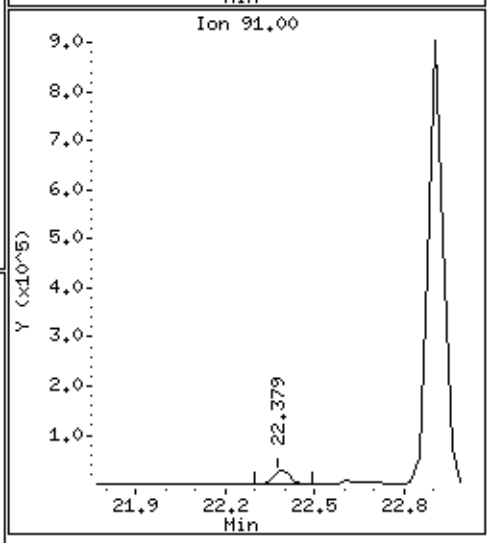
130 o-Xylene

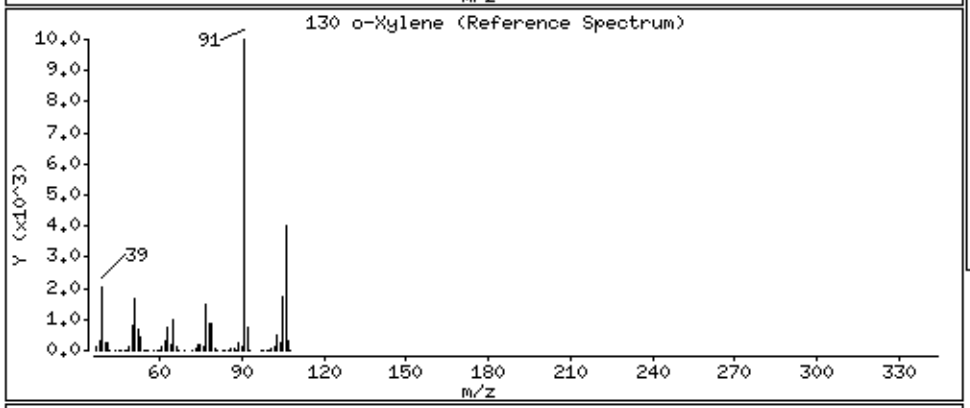
Concentration: 2.280 PPBV

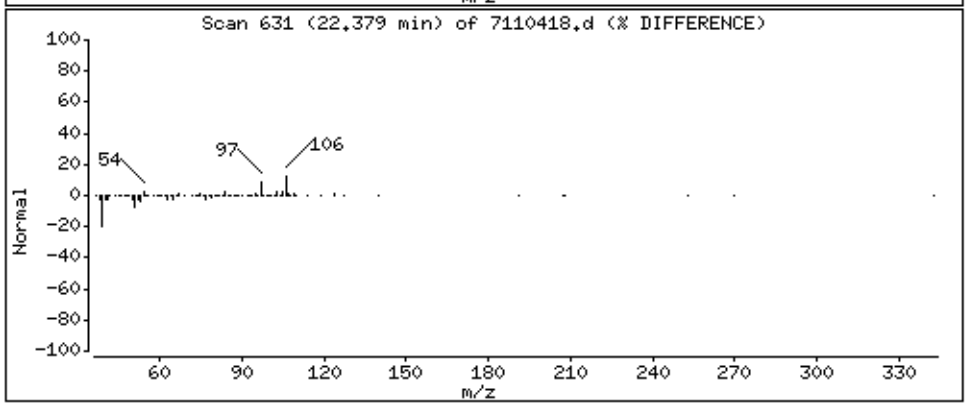












Data File: /chem/msd7.i/7-04nova.b/7110418.d

Date : 05-NOV-2007 07:24

Client ID:

Instrument: msd7.i

Sample Info: 200mL#14003

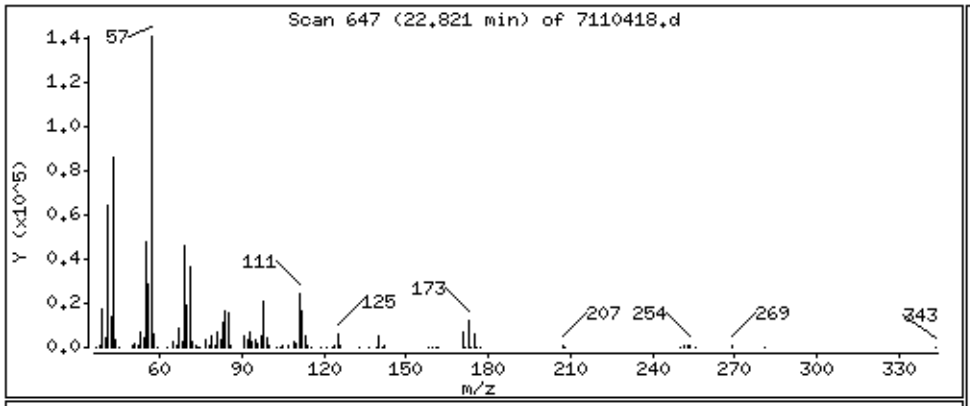
Operator: lo

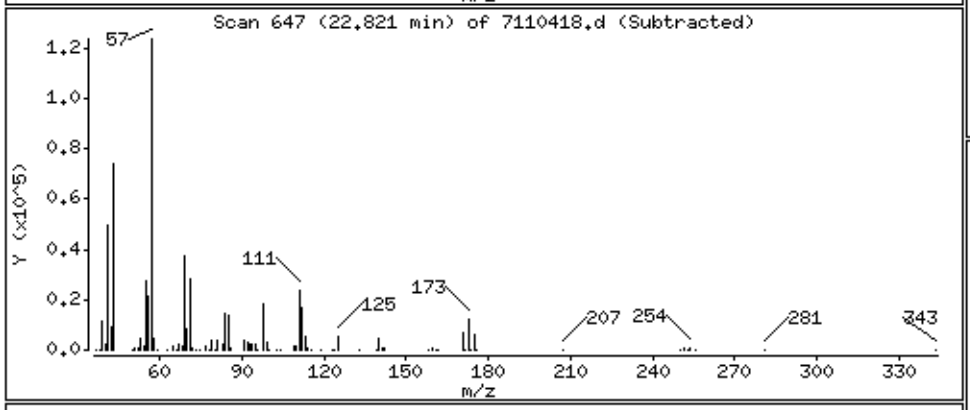
Column phase: RTx-624

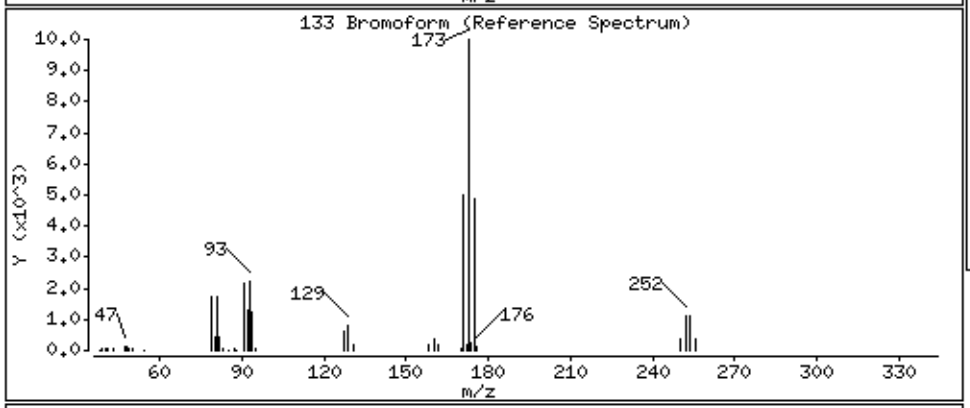
Column diameter: 0.53

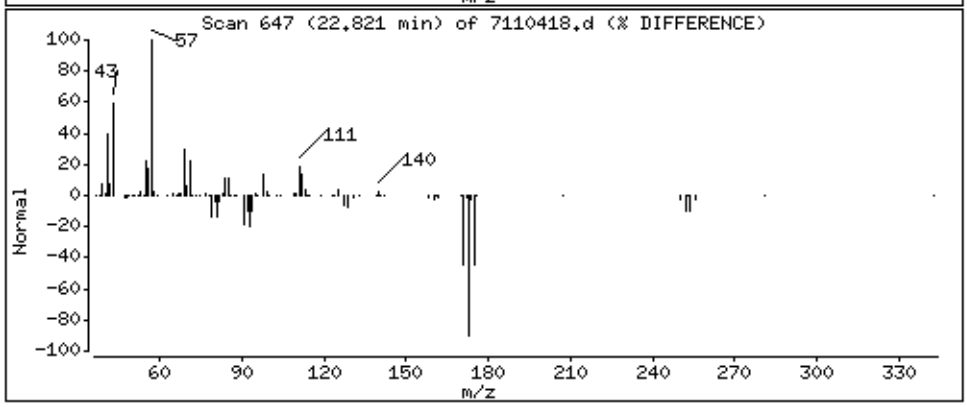
133 Bromoform

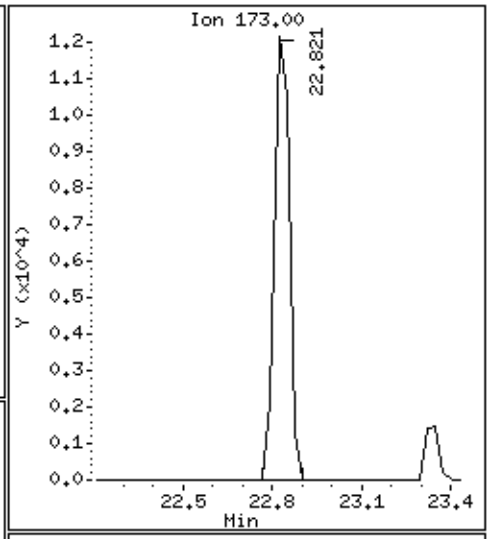
Concentration: 1.439 PPBV

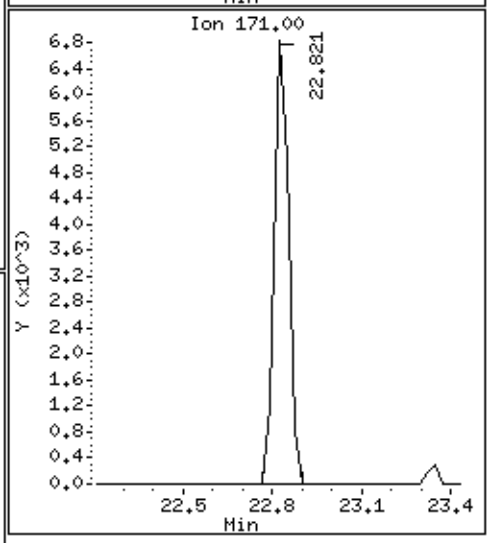












Data File: /chem/msd7.i/7-04nova.b/7110418.d

Date : 05-NOV-2007 07:24

Client ID:

Instrument: msd7.i

Sample Info: 200mL#14003

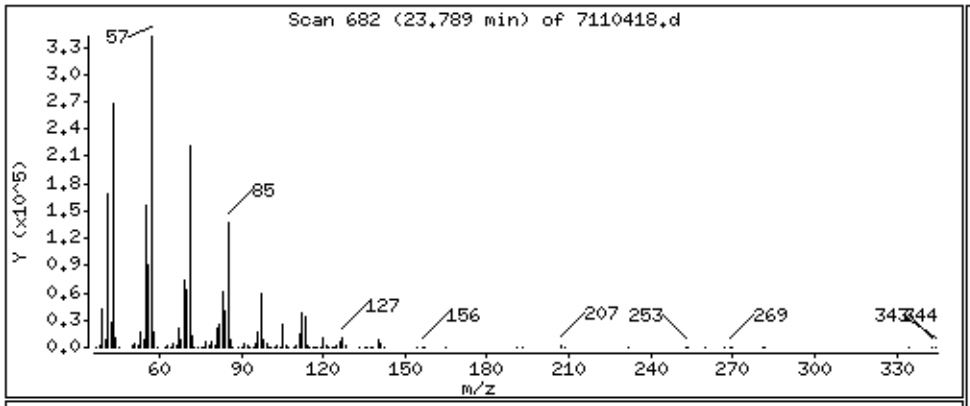
Operator: lo

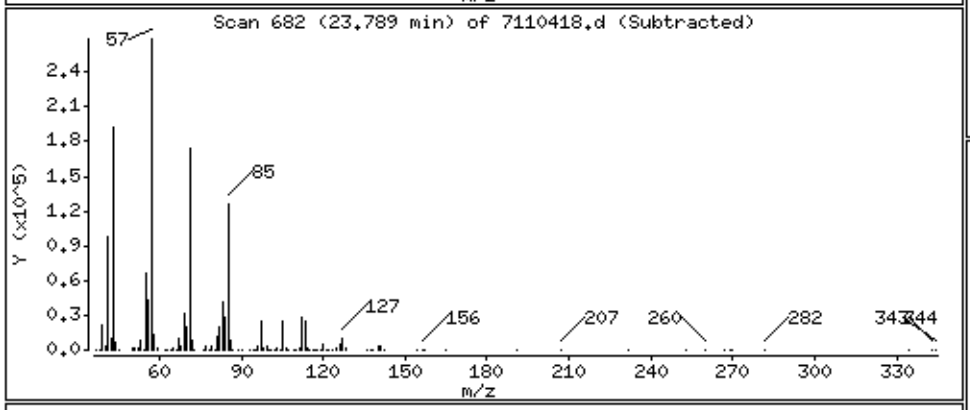
Column phase: RTx-624

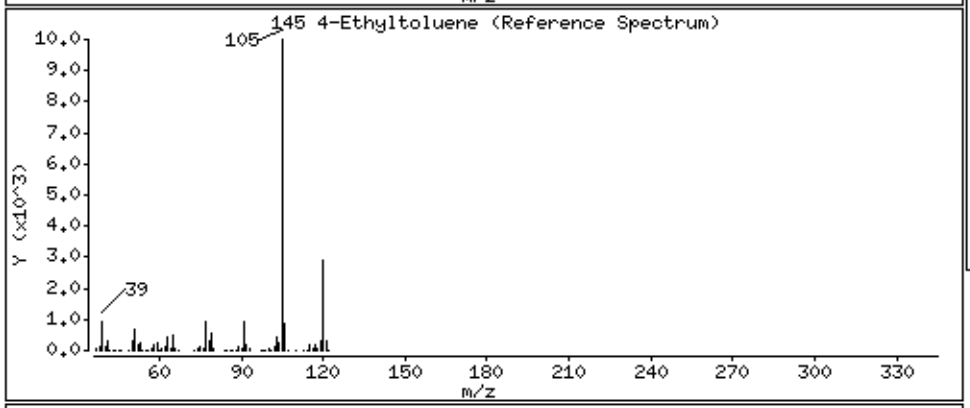
Column diameter: 0.53

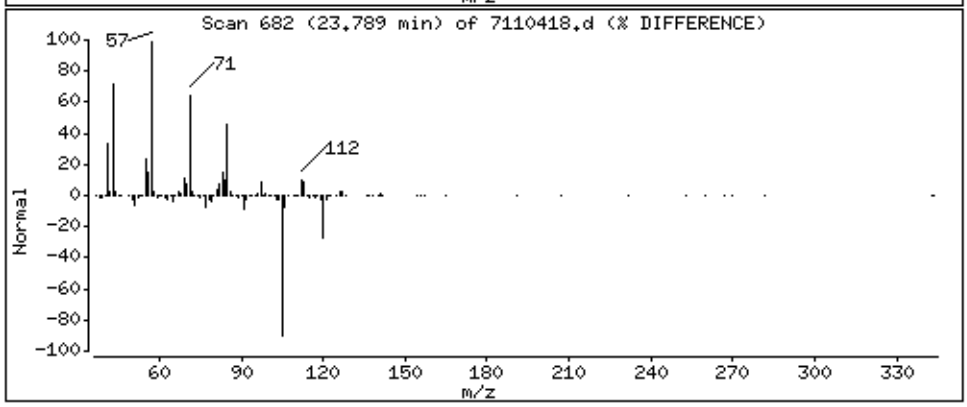
145 4-Ethyltoluene

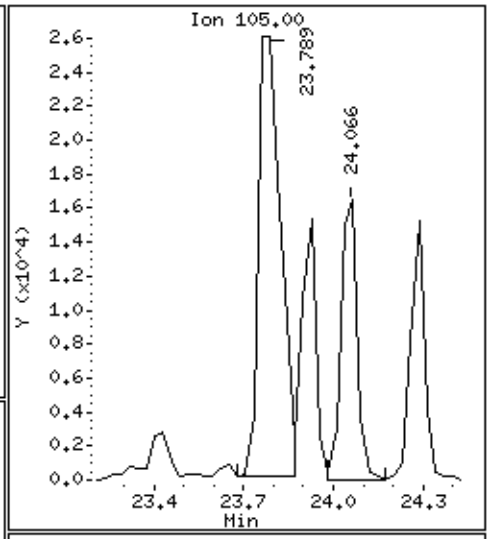
Concentration: 1.997 PPBV

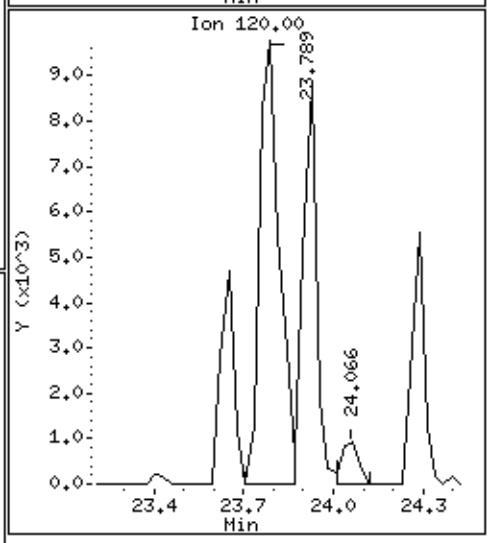












Data File: /chem/msd7.i/7-04nova.b/7110418.d

Date : 05-NOV-2007 07:24

Client ID:

Instrument: msd7.i

Sample Info: 200mL#14003

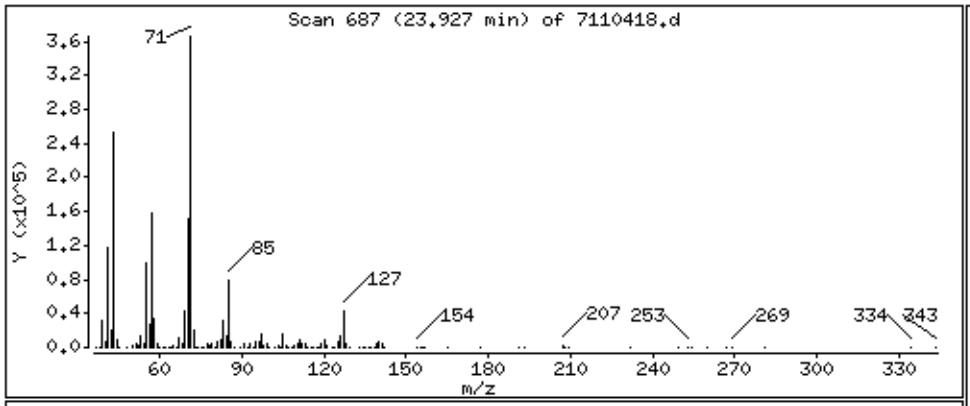
Operator: lo

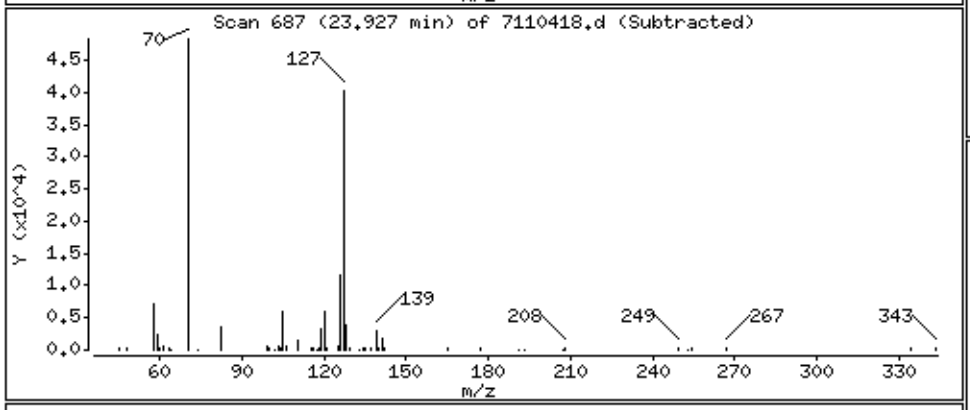
Column phase: RTx-624

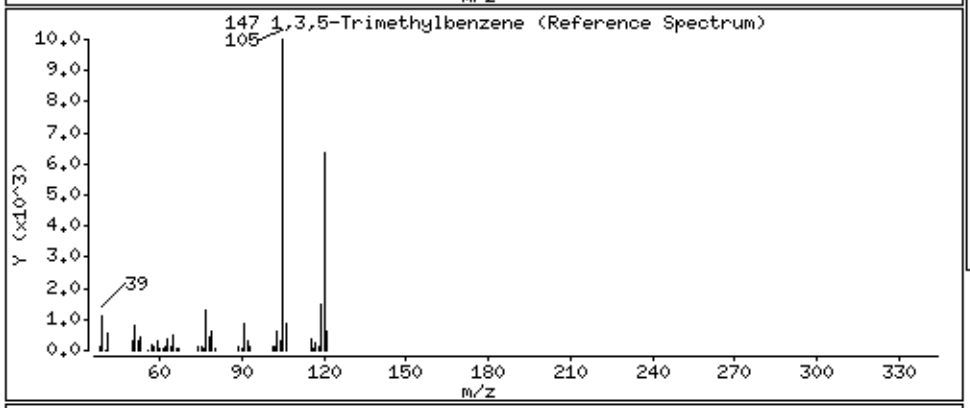
Column diameter: 0.53

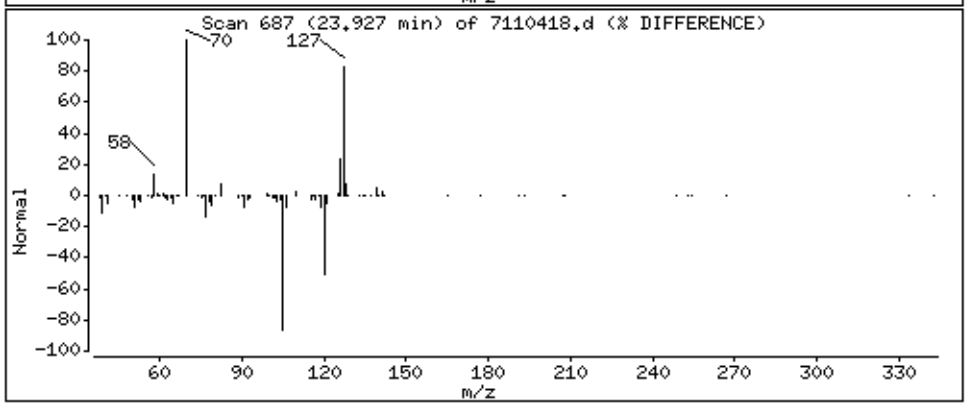
147 1,3,5-Trimethylbenzene

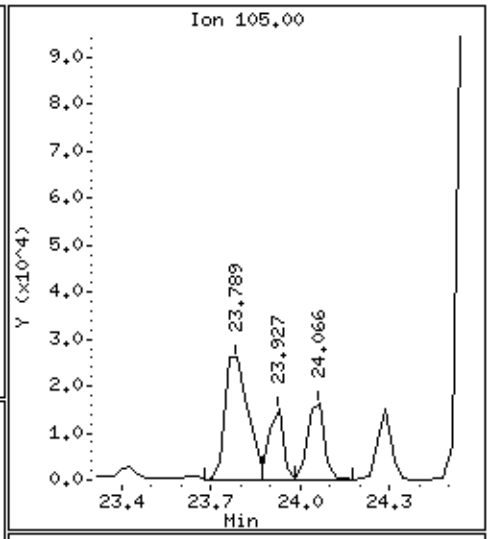
Concentration: 0.9154 PPBV

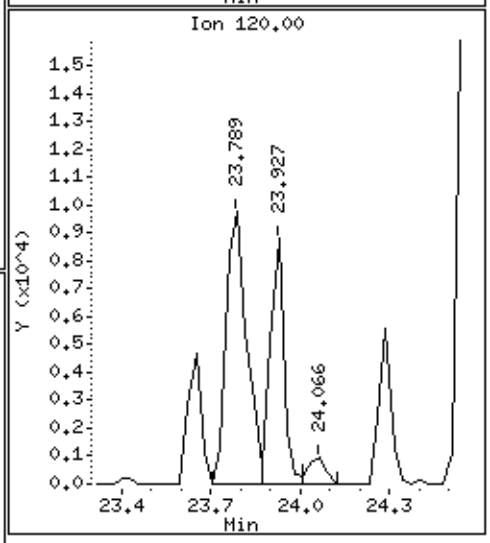












Data File: /chem/msd7.i/7-04nova.b/7110418.d

Date : 05-NOV-2007 07:24

Client ID:

Instrument: msd7.i

Sample Info: 200mL#14003

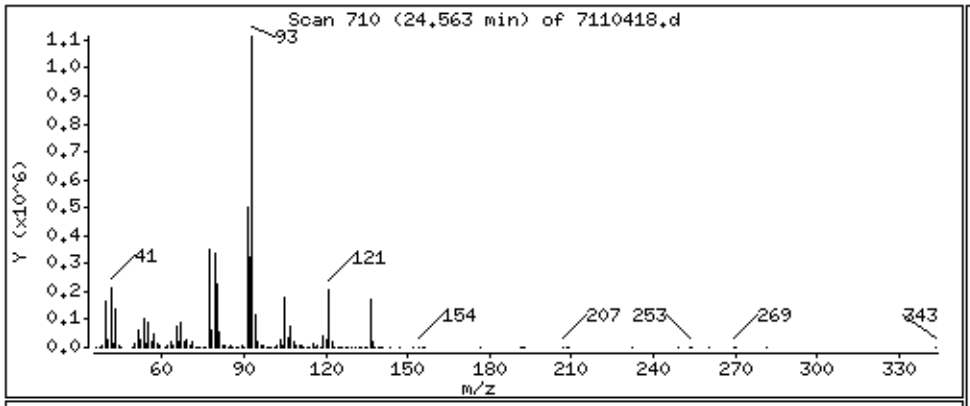
Operator: lo

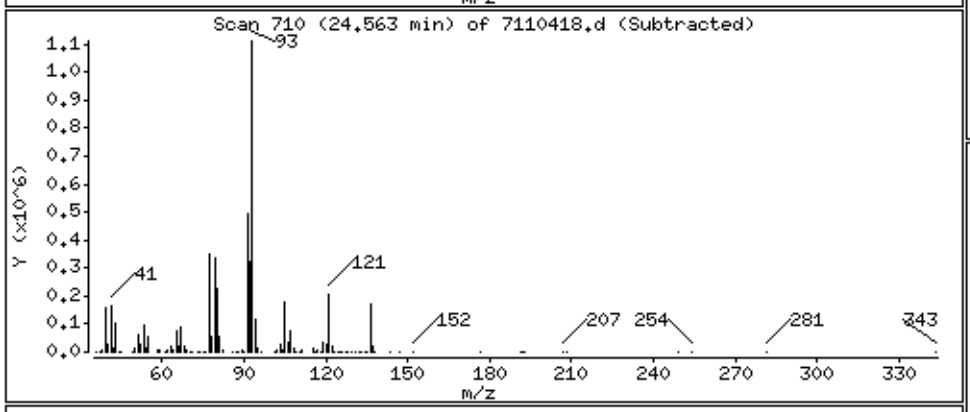
Column phase: RTx-624

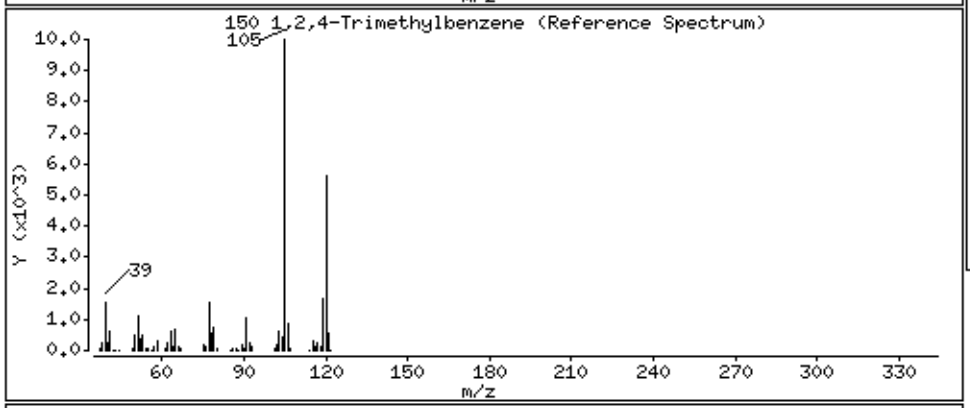
Column diameter: 0.53

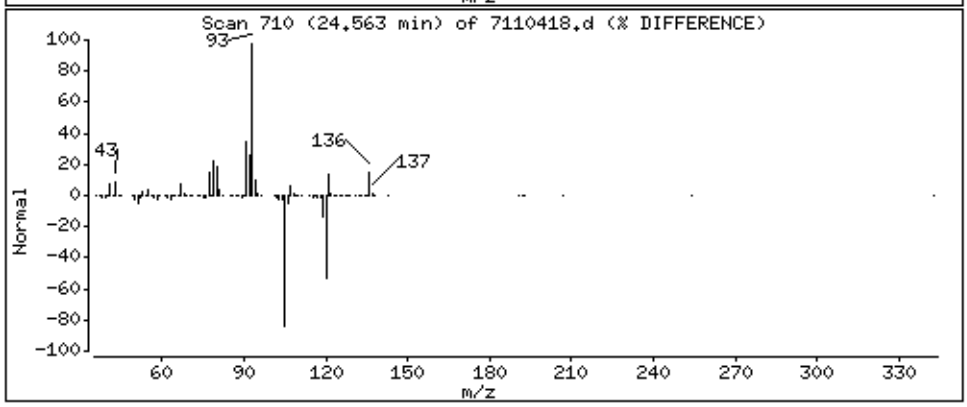
150 1,2,4-Trimethylbenzene

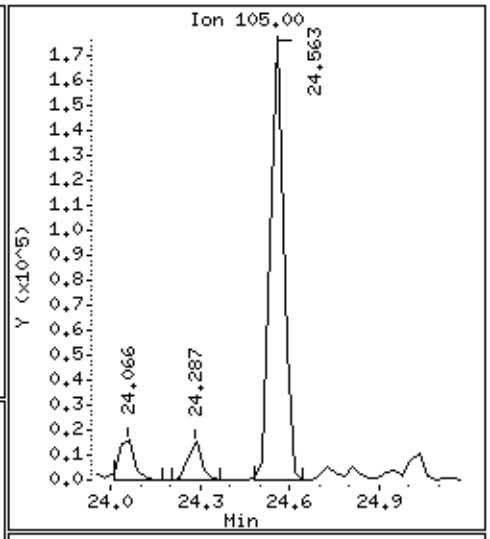
Concentration: 11.078 PPBV

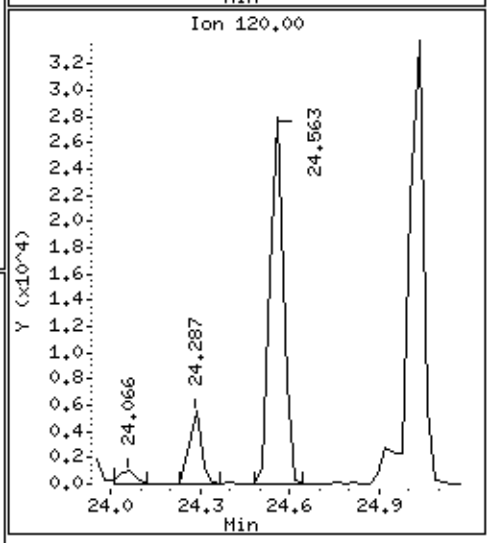












Data File: /chem/msd7.i/7-04nova.b/7110418.d

Date : 05-NOV-2007 07:24

Client ID:

Instrument: msd7.i

Sample Info: 200mL#14003

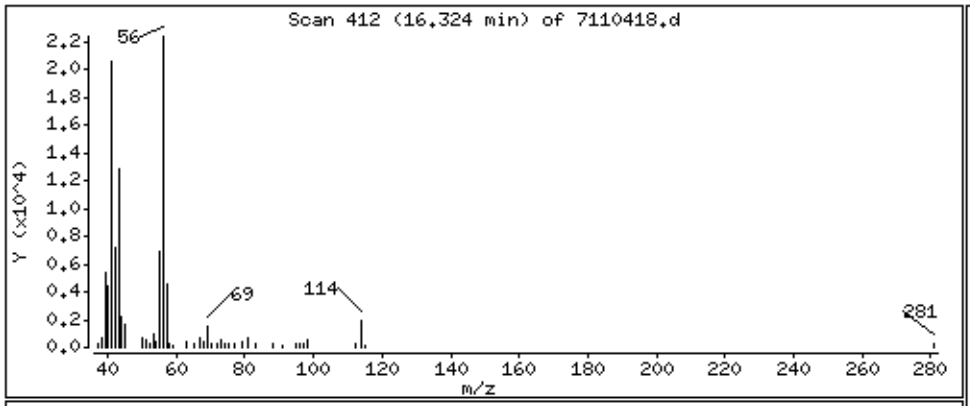
Operator: lo

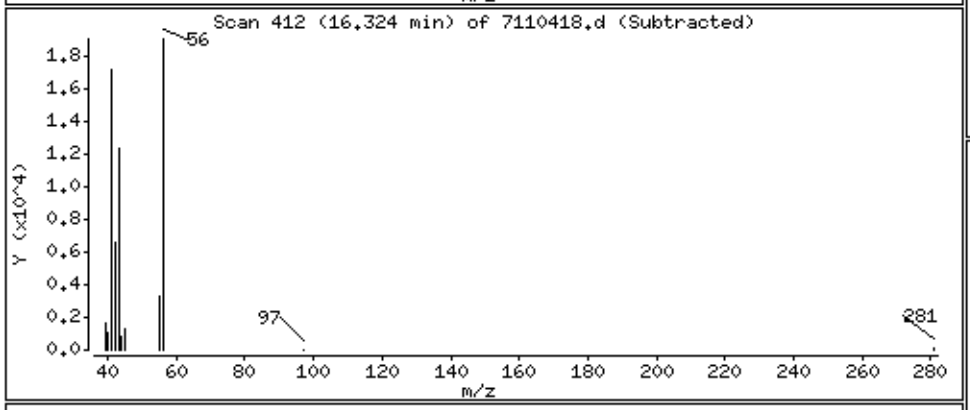
Column phase: RTx-624

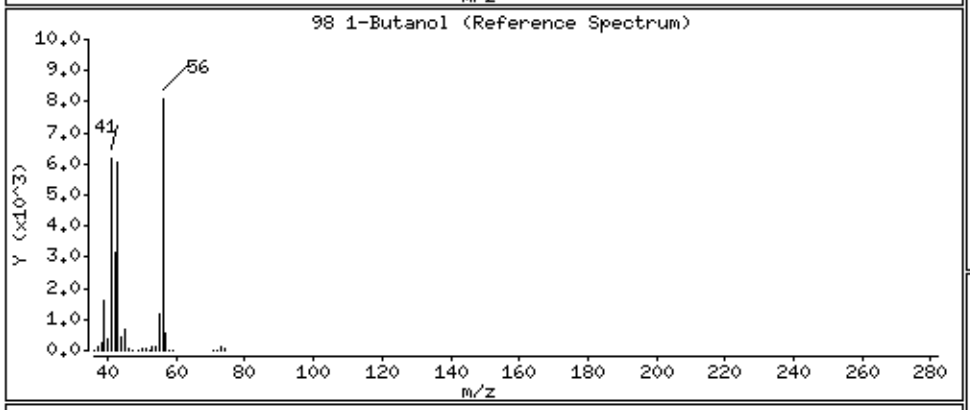
Column diameter: 0.53

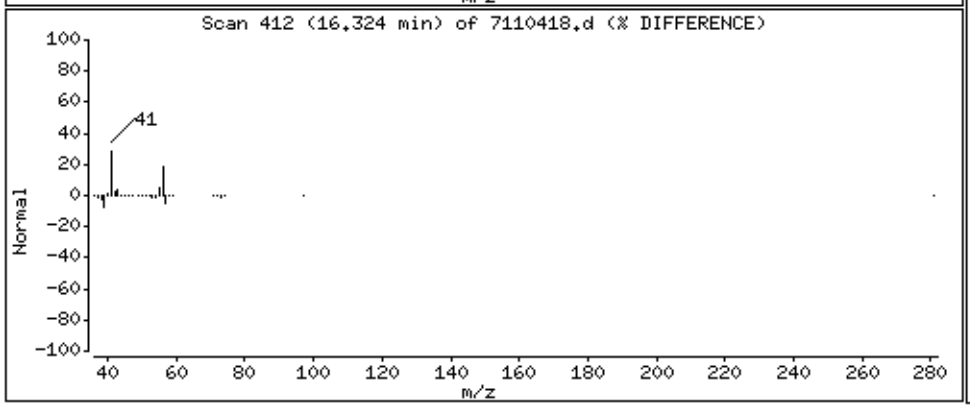
98 1-Butanol

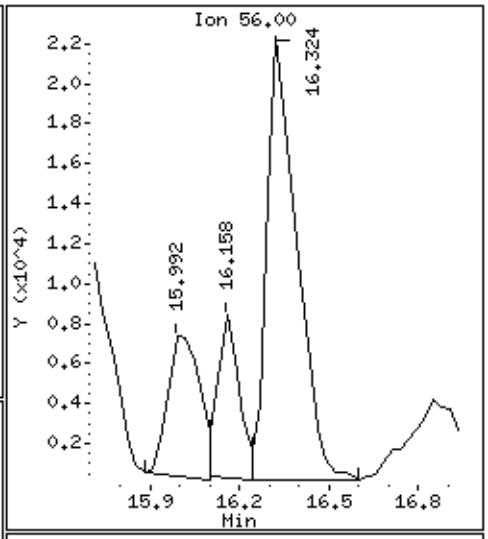
Concentration: 13.801 PPBV

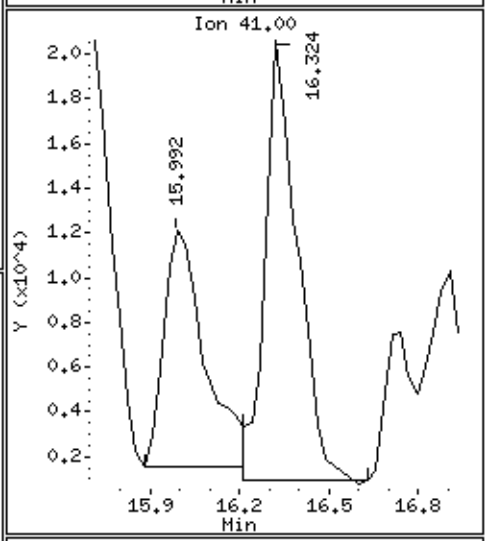


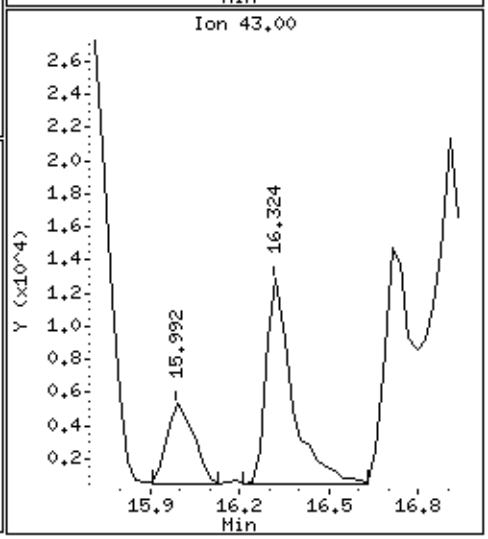












AN ENVIRONMENTAL ANALYTICAL LABORATORY

Summary of Detected Compounds
MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

Client Sample ID: MD21-07-6812

Lab ID#: 0711008-06A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Acetone	3.6	71	8.5	170
Methylene Chloride	0.90	80	3.1	280
2-Butanone (Methyl Ethyl Ketone)	0.90	7.9	2.6	23
Chloroform	0.90	22	4.4	110
Carbon Tetrachloride	0.90	0.97	5.6	6.1
Benzene	0.90	0.90	2.8	2.9
1,2-Dichloroethane	0.90	1.0	3.6	4.2
Trichloroethene	0.90	8.2	4.8	44
Toluene	0.90	0.92	3.4	3.4
Propylene	3.6	6.9	6.2	12

AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: MD21-07-6812

Lab ID#: 0711008-06A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**7110419**	**Date of Collection:**	**10/30/07**
Dil. Factor:	**1.79**	**Date of Analysis:**	**11/5/07 08:17 AM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Freon 12	0.90	Not Detected	4.4	Not Detected
Freon 114	0.90	Not Detected	6.2	Not Detected
Chloromethane	3.6	Not Detected	7.4	Not Detected
Vinyl Chloride	0.90	Not Detected	2.3	Not Detected
1,3-Butadiene	0.90	Not Detected	2.0	Not Detected
Bromomethane	0.90	Not Detected	3.5	Not Detected
Chloroethane	0.90	Not Detected	2.4	Not Detected
Freon 11	0.90	Not Detected	5.0	Not Detected
Ethanol	3.6	Not Detected	6.7	Not Detected
Freon 113	0.90	Not Detected	6.8	Not Detected
1,1-Dichloroethene	0.90	Not Detected	3.5	Not Detected
Acetone	3.6	71	8.5	170
2-Propanol	3.6	Not Detected	8.8	Not Detected
Carbon Disulfide	0.90	Not Detected	2.8	Not Detected
Methylene Chloride	0.90	80	3.1	280
Methyl tert-butyl ether	0.90	Not Detected	3.2	Not Detected
trans-1,2-Dichloroethene	0.90	Not Detected	3.5	Not Detected
Hexane	0.90	Not Detected	3.2	Not Detected
1,1-Dichloroethane	0.90	Not Detected	3.6	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.90	7.9	2.6	23
cis-1,2-Dichloroethene	0.90	Not Detected	3.5	Not Detected
Tetrahydrofuran	0.90	Not Detected	2.6	Not Detected
Chloroform	0.90	22	4.4	110
1,1,1-Trichloroethane	0.90	Not Detected	4.9	Not Detected
Cyclohexane	0.90	Not Detected	3.1	Not Detected
Carbon Tetrachloride	0.90	0.97	5.6	6.1
Benzene	0.90	0.90	2.8	2.9
1,2-Dichloroethane	0.90	1.0	3.6	4.2
Heptane	0.90	Not Detected	3.7	Not Detected
Trichloroethene	0.90	8.2	4.8	44
1,2-Dichloropropane	0.90	Not Detected	4.1	Not Detected
1,4-Dioxane	3.6	Not Detected	13	Not Detected
Bromodichloromethane	0.90	Not Detected	6.0	Not Detected
cis-1,3-Dichloropropene	0.90	Not Detected	4.1	Not Detected
4-Methyl-2-pentanone	0.90	Not Detected	3.7	Not Detected
Toluene	0.90	0.92	3.4	3.4
trans-1,3-Dichloropropene	0.90	Not Detected	4.1	Not Detected
1,1,2-Trichloroethane	0.90	Not Detected	4.9	Not Detected
Tetrachloroethene	0.90	Not Detected	6.1	Not Detected

AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: MD21-07-6812

Lab ID#: 0711008-06A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**7110419**	**Date of Collection:**	**10/30/07**
Dil. Factor:	**1.79**	**Date of Analysis:**	**11/5/07 08:17 AM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
2-Hexanone	3.6	Not Detected	15	Not Detected
Dibromochloromethane	0.90	Not Detected	7.6	Not Detected
1,2-Dibromoethane (EDB)	0.90	Not Detected	6.9	Not Detected
Chlorobenzene	0.90	Not Detected	4.1	Not Detected
Ethyl Benzene	0.90	Not Detected	3.9	Not Detected
m,p-Xylene	0.90	Not Detected	3.9	Not Detected
o-Xylene	0.90	Not Detected	3.9	Not Detected
Styrene	0.90	Not Detected	3.8	Not Detected
Bromoform	0.90	Not Detected	9.2	Not Detected
1,1,2,2-Tetrachloroethane	0.90	Not Detected	6.1	Not Detected
4-Ethyltoluene	0.90	Not Detected	4.4	Not Detected
1,3,5-Trimethylbenzene	0.90	Not Detected	4.4	Not Detected
1,2,4-Trimethylbenzene	0.90	Not Detected	4.4	Not Detected
1,3-Dichlorobenzene	0.90	Not Detected	5.4	Not Detected
1,4-Dichlorobenzene	0.90	Not Detected	5.4	Not Detected
alpha-Chlorotoluene	0.90	Not Detected	4.6	Not Detected
1,2-Dichlorobenzene	0.90	Not Detected	5.4	Not Detected
1,2,4-Trichlorobenzene	3.6	Not Detected	26	Not Detected
Hexachlorobutadiene	3.6	Not Detected	38	Not Detected
Chlorodifluoromethane	3.6	Not Detected	13	Not Detected
Methanol	90	Not Detected	120	Not Detected
n-Butanol	3.6	Not Detected	11	Not Detected
Propylene	3.6	6.9	6.2	12

Container Type: 6 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	92	70-130
1,2-Dichloroethane-d4	83	70-130
4-Bromofluorobenzene	100	70-130

Air Toxics Ltd.

AMBIENT AIR METHOD TO14

Data file : /chem/msd7.i/7-04nova.b/7110419.d
Lab Smp Id: 0711008-06A
Inj Date : 05-NOV-2007 08:17
Operator : lo Inst ID: msd7.i
Smp Info : 200mL#35797
Misc Info : 7.5"Hg-5psi
Comment :
Method : /chem/msd7.i/7-04nova.b/t14qO18c.m
Meth Date : 05-Nov-2007 00:40 dmendoza Quant Type: ISTD
Cal Date : 30-OCT-2007 11:10 Cal File: 7103005.d
Als bottle: 1
Dil Factor: 1.79000
Integrator: HP RTE Compound Sublist: Los2153.sub
Target Version: 3.50 Sample Matrix: AIR
Processing Host: eeyore

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

RT	EXP RT (REL RT)	MASS	RESPONSE	CONCENTRATIONS ON-COL (PPBV)	FINAL (PPBV)	TARGET RANGE	RATIO
* 81 Bromochloromethane					CAS #: 74-97-5		
14.416	14.388 (1.000)	130	596553	25.0000		80.00- 120.00	100.00
14.416	14.388 (1.000)	128	458909			28.08- 128.08	76.93
14.388	14.388 (1.000)	49	847715			128.80- 228.80	142.10
* 97 1,4-Difluorobenzene					CAS #: 540-36-3		
16.158	16.158 (1.000)	114	1956883	25.0000		80.00- 120.00	100.00
16.158	16.158 (1.000)	88	289475			0.00- 64.88	14.79
* 126 Chlorobenzene-d5					CAS #: 3114-55-4		
21.356	21.356 (1.000)	117	1400838	25.0000		80.00- 120.00	100.00
21.356	21.356 (1.000)	82	707223			4.45- 104.45	50.49
$ 90 1,2-Dichloroethane-d4					CAS #: 17060-07-0		
15.494	15.494 (1.075)	65	662046	20.6581	20.658	80.00- 120.00	100.00
15.494	15.494 (1.075)	67	343932			2.91- 102.91	51.95
$ 113 Toluene-d8					CAS #: 2037-26-5		
18.757	18.757 (1.161)	98	1589799	22.8858	22.886	80.00- 120.00	100.00
18.757	18.757 (1.161)	70	165440			0.00- 61.46	10.41

RT	EXP RT (REL RT)	MASS	RESPONSE	CONCENTRATIONS ON-COL (PPBV)	FINAL (PPBV)	TARGET RANGE	RATIO
$ 113 Toluene-d8 (continued)							
18.757	18.757 (1.161)	100	1091642			19.18- 119.18	68.67
$ 137 Bromofluorobenzene					CAS #: 460-00-4		
23.347	23.347 (1.093)	174	833625	25.0082	25.008	80.00- 120.00	100.00
23.319	23.319 (1.092)	95	972242			63.49- 163.49	116.63
23.347	23.347 (1.093)	176	816672			46.77- 146.77	97.97
11 Propylene					CAS #: 115-07-1		
5.645	5.617 (0.392)	41	99376	3.86504	6.918	80.00- 120.00	100.00(H)
5.617	5.617 (0.390)	42	60368			21.19- 121.19	60.75
5.617	5.617 (0.390)	39	88029			24.83- 124.83	88.58
45 Acetone					CAS #: 67-64-1		
10.490	10.462 (0.728)	58	639254	39.7345	71.125	80.00- 120.00	100.00
10.490	10.462 (0.728)	43	2086218			247.10- 347.10	326.35
54 Methylene Chloride					CAS #: 75-09-2		
11.457	11.457 (0.795)	49	1712807	44.7594	80.119	80.00- 120.00	100.00
11.457	11.457 (0.795)	84	1187274			15.73- 115.73	69.32
11.457	11.457 (0.795)	51	520584			0.00- 80.85	30.39
75 2-Butanone					CAS #: 78-93-3		
13.891	13.891 (0.964)	72	57332	4.43732	7.943	80.00- 120.00	100.00
13.891	13.891 (0.964)	43	281209			458.59- 558.59	490.49
13.891	13.891 (0.964)	57	24044			0.00- 86.57	41.94
82 Chloroform					CAS #: 67-66-3		
14.471	14.471 (1.004)	83	755901	12.5849	22.527	80.00- 120.00	100.00
14.471	14.471 (1.004)	85	493016			15.98- 115.98	65.22
87 Carbon Tetrachloride					CAS #: 56-23-5		
15.079	15.107 (1.046)	119	30784	0.54294	0.9719	80.00- 120.00	100.00
15.107	15.080 (1.048)	117	30865			54.21- 154.21	100.26
91 Benzene					CAS #: 71-43-2		
15.522	15.522 (0.961)	78	39018	0.50182	0.8983	80.00- 120.00	100.00
15.522	15.522 (0.961)	77	8542			0.00- 71.87	21.89
93 1,2-Dichloroethane					CAS #: 107-06-2		
15.632	15.633 (0.967)	62	23750	0.57490	1.029	80.00- 120.00	100.00
15.632	15.633 (0.967)	64	9049			0.00- 82.89	38.10
101 Trichloroethene					CAS #: 79-01-6		
16.628	16.628 (1.029)	95	158511	4.58945	8.215	80.00- 120.00	100.00
16.628	16.628 (1.029)	130	164615			54.96- 154.96	103.85

RT	EXP RT	(REL RT)	MASS	RESPONSE	CONCENTRATIONS ON-COL (PPBV)	FINAL (PPBV)	TARGET RANGE	RATIO
101 Trichloroethene (continued)								
16.628	16.628	(1.029)	97	105857			15.03- 115.03	66.78
114 Toluene						CAS #: 108-88-3		
18.867	18.895	(1.168)	91	43591	0.51186	0.9162	80.00- 120.00	100.00
18.867	18.895	(1.168)	92	26648			12.81- 112.81	61.13

QC Flag Legend

H - Operator selected an alternate compound hit.

Air Toxics Ltd.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd7.i
Lab File ID: 7110419.d
Lab Smp Id: 0711008-06A
Analysis Type: VOA
Quant Type: ISTD
Operator: lo
Method File: /chem/msd7.i/7-04nova.b/t14qO18c.m
Misc Info: 7.5"Hg-5psi

Calibration Date: 04-NOV-2007
Calibration Time: 22:27

Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
81 Bromochloromethan	651162	390697	911627	596553	-8.39
97 1,4-Difluorobenze	2188066	1312840	3063292	1956883	-10.57
126 Chlorobenzene-d5	1729248	1037549	2420947	1400838	-18.99

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
81 Bromochloromethan	14.39	14.06	14.72	14.42	0.19
97 1,4-Difluorobenze	16.16	15.83	16.49	16.16	0.00
126 Chlorobenzene-d5	21.36	21.03	21.69	21.36	0.00

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Air Toxics Ltd.

RECOVERY REPORT

Client Name: Client SDG: 7-04nova
Sample Matrix: GAS Fraction: VOA
Lab Smp Id: 0711008-06A
Level: LOW Operator: lo
Data Type: MS DATA SampleType: SAMPLE
SpikeList File: 2926spectra.spk Quant Type: ISTD
Sublist File: Los2153.sub
Method File: /chem/msd7.i/7-04nova.b/t14qO18c.m
Misc Info: 7.5"Hg-5psi

SURROGATE COMPOUND	CONC ADDED PPBV	CONC RECOVERED PPBV	% RECOVERED	LIMITS
$ 90 1,2-Dichloroethane	25.000	20.658	82.63	70-130
$ 113 Toluene-d8	25.000	22.886	91.54	70-130
$ 137 Bromofluorobenzene	25.000	25.008	100.03	70-130

Data File: /chem/msd7.i/7-04nova.b/7110419.d

Date : 05-NOV-2007 08:17

Client ID:

Sample Info: 200mL#35797

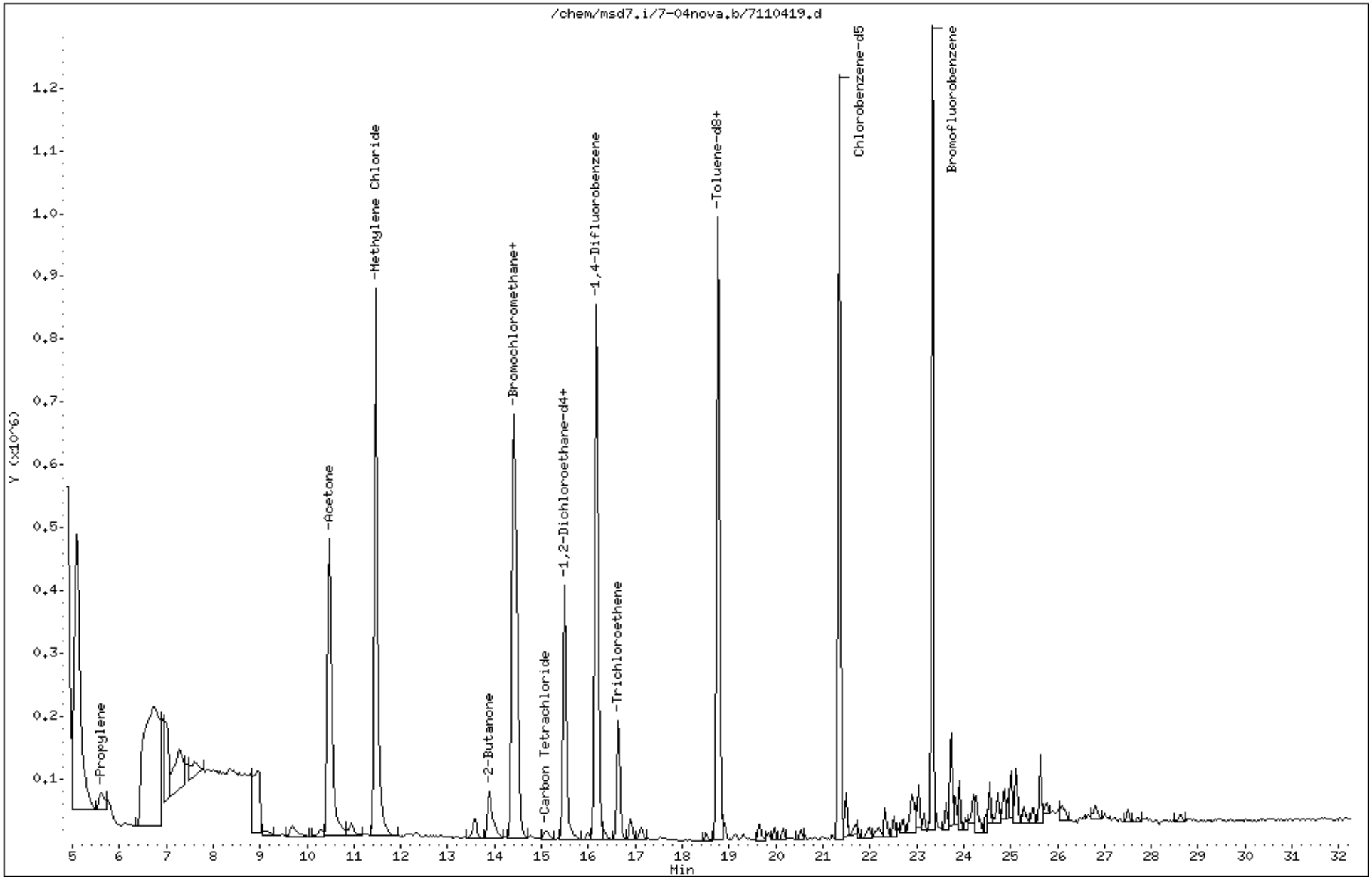
Column phase: RTx-624

Instrument: msd7.i

Operator: lo

Column diameter: 0.53

0177



Data File: /chem/msd7.i/7-04nova.b/7110419.d

Date : 05-NOV-2007 08:17

Client ID:

Instrument: msd7.i

Sample Info: 200mL#35797

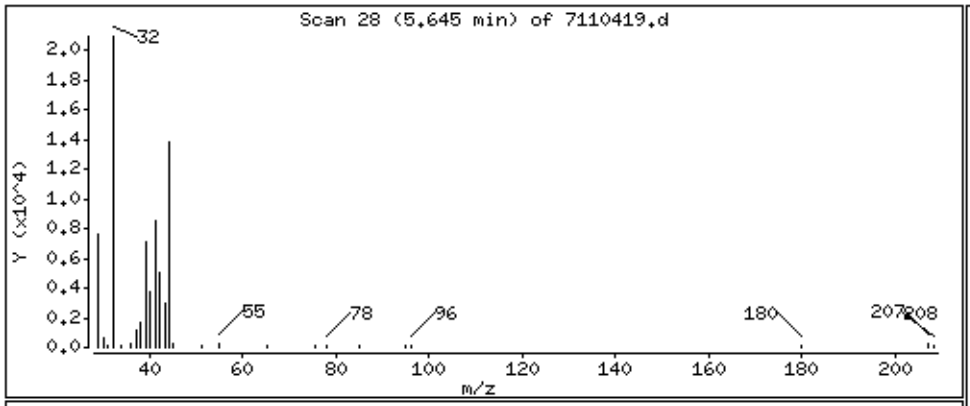
Operator: lo

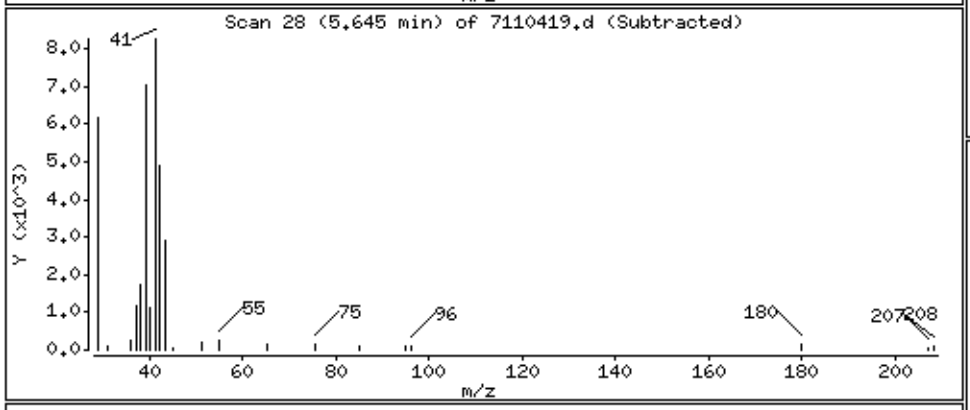
Column phase: RTx-624

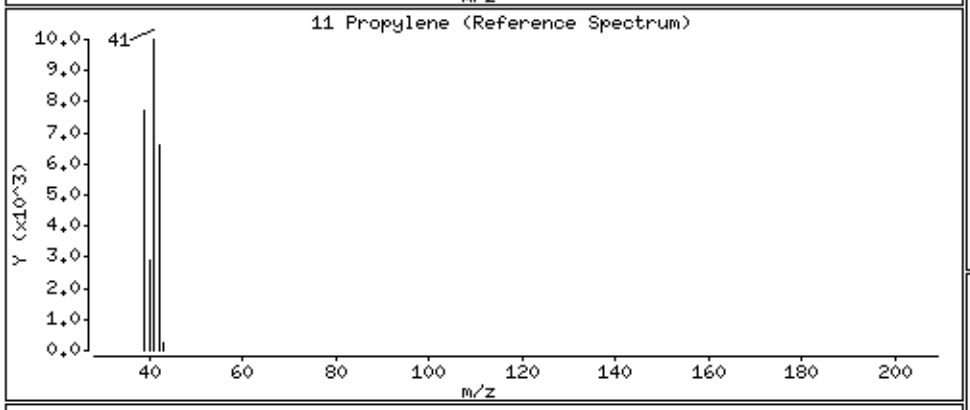
Column diameter: 0.53

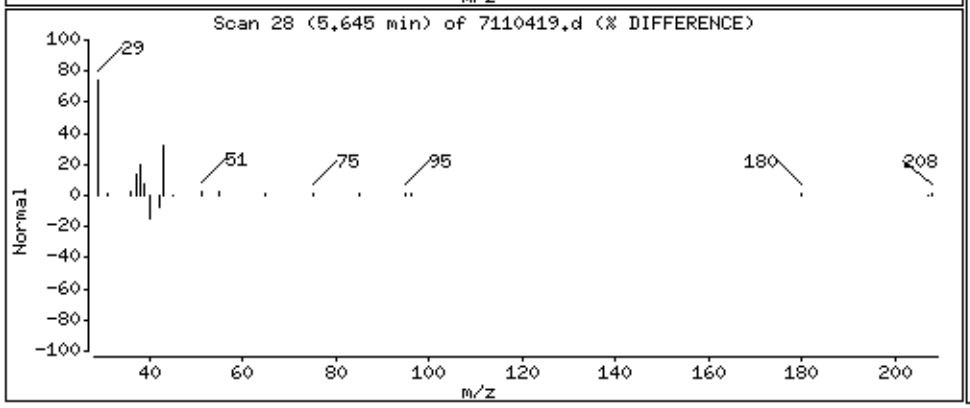
11 Propylene

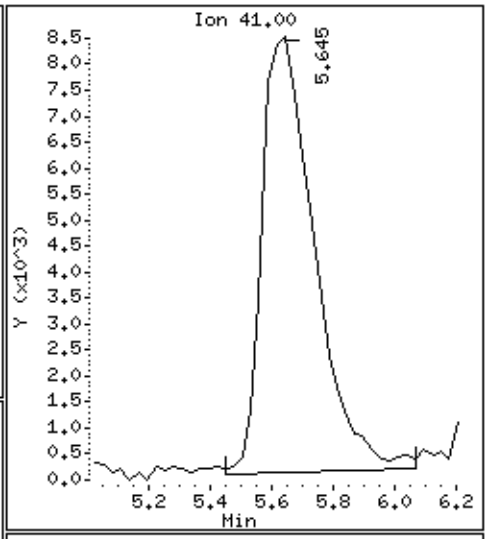
Concentration: 6.918 PPBV

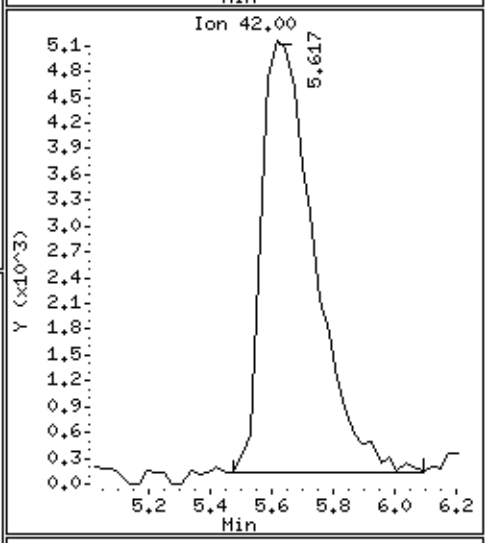


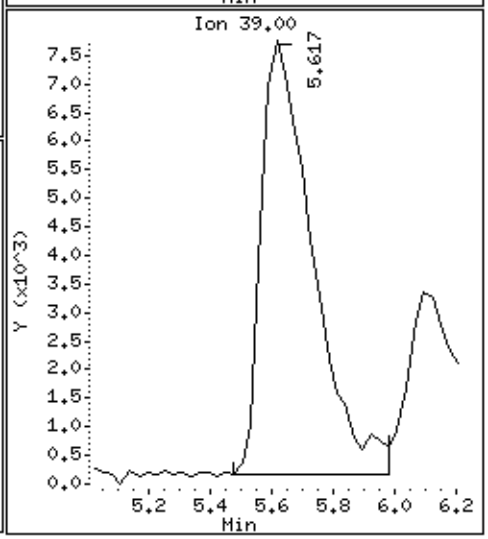












Data File: /chem/msd7.i/7-04nova.b/7110419.d

Date : 05-NOV-2007 08:17

Client ID:

Instrument: msd7.i

Sample Info: 200mL#35797

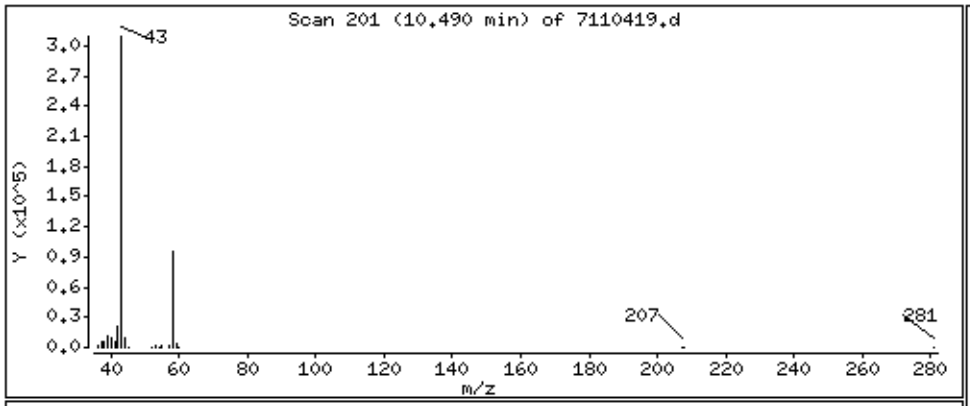
Operator: lo

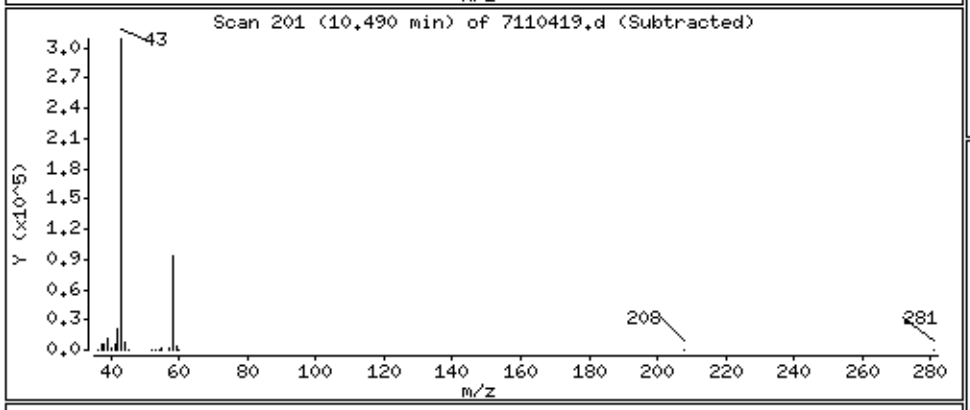
Column phase: RTx-624

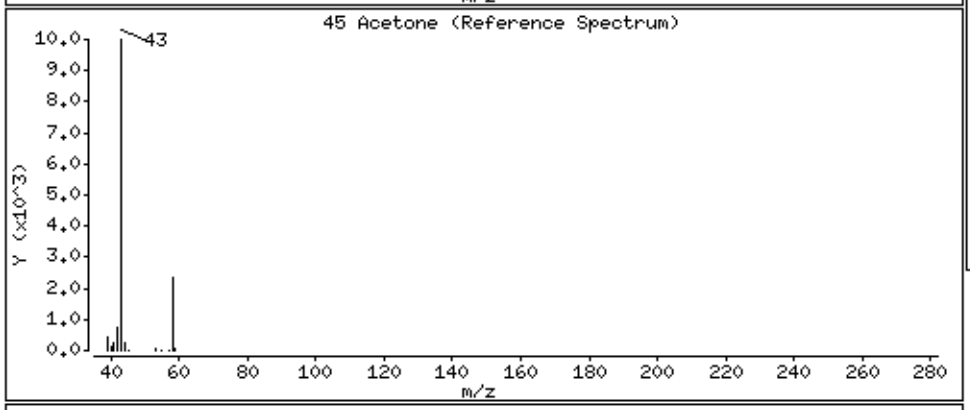
Column diameter: 0.53

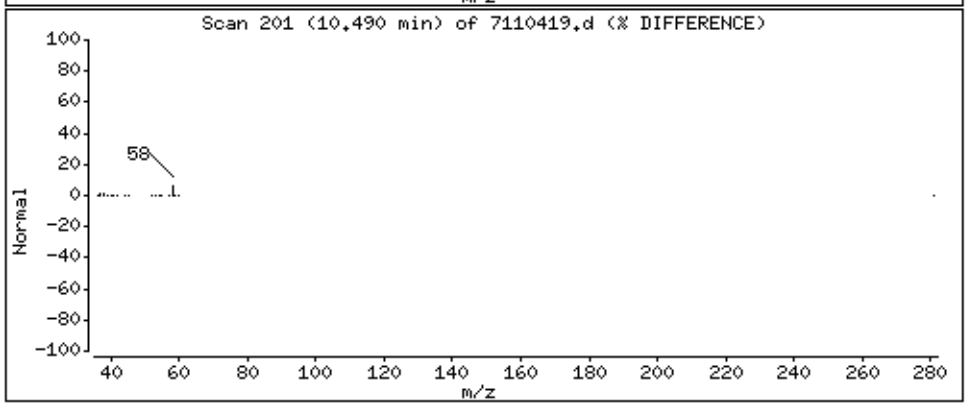
45 Acetone

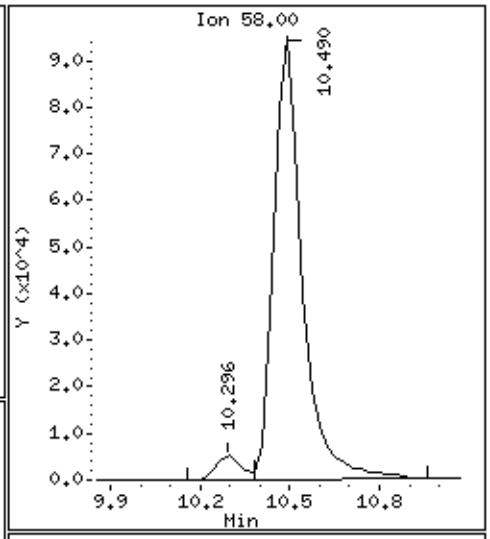
Concentration: 71.125 PPBV

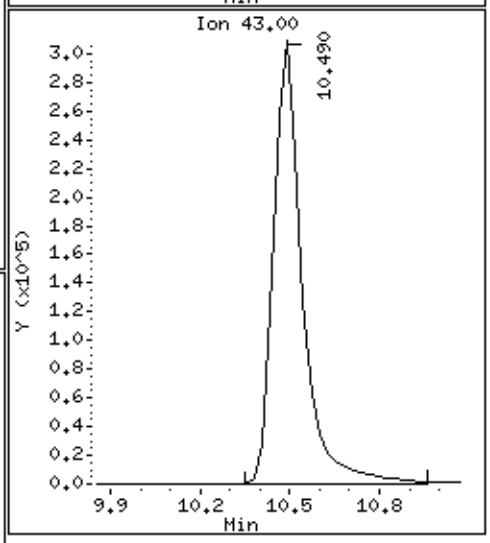












Data File: /chem/msd7.i/7-04nova.b/7110419.d

Date : 05-NOV-2007 08:17

Client ID:

Instrument: msd7.i

Sample Info: 200mL#35797

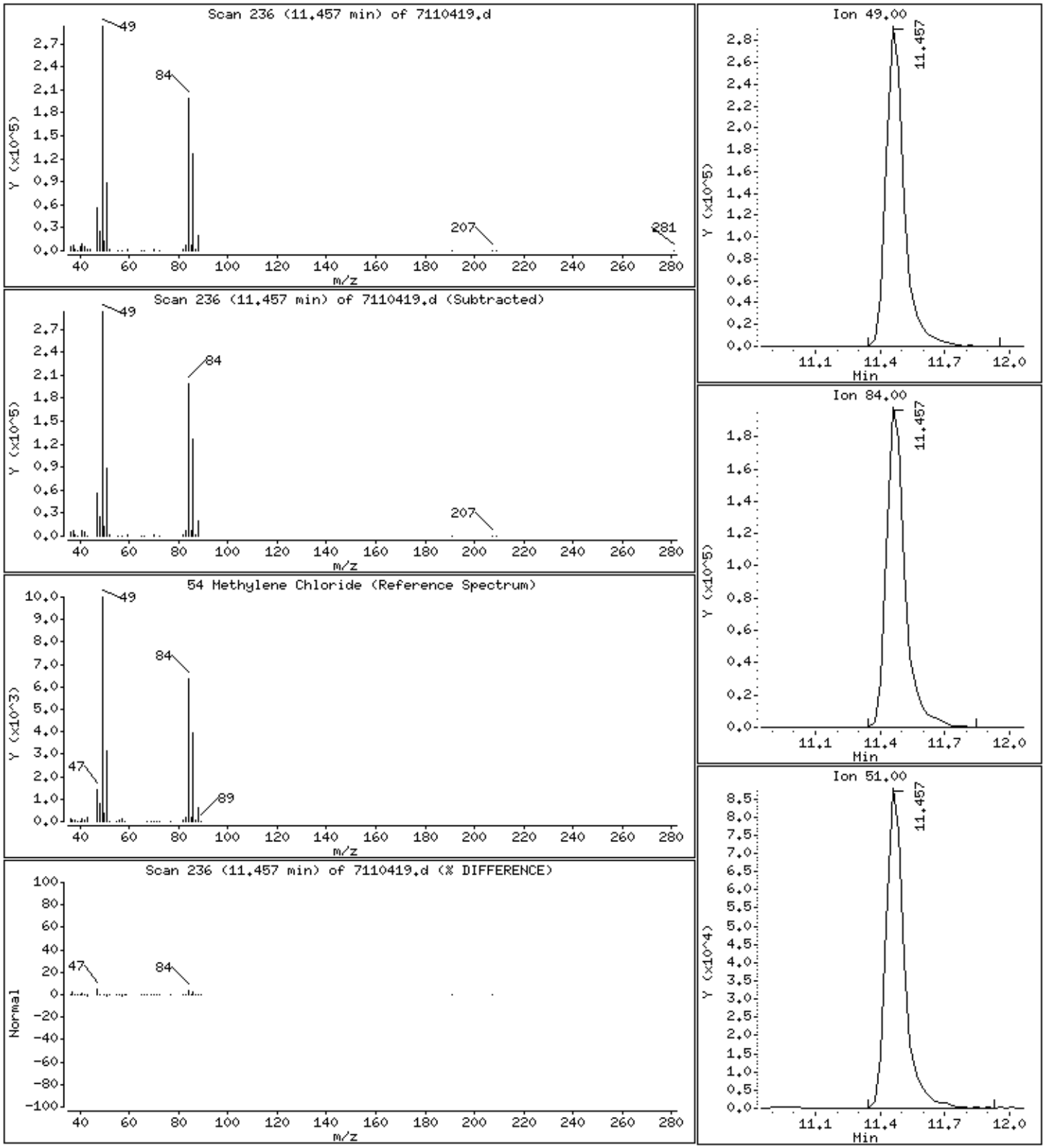
Operator: lo

Column phase: RTx-624

Column diameter: 0.53

54 Methylene Chloride

Concentration: 80.119 PPBV



Data File: /chem/msd7.i/7-04nova.b/7110419.d

Date : 05-NOV-2007 08:17

Client ID:

Instrument: msd7.i

Sample Info: 200mL#35797

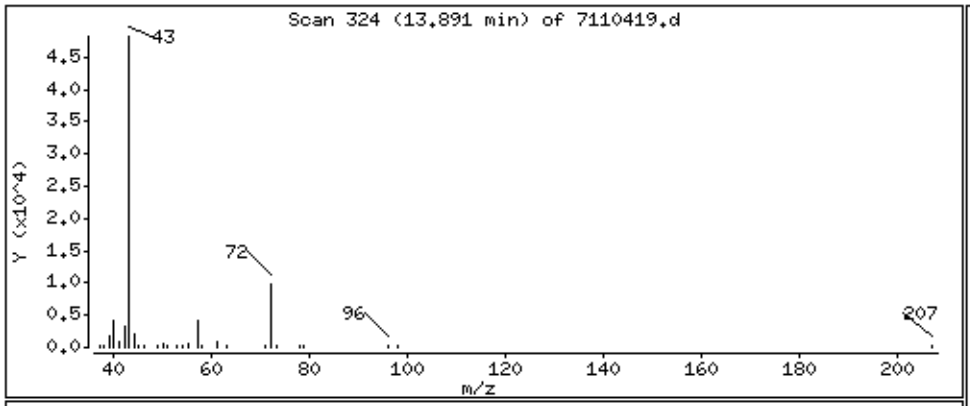
Operator: lo

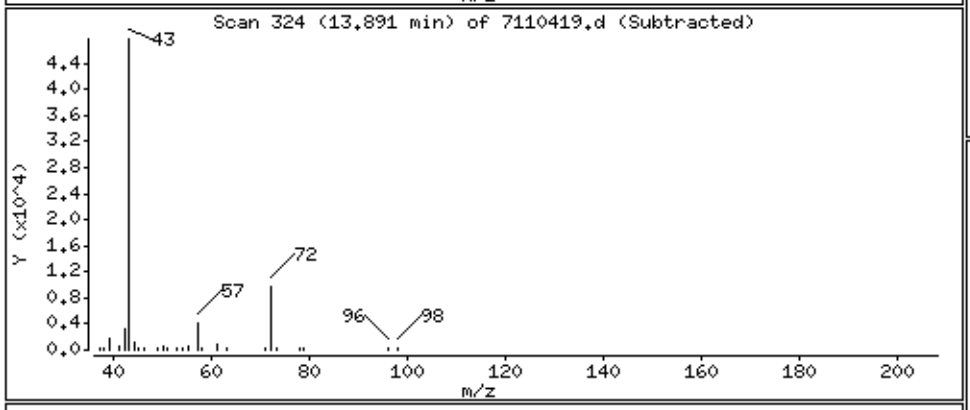
Column phase: RTx-624

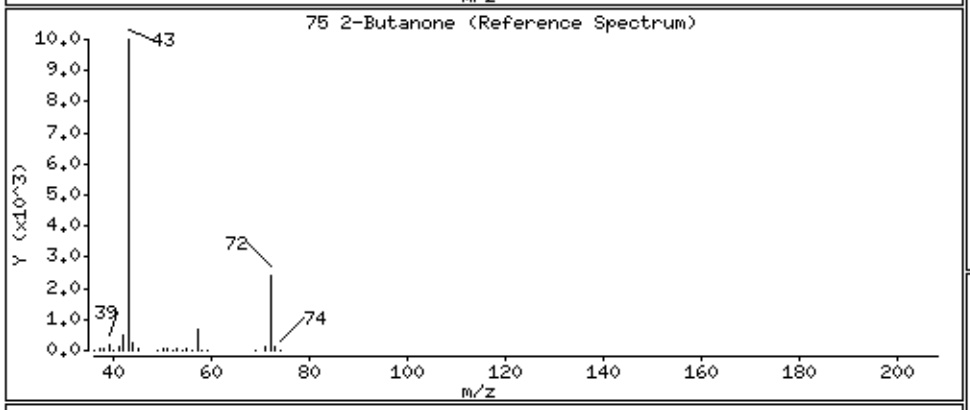
Column diameter: 0.53

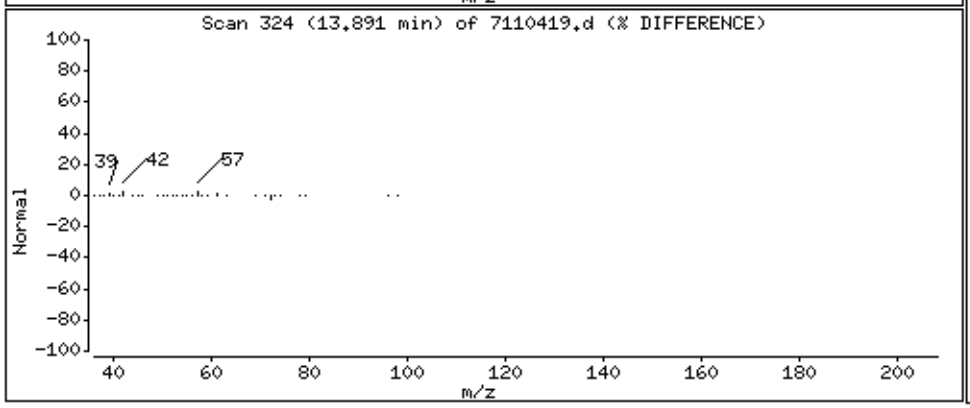
75 2-Butanone

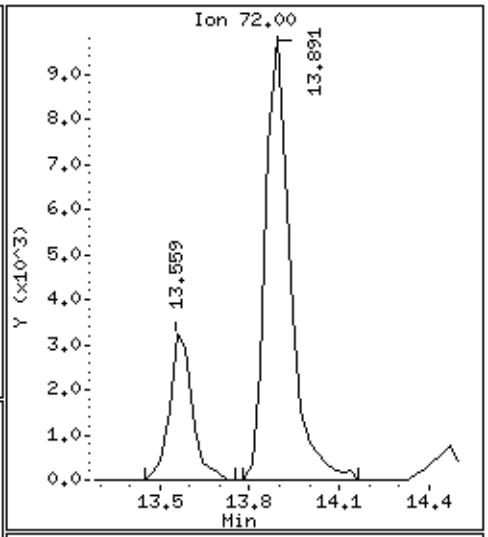
Concentration: 7.943 PPBV

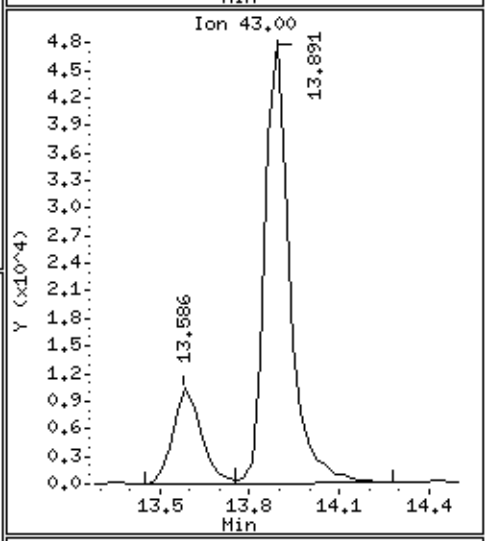


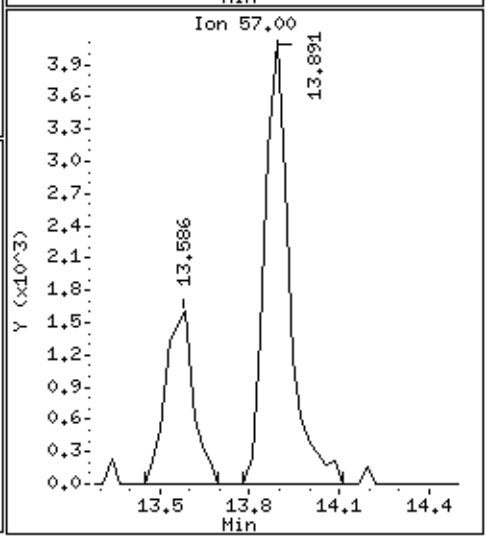












Data File: /chem/msd7.i/7-04nova.b/7110419.d

Date : 05-NOV-2007 08:17

Client ID:

Instrument: msd7.i

Sample Info: 200mL#35797

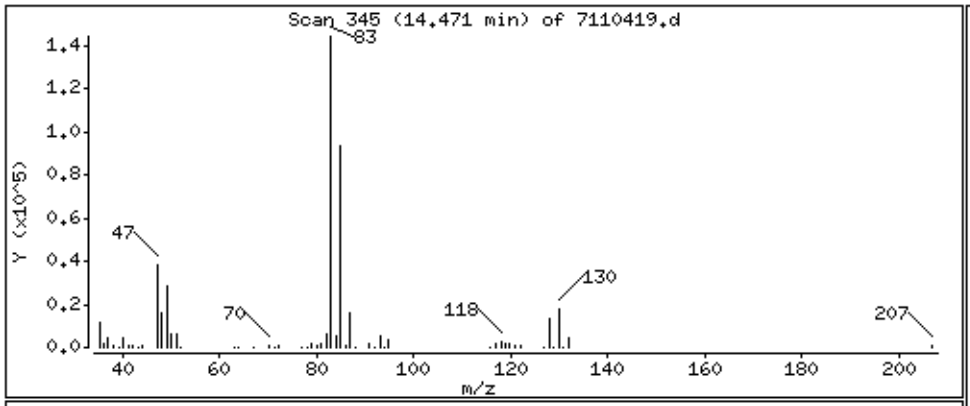
Operator: lo

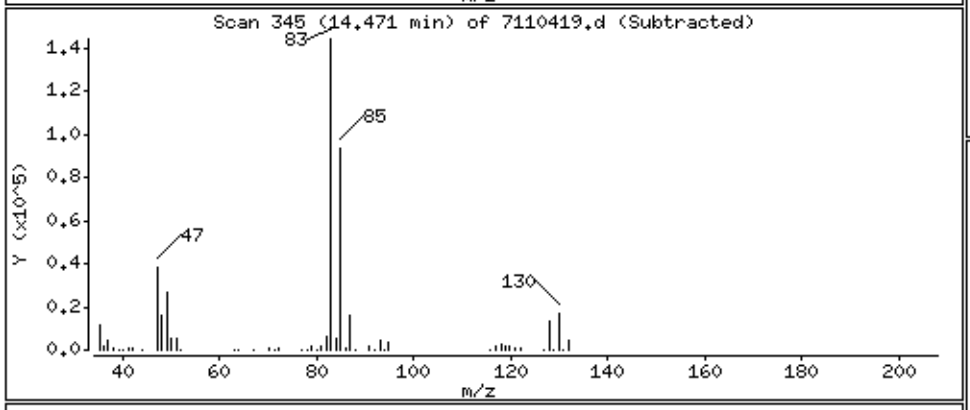
Column phase: RTx-624

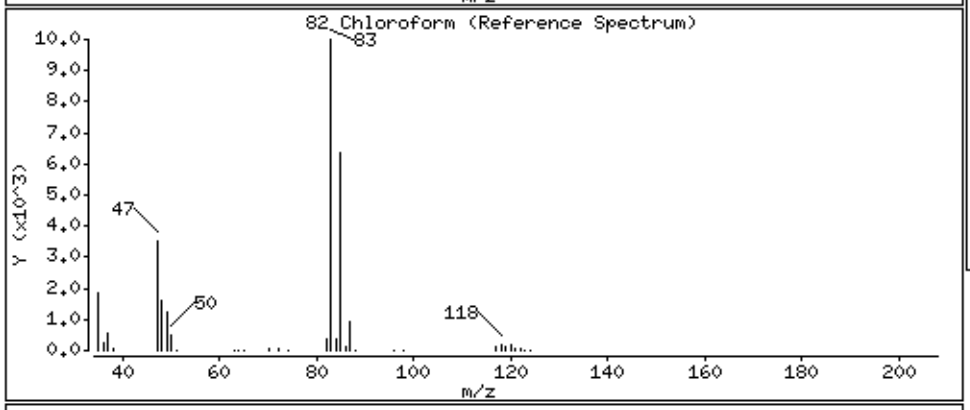
Column diameter: 0.53

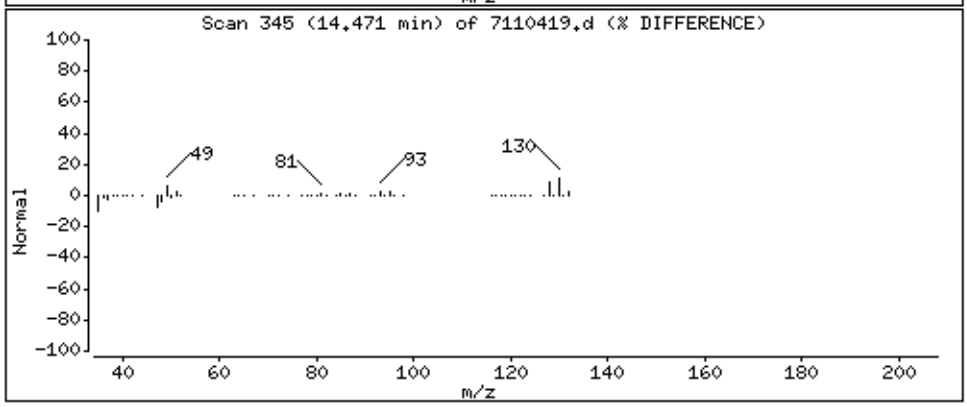
82 Chloroform

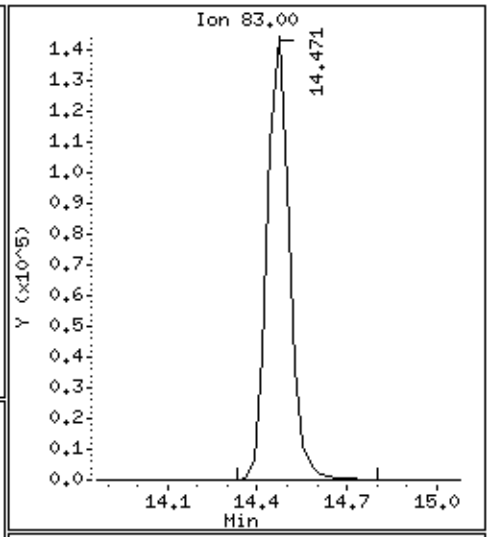
Concentration: 22.527 PPBV

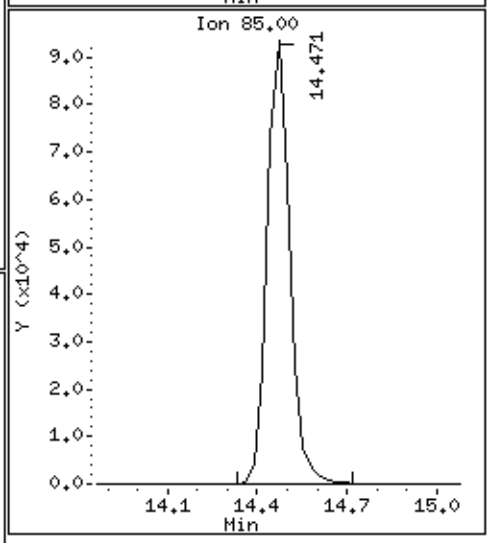












Data File: /chem/msd7.i/7-04nova.b/7110419.d

Date : 05-NOV-2007 08:17

Client ID:

Instrument: msd7.i

Sample Info: 200mL#35797

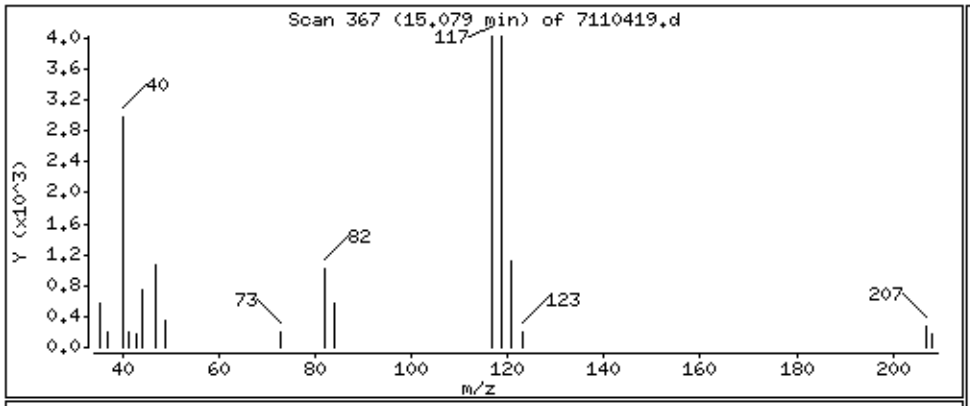
Operator: lo

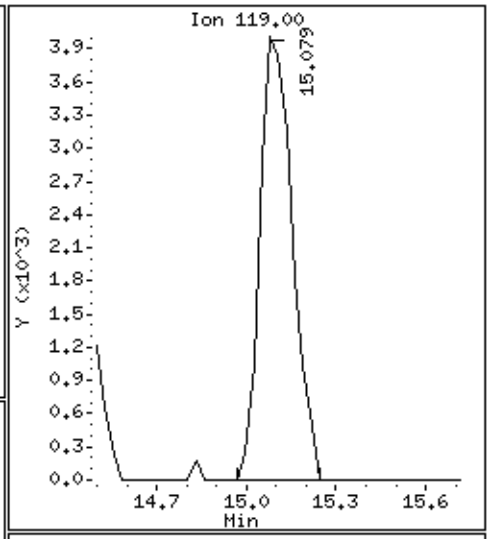
Column phase: RTx-624

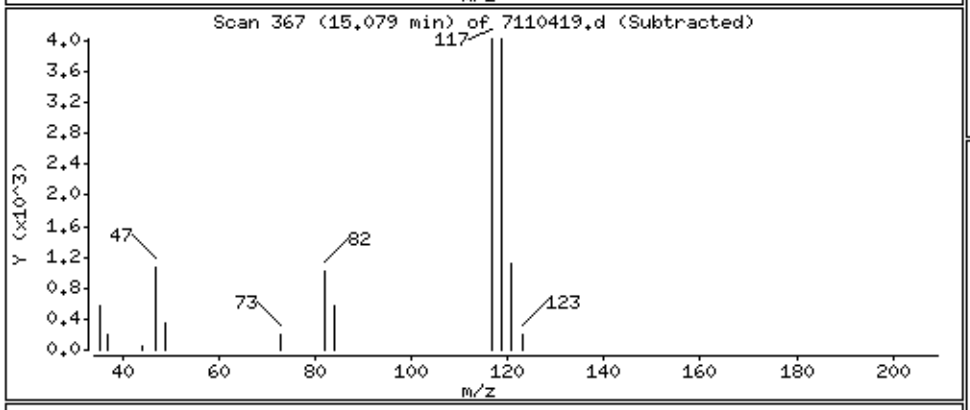
Column diameter: 0.53

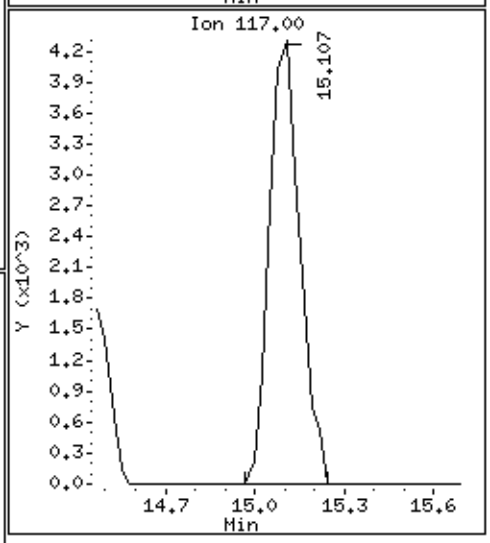
87 Carbon Tetrachloride

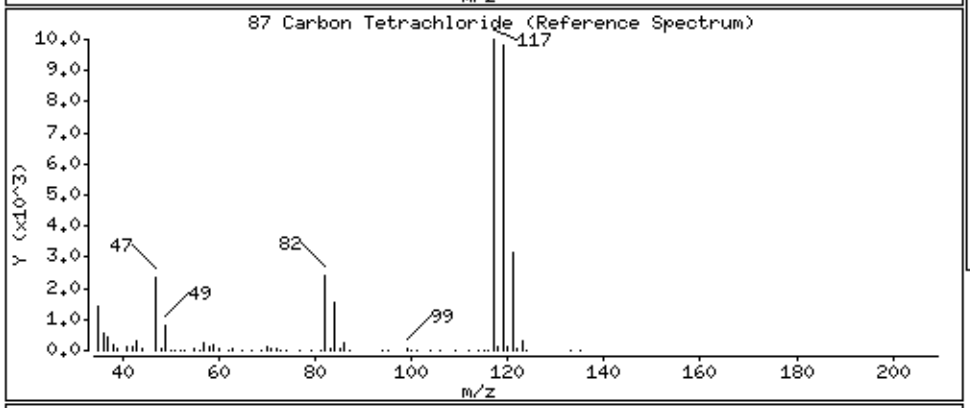
Concentration: 0.9719 PPBV

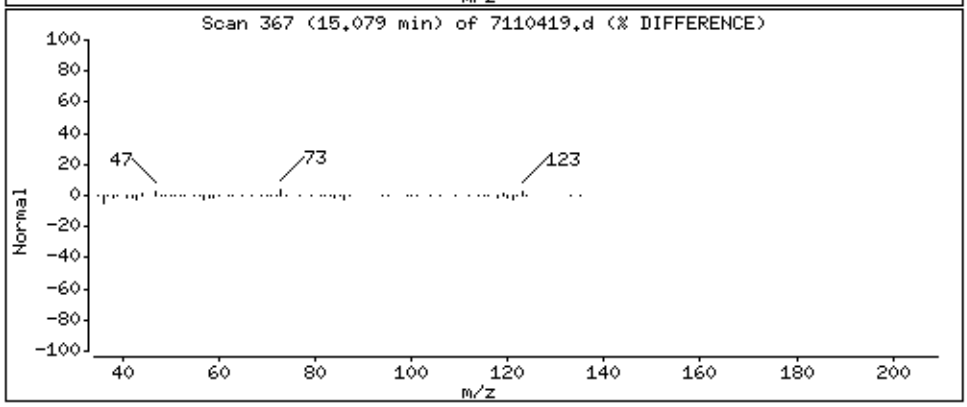












Data File: /chem/msd7.i/7-04nova.b/7110419.d

Date : 05-NOV-2007 08:17

Client ID:

Instrument: msd7.i

Sample Info: 200mL#35797

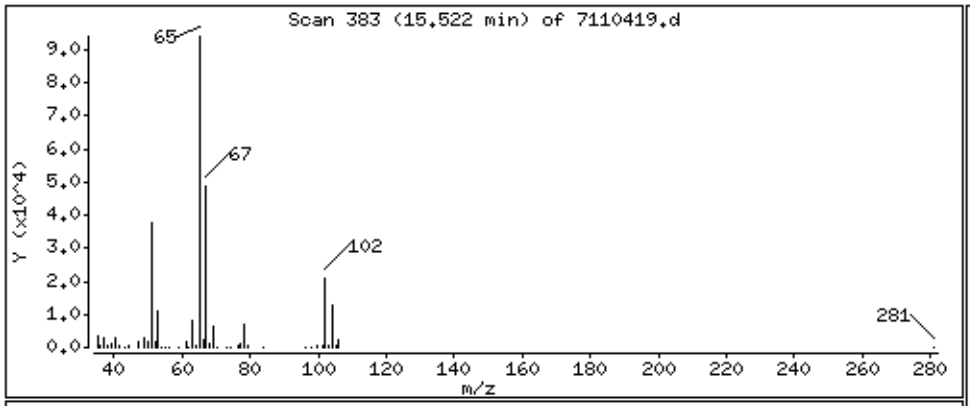
Operator: lo

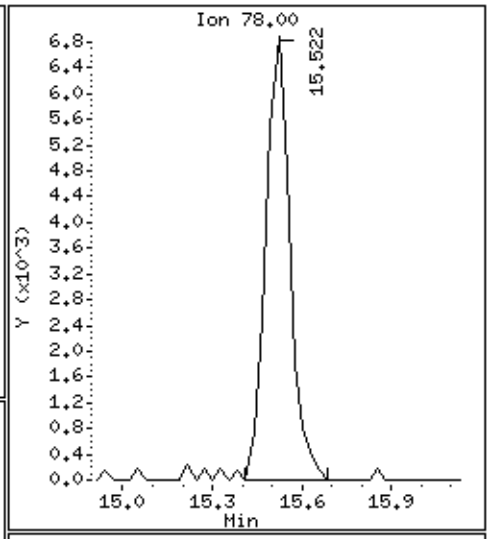
Column phase: RTx-624

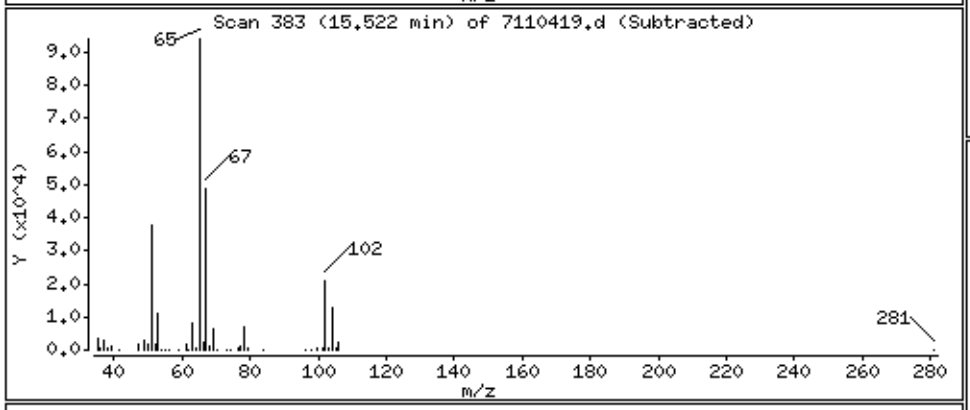
Column diameter: 0.53

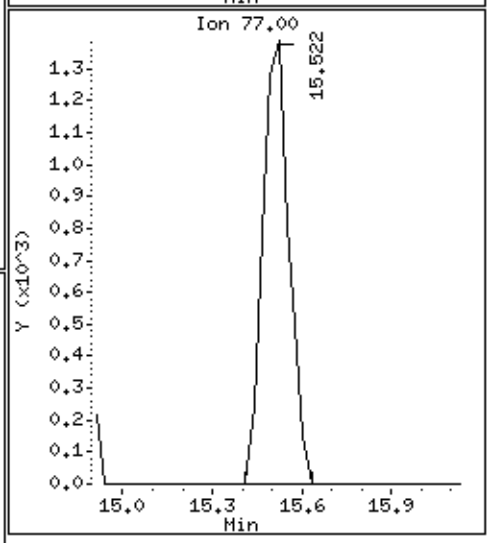
91 Benzene

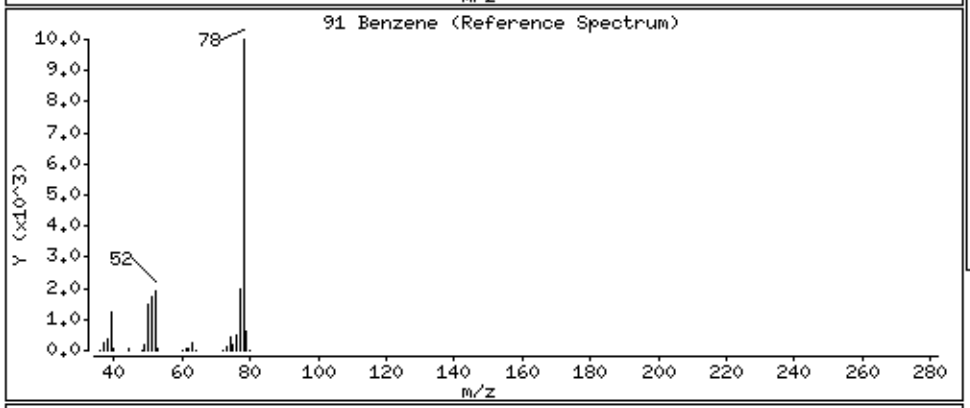
Concentration: 0.8983 PPBV

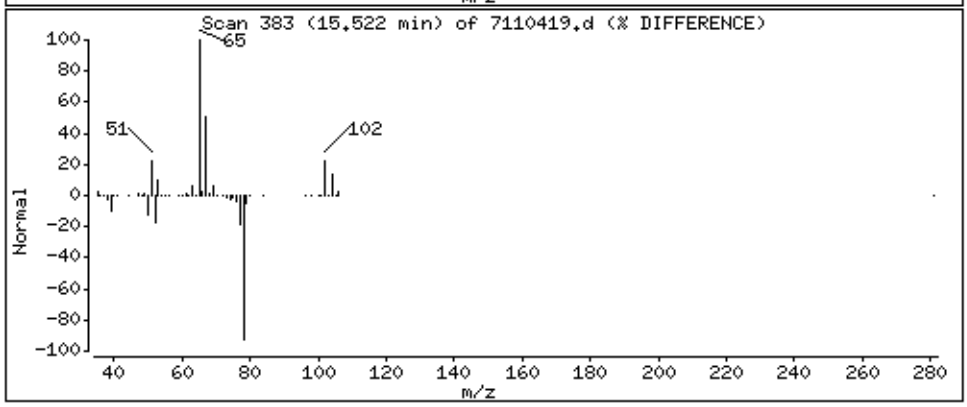












Data File: /chem/msd7.i/7-04nova.b/7110419.d

Date : 05-NOV-2007 08:17

Client ID:

Instrument: msd7.i

Sample Info: 200mL#35797

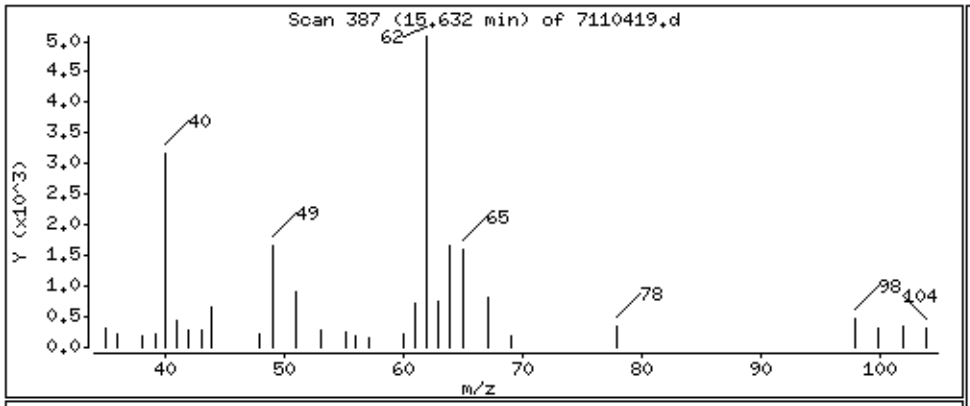
Operator: lo

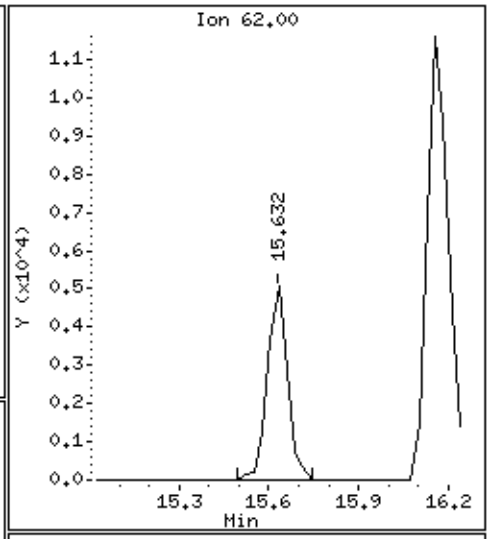
Column phase: RTx-624

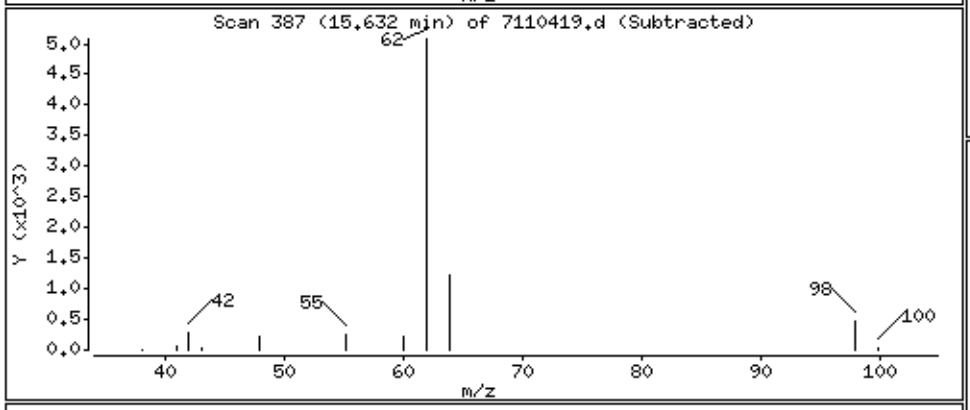
Column diameter: 0.53

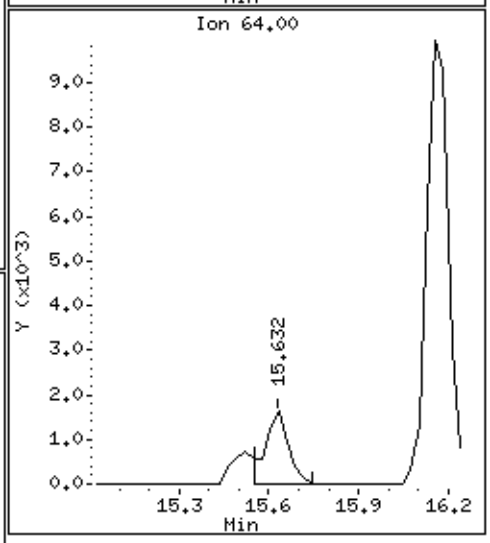
93 1,2-Dichloroethane

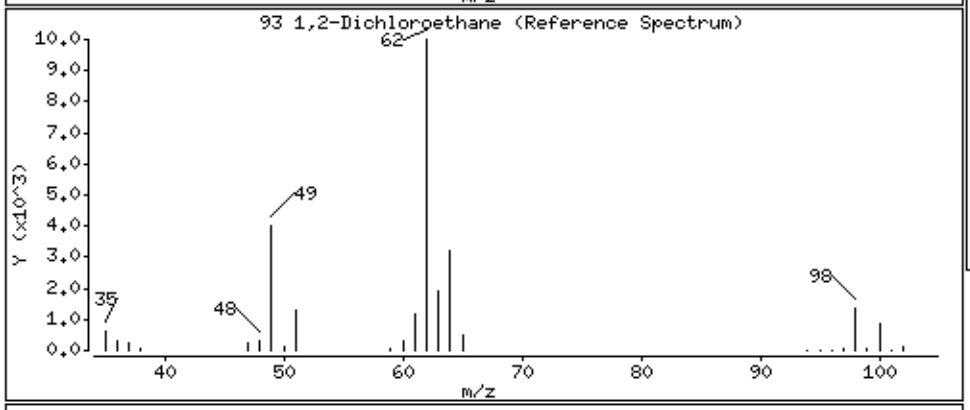
Concentration: 1.029 PPBV

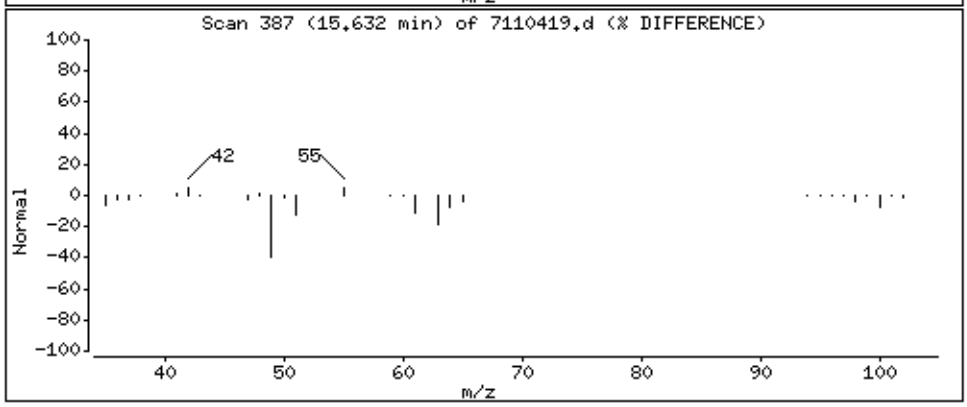












Data File: /chem/msd7.i/7-04nova.b/7110419.d

Date : 05-NOV-2007 08:17

Client ID:

Instrument: msd7.i

Sample Info: 200mL#35797

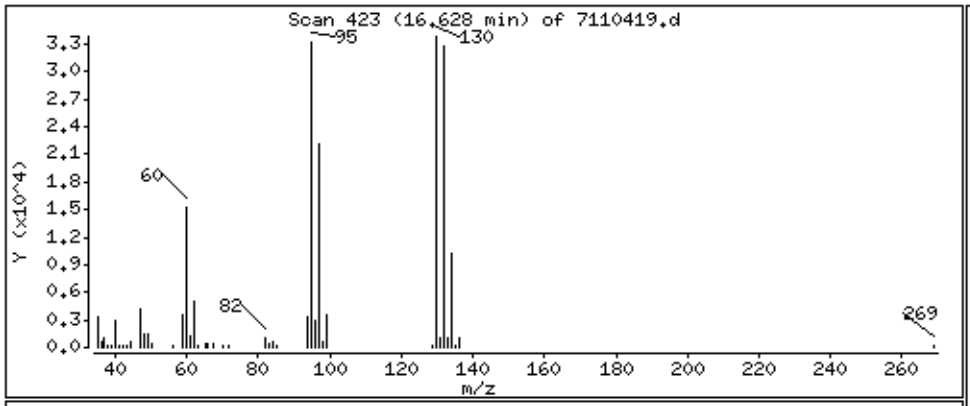
Operator: lo

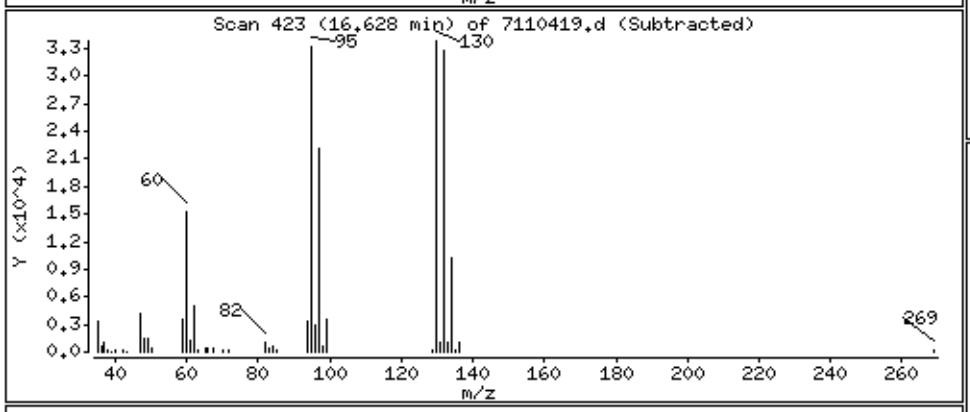
Column phase: RTx-624

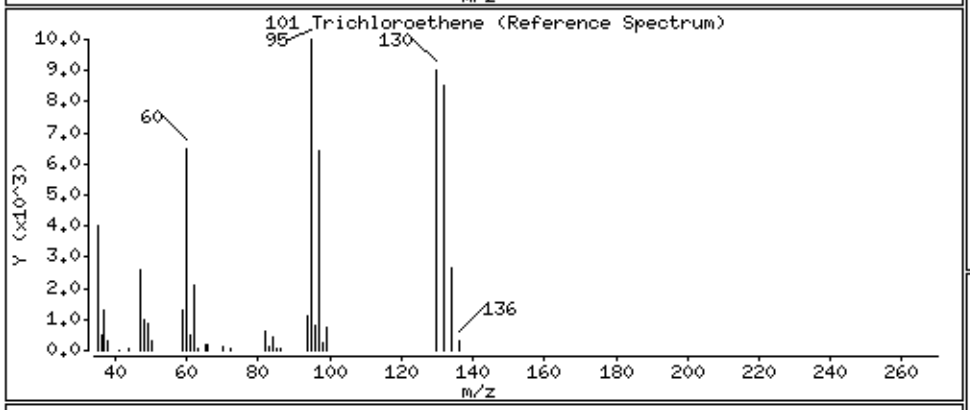
Column diameter: 0.53

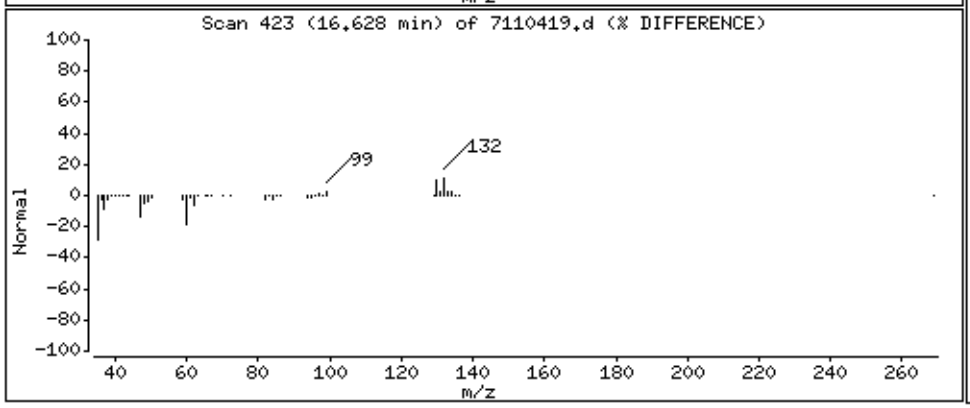
101 Trichloroethene

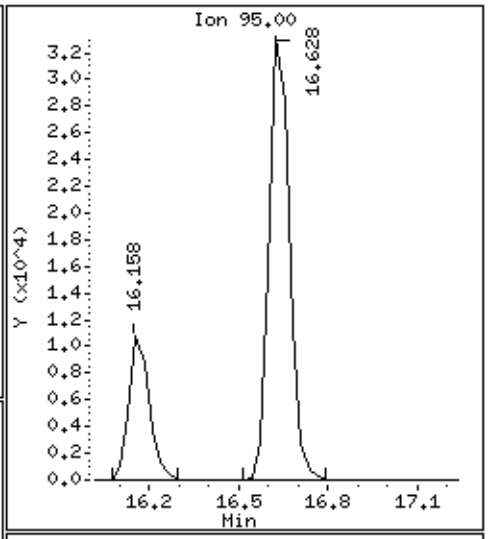
Concentration: 8.215 PPBV

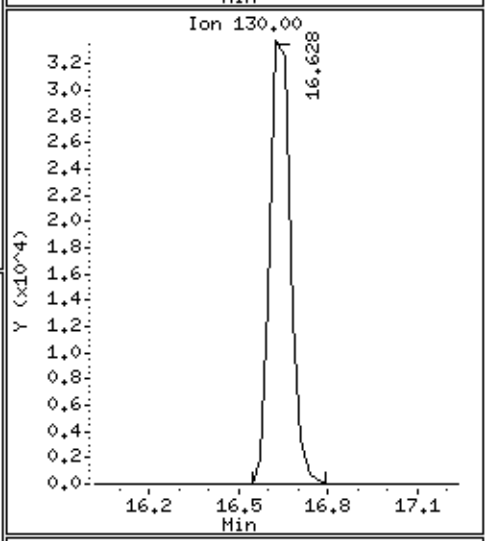


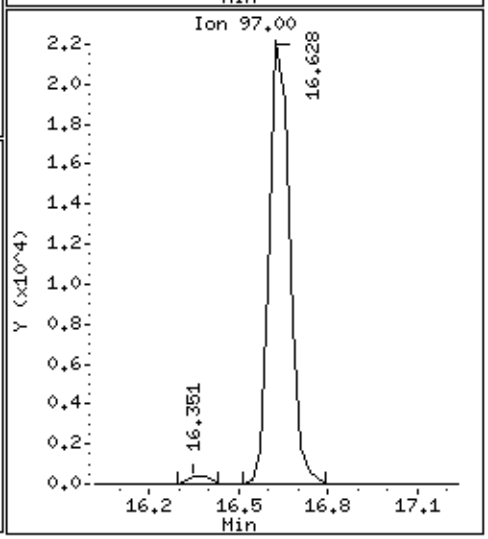












Data File: /chem/msd7.i/7-04nova.b/7110419.d

Date : 05-NOV-2007 08:17

Client ID:

Instrument: msd7.i

Sample Info: 200mL#35797

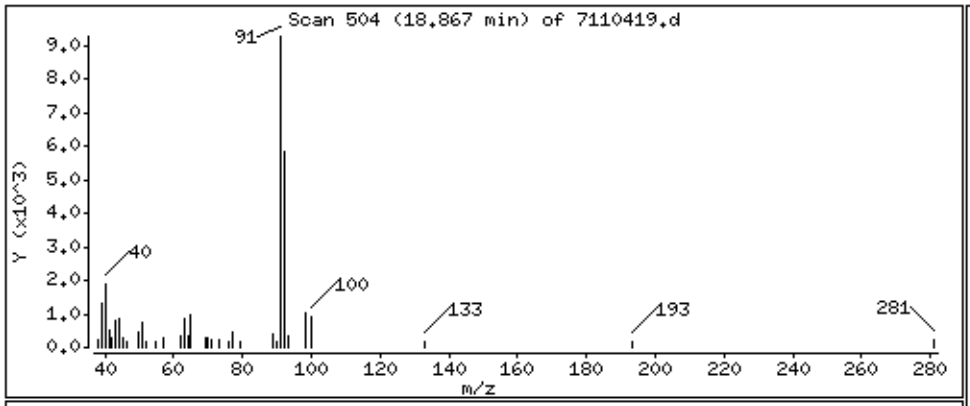
Operator: lo

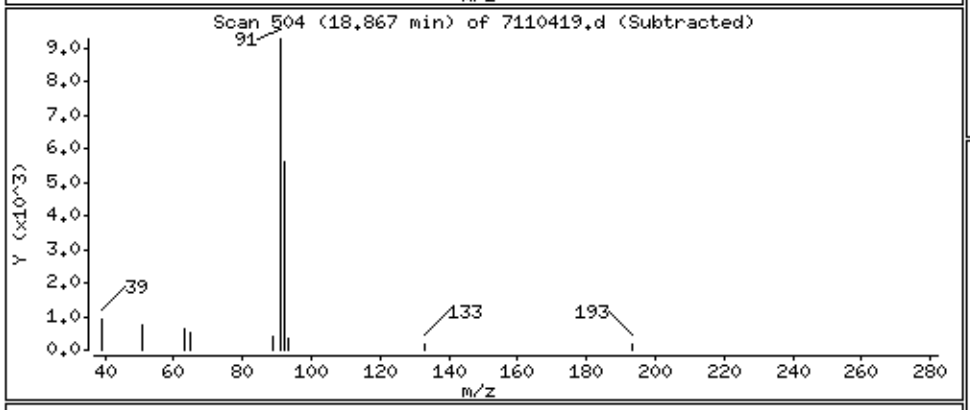
Column phase: RTx-624

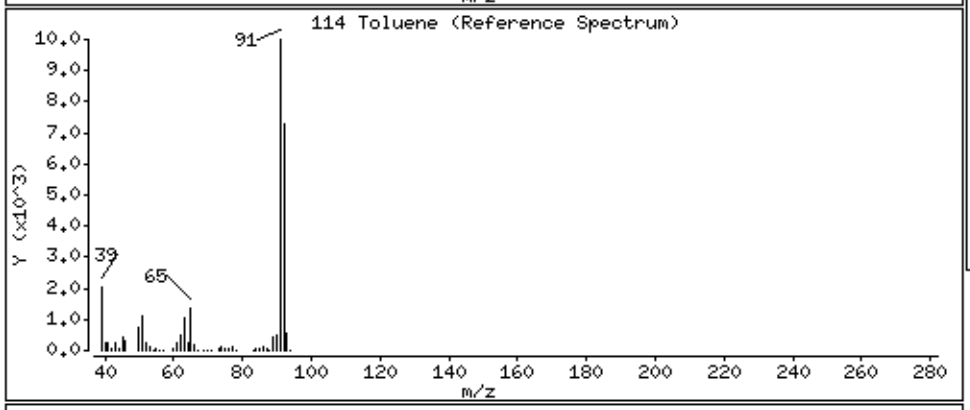
Column diameter: 0.53

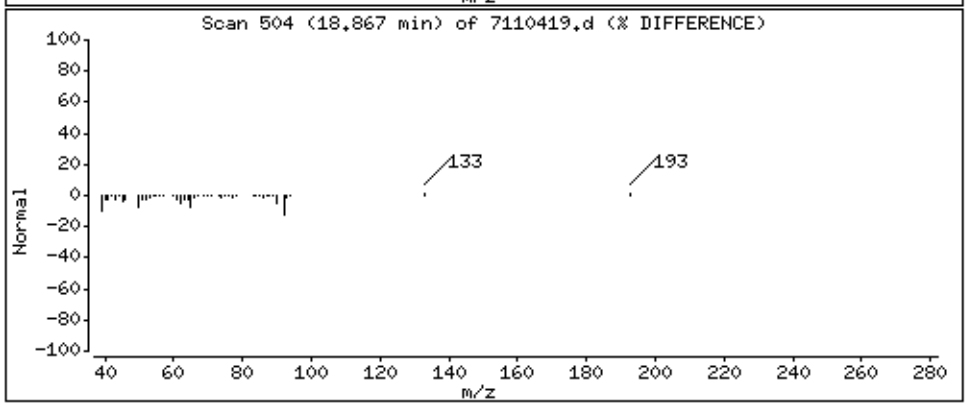
114 Toluene

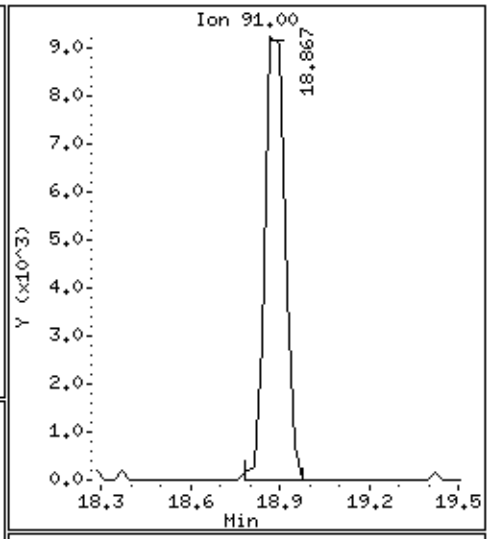
Concentration: 0.9162 PPBV

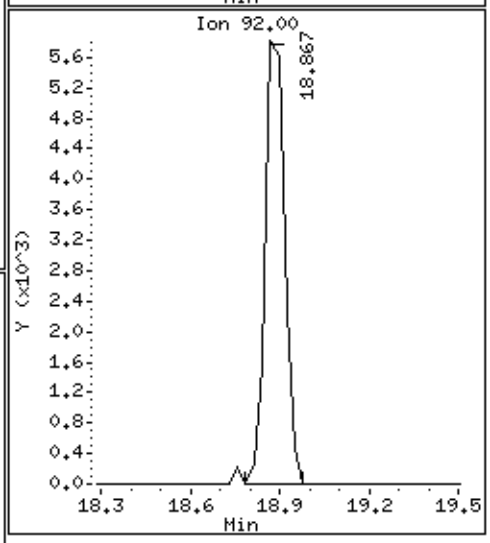












QC Results and Raw Data

AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: Lab Blank

Lab ID#: 0711008-07A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**7110413a**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 11/5/07 02:13 AM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Freon 12	0.50	Not Detected	2.5	Not Detected
Freon 114	0.50	Not Detected	3.5	Not Detected
Chloromethane	2.0	Not Detected	4.1	Not Detected
Vinyl Chloride	0.50	Not Detected	1.3	Not Detected
1,3-Butadiene	0.50	Not Detected	1.1	Not Detected
Bromomethane	0.50	Not Detected	1.9	Not Detected
Chloroethane	0.50	Not Detected	1.3	Not Detected
Freon 11	0.50	Not Detected	2.8	Not Detected
Ethanol	2.0	Not Detected	3.8	Not Detected
Freon 113	0.50	Not Detected	3.8	Not Detected
1,1-Dichloroethene	0.50	Not Detected	2.0	Not Detected
Acetone	2.0	Not Detected	4.8	Not Detected
2-Propanol	2.0	Not Detected	4.9	Not Detected
Carbon Disulfide	0.50	Not Detected	1.6	Not Detected
Methylene Chloride	0.50	Not Detected	1.7	Not Detected
Methyl tert-butyl ether	0.50	Not Detected	1.8	Not Detected
trans-1,2-Dichloroethene	0.50	Not Detected	2.0	Not Detected
Hexane	0.50	Not Detected	1.8	Not Detected
1,1-Dichloroethane	0.50	Not Detected	2.0	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.50	Not Detected	1.5	Not Detected
cis-1,2-Dichloroethene	0.50	Not Detected	2.0	Not Detected
Tetrahydrofuran	0.50	Not Detected	1.5	Not Detected
Chloroform	0.50	Not Detected	2.4	Not Detected
1,1,1-Trichloroethane	0.50	Not Detected	2.7	Not Detected
Cyclohexane	0.50	Not Detected	1.7	Not Detected
Carbon Tetrachloride	0.50	Not Detected	3.1	Not Detected
Benzene	0.50	Not Detected	1.6	Not Detected
1,2-Dichloroethane	0.50	Not Detected	2.0	Not Detected
Heptane	0.50	Not Detected	2.0	Not Detected
Trichloroethene	0.50	Not Detected	2.7	Not Detected
1,2-Dichloropropane	0.50	Not Detected	2.3	Not Detected
1,4-Dioxane	2.0	Not Detected	7.2	Not Detected
Bromodichloromethane	0.50	Not Detected	3.4	Not Detected
cis-1,3-Dichloropropene	0.50	Not Detected	2.3	Not Detected
4-Methyl-2-pentanone	0.50	Not Detected	2.0	Not Detected
Toluene	0.50	Not Detected	1.9	Not Detected
trans-1,3-Dichloropropene	0.50	Not Detected	2.3	Not Detected
1,1,2-Trichloroethane	0.50	Not Detected	2.7	Not Detected
Tetrachloroethene	0.50	Not Detected	3.4	Not Detected

AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: Lab Blank

Lab ID#: 0711008-07A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**7110413a**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 11/5/07 02:13 AM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
2-Hexanone	2.0	Not Detected	8.2	Not Detected
Dibromochloromethane	0.50	Not Detected	4.2	Not Detected
1,2-Dibromoethane (EDB)	0.50	Not Detected	3.8	Not Detected
Chlorobenzene	0.50	Not Detected	2.3	Not Detected
Ethyl Benzene	0.50	Not Detected	2.2	Not Detected
m,p-Xylene	0.50	Not Detected	2.2	Not Detected
o-Xylene	0.50	Not Detected	2.2	Not Detected
Styrene	0.50	Not Detected	2.1	Not Detected
Bromoform	0.50	Not Detected	5.2	Not Detected
1,1,2,2-Tetrachloroethane	0.50	Not Detected	3.4	Not Detected
4-Ethyltoluene	0.50	Not Detected	2.4	Not Detected
1,3,5-Trimethylbenzene	0.50	Not Detected	2.4	Not Detected
1,2,4-Trimethylbenzene	0.50	Not Detected	2.4	Not Detected
1,3-Dichlorobenzene	0.50	Not Detected	3.0	Not Detected
1,4-Dichlorobenzene	0.50	Not Detected	3.0	Not Detected
alpha-Chlorotoluene	0.50	Not Detected	2.6	Not Detected
1,2-Dichlorobenzene	0.50	Not Detected	3.0	Not Detected
1,2,4-Trichlorobenzene	2.0	Not Detected	15	Not Detected
Hexachlorobutadiene	2.0	Not Detected	21	Not Detected
Chlorodifluoromethane	2.0	Not Detected	7.1	Not Detected
Methanol	50	Not Detected	66	Not Detected
n-Butanol	2.0	Not Detected	6.1	Not Detected
Propylene	2.0	Not Detected	3.4	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	90	70-130
1,2-Dichloroethane-d4	97	70-130
4-Bromofluorobenzene	104	70-130

Air Toxics Ltd.

AMBIENT AIR METHOD TO14

Data file : /chem/msd7.i/7-04nova.b/7110413a.d
Lab Smp Id: Lab Blank
Inj Date : 05-NOV-2007 02:13
Operator : ab Inst ID: msd7.i
Smp Info : 200mL#34190
Misc Info : Humid
Comment :
Method : /chem/msd7.i/7-04nova.b/t14qO18c.m
Meth Date : 05-Nov-2007 00:40 dmendoza Quant Type: ISTD
Cal Date : 30-OCT-2007 11:10 Cal File: 7103005.d
Als bottle: 1
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: Los2153.sub
Target Version: 3.50 Sample Matrix: AIR
Processing Host: eeyore

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

RT	EXP RT (REL RT)	MASS	RESPONSE	CONCENTRATIONS ON-COL (PPBV)	FINAL (PPBV)	TARGET RANGE	RATIO
* 81 Bromochloromethane					CAS #: 74-97-5		
14.416	14.388 (1.000)	130	505800	25.0000		80.00- 120.00	100.00
14.416	14.388 (1.000)	128	394352			28.08- 128.08	77.97
14.388	14.388 (1.000)	49	728891			128.80- 228.80	144.11
* 97 1,4-Difluorobenzene					CAS #: 540-36-3		
16.158	16.158 (1.000)	114	1654472	25.0000		80.00- 120.00	100.00
16.158	16.158 (1.000)	88	252202			0.00- 64.88	15.24
* 126 Chlorobenzene-d5					CAS #: 3114-55-4		
21.356	21.356 (1.000)	117	1183032	25.0000		80.00- 120.00	100.00
21.356	21.356 (1.000)	82	609285			4.45- 104.45	51.50
$ 90 1,2-Dichloroethane-d4					CAS #: 17060-07-0		
15.494	15.494 (1.075)	65	656718	24.1685	24.168	80.00- 120.00	100.00
15.494	15.494 (1.075)	67	316492			2.91- 102.91	48.19
$ 113 Toluene-d8					CAS #: 2037-26-5		
18.757	18.757 (1.161)	98	1323090	22.5278	22.528	80.00- 120.00	100.00
18.757	18.757 (1.161)	70	141370			0.00- 61.46	10.68

RT	EXP RT (REL RT)	MASS	RESPONSE	CONCENTRATIONS ON-COL (PPBV)	FINAL (PPBV)	TARGET RANGE	RATIO
$ 113 Toluene-d8 (continued)							
18.757	18.757 (1.161)	100	909843			19.18- 119.18	68.77
$ 137 Bromofluorobenzene					CAS #: 460-00-4		
23.347	23.347 (1.093)	174	732171	26.0085	26.008	80.00- 120.00	100.00
23.319	23.319 (1.092)	95	831125			63.49- 163.49	113.52
23.347	23.347 (1.093)	176	706820			46.77- 146.77	96.54

Report Date: 05-Nov-2007 02:47

Air Toxics Ltd.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd7.i
Lab File ID: 7110413a.d
Lab Smp Id: Lab Blank
Analysis Type: VOA
Quant Type: ISTD
Operator: ab
Method File: /chem/msd7.i/7-04nova.b/t14qO18c.m
Misc Info: Humid

Calibration Date: 04-NOV-2007
Calibration Time: 22:27

Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
81 Bromochloromethan	651162	390697	911627	505800	-22.32
97 1,4-Difluorobenze	2188066	1312840	3063292	1654472	-24.39
126 Chlorobenzene-d5	1729248	1037549	2420947	1183032	-31.59

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
81 Bromochloromethan	14.39	14.06	14.72	14.42	0.19
97 1,4-Difluorobenze	16.16	15.83	16.49	16.16	0.00
126 Chlorobenzene-d5	21.36	21.03	21.69	21.36	0.00

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Report Date: 05-Nov-2007 02:47

Air Toxics Ltd.

RECOVERY REPORT

Client Name:
Client SDG: 7-04nova
Sample Matrix: GAS
Fraction: VOA
Lab Smp Id: Lab Blank
Level: LOW
Operator: ab
Data Type: MS DATA
SampleType: SAMPLE
SpikeList File: 2926spectra.spk
Quant Type: ISTD
Sublist File: Los2153.sub
Method File: /chem/msd7.i/7-04nova.b/t14qO18c.m
Misc Info: Humid

SURROGATE COMPOUND	CONC ADDED PPBV	CONC RECOVERED PPBV	% RECOVERED	LIMITS
$ 90 1,2-Dichloroethane	25.000	24.168	96.67	70-130
$ 113 Toluene-d8	25.000	22.528	90.11	70-130
$ 137 Bromofluorobenzene	25.000	26.008	104.03	70-130

Data File: /chem/msd7.i/7-04nova.b/7110413a.d

Date : 05-NOV-2007 02:13

Client ID:

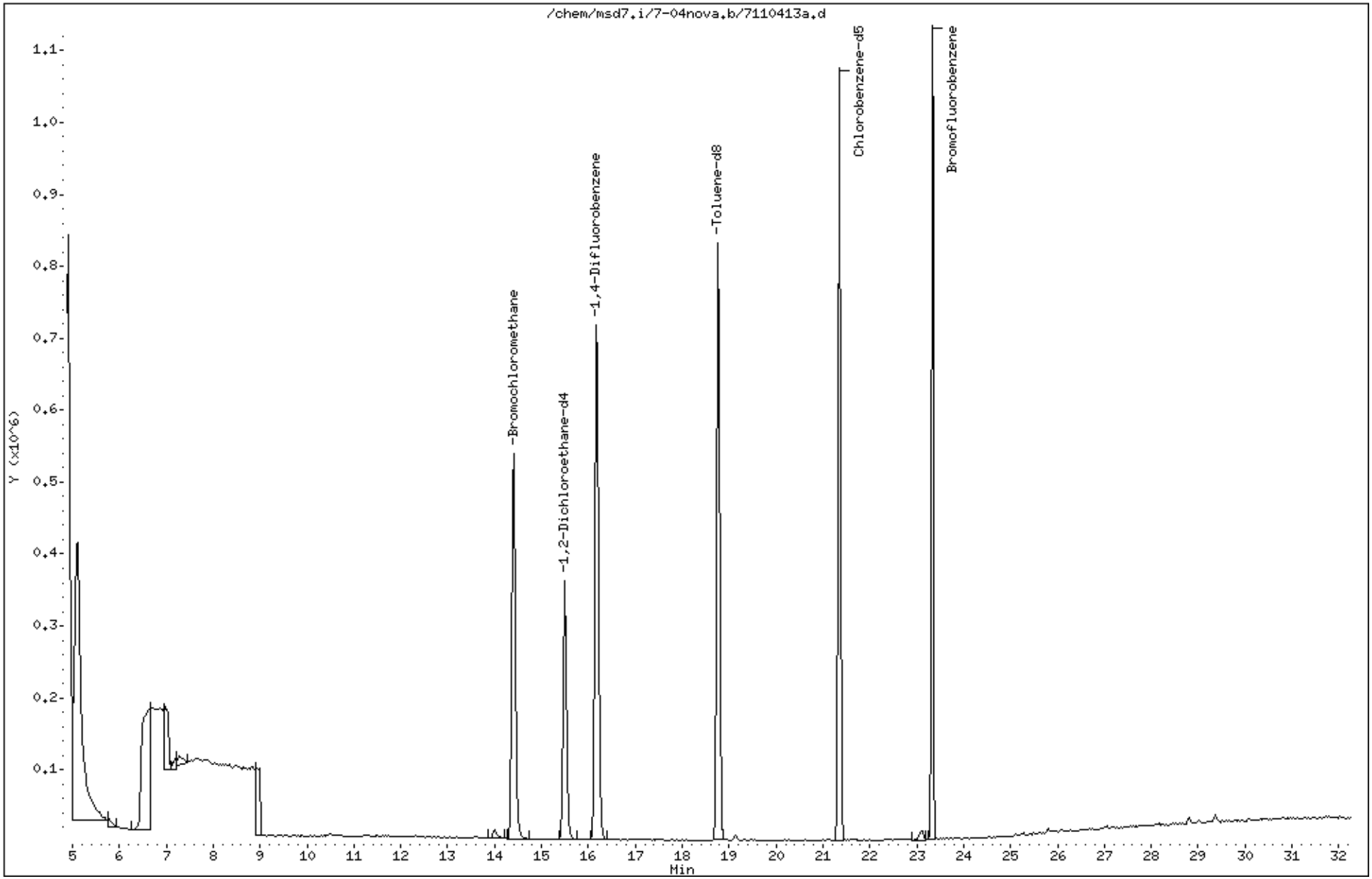
Sample Info: 200mL#34190

Column phase: RTx-624

Instrument: msd7.i

Operator: ab

Column diameter: 0.53



LEVEL-IV VALIDATABLE

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

SURROGATE RECOVERY FORM

Lab Name: AIR TOXICS LIMITED. SDG No.: 0711008

	CLIENT SAMPLE NO.	SURROGATE % RECOVERY								
		1,2-Dichloroethane-d4	#	Toluene-d8	#	4-Bromofluorobenzene	#		#	TOTAL OUT
01	MD21-07-6810	110		90		114				0
02	MD21-07-6807	97		94		108				0
03	MD21-07-6811	86		91		102				0
04	MD21-07-6809	93		91		108				0
05	MD21-07-6808	89		94		102				0
06	MD21-07-6812	83		92		100				0
07	Lab Blank	97		90		104				0
08	CCV	92		100		105				0
09	LCS	93		100		107				0
10										0
11										0
12										0
13										0
14										0
15										0
16										0
17										0
18										0
19										0
20										0
21										0
22										0
23										0
24										0

Surrogate Recovery Limits

1,2-Dichloroethane-d4 70 - 130
Toluene-d8 70 - 130
4-Bromofluorobenzene 70 - 130

* Designates values outside of QC limits

LEVEL-IV VALIDATABLE

Modified EPA Method TO-15 GC/MS Full Scan

INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: AIR TOXICS, LTD

SDG No: 0711008

Lab File ID: 7110409.d

Date Analyzed: 11/04/2007

Instrument ID: msd7.i

Time Analyzed: 10:27 PM

		Chlorobenzene-d5 Area	#	RT	#	1,4-Difluorobenzene Area	#	RT	#	Bromochloromethane Area	#	RT	#
	24-HOUR STD	1729248		21.36		2188066		16.16		651162		14.39	
	UPPER LIMIT	2420947		21.69		3063292		16.49		911627		14.72	
	LOWER LIMIT	1037549		21.03		1312840		15.83		390697		14.06	
	CLIENT SAMPLE NO												
01	MD21-07-6810	1305579		21.36		1817424		16.16		516113		14.42	
02	MD21-07-6807	1415558		21.36		1878976		16.16		550117		14.42	
03	MD21-07-6811	1350084		21.36		1897401		16.19		578639		14.42	
04	MD21-07-6809	1492758		21.36		2082380		16.16		600905		14.42	
05	MD21-07-6808	1715571		21.36		2116809		16.16		627788		14.42	
06	MD21-07-6812	1400838		21.36		1956883		16.16		596553		14.42	
07	Lab Blank	1183032		21.36		1654472		16.16		505800		14.42	
08	CCV	1729248		21.36		2188066		16.16		651162		14.39	
09	LCS	1687430		21.36		2122832		16.16		626813		14.39	
10													
11													
12													
13													
14													
15													
16													
17													
18													
19													
20													
21													
22													

'Area Upper Limit=+40% of internal standard area'

'Area Lower Limit=-40% of internal standard area'

RT Upper Limit=+0.33 minutes of internal standard RT

RT Lower Limit=-0.33 minutes of internal standard RT

* Designates values outside of QC limits

Air Toxics Ltd.

INITIAL CALIBRATION DATA

Start Cal Date : 18-OCT-2007 12:17
End Cal Date : 30-OCT-2007 11:10
Quant Method : ISTD
Origin : Disabled
Target Version : 3.50
Integrator : HP RTE
Method file : /chem/msd7.i/7-30oct.b/t14qO18c.m
Cal Date : 30-Oct-2007 11:35 cbond
Curve Type : Average

Calibration File Names:
Level 1: /chem/msd7.i/7-18oct.b/7101802.d
Level 2: /chem/msd7.i/7-18oct.b/7101803.d
Level 3: /chem/msd7.i/7-22oct.b/7102205.d
Level 4: /chem/msd7.i/7-30oct.b/7103003.d
Level 5: /chem/msd7.i/7-30oct.b/7103004.d
Level 6: /chem/msd7.i/7-18oct.b/7101807.d
Level 7: /chem/msd7.i/7-30oct.b/7103005.d

Compound	0.30000 Level 1	0.50000 Level 2	2.000 Level 3	25.000 Level 4	50.000 Level 5	100.000 Level 6	200.000 Level 7	___ RRF	% RSD
1 Dimethyl Ether	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
2 Isobutylene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
3 Acetaldehyde	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
4 2-Methyl-1-Butene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
5 Freon 143a	+++++	+++++	0.55395	+++++	0.55199	+++++	0.52936	0.54510	2.507
6 Freon142b	+++++	+++++	2.28105	+++++	2.26472	+++++	2.12470	2.22349	3.865
7 Propanal	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++

Air Toxics Ltd.

INITIAL CALIBRATION DATA

Start Cal Date : 18-OCT-2007 12:17
End Cal Date : 30-OCT-2007 11:10
Quant Method : ISTD
Origin : Disabled
Target Version : 3.50
Integrator : HP RTE
Method file : /chem/msd7.i/7-30oct.b/t14qO18c.m
Cal Date : 30-Oct-2007 11:35 cbond
Curve Type : Average

Compound	0.30000 Level 1	0.50000 Level 2	2.000 Level 3	25.000 Level 4	50.000 Level 5	100.000 Level 6	200.000 Level 7	___ RRF	% RSD
8 Freon 14	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
9 Freon 13	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
10 Bromoethane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
11 Propylene	+++++	+++++	1.12508	1.03756	1.03506	1.07736	1.11245	1.07750	3.849
12 Dichlorodifluoromethane/Fr12	+++++	3.99832	4.01542	3.93538	3.87538	3.94362	3.93588	3.95067	1.272
13 Freon 134a	+++++	+++++	1.08885	+++++	1.07331	+++++	1.03422	1.06546	2.642
14 2,3-Dimethylbutane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
15 Freon 152a	+++++	+++++	0.79822	+++++	0.77199	+++++	0.73740	0.76921	3.966
16 Freon 114	+++++	2.75763	2.94175	2.80659	2.67187	2.54264	2.41290	2.68890	7.063
17 Freon 22	+++++	+++++	2.64018	+++++	2.47048	+++++	2.34449	2.48505	5.971

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Curve Type : Average

Compound	0.30000 Level 1	0.50000 Level 2	2.000 Level 3	25.000 Level 4	50.000 Level 5	100.000 Level 6	200.000 Level 7	___ RRF	% RSD
18 Chloromethane	+++++	+++++	1.35842	1.27523	1.23888	1.27208	1.35173	1.29926	4.075
19 Butane	+++++	+++++	0.27760	0.27318	0.27001	0.28033	0.29063	0.27835	2.849
20 Vinyl Chloride	+++++	1.61123	1.66709	1.62947	1.58710	1.59115	1.64603	1.62201	1.940
21 Isobutane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
22 1,3-Butadiene	+++++	0.98714	1.11899	1.17713	1.17364	1.20853	1.30571	1.16186	9.077
23 Methyl acetate	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
24 Chloroprene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
25 Bromomethane	+++++	1.36911	1.38030	1.38465	1.43147	1.47189	1.57973	1.43619	5.586
26 Methanol	+++++	+++++	+++++	0.49521	0.41205	+++++	0.37348	0.42691	14.573
27 Chloroethane	+++++	0.56164	0.59106	0.70880	0.75786	0.81456	0.88356	0.71958	17.463

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Compound	0.30000 Level 1	0.50000 Level 2	2.000 Level 3	25.000 Level 4	50.000 Level 5	100.000 Level 6	200.000 Level 7	___ RRF	% RSD
28 2,4-Dimethylpentane	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
29 Isopentane	+++++	+++++	1.72200	1.68471	1.74289	1.82023	1.94043	1.78205	5.692
30 2-Butanol	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
31 Trichlorofluoromethane/Fr11	+++++	3.30692	3.64793	3.69780	3.75036	3.79137	3.91953	3.68565	5.627
32 3-Methyl-1-Hexene	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
33 Vinyl Bromide	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
34 Dichlorofluoromethane/Fr21	+++++	+++++	2.18670	+++++	2.24831	+++++	2.17912	2.20471	1.721
35 1-Pentene	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
36 Methacrylonitrile	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
37 Pentane	+++++	+++++	+++++	+++++	+++++	+++++	+++++		

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Compound	0.30000 Level 1	0.50000 Level 2	2.000 Level 3	25.000 Level 4	50.000 Level 5	100.000 Level 6	200.000 Level 7	___ RRF	% RSD
38 Ethanol	+++++	+++++	0.40835	0.46701	0.50651	0.55509	0.57654	0.50270	13.487
39 Ethyl Ether	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
40 Freon123a	+++++	+++++	1.12892	+++++	1.34813	+++++	1.26008	1.24571	8.855
41 Freon123	+++++	+++++	2.17978	+++++	2.29407	+++++	2.15449	2.20945	3.366
42 Freon 113	+++++	1.87915	1.96071	2.08299	2.10265	2.12197	2.15175	2.04987	5.188
43 1,1-Dichloroethene	+++++	1.93487	2.07684	2.19744	2.20280	2.28145	2.39408	2.18125	7.326
44 Acrolein	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
45 Acetone	+++++	+++++	0.57485	0.65835	0.66872	0.70599	0.76315	0.67421	10.242
46 2-Propanol	+++++	+++++	1.73749	2.29338	2.44395	2.63284	2.85245	2.39202	17.623
47 Carbon Disulfide	+++++	3.64316	3.89848	4.16293	4.20624	4.40983	4.64911	4.16162	8.592

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Compound	0.30000 Level 1	0.50000 Level 2	2.000 Level 3	25.000 Level 4	50.000 Level 5	100.000 Level 6	200.000 Level 7	___ RRF	% RSD
48 Ethyl acrylate	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
49 Iodomethane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
50 Methyl Methacrylate	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
51 3-Chloropropene	+++++	+++++	0.47791	0.67053	0.69517	0.71004	0.83257	0.67724	18.866
52 Acetonitrile	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
53 2-Methylpentane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
54 Methylene Chloride	+++++	1.50433	1.50940	1.55545	1.57830	1.66547	1.80906	1.60367	7.258
55 Cyclopentene	+++++	+++++	4.55063	+++++	4.84748	+++++	4.57554	4.65788	3.535
56 Cyclopentane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
57 tert-Butyl-Alcohol	+++++	+++++	2.48873	+++++	2.67379	+++++	1.79281	2.31844	20.036

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Compound	0.30000 Level 1	0.50000 Level 2	2.000 Level 3	25.000 Level 4	50.000 Level 5	100.000 Level 6	200.000 Level 7	___ RRF	% RSD
58 Freon143a	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
59 2,3,4-Trimethylpentane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
60 MTBE	+++++	2.56761	2.53475	2.73045	2.62429	2.12688	2.03593	2.43665	11.678
61 trans-1,2-Dichloroethene	+++++	1.27767	1.25807	1.53893	1.55545	1.59786	1.66426	1.48204	11.576
62 Acrylonitrile	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
63 2-Pentanone	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
64 Pentanal	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
65 Hexane	+++++	1.69745	1.86588	2.11588	2.20087	2.32069	2.48851	2.11488	13.795
66 1-Hexene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
67 2,4,4-Trimethyl-1-pentene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++

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Compound	0.30000 Level 1	0.50000 Level 2	2.000 Level 3	25.000 Level 4	50.000 Level 5	100.000 Level 6	200.000 Level 7	___ RRF	% RSD
68 Isopropyl ether	+++++	+++++	4.21268	+++++	4.73884	+++++	4.43254	4.46135	5.923
69 Vinyl Acetate	+++++	+++++	0.22424	0.31548	0.33299	0.35296	0.37207	0.31955	17.946
70 1,1-Dichloroethane	+++++	2.06984	2.31882	2.66506	2.63329	2.70399	2.80833	2.53322	11.066
71 1-Propanol	+++++	+++++	0.22951	+++++	0.30666	+++++	0.30318	0.27978	15.573
72 2,4,4-Trimethyl-2-pentene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
73 t-Butylethyl Ether	+++++	+++++	3.43943	+++++	4.07078	+++++	3.89822	3.80281	8.581
74 Butanal	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
75 2-Butanone	+++++	0.38112	0.37327	0.57250	0.59883	0.64860	0.67445	0.54146	24.420
76 cis-1,2-Dichloroethene	+++++	1.44231	1.58756	1.86427	1.87388	1.90834	1.96251	1.77314	11.735
77 Ethyl Acetate	+++++	+++++	0.39111	+++++	0.44693	+++++	0.43572	0.42459	6.954

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Compound	0.30000 Level 1	0.50000 Level 2	2.000 Level 3	25.000 Level 4	50.000 Level 5	100.000 Level 6	200.000 Level 7	___ RRF	% RSD
78 2,2-Dichloropropane	+++++	+++++	2.76326	+++++	3.07482	+++++	2.91201	2.91670	5.343
79 Methyl Acrylate	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
80 Tetrahydrofuran	+++++	1.02790	1.12367	1.48422	1.53795	1.59990	1.69691	1.41176	19.223
82 Chloroform	2.05933	2.30448	2.48203	2.71876	2.69631	2.67566	2.68331	2.51713	10.018
83 1,1,1-Trichloroethane	+++++	2.13993	2.49116	2.73073	2.66320	2.61212	2.57161	2.53479	8.276
84 2,3-Dimethylpentane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
85 Cyclohexane	+++++	1.13455	1.20463	1.54480	1.56422	1.61154	1.65129	1.45184	15.351
86 1-Bromo-2-Chloroethane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
87 Carbon Tetrachloride	+++++	1.91512	2.28619	2.65822	2.53314	2.44673	2.41712	2.37608	10.837
88 1,1-Dichloropropene	+++++	+++++	0.32293	+++++	0.36098	+++++	0.32719	0.33704	6.186

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Compound	0.30000 Level 1	0.50000 Level 2	2.000 Level 3	25.000 Level 4	50.000 Level 5	100.000 Level 6	___ RRF	% RSD
	200.000 Level 7							
89 2,2,4-Trimethylpentane	+++++	3.81973	4.40383	5.32986	5.44906	5.60503		
	5.84105						5.07476	15.513
91 Benzene	0.86624	0.88889	0.91154	1.08544	1.09104	1.07270		
	1.03741						0.99332	10.069
92 tert-amyl-Methyl Ether	+++++	+++++	2.47283	+++++	2.98882	+++++		
	2.87645						2.77937	9.763
93 1,2-Dichloroethane	+++++	0.47713	0.50816	0.58724	0.55560	0.53375		
	0.50473						0.52777	7.497
94 Heptane	+++++	0.21787	0.25494	0.33625	0.34694	0.34672		
	0.33023						0.30549	18.053
95 Thiophene	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++						+++++	+++++
96 2-Heptanone	+++++	+++++	1.17667	+++++	1.87950	+++++		
	1.94397						1.66671	25.536
98 1-Butanol	+++++	+++++	0.16640	+++++	0.27504	+++++		
	0.29172						0.24439	27.845
99 Isobutanol	+++++	+++++	0.01857	+++++	0.03090	+++++		
	0.03265						0.02737	28.046
100 trans-1,4-dichloro-2-butene	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++						+++++	+++++

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Compound	0.30000 Level 1	0.50000 Level 2	2.000 Level 3	25.000 Level 4	50.000 Level 5	100.000 Level 6	200.000 Level 7	___ RRF	% RSD
101 Trichloroethene	+++++	0.36757	0.41682	0.48608	0.47584	0.46333	0.43779	0.44124	9.999
102 Methyl Cyclohexane	+++++	1.39533	1.53464	1.88425	1.91342	1.96394	2.03008	1.78694	14.440
103 Alphamethylstyrene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
104 1,2-Dichloropropane	+++++	0.31221	0.33815	0.41169	0.41161	0.41161	0.40196	0.38121	11.628
105 Dibromomethane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
106 1,4-Dioxane	+++++	+++++	0.17948	0.26051	0.26452	0.26965	0.26552	0.24794	15.489
107 Bromodichloromethane	+++++	0.61038	0.69769	0.87294	0.84576	0.81437	0.75521	0.76606	12.941
108 Epichlorohydrin	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
109 Dodecane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
110 cis-1,3-Dichloropropene	+++++	0.38818	0.43431	0.60245	0.61448	0.61397	0.57859	0.53866	18.678

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Compound	0.30000 Level 1	0.50000 Level 2	2.000 Level 3	25.000 Level 4	50.000 Level 5	100.000 Level 6	200.000 Level 7	___ RRF	% RSD
111 4-Methyl-2-pentanone	+++++	0.17517	0.22135	0.33428	0.34745	0.35414	0.35115	0.29726	26.358
112 Octane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
114 Toluene	+++++	0.88659	0.96936	1.20407	1.18877	1.16407	1.11507	1.08799	11.969
115 Undecane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
116 trans-1,3-Dichloropropene	+++++	0.53047	0.59368	0.77535	0.80087	0.79044	0.76929	0.71002	16.458
117 1,1,2-Trichloroethane	+++++	0.41044	0.46882	0.56509	0.56186	0.55694	0.54374	0.51782	12.308
118 1,3-Dichloropropane	+++++	+++++	0.95658	+++++	1.08832	+++++	0.96579	1.00356	7.328
119 Butyl Acetate	+++++	+++++	0.28247	+++++	0.41163	+++++	0.39768	0.36393	19.478
120 Tetrachloroethene	+++++	0.58842	0.66370	0.75326	0.72549	0.67756	0.62110	0.67159	9.213
121 2-Hexanone	+++++	+++++	0.36161	0.55434	0.60179	0.62391	0.63307	0.55495	20.234

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Compound	0.30000 Level 1	0.50000 Level 2	2.000 Level 3	25.000 Level 4	50.000 Level 5	100.000 Level 6	200.000 Level 7	___ RRF	% RSD
122 Dibromochloromethane	+++++	0.69168	0.84946	1.07299	1.03098	0.96547	0.89431	0.91748	15.065
123 1,2-Dibromoethane	+++++	0.62218	0.76958	0.96047	0.95014	0.91717	0.87375	0.84888	15.420
124 Nonane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
125 1,1,1,2-Tetrachloroethane	+++++	+++++	0.89946	+++++	0.96238	+++++	0.81264	0.89149	8.434
127 Chlorobenzene	+++++	0.98017	1.09978	1.22139	1.20798	1.16672	1.10992	1.13099	7.863
128 Ethyl Benzene	+++++	0.45805	0.54406	0.64040	0.62635	0.60750	0.58753	0.57731	11.679
129 m,p-Xylene	+++++	0.59617	0.64876	0.79109	0.79390	0.76602	0.73972	0.72261	11.309
130 o-Xylene	+++++	0.50098	0.57853	0.70214	0.68839	0.66302	0.62421	0.62621	12.150
131 Styrene	0.70099	0.69787	0.85261	1.17931	1.15472	1.12570	1.06862	0.96855	21.987
132 alpha-Pinene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++

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Compound	0.30000 Level 1	0.50000 Level 2	2.000 Level 3	25.000 Level 4	50.000 Level 5	100.000 Level 6	200.000 Level 7	___ RRF	% RSD
133 Bromoform	+++++	0.63213	0.75943	0.95882	0.91283	0.83481	0.73582	0.80564	14.990
134 Cumene	1.37424	1.32202	1.52398	1.81837	1.75252	1.68271	1.59504	1.58127	11.814
135 Cyclohexanone	+++++	+++++	0.42554	+++++	0.51533	+++++	0.55003	0.49697	12.926
136 Bromobenzene	+++++	+++++	1.09324	+++++	1.15192	+++++	0.89292	1.04603	12.983
138 1,2,3-Trichloropropane	+++++	+++++	0.49256	+++++	0.53270	+++++	0.44323	0.48949	9.155
139 Decane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
140 1,1,2,2-Tetrachloroethane	+++++	0.90901	1.02955	1.12854	1.10800	1.08214	1.01864	1.04598	7.618
141 2-Chlorotoluene	+++++	+++++	0.77382	+++++	0.83371	+++++	0.71021	0.77258	7.994
142 Propylbenzene	+++++	1.80614	2.07039	2.37103	2.29000	2.22770	1.95985	2.12085	10.116
143 4-Chlorotoluene	+++++	+++++	0.80068	+++++	0.91055	+++++	0.76155	0.82426	9.372

Air Toxics Ltd.

INITIAL CALIBRATION DATA

Start Cal Date : 18-OCT-2007 12:17
End Cal Date : 30-OCT-2007 11:10
Quant Method : ISTD
Origin : Disabled
Target Version : 3.50
Integrator : HP RTE
Method file : /chem/msd7.i/7-30oct.b/t14qO18c.m
Cal Date : 30-Oct-2007 11:35 cbond
Curve Type : Average

Compound	0.30000 Level 1	0.50000 Level 2	2.000 Level 3	25.000 Level 4	50.000 Level 5	100.000 Level 6	200.000 Level 7	___ RRF	% RSD
144 beta-Pinene	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
145 4-Ethyltoluene	+++++	1.44347	1.70757	2.13595	2.07919	1.99040	1.88068	1.87287	13.869
146 Diisobutyl Ketone	+++++	+++++	1.03326	+++++	1.20971	+++++	1.11764	1.12021	7.878
147 1,3,5-Trimethylbenzene	+++++	1.41316	1.61240	1.56055	1.49171	1.41942	1.32949	1.47112	7.095
148 tert-Butylbenzene	+++++	+++++	2.45687	+++++	2.30546	+++++	1.84295	2.20176	14.526
149 sec-Butylbenzene	+++++	+++++	3.43467	+++++	3.26882	+++++	2.43915	3.04755	17.502
150 1,2,4-Trimethylbenzene	+++++	1.05335	1.33499	1.48885	1.43630	1.39785	1.31045	1.33697	11.480
151 bis(2-chloroethyl)ether	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
152 D-Limonene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
153 p-Cymene	+++++	+++++	2.65193	+++++	2.61222	+++++	2.06279	2.44232	13.482

Air Toxics Ltd.

INITIAL CALIBRATION DATA

Start Cal Date : 18-OCT-2007 12:17
End Cal Date : 30-OCT-2007 11:10
Quant Method : ISTD
Origin : Disabled
Target Version : 3.50
Integrator : HP RTE
Method file : /chem/msd7.i/7-30oct.b/t14qO18c.m
Cal Date : 30-Oct-2007 11:35 cbond
Curve Type : Average

Compound	0.30000 Level 1	0.50000 Level 2	2.000 Level 3	25.000 Level 4	50.000 Level 5	100.000 Level 6	200.000 Level 7	___ RRF	% RSD
154 1,2,3-Trimethylbenzene	+++++	+++++	0.97569	+++++	1.04736	+++++	0.88396	0.96900	8.453
155 1,3-Dichlorobenzene	+++++	0.93407	1.06260	1.12258	1.08075	1.04027	0.96733	1.03460	6.878
156 1,4-Dichlorobenzene	+++++	1.02926	1.10239	1.15450	1.11647	1.07554	0.99126	1.07824	5.539
157 Indan	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
158 Butylbenzene	+++++	+++++	0.66658	+++++	0.69760	+++++	0.60595	0.65671	7.099
159 alpha-Chlorotoluene	+++++	1.02301	1.25741	1.52918	1.58500	1.63564	1.55835	1.43143	16.768
160 Indene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
161 1,2-Dichlorobenzene	+++++	0.94286	1.02179	0.99757	0.96941	0.96223	0.88582	0.96328	4.881
162 1,2-Dibromo-3-Chloropropane	+++++	+++++	0.76234	+++++	0.80959	+++++	0.79238	0.78810	3.035
163 Aniline	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++

Air Toxics Ltd.

INITIAL CALIBRATION DATA

Start Cal Date : 18-OCT-2007 12:17
End Cal Date : 30-OCT-2007 11:10
Quant Method : ISTD
Origin : Disabled
Target Version : 3.50
Integrator : HP RTE
Method file : /chem/msd7.i/7-30oct.b/t14qO18c.m
Cal Date : 30-Oct-2007 11:35 cbond
Curve Type : Average

Compound	0.30000 Level 1	0.50000 Level 2	2.000 Level 3	25.000 Level 4	50.000 Level 5	100.000 Level 6	200.000 Level 7	___ RRF	% RSD	
164 Isooctyl Alcohol	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
165 1,2,4-Trichlorobenzene	+++++	+++++	0.51018	0.27800	0.34560	0.40681	0.42931	0.39398	22.239	
166 Hexachlorobutadiene	+++++	+++++	0.50925	0.26779	0.28274	0.29299	0.28486	0.32753	31.141	<-
167 Naphthalene	+++++	+++++	0.92717	0.46092	0.62590	0.80276	0.87395	0.73814	26.042	
168 Quinoline	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
169 1,3,5-Trichlorobenzene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
170 Isooctyl Acrylate	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
199 Vinyl Fluoride	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
200 2-Chloroethyl vinyl ether	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
201 Pentachloroethane	+++++	+++++	0.71063	+++++	0.70263	+++++	0.56154	0.65826	12.740	

Air Toxics Ltd.

INITIAL CALIBRATION DATA

Start Cal Date : 18-OCT-2007 12:17
End Cal Date : 30-OCT-2007 11:10
Quant Method : ISTD
Origin : Disabled
Target Version : 3.50
Integrator : HP RTE
Method file : /chem/msd7.i/7-30oct.b/t14qO18c.m
Cal Date : 30-Oct-2007 11:35 cbond
Curve Type : Average

Compound	0.30000 Level 1	0.50000 Level 2	2.000 Level 3	25.000 Level 4	50.000 Level 5	100.000 Level 6	200.000 Level 7	___ RRF	% RSD
202 1,2,3-Trichlorobenzene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
203 Hexachloroethane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
$ 90 1,2-Dichloroethane-d4	1.32140	1.33936	1.38524	1.34768	1.31998	1.31873	1.36890	1.34304	1.941
$ 113 Toluene-d8	0.87123	0.85458	0.85764	0.89757	0.90205	0.91537	0.91380	0.88746	2.917
$ 137 Bromofluorobenzene	0.59803	0.60119	0.59463	0.60774	0.59840	0.58089	0.58339	0.59489	1.617

Calibration History

Method : /chem/msd7.i/7-30oct.b/t14qO18c.m
Start Cal Date: 18-OCT-2007 12:17
End Cal Date : 30-OCT-2007 11:10

Initial Calibration

Injection Date	Sublist	Calibration File
Cal Level: 1 , Cal Amount: 0.30000		
18-OCT-2007 12:17	AFCEElow	/chem/msd7.i/7-18oct.b/7101802.d

Injection Date	Sublist	Calibration File
Cal Level: 2 , Cal Amount: 0.50000		
18-OCT-2007 12:56	AT04low+ENSR	/chem/msd7.i/7-18oct.b/7101803.d

Injection Date	Sublist	Calibration File
Cal Level: 3 , Cal Amount: 2.00000		
22-OCT-2007 10:55	sp16b	/chem/msd7.i/7-22oct.b/7102205.d
19-OCT-2007 10:22	sp22a	/chem/msd7.i/7-19oct.b/7101903.d
18-OCT-2007 14:09	AT04mdl+ENSR	/chem/msd7.i/7-18oct.b/7101804.d

Injection Date	Sublist	Calibration File
Cal Level: 4 , Cal Amount: 25.00000		
30-OCT-2007 09:51	sp1c	/chem/msd7.i/7-30oct.b/7103003.d
18-OCT-2007 14:47	AT04mdl+ENSR	/chem/msd7.i/7-18oct.b/7101805.d

Injection Date	Sublist	Calibration File
Cal Level: 5 , Cal Amount: 50.00000		
30-OCT-2007 10:29	sp1c	/chem/msd7.i/7-30oct.b/7103004.d
22-OCT-2007 11:44	sp16b	/chem/msd7.i/7-22oct.b/7102206.d
19-OCT-2007 11:00	sp22a	/chem/msd7.i/7-19oct.b/7101904.d
18-OCT-2007 15:26	AT04mdl+ENSR	/chem/msd7.i/7-18oct.b/7101806.d

Injection Date	Sublist	Calibration File
Cal Level: 6 , Cal Amount: 100.00000		
18-OCT-2007 16:15	AT04mdl+ENSR	/chem/msd7.i/7-18oct.b/7101807.d

Injection Date	Sublist	Calibration File
Cal Level: 7 , Cal Amount: 200.00000		
30-OCT-2007 11:10	sp1c	/chem/msd7.i/7-30oct.b/7103005.d

```
|22-OCT-2007 12:34 |sp16b            |/chem/msd7.i/7-22oct.b/7102207.d        |
|19-OCT-2007 11:41 |sp22a            |/chem/msd7.i/7-19oct.b/7101905.d        |
|18-OCT-2007 17:39 |AT04mdl+ENSR     |/chem/msd7.i/7-18oct.b/7101808.d        |
+------------------+-----------------+----------------------------------------+


Continuing Calibration
Ccal Level Mode: GLOBAL LEVEL 5
+------------------+-----------------+----------------------------------------+
| Ccal Level: 5 , Ccal Amount: 50.000                                          |
+==============================================================================+
|30-OCT-2007 10:29 |sp22aCCV         |/chem/msd7.i/7-30oct.b/7103004a.d       |
+------------------+-----------------+----------------------------------------+
```

Initial Calibration Narrative

A seven point and four point initial calibration was analyzed on MSD-7 on 10-18-2007.:

The following compounds used 0.2 ppbv as the lowest calibration concentration: Chloroform, Benzene, Cumene and Styrene.

@ Air Toxics Ltd.

MSD-7

Logbook #: 1594

m/z	ION ABUNDANCE CRITERIA	% REL. ABUNDANCE
50	15.0 – 40.0% of mass 95	18.61
75	30.0 – 60.0% of mass 95	39.71
95	Base peak, 100.00% relative abundance	100.00
96	5.0 – 9.0% of mass 95	6.78
173	Less than 2.0% of mass 174	(0.49)[1]
174	Greater than 50.0% of mass 95	81.70
175	5.0 – 9.0% of mass 174	(6.88)[1]
176	Greater than 95.0% but less than 101.0% of mass 174	(96.40)[1]
177	5.0 – 9.0% of mass 176	(6.69)[2]

[1] - value in parenthesis is % mass 174 [2] - value in parenthesis is % mass 176

BFB Injection Date: 10/18/07

BFB Injection Time: 1150

BFB File ID: 7101807

Tekmar Purge Flow: 17.9 mL/min

Vacuum: 2.8×10^{-5} torr

IS/S Std.#:	1443-339	Exp. Date: 12/26/07
BCM	683549	
1,4-DFB	2204815	
CB-d5	1812979	

Verified CCV IS vs ICAL mid-point (- 40%D) CB *initials*

0219

Verify 176/174 m/z Ratio: 1072385 / 1112403 x 100 =

NOAH Cart #: N/A **File #:** N/A

Calculation Check:

ppbv of compound $= \frac{Area_{Sample}}{Area_{IS}} \times \frac{Conc._{IS}}{RRF} = \frac{(\ 902272\ )}{(\ 683549\ )} \times \frac{(\ 25.0\ )}{(\ 1.34304\ )} =$ 24.571

Reported Result 24.571

File ID:	7101806
Compound:	1,2-DCA-d4
Initials:	CB

	Use	File #	Sample / Client Name	Can #	Pressure	Amt Loaded	DF	Date Analyzed	Time Analyzed	Review Init.	Comments
1	✓	7101807	BFB Tune Check	1467-64	50 psig	2uL	1.00	10/18/07	1150	CB	
2	✓	02	ICAL Level 1	1576-50	200 ppbv – 0.2 ppbv	0.2mL			1217	CB	
3	✓	03	2		200 ppbv – 0.5 ppbv	0.5mL			1256	CB	
4	✓	04	3		200 ppbv – 2 ppbv	2mL			1409	CB	
5	✓	05	4		200 ppbv – 25 ppbv	25mL			1447	CB	
6	✓	06	5		200 ppbv – 50 ppbv	50mL			1526	CB	CCV
7	✓	07	6		200 ppbv – 100 ppbv	100mL			1615	DW/CB	
8	✓	08	7		200 ppbv → 200 ppbv	200mL			1739	DW/CB	1 out Hexach for sat standard
9	X	09	System Blank	34190					1847	DW	

Laura Derringer
Signature

10/22/07
Date

10	✓	7101810	ICAL LCS-1 (200ppbv)	1443-302	50ppbv	50L/L	1.00	10/18/07	1929	dm/CB	∅ OCF ICALCS
11		↓ 11	System Blank	34490	Humid	200mL			0828	CB	
12											
13											
14											
15											
16											
17											
18											
19											
20											
21											
22											
23											
24											
25											
26			FQ 10/22/07								
27											
28											
29											
30											
31											
32											

0220

Comments: Flow controller SN # AA9123141 Nominal: 23.6 mL/min

NIST Flowmeter # 200-7744 Actual: 25.0 mL/min CB 10/22/07

Exp 8/27/08

Signature

10/18/07
Date

@ Air Toxics Ltd.

MSD-7

Logbook #: 1594

m/z	ION ABUNDANCE CRITERIA	% REL. ABUNDANCE
50	15.0 – 40.0% of mass 95	18.32
75	30.0 – 60.0% of mass 95	40.25
95	Base peak, 100.00% relative abundance	100.00
96	5.0 – 9.0% of mass 95	6.83
173	Less than 2.0% of mass 174	(0.49)[1]
174	Greater than 50.0% of mass 95	81.69
175	5.0 – 9.0% of mass 174	(7.11)[1]
176	Greater than 95.0% but less than 101.0% of mass 174	(97.18)[1]
177	5.0 – 9.0% of mass 176	(6.67)[2]

[1] - value in parenthesis is % mass 174 [2] - value in parenthesis is % mass 176

BFB Injection Date: 10/19/07
BFB Injection Time: 0909
BFB File ID: 7101901
Tekmar Purge Flow: 17.8 mL/min
Vacuum: 3.0×10^{-5} torr

0221

IS/S Std.#:	1443-339	Exp. Date:	12/26/07
BCM	709290		
1,4-DFB	2353553		
CB-d5	1919987		

Verified CCV IS vs ICAL mid-point (- 40%D) CB *initials*

Verify 176/174 m/z Ratio: 1015727 / 1045184 x 100 = 97.18%

NOAH Cart #: NA **File #:** NA

Calculation Check:

ppbv of compound $= \frac{Area_{Sample}}{Area_{IS}} \times \frac{Conc._{IS}}{RRF} = \frac{(\ 919940\ )}{(\ 709290\ )} \times \frac{(\ 25.0\ )}{(\ 1.34304\ )} =$ 24.143

Reported Result 24.143

File ID:	7101902
Compound:	1,2-DCA-d4
Initials:	CB

	Use	File #	Sample / Client Name	Can #	Pressure	Amt Loaded	DF	Date Analyzed	Time Analyzed	Review Init.	Comments
1	✓	7101901	BFB Tune Check	1467-64	50 psig	2uL	1.00	10/19/07	0909	CB	
2	✓	02	CCV-1 (200 ppbv)	1576-50	50 ppbv	50mL			0929	CB	
3	✓	03	ICAL Level 3	1487-400	200 ppbv - 3 ppbv	2mL			1022	CB	Sp229 Et40189
4	✓	04	5		200 ppbv - 50 ppbv	50mL			1100	CB	CCV
5	✓	05	7		200 ppbv	200mL			1141	CB	
6	✓	06	LCS-1 (200 ppbv)	1443-302	50 ppbv	50mL			1226	CB	~~ICAL LCS~~ fo 10/22/07
7	✓	07	Gas Std (100 ppmv)	1576-14	2500 ppbv	5mL			1310	CB	
8	✗ CB 10/19/07	08	Lab Blank	12009	Humid	200mL			1400	CB	
9		09	Lab Blank								CB 10/19/07 not run

Signature: CB

10/19/07
Date

@ Air Toxics Ltd.

MSD-7

Logbook #: 1594

m/z	ION ABUNDANCE CRITERIA	% REL. ABUNDANCE
50	15.0 – 40.0% of mass 95	17.85
75	30.0 – 60.0% of mass 95	39.75
95	Base peak, 100.00% relative abundance	100.00
96	5.0 – 9.0% of mass 95	6.75
173	Less than 2.0% of mass 174	(0.53)[1]
174	Greater than 50.0% of mass 95	86.46
175	5.0 – 9.0% of mass 174	(6.92)[1]
176	Greater than 95.0% but less than 101.0% of mass 174	(96.63)[1]
177	5.0 – 9.0% of mass 176	(6.48)[2]

[1] - value in parenthesis is % mass 174 [2] - value in parenthesis is % mass 176

BFB Injection Date: 10/22/07
BFB Injection Time: 0822
BFB File ID: 7102201
Tekmar Purge Flow: 17.9 mL/min
Vacuum: 2.8×10^{-5} torr

0222

IS/S Std.#:	1443-339	Exp. Date: 12/26/07
BCM	691202	
1,4-DFB	2257140	
CB-d5	1885010	

Verified CCV IS vs ICAL mid-point (- 40%D) CB *initials*

Verify 176/174 m/z Ratio: 1142984 / 1182801 × 100 = 96.63%

NOAH Cart #: N/A **File #:** N/A

Calculation Check:

ppbv of compound $= \frac{Area_{Sample}}{Area_{IS}} \times \frac{Conc._{IS}}{RRF} = \frac{(892172)}{(691202)} \times \frac{(25.0)}{(1.34304)} = 24.027$

File ID:	7102202
Compound:	1,2-DCA-d4
Initials:	CB

Reported Result 24.027

	Use	File #	Sample / Client Name	Can #	Pressure	Amt Loaded	DF	Date Analyzed	Time Analyzed	Review Init.	Comments
1	✓	7102201	BFB Tune Check	1462-64	50ng	2uL	1.00	10/22/07	0822	CB	
2	✓	02	CCV-1 (200ppbv)	1576-50	50ppbv	50mL			0843	CB	
3	✓	03	LCS-1 (200ppbv)	1443-302	50ppbv	50mL			0925	CB	
4	✓	04	CCVsp (200ppbv)	1487-400	50ppbv	50mL			1007	CB	
5	✓	05	ICAL Level 3	1487-370	200ppbv – 2ppbv	2mL			1055	CB	sp166 T1490186
6	✓	06	↓ 5	↓	200ppbv – 50ppbv	50mL			1144	CB	CCV
7	✓	07	↓ 7	↓	200ppbv	200mL			1234	CB	
8	✗	08	Lab Blank	34190	Humid	200mL			1317	CB	
9	✓	09	Lab Blank	~~3499~~ 34190	Humid	200mL			1422	CB	

CB 10/22/07

Signature

10/22/07
Date

@ Air Toxics Ltd.

MSD-7

Logbook #: 1594

m/z	ION ABUNDANCE CRITERIA	% REL. ABUNDANCE
50	15.0 – 40.0% of mass 95	18.22
75	30.0 – 60.0% of mass 95	39.23
95	Base peak, 100.00% relative abundance	100.00
96	5.0 – 9.0% of mass 95	6.64
173	Less than 2.0% of mass 174	(0.52)[1]
174	Greater than 50.0% of mass 95	86.75
175	5.0 – 9.0% of mass 174	(7.12)[1]
176	Greater than 95.0% but less than 101.0% of mass 174	(97.72)[1]
177	5.0 – 9.0% of mass 176	(-6.45)[2]

[1] - value in parenthesis is % mass 174 [2] - value in parenthesis is % mass 176

BFB Injection Date: 10/30/07
BFB Injection Time: 0826
BFB File ID: 7103001
Tekmar Purge Flow: 17.7 mL/min
Vacuum: 2.9×10^{-5} torr

IS/S Std.#:	1443-339	Exp. Date: 12/26/07
BCM	537758	
1,4-DFB	1771865	
CB-d5	1414884	

Verified CCV IS vs ICAL mid-point (- 40%D) CB *initials*

0223

Verify 176/174 m/z Ratio: 835758/ 855253 x100= 97.72%

NOAH Cart #: N/A **File #:** N/A

Calculation Check:

ppbv of compound $= \frac{Area_{Sample}}{Area_{IS}} \times \frac{Conc._{IS}}{RRF} = \frac{(692227)}{(537758)} \times \frac{(25.0)}{(1.34304)} = 23.961$

File ID:	7103006
Compound:	1,2-DCA-d4
Initials:	CB

Reported Result 23.961

	Use	File #	Sample / Client Name	Can #	Pressure	Amt Loaded	DF	Date Analyzed	Time Analyzed	Review Init.	Comments
1	✓	7103001	BFB Tune Check	1467-64	50ng	2mL	1.00	10/30/07	0826	CB	
2	✓	02	System Blank	34190	Humid	200mL			0858	CB	
3	✓	03	ICAL Level 4	1487-400	200/1200ppbv → 8/48ppbv	8mL			0951	CB	spic tl4q018c
4	✓	04	5		200/1200ppbv 50/300ppbv	50mL			1029	CB	CCV
5	✓	05	7		200/1200ppbv	200mL			1110	CB	
6	✓	06	CCV-1 (100ppbv)	1576-50A	50ppbv	100mL			1215	CB	
7	✓	07	LCS-1 (200ppbv)	1443-302	50ppbv	50mL			1253	CB	
8	✓	08	Lab Blank	34190	Humid	200mL			1336	CB	
9											CB 10/30/07

Signature

10/30/07
Date

Air Toxics Ltd.
Modified EPA Methods TO-14A/TO-15
Internal Standard and Associated Target Compounds and Surrogates

Bromochloromethane
Target Compounds:
Freon 12
Freon 114
Chloromethane
Vinyl Chloride
1,3-Butadiene
Bromomethane
Chloroethane
Freon 11
Ethanol
Freon 113
1,1-Dichloroethene
Acetone
2-Propanol
Carbon Disulfide
3-Chloropropene
Methylene Chloride
Methyl tert-butyl ether
trans-1,2-Dichloroethene
Hexane
1,1-Dichloroethane
2-Butanone (Methyl Ethyl Ketone)
cis-1,2-Dichloroethene
Tetrahydrofuran
Chloroform
1,1,1-Trichloroethane
Cyclohexane
Carbon Tetrachloride
2,2,4-Trimethylpentane
Surrogates:
1,2-Dichloroethane-d4

1,4-Difluorobenzene
Target Compounds:
Benzene
1,2-Dichloroethane
Heptane
Trichloroethene
1,2-Dichloropropane
1,4-Dioxane
Bromodichloromethane
cis-1,3-Dichloropropene
4-Methyl-2-pentanone
Toluene
Surrogates:
Toluene-d8

Chlorobenzene-d5
Target Compounds:
trans-1,3-Dichloropropene
1,1,2-Trichloroethane
Tetrachloroethene
2-Hexanone
Dibromochloromethane
1,2-Dibromoethane (EDB)
Chlorobenzene
Ethyl Benzene
m,p-Xylene
o-Xylene
Styrene
Bromoform
Cumene
1,1,2,2-Tetrachloroethane
Propylbenzene
4-Ethyltoluene
1,3,5-Trimethylbenzene
1,2,4-Trimethylbenzene
1,3-Dichlorobenzene
1,4-Dichlorobenzene
alpha-Chlorotoluene
1,2-Dichlorobenzene
1,2,4-Trichlorobenzene
Hexachlorobutadiene
Surrogates:
Bromofluorobenzene

Air Toxics Ltd.

AMBIENT AIR METHOD TO14

Data file : /chem/msd7.i/7-18oct.b/7101810.d
Lab Smp Id: lcs-1 Client Smp ID: lcs-1
Inj Date : 18-OCT-2007 19:29
Operator : dm Inst ID: msd7.i
Smp Info : 50mL #1443-302
Misc Info : 200ppbv-50ppbv
Comment :
Method : /chem/msd7.i/7-18oct.b/t14qO18a.m
Meth Date : 22-Oct-2007 16:12 dmendoza Quant Type: ISTD
Cal Date : 18-OCT-2007 17:39 Cal File: 7101808.d
Als bottle: 1 QC Sample: LCS
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: AT04ENSR.sub
Target Version: 3.50 Sample Matrix: AIR
Processing Host: eeyore

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

RT	EXP RT (REL RT)	MASS	RESPONSE	CONCENTRATIONS ON-COL (PPBV)	FINAL (PPBV)	TARGET RANGE	RATIO
* 81 Bromochloromethane						CAS #: 74-97-5	
14.402	14.402 (1.000)	130	693629	25.0000		80.00- 120.00	100.00
14.402	14.402 (1.000)	128	530078			26.95- 126.95	76.42
14.402	14.402 (1.000)	49	1393802			141.62- 241.62	200.94
* 97 1,4-Difluorobenzene						CAS #: 540-36-3	
16.172	16.172 (1.000)	114	2281320	25.0000		80.00- 120.00	100.00
16.172	16.172 (1.000)	88	352159			0.00- 65.69	15.44
* 126 Chlorobenzene-d5						CAS #: 3114-55-4	
21.342	21.370 (1.000)	117	1855833	25.0000		80.00- 120.00	100.00
21.342	21.370 (1.000)	82	1005254			5.32- 105.32	54.17
$ 90 1,2-Dichloroethane-d4						CAS #: 17060-07-0	
15.481	15.508 (1.075)	65	876557	23.5236	23.524	80.00- 120.00	100.00
15.481	15.508 (1.075)	67	486395			2.91- 102.91	55.49
$ 113 Toluene-d8						CAS #: 2037-26-5	
18.771	18.771 (1.161)	98	2088005	25.7831	25.783	80.00- 120.00	100.00
18.771	18.771 (1.161)	70	225307			0.00- 61.46	10.79

RT	EXP RT (REL RT)	MASS	RESPONSE	CONCENTRATIONS ON-COL (PPBV)	FINAL (PPBV)	TARGET RANGE	RATIO
$ 113 Toluene-d8 (continued)							
18.771	18.771 (1.161)	100	1458124			19.18- 119.18	69.83
$ 137 Bromofluorobenzene						CAS #: 460-00-4	
23.333	23.333 (1.093)	174	1059533	23.9925	23.992	80.00- 120.00	100.00
23.333	23.333 (1.093)	95	1390500			76.80- 176.80	131.24
23.333	23.333 (1.093)	176	1023241			46.06- 146.06	96.57
11 Propylene						CAS #: 115-07-1	
5.638	5.610 (0.391)	41	1534698	51.3354	51.335	80.00- 120.00	100.00
5.638	5.610 (0.391)	42	1071619			21.19- 121.19	69.83
5.638	5.610 (0.391)	39	1149702			24.83- 124.83	74.91
12 Dichlorodifluoromethane/Fr12						CAS #: 75-71-8	
5.776	5.748 (0.401)	85	5279130	48.1620	48.162	80.00- 120.00	100.00
5.776	5.748 (0.401)	87	1711789			0.00- 83.07	32.43
16 Freon 114						CAS #: 76-14-2	
6.218	6.218 (0.432)	135	3664358	49.1175	49.117	80.00- 120.00	100.00
6.218	6.218 (0.432)	137	1157150			0.00- 81.81	31.58
18 Chloromethane						CAS #: 74-87-3	
6.522	6.522 (0.453)	50	1695497	47.0340	47.034	80.00- 120.00	100.00
6.522	6.522 (0.453)	52	575964			0.00- 84.80	33.97
20 Vinyl Chloride						CAS #: 75-01-4	
6.882	6.882 (0.478)	62	2274469	50.5403	50.540	80.00- 120.00	100.00
6.882	6.882 (0.478)	64	710275			0.00- 83.25	31.23
22 1,3-Butadiene						CAS #: 106-99-0	
6.965	6.937 (0.484)	54	1686114	52.3055	52.306	80.00- 120.00	100.00
6.965	6.937 (0.484)	39	1613662			55.97- 155.97	95.70
25 Bromomethane						CAS #: 74-83-9	
8.043	8.043 (0.558)	94	1971163	49.4678	49.468	80.00- 120.00	100.00
8.043	8.043 (0.558)	96	1847772			43.77- 143.77	93.74
27 Chloroethane						CAS #: 75-00-3	
8.375	8.375 (0.581)	64	1113775	55.7868	55.787	80.00- 120.00	100.00
8.375	8.375 (0.581)	49	303751			0.00- 79.34	27.27
8.375	8.375 (0.581)	66	350600			0.00- 83.15	31.48
31 Trichlorofluoromethane/Fr11						CAS #: 75-69-4	
8.983	8.956 (0.624)	101	5275187	51.5865	51.586	80.00- 120.00	100.00
8.983	8.956 (0.624)	103	3407790			14.33- 114.33	64.60

RT	EXP RT (REL RT)	MASS	RESPONSE	CONCENTRATIONS ON-COL (PPBV)	FINAL (PPBV)	TARGET RANGE	RATIO
38 Ethanol					CAS #: 64-17-5		
9.453	9.453 (0.656)	45	850282	60.9628	60.963	80.00- 120.00	100.00
9.453	9.453 (0.656)	43	163721			0.00- 72.83	19.25
9.453	9.453 (0.656)	46	316936			0.00- 88.20	37.27
42 Freon 113					CAS #: 76-13-1		
10.227	10.227 (0.710)	151	3359898	59.0761	59.076	80.00- 120.00	100.00
10.227	10.227 (0.710)	153	2146359			13.49- 113.49	63.88
10.200	10.227 (0.708)	101	4204443			73.17- 173.17	125.14
43 1,1-Dichloroethene					CAS #: 75-35-4		
10.338	10.338 (0.718)	61	3633905	60.0456	60.046	80.00- 120.00	100.00
10.338	10.338 (0.718)	96	2250431			11.42- 111.42	61.93
10.338	10.338 (0.718)	98	1429998			0.00- 89.70	39.35
45 Acetone					CAS #: 67-64-1		
10.504	10.504 (0.729)	58	1068582	57.1246	57.125	80.00- 120.00	100.00
10.504	10.504 (0.729)	43	3184271			247.10- 347.10	297.99
46 2-Propanol					CAS #: 67-63-0		
10.670	10.697 (0.741)	45	3852062	58.0418	58.042	80.00- 120.00	100.00
10.670	10.697 (0.741)	43	890934			0.00- 75.54	23.13
10.697	10.697 (0.743)	59	147038			0.00- 53.72	3.82
47 Carbon Disulfide					CAS #: 75-15-0		
10.891	10.891 (0.756)	76	6273161	54.3296	54.330	80.00- 120.00	100.00
51 3-Chloropropene					CAS #: 107-05-1		
11.167	11.168 (0.775)	76	1091929	58.1115	58.111	80.00- 120.00	100.00
11.167	11.168 (0.775)	41	2818682			224.96- 324.96	258.14
54 Methylene Chloride					CAS #: 75-09-2		
11.472	11.472 (0.796)	49	2611233	58.6871	58.687	80.00- 120.00	100.00
11.472	11.472 (0.796)	84	1889884			23.49- 123.49	72.38
11.472	11.472 (0.796)	51	797893			0.00- 80.85	30.56
60 MTBE					CAS #: 1634-04-4		
11.831	11.831 (0.821)	73	3974575	58.7909	58.791	80.00- 120.00	100.00
11.831	11.831 (0.821)	57	914186			0.00- 73.11	23.00
11.831	11.831 (0.821)	41	882141			0.00- 76.16	22.19
61 trans-1,2-Dichloroethene					CAS #: 156-60-5		
11.942	11.942 (0.829)	96	2352862	57.2201	57.220	80.00- 120.00	100.00
11.942	11.942 (0.829)	61	3353273			93.77- 193.77	142.52
11.942	11.942 (0.829)	98	1487360			11.77- 111.77	63.21

RT	EXP RT (REL RT)	MASS	RESPONSE	CONCENTRATIONS ON-COL (PPBV)	FINAL (PPBV)	TARGET RANGE	RATIO
65 Hexane					CAS #: 110-54-3		
12.301	12.301 (0.854)	57	3482505	59.3497	59.350	80.00- 120.00	100.00
12.301	12.301 (0.854)	43	2243596			17.84- 117.84	64.42
12.301	12.301 (0.854)	86	532459			0.00- 65.07	15.29
69 Vinyl Acetate					CAS #: 108-05-4		
12.799	12.799 (0.889)	86	519165	58.5571	58.557	80.00- 120.00	100.00
12.799	12.799 (0.889)	43	6034912			1150.46-1250.46	1162.43
70 1,1-Dichloroethane					CAS #: 75-34-3		
12.826	12.826 (0.891)	63	4119087	58.6057	58.606	80.00- 120.00	100.00
12.826	12.826 (0.891)	65	1300555			0.00- 81.66	31.57
75 2-Butanone					CAS #: 78-93-3		
13.905	13.905 (0.965)	72	943974	62.8355	62.835	80.00- 120.00	100.00
13.877	13.905 (0.964)	43	4198247			412.95- 512.95	444.74
13.877	13.905 (0.964)	57	321401			0.00- 86.57	34.05
76 cis-1,2-Dichloroethene					CAS #: 156-59-2		
13.932	13.932 (0.967)	61	2818744	57.2959	57.296	80.00- 120.00	100.00
13.932	13.932 (0.967)	96	2119143			24.70- 124.70	75.18
13.932	13.932 (0.967)	98	1360701			0.00- 97.31	48.27
80 Tetrahydrofuran					CAS #: 109-99-9		
14.402	14.402 (1.000)	42	2315081	59.1042	59.104	80.00- 120.00	100.00
14.402	14.402 (1.000)	71	837123			0.00- 85.86	36.16
14.402	14.402 (1.000)	72	904656			0.00- 87.82	39.08
82 Chloroform					CAS #: 67-66-3		
14.485	14.485 (1.006)	83	3930935	56.2864	56.286	80.00- 120.00	100.00
14.485	14.485 (1.006)	85	2555017			15.30- 115.30	65.00
83 1,1,1-Trichloroethane					CAS #: 71-55-6		
14.845	14.845 (1.031)	97	3724675	52.9613	52.961	80.00- 120.00	100.00
14.845	14.845 (1.031)	99	2372213			14.42- 114.42	63.69
85 Cyclohexane					CAS #: 110-82-7		
14.845	14.845 (1.031)	84	2370220	58.8413	58.841	80.00- 120.00	100.00
14.845	14.845 (1.031)	56	3004824			77.14- 177.14	126.77
14.845	14.845 (1.031)	41	1640647			22.96- 122.96	69.22
87 Carbon Tetrachloride					CAS #: 56-23-5		
15.094	15.094 (1.048)	119	3436673	52.1301	52.130	80.00- 120.00	100.00
15.094	15.094 (1.048)	117	3538970			54.22- 154.22	102.98
89 2,2,4-Trimethylpentane					CAS #: 540-84-1		
15.425	15.426 (1.071)	57	8189957	58.1672	58.167	80.00- 120.00	100.00

RT	EXP RT (REL RT)	MASS	RESPONSE	CONCENTRATIONS ON-COL (PPBV)	FINAL (PPBV)	TARGET RANGE	RATIO
89 2,2,4-Trimethylpentane (continued)							
15.425	15.426 (1.071)	56	2800725			0.00- 84.62	34.20
15.425	15.426 (1.071)	41	2129961			0.00- 79.27	26.01
91 Benzene						CAS #: 71-43-2	
15.508	15.508 (0.959)	78	5250569	57.9255	57.926	80.00- 120.00	100.00
15.508	15.508 (0.959)	77	1159247			0.00- 71.87	22.08
93 1,2-Dichloroethane						CAS #: 107-06-2	
15.619	15.647 (0.966)	62	2535064	52.6380	52.638	80.00- 120.00	100.00
15.619	15.647 (0.966)	64	812550			0.00- 82.89	32.05
94 Heptane						CAS #: 142-82-5	
15.730	15.730 (0.973)	71	1662367	59.6323	59.632	80.00- 120.00	100.00
15.730	15.730 (0.973)	43	3281313			158.53- 258.53	197.39
15.730	15.730 (0.973)	57	1733443			59.34- 159.34	104.28
101 Trichloroethene						CAS #: 79-01-6	
16.642	16.642 (1.029)	95	2236263	55.5396	55.540	80.00- 120.00	100.00
16.642	16.642 (1.029)	130	2188821			49.05- 149.05	97.88
16.642	16.642 (1.029)	97	1443160			14.93- 114.93	64.53
104 1,2-Dichloropropane						CAS #: 78-87-5	
17.112	17.112 (1.058)	63	1961854	56.3976	56.398	80.00- 120.00	100.00
17.112	17.112 (1.058)	62	1436905			23.52- 123.52	73.24
17.112	17.112 (1.058)	41	1184177			12.01- 112.01	60.36
106 1,4-Dioxane						CAS #: 123-91-1	
17.250	17.250 (1.067)	88	1295263	57.2493	57.249	80.00- 120.00	100.00
17.250	17.250 (1.067)	58	909525			21.50- 121.50	70.22
17.250	17.250 (1.067)	57	298072			0.00- 74.60	23.01
107 Bromodichloromethane						CAS #: 75-27-4	
17.554	17.555 (1.085)	83	3863276	55.2648	55.265	80.00- 120.00	100.00
17.554	17.555 (1.085)	85	2471704			14.37- 114.37	63.98
110 cis-1,3-Dichloropropene						CAS #: 10061-01-5	
18.329	18.329 (1.133)	75	2863012	58.2452	58.245	80.00- 120.00	100.00
18.329	18.329 (1.133)	77	910017			0.00- 81.97	31.79
18.329	18.329 (1.133)	39	1608662			6.88- 106.88	56.19
111 4-Methyl-2-pentanone						CAS #: 108-10-1	
18.522	18.522 (1.145)	58	1713423	63.1663	63.166	80.00- 120.00	100.00
18.522	18.522 (1.145)	43	4340769			222.97- 322.97	253.34
18.522	18.522 (1.145)	85	654176			0.00- 90.48	38.18

RT	EXP RT (REL RT)	MASS	RESPONSE	CONCENTRATIONS ON-COL (PPBV)	FINAL (PPBV)	TARGET RANGE	RATIO
114 Toluene					CAS #: 108-88-3		
18.882	18.882 (1.168)	91	5892033	59.3464	59.346	80.00- 120.00	100.00
18.882	18.882 (1.168)	92	3757464			13.04- 113.04	63.77
116 trans-1,3-Dichloropropene					CAS #: 10061-02-6		
19.324	19.324 (0.905)	75	2965147	56.2573	56.257	80.00- 120.00	100.00
19.324	19.324 (0.905)	77	951982			0.00- 81.65	32.11
19.296	19.324 (0.904)	39	1582175			2.52- 102.52	53.36
117 1,1,2-Trichloroethane					CAS #: 79-00-5		
19.656	19.656 (0.921)	97	2167076	56.3767	56.377	80.00- 120.00	100.00
19.656	19.656 (0.921)	99	1363207			13.08- 113.08	62.91
19.656	19.656 (0.921)	83	1839848			35.32- 135.32	84.90
120 Tetrachloroethene					CAS #: 127-18-4		
19.822	19.822 (0.929)	166	2735490	54.8698	54.870	80.00- 120.00	100.00
19.822	19.822 (0.929)	129	1961918			22.39- 122.39	71.72
19.822	19.822 (0.929)	131	1871157			19.80- 119.80	68.40
121 2-Hexanone					CAS #: 591-78-6		
19.960	19.960 (0.935)	58	2350277	57.0518	57.052	80.00- 120.00	100.00
19.960	19.960 (0.935)	43	4343393			138.63- 238.63	184.80
19.960	19.960 (0.935)	100	396598			0.00- 67.05	16.87
122 Dibromochloromethane					CAS #: 124-48-1		
20.347	20.347 (0.953)	129	3740615	54.9220	54.922	80.00- 120.00	100.00
20.347	20.347 (0.953)	127	2884723			27.62- 127.62	77.12
123 1,2-Dibromoethane					CAS #: 106-93-4		
20.624	20.624 (0.966)	107	3462202	54.9423	54.942	80.00- 120.00	100.00
20.624	20.624 (0.966)	109	3257401			44.67- 144.67	94.08
127 Chlorobenzene					CAS #: 108-90-7		
21.398	21.398 (1.003)	112	4557104	54.2787	54.279	80.00- 120.00	100.00
21.398	21.398 (1.003)	114	1454447			0.00- 82.43	31.92
21.398	21.398 (1.003)	77	2729875			10.75- 110.75	59.90
128 Ethyl Benzene					CAS #: 100-41-4		
21.481	21.481 (1.006)	106	2354756	54.9458	54.946	80.00- 120.00	100.00
21.481	21.481 (1.006)	91	7312230			261.69- 361.69	310.53
129 m,p-Xylene					CAS #: 108-38-3		
21.674	21.674 (1.016)	106	2946846	54.9356	54.936	80.00- 120.00	100.00
21.674	21.674 (1.016)	91	5783687			145.05- 245.05	196.27
130 o-Xylene					CAS #: 95-47-6		
22.393	22.393 (1.049)	106	2582216	55.5485	55.548	80.00- 120.00	100.00

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                                        CONCENTRATIONS
                                        ON-COL    FINAL
   RT   EXP RT (REL RT)  MASS  RESPONSE ( PPBV)  ( PPBV)   TARGET RANGE    RATIO
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  130 o-Xylene (continued)
 22.393  22.393 (1.049)    91   5281441                  154.65- 254.65   204.53
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  131 Styrene                                       CAS #: 100-42-5
 22.421  22.421 (1.051)   104   4275480 59.4656   59.466  80.00- 120.00   100.00
 22.421  22.421 (1.051)    78   2112552                    1.69- 101.69    49.41
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  133 Bromoform                                     CAS #: 75-25-2
 22.836  22.836 (1.070)   173   3258113 54.4786   54.478  80.00- 120.00   100.00
 22.836  22.836 (1.070)   171   1681615                    1.22- 101.22    51.61
-------------------------------------------------------------------------------
  134 Cumene                                        CAS #: 98-82-8
 22.974  22.974 (1.076)   105   6690351 56.9959   56.996  80.00- 120.00   100.00
 22.974  22.974 (1.076)   120   1839176                    0.00-  78.08    27.49
 22.946  22.974 (1.075)    51    710641                    0.00-  61.43    10.62
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  140 1,1,2,2-Tetrachloroethane                     CAS #: 79-34-5
 23.527  23.527 (1.102)    83   4104155 52.8570   52.857  80.00- 120.00   100.00
 23.527  23.527 (1.102)    85   2636394                   14.35- 114.35    64.24
-------------------------------------------------------------------------------
  142 Propylbenzene                                 CAS #: 103-65-1
 23.637  23.637 (1.108)    91   8737607 55.4988   55.499  80.00- 120.00   100.00
 23.637  23.637 (1.108)   120   1980514                    0.00-  72.94    22.67
 23.637  23.637 (1.108)   105    321331                    0.00-  54.03     3.68
-------------------------------------------------------------------------------
  145 4-Ethyltoluene                                CAS #: 622-96-8
 23.831  23.831 (1.117)   105   7699834 55.3826   55.383  80.00- 120.00   100.00
 23.831  23.831 (1.117)   120   2210219                    0.00-  78.42    28.70
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  147 1,3,5-Trimethylbenzene                        CAS #: 108-67-8
 23.914  23.914 (1.120)   105   5550045 50.8217   50.822  80.00- 120.00   100.00
 23.914  23.914 (1.120)   120   3171171                    3.80- 103.80    57.14
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  150 1,2,4-Trimethylbenzene                        CAS #: 95-63-6
 24.550  24.550 (1.150)   105   5276389 53.1640   53.164  80.00- 120.00   100.00
 24.550  24.550 (1.150)   120   2593089                    0.00-  98.95    49.15
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  155 1,3-Dichlorobenzene                           CAS #: 541-73-1
 25.130  25.130 (1.177)   146   3931611 51.1917   51.192  80.00- 120.00   100.00
 25.130  25.130 (1.177)   148   2506642                   14.48- 114.48    63.76
 25.130  25.130 (1.177)   111   1529949                    0.00-  89.68    38.91
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  156 1,4-Dichlorobenzene                           CAS #: 106-46-7
 25.269  25.269 (1.184)   146   3971732 49.6212   49.621  80.00- 120.00   100.00
 25.269  25.269 (1.184)   148   2535255                   13.81- 113.81    63.83
 25.269  25.269 (1.184)   111   1499689                    0.00-  87.35    37.76
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RT	EXP RT (REL RT)	MASS	RESPONSE	CONCENTRATIONS ON-COL (PPBV)	FINAL (PPBV)	TARGET RANGE	RATIO
159 alpha-Chlorotoluene					CAS #: 100-44-7		
25.490	25.490 (1.194)	91	5941365	55.9136	55.914	80.00- 120.00	100.00
25.490	25.490 (1.194)	126	1232677			0.00- 71.29	20.75
161 1,2-Dichlorobenzene					CAS #: 95-50-1		
25.932	25.932 (1.215)	146	3481887	48.6925	48.692	80.00- 120.00	100.00
25.932	25.932 (1.215)	148	2225326			14.30- 114.30	63.91
25.905	25.932 (1.214)	111	1403109			0.00- 90.50	40.30
165 1,2,4-Trichlorobenzene					CAS #: 120-82-1		
28.808	28.808 (1.350)	180	1206637	41.2578	41.258	80.00- 120.00	100.00
28.808	28.808 (1.350)	182	1149274			45.65- 145.65	95.25
166 Hexachlorobutadiene					CAS #: 87-68-3		
29.001	29.001 (1.359)	225	972258	39.9886	39.989	80.00- 120.00	100.00
29.001	29.001 (1.359)	223	608395			12.64- 112.64	62.58
29 Isopentane					CAS #: 78-78-4		
8.375	8.375 (0.581)	43	2583203	52.2457	52.246	80.00- 120.00	100.00
8.375	8.375 (0.581)	57	1731177			16.48- 116.48	67.02
19 Butane					CAS #: 106-97-8		
6.771	6.771 (0.470)	58	408645	52.9140	52.914	80.00- 120.00	100.00
6.771	6.771 (0.470)	43	3169804			757.70- 857.70	775.69
102 Methyl Cyclohexane					CAS #: 108-87-2		
16.919	16.919 (1.175)	83	2859963	57.6850	57.685	80.00- 120.00	100.00
16.919	16.919 (1.175)	98	1333582			0.00- 96.13	46.63
16.919	16.919 (1.175)	55	2537608			38.51- 138.51	88.73
167 Naphthalene					CAS #: 91-20-3		
29.388	29.388 (1.377)	128	2149760	39.2330	39.233	80.00- 120.00	100.00
29.388	29.388 (1.377)	127	251185			0.00- 62.50	11.68

Report Date: 23-Oct-2007 09:41

Air Toxics Ltd.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd7.i
Lab File ID: 7101810.d
Lab Smp Id: lcs-1
Analysis Type: VOA
Quant Type: ISTD
Operator: dm
Method File: /chem/msd7.i/7-18oct.b/t14qO18a.m
Misc Info: 200ppbv-50ppbv

Calibration Date: 18-OCT-2007
Calibration Time: 15:26
Client Smp ID: lcs-1
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
81 Bromochloromethan	683549	410129	956969	693629	1.47
97 1,4-Difluorobenze	2204815	1322889	3086741	2281320	3.47
126 Chlorobenzene-d5	1812979	1087787	2538171	1855833	2.36

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
81 Bromochloromethan	14.40	14.07	14.73	14.40	0.00
97 1,4-Difluorobenze	16.17	15.84	16.50	16.17	0.00
126 Chlorobenzene-d5	21.37	21.04	21.70	21.34	-0.13

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Report Date: 23-Oct-2007 09:41

Air Toxics Ltd.

RECOVERY REPORT

Client Name:
Client SDG: 7-18oct
Sample Matrix: GAS
Fraction: VOA
Lab Smp Id: lcs-1
Client Smp ID: lcs-1
Level: LOW
Operator: dm
Data Type: MS DATA
SampleType: LCS
SpikeList File: 2926spectra.spk
Quant Type: ISTD
Sublist File: AT04ENSR.sub
Method File: /chem/msd7.i/7-18oct.b/t14qO18a.m
Misc Info: 200ppbv-50ppbv

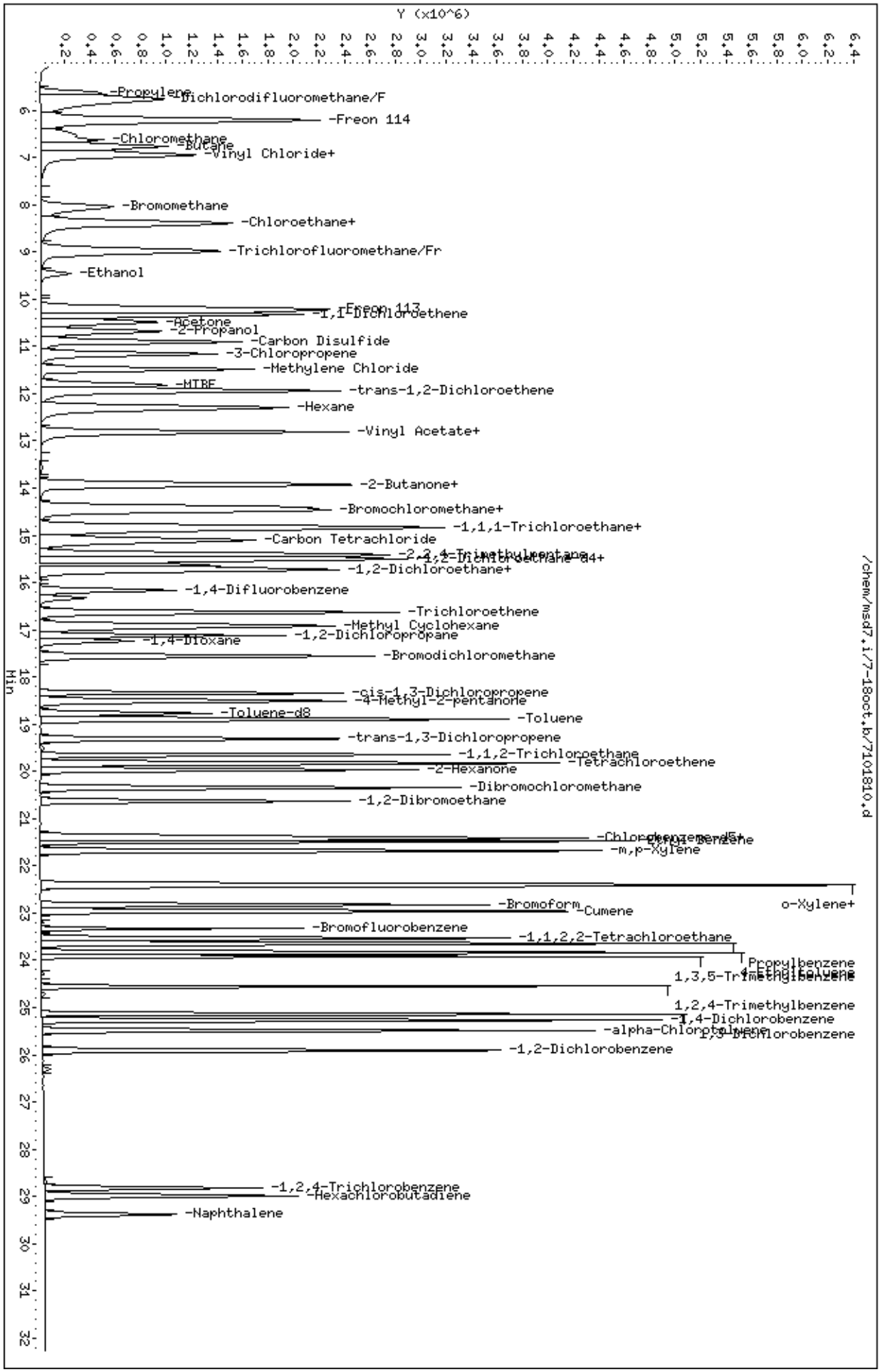
SPIKE COMPOUND	CONC ADDED PPBV	CONC RECOVERED PPBV	% RECOVERED	LIMITS
12 Dichlorodifluorome	50.000	48.162	96.32	70-130
16 Freon 114	50.000	49.117	98.23	70-130
18 Chloromethane	50.000	47.034	94.07	70-130
20 Vinyl Chloride	50.000	50.540	101.08	70-130
22 1,3-Butadiene	50.000	52.306	104.61	60-140
25 Bromomethane	50.000	49.468	98.94	70-130
27 Chloroethane	50.000	55.787	111.57	70-130
31 Trichlorofluoromet	50.000	51.586	103.17	70-130
38 Ethanol	50.000	60.963	121.93	60-140
42 Freon 113	50.000	59.076	118.15	70-130
43 1,1-Dichloroethene	50.000	60.046	120.09	70-130
45 Acetone	50.000	57.125	114.25	60-140
47 Carbon Disulfide	50.000	54.330	108.66	60-140
46 2-Propanol	50.000	58.042	116.08	60-140
54 Methylene Chloride	50.000	58.687	117.37	70-130
60 MTBE	50.000	58.791	117.58	60-140
61 trans-1,2-Dichloro	50.000	57.220	114.44	60-140
65 Hexane	50.000	59.350	118.70	60-140
69 Vinyl Acetate	50.000	58.557	117.11	60-140
70 1,1-Dichloroethane	50.000	58.606	117.21	70-130
76 cis-1,2-Dichloroet	50.000	57.296	114.59	70-130
75 2-Butanone	50.000	62.835	125.67	60-140
80 Tetrahydrofuran	50.000	59.104	118.21	60-140
82 Chloroform	50.000	56.286	112.57	70-130
85 Cyclohexane	50.000	58.841	117.68	60-140
83 1,1,1-Trichloroeth	50.000	52.961	105.92	70-130
87 Carbon Tetrachlori	50.000	52.130	104.26	70-130
91 Benzene	50.000	57.926	115.85	70-130
93 1,2-Dichloroethane	50.000	52.638	105.28	70-130
94 Heptane	50.000	59.632	119.26	60-140
101 Trichloroethene	50.000	55.540	111.08	70-130
104 1,2-Dichloropropan	50.000	56.398	112.80	70-130
106 1,4-Dioxane	50.000	57.249	114.50	60-140

SPIKE COMPOUND	CONC ADDED PPBV	CONC RECOVERED PPBV	% RECOVERED	LIMITS
107 Bromodichlorometha	50.000	55.265	110.53	60-140
110 cis-1,3-Dichloropr	50.000	58.245	116.49	70-130
111 4-Methyl-2-pentano	50.000	63.166	126.33	60-140
114 Toluene	50.000	59.346	118.69	70-130
116 trans-1,3-Dichloro	50.000	56.257	112.51	70-130
117 1,1,2-Trichloroeth	50.000	56.377	112.75	70-130
120 Tetrachloroethene	50.000	54.870	109.74	70-130
121 2-Hexanone	50.000	57.052	114.10	60-140
122 Dibromochlorometha	50.000	54.922	109.84	60-140
123 1,2-Dibromoethane	50.000	54.942	109.88	70-130
127 Chlorobenzene	50.000	54.279	108.56	70-130
128 Ethyl Benzene	50.000	54.946	109.89	70-130
129 m,p-Xylene	50.000	54.936	109.87	70-130
130 o-Xylene	50.000	55.548	111.10	70-130
131 Styrene	50.000	59.466	118.93	70-130
133 Bromoform	50.000	54.478	108.96	60-140
140 1,1,2,2-Tetrachlor	50.000	52.857	105.71	70-130
145 4-Ethyltoluene	50.000	55.383	110.77	60-140
147 1,3,5-Trimethylben	50.000	50.822	101.64	70-130
150 1,2,4-Trimethylben	50.000	53.164	106.33	70-130
155 1,3-Dichlorobenzen	50.000	51.192	102.38	70-130
156 1,4-Dichlorobenzen	50.000	49.621	99.24	70-130
159 alpha-Chlorotoluen	50.000	55.914	111.83	70-130
161 1,2-Dichlorobenzen	50.000	48.692	97.39	70-130
165 1,2,4-Trichloroben	50.000	41.258	82.52	70-130
166 Hexachlorobutadien	50.000	39.989	79.98	70-130
142 Propylbenzene	50.000	55.499	111.00	60-140
134 Cumene	50.000	56.996	113.99	60-140
51 3-Chloropropene	50.000	58.111	116.22	60-140
89 2,2,4-Trimethylpen	50.000	58.167	116.33	60-140
29 Isopentane	50.000	52.246	104.49	70-130
19 Butane	50.000	52.914	105.83	70-130
102 Methyl Cyclohexane	50.000	57.685	115.37	70-130
11 Propylene	50.000	51.335	102.67	60-140
167 Naphthalene	50.000	39.233	78.47	60-140

SURROGATE COMPOUND	CONC ADDED PPBV	CONC RECOVERED PPBV	% RECOVERED	LIMITS
$ 90 1,2-Dichloroethane	25.000	23.524	94.09	70-130
$ 113 Toluene-d8	25.000	25.783	103.13	70-130
$ 137 Bromofluorobenzene	25.000	23.992	95.97	70-130

Data File: /chem/msd7.i/7-18oct.b/7101810.d
Date : 18-OCT-2007 19:29
Client ID: lcs-1
Sample Info: 50mL #1443-302
Column phase: RTx-624

Instrument: msd7.i
Operator: dm
Column diameter: 0.53



Air Toxics Ltd.

AMBIENT AIR METHOD TO14

Data file : /chem/msd7.i/7-18oct.b/7101802.d
Lab Smp Id: ICAL Client Smp ID: Level 1
Inj Date : 18-OCT-2007 12:17
Operator : cb Inst ID: msd7.i
Smp Info : 0.2mL #1576-50
Misc Info : 200ppbv --> 0.2ppbv
Comment :
Method : /chem/msd7.i/7-18oct.b/t14qO18a.m
Meth Date : 18-Oct-2007 15:54 cbond Quant Type: ISTD
Cal Date : 18-OCT-2007 12:17 Cal File: 7101802.d
Als bottle: 1 Calibration Sample, Level: 1
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: AFCEElow.sub
Target Version: 3.50 Sample Matrix: AIR
Processing Host: eeyore

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS CAL-AMT (PPBV)	AMOUNTS ON-COL (PPBV)	TARGET RANGE	RATIO
* 81 Bromochloromethane					CAS #: 74-97-5		
14.375	14.375 (1.000)	130	636189	25.0000		50.00- 150.00	100.00
14.375	14.375 (1.000)	128	490559			27.11- 127.11	77.11
14.375	14.375 (1.000)	49	923525			95.17- 195.17	145.17
* 97 1,4-Difluorobenzene					CAS #: 540-36-3		
16.144	16.144 (1.000)	114	2066548	25.0000		50.00- 150.00	100.00
16.144	16.144 (1.000)	88	323845			0.00- 65.67	15.67
* 126 Chlorobenzene-d5					CAS #: 3114-55-4		
21.343	21.343 (1.000)	117	1699390	25.0000		50.00- 150.00	100.00
21.343	21.343 (1.000)	82	942443			5.46- 105.46	55.46
$ 90 1,2-Dichloroethane-d4					CAS #: 17060-07-0		
15.481	15.481 (1.077)	65	840662	25.0000	25.000	50.00- 150.00	100.00
15.481	15.481 (1.077)	67	425930			0.67- 100.67	50.67
$ 113 Toluene-d8					CAS #: 2037-26-5		
18.771	18.771 (1.163)	98	1800430	25.0000	25.000	50.00- 150.00	100.00
18.744	18.744 (1.161)	70	203256			0.00- 61.29	11.29

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS CAL-AMT (PPBV)	AMOUNTS ON-COL (PPBV)	TARGET RANGE	RATIO
$ 113 Toluene-d8 (continued)							
18.771	18.771 (1.163)	100	1235223			18.61- 118.61	68.61
$ 137 Bromofluorobenzene						CAS #: 460-00-4	
23.333	23.333 (1.093)	174	1016286	25.0000	25.000	50.00- 150.00	100.00
23.333	23.333 (1.093)	95	1276863			75.64- 175.64	125.64
23.333	23.333 (1.093)	176	976731			46.11- 146.11	96.11
82 Chloroform						CAS #: 67-66-3	
14.458	14.458 (1.006)	83	10481	0.20000	0.2000	50.00- 150.00	100.00(a)
14.458	14.458 (1.006)	85	6627			13.23- 113.23	63.23
91 Benzene						CAS #: 71-43-2	
15.508	15.508 (0.961)	78	14321	0.20000	0.2000	50.00- 150.00	100.00(a)
15.508	15.508 (0.961)	77	3194			0.00- 72.30	22.30
131 Styrene						CAS #: 100-42-5	
22.421	22.421 (1.051)	104	9530	0.20000	0.2000	50.00- 150.00	100.00(a)
22.421	22.421 (1.051)	78	6488			18.08- 118.08	68.08
134 Cumene						CAS #: 98-82-8	
22.946	22.946 (1.075)	105	18683	0.20000	0.2000	50.00- 150.00	100.00(a)
22.974	22.974 (1.076)	120	5104			0.00- 77.32	27.32
22.946	22.946 (1.075)	51	2569			0.00- 63.75	13.75

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).

Report Date: 18-Oct-2007 15:54

Air Toxics Ltd.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd7.i
Lab File ID: 7101802.d
Lab Smp Id: ICAL
Analysis Type: VOA
Quant Type: ISTD
Operator: cb
Method File: /chem/msd7.i/7-18oct.b/t14qO18a.m
Misc Info: 200ppbv --> 0.2ppbv

Calibration Date: 18-OCT-2007
Calibration Time: 15:26
Client Smp ID: Level 1
Level: LOW
Sample Type: AIR

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
81 Bromochloromethan	683549	410129	956969	636189	-6.93
97 1,4-Difluorobenze	2204815	1322889	3086741	2066548	-6.27
126 Chlorobenzene-d5	1812979	1087787	2538171	1699390	-6.27

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
81 Bromochloromethan	14.40	14.07	14.73	14.37	-0.19
97 1,4-Difluorobenze	16.17	15.84	16.50	16.14	-0.17
126 Chlorobenzene-d5	21.37	21.04	21.70	21.34	-0.13

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /chem/msd7.i/7-18oct.b/7101802.d

Date : 18-OCT-2007 12:17

Client ID: Level 1

Sample Info: 0.2mL #1576-50

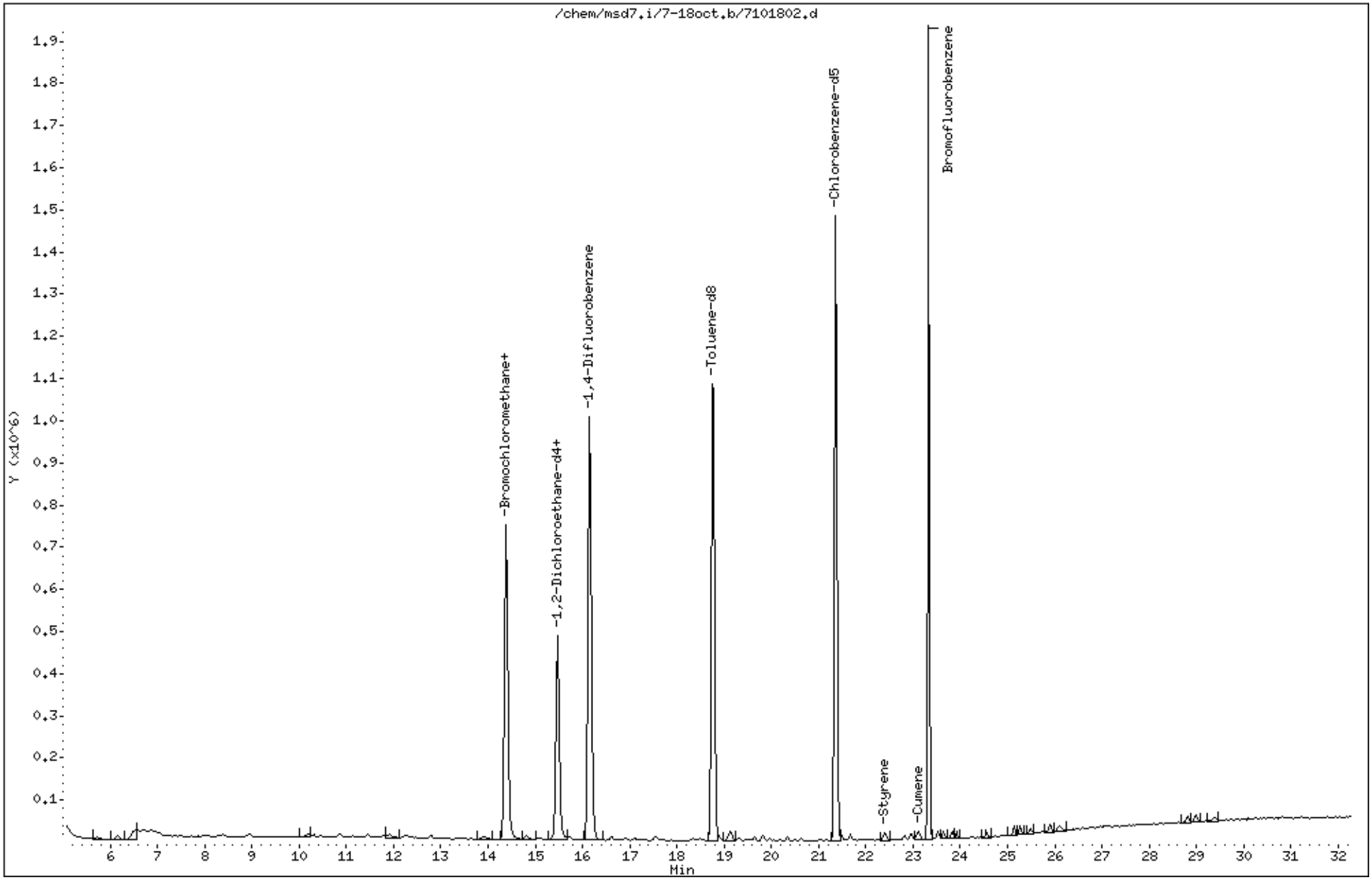
Column phase: RTx-624

Instrument: msd7.i

Operator: cb

Column diameter: 0.53

0240



Air Toxics Ltd.

AMBIENT AIR METHOD TO14

Data file : /chem/msd7.i/7-18oct.b/7101803.d
Lab Smp Id: ICAL Client Smp ID: Level 2
Inj Date : 18-OCT-2007 12:56
Operator : cb Inst ID: msd7.i
Smp Info : 0.5mL #1576-50
Misc Info : 200ppbv --> 0.5ppbv
Comment :
Method : /chem/msd7.i/7-18oct.b/t14qO18a.m
Meth Date : 18-Oct-2007 15:55 cbond Quant Type: ISTD
Cal Date : 18-OCT-2007 12:56 Cal File: 7101803.d
Als bottle: 1 Calibration Sample, Level: 2
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: AT04low+ENSR.sub
Target Version: 3.50 Sample Matrix: AIR
Processing Host: eeyore

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS CAL-AMT (PPBV)	AMOUNTS ON-COL (PPBV)	TARGET RANGE	RATIO
* 81 Bromochloromethane					CAS #: 74-97-5		
14.402	14.402 (1.000)	130	594950	25.0000		50.00- 150.00	100.00
14.402	14.402 (1.000)	128	451286			26.48- 126.48	75.85
14.402	14.402 (1.000)	49	865261			95.30- 195.30	145.43
* 97 1,4-Difluorobenzene					CAS #: 540-36-3		
16.172	16.172 (1.000)	114	1954618	25.0000		50.00- 150.00	100.00
16.172	16.172 (1.000)	88	303029			0.00- 65.59	15.50
* 126 Chlorobenzene-d5					CAS #: 3114-55-4		
21.342	21.342 (1.000)	117	1592069	25.0000		50.00- 150.00	100.00
21.342	21.342 (1.000)	82	884524			5.51- 105.51	55.56
$ 90 1,2-Dichloroethane-d4					CAS #: 17060-07-0		
15.481	15.481 (1.075)	65	796855	25.0000	25.169	50.00- 150.00	100.00
15.481	15.481 (1.075)	67	397861			0.30- 100.30	49.93
$ 113 Toluene-d8					CAS #: 2037-26-5		
18.771	18.771 (1.161)	98	1670382	25.0000	24.759	50.00- 150.00	100.00
18.771	18.771 (1.161)	70	190048			0.00- 61.33	11.38

AMOUNTS

RT	EXP RT (REL RT)	MASS	RESPONSE	CAL-AMT (PPBV)	ON-COL (PPBV)	TARGET RANGE	RATIO
$ 113 Toluene-d8 (continued)							
18.771	18.771 (1.161)	100	1154070			18.85- 118.85	69.09
$ 137 Bromofluorobenzene					CAS #: 460-00-4		
23.333	23.333 (1.093)	174	957131	25.0000	25.066	50.00- 150.00	100.00
23.333	23.333 (1.093)	95	1220204			76.56- 176.56	127.49
23.333	23.333 (1.093)	176	932560			46.77- 146.77	97.43
12 Dichlorodifluoromethane/Fr12					CAS #: 75-71-8		
5.721	5.721 (0.397)	85	47576	0.50000	0.5000	50.00- 150.00	100.00
5.748	5.748 (0.399)	87	17035			0.00- 85.81	35.81
16 Freon 114					CAS #: 76-14-2		
6.163	6.163 (0.428)	135	32813	0.50000	0.5000	50.00- 150.00	100.00
6.163	6.163 (0.428)	137	10433			0.00- 81.80	31.80
20 Vinyl Chloride					CAS #: 75-01-4		
6.882	6.882 (0.478)	62	19172	0.50000	0.5000	50.00- 150.00	100.00
6.882	6.882 (0.478)	64	6960			0.00- 86.30	36.30
22 1,3-Butadiene					CAS #: 106-99-0		
6.882	6.882 (0.478)	54	11746	0.50000	0.5000	50.00- 150.00	100.00
6.882	6.882 (0.478)	39	13765			67.19- 167.19	117.19
25 Bromomethane					CAS #: 74-83-9		
8.015	8.015 (0.557)	94	16291	0.50000	0.5000	50.00- 150.00	100.00
8.015	8.015 (0.557)	96	14944			41.73- 141.73	91.73
27 Chloroethane					CAS #: 75-00-3		
8.347	8.347 (0.580)	64	6683	0.50000	0.5000	50.00- 150.00	100.00
8.347	8.347 (0.580)	49	2473			0.00- 87.00	37.00
8.320	8.320 (0.578)	66	2148			0.00- 82.14	32.14
31 Trichlorofluoromethane/Fr11					CAS #: 75-69-4		
8.955	8.955 (0.622)	101	39349	0.50000	0.5000	50.00- 150.00	100.00
8.928	8.928 (0.620)	103	26784			18.07- 118.07	68.07
42 Freon 113					CAS #: 76-13-1		
10.200	10.200 (0.708)	151	22360	0.50000	0.5000	50.00- 150.00	100.00
10.200	10.200 (0.708)	153	13095			8.56- 108.56	58.56
10.200	10.200 (0.708)	101	27629			73.56- 173.56	123.56
43 1,1-Dichloroethene					CAS #: 75-35-4		
10.310	10.310 (0.716)	61	23023	0.50000	0.5000	50.00- 150.00	100.00
10.310	10.310 (0.716)	96	18764			31.50- 131.50	81.50
10.338	10.338 (0.718)	98	8228			0.00- 85.74	35.74

AMOUNTS

RT	EXP RT (REL RT)	MASS	RESPONSE	CAL-AMT (PPBV)	ON-COL (PPBV)	TARGET RANGE	RATIO
47 Carbon Disulfide					CAS #: 75-15-0		
10.863	10.863 (0.754)	76	43350	0.50000	0.5000	50.00- 150.00	100.00
54 Methylene Chloride					CAS #: 75-09-2		
11.472	11.472 (0.796)	49	17900	0.50000	0.5000	50.00- 150.00	100.00
11.472	11.472 (0.796)	84	12530			20.00- 120.00	70.00
11.444	11.444 (0.795)	51	5834			0.00- 82.59	32.59
60 MTBE					CAS #: 1634-04-4		
11.831	11.831 (0.821)	73	30552	0.50000	0.5000	50.00- 150.00	100.00
11.831	11.831 (0.821)	57	6497			0.00- 71.27	21.27
11.803	11.803 (0.820)	41	8855			0.00- 78.98	28.98
61 trans-1,2-Dichloroethene					CAS #: 156-60-5		
11.942	11.942 (0.829)	96	15203	0.50000	0.5000	50.00- 150.00	100.00
11.914	11.914 (0.827)	61	21746			93.04- 193.04	143.04
11.914	11.914 (0.827)	98	7588			0.00- 99.91	49.91
65 Hexane					CAS #: 110-54-3		
12.301	12.301 (0.854)	57	20198	0.50000	0.5000	50.00- 150.00	100.00
12.301	12.301 (0.854)	43	15411			26.30- 126.30	76.30
12.301	12.301 (0.854)	86	3271			0.00- 66.19	16.19
70 1,1-Dichloroethane					CAS #: 75-34-3		
12.826	12.826 (0.891)	63	24629	0.50000	0.5000	50.00- 150.00	100.00
12.826	12.826 (0.891)	65	8401			0.00- 84.11	34.11
75 2-Butanone					CAS #: 78-93-3		
13.905	13.905 (0.965)	72	4535	0.50000	0.5000	50.00- 150.00	100.00
13.877	13.877 (0.964)	43	22514			446.45- 546.45	496.45
13.905	13.905 (0.965)	57	1741			0.00- 88.39	38.39
76 cis-1,2-Dichloroethene					CAS #: 156-59-2		
13.932	13.932 (0.967)	61	17162	0.50000	0.5000	50.00- 150.00	100.00
13.932	13.932 (0.967)	96	15482			40.21- 140.21	90.21
13.932	13.932 (0.967)	98	8217			0.00- 97.88	47.88
80 Tetrahydrofuran					CAS #: 109-99-9		
14.375	14.375 (0.998)	42	12231	0.50000	0.5000	50.00- 150.00	100.00
14.402	14.402 (1.000)	71	4285			0.00- 85.03	35.03
14.402	14.402 (1.000)	72	4117			0.00- 83.66	33.66
82 Chloroform					CAS #: 67-66-3		
14.458	14.458 (1.004)	83	27421	0.50000	0.5281	50.00- 150.00	100.00
14.458	14.458 (1.004)	85	17112			12.82- 112.82	62.40

AMOUNTS

RT	EXP RT (REL RT)	MASS	RESPONSE	CAL-AMT (PPBV)	ON-COL (PPBV)	TARGET RANGE	RATIO
83 1,1,1-Trichloroethane					CAS #: 71-55-6		
14.817	14.817 (1.029)	97	25463	0.50000	0.5000	50.00- 150.00	100.00
14.845	14.845 (1.031)	99	16821			16.06- 116.06	66.06
85 Cyclohexane					CAS #: 110-82-7		
14.845	14.845 (1.031)	84	13500	0.50000	0.5000	50.00- 150.00	100.00
14.845	14.845 (1.031)	56	17496			79.60- 179.60	129.60
14.845	14.845 (1.031)	41	15222			62.76- 162.76	112.76
87 Carbon Tetrachloride					CAS #: 56-23-5		
15.094	15.094 (1.048)	119	22788	0.50000	0.5000	50.00- 150.00	100.00
15.094	15.094 (1.048)	117	25102			60.15- 160.15	110.15
91 Benzene					CAS #: 71-43-2		
15.508	15.508 (0.959)	78	34749	0.50000	0.5064	50.00- 150.00	100.00
15.536	15.536 (0.961)	77	7253			0.00- 71.59	20.87
89 2,2,4-Trimethylpentane					CAS #: 540-84-1		
15.425	15.425 (1.071)	57	45451	0.50000	0.5000	50.00- 150.00	100.00
15.425	15.425 (1.071)	56	16216			0.00- 85.68	35.68
15.425	15.425 (1.071)	41	15793			0.00- 84.75	34.75
93 1,2-Dichloroethane					CAS #: 107-06-2		
15.619	15.619 (0.966)	62	18652	0.50000	0.5000	50.00- 150.00	100.00
15.619	15.619 (0.966)	64	6553			0.00- 85.13	35.13
94 Heptane					CAS #: 142-82-5		
15.730	15.730 (0.973)	71	8517	0.50000	0.5000	50.00- 150.00	100.00
15.730	15.730 (0.973)	43	19632			180.50- 280.50	230.50
15.730	15.730 (0.973)	57	10427			72.43- 172.43	122.43
101 Trichloroethene					CAS #: 79-01-6		
16.642	16.642 (1.029)	95	14369	0.50000	0.5000	50.00- 150.00	100.00
16.642	16.642 (1.029)	130	14236			49.07- 149.07	99.07
16.642	16.642 (1.029)	97	9543			16.41- 116.41	66.41
104 1,2-Dichloropropane					CAS #: 78-87-5		
17.140	17.140 (1.060)	63	12205	0.50000	0.5000	50.00- 150.00	100.00
17.112	17.112 (1.058)	62	9174			25.17- 125.17	75.17
17.140	17.140 (1.060)	41	11048			40.52- 140.52	90.52
107 Bromodichloromethane					CAS #: 75-27-4		
17.554	17.554 (1.085)	83	23861	0.50000	0.5000	50.00- 150.00	100.00
17.554	17.554 (1.085)	85	15506			14.98- 114.98	64.98
110 cis-1,3-Dichloropropene					CAS #: 10061-01-5		
18.329	18.329 (1.133)	75	15175	0.50000	0.5000	50.00- 150.00	100.00

```
                                          AMOUNTS
                                       CAL-AMT   ON-COL
   RT   EXP RT (REL RT)  MASS  RESPONSE ( PPBV)  ( PPBV)   TARGET RANGE    RATIO
   ==   ====== ========  ====  ======== =======  =======   ============    =====

  110 cis-1,3-Dichloropropene (continued)
 18.329  18.329 (1.133)    77      4797                     0.00-  81.61    31.61
 18.329  18.329 (1.133)    39      9773                    14.40- 114.40    64.40
-------------------------------------------------------------------------------
  111 4-Methyl-2-pentanone                        CAS #: 108-10-1
 18.522  18.522 (1.145)    58      6848 0.50000   0.5000  50.00- 150.00   100.00
 18.522  18.522 (1.145)    43     20498                   249.33- 349.33   299.33
 18.495  18.495 (1.144)    85      3016                     0.00-  94.04    44.04
-------------------------------------------------------------------------------
  114 Toluene                                     CAS #: 108-88-3
 18.882  18.882 (1.168)    91     34659 0.50000   0.5000  50.00- 150.00   100.00
 18.882  18.882 (1.168)    92     21595                    12.31- 112.31    62.31
-------------------------------------------------------------------------------
  116 trans-1,3-Dichloropropene                   CAS #: 10061-02-6
 19.324  19.324 (0.905)    75     16891 0.50000   0.5000  50.00- 150.00   100.00
 19.324  19.324 (0.905)    77      5788                     0.00-  84.27    34.27
 19.296  19.296 (0.904)    39     11612                    18.75- 118.75    68.75
-------------------------------------------------------------------------------
  117 1,1,2-Trichloroethane                       CAS #: 79-00-5
 19.656  19.656 (0.921)    97     13069 0.50000   0.5000  50.00- 150.00   100.00
 19.656  19.656 (0.921)    99      8163                    12.46- 112.46    62.46
 19.656  19.656 (0.921)    83     11292                    36.40- 136.40    86.40
-------------------------------------------------------------------------------
  120 Tetrachloroethene                           CAS #: 127-18-4
 19.849  19.849 (0.930)   166     18736 0.50000   0.5000  50.00- 150.00   100.00
 19.822  19.822 (0.929)   129     13781                    23.55- 123.55    73.55
 19.822  19.822 (0.929)   131     12940                    19.06- 119.06    69.06
-------------------------------------------------------------------------------
  122 Dibromochloromethane                        CAS #: 124-48-1
 20.347  20.347 (0.953)   129     22024 0.50000   0.5000  50.00- 150.00   100.00
 20.347  20.347 (0.953)   127     17127                    27.77- 127.77    77.77
-------------------------------------------------------------------------------
  123 1,2-Dibromoethane                           CAS #: 106-93-4
 20.624  20.624 (0.966)   107     19811 0.50000   0.5000  50.00- 150.00   100.00
 20.624  20.624 (0.966)   109     19821                    50.05- 150.05   100.05
-------------------------------------------------------------------------------
  127 Chlorobenzene                               CAS #: 108-90-7
 21.398  21.398 (1.003)   112     31210 0.50000   0.5000  50.00- 150.00   100.00
 21.398  21.398 (1.003)   114     11029                     0.00-  85.34    35.34
 21.398  21.398 (1.003)    77     31887                    52.17- 152.17   102.17
-------------------------------------------------------------------------------
  128 Ethyl Benzene                               CAS #: 100-41-4
 21.481  21.481 (1.006)   106     14585 0.50000   0.5000  50.00- 150.00   100.00
 21.481  21.481 (1.006)    91     47369                   274.78- 374.78   324.78
-------------------------------------------------------------------------------
  129 m,p-Xylene                                  CAS #: 108-38-3
 21.674  21.674 (1.016)   106     18983 0.50000   0.5000  50.00- 150.00   100.00
```

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                                          AMOUNTS
                                       CAL-AMT   ON-COL
   RT   EXP RT (REL RT)  MASS  RESPONSE ( PPBV)  ( PPBV)   TARGET RANGE    RATIO
   ==   ====== ========  ====  ======== =======  =======   ============    =====

  129 m,p-Xylene (continued)
 21.674  21.674 (1.016)    91     36102                  140.18- 240.18   190.18
-------------------------------------------------------------------------------
  130 o-Xylene                                      CAS #: 95-47-6
 22.393  22.393 (1.049)   106     15952 0.50000   0.5000  50.00- 150.00   100.00
 22.393  22.393 (1.049)    91     33173                  157.96- 257.96   207.96
-------------------------------------------------------------------------------
  131 Styrene                                       CAS #: 100-42-5
 22.421  22.421 (1.051)   104     22221 0.50000   0.4989  50.00- 150.00   100.00(a)
 22.421  22.421 (1.051)    78     12270                   11.65- 111.65    55.22
-------------------------------------------------------------------------------
  133 Bromoform                                     CAS #: 75-25-2
 22.835  22.835 (1.070)   173     20128 0.50000   0.5000  50.00- 150.00   100.00
 22.835  22.835 (1.070)   171     10294                    1.14- 101.14    51.14
-------------------------------------------------------------------------------
  134 Cumene                                        CAS #: 98-82-8
 22.974  22.974 (1.076)   105     42095 0.50000   0.4903  50.00- 150.00   100.00(a)
 22.974  22.974 (1.076)   120     13036                    0.00-  79.14    30.97
 22.946  22.946 (1.075)    51      4671                    0.00-  62.42    11.10
-------------------------------------------------------------------------------
  140 1,1,2,2-Tetrachloroethane                     CAS #: 79-34-5
 23.527  23.527 (1.102)    83     28944 0.50000   0.5000  50.00- 150.00   100.00
 23.527  23.527 (1.102)    85     18819                   15.02- 115.02    65.02
-------------------------------------------------------------------------------
  142 Propylbenzene                                 CAS #: 103-65-1
 23.637  23.637 (1.108)    91     57510 0.50000   0.5000  50.00- 150.00   100.00
 23.637  23.637 (1.108)   120     13859                    0.00-  74.10    24.10
 23.637  23.637 (1.108)   105      2745                    0.00-  54.77     4.77
-------------------------------------------------------------------------------
  145 4-Ethyltoluene                                CAS #: 622-96-8
 23.831  23.831 (1.117)   105     45962 0.50000   0.5000  50.00- 150.00   100.00
 23.831  23.831 (1.117)   120     14743                    0.00-  82.08    32.08
-------------------------------------------------------------------------------
  147 1,3,5-Trimethylbenzene                        CAS #: 108-67-8
 23.914  23.914 (1.120)   105     44997 0.50000   0.5000  50.00- 150.00   100.00
 23.914  23.914 (1.120)   120     22622                    0.27- 100.27    50.27
-------------------------------------------------------------------------------
  150 1,2,4-Trimethylbenzene                        CAS #: 95-63-6
 24.550  24.550 (1.150)   105     33540 0.50000   0.5000  50.00- 150.00   100.00
 24.550  24.550 (1.150)   120     16903                    0.40- 100.40    50.40
-------------------------------------------------------------------------------
  155 1,3-Dichlorobenzene                           CAS #: 541-73-1
 25.130  25.130 (1.177)   146     29742 0.50000   0.5000  50.00- 150.00   100.00
 25.130  25.130 (1.177)   148     19728                   16.33- 116.33    66.33
 25.130  25.130 (1.177)   111     12094                    0.00-  90.66    40.66
-------------------------------------------------------------------------------
```

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS CAL-AMT (PPBV)	AMOUNTS ON-COL (PPBV)	TARGET RANGE	RATIO
156 1,4-Dichlorobenzene					CAS #: 106-46-7		
25.269	25.269 (1.184)	146	32773	0.50000	0.5000	50.00- 150.00	100.00
25.269	25.269 (1.184)	148	20634			12.96- 112.96	62.96
25.269	25.269 (1.184)	111	12309			0.00- 87.56	37.56
159 alpha-Chlorotoluene					CAS #: 100-44-7		
25.490	25.490 (1.194)	91	32574	0.50000	0.5000	50.00- 150.00	100.00
25.490	25.490 (1.194)	126	7503			0.00- 73.03	23.03
161 1,2-Dichlorobenzene					CAS #: 95-50-1		
25.932	25.932 (1.215)	146	30022	0.50000	0.5000	50.00- 150.00	100.00
25.932	25.932 (1.215)	148	18673			12.20- 112.20	62.20
25.905	25.905 (1.214)	111	11890			0.00- 89.60	39.60
102 Methyl Cyclohexane					CAS #: 108-87-2		
16.919	16.919 (1.175)	83	16603	0.50000	0.5000	50.00- 150.00	100.00
16.919	16.919 (1.175)	98	7709			0.00- 96.43	46.43
16.919	16.919 (1.175)	55	14202			35.54- 135.54	85.54

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).

Report Date: 18-Oct-2007 15:55

Air Toxics Ltd.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd7.i
Lab File ID: 7101803.d
Lab Smp Id: ICAL
Analysis Type: VOA
Quant Type: ISTD
Operator: cb
Method File: /chem/msd7.i/7-18oct.b/t14qO18a.m
Misc Info: 200ppbv --> 0.5ppbv

Calibration Date: 18-OCT-2007
Calibration Time: 15:26
Client Smp ID: Level 2
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
81 Bromochloromethan	683549	410129	956969	594950	-12.96
97 1,4-Difluorobenze	2204815	1322889	3086741	1954618	-11.35
126 Chlorobenzene-d5	1812979	1087787	2538171	1592069	-12.18

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
81 Bromochloromethan	14.40	14.07	14.73	14.40	0.00
97 1,4-Difluorobenze	16.17	15.84	16.50	16.17	0.00
126 Chlorobenzene-d5	21.37	21.04	21.70	21.34	-0.13

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /chem/msd7.i/7-18oct.b/7101803.d

Date : 18-OCT-2007 12:56

Client ID: Level 2

Sample Info: 0.5mL #1576-50

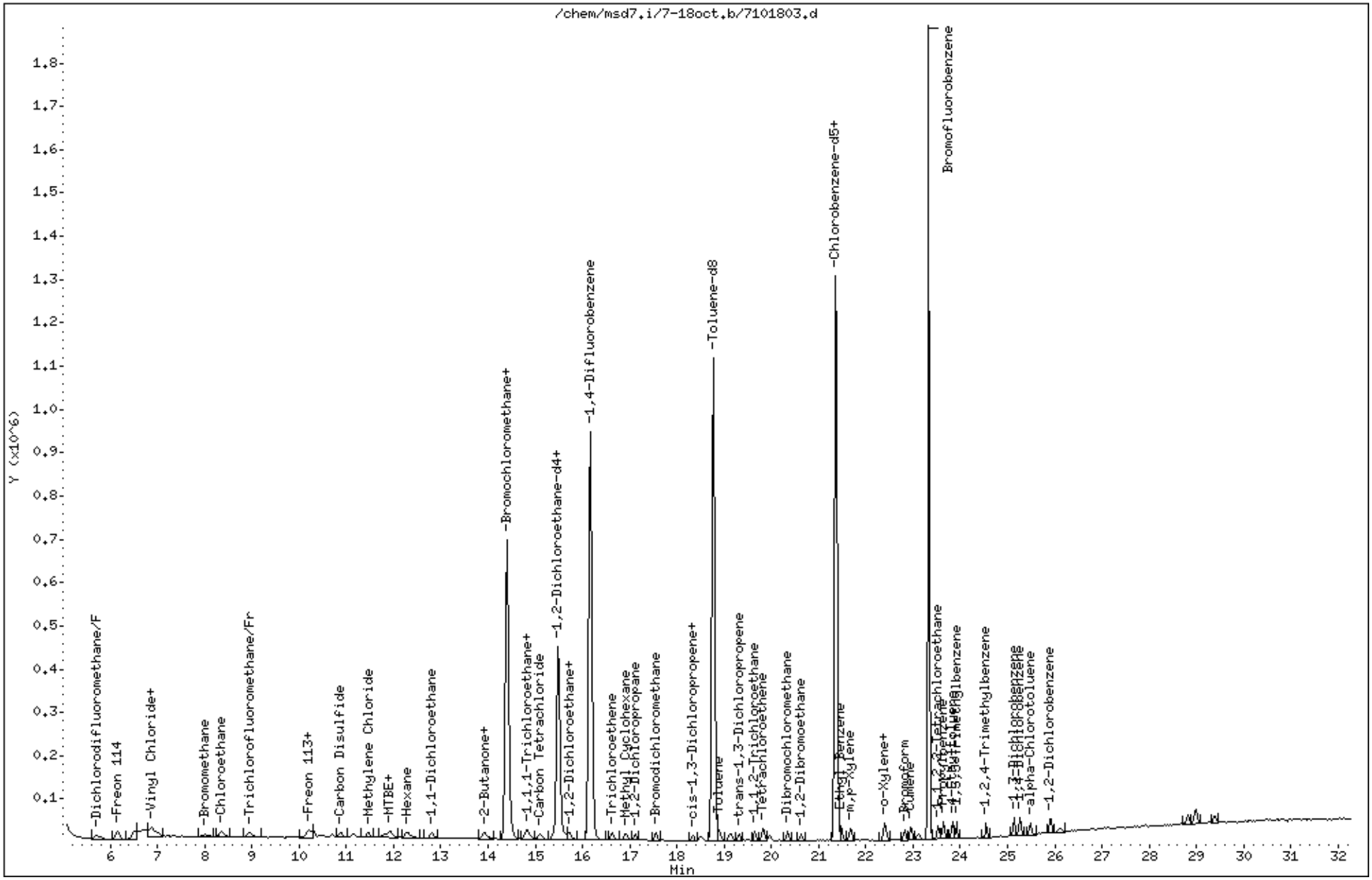
Column phase: RTx-624

Instrument: msd7.i

Operator: cb

Column diameter: 0.53

0249



Air Toxics Ltd.

AMBIENT AIR METHOD TO14

Data file : /chem/msd7.i/7-22oct.b/7102205.d
Lab Smp Id: ICAL Client Smp ID: Level 3
Inj Date : 22-OCT-2007 10:55
Operator : cb Inst ID: msd7.i
Smp Info : 2mL #1487-370
Misc Info : 200ppbv --> 2ppbv
Comment :
Method : /chem/msd7.i/7-22oct.b/t14qO18b.m
Meth Date : 22-Oct-2007 13:49 sscott Quant Type: ISTD
Cal Date : 22-OCT-2007 10:55 Cal File: 7102205.d
Als bottle: 1 Calibration Sample, Level: 3
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: sp16b.sub
Target Version: 3.50 Sample Matrix: AIR
Processing Host: eeyore

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS CAL-AMT (PPBV)	AMOUNTS ON-COL (PPBV)	TARGET RANGE	RATIO
* 81 Bromochloromethane					CAS #: 74-97-5		
14.403	14.403 (1.000)	130	639032	25.0000		50.00- 150.00	100.00
14.403	14.403 (1.000)	128	485011			26.49- 126.49	75.90
14.375	14.375 (1.000)	49	961966			116.97- 216.97	150.53
* 97 1,4-Difluorobenzene					CAS #: 540-36-3		
16.172	16.172 (1.000)	114	2072294	25.0000		50.00- 150.00	100.00
16.172	16.172 (1.000)	88	319608			0.00- 65.57	15.42
* 126 Chlorobenzene-d5					CAS #: 3114-55-4		
21.343	21.343 (1.000)	117	1627678	25.0000		50.00- 150.00	100.00
21.343	21.343 (1.000)	82	894614			5.19- 105.19	54.96
55 Cyclopentene					CAS #: 142-29-0		
11.251	11.251 (0.781)	67	232640	2.00000	1.954	50.00- 150.00	100.00(a)
11.251	11.251 (0.781)	68	93477			0.00- 90.48	40.18
11.251	11.251 (0.781)	53	48369			0.00- 70.85	20.79
78 2,2-Dichloropropane					CAS #: 594-20-7		
13.877	13.877 (0.964)	77	141265	2.00000	1.895	50.00- 150.00	100.00(a)

```
                                          AMOUNTS
                                       CAL-AMT   ON-COL
   RT   EXP RT (REL RT)  MASS  RESPONSE ( PPBV)  ( PPBV)   TARGET RANGE    RATIO
   ==   ====== ========  ====  ======== =======  =======   ============    =====

   78 2,2-Dichloropropane (continued)
 13.877  13.877 (0.964)    79     50942                     0.00-  84.30    36.06
 13.877  13.877 (0.964)    97     28410                     0.00-  70.03    20.11
-------------------------------------------------------------------------------
   88 1,1-Dichloropropene                          CAS #: 563-58-6
 15.121  15.121 (0.935)   110     53537 2.00000    1.916  50.00- 150.00   100.00(a)
 15.121  15.121 (0.935)    75    140199                   218.22- 318.22   261.87
-------------------------------------------------------------------------------
  118 1,3-Dichloropropane                          CAS #: 142-28-9
 19.988  19.988 (1.236)    76    158585 2.00000    1.906  50.00- 150.00   100.00(a)
 19.988  19.988 (1.236)    41    112138                    21.54- 121.54    70.71
 19.988  19.988 (1.236)    78     50086                     0.00-  81.77    31.58
-------------------------------------------------------------------------------
  125 1,1,1,2-Tetrachloroethane                    CAS #: 630-20-6
 21.536  21.536 (1.009)   131    117122 2.00000    2.018  50.00- 150.00   100.00
 21.536  21.536 (1.009)   117     80894                    18.93- 118.93    69.07
 21.536  21.536 (1.009)    95     46412                     0.00-  89.37    39.63
-------------------------------------------------------------------------------
  136 Bromobenzene                                 CAS #: 108-86-1
 23.610  23.610 (1.106)   156    142356 2.00000    2.090  50.00- 150.00   100.00
 23.610  23.610 (1.106)   158    137653                    46.65- 146.65    96.70
 23.610  23.610 (1.106)    77    279379                   147.77- 247.77   196.25
-------------------------------------------------------------------------------
  138 1,2,3-Trichloropropane                       CAS #: 96-18-4
 23.665  23.665 (1.109)   110     64138 2.00000    2.012  50.00- 150.00   100.00
 23.665  23.665 (1.109)    75    194965                   252.90- 352.90   303.98
 23.665  23.665 (1.109)    61     48439                    26.84- 126.84    75.52
-------------------------------------------------------------------------------
  141 2-Chlorotoluene                              CAS #: 95-49-8
 23.886  23.886 (1.119)   126    100762 2.00000    2.003  50.00- 150.00   100.00
 23.886  23.886 (1.119)    91    297542                   243.86- 343.86   295.29
 23.886  23.886 (1.119)    65     28529                     0.00-  78.37    28.31
-------------------------------------------------------------------------------
  143 4-Chlorotoluene                              CAS #: 106-43-4
 24.080  24.080 (1.128)   126    104260 2.00000    1.943  50.00- 150.00   100.00(a)
 24.080  24.080 (1.128)    91    315277                   249.00- 349.00   302.39
 24.052  24.052 (1.127)    63     39933                     0.00-  88.24    38.30
-------------------------------------------------------------------------------
  153 p-Cymene                                     CAS #: 99-87-6
 25.020  25.020 (1.172)   119    345319 2.00000    2.172  50.00- 150.00   100.00
 25.020  25.020 (1.172)   134     97423                     0.00-  77.89    28.21
 25.020  25.020 (1.172)    91     84154                     0.00-  74.89    24.37
-------------------------------------------------------------------------------
  154 1,2,3-Trimethylbenzene                       CAS #: 526-73-8
 25.269  25.269 (1.184)   120    127049 2.00000    2.014  50.00- 150.00   100.00
 25.269  25.269 (1.184)   105    280842                   168.18- 268.18   221.05
```

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS CAL-AMT (PPBV)	AMOUNTS ON-COL (PPBV)	TARGET RANGE	RATIO
154 1,2,3-Trimethylbenzene (continued)							
25.269	25.269 (1.184)	77	37584			0.00- 78.76	29.58
158 Butylbenzene					CAS #: 104-51-8		
25.711	25.711 (1.205)	134	86798	2.00000	2.030	50.00- 150.00	100.00
25.684	25.684 (1.203)	91	365378			362.01- 462.01	420.95
25.684	25.684 (1.203)	92	204191			181.94- 281.94	235.25
148 tert-Butylbenzene					CAS #: 98-06-6		
24.467	24.467 (1.146)	119	319919	2.00000	2.232	50.00- 150.00	100.00
24.467	24.467 (1.146)	134	78445			0.00- 74.64	24.52
24.467	24.467 (1.146)	91	224250			20.96- 120.96	70.10
149 sec-Butylbenzene					CAS #: 135-98-8		
24.826	24.826 (1.163)	105	447243	2.00000	2.254	50.00- 150.00	100.00
24.826	24.826 (1.163)	134	88393			0.00- 69.71	19.76
24.826	24.826 (1.163)	91	69536			0.00- 65.99	15.55
162 1,2-Dibromo-3-Chloropropane					CAS #: 96-12-8		
27.287	27.287 (1.279)	157	99267	2.00000	1.935	50.00- 150.00	100.00(a)
27.287	27.287 (1.279)	75	92577			39.96- 139.96	93.26
27.287	27.287 (1.279)	155	79486			28.87- 128.87	80.07
201 Pentachloroethane					CAS #: 76-01-7		
24.605	24.605 (1.153)	167	92534	2.00000	2.159	50.00- 150.00	100.00
24.605	24.605 (1.153)	117	92152			54.36- 154.36	99.59
24.605	24.605 (1.153)	169	43387			0.00- 97.70	46.89

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).

Report Date: 22-Oct-2007 13:49

Air Toxics Ltd.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd7.i
Lab File ID: 7102205.d
Lab Smp Id: ICAL
Analysis Type: VOA
Quant Type: ISTD
Operator: cb
Method File: /chem/msd7.i/7-22oct.b/t14qO18b.m
Misc Info: 200ppbv --> 2ppbv

Calibration Date: 22-OCT-2007
Calibration Time: 10:55
Client Smp ID: Level 3
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
81 Bromochloromethan	639032	383419	894645	639032	0.00
97 1,4-Difluorobenze	2072294	1243376	2901212	2072294	0.00
126 Chlorobenzene-d5	1627678	976607	2278749	1627678	0.00

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
81 Bromochloromethan	14.40	14.07	14.73	14.40	0.00
97 1,4-Difluorobenze	16.17	15.84	16.50	16.17	0.00
126 Chlorobenzene-d5	21.34	21.01	21.67	21.34	0.00

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /chem/msd7.i/7-22oct.b/7102205.d

Date : 22-OCT-2007 10:55

Client ID: Level 3

Sample Info: 2mL #1487-370

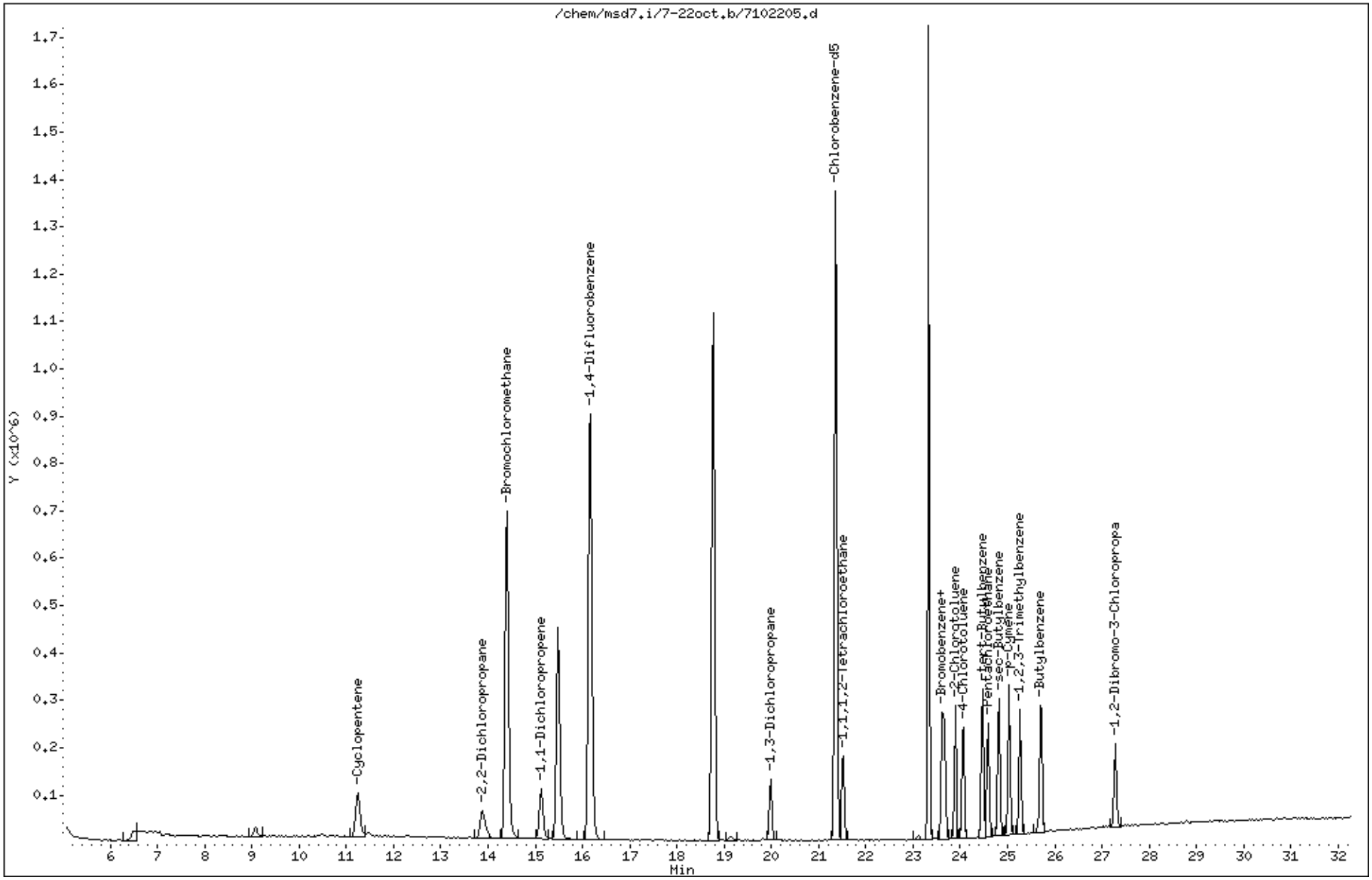
Column phase: RTx-624

Instrument: msd7.i

Operator: cb

Column diameter: 0.53

0254



Air Toxics Ltd.

AMBIENT AIR METHOD TO14

Data file : /chem/msd7.i/7-19oct.b/7101903.d
Lab Smp Id: ICAL Client Smp ID: Level 3
Inj Date : 19-OCT-2007 10:22
Operator : cb Inst ID: msd7.i
Smp Info : 2mL #1487-400
Misc Info : 200ppbv --> 2ppbv
Comment :
Method : /chem/msd7.i/7-19oct.b/t14qO18a.m
Meth Date : 19-Oct-2007 12:11 cbond Quant Type: ISTD
Cal Date : 19-OCT-2007 10:22 Cal File: 7101903.d
Als bottle: 1 Calibration Sample, Level: 3
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: sp22a.sub
Target Version: 3.50 Sample Matrix: AIR
Processing Host: eeyore

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS CAL-AMT (PPBV)	AMOUNTS ON-COL (PPBV)	TARGET RANGE	RATIO
* 81 Bromochloromethane					CAS #: 74-97-5		
14.403	14.403 (1.000)	130	680683	25.0000		50.00- 150.00	100.00
14.403	14.403 (1.000)	128	521822			26.64- 126.64	76.66
14.403	14.403 (1.000)	49	1021902			124.30- 224.30	150.13
* 97 1,4-Difluorobenzene					CAS #: 540-36-3		
16.172	16.172 (1.000)	114	2218849	25.0000		50.00- 150.00	100.00
16.172	16.172 (1.000)	88	345014			0.00- 65.60	15.55
* 126 Chlorobenzene-d5					CAS #: 3114-55-4		
21.343	21.343 (1.000)	117	1717856	25.0000		50.00- 150.00	100.00
21.343	21.343 (1.000)	82	948281			5.36- 105.36	55.20
5 Freon 143a					CAS #: 420-46-2		
5.334	5.334 (0.370)	65	30165	2.00000	2.000	50.00- 150.00	100.00
5.278	5.278 (0.366)	69	276074			0.00- 50.00	915.21
5.334	5.334 (0.370)	64	6959			0.00- 73.07	23.07
6 Freon142b					CAS #: 75-68-3		
6.357	6.357 (0.441)	65	124214	2.00000	2.000	50.00- 150.00	100.00

AMOUNTS

RT	EXP RT (REL RT)	MASS	RESPONSE	CAL-AMT (PPBV)	ON-COL (PPBV)	TARGET RANGE	RATIO
6 Freon142b (continued)							
6.357	6.357 (0.441)	45	30229			0.00- 74.34	24.34
13 Freon 134a					CAS #: 811-97-2		
5.472	5.472 (0.380)	83	59293	2.00000	2.000	50.00- 150.00	100.00
5.278	5.278 (0.366)	69	276074			415.61- 515.61	465.61
5.472	5.472 (0.380)	63	8387			0.00- 64.15	14.15
15 Freon 152a					CAS #: 75-37-6		
5.665	5.665 (0.393)	65	43467	2.00000	2.000	50.00- 150.00	100.00
5.665	5.665 (0.393)	51	69568			110.05- 210.05	160.05
5.693	5.693 (0.395)	47	17369			0.00- 89.96	39.96
17 Freon 22					CAS #: 75-45-6		
5.831	5.831 (0.405)	51	143770	2.00000	2.000	50.00- 150.00	100.00
5.831	5.831 (0.405)	67	16779			0.00- 61.67	11.67
5.831	5.831 (0.405)	85	2871			0.00- 52.00	2.00
34 Dichlorofluoromethane/Fr21					CAS #: 75-43-4		
8.900	8.900 (0.618)	67	119076	2.00000	2.000	50.00- 150.00	100.00
8.900	8.900 (0.618)	69	36680			0.00- 80.80	30.80
8.900	8.900 (0.618)	35	5758			0.00- 54.84	4.84
40 Freon123a					CAS #: 354-23-4		
9.813	9.813 (0.681)	117	61475	2.00000	2.000	50.00- 150.00	100.00
9.813	9.813 (0.681)	67	108040			125.75- 225.75	175.75
41 Freon123					CAS #: 306-83-2		
9.951	9.951 (0.691)	83	118699	2.00000	2.000	50.00- 150.00	100.00
9.951	9.951 (0.691)	133	22948			0.00- 69.33	19.33
9.979	9.979 (0.693)	85	87037			23.33- 123.33	73.33
57 tert-Butyl-Alcohol					CAS #: 75-65-0		
11.527	11.527 (0.800)	59	135523	2.00000	2.000	50.00- 150.00	100.00
11.499	11.499 (0.798)	41	31744			0.00- 73.42	23.42
11.499	11.499 (0.798)	57	13899			0.00- 60.26	10.26
68 Isopropyl ether					CAS #: 108-20-3		
12.716	12.716 (0.883)	45	229400	2.00000	2.000	50.00- 150.00	100.00
12.716	12.716 (0.883)	87	53932			0.00- 73.51	23.51
12.716	12.716 (0.883)	59	19957			0.00- 58.70	8.70
71 1-Propanol					CAS #: 71-23-8		
12.854	12.854 (0.892)	42	12498	2.00000	2.000	50.00- 150.00	100.00
12.827	12.827 (0.891)	59	17728			91.85- 191.85	141.85
12.716	12.716 (0.883)	41	42674			291.45- 391.45	341.45

AMOUNTS

RT	EXP RT (REL RT)	MASS	RESPONSE	CAL-AMT (PPBV)	ON-COL (PPBV)	TARGET RANGE	RATIO
73 t-Butylethyl Ether					CAS #: 637-92-3		
13.380	13.380 (0.929)	59	187293	2.00000	2.000	50.00- 150.00	100.00
13.380	13.380 (0.929)	87	73600			0.00- 89.30	39.30
13.380	13.380 (0.929)	41	34474			0.00- 68.41	18.41
77 Ethyl Acetate					CAS #: 141-78-6		
13.877	13.877 (0.964)	45	21298	2.00000	2.000	50.00- 150.00	100.00
13.877	13.877 (0.964)	61	21673			51.76- 151.76	101.76
13.877	13.877 (0.964)	43	139113			603.17- 703.17	653.17
92 tert-amyl-Methyl Ether					CAS #: 994-05-8		
15.536	15.536 (1.079)	73	134657	2.00000	2.000	50.00- 150.00	100.00
15.536	15.536 (1.079)	87	32299			0.00- 73.99	23.99
15.536	15.536 (1.079)	55	41294			0.00- 80.67	30.67
96 2-Heptanone					CAS #: 110-43-0		
22.504	22.504 (1.562)	58	64075	2.00000	2.000	50.00- 150.00	100.00
22.504	22.504 (1.562)	43	102414			109.83- 209.83	159.83
98 1-Butanol					CAS #: 71-36-3		
16.310	16.310 (1.009)	56	29538	2.00000	2.000	50.00- 150.00	100.00
16.310	16.310 (1.009)	41	21168			21.66- 121.66	71.66
16.310	16.310 (1.009)	43	18572			12.87- 112.87	62.87
99 Isobutanol					CAS #: 78-83-1		
15.121	15.121 (1.050)	59	1011	2.00000	2.000	50.00- 150.00	100.00
15.149	15.149 (1.052)	41	29081			2826.46-2926.46	2876.46
15.149	15.149 (1.052)	43	41133			4018.55-4118.55	4068.55
119 Butyl Acetate					CAS #: 123-86-4		
20.071	20.071 (1.241)	56	50141	2.00000	2.000	50.00- 150.00	100.00
20.071	20.071 (1.241)	73	17033			0.00- 83.97	33.97
20.071	20.071 (1.241)	43	123513			196.33- 296.33	246.33
135 Cyclohexanone					CAS #: 108-94-1		
23.278	23.278 (1.091)	55	58482	2.00000	2.000	50.00- 150.00	100.00
23.278	23.278 (1.091)	98	22335			0.00- 88.19	38.19
23.278	23.278 (1.091)	42	37611			14.31- 114.31	64.31
146 Diisobutyl Ketone					CAS #: 108-83-8		
24.080	24.080 (1.128)	57	142000	2.00000	2.000	50.00- 150.00	100.00
24.080	24.080 (1.128)	85	115778			31.53- 131.53	81.53
0.000	1.000 (0.000)	0	0			0.00- 50.00	0.00

Report Date: 19-Oct-2007 12:11

Air Toxics Ltd.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd7.i
Lab File ID: 7101903.d
Lab Smp Id: ICAL
Analysis Type: VOA
Quant Type: ISTD
Operator: cb
Method File: /chem/msd7.i/7-19oct.b/t14qO18a.m
Misc Info: 200ppbv --> 2ppbv

Calibration Date: 19-OCT-2007
Calibration Time: 11:00
Client Smp ID: Level 3
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
81 Bromochloromethan	694127	416476	971778	680683	-1.94
97 1,4-Difluorobenze	2223212	1333927	3112497	2218849	-0.20
126 Chlorobenzene-d5	1779964	1067978	2491950	1717856	-3.49

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
81 Bromochloromethan	14.40	14.07	14.73	14.40	0.00
97 1,4-Difluorobenze	16.17	15.84	16.50	16.17	0.00
126 Chlorobenzene-d5	21.37	21.04	21.70	21.34	-0.13

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /chem/msd7.i/7-19oct.b/7101903.d

Date : 19-OCT-2007 10:22

Client ID: Level 3

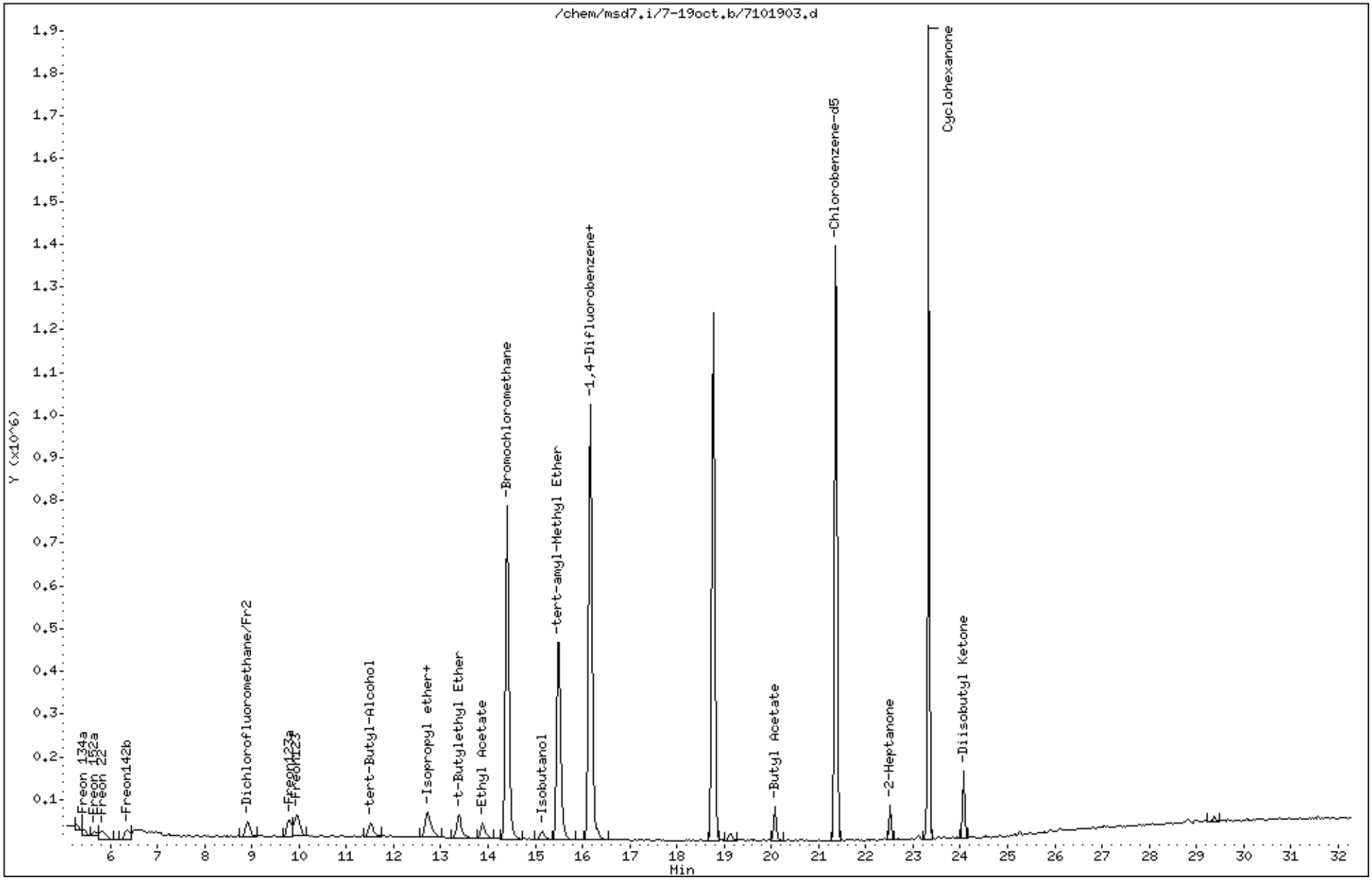
Sample Info: 2mL #1487-400

Column phase: RTx-624

Instrument: msd7.i

Operator: cb

Column diameter: 0.53



Air Toxics Ltd.

AMBIENT AIR METHOD TO14

Data file : /chem/msd7.i/7-18oct.b/7101804.d
Lab Smp Id: ICAL Client Smp ID: Level 3
Inj Date : 18-OCT-2007 14:09
Operator : cb Inst ID: msd7.i
Smp Info : 2mL #1576-50
Misc Info : 200ppbv --> 2ppbv
Comment :
Method : /chem/msd7.i/7-18oct.b/t14qO18a.m
Meth Date : 18-Oct-2007 15:55 cbond Quant Type: ISTD
Cal Date : 18-OCT-2007 14:09 Cal File: 7101804.d
Als bottle: 1 Calibration Sample, Level: 3
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: AT04mdl+ENSR.sub
Target Version: 3.50 Sample Matrix: AIR
Processing Host: eeyore

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS CAL-AMT (PPBV)	AMOUNTS ON-COL (PPBV)	TARGET RANGE	RATIO
* 81 Bromochloromethane					CAS #: 74-97-5		
14.403	14.403 (1.000)	130	611723	25.0000		50.00- 150.00	100.00
14.403	14.403 (1.000)	128	473201			26.77- 126.77	77.36
14.375	14.375 (1.000)	49	892530			95.50- 195.50	145.90
* 97 1,4-Difluorobenzene					CAS #: 540-36-3		
16.172	16.172 (1.000)	114	2006513	25.0000		50.00- 150.00	100.00
16.144	16.144 (1.000)	88	308736			0.00- 65.52	15.39
* 126 Chlorobenzene-d5					CAS #: 3114-55-4		
21.343	21.343 (1.000)	117	1607236	25.0000		50.00- 150.00	100.00
21.343	21.343 (1.000)	82	882896			5.32- 105.32	54.93
$ 90 1,2-Dichloroethane-d4					CAS #: 17060-07-0		
15.481	15.481 (1.075)	65	847384	25.0000	25.678	50.00- 150.00	100.00
15.481	15.481 (1.075)	67	417312			0.00- 99.95	49.25
$ 113 Toluene-d8					CAS #: 2037-26-5		
18.771	18.771 (1.161)	98	1720868	25.0000	24.898	50.00- 150.00	100.00
18.771	18.771 (1.161)	70	197220			0.00- 61.38	11.46

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS CAL-AMT (PPBV)	AMOUNTS ON-COL (PPBV)	TARGET RANGE	RATIO
$ 113 Toluene-d8 (continued)							
18.771	18.771 (1.161)	100	1174360			18.65- 118.65	68.24
$ 137 Bromofluorobenzene						CAS #: 460-00-4	
23.333	23.333 (1.093)	174	955710	25.0000	24.861	50.00- 150.00	100.00
23.333	23.333 (1.093)	95	1240664			77.65- 177.65	129.82
23.333	23.333 (1.093)	176	928938			46.91- 146.91	97.20
11 Propylene						CAS #: 115-07-1	
5.638	5.638 (0.391)	41	55059	2.00000	2.000	50.00- 150.00	100.00
5.638	5.638 (0.391)	42	41800			25.92- 125.92	75.92
5.638	5.638 (0.391)	39	42003			26.29- 126.29	76.29
12 Dichlorodifluoromethane/Fr12						CAS #: 75-71-8	
5.748	5.748 (0.399)	85	196506	2.00000	2.004	50.00- 150.00	100.00
5.748	5.748 (0.399)	87	64388			0.00- 84.29	32.77
16 Freon 114						CAS #: 76-14-2	
6.191	6.191 (0.430)	135	143963	2.00000	2.065	50.00- 150.00	100.00
6.191	6.191 (0.430)	137	47951			0.00- 82.55	33.31
18 Chloromethane						CAS #: 74-87-3	
6.495	6.495 (0.451)	50	66478	2.00000	2.000	50.00- 150.00	100.00
6.522	6.522 (0.453)	52	25502			0.00- 88.36	38.36
20 Vinyl Chloride						CAS #: 75-01-4	
6.854	6.854 (0.476)	62	81584	2.00000	2.034	50.00- 150.00	100.00
6.882	6.882 (0.478)	64	28755			0.00- 85.77	35.25
22 1,3-Butadiene						CAS #: 106-99-0	
6.910	6.910 (0.480)	54	54761	2.00000	2.125	50.00- 150.00	100.00
6.910	6.910 (0.480)	39	59315			62.75- 162.75	108.32
25 Bromomethane						CAS #: 74-83-9	
8.016	8.016 (0.557)	94	67549	2.00000	2.008	50.00- 150.00	100.00
8.016	8.016 (0.557)	96	61778			41.59- 141.59	91.46
27 Chloroethane						CAS #: 75-00-3	
8.347	8.347 (0.580)	64	28925	2.00000	2.051	50.00- 150.00	100.00
8.347	8.347 (0.580)	49	8422			0.00- 83.06	29.12
8.347	8.347 (0.580)	66	11614			0.00- 86.15	40.15
31 Trichlorofluoromethane/Fr11						CAS #: 75-69-4	
8.956	8.956 (0.622)	101	178522	2.00000	2.098	50.00- 150.00	100.00
8.928	8.928 (0.620)	103	116828			16.75- 116.75	65.44

AMOUNTS

RT	EXP RT (REL RT)	MASS	RESPONSE	CAL-AMT (PPBV)	ON-COL (PPBV)	TARGET RANGE	RATIO
38 Ethanol					CAS #: 64-17-5		
9.453	9.453 (0.656)	45	19984	2.00000	2.000	50.00- 150.00	100.00
9.426	9.426 (0.654)	43	6027			0.00- 80.16	30.16
9.453	9.453 (0.656)	46	7749			0.00- 88.78	38.78
42 Freon 113					CAS #: 76-13-1		
10.200	10.200 (0.708)	151	95953	2.00000	2.042	50.00- 150.00	100.00
10.200	10.200 (0.708)	153	60629			10.88- 110.88	63.19
10.200	10.200 (0.708)	101	118187			73.37- 173.37	123.17
43 1,1-Dichloroethene					CAS #: 75-35-4		
10.310	10.310 (0.716)	61	101636	2.00000	2.071	50.00- 150.00	100.00
10.310	10.310 (0.716)	96	59924			20.23- 120.23	58.96
10.310	10.310 (0.716)	98	36886			0.00- 86.02	36.29
45 Acetone					CAS #: 67-64-1		
10.476	10.476 (0.727)	58	28132	2.00000	2.000	50.00- 150.00	100.00
10.476	10.476 (0.727)	43	77574			225.75- 325.75	275.75
46 2-Propanol					CAS #: 67-63-0		
10.670	10.670 (0.741)	45	85029	2.00000	2.000	50.00- 150.00	100.00
10.670	10.670 (0.741)	43	26641			0.00- 81.33	31.33
10.670	10.670 (0.741)	59	2836			0.00- 53.34	3.34
47 Carbon Disulfide					CAS #: 75-15-0		
10.863	10.863 (0.754)	76	190783	2.00000	2.068	50.00- 150.00	100.00
51 3-Chloropropene					CAS #: 107-05-1		
11.140	11.140 (0.773)	76	23388	2.00000	2.000	50.00- 150.00	100.00
11.140	11.140 (0.773)	41	70379			250.92- 350.92	300.92
54 Methylene Chloride					CAS #: 75-09-2		
11.444	11.444 (0.795)	49	73867	2.00000	2.003	50.00- 150.00	100.00
11.444	11.444 (0.795)	84	53508			21.22- 121.22	72.44
11.444	11.444 (0.795)	51	22507			0.00- 81.53	30.47
60 MTBE					CAS #: 1634-04-4		
11.803	11.803 (0.820)	73	124045	2.00000	1.987	50.00- 150.00	100.00
11.831	11.831 (0.821)	57	32126			0.00- 73.58	25.90
11.831	11.831 (0.821)	41	37992			0.00- 79.81	30.63
61 trans-1,2-Dichloroethene					CAS #: 156-60-5		
11.914	11.914 (0.827)	96	61567	2.00000	1.984	50.00- 150.00	100.00
11.914	11.914 (0.827)	61	95052			98.71- 198.71	154.39
11.914	11.914 (0.827)	98	41669			8.80- 108.80	67.68

AMOUNTS

RT	EXP RT (REL RT)	MASS	RESPONSE	CAL-AMT (PPBV)	ON-COL (PPBV)	TARGET RANGE	RATIO
65 Hexane					CAS #: 110-54-3		
12.301	12.301 (0.854)	57	91312	2.00000	2.094	50.00- 150.00	100.00
12.301	12.301 (0.854)	43	60919			21.51- 121.51	66.72
12.301	12.301 (0.854)	86	13027			0.00- 65.23	14.27
69 Vinyl Acetate					CAS #: 108-05-4		
12.799	12.799 (0.889)	86	10974	2.00000	2.000	50.00- 150.00	100.00
12.771	12.771 (0.887)	43	135828			1187.73-1287.73	1237.73
70 1,1-Dichloroethane					CAS #: 75-34-3		
12.799	12.799 (0.889)	63	113478	2.00000	2.113	50.00- 150.00	100.00
12.827	12.827 (0.891)	65	36220			0.00- 83.01	31.92
75 2-Butanone					CAS #: 78-93-3		
13.877	13.877 (0.964)	72	18267	2.00000	1.979	50.00- 150.00	100.00
13.877	13.877 (0.964)	43	102063			477.59- 577.59	558.73
13.877	13.877 (0.964)	57	7363			0.00- 89.35	40.31
76 cis-1,2-Dichloroethene					CAS #: 156-59-2		
13.905	13.905 (0.965)	61	77692	2.00000	2.096	50.00- 150.00	100.00
13.905	13.905 (0.965)	96	56850			31.69- 131.69	73.17
13.932	13.932 (0.967)	98	39327			0.00- 99.25	50.62
80 Tetrahydrofuran					CAS #: 109-99-9		
14.375	14.375 (0.998)	42	54990	2.00000	2.089	50.00- 150.00	100.00
14.375	14.375 (0.998)	71	21394			0.00- 86.97	38.91
14.375	14.375 (0.998)	72	20571			0.00- 85.53	37.41
82 Chloroform					CAS #: 67-66-3		
14.458	14.458 (1.004)	83	121465	2.00000	2.175	50.00- 150.00	100.00
14.458	14.458 (1.004)	85	77359			13.11- 113.11	63.69
83 1,1,1-Trichloroethane					CAS #: 71-55-6		
14.817	14.817 (1.029)	97	121912	2.00000	2.152	50.00- 150.00	100.00
14.817	14.817 (1.029)	99	77448			14.79- 114.79	63.53
85 Cyclohexane					CAS #: 110-82-7		
14.845	14.845 (1.031)	84	58952	2.00000	2.060	50.00- 150.00	100.00
14.817	14.817 (1.029)	56	78258			81.17- 181.17	132.75
14.845	14.845 (1.031)	41	49098			48.02- 148.02	83.28
87 Carbon Tetrachloride					CAS #: 56-23-5		
15.094	15.094 (1.048)	119	111881	2.00000	2.177	50.00- 150.00	100.00
15.094	15.094 (1.048)	117	115224			56.57- 156.57	102.99
91 Benzene					CAS #: 71-43-2		
15.509	15.509 (0.959)	78	146321	2.00000	2.051	50.00- 150.00	100.00

```
                                          AMOUNTS
                                       CAL-AMT   ON-COL
   RT   EXP RT (REL RT)  MASS  RESPONSE ( PPBV)  ( PPBV)   TARGET RANGE    RATIO
   ==   ====== ========  ====  ======== =======  =======   ============    =====

   91 Benzene (continued)
 15.509  15.509 (0.959)    77     32260                     0.00-  71.74    22.05
-------------------------------------------------------------------------------
   89 2,2,4-Trimethylpentane                        CAS #: 540-84-1
 15.398  15.398 (1.069)    57    215514 2.00000    2.142  50.00- 150.00   100.00
 15.398  15.398 (1.069)    56     76082                     0.00-  85.49    35.30
 15.398  15.398 (1.069)    41     64009                     0.00-  82.22    29.70
-------------------------------------------------------------------------------
   93 1,2-Dichloroethane                            CAS #: 107-06-2
 15.619  15.619 (0.966)    62     81570 2.00000    2.063  50.00- 150.00   100.00
 15.619  15.619 (0.966)    64     27245                     0.00-  84.27    33.40
-------------------------------------------------------------------------------
   94 Heptane                                       CAS #: 142-82-5
 15.702  15.702 (0.971)    71     40924 2.00000    2.157  50.00- 150.00   100.00
 15.730  15.730 (0.973)    43     88731                   173.66- 273.66   216.82
 15.730  15.730 (0.973)    57     45995                    67.41- 167.41   112.39
-------------------------------------------------------------------------------
  101 Trichloroethene                               CAS #: 79-01-6
 16.642  16.642 (1.029)    95     66909 2.00000    2.126  50.00- 150.00   100.00
 16.642  16.642 (1.029)   130     64888                    48.03- 148.03    96.98
 16.642  16.642 (1.029)    97     42720                    15.13- 115.13    63.85
-------------------------------------------------------------------------------
  104 1,2-Dichloropropane                           CAS #: 78-87-5
 17.112  17.112 (1.058)    63     54280 2.00000    2.080  50.00- 150.00   100.00
 17.112  17.112 (1.058)    62     41230                    25.56- 125.56    75.96
 17.112  17.112 (1.058)    41     37018                    29.36- 129.36    68.20
-------------------------------------------------------------------------------
  106 1,4-Dioxane                                   CAS #: 123-91-1
 17.250  17.250 (1.067)    88     28811 2.00000    2.000  50.00- 150.00   100.00
 17.250  17.250 (1.067)    58     21286                    23.88- 123.88    73.88
 17.250  17.250 (1.067)    57      7846                     0.00-  77.23    27.23
-------------------------------------------------------------------------------
  107 Bromodichloromethane                          CAS #: 75-27-4
 17.555  17.555 (1.085)    83    111994 2.00000    2.134  50.00- 150.00   100.00
 17.555  17.555 (1.085)    85     74286                    15.66- 115.66    66.33
-------------------------------------------------------------------------------
  110 cis-1,3-Dichloropropene                       CAS #: 10061-01-5
 18.329  18.329 (1.133)    75     69716 2.00000    2.112  50.00- 150.00   100.00
 18.329  18.329 (1.133)    77     24661                     0.00-  83.49    35.37
 18.329  18.329 (1.133)    39     42103                    12.40- 112.40    60.39
-------------------------------------------------------------------------------
  111 4-Methyl-2-pentanone                          CAS #: 108-10-1
 18.522  18.522 (1.145)    58     35532 2.00000    2.233  50.00- 150.00   100.00
 18.522  18.522 (1.145)    43     97570                   236.96- 336.96   274.60
 18.522  18.522 (1.145)    85     14552                     0.00-  92.50    40.95
-------------------------------------------------------------------------------
```

AMOUNTS

RT	EXP RT (REL RT)	MASS	RESPONSE	CAL-AMT (PPBV)	ON-COL (PPBV)	TARGET RANGE	RATIO
114 Toluene					CAS #: 108-88-3		
18.882	18.882 (1.168)	91	155602	2.00000	2.089	50.00- 150.00	100.00
18.882	18.882 (1.168)	92	102747			14.17- 114.17	66.03
116 trans-1,3-Dichloropropene					CAS #: 10061-02-6		
19.297	19.297 (0.904)	75	76335	2.00000	2.112	50.00- 150.00	100.00
19.297	19.297 (0.904)	77	26580			0.00- 84.54	34.82
19.297	19.297 (0.904)	39	42907			12.48- 112.48	56.21
117 1,1,2-Trichloroethane					CAS #: 79-00-5		
19.656	19.656 (0.921)	97	60280	2.00000	2.133	50.00- 150.00	100.00
19.656	19.656 (0.921)	99	38629			13.27- 113.27	64.08
19.656	19.656 (0.921)	83	51953			36.29- 136.29	86.19
120 Tetrachloroethene					CAS #: 127-18-4		
19.822	19.822 (0.929)	166	85338	2.00000	2.120	50.00- 150.00	100.00
19.822	19.822 (0.929)	129	59944			21.90- 121.90	70.24
19.822	19.822 (0.929)	131	59586			19.44- 119.44	69.82
121 2-Hexanone					CAS #: 591-78-6		
19.960	19.960 (0.935)	58	46496	2.00000	2.000	50.00- 150.00	100.00
19.960	19.960 (0.935)	43	88457			140.25- 240.25	190.25
19.960	19.960 (0.935)	100	8137			0.00- 67.50	17.50
122 Dibromochloromethane					CAS #: 124-48-1		
20.347	20.347 (0.953)	129	109223	2.00000	2.205	50.00- 150.00	100.00
20.347	20.347 (0.953)	127	86550			28.50- 128.50	79.24
123 1,2-Dibromoethane					CAS #: 106-93-4		
20.624	20.624 (0.966)	107	98952	2.00000	2.212	50.00- 150.00	100.00
20.624	20.624 (0.966)	109	92195			46.61- 146.61	93.17
127 Chlorobenzene					CAS #: 108-90-7		
21.398	21.398 (1.003)	112	141408	2.00000	2.115	50.00- 150.00	100.00
21.398	21.398 (1.003)	114	45440			0.00- 83.74	32.13
21.398	21.398 (1.003)	77	99139			36.14- 136.14	70.11
128 Ethyl Benzene					CAS #: 100-41-4		
21.481	21.481 (1.006)	106	69955	2.00000	2.172	50.00- 150.00	100.00
21.481	21.481 (1.006)	91	212527			264.29- 364.29	303.81
129 m,p-Xylene					CAS #: 108-38-3		
21.674	21.674 (1.016)	106	83417	2.00000	2.084	50.00- 150.00	100.00
21.674	21.674 (1.016)	91	163670			143.19- 243.19	196.21
130 o-Xylene					CAS #: 95-47-6		
22.393	22.393 (1.049)	106	74387	2.00000	2.144	50.00- 150.00	100.00

AMOUNTS

RT	EXP RT (REL RT)	MASS	RESPONSE	CAL-AMT (PPBV)	ON-COL (PPBV)	TARGET RANGE	RATIO
130 o-Xylene (continued)							
22.393	22.393 (1.049)	91	161137			162.29- 262.29	216.62
131 Styrene					CAS #: 100-42-5		
22.421	22.421 (1.051)	104	109628	2.00000	2.272	50.00- 150.00	100.00
22.421	22.421 (1.051)	78	62288			10.04- 110.04	56.82
133 Bromoform					CAS #: 75-25-2		
22.836	22.836 (1.070)	173	97647	2.00000	2.183	50.00- 150.00	100.00
22.836	22.836 (1.070)	171	51493			1.94- 101.94	52.73
134 Cumene					CAS #: 98-82-8		
22.974	22.974 (1.076)	105	195952	2.00000	2.167	50.00- 150.00	100.00
22.974	22.974 (1.076)	120	53445			0.00- 78.52	27.27
22.946	22.946 (1.075)	51	22911			0.00- 62.18	11.69
140 1,1,2,2-Tetrachloroethane					CAS #: 79-34-5		
23.527	23.527 (1.102)	83	132378	2.00000	2.124	50.00- 150.00	100.00
23.527	23.527 (1.102)	85	87270			15.47- 115.47	65.92
142 Propylbenzene					CAS #: 103-65-1		
23.637	23.637 (1.108)	91	266209	2.00000	2.136	50.00- 150.00	100.00
23.637	23.637 (1.108)	120	60173			0.00- 73.35	22.60
23.637	23.637 (1.108)	105	11173			0.00- 54.49	4.20
145 4-Ethyltoluene					CAS #: 622-96-8		
23.831	23.831 (1.117)	105	219557	2.00000	2.168	50.00- 150.00	100.00
23.831	23.831 (1.117)	120	69116			0.00- 81.78	31.48
147 1,3,5-Trimethylbenzene					CAS #: 108-67-8		
23.914	23.914 (1.120)	105	207321	2.00000	2.132	50.00- 150.00	100.00
23.914	23.914 (1.120)	120	98647			0.00- 98.93	47.58
150 1,2,4-Trimethylbenzene					CAS #: 95-63-6		
24.550	24.550 (1.150)	105	171652	2.00000	2.236	50.00- 150.00	100.00
24.550	24.550 (1.150)	120	81863			0.00- 99.04	47.69
155 1,3-Dichlorobenzene					CAS #: 541-73-1		
25.131	25.131 (1.177)	146	136628	2.00000	2.129	50.00- 150.00	100.00
25.131	25.131 (1.177)	148	88189			15.44- 115.44	64.55
25.131	25.131 (1.177)	111	54874			0.00- 90.41	40.16
156 1,4-Dichlorobenzene					CAS #: 106-46-7		
25.269	25.269 (1.184)	146	141744	2.00000	2.069	50.00- 150.00	100.00
25.269	25.269 (1.184)	148	91243			13.67- 113.67	64.37
25.269	25.269 (1.184)	111	51928			0.00- 87.10	36.64

AMOUNTS

RT	EXP RT (REL RT)	MASS	RESPONSE	CAL-AMT (PPBV)	ON-COL (PPBV)	TARGET RANGE	RATIO
159 alpha-Chlorotoluene					CAS #: 100-44-7		
25.490	25.490 (1.194)	91	161676	2.00000	2.206	50.00- 150.00	100.00
25.490	25.490 (1.194)	126	33956			0.00- 72.02	21.00
161 1,2-Dichlorobenzene					CAS #: 95-50-1		
25.932	25.932 (1.215)	146	131381	2.00000	2.080	50.00- 150.00	100.00
25.932	25.932 (1.215)	148	85098			13.48- 113.48	64.77
25.905	25.905 (1.214)	111	51832			0.00- 89.53	39.45
165 1,2,4-Trichlorobenzene					CAS #: 120-82-1		
28.808	28.808 (1.350)	180	65598	2.00000	2.000	50.00- 150.00	100.00
28.808	28.808 (1.350)	182	63637			47.01- 147.01	97.01
166 Hexachlorobutadiene					CAS #: 87-68-3		
29.001	29.001 (1.359)	225	65479	2.00000	2.000	50.00- 150.00	100.00
29.001	29.001 (1.359)	223	41018			12.64- 112.64	62.64
167 Naphthalene					CAS #: 91-20-3		
29.361	29.361 (1.376)	128	119215	2.00000	2.000	50.00- 150.00	100.00
29.361	29.361 (1.376)	127	16389			0.00- 63.75	13.75
29 Isopentane					CAS #: 78-78-4		
8.347	8.347 (0.580)	43	84271	2.00000	2.000	50.00- 150.00	100.00
8.347	8.347 (0.580)	57	54396			14.55- 114.55	64.55
19 Butane					CAS #: 106-97-8		
6.744	6.744 (0.468)	58	13585	2.00000	2.000	50.00- 150.00	100.00
6.744	6.744 (0.468)	43	112427			777.58- 877.58	827.58
102 Methyl Cyclohexane					CAS #: 108-87-2		
16.891	16.891 (1.173)	83	75102	2.00000	2.095	50.00- 150.00	100.00
16.919	16.919 (1.175)	98	34610			0.00- 96.26	46.08
16.891	16.891 (1.173)	55	68355			38.28- 138.28	91.02

Report Date: 18-Oct-2007 15:55

Air Toxics Ltd.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd7.i
Lab File ID: 7101804.d
Lab Smp Id: ICAL
Analysis Type: VOA
Quant Type: ISTD
Operator: cb
Method File: /chem/msd7.i/7-18oct.b/t14qO18a.m
Misc Info: 200ppbv --> 2ppbv

Calibration Date: 18-OCT-2007
Calibration Time: 15:26
Client Smp ID: Level 3
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
81 Bromochloromethan	683549	410129	956969	611723	-10.51
97 1,4-Difluorobenze	2204815	1322889	3086741	2006513	-8.99
126 Chlorobenzene-d5	1812979	1087787	2538171	1607236	-11.35

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
81 Bromochloromethan	14.40	14.07	14.73	14.40	0.00
97 1,4-Difluorobenze	16.17	15.84	16.50	16.17	0.00
126 Chlorobenzene-d5	21.37	21.04	21.70	21.34	-0.13

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /chem/msd7.i/7-18oct.b/7101804.d

Date : 18-OCT-2007 14:09

Client ID: Level 3

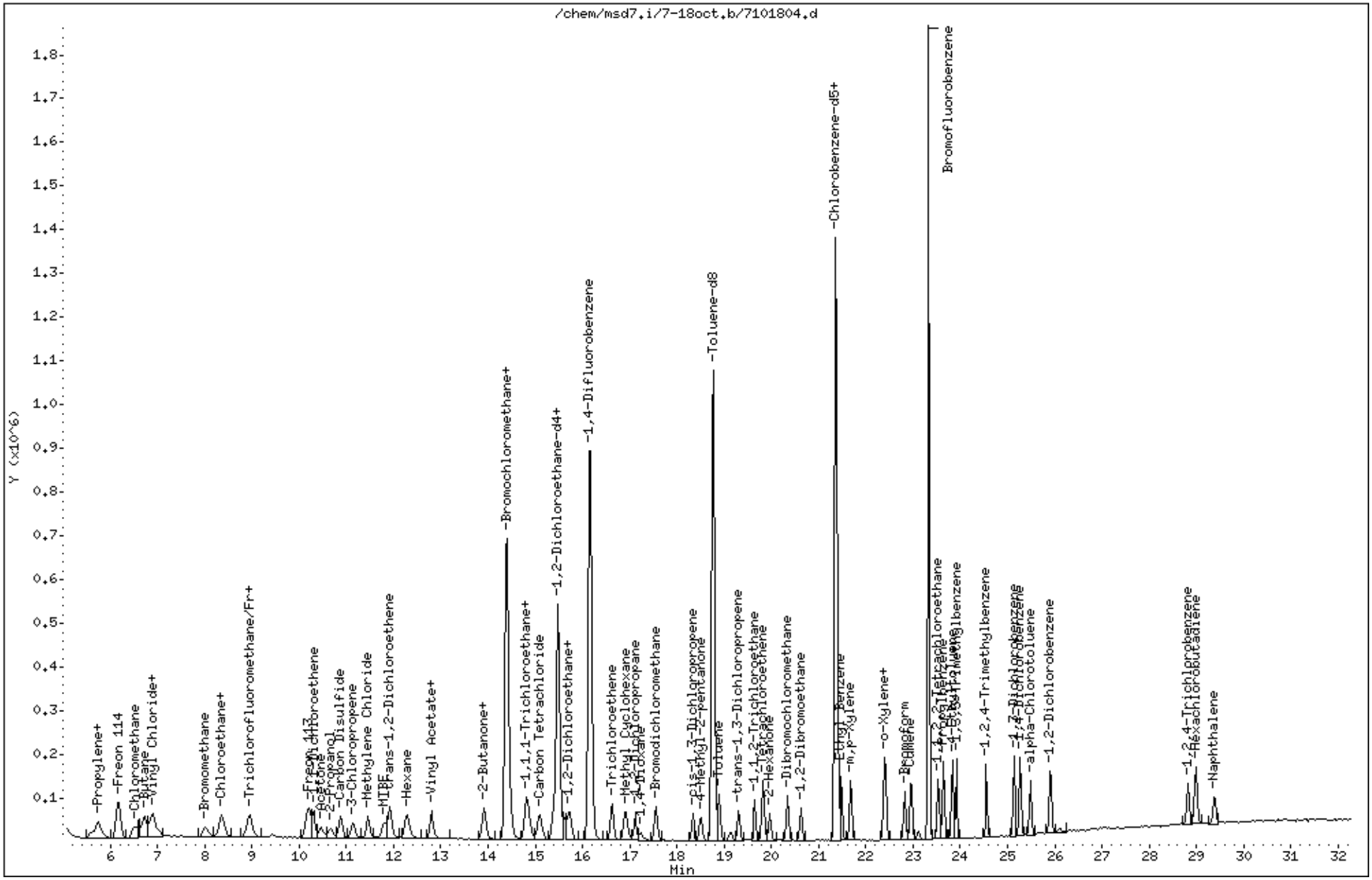
Sample Info: 2mL #1576-50

Column phase: RTx-624

Instrument: msd7.i

Operator: cb

Column diameter: 0.53



Air Toxics Ltd.

AMBIENT AIR METHOD TO14

Data file : /chem/msd7.i/7-30oct.b/7103003.d
Lab Smp Id: ICAL Client Smp ID: Level 4
Inj Date : 30-OCT-2007 09:51
Operator : cb Inst ID: msd7.i
Smp Info : 8mL #1487-400
Misc Info : 200ppbv --> 8ppbv 1200ppbv --> 48ppbv MeOH
Comment :
Method : /chem/msd7.i/7-30oct.b/t14qO18b.m
Meth Date : 30-Oct-2007 11:34 cbond Quant Type: ISTD
Cal Date : 30-OCT-2007 09:51 Cal File: 7103003.d
Als bottle: 1 Calibration Sample, Level: 4
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: sp1c.sub
Target Version: 3.50 Sample Matrix: AIR
Processing Host: eeyore

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS CAL-AMT (PPBV)	AMOUNTS ON-COL (PPBV)	TARGET RANGE	RATIO
* 81 Bromochloromethane					CAS #: 74-97-5		
14.388	14.388 (1.000)	130	457095	25.0000		50.00- 150.00	100.00
14.388	14.388 (1.000)	128	356706			26.81- 126.81	78.04
14.388	14.388 (1.000)	49	651489			112.06- 212.06	142.53
* 97 1,4-Difluorobenzene					CAS #: 540-36-3		
16.158	16.158 (1.000)	114	1520028	25.0000		50.00- 150.00	100.00
16.158	16.158 (1.000)	88	231032			0.00- 65.39	15.20
* 126 Chlorobenzene-d5					CAS #: 3114-55-4		
21.356	21.356 (1.000)	117	1109895	25.0000		50.00- 150.00	100.00
21.356	21.356 (1.000)	82	594855			4.45- 104.45	53.60
26 Methanol					CAS #: 67-56-1		
7.560	7.560 (0.525)	31	434609	48.0000	55.679	50.00- 150.00	100.00
7.560	7.560 (0.525)	32	984446			96.19- 196.19	226.51

Report Date: 30-Oct-2007 11:34

Air Toxics Ltd.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd7.i
Lab File ID: 7103003.d
Lab Smp Id: ICAL
Analysis Type: VOA
Quant Type: ISTD
Operator: cb
Method File: /chem/msd7.i/7-30oct.b/t14qO18b.m
Misc Info: 200ppbv --> 8ppbv 1200ppbv --> 48ppbv MeOH

Calibration Date: 30-OCT-2007
Calibration Time: 10:29
Client Smp ID: Level 4
Level: LOW
Sample Type: AIR

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
81 Bromochloromethan	486199	291719	680679	457095	-5.99
97 1,4-Difluorobenze	1616415	969849	2262981	1520028	-5.96
126 Chlorobenzene-d5	1130394	678236	1582552	1109895	-1.81

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
81 Bromochloromethan	14.42	14.09	14.75	14.39	-0.19
97 1,4-Difluorobenze	16.19	15.86	16.52	16.16	-0.17
126 Chlorobenzene-d5	21.36	21.03	21.69	21.36	0.00

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /chem/msd7.i/7-30oct.b/7103003.d

Date : 30-OCT-2007 09:51

Client ID: Level 4

Sample Info: 8mL #1487-400

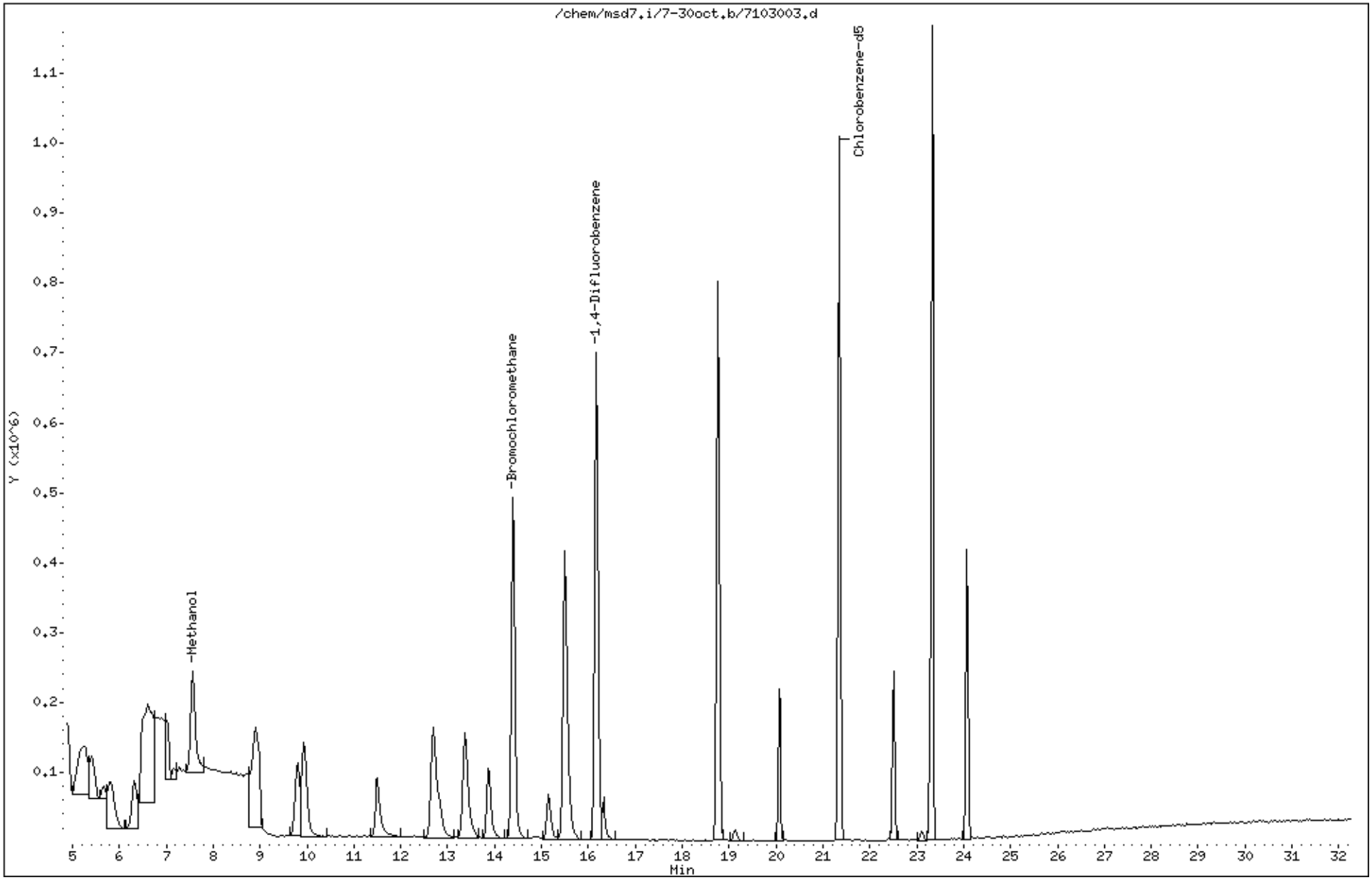
Column phase: RTx-624

Instrument: msd7.i

Operator: cb

Column diameter: 0.53

0272



Air Toxics Ltd.

AMBIENT AIR METHOD TO14

Data file : /chem/msd7.i/7-18oct.b/7101805.d
Lab Smp Id: ICAL Client Smp ID: Level 4
Inj Date : 18-OCT-2007 14:47
Operator : cb Inst ID: msd7.i
Smp Info : 25mL #1576-50
Misc Info : 200ppbv --> 25ppbv
Comment :
Method : /chem/msd7.i/7-18oct.b/t14qO18a.m
Meth Date : 18-Oct-2007 15:55 cbond Quant Type: ISTD
Cal Date : 18-OCT-2007 14:47 Cal File: 7101805.d
Als bottle: 1 Calibration Sample, Level: 4
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: AT04mdl+ENSR.sub
Target Version: 3.50 Sample Matrix: AIR
Processing Host: eeyore

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS CAL-AMT (PPBV)	AMOUNTS ON-COL (PPBV)	TARGET RANGE	RATIO
* 81 Bromochloromethane					CAS #: 74-97-5		
14.403	14.403 (1.000)	130	648629	25.0000		50.00- 150.00	100.00
14.403	14.403 (1.000)	128	493340			26.59- 126.59	76.06
14.403	14.403 (1.000)	49	1078175			100.68- 200.68	166.22
* 97 1,4-Difluorobenzene					CAS #: 540-36-3		
16.172	16.172 (1.000)	114	2091071	25.0000		50.00- 150.00	100.00
16.172	16.172 (1.000)	88	329502			0.00- 65.58	15.76
* 126 Chlorobenzene-d5					CAS #: 3114-55-4		
21.343	21.343 (1.000)	117	1761271	25.0000		50.00- 150.00	100.00
21.343	21.343 (1.000)	82	970978			5.27- 105.27	55.13
$ 90 1,2-Dichloroethane-d4					CAS #: 17060-07-0		
15.481	15.481 (1.075)	65	874142	25.0000	24.986	50.00- 150.00	100.00
15.481	15.481 (1.075)	67	456837			0.53- 100.53	52.26
$ 113 Toluene-d8					CAS #: 2037-26-5		
18.771	18.771 (1.161)	98	1876890	25.0000	25.785	50.00- 150.00	100.00
18.771	18.771 (1.161)	70	216509			0.00- 61.42	11.54

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS CAL-AMT (PPBV)	AMOUNTS ON-COL (PPBV)	TARGET RANGE	RATIO
$ 113 Toluene-d8 (continued)							
18.771	18.771 (1.161)	100	1297632			18.77- 118.77	69.14
$ 137 Bromofluorobenzene						CAS #: 460-00-4	
23.333	23.333 (1.093)	174	1070391	25.0000	25.306	50.00- 150.00	100.00
23.333	23.333 (1.093)	95	1338336			76.99- 176.99	125.03
23.333	23.333 (1.093)	176	1032203			46.79- 146.79	96.43
11 Propylene						CAS #: 115-07-1	
5.610	5.610 (0.390)	41	672994	25.0000	23.988	50.00- 150.00	100.00
5.610	5.610 (0.390)	42	475290			23.27- 123.27	70.62
5.610	5.610 (0.390)	39	505709			25.72- 125.72	75.14
12 Dichlorodifluoromethane/Fr12						CAS #: 75-71-8	
5.748	5.748 (0.399)	85	2552602	25.0000	24.701	50.00- 150.00	100.00
5.748	5.748 (0.399)	87	837020			0.00- 83.79	32.79
16 Freon 114						CAS #: 76-14-2	
6.163	6.163 (0.428)	135	1820434	25.0000	24.747	50.00- 150.00	100.00
6.191	6.191 (0.430)	137	576965			0.00- 82.27	31.69
18 Chloromethane						CAS #: 74-87-3	
6.467	6.467 (0.449)	50	827148	25.0000	24.210	50.00- 150.00	100.00
6.495	6.495 (0.451)	52	276375			0.00- 85.89	33.41
20 Vinyl Chloride						CAS #: 75-01-4	
6.854	6.854 (0.476)	62	1056924	25.0000	24.901	50.00- 150.00	100.00
6.854	6.854 (0.476)	64	331879			0.00- 84.32	31.40
22 1,3-Butadiene						CAS #: 106-99-0	
6.910	6.910 (0.480)	54	763518	25.0000	26.889	50.00- 150.00	100.00
6.910	6.910 (0.480)	39	775774			59.04- 159.04	101.61
25 Bromomethane						CAS #: 74-83-9	
8.016	8.016 (0.557)	94	898127	25.0000	25.120	50.00- 150.00	100.00
8.016	8.016 (0.557)	96	847084			42.50- 142.50	94.32
27 Chloroethane						CAS #: 75-00-3	
8.347	8.347 (0.580)	64	459746	25.0000	28.558	50.00- 150.00	100.00
8.347	8.347 (0.580)	49	124278			0.00- 81.05	27.03
8.347	8.347 (0.580)	66	146980			0.00- 84.75	31.97
31 Trichlorofluoromethane/Fr11						CAS #: 75-69-4	
8.956	8.956 (0.622)	101	2398500	25.0000	26.034	50.00- 150.00	100.00
8.956	8.956 (0.622)	103	1563188			16.23- 116.23	65.17

AMOUNTS

RT	EXP RT (REL RT)	MASS	RESPONSE	CAL-AMT (PPBV)	ON-COL (PPBV)	TARGET RANGE	RATIO
38 Ethanol					CAS #: 64-17-5		
9.453	9.453 (0.656)	45	302916	25.0000	26.675	50.00- 150.00	100.00
9.453	9.453 (0.656)	43	64833			0.00- 75.78	21.40
9.453	9.453 (0.656)	46	115857			0.00- 88.51	38.25
42 Freon 113					CAS #: 76-13-1		
10.200	10.200 (0.708)	151	1351088	25.0000	26.376	50.00- 150.00	100.00
10.200	10.200 (0.708)	153	864179			11.90- 111.90	63.96
10.200	10.200 (0.708)	101	1679257			73.68- 173.68	124.29
43 1,1-Dichloroethene					CAS #: 75-35-4		
10.310	10.310 (0.716)	61	1425325	25.0000	26.543	50.00- 150.00	100.00
10.338	10.338 (0.718)	96	884308			17.50- 117.50	62.04
10.338	10.338 (0.718)	98	559311			0.00- 87.09	39.24
45 Acetone					CAS #: 67-64-1		
10.476	10.476 (0.727)	58	427023	25.0000	26.693	50.00- 150.00	100.00
10.476	10.476 (0.727)	43	1298978			239.97- 339.97	304.19
46 2-Propanol					CAS #: 67-63-0		
10.670	10.670 (0.741)	45	1487551	25.0000	28.448	50.00- 150.00	100.00
10.670	10.670 (0.741)	43	360829			0.00- 77.79	24.26
10.670	10.670 (0.741)	59	57359			0.00- 53.60	3.86
47 Carbon Disulfide					CAS #: 75-15-0		
10.891	10.891 (0.756)	76	2700196	25.0000	26.675	50.00- 150.00	100.00
51 3-Chloropropene					CAS #: 107-05-1		
11.168	11.168 (0.775)	76	434925	25.0000	29.193	50.00- 150.00	100.00
11.168	11.168 (0.775)	41	1150405			232.71- 332.71	264.51
54 Methylene Chloride					CAS #: 75-09-2		
11.472	11.472 (0.796)	49	1008912	25.0000	25.532	50.00- 150.00	100.00
11.472	11.472 (0.796)	84	739684			21.92- 121.92	73.32
11.472	11.472 (0.796)	51	306196			0.00- 81.14	30.35
60 MTBE					CAS #: 1634-04-4		
11.831	11.831 (0.821)	73	1771052	25.0000	26.144	50.00- 150.00	100.00
11.831	11.831 (0.821)	57	420256			0.00- 73.63	23.73
11.831	11.831 (0.821)	41	443279			0.00- 78.21	25.03
61 trans-1,2-Dichloroethene					CAS #: 156-60-5		
11.942	11.942 (0.829)	96	998196	25.0000	28.326	50.00- 150.00	100.00
11.942	11.942 (0.829)	61	1447625			97.48- 197.48	145.02
11.942	11.942 (0.829)	98	642993			10.67- 110.67	64.42

AMOUNTS

RT	EXP RT (REL RT)	MASS	RESPONSE	CAL-AMT (PPBV)	ON-COL (PPBV)	TARGET RANGE	RATIO
65 Hexane					CAS #: 110-54-3		
12.301	12.301 (0.854)	57	1372419	25.0000	27.942	50.00- 150.00	100.00
12.301	12.301 (0.854)	43	911424			19.81- 119.81	66.41
12.301	12.301 (0.854)	86	203564			0.00- 65.10	14.83
69 Vinyl Acetate					CAS #: 108-05-4		
12.799	12.799 (0.889)	86	204632	25.0000	29.226	50.00- 150.00	100.00
12.799	12.799 (0.889)	43	2462047			1170.44-1270.44	1203.16
70 1,1-Dichloroethane					CAS #: 75-34-3		
12.827	12.827 (0.891)	63	1728636	25.0000	28.337	50.00- 150.00	100.00
12.827	12.827 (0.891)	65	537140			0.00- 82.37	31.07
75 2-Butanone					CAS #: 78-93-3		
13.905	13.905 (0.965)	72	371338	25.0000	32.359	50.00- 150.00	100.00
13.877	13.877 (0.964)	43	1736763			457.63- 557.63	467.70
13.905	13.905 (0.965)	57	128669			0.00- 87.78	34.65
76 cis-1,2-Dichloroethene					CAS #: 156-59-2		
13.933	13.933 (0.967)	61	1209222	25.0000	28.569	50.00- 150.00	100.00
13.933	13.933 (0.967)	96	897782			29.21- 129.21	74.24
13.933	13.933 (0.967)	98	571260			0.00- 98.58	47.24
80 Tetrahydrofuran					CAS #: 109-99-9		
14.403	14.403 (1.000)	42	962709	25.0000	30.617	50.00- 150.00	100.00
14.403	14.403 (1.000)	71	343205			0.00- 86.53	35.65
14.403	14.403 (1.000)	72	380604			0.00- 86.87	39.53
82 Chloroform					CAS #: 67-66-3		
14.458	14.458 (1.004)	83	1763467	25.0000	28.425	50.00- 150.00	100.00
14.458	14.458 (1.004)	85	1152392			13.67- 113.67	65.35
83 1,1,1-Trichloroethane					CAS #: 71-55-6		
14.845	14.845 (1.031)	97	1771233	25.0000	27.820	50.00- 150.00	100.00
14.845	14.845 (1.031)	99	1152307			14.88- 114.88	65.06
85 Cyclohexane					CAS #: 110-82-7		
14.845	14.845 (1.031)	84	1002003	25.0000	29.830	50.00- 150.00	100.00
14.845	14.845 (1.031)	56	1263499			79.48- 179.48	126.10
14.845	14.845 (1.031)	41	737802			39.89- 139.89	73.63
87 Carbon Tetrachloride					CAS #: 56-23-5		
15.094	15.094 (1.048)	119	1724198	25.0000	29.064	50.00- 150.00	100.00
15.094	15.094 (1.048)	117	1781371			55.49- 155.49	103.32
91 Benzene					CAS #: 71-43-2		
15.509	15.509 (0.959)	78	2269732	25.0000	28.929	50.00- 150.00	100.00

AMOUNTS

RT	EXP RT (REL RT)	MASS	RESPONSE	CAL-AMT (PPBV)	ON-COL (PPBV)	TARGET RANGE	RATIO
91 Benzene (continued)							
15.509	15.509 (0.959)	77	498689			0.00- 71.80	21.97
89 2,2,4-Trimethylpentane					CAS #: 540-84-1		
15.426	15.426 (1.071)	57	3457104	25.0000	29.494	50.00- 150.00	100.00
15.426	15.426 (1.071)	56	1170008			0.00- 84.94	33.84
15.426	15.426 (1.071)	41	977669			0.00- 80.91	28.28
93 1,2-Dichloroethane					CAS #: 107-06-2		
15.619	15.619 (0.966)	62	1227957	25.0000	28.008	50.00- 150.00	100.00
15.619	15.619 (0.966)	64	393216			0.00- 83.52	32.02
94 Heptane					CAS #: 142-82-5		
15.730	15.730 (0.973)	71	703132	25.0000	31.170	50.00- 150.00	100.00
15.730	15.730 (0.973)	43	1425110			166.67- 266.67	202.68
15.730	15.730 (0.973)	57	737513			63.24- 163.24	104.89
101 Trichloroethene					CAS #: 79-01-6		
16.642	16.642 (1.029)	95	1016424	25.0000	28.695	50.00- 150.00	100.00
16.642	16.642 (1.029)	130	1015319			48.65- 148.65	99.89
16.642	16.642 (1.029)	97	658135			15.00- 115.00	64.75
104 1,2-Dichloropropane					CAS #: 78-87-5		
17.112	17.112 (1.058)	63	860882	25.0000	29.073	50.00- 150.00	100.00
17.112	17.112 (1.058)	62	627970			24.69- 124.69	72.94
17.112	17.112 (1.058)	41	556404			24.45- 124.45	64.63
106 1,4-Dioxane					CAS #: 123-91-1		
17.250	17.250 (1.067)	88	544742	25.0000	29.604	50.00- 150.00	100.00
17.250	17.250 (1.067)	58	388755			22.62- 122.62	71.36
17.250	17.250 (1.067)	57	130892			0.00- 75.63	24.03
107 Bromodichloromethane					CAS #: 75-27-4		
17.555	17.555 (1.085)	83	1825381	25.0000	30.018	50.00- 150.00	100.00
17.555	17.555 (1.085)	85	1169739			15.13- 115.13	64.08
110 cis-1,3-Dichloropropene					CAS #: 10061-01-5		
18.329	18.329 (1.133)	75	1259763	25.0000	31.709	50.00- 150.00	100.00
18.329	18.329 (1.133)	77	405185			0.00- 83.05	32.16
18.329	18.329 (1.133)	39	734636			11.04- 111.04	58.32
111 4-Methyl-2-pentanone					CAS #: 108-10-1		
18.522	18.522 (1.145)	58	699008	25.0000	34.306	50.00- 150.00	100.00
18.522	18.522 (1.145)	43	1880425			230.98- 330.98	269.01
18.522	18.522 (1.145)	85	276238			0.00- 91.51	39.52

AMOUNTS

RT	EXP RT (REL RT)	MASS	RESPONSE	CAL-AMT (PPBV)	ON-COL (PPBV)	TARGET RANGE	RATIO
114 Toluene					CAS #: 108-88-3		
18.882	18.882 (1.168)	91	2517803	25.0000	29.511	50.00- 150.00	100.00
18.882	18.882 (1.168)	92	1570697			13.57- 113.57	62.38
116 trans-1,3-Dichloropropene					CAS #: 10061-02-6		
19.324	19.324 (0.905)	75	1365604	25.0000	30.614	50.00- 150.00	100.00
19.324	19.324 (0.905)	77	431910			0.00- 83.57	31.63
19.297	19.297 (0.904)	39	741173			9.74- 109.74	54.27
117 1,1,2-Trichloroethane					CAS #: 79-00-5		
19.656	19.656 (0.921)	97	995281	25.0000	29.343	50.00- 150.00	100.00
19.656	19.656 (0.921)	99	611788			12.67- 112.67	61.47
19.656	19.656 (0.921)	83	830549			35.35- 135.35	83.45
120 Tetrachloroethene					CAS #: 127-18-4		
19.822	19.822 (0.929)	166	1326702	25.0000	28.172	50.00- 150.00	100.00
19.822	19.822 (0.929)	129	951582			21.84- 121.84	71.73
19.822	19.822 (0.929)	131	918961			19.38- 119.38	69.27
121 2-Hexanone					CAS #: 591-78-6		
19.960	19.960 (0.935)	58	976339	25.0000	30.260	50.00- 150.00	100.00
19.960	19.960 (0.935)	43	1898544			142.35- 242.35	194.46
19.960	19.960 (0.935)	100	167728			0.00- 67.34	17.18
122 Dibromochloromethane					CAS #: 124-48-1		
20.347	20.347 (0.953)	129	1889826	25.0000	30.784	50.00- 150.00	100.00
20.347	20.347 (0.953)	127	1451142			27.93- 127.93	76.79
123 1,2-Dibromoethane					CAS #: 106-93-4		
20.624	20.624 (0.966)	107	1691649	25.0000	30.624	50.00- 150.00	100.00
20.624	20.624 (0.966)	109	1595981			45.86- 145.86	94.34
127 Chlorobenzene					CAS #: 108-90-7		
21.398	21.398 (1.003)	112	2151202	25.0000	27.748	50.00- 150.00	100.00
21.398	21.398 (1.003)	114	697219			0.00- 83.29	32.41
21.398	21.398 (1.003)	77	1306142			27.66- 127.66	60.72
128 Ethyl Benzene					CAS #: 100-41-4		
21.481	21.481 (1.006)	106	1127919	25.0000	29.242	50.00- 150.00	100.00
21.481	21.481 (1.006)	91	3464186			261.90- 361.90	307.13
129 m,p-Xylene					CAS #: 108-38-3		
21.674	21.674 (1.016)	106	1393326	25.0000	29.141	50.00- 150.00	100.00
21.674	21.674 (1.016)	91	2764534			144.93- 244.93	198.41
130 o-Xylene					CAS #: 95-47-6		
22.393	22.393 (1.049)	106	1236660	25.0000	29.557	50.00- 150.00	100.00

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                                          AMOUNTS
                                       CAL-AMT   ON-COL
   RT   EXP RT (REL RT)  MASS  RESPONSE ( PPBV)  ( PPBV)   TARGET RANGE    RATIO
   ==   ====== ========  ====  ======== =======  =======   ============    =====

  130 o-Xylene (continued)
 22.393  22.393 (1.049)    91   2558031                  160.47- 260.47   206.85
-------------------------------------------------------------------------------
  131 Styrene                                       CAS #: 100-42-5
 22.421  22.421 (1.051)   104   2077088 25.0000   34.374  50.00- 150.00   100.00
 22.421  22.421 (1.051)    78   1061823                    7.81- 107.81    51.12
-------------------------------------------------------------------------------
  133 Bromoform                                     CAS #: 75-25-2
 22.836  22.836 (1.070)   173   1688739 25.0000   30.596  50.00- 150.00   100.00
 22.836  22.836 (1.070)   171    867217                    1.74- 101.74    51.35
-------------------------------------------------------------------------------
  134 Cumene                                        CAS #: 98-82-8
 22.974  22.974 (1.076)   105   3202644 25.0000   30.112  50.00- 150.00   100.00
 22.974  22.974 (1.076)   120    877707                    0.00-  78.24    27.41
 22.946  22.946 (1.075)    51    336852                    0.00-  61.76    10.52
-------------------------------------------------------------------------------
  140 1,1,2,2-Tetrachloroethane                     CAS #: 79-34-5
 23.527  23.527 (1.102)    83   1987656 25.0000   27.596  50.00- 150.00   100.00
 23.527  23.527 (1.102)    85   1274611                   15.02- 115.02    64.13
-------------------------------------------------------------------------------
  142 Propylbenzene                                 CAS #: 103-65-1
 23.637  23.637 (1.108)    91   4176023 25.0000   28.463  50.00- 150.00   100.00
 23.637  23.637 (1.108)   120    934951                    0.00-  73.03    22.39
 23.637  23.637 (1.108)   105    154058                    0.00-  54.22     3.69
-------------------------------------------------------------------------------
  145 4-Ethyltoluene                                CAS #: 622-96-8
 23.831  23.831 (1.117)   105   3761987 25.0000   30.300  50.00- 150.00   100.00
 23.831  23.831 (1.117)   120   1081840                    0.00-  80.77    28.76
-------------------------------------------------------------------------------
  147 1,3,5-Trimethylbenzene                        CAS #: 108-67-8
 23.914  23.914 (1.120)   105   2748553 25.0000   25.521  50.00- 150.00   100.00
 23.914  23.914 (1.120)   120   1560080                    1.54- 101.54    56.76
-------------------------------------------------------------------------------
  150 1,2,4-Trimethylbenzene                        CAS #: 95-63-6
 24.550  24.550 (1.150)   105   2622270 25.0000   28.800  50.00- 150.00   100.00
 24.550  24.550 (1.150)   120   1282211                    0.00-  98.99    48.90
-------------------------------------------------------------------------------
  155 1,3-Dichlorobenzene                           CAS #: 541-73-1
 25.131  25.131 (1.177)   146   1977163 25.0000   26.992  50.00- 150.00   100.00
 25.131  25.131 (1.177)   148   1259144                   14.85- 114.85    63.68
 25.131  25.131 (1.177)   111    766458                    0.00-  89.86    38.77
-------------------------------------------------------------------------------
  156 1,4-Dichlorobenzene                           CAS #: 106-46-7
 25.269  25.269 (1.184)   146   2033388 25.0000   26.349  50.00- 150.00   100.00
 25.269  25.269 (1.184)   148   1297512                   13.71- 113.71    63.81
 25.269  25.269 (1.184)   111    752714                    0.00-  87.07    37.02
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                                          AMOUNTS
                                       CAL-AMT   ON-COL
   RT   EXP RT (REL RT)  MASS  RESPONSE ( PPBV)  ( PPBV)   TARGET RANGE    RATIO
   ==   ====== ========  ====  ======== =======  =======   ============    =====

  159 alpha-Chlorotoluene                          CAS #: 100-44-7
 25.490  25.490 (1.194)    91   2693301 25.0000   30.105  50.00- 150.00   100.00
 25.490  25.490 (1.194)   126    562707                     0.00-  71.64    20.89
-------------------------------------------------------------------------------
  161 1,2-Dichlorobenzene                          CAS #: 95-50-1
 25.932  25.932 (1.215)   146   1756987 25.0000   25.257  50.00- 150.00   100.00
 25.932  25.932 (1.215)   148   1110267                   13.39- 113.39    63.19
 25.905  25.905 (1.214)   111    707034                     0.00-  89.77    40.24
-------------------------------------------------------------------------------
  165 1,2,4-Trichlorobenzene                       CAS #: 120-82-1
 28.808  28.808 (1.350)   180    489632 25.0000   17.636  50.00- 150.00   100.00
 28.808  28.808 (1.350)   182    471701                   46.67- 146.67    96.34
-------------------------------------------------------------------------------
  166 Hexachlorobutadiene                          CAS #: 87-68-3
 29.001  29.001 (1.359)   225    471653 25.0000   17.231  50.00- 150.00   100.00
 29.001  29.001 (1.359)   223    296659                   12.77- 112.77    62.90
-------------------------------------------------------------------------------
  167 Naphthalene                                  CAS #: 91-20-3
 29.361  29.361 (1.376)   128    811801 25.0000   16.602  50.00- 150.00   100.00
 29.361  29.361 (1.376)   127     99474                     0.00-  63.00    12.25
-------------------------------------------------------------------------------
   29 Isopentane                                   CAS #: 78-78-4
  8.375   8.375 (0.581)    43   1092752 25.0000   24.726  50.00- 150.00   100.00
  8.375   8.375 (0.581)    57    731967                   15.77- 115.77    66.98
-------------------------------------------------------------------------------
   19 Butane                                       CAS #: 106-97-8
  6.744   6.744 (0.468)    58    177191 25.0000   24.799  50.00- 150.00   100.00
  6.744   6.744 (0.468)    43   1417940                  763.91- 863.91   800.23
-------------------------------------------------------------------------------
  102 Methyl Cyclohexane                           CAS #: 108-87-2
 16.919  16.919 (1.175)    83   1222177 25.0000   29.354  50.00- 150.00   100.00
 16.919  16.919 (1.175)    98    569027                     0.00-  96.36    46.56
 16.919  16.919 (1.175)    55   1091840                   38.63- 138.63    89.34
-------------------------------------------------------------------------------
```

Report Date: 18-Oct-2007 15:55

Air Toxics Ltd.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd7.i
Lab File ID: 7101805.d
Lab Smp Id: ICAL
Analysis Type: VOA
Quant Type: ISTD
Operator: cb
Method File: /chem/msd7.i/7-18oct.b/t14qO18a.m
Misc Info: 200ppbv --> 25ppbv

Calibration Date: 18-OCT-2007
Calibration Time: 15:26
Client Smp ID: Level 4
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
81 Bromochloromethan	683549	410129	956969	648629	-5.11
97 1,4-Difluorobenze	2204815	1322889	3086741	2091071	-5.16
126 Chlorobenzene-d5	1812979	1087787	2538171	1761271	-2.85

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
81 Bromochloromethan	14.40	14.07	14.73	14.40	0.00
97 1,4-Difluorobenze	16.17	15.84	16.50	16.17	0.00
126 Chlorobenzene-d5	21.37	21.04	21.70	21.34	-0.13

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /chem/msd7.i/7-18oct.b/7101805.d

Date : 18-OCT-2007 14:47

Client ID: Level 4

Sample Info: 25mL #1576-50

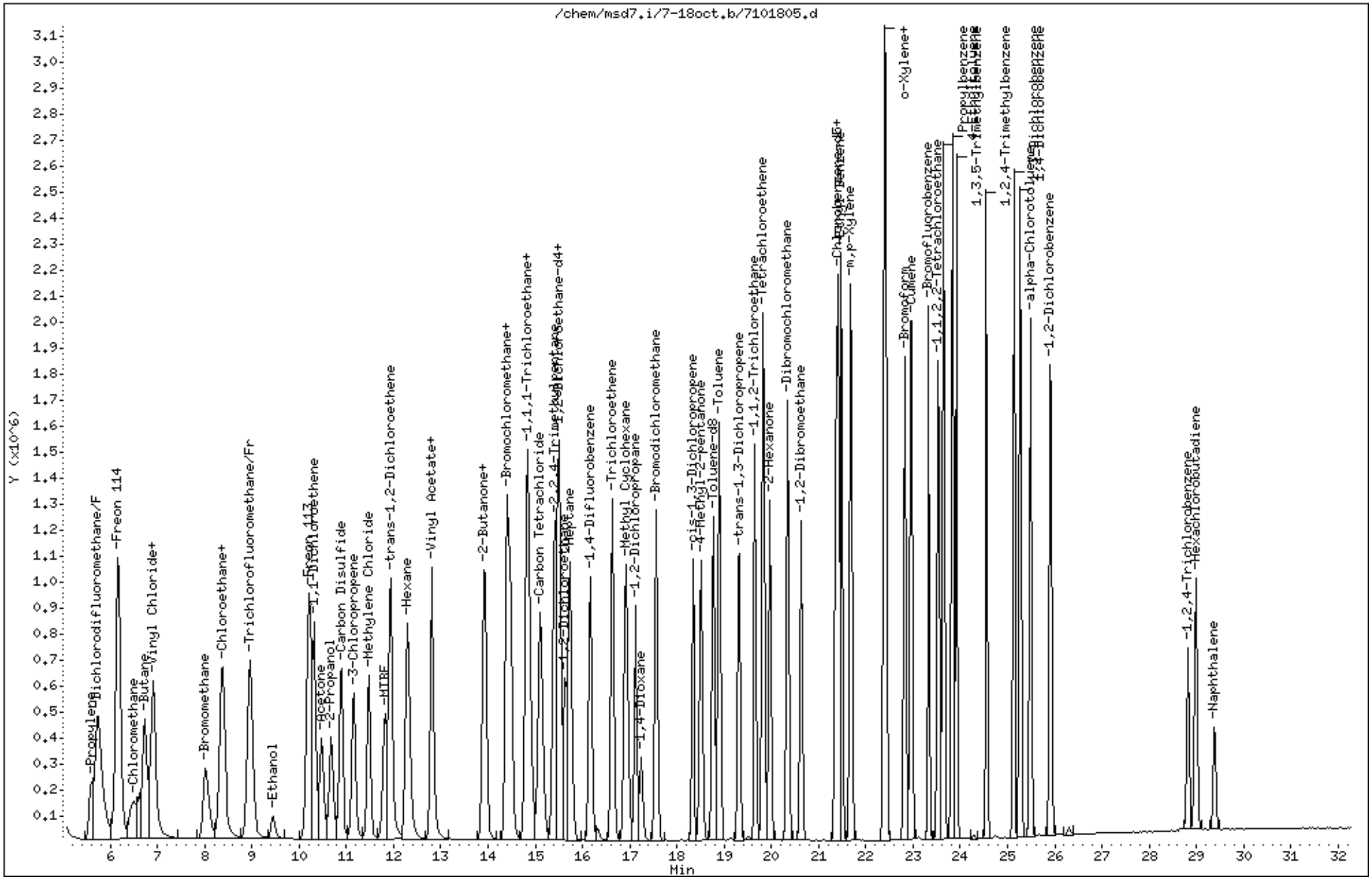
Column phase: RTx-624

Instrument: msd7.i

Operator: cb

Column diameter: 0.53

0282



Air Toxics Ltd.

AMBIENT AIR METHOD TO14

Data file : /chem/msd7.i/7-30oct.b/7103004.d
Lab Smp Id: ICAL Client Smp ID: Level 5
Inj Date : 30-OCT-2007 10:29
Operator : cb Inst ID: msd7.i
Smp Info : 50mL #1487-400
Misc Info : 200ppbv --> 50ppbv 1200ppbv --> 300ppbv MeOH
Comment :
Method : /chem/msd7.i/7-30oct.b/t14qO18b.m
Meth Date : 30-Oct-2007 11:34 cbond Quant Type: ISTD
Cal Date : 30-OCT-2007 10:29 Cal File: 7103004.d
Als bottle: 1 Calibration Sample, Level: 5
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: sp1c.sub
Target Version: 3.50 Sample Matrix: AIR
Processing Host: eeyore

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS CAL-AMT (PPBV)	AMOUNTS ON-COL (PPBV)	TARGET RANGE	RATIO
* 81 Bromochloromethane					CAS #: 74-97-5		
14.416	14.416 (1.000)	130	486199	25.0000		80.00- 120.00	100.00
14.416	14.416 (1.000)	128	373087			26.74- 126.74	76.74
14.416	14.416 (1.000)	49	687796			91.46- 191.46	141.46
* 97 1,4-Difluorobenzene					CAS #: 540-36-3		
16.186	16.186 (1.000)	114	1616415	25.0000		80.00- 120.00	100.00
16.158	16.158 (1.000)	88	244505			0.00- 65.13	15.13
* 126 Chlorobenzene-d5					CAS #: 3114-55-4		
21.356	21.356 (1.000)	117	1130394	25.0000		80.00- 120.00	100.00
21.356	21.356 (1.000)	82	593319			4.45- 104.45	52.49
26 Methanol					CAS #: 67-56-1		
7.588	7.588 (0.526)	31	2404086	300.000	289.56	80.00- 120.00	100.00
7.588	7.588 (0.526)	32	1583298			15.86- 115.86	65.86

Report Date: 30-Oct-2007 11:34

Air Toxics Ltd.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd7.i
Lab File ID: 7103004.d
Lab Smp Id: ICAL
Analysis Type: VOA
Quant Type: ISTD
Operator: cb
Method File: /chem/msd7.i/7-30oct.b/t14qO18b.m
Misc Info: 200ppbv --> 50ppbv 1200ppbv --> 300ppbv MeOH

Calibration Date: 30-OCT-2007
Calibration Time: 10:29
Client Smp ID: Level 5
Level: LOW
Sample Type: AIR

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
81 Bromochloromethan	486199	291719	680679	486199	0.00
97 1,4-Difluorobenze	1616415	969849	2262981	1616415	0.00
126 Chlorobenzene-d5	1130394	678236	1582552	1130394	0.00

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
81 Bromochloromethan	14.42	14.09	14.75	14.42	0.00
97 1,4-Difluorobenze	16.19	15.86	16.52	16.19	0.00
126 Chlorobenzene-d5	21.36	21.03	21.69	21.36	0.00

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /chem/msd7.i/7-30oct.b/7103004.d

Date : 30-OCT-2007 10:29

Client ID: Level 5

Sample Info: 50mL #1487-400

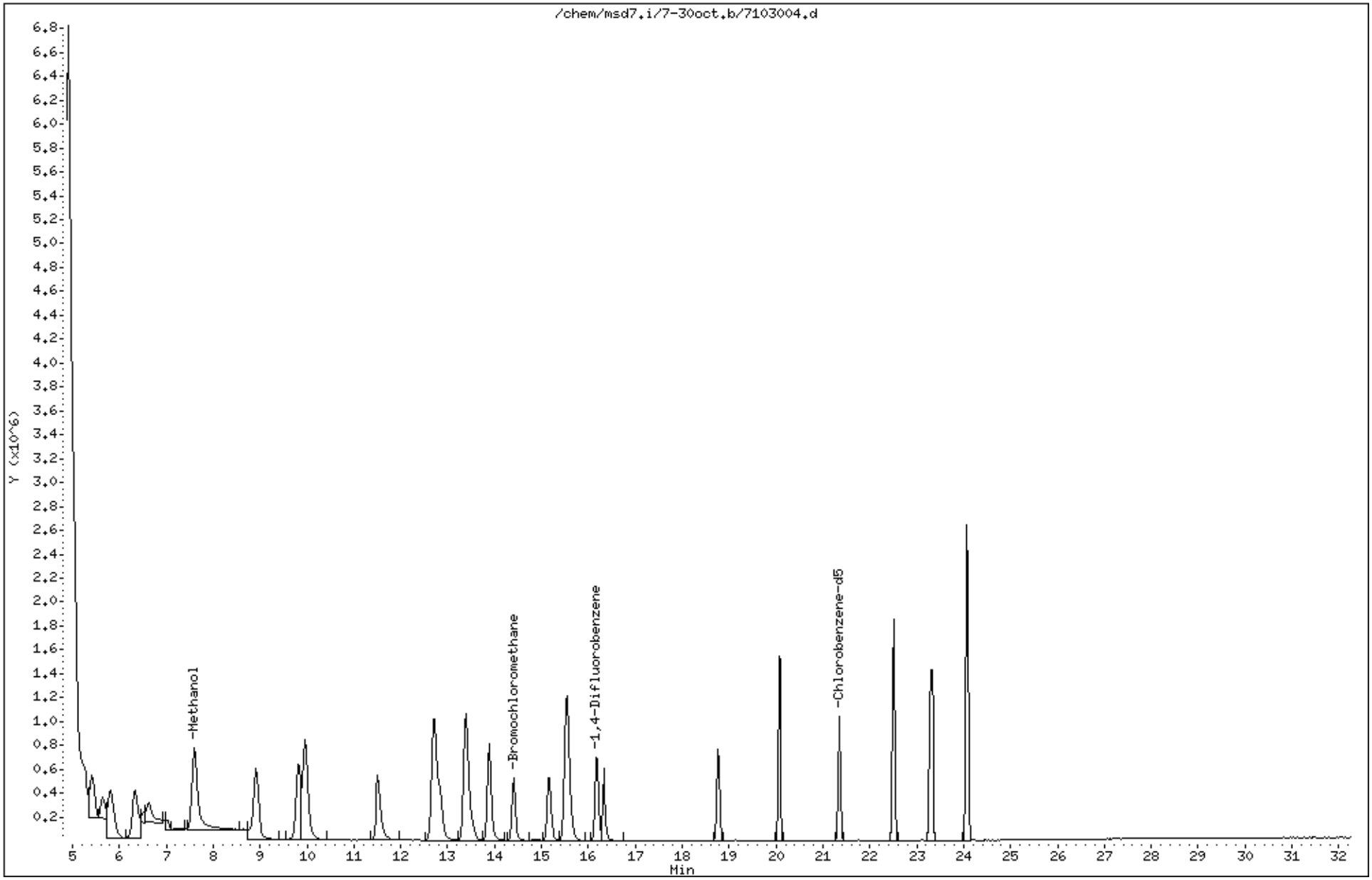
Column phase: RTx-624

Instrument: msd7.i

Operator: cb

Column diameter: 0.53

0285



Air Toxics Ltd.

AMBIENT AIR METHOD TO14

Data file : /chem/msd7.i/7-22oct.b/7102206.d
Lab Smp Id: ICAL Client Smp ID: Level 5
Inj Date : 22-OCT-2007 11:44
Operator : cb Inst ID: msd7.i
Smp Info : 50mL #1487-370
Misc Info : 200ppbv --> 50ppbv
Comment :
Method : /chem/msd7.i/7-22oct.b/t14qO18b.m
Meth Date : 22-Oct-2007 13:49 sscott Quant Type: ISTD
Cal Date : 22-OCT-2007 11:44 Cal File: 7102206.d
Als bottle: 1 Calibration Sample, Level: 5
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: sp16b.sub
Target Version: 3.50 Sample Matrix: AIR
Processing Host: eeyore

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS CAL-AMT (PPBV)	AMOUNTS ON-COL (PPBV)	TARGET RANGE	RATIO
* 81 Bromochloromethane					CAS #: 74-97-5		
14.402	14.402 (1.000)	130	653745	25.0000		80.00- 120.00	100.00
14.402	14.402 (1.000)	128	501927			26.78- 126.78	76.78
14.402	14.402 (1.000)	49	962603			97.24- 197.24	147.24
* 97 1,4-Difluorobenzene					CAS #: 540-36-3		
16.172	16.172 (1.000)	114	2055535	25.0000		80.00- 120.00	100.00
16.172	16.172 (1.000)	88	321836			0.00- 65.66	15.66
* 126 Chlorobenzene-d5					CAS #: 3114-55-4		
21.342	21.342 (1.000)	117	1681036	25.0000		80.00- 120.00	100.00
21.342	21.342 (1.000)	82	930753			5.19- 105.19	55.37
55 Cyclopentene					CAS #: 142-29-0		
11.250	11.250 (0.781)	67	6338028	50.0000	52.035	80.00- 120.00	100.00
11.250	11.250 (0.781)	68	2569210			0.00- 90.48	40.54
11.250	11.250 (0.781)	53	1314450			0.00- 70.85	20.74
78 2,2-Dichloropropane					CAS #: 594-20-7		
13.877	13.877 (0.964)	77	4020302	50.0000	52.711	80.00- 120.00	100.00

```
                                          AMOUNTS
                                       CAL-AMT   ON-COL
   RT   EXP RT (REL RT)  MASS  RESPONSE ( PPBV)  ( PPBV)   TARGET RANGE    RATIO
   ==   ====== ========  ====  ======== =======  =======   ============    =====

   78 2,2-Dichloropropane (continued)
 13.877  13.877 (0.964)    79   1308053                     0.00-  82.54    32.54
 13.877  13.877 (0.964)    97    801913                     0.00-  70.03    19.95
-------------------------------------------------------------------------------
   88 1,1-Dichloropropene                          CAS #: 563-58-6
 15.121  15.121 (0.935)   110   1484028 50.0000   53.552  80.00- 120.00   100.00
 15.121  15.121 (0.935)    75   4019552                   218.22- 318.22   270.85
-------------------------------------------------------------------------------
  118 1,3-Dichloropropane                          CAS #: 142-28-9
 19.988  19.988 (1.236)    76   4474167 50.0000   54.223  80.00- 120.00   100.00
 19.988  19.988 (1.236)    41   3238032                    22.37- 122.37    72.37
 19.988  19.988 (1.236)    78   1429445                     0.00-  81.77    31.95
-------------------------------------------------------------------------------
  125 1,1,1,2-Tetrachloroethane                    CAS #: 630-20-6
 21.536  21.536 (1.009)   131   3235607 50.0000   53.976  80.00- 120.00   100.00
 21.536  21.536 (1.009)   117   2225982                    18.93- 118.93    68.80
 21.508  21.508 (1.008)    95   1265610                     0.00-  89.37    39.12
-------------------------------------------------------------------------------
  136 Bromobenzene                                 CAS #: 108-86-1
 23.610  23.610 (1.106)   156   3872849 50.0000   55.062  80.00- 120.00   100.00
 23.610  23.610 (1.106)   158   3741648                    46.61- 146.61    96.61
 23.610  23.610 (1.106)    77   7718215                   147.77- 247.77   199.29
-------------------------------------------------------------------------------
  138 1,2,3-Trichloropropane                       CAS #: 96-18-4
 23.665  23.665 (1.109)   110   1790961 50.0000   54.413  80.00- 120.00   100.00
 23.665  23.665 (1.109)    75   5405655                   251.83- 351.83   301.83
 23.665  23.665 (1.109)    61   1399772                    26.84- 126.84    78.16
-------------------------------------------------------------------------------
  141 2-Chlorotoluene                              CAS #: 95-49-8
 23.886  23.886 (1.119)   126   2802997 50.0000   53.956  80.00- 120.00   100.00
 23.886  23.886 (1.119)    91   8196683                   242.43- 342.43   292.43
 23.886  23.886 (1.119)    65    796656                     0.00-  78.37    28.42
-------------------------------------------------------------------------------
  143 4-Chlorotoluene                              CAS #: 106-43-4
 24.080  24.080 (1.128)   126   3061327 50.0000   55.234  80.00- 120.00   100.00
 24.080  24.080 (1.128)    91   9049733                   245.61- 345.61   295.61
 24.052  24.052 (1.127)    63   1168807                     0.00-  88.24    38.18
-------------------------------------------------------------------------------
  153 p-Cymene                                     CAS #: 99-87-6
 25.020  25.020 (1.172)   119   8782477 50.0000   53.478  80.00- 120.00   100.00
 25.020  25.020 (1.172)   134   2420527                     0.00-  77.89    27.56
 25.020  25.020 (1.172)    91   2231273                     0.00-  74.89    25.41
-------------------------------------------------------------------------------
  154 1,2,3-Trimethylbenzene                       CAS #: 526-73-8
 25.269  25.269 (1.184)   120   3521301 50.0000   54.043  80.00- 120.00   100.00
 25.269  25.269 (1.184)   105   7581391                   165.30- 265.30   215.30
```

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS CAL-AMT (PPBV)	AMOUNTS ON-COL (PPBV)	TARGET RANGE	RATIO
154 1,2,3-Trimethylbenzene (continued)							
25.269	25.269 (1.184)	77	983859			0.00- 78.76	27.94
158 Butylbenzene						CAS #: 104-51-8	
25.711	25.711 (1.205)	134	2345394	50.0000	53.114	80.00- 120.00	100.00
25.683	25.683 (1.203)	91	9453400			353.06- 453.06	403.06
25.683	25.683 (1.203)	92	5362392			181.94- 281.94	228.64
148 tert-Butylbenzene						CAS #: 98-06-6	
24.467	24.467 (1.146)	119	7751126	50.0000	52.355	80.00- 120.00	100.00
24.467	24.467 (1.146)	134	1919419			0.00- 74.76	24.76
24.467	24.467 (1.146)	91	5566932			20.96- 120.96	71.82
149 sec-Butylbenzene						CAS #: 135-98-8	
24.826	24.826 (1.163)	105	10990002	50.0000	53.630	80.00- 120.00	100.00
24.826	24.826 (1.163)	134	2159111			0.00- 69.65	19.65
24.826	24.826 (1.163)	91	1806199			0.00- 65.99	16.43
162 1,2-Dibromo-3-Chloropropane						CAS #: 96-12-8	
27.287	27.287 (1.279)	157	2721900	50.0000	51.363	80.00- 120.00	100.00
27.287	27.287 (1.279)	75	2358984			36.67- 136.67	86.67
27.287	27.287 (1.279)	155	2114262			28.87- 128.87	77.68
201 Pentachloroethane						CAS #: 76-01-7	
24.605	24.605 (1.153)	167	2362276	50.0000	53.370	80.00- 120.00	100.00
24.605	24.605 (1.153)	117	2494933			54.36- 154.36	105.62
24.605	24.605 (1.153)	169	1140247			0.00- 97.70	48.27

Report Date: 22-Oct-2007 13:49

Air Toxics Ltd.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd7.i
Lab File ID: 7102206.d
Lab Smp Id: ICAL
Analysis Type: VOA
Quant Type: ISTD
Operator: cb
Method File: /chem/msd7.i/7-22oct.b/t14qO18b.m
Misc Info: 200ppbv --> 50ppbv

Calibration Date: 22-OCT-2007
Calibration Time: 11:44
Client Smp ID: Level 5
Level: LOW
Sample Type: AIR

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
81 Bromochloromethan	653745	392247	915243	653745	0.00
97 1,4-Difluorobenze	2055535	1233321	2877749	2055535	0.00
126 Chlorobenzene-d5	1681036	1008622	2353450	1681036	0.00

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
81 Bromochloromethan	14.40	14.07	14.73	14.40	0.00
97 1,4-Difluorobenze	16.17	15.84	16.50	16.17	0.00
126 Chlorobenzene-d5	21.34	21.01	21.67	21.34	0.00

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /chem/msd7.i/7-22oct.b/7102206.d

Date : 22-OCT-2007 11:44

Client ID: Level 5

Sample Info: 50mL #1487-370

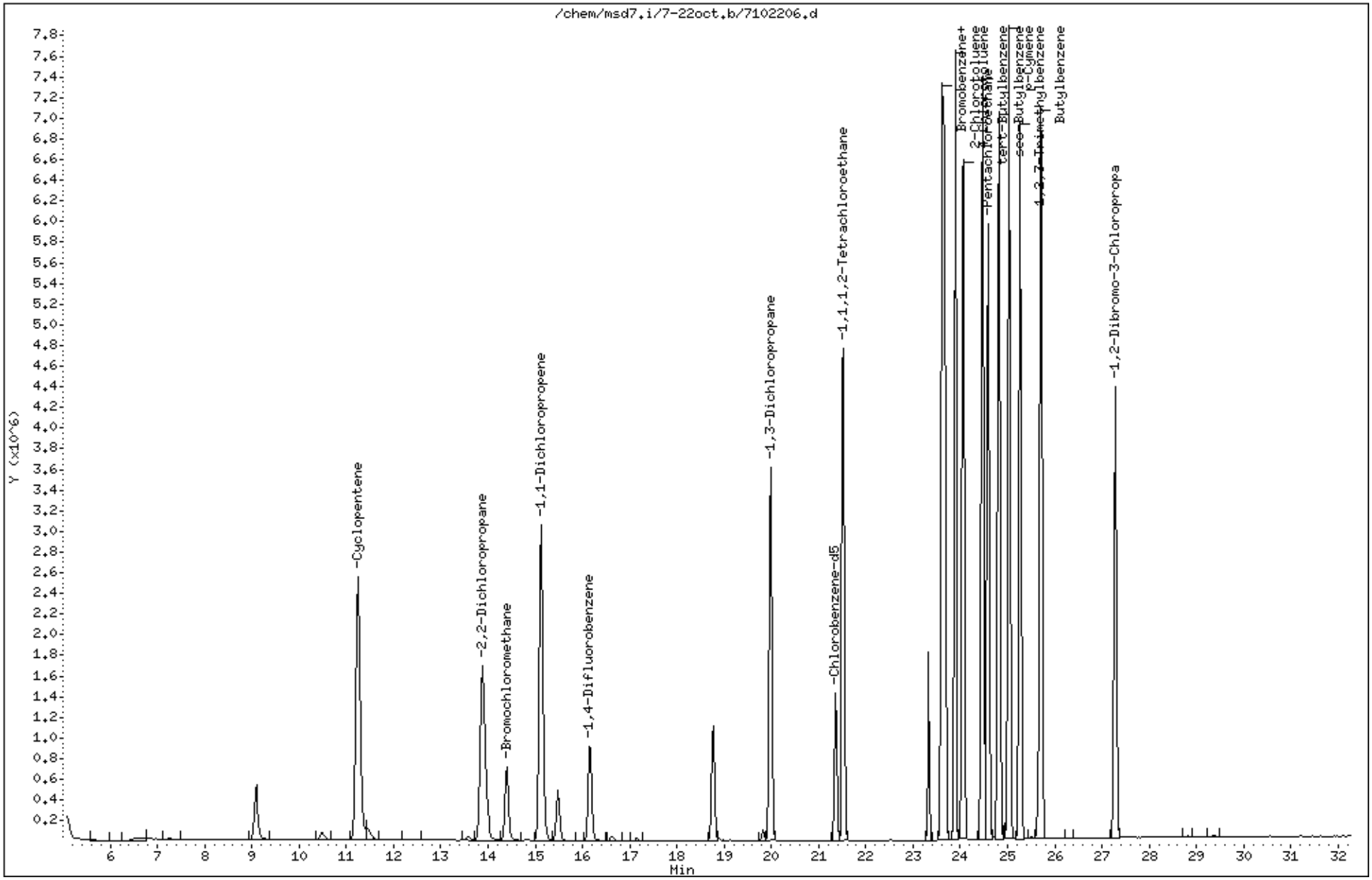
Column phase: RTx-624

Instrument: msd7.i

Operator: cb

Column diameter: 0.53

0290



Air Toxics Ltd.

AMBIENT AIR METHOD TO14

Data file : /chem/msd7.i/7-19oct.b/7101904.d
Lab Smp Id: ICAL Client Smp ID: Level 5
Inj Date : 19-OCT-2007 11:00
Operator : cb Inst ID: msd7.i
Smp Info : 50mL #1487-400
Misc Info : 200ppbv --> 50ppbv
Comment :
Method : /chem/msd7.i/7-19oct.b/t14qO18a.m
Meth Date : 19-Oct-2007 12:11 cbond Quant Type: ISTD
Cal Date : 19-OCT-2007 11:00 Cal File: 7101904.d
Als bottle: 1 Calibration Sample, Level: 5
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: sp22a.sub
Target Version: 3.50 Sample Matrix: AIR
Processing Host: eeyore

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS CAL-AMT (PPBV)	AMOUNTS ON-COL (PPBV)	TARGET RANGE	RATIO
* 81 Bromochloromethane					CAS #: 74-97-5		
14.402	14.402 (1.000)	130	694127	25.0000		80.00- 120.00	100.00
14.402	14.402 (1.000)	128	531772			26.61- 126.61	76.61
14.402	14.402 (1.000)	49	1021801			97.21- 197.21	147.21
* 97 1,4-Difluorobenzene					CAS #: 540-36-3		
16.172	16.172 (1.000)	114	2223212	25.0000		80.00- 120.00	100.00
16.172	16.172 (1.000)	88	354725			0.00- 65.96	15.96
* 126 Chlorobenzene-d5					CAS #: 3114-55-4		
21.370	21.370 (1.000)	117	1779964	25.0000		80.00- 120.00	100.00
21.342	21.342 (1.000)	82	986509			5.24- 105.24	55.42
5 Freon 143a					CAS #: 420-46-2		
5.306	5.306 (0.368)	65	766302	50.0000	49.911	80.00- 120.00	100.00
5.223	5.223 (0.363)	69	6741914			0.00- 50.00	879.80
5.278	5.278 (0.366)	64	224377			0.00- 76.18	29.28
6 Freon142b					CAS #: 75-68-3		
6.356	6.356 (0.441)	65	3144007	50.0000	49.820	80.00- 120.00	100.00

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS CAL-AMT (PPBV)	AMOUNTS ON-COL (PPBV)	TARGET RANGE	RATIO
6 Freon142b (continued)							
6.329	6.329 (0.439)	45	770144			0.00- 74.42	24.50
13 Freon 134a					CAS #: 811-97-2		
5.444	5.444 (0.378)	83	1490027	50.0000	49.641	80.00- 120.00	100.00
5.223	5.223 (0.363)	69	6741914			409.04- 509.04	452.47
5.444	5.444 (0.378)	63	197636			0.00- 63.70	13.26
15 Freon 152a					CAS #: 75-37-6		
5.665	5.665 (0.393)	65	1071725	50.0000	49.165	80.00- 120.00	100.00
5.665	5.665 (0.393)	51	1716739			110.12- 210.12	160.18
5.665	5.665 (0.393)	47	437796			0.00- 90.40	40.85
17 Freon 22					CAS #: 75-45-6		
5.803	5.803 (0.403)	51	3429656	50.0000	48.340	80.00- 120.00	100.00
5.803	5.803 (0.403)	67	407051			0.00- 61.77	11.87
5.831	5.831 (0.405)	85	45824			0.00- 51.67	1.34
34 Dichlorofluoromethane/Fr21					CAS #: 75-43-4		
8.928	8.928 (0.620)	67	3121227	50.0000	50.694	80.00- 120.00	100.00
8.928	8.928 (0.620)	69	981436			0.00- 81.12	31.44
8.928	8.928 (0.620)	35	88167			0.00- 53.83	2.82
40 Freon123a					CAS #: 354-23-4		
9.813	9.813 (0.681)	117	1871544	50.0000	54.425	80.00- 120.00	100.00
9.813	9.813 (0.681)	67	2736149			110.97- 210.97	146.20
41 Freon123					CAS #: 306-83-2		
9.978	9.978 (0.693)	83	3184755	50.0000	51.277	80.00- 120.00	100.00
9.978	9.978 (0.693)	133	627762			0.00- 69.52	19.71
9.978	9.978 (0.693)	85	2260913			22.16- 122.16	70.99
57 tert-Butyl-Alcohol					CAS #: 75-65-0		
11.527	11.527 (0.800)	59	3711893	50.0000	51.792	80.00- 120.00	100.00
11.527	11.527 (0.800)	41	752755			0.00- 73.42	20.28
11.527	11.527 (0.800)	57	362771			0.00- 60.26	9.77
68 Isopropyl ether					CAS #: 108-20-3		
12.716	12.716 (0.883)	45	6578708	50.0000	52.939	80.00- 120.00	100.00
12.716	12.716 (0.883)	87	1520476			0.00- 73.31	23.11
12.716	12.716 (0.883)	59	520306			0.00- 58.30	7.91
71 1-Propanol					CAS #: 71-23-8		
12.854	12.854 (0.892)	42	425719	50.0000	57.194	80.00- 120.00	100.00
12.854	12.854 (0.892)	59	638506			95.91- 195.91	149.98
12.716	12.716 (0.883)	41	1236325			265.93- 365.93	290.41

AMOUNTS

RT	EXP RT (REL RT)	MASS	RESPONSE	CAL-AMT (PPBV)	ON-COL (PPBV)	TARGET RANGE	RATIO
73 t-Butylethyl Ether					CAS #: 637-92-3		
13.379	13.379 (0.929)	59	5651281	50.0000	54.203	80.00- 120.00	100.00
13.379	13.379 (0.929)	87	2181708			0.00- 88.95	38.61
13.379	13.379 (0.929)	41	981804			0.00- 67.89	17.37
77 Ethyl Acetate					CAS #: 141-78-6		
13.877	13.877 (0.964)	45	620455	50.0000	53.330	80.00- 120.00	100.00
13.877	13.877 (0.964)	61	597626			49.04- 149.04	96.32
13.877	13.877 (0.964)	43	4293069			622.55- 722.55	691.92
92 tert-amyl-Methyl Ether					CAS #: 994-05-8		
15.536	15.536 (1.079)	73	4149237	50.0000	54.724	80.00- 120.00	100.00
15.564	15.564 (1.081)	87	972129			0.00- 73.71	23.43
15.536	15.536 (1.079)	55	1097280			0.00- 78.56	26.45
96 2-Heptanone					CAS #: 110-43-0		
22.504	22.504 (1.562)	58	2609217	50.0000	61.498	80.00- 120.00	100.00
22.504	22.504 (1.562)	43	4102315			108.53- 208.53	157.22
98 1-Butanol					CAS #: 71-36-3		
16.338	16.338 (1.010)	56	1222941	50.0000	62.304	80.00- 120.00	100.00
16.338	16.338 (1.010)	41	881157			21.86- 121.86	72.05
16.338	16.338 (1.010)	43	677934			9.15- 109.15	55.43
99 Isobutanol					CAS #: 78-83-1		
15.149	15.149 (1.052)	59	42901	50.0000	62.469	80.00- 120.00	100.00
15.149	15.149 (1.052)	41	1065866			2630.47-2730.47	2484.48
15.149	15.149 (1.052)	43	1475416			3703.83-3803.83	3439.12
119 Butyl Acetate					CAS #: 123-86-4		
20.070	20.070 (1.241)	56	1830296	50.0000	59.304	80.00- 120.00	100.00
20.070	20.070 (1.241)	73	585535			0.00- 81.99	31.99
20.070	20.070 (1.241)	43	4559849			199.13- 299.13	249.13
135 Cyclohexanone					CAS #: 108-94-1		
23.278	23.278 (1.089)	55	1834532	50.0000	54.771	80.00- 120.00	100.00
23.278	23.278 (1.089)	98	769278			0.00- 90.06	41.93
23.278	23.278 (1.089)	42	1263933			16.60- 116.60	68.90
146 Diisobutyl Ketone					CAS #: 108-83-8		
24.080	24.080 (1.127)	57	4306488	50.0000	53.933	80.00- 120.00	100.00
24.080	24.080 (1.127)	85	3477655			30.75- 130.75	80.75
0.000	1.000 (0.000)	0	0			0.00- 50.00	0.00

Report Date: 19-Oct-2007 12:11

Air Toxics Ltd.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd7.i
Lab File ID: 7101904.d
Lab Smp Id: ICAL
Analysis Type: VOA
Quant Type: ISTD
Operator: cb
Method File: /chem/msd7.i/7-19oct.b/t14qO18a.m
Misc Info: 200ppbv --> 50ppbv

Calibration Date: 19-OCT-2007
Calibration Time: 11:00
Client Smp ID: Level 5
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
81 Bromochloromethan	694127	416476	971778	694127	0.00
97 1,4-Difluorobenze	2223212	1333927	3112497	2223212	0.00
126 Chlorobenzene-d5	1779964	1067978	2491950	1779964	0.00

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
81 Bromochloromethan	14.40	14.07	14.73	14.40	0.00
97 1,4-Difluorobenze	16.17	15.84	16.50	16.17	0.00
126 Chlorobenzene-d5	21.37	21.04	21.70	21.37	0.00

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /chem/msd7.i/7-19oct.b/7101904.d

Date : 19-OCT-2007 11:00

Client ID: Level 5

Sample Info: 50mL #1487-400

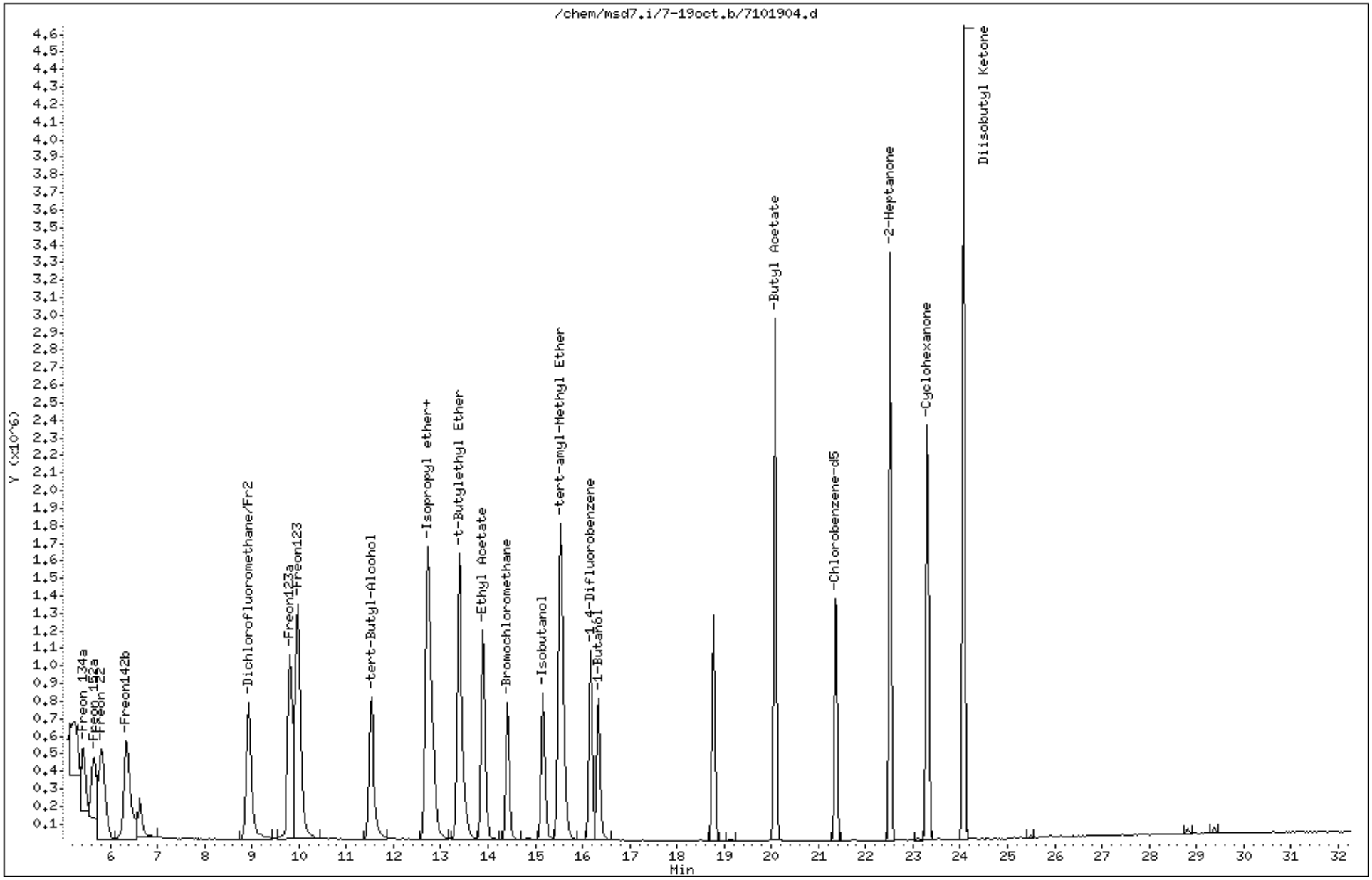
Column phase: RTx-624

Instrument: msd7.i

Operator: cb

Column diameter: 0.53

0295



Air Toxics Ltd.

AMBIENT AIR METHOD TO14

Data file : /chem/msd7.i/7-18oct.b/7101806.d
Lab Smp Id: ICAL Client Smp ID: Level 5
Inj Date : 18-OCT-2007 15:26
Operator : cb Inst ID: msd7.i
Smp Info : 50mL #1576-50
Misc Info : 200ppbv --> 50ppbv
Comment :
Method : /chem/msd7.i/7-18oct.b/t14qO18a.m
Meth Date : 18-Oct-2007 15:55 cbond Quant Type: ISTD
Cal Date : 18-OCT-2007 15:26 Cal File: 7101806.d
Als bottle: 1 Calibration Sample, Level: 5
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: AT04mdl+ENSR.sub
Target Version: 3.50 Sample Matrix: AIR
Processing Host: eeyore

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS CAL-AMT (PPBV)	AMOUNTS ON-COL (PPBV)	TARGET RANGE	RATIO
* 81 Bromochloromethane					CAS #: 74-97-5		
14.402	14.402 (1.000)	130	683549	25.0000		80.00- 120.00	100.00
14.402	14.402 (1.000)	128	526020			26.95- 126.95	76.95
14.402	14.402 (1.000)	49	1309838			141.62- 241.62	191.62
* 97 1,4-Difluorobenzene					CAS #: 540-36-3		
16.172	16.172 (1.000)	114	2204815	25.0000		80.00- 120.00	100.00
16.172	16.172 (1.000)	88	346032			0.00- 65.69	15.69
* 126 Chlorobenzene-d5					CAS #: 3114-55-4		
21.370	21.370 (1.000)	117	1812979	25.0000		80.00- 120.00	100.00
21.342	21.342 (1.000)	82	1018657			5.45- 105.45	56.19
$ 90 1,2-Dichloroethane-d4					CAS #: 17060-07-0		
15.508	15.508 (1.077)	65	902272	25.0000	24.576	80.00- 120.00	100.00
15.508	15.508 (1.077)	67	497167			1.44- 101.44	55.10
$ 113 Toluene-d8					CAS #: 2037-26-5		
18.771	18.771 (1.161)	98	1988860	25.0000	25.725	80.00- 120.00	100.00
18.771	18.771 (1.161)	70	232527			0.00- 61.47	11.69

AMOUNTS

RT	EXP RT (REL RT)	MASS	RESPONSE	CAL-AMT (PPBV)	ON-COL (PPBV)	TARGET RANGE	RATIO
$ 113 Toluene-d8 (continued)							
18.771	18.771 (1.161)	100	1398815			19.08- 119.08	70.33
$ 137 Bromofluorobenzene						CAS #: 460-00-4	
23.333	23.333 (1.092)	174	1084886	25.0000	24.933	80.00- 120.00	100.00
23.333	23.333 (1.092)	95	1375583			76.80- 176.80	126.80
23.333	23.333 (1.092)	176	1042148			46.06- 146.06	96.06
11 Propylene						CAS #: 115-07-1	
5.610	5.610 (0.390)	41	1415032	50.0000	48.553	80.00- 120.00	100.00
5.610	5.610 (0.390)	42	982874			22.00- 122.00	69.46
5.610	5.610 (0.390)	39	1047010			25.14- 125.14	73.99
12 Dichlorodifluoromethane/Fr12						CAS #: 75-71-8	
5.748	5.748 (0.399)	85	5298030	50.0000	48.980	80.00- 120.00	100.00
5.748	5.748 (0.399)	87	1667645			0.00- 83.21	31.48
16 Freon 114						CAS #: 76-14-2	
6.218	6.218 (0.432)	135	3652709	50.0000	47.806	80.00- 120.00	100.00
6.218	6.218 (0.432)	137	1161951			0.00- 81.81	31.81
18 Chloromethane						CAS #: 74-87-3	
6.522	6.522 (0.453)	50	1693664	50.0000	47.987	80.00- 120.00	100.00
6.522	6.522 (0.453)	52	575628			0.00- 85.25	33.99
20 Vinyl Chloride						CAS #: 75-01-4	
6.882	6.882 (0.478)	62	2169718	50.0000	48.872	80.00- 120.00	100.00
6.882	6.882 (0.478)	64	690774			0.00- 83.70	31.84
22 1,3-Butadiene						CAS #: 106-99-0	
6.937	6.937 (0.482)	54	1604484	50.0000	52.666	80.00- 120.00	100.00
6.937	6.937 (0.482)	39	1626075			57.11- 157.11	101.35
25 Bromomethane						CAS #: 74-83-9	
8.043	8.043 (0.558)	94	1956954	50.0000	51.440	80.00- 120.00	100.00
8.043	8.043 (0.558)	96	1834965			43.77- 143.77	93.77
27 Chloroethane						CAS #: 75-00-3	
8.375	8.375 (0.581)	64	1036064	50.0000	57.866	80.00- 120.00	100.00
8.375	8.375 (0.581)	49	276958			0.00- 79.97	26.73
8.375	8.375 (0.581)	66	325306			0.00- 83.92	31.40
31 Trichlorofluoromethane/Fr11						CAS #: 75-69-4	
8.956	8.956 (0.622)	101	5127114	50.0000	52.077	80.00- 120.00	100.00
8.983	8.983 (0.624)	103	3298307			14.33- 114.33	64.33

AMOUNTS

RT	EXP RT (REL RT)	MASS	RESPONSE	CAL-AMT (PPBV)	ON-COL (PPBV)	TARGET RANGE	RATIO
38 Ethanol					CAS #: 64-17-5		
9.453	9.453 (0.656)	45	692455	50.0000	54.981	80.00- 120.00	100.00
9.453	9.453 (0.656)	43	138038			0.00- 73.83	19.93
9.453	9.453 (0.656)	46	261445			0.00- 88.26	37.76
42 Freon 113					CAS #: 76-13-1		
10.227	10.227 (0.710)	151	2874533	50.0000	52.399	80.00- 120.00	100.00
10.227	10.227 (0.710)	153	1825117			13.49- 113.49	63.49
10.200	10.200 (0.708)	101	3540517			73.17- 173.17	123.17
43 1,1-Dichloroethene					CAS #: 75-35-4		
10.338	10.338 (0.718)	61	3011437	50.0000	52.373	80.00- 120.00	100.00
10.338	10.338 (0.718)	96	1849526			11.42- 111.42	61.42
10.338	10.338 (0.718)	98	1195426			0.00- 89.70	39.70
45 Acetone					CAS #: 67-64-1		
10.504	10.504 (0.729)	58	914212	50.0000	52.741	80.00- 120.00	100.00
10.504	10.504 (0.729)	43	2796075			245.26- 345.26	305.85
46 2-Propanol					CAS #: 67-63-0		
10.697	10.697 (0.743)	45	3341125	50.0000	56.618	80.00- 120.00	100.00
10.697	10.697 (0.743)	43	786824			0.00- 76.38	23.55
10.670	10.670 (0.741)	59	124809			0.00- 53.64	3.74
47 Carbon Disulfide					CAS #: 75-15-0		
10.891	10.891 (0.756)	76	5750337	50.0000	52.873	80.00- 120.00	100.00
51 3-Chloropropene					CAS #: 107-05-1		
11.168	11.168 (0.775)	76	950362	50.0000	56.560	80.00- 120.00	100.00
11.168	11.168 (0.775)	41	2534016			227.35- 327.35	266.64
54 Methylene Chloride					CAS #: 75-09-2		
11.472	11.472 (0.796)	49	2157693	50.0000	51.348	80.00- 120.00	100.00
11.472	11.472 (0.796)	84	1585590			23.49- 123.49	73.49
11.472	11.472 (0.796)	51	653724			0.00- 80.93	30.30
60 MTBE					CAS #: 1634-04-4		
11.831	11.831 (0.821)	73	3587655	50.0000	50.191	80.00- 120.00	100.00
11.831	11.831 (0.821)	57	828957			0.00- 73.11	23.11
11.831	11.831 (0.821)	41	846055			0.00- 77.06	23.58
61 trans-1,2-Dichloroethene					CAS #: 156-60-5		
11.942	11.942 (0.829)	96	2126458	50.0000	55.255	80.00- 120.00	100.00
11.942	11.942 (0.829)	61	3057162			93.77- 193.77	143.77
11.942	11.942 (0.829)	98	1345621			11.32- 111.32	63.28

AMOUNTS

RT	EXP RT (REL RT)	MASS	RESPONSE	CAL-AMT (PPBV)	ON-COL (PPBV)	TARGET RANGE	RATIO
65 Hexane					CAS #: 110-54-3		
12.301	12.301 (0.854)	57	3008806	50.0000	55.859	80.00- 120.00	100.00
12.301	12.301 (0.854)	43	1950873			18.57- 118.57	64.84
12.301	12.301 (0.854)	86	447575			0.00- 65.04	14.88
69 Vinyl Acetate					CAS #: 108-05-4		
12.799	12.799 (0.889)	86	455231	50.0000	57.233	80.00- 120.00	100.00
12.799	12.799 (0.889)	43	5401152			1159.12-1259.12	1186.46
70 1,1-Dichloroethane					CAS #: 75-34-3		
12.826	12.826 (0.891)	63	3599964	50.0000	54.367	80.00- 120.00	100.00
12.826	12.826 (0.891)	65	1139875			0.00- 81.66	31.66
75 2-Butanone					CAS #: 78-93-3		
13.905	13.905 (0.965)	72	818664	50.0000	62.193	80.00- 120.00	100.00
13.905	13.905 (0.965)	43	3790041			412.95- 512.95	462.95
13.905	13.905 (0.965)	57	288123			0.00- 87.14	35.19
76 cis-1,2-Dichloroethene					CAS #: 156-59-2		
13.932	13.932 (0.967)	61	2561771	50.0000	55.374	80.00- 120.00	100.00
13.932	13.932 (0.967)	96	1913669			24.70- 124.70	74.70
13.932	13.932 (0.967)	98	1211977			0.00- 97.31	47.31
80 Tetrahydrofuran					CAS #: 109-99-9		
14.402	14.402 (1.000)	42	2102531	50.0000	59.452	80.00- 120.00	100.00
14.402	14.402 (1.000)	71	754061			0.00- 85.86	35.86
14.402	14.402 (1.000)	72	820596			0.00- 87.41	39.03
82 Chloroform					CAS #: 67-66-3		
14.485	14.485 (1.006)	83	3686125	50.0000	54.978	80.00- 120.00	100.00
14.485	14.485 (1.006)	85	2406880			15.30- 115.30	65.30
83 1,1,1-Trichloroethane					CAS #: 71-55-6		
14.845	14.845 (1.031)	97	3640858	50.0000	53.131	80.00- 120.00	100.00
14.845	14.845 (1.031)	99	2345271			14.42- 114.42	64.42
85 Cyclohexane					CAS #: 110-82-7		
14.845	14.845 (1.031)	84	2138441	50.0000	57.422	80.00- 120.00	100.00
14.845	14.845 (1.031)	56	2718812			77.14- 177.14	127.14
14.845	14.845 (1.031)	41	1560161			22.96- 122.96	72.96
87 Carbon Tetrachloride					CAS #: 56-23-5		
15.094	15.094 (1.048)	119	3463048	50.0000	53.939	80.00- 120.00	100.00
15.094	15.094 (1.048)	117	3609254			54.22- 154.22	104.22
91 Benzene					CAS #: 71-43-2		
15.508	15.508 (0.959)	78	4811071	50.0000	56.318	80.00- 120.00	100.00

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS CAL-AMT (PPBV)	AMOUNTS ON-COL (PPBV)	TARGET RANGE	RATIO
91 Benzene (continued)							
15.508	15.508 (0.959)	77	1049814			0.00- 71.80	21.82
89 2,2,4-Trimethylpentane					CAS #: 540-84-1		
15.426	15.426 (1.071)	57	7449400	50.0000	57.351	80.00- 120.00	100.00
15.426	15.426 (1.071)	56	2538112			0.00- 84.72	34.07
15.426	15.426 (1.071)	41	2024280			0.00- 79.98	27.17
93 1,2-Dichloroethane					CAS #: 107-06-2		
15.647	15.647 (0.968)	62	2450001	50.0000	52.215	80.00- 120.00	100.00
15.647	15.647 (0.968)	64	778826			0.00- 83.09	31.79
94 Heptane					CAS #: 142-82-5		
15.730	15.730 (0.973)	71	1529856	50.0000	60.023	80.00- 120.00	100.00
15.730	15.730 (0.973)	43	2998586			161.50- 261.50	196.00
15.730	15.730 (0.973)	57	1580456			60.75- 160.75	103.31
101 Trichloroethene					CAS #: 79-01-6		
16.642	16.642 (1.029)	95	2098294	50.0000	54.497	80.00- 120.00	100.00
16.642	16.642 (1.029)	130	2078430			49.05- 149.05	99.05
16.642	16.642 (1.029)	97	1362364			14.93- 114.93	64.93
104 1,2-Dichloropropane					CAS #: 78-87-5		
17.112	17.112 (1.058)	63	1815045	50.0000	55.862	80.00- 120.00	100.00
17.140	17.140 (1.060)	62	1334457			23.52- 123.52	73.52
17.112	17.112 (1.058)	41	1125501			12.01- 112.01	62.01
106 1,4-Dioxane					CAS #: 123-91-1		
17.250	17.250 (1.067)	88	1166444	50.0000	56.320	80.00- 120.00	100.00
17.250	17.250 (1.067)	58	834019			21.50- 121.50	71.50
17.250	17.250 (1.067)	57	275329			0.00- 74.96	23.60
107 Bromodichloromethane					CAS #: 75-27-4		
17.555	17.555 (1.085)	83	3729470	50.0000	55.885	80.00- 120.00	100.00
17.555	17.555 (1.085)	85	2400491			14.37- 114.37	64.37
110 cis-1,3-Dichloropropene					CAS #: 10061-01-5		
18.329	18.329 (1.133)	75	2709608	50.0000	60.260	80.00- 120.00	100.00
18.329	18.329 (1.133)	77	866280			0.00- 81.97	31.97
18.329	18.329 (1.133)	39	1541138			6.88- 106.88	56.88
111 4-Methyl-2-pentanone					CAS #: 108-10-1		
18.522	18.522 (1.145)	58	1532118	50.0000	64.446	80.00- 120.00	100.00
18.522	18.522 (1.145)	43	4010581			226.18- 326.18	261.77
18.522	18.522 (1.145)	85	598542			0.00- 90.90	39.07

AMOUNTS

RT	EXP RT (REL RT)	MASS	RESPONSE	CAL-AMT (PPBV)	ON-COL (PPBV)	TARGET RANGE	RATIO
114 Toluene					CAS #: 108-88-3		
18.882	18.882 (1.168)	91	5242049	50.0000	55.958	80.00- 120.00	100.00
18.882	18.882 (1.168)	92	3304331			13.04- 113.04	63.04
116 trans-1,3-Dichloropropene					CAS #: 10061-02-6		
19.324	19.324 (0.904)	75	2903918	50.0000	59.315	80.00- 120.00	100.00
19.324	19.324 (0.904)	77	919192			0.00- 81.65	31.65
19.296	19.296 (0.903)	39	1525103			2.52- 102.52	52.52
117 1,1,2-Trichloroethane					CAS #: 79-00-5		
19.656	19.656 (0.920)	97	2037297	50.0000	56.012	80.00- 120.00	100.00
19.656	19.656 (0.920)	99	1285217			13.08- 113.08	63.08
19.656	19.656 (0.920)	83	1738135			35.32- 135.32	85.32
120 Tetrachloroethene					CAS #: 127-18-4		
19.822	19.822 (0.928)	166	2630580	50.0000	53.132	80.00- 120.00	100.00
19.822	19.822 (0.928)	129	1904175			22.39- 122.39	72.39
19.822	19.822 (0.928)	131	1836103			19.80- 119.80	69.80
121 2-Hexanone					CAS #: 591-78-6		
19.960	19.960 (0.934)	58	2182082	50.0000	59.476	80.00- 120.00	100.00
19.960	19.960 (0.934)	43	4116153			138.63- 238.63	188.63
19.960	19.960 (0.934)	100	368946			0.00- 67.20	16.91
122 Dibromochloromethane					CAS #: 124-48-1		
20.347	20.347 (0.952)	129	3738274	50.0000	56.568	80.00- 120.00	100.00
20.347	20.347 (0.952)	127	2895663			27.81- 127.81	77.46
123 1,2-Dibromoethane					CAS #: 106-93-4		
20.624	20.624 (0.965)	107	3445162	50.0000	57.543	80.00- 120.00	100.00
20.624	20.624 (0.965)	109	3261446			44.67- 144.67	94.67
127 Chlorobenzene					CAS #: 108-90-7		
21.398	21.398 (1.001)	112	4380087	50.0000	53.577	80.00- 120.00	100.00
21.398	21.398 (1.001)	114	1420303			0.00- 82.43	32.43
21.398	21.398 (1.001)	77	2660829			10.75- 110.75	60.75
128 Ethyl Benzene					CAS #: 100-41-4		
21.481	21.481 (1.005)	106	2271121	50.0000	55.213	80.00- 120.00	100.00
21.481	21.481 (1.005)	91	7073632			261.79- 361.79	311.46
129 m,p-Xylene					CAS #: 108-38-3		
21.674	21.674 (1.014)	106	2878647	50.0000	56.107	80.00- 120.00	100.00
21.674	21.674 (1.014)	91	5612675			144.94- 244.94	194.98
130 o-Xylene					CAS #: 95-47-6		
22.393	22.393 (1.048)	106	2496065	50.0000	55.739	80.00- 120.00	100.00

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                                          AMOUNTS
                                       CAL-AMT   ON-COL
   RT   EXP RT (REL RT)  MASS  RESPONSE ( PPBV)  ( PPBV)   TARGET RANGE    RATIO
   ==   ====== ========  ====  ======== =======  =======   ============    =====

  130 o-Xylene (continued)
 22.393  22.393 (1.048)    91   5108173                  154.65- 254.65   204.65
-------------------------------------------------------------------------------
  131 Styrene                                       CAS #: 100-42-5
 22.421  22.421 (1.049)   104   4186975 50.0000   62.955  80.00- 120.00   100.00
 22.421  22.421 (1.049)    78   2164094                    1.69- 101.69    51.69
-------------------------------------------------------------------------------
  133 Bromoform                                     CAS #: 75-25-2
 22.836  22.836 (1.069)   173   3309894 50.0000   55.947  80.00- 120.00   100.00
 22.836  22.836 (1.069)   171   1695247                    1.22- 101.22    51.22
-------------------------------------------------------------------------------
  134 Cumene                                        CAS #: 98-82-8
 22.974  22.974 (1.075)   105   6354552 50.0000   56.234  80.00- 120.00   100.00
 22.974  22.974 (1.075)   120   1765060                    0.00-  78.15    27.78
 22.946  22.946 (1.074)    51    673484                    0.00-  61.53    10.60
-------------------------------------------------------------------------------
  140 1,1,2,2-Tetrachloroethane                     CAS #: 79-34-5
 23.527  23.527 (1.101)    83   4017577 50.0000   53.077  80.00- 120.00   100.00
 23.527  23.527 (1.101)    85   2585413                   14.35- 114.35    64.35
-------------------------------------------------------------------------------
  142 Propylbenzene                                 CAS #: 103-65-1
 23.637  23.637 (1.106)    91   8303428 50.0000   53.645  80.00- 120.00   100.00
 23.637  23.637 (1.106)   120   1899976                    0.00-  72.99    22.88
 23.637  23.637 (1.106)   105    309581                    0.00-  54.10     3.73
-------------------------------------------------------------------------------
  145 4-Ethyltoluene                                CAS #: 622-96-8
 23.831  23.831 (1.115)   105   7539048 50.0000   56.452  80.00- 120.00   100.00
 23.831  23.831 (1.115)   120   2142451                    0.00-  78.42    28.42
-------------------------------------------------------------------------------
  147 1,3,5-Trimethylbenzene                        CAS #: 108-67-8
 23.914  23.914 (1.119)   105   5408871 50.0000   49.087  80.00- 120.00   100.00
 23.914  23.914 (1.119)   120   3102305                    2.99- 102.99    57.36
-------------------------------------------------------------------------------
  150 1,2,4-Trimethylbenzene                        CAS #: 95-63-6
 24.550  24.550 (1.149)   105   5207980 50.0000   54.062  80.00- 120.00   100.00
 24.550  24.550 (1.149)   120   2539167                    0.00-  98.94    48.76
-------------------------------------------------------------------------------
  155 1,3-Dichlorobenzene                           CAS #: 541-73-1
 25.130  25.130 (1.176)   146   3918753 50.0000   51.464  80.00- 120.00   100.00
 25.130  25.130 (1.176)   148   2506551                   14.63- 114.63    63.96
 25.130  25.130 (1.176)   111   1546766                    0.00-  89.77    39.47
-------------------------------------------------------------------------------
  156 1,4-Dichlorobenzene                           CAS #: 106-46-7
 25.269  25.269 (1.182)   146   4048283 50.0000   50.718  80.00- 120.00   100.00
 25.269  25.269 (1.182)   148   2596227                   13.82- 113.82    64.13
 25.269  25.269 (1.182)   111   1524194                    0.00-  87.22    37.65
-------------------------------------------------------------------------------
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                                          AMOUNTS
                                       CAL-AMT   ON-COL
   RT   EXP RT (REL RT)  MASS  RESPONSE ( PPBV)  ( PPBV)   TARGET RANGE    RATIO
   ==   ====== ========  ====  ======== =======  =======   ============    =====

  159 alpha-Chlorotoluene                          CAS #: 100-44-7
 25.490  25.490 (1.193)    91   5747139 50.0000   58.762  80.00- 120.00   100.00
 25.490  25.490 (1.193)   126   1192032                     0.00-  71.42    20.74
-------------------------------------------------------------------------------
  161 1,2-Dichlorobenzene                          CAS #: 95-50-1
 25.932  25.932 (1.213)   146   3515051 50.0000   49.313  80.00- 120.00   100.00
 25.932  25.932 (1.213)   148   2260098                    14.30- 114.30    64.30
 25.905  25.905 (1.212)   111   1423581                     0.00-  90.50    40.50
-------------------------------------------------------------------------------
  165 1,2,4-Trichlorobenzene                       CAS #: 120-82-1
 28.808  28.808 (1.348)   180   1253115 50.0000   45.723  80.00- 120.00   100.00
 28.808  28.808 (1.348)   182   1198592                    45.65- 145.65    95.65
-------------------------------------------------------------------------------
  166 Hexachlorobutadiene                          CAS #: 87-68-3
 29.001  29.001 (1.357)   225   1025202 50.0000   40.018  80.00- 120.00   100.00
 29.001  29.001 (1.357)   223    641430                    12.70- 112.70    62.57
-------------------------------------------------------------------------------
  167 Naphthalene                                  CAS #: 91-20-3
 29.388  29.388 (1.375)   128   2269503 50.0000   46.617  80.00- 120.00   100.00
 29.388  29.388 (1.375)   127    270609                     0.00-  62.64    11.92
-------------------------------------------------------------------------------
   29 Isopentane                                   CAS #: 78-78-4
  8.375   8.375 (0.581)    43   2382695 50.0000   50.768  80.00- 120.00   100.00
  8.375   8.375 (0.581)    57   1600924                    16.24- 116.24    67.19
-------------------------------------------------------------------------------
   19 Butane                                       CAS #: 106-97-8
  6.771   6.771 (0.470)    58    369130 50.0000   49.345  80.00- 120.00   100.00
  6.771   6.771 (0.470)    43   2976625                   761.40- 861.40   806.39
-------------------------------------------------------------------------------
  102 Methyl Cyclohexane                           CAS #: 108-87-2
 16.919  16.919 (1.175)    83   2615829 50.0000   56.882  80.00- 120.00   100.00
 16.919  16.919 (1.175)    98   1205235                     0.00-  96.29    46.07
 16.919  16.919 (1.175)    55   2319276                    38.64- 138.64    88.66
-------------------------------------------------------------------------------
```

Report Date: 18-Oct-2007 15:55

Air Toxics Ltd.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd7.i
Lab File ID: 7101806.d
Lab Smp Id: ICAL
Analysis Type: VOA
Quant Type: ISTD
Operator: cb
Method File: /chem/msd7.i/7-18oct.b/t14qO18a.m
Misc Info: 200ppbv --> 50ppbv

Calibration Date: 18-OCT-2007
Calibration Time: 15:26
Client Smp ID: Level 5
Level: LOW
Sample Type: AIR

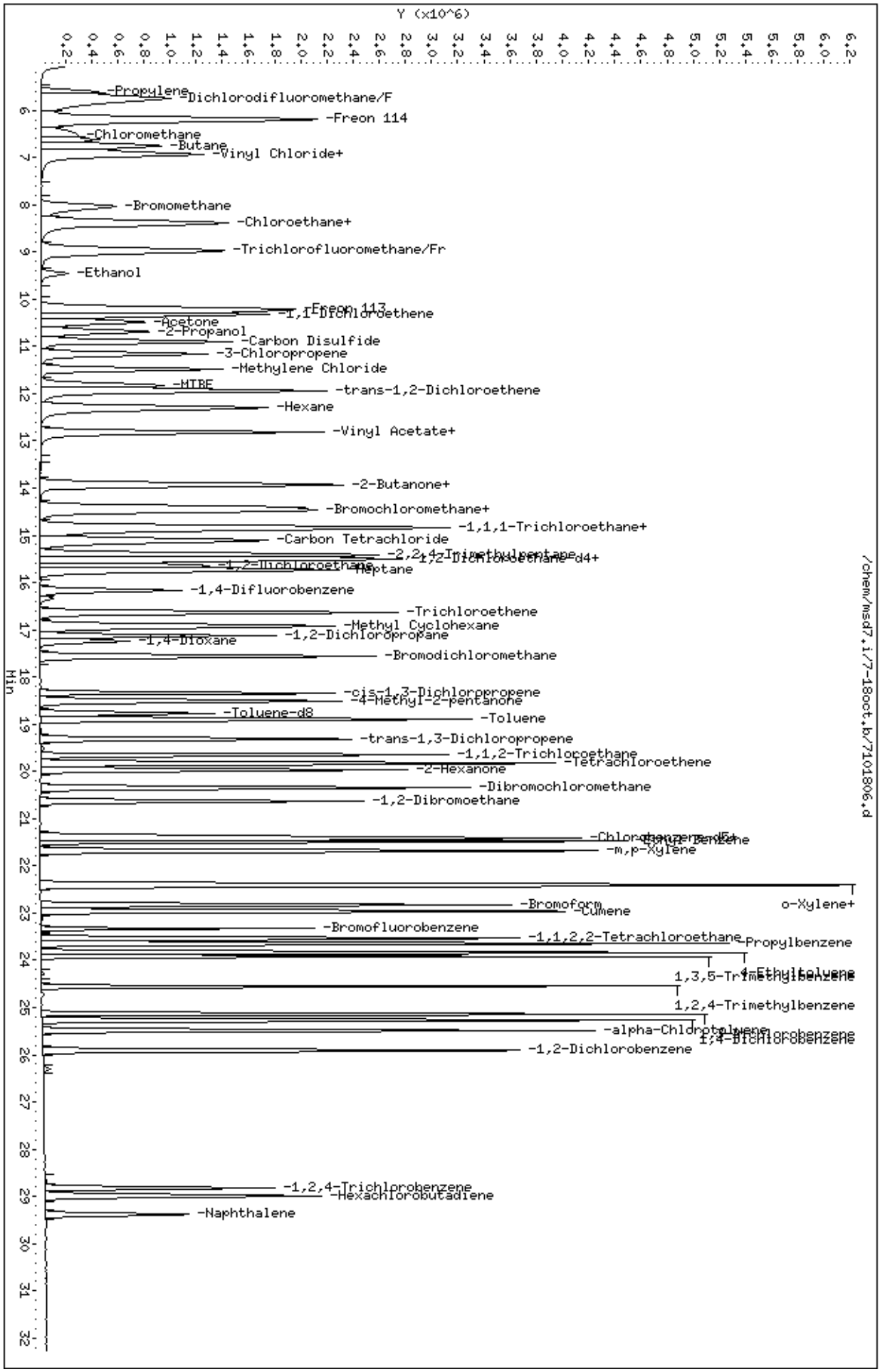
COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
81 Bromochloromethan	683549	410129	956969	683549	0.00
97 1,4-Difluorobenze	2204815	1322889	3086741	2204815	0.00
126 Chlorobenzene-d5	1812979	1087787	2538171	1812979	0.00

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
81 Bromochloromethan	14.40	14.07	14.73	14.40	0.00
97 1,4-Difluorobenze	16.17	15.84	16.50	16.17	0.00
126 Chlorobenzene-d5	21.37	21.04	21.70	21.37	0.00

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /chem/msd7.i/7-18oct.b/7101806.d
Date : 18-OCT-2007 15:26
Client ID: Level 5
Sample Info: 50mL #1576-50
Column phase: RTx-624

Instrument: msd7.i
Operator: cb
Column diameter: 0.53



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Air Toxics Ltd.

AMBIENT AIR METHOD TO14

Data file : /chem/msd7.i/7-18oct.b/7101807.d
Lab Smp Id: ICAL Client Smp ID: Level 6
Inj Date : 18-OCT-2007 16:15
Operator : cb Inst ID: msd7.i
Smp Info : 100mL #1576-50
Misc Info : 200ppbv --> 100ppbv
Comment :
Method : /chem/msd7.i/7-18oct.b/t14qO18a.m
Meth Date : 22-Oct-2007 16:12 dmendoza Quant Type: ISTD
Cal Date : 18-OCT-2007 16:15 Cal File: 7101807.d
Als bottle: 1 Calibration Sample, Level: 6
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: AT04mdl+ENSR.sub
Target Version: 3.50 Sample Matrix: AIR
Processing Host: eeyore

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS CAL-AMT (PPBV)	AMOUNTS ON-COL (PPBV)	TARGET RANGE	RATIO
* 81 Bromochloromethane					CAS #: 74-97-5		
14.402	14.402 (1.000)	130	692933	25.0000		80.00- 120.00	100.00
14.402	14.402 (1.000)	128	535123			26.95- 126.95	77.23
14.402	14.402 (1.000)	49	1712983			141.62- 241.62	247.21
* 97 1,4-Difluorobenzene					CAS #: 540-36-3		
16.172	16.172 (1.000)	114	2281331	25.0000		80.00- 120.00	100.00
16.144	16.172 (1.000)	88	351386			0.00- 65.69	15.40
* 126 Chlorobenzene-d5					CAS #: 3114-55-4		
21.342	21.370 (1.000)	117	1862597	25.0000		80.00- 120.00	100.00
21.342	21.370 (1.000)	82	1017930			5.32- 105.32	54.65
$ 90 1,2-Dichloroethane-d4					CAS #: 17060-07-0		
15.481	15.508 (1.075)	65	913793	25.0000	24.626	80.00- 120.00	100.00
15.481	15.508 (1.075)	67	550511			2.91- 102.91	60.24
$ 113 Toluene-d8					CAS #: 2037-26-5		
18.771	18.771 (1.161)	98	2088251	25.0000	25.914	80.00- 120.00	100.00
18.771	18.771 (1.161)	70	237587			0.00- 61.46	11.38

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS CAL-AMT (PPBV)	AMOUNTS ON-COL (PPBV)	TARGET RANGE	RATIO
$ 113 Toluene-d8 (continued)							
18.771	18.771 (1.161)	100	1454452			19.18- 119.18	69.65
$ 137 Bromofluorobenzene						CAS #: 460-00-4	
23.333	23.333 (1.093)	174	1081956	25.0000	24.333	80.00- 120.00	100.00
23.333	23.333 (1.093)	95	1400916			76.80- 176.80	129.48
23.333	23.333 (1.093)	176	1039964			46.06- 146.06	96.12
11 Propylene						CAS #: 115-07-1	
5.610	5.610 (0.390)	41	2986150	100.000	100.80	80.00- 120.00	100.00
5.610	5.610 (0.390)	42	2053059			21.19- 121.19	68.75
5.610	5.610 (0.390)	39	2206631			24.83- 124.83	73.90
12 Dichlorodifluoromethane/Fr12						CAS #: 75-71-8	
5.748	5.748 (0.399)	85	10930653	100.000	99.747	80.00- 120.00	100.00
5.748	5.748 (0.399)	87	3552505			0.00- 83.07	32.50
16 Freon 114						CAS #: 76-14-2	
6.218	6.218 (0.432)	135	7047529	100.000	92.659	80.00- 120.00	100.00
6.218	6.218 (0.432)	137	2245736			0.00- 81.81	31.87
18 Chloromethane						CAS #: 74-87-3	
6.522	6.522 (0.453)	50	3525852	100.000	98.906	80.00- 120.00	100.00
6.522	6.522 (0.453)	52	1179186			0.00- 84.80	33.44
20 Vinyl Chloride						CAS #: 75-01-4	
6.854	6.882 (0.476)	62	4410236	100.000	98.388	80.00- 120.00	100.00
6.854	6.882 (0.476)	64	1387722			0.00- 83.25	31.47
22 1,3-Butadiene						CAS #: 106-99-0	
6.937	6.937 (0.482)	54	3349709	100.000	106.66	80.00- 120.00	100.00
6.937	6.937 (0.482)	39	3396133			55.97- 155.97	101.39
25 Bromomethane						CAS #: 74-83-9	
8.015	8.043 (0.557)	94	4079688	100.000	104.58	80.00- 120.00	100.00
8.015	8.043 (0.557)	96	3868112			43.77- 143.77	94.81
27 Chloroethane						CAS #: 75-00-3	
8.347	8.375 (0.580)	64	2257754	100.000	118.60	80.00- 120.00	100.00
8.347	8.375 (0.580)	49	605583			0.00- 79.34	26.82
8.347	8.375 (0.580)	66	706033			0.00- 83.15	31.27
31 Trichlorofluoromethane/Fr11						CAS #: 75-69-4	
8.955	8.956 (0.622)	101	10508664	100.000	104.19	80.00- 120.00	100.00
8.955	8.956 (0.622)	103	6789159			14.33- 114.33	64.61

AMOUNTS

RT	EXP RT (REL RT)	MASS	RESPONSE	CAL-AMT (PPBV)	ON-COL (PPBV)	TARGET RANGE	RATIO
38 Ethanol					CAS #: 64-17-5		
9.453	9.453 (0.656)	45	1538559	100.000	114.63	80.00- 120.00	100.00
9.453	9.453 (0.656)	43	304971			0.00- 72.83	19.82
9.453	9.453 (0.656)	46	585137			0.00- 88.20	38.03
42 Freon 113					CAS #: 76-13-1		
10.200	10.227 (0.708)	151	5881542	100.000	104.56	80.00- 120.00	100.00
10.200	10.227 (0.708)	153	3752567			13.49- 113.49	63.80
10.200	10.227 (0.708)	101	7271712			73.17- 173.17	123.64
43 1,1-Dichloroethene					CAS #: 75-35-4		
10.310	10.338 (0.716)	61	6323571	100.000	106.68	80.00- 120.00	100.00
10.310	10.338 (0.716)	96	3889755			11.42- 111.42	61.51
10.310	10.338 (0.716)	98	2479983			0.00- 89.70	39.22
45 Acetone					CAS #: 67-64-1		
10.476	10.504 (0.727)	58	1956828	100.000	108.28	80.00- 120.00	100.00
10.476	10.504 (0.727)	43	5921961			247.10- 347.10	302.63
46 2-Propanol					CAS #: 67-63-0		
10.670	10.697 (0.741)	45	7297517	100.000	115.63	80.00- 120.00	100.00
10.670	10.697 (0.741)	43	1679125			0.00- 75.54	23.01
10.670	10.697 (0.741)	59	288762			0.00- 53.72	3.96
47 Carbon Disulfide					CAS #: 75-15-0		
10.891	10.891 (0.756)	76	12222860	100.000	108.51	80.00- 120.00	100.00
51 3-Chloropropene					CAS #: 107-05-1		
11.140	11.168 (0.773)	76	1968053	100.000	111.22	80.00- 120.00	100.00
11.140	11.168 (0.773)	41	5269936			224.96- 324.96	267.77
54 Methylene Chloride					CAS #: 75-09-2		
11.472	11.472 (0.796)	49	4616250	100.000	106.58	80.00- 120.00	100.00
11.472	11.472 (0.796)	84	3385429			23.49- 123.49	73.34
11.472	11.472 (0.796)	51	1409490			0.00- 80.85	30.53
60 MTBE					CAS #: 1634-04-4		
11.803	11.831 (0.820)	73	5895128	100.000	84.507	80.00- 120.00	100.00
11.803	11.831 (0.820)	57	1393845			0.00- 73.11	23.64
11.803	11.831 (0.820)	41	1331231			0.00- 76.16	22.58
61 trans-1,2-Dichloroethene					CAS #: 156-60-5		
11.914	11.942 (0.827)	96	4428835	100.000	110.53	80.00- 120.00	100.00
11.914	11.942 (0.827)	61	6358416			93.77- 193.77	143.57
11.914	11.942 (0.827)	98	2816096			11.77- 111.77	63.59

AMOUNTS

RT	EXP RT (REL RT)	MASS	RESPONSE	CAL-AMT (PPBV)	ON-COL (PPBV)	TARGET RANGE	RATIO
65 Hexane					CAS #: 110-54-3		
12.301	12.301 (0.854)	57	6432321	100.000	113.75	80.00- 120.00	100.00
12.301	12.301 (0.854)	43	4176945			17.84- 117.84	64.94
12.301	12.301 (0.854)	86	975109			0.00- 65.07	15.16
69 Vinyl Acetate					CAS #: 108-05-4		
12.799	12.799 (0.889)	86	978320	100.000	115.19	80.00- 120.00	100.00
12.771	12.799 (0.887)	43	11490251			1150.46-1250.46	1174.49
70 1,1-Dichloroethane					CAS #: 75-34-3		
12.799	12.826 (0.889)	63	7494739	100.000	109.11	80.00- 120.00	100.00
12.826	12.826 (0.891)	65	2364614			0.00- 81.66	31.55
75 2-Butanone					CAS #: 78-93-3		
13.877	13.905 (0.964)	72	1797732	100.000	125.97	80.00- 120.00	100.00
13.877	13.905 (0.964)	43	8012978			412.95- 512.95	445.73
13.877	13.905 (0.964)	57	616575			0.00- 86.57	34.30
76 cis-1,2-Dichloroethene					CAS #: 156-59-2		
13.905	13.932 (0.965)	61	5289406	100.000	109.97	80.00- 120.00	100.00
13.932	13.932 (0.967)	96	3957657			24.70- 124.70	74.82
13.932	13.932 (0.967)	98	2537854			0.00- 97.31	47.98
80 Tetrahydrofuran					CAS #: 109-99-9		
14.375	14.402 (0.998)	42	4434496	100.000	118.10	80.00- 120.00	100.00
14.375	14.402 (0.998)	71	1625228			0.00- 85.86	36.65
14.375	14.402 (0.998)	72	1749407			0.00- 87.82	39.45
82 Chloroform					CAS #: 67-66-3		
14.458	14.485 (1.004)	83	7416210	100.000	107.48	80.00- 120.00	100.00
14.458	14.485 (1.004)	85	4828164			15.30- 115.30	65.10
83 1,1,1-Trichloroethane					CAS #: 71-55-6		
14.817	14.845 (1.029)	97	7240093	100.000	103.35	80.00- 120.00	100.00
14.817	14.845 (1.029)	99	4660096			14.42- 114.42	64.37
85 Cyclohexane					CAS #: 110-82-7		
14.845	14.845 (1.031)	84	4466769	100.000	114.14	80.00- 120.00	100.00
14.845	14.845 (1.031)	56	5668418			77.14- 177.14	126.90
14.845	14.845 (1.031)	41	3159222			22.96- 122.96	70.73
87 Carbon Tetrachloride					CAS #: 56-23-5		
15.094	15.094 (1.048)	119	6781673	100.000	103.33	80.00- 120.00	100.00
15.094	15.094 (1.048)	117	7039047			54.22- 154.22	103.80
91 Benzene					CAS #: 71-43-2		
15.508	15.508 (0.959)	78	9788721	100.000	108.80	80.00- 120.00	100.00

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS CAL-AMT (PPBV)	AMOUNTS ON-COL (PPBV)	TARGET RANGE	RATIO
91 Benzene (continued)							
15.508	15.508 (0.959)	77	2175873			0.00- 71.87	22.23
89 2,2,4-Trimethylpentane					CAS #: 540-84-1		
15.398	15.426 (1.069)	57	15535652	100.000	113.89	80.00- 120.00	100.00
15.398	15.426 (1.069)	56	5317737			0.00- 84.62	34.23
15.398	15.426 (1.069)	41	4107948			0.00- 79.27	26.44
93 1,2-Dichloroethane					CAS #: 107-06-2		
15.619	15.647 (0.966)	62	4870654	100.000	100.26	80.00- 120.00	100.00
15.619	15.647 (0.966)	64	1562832			0.00- 82.89	32.09
94 Heptane					CAS #: 142-82-5		
15.702	15.730 (0.971)	71	3163902	100.000	115.36	80.00- 120.00	100.00
15.702	15.730 (0.971)	43	6221004			158.53- 258.53	196.62
15.702	15.730 (0.971)	57	3280251			59.34- 159.34	103.68
101 Trichloroethene					CAS #: 79-01-6		
16.642	16.642 (1.029)	95	4228075	100.000	104.84	80.00- 120.00	100.00
16.642	16.642 (1.029)	130	4128816			49.05- 149.05	97.65
16.642	16.642 (1.029)	97	2716108			14.93- 114.93	64.24
104 1,2-Dichloropropane					CAS #: 78-87-5		
17.112	17.112 (1.058)	63	3756119	100.000	109.16	80.00- 120.00	100.00
17.112	17.112 (1.058)	62	2777792			23.52- 123.52	73.95
17.112	17.112 (1.058)	41	2270112			12.01- 112.01	60.44
106 1,4-Dioxane					CAS #: 123-91-1		
17.250	17.250 (1.067)	88	2460610	100.000	110.72	80.00- 120.00	100.00
17.250	17.250 (1.067)	58	1758611			21.50- 121.50	71.47
17.250	17.250 (1.067)	57	579042			0.00- 74.60	23.53
107 Bromodichloromethane					CAS #: 75-27-4		
17.554	17.555 (1.085)	83	7431432	100.000	106.01	80.00- 120.00	100.00
17.554	17.555 (1.085)	85	4773361			14.37- 114.37	64.23
110 cis-1,3-Dichloropropene					CAS #: 10061-01-5		
18.329	18.329 (1.133)	75	5602642	100.000	115.69	80.00- 120.00	100.00
18.329	18.329 (1.133)	77	1775227			0.00- 81.97	31.69
18.329	18.329 (1.133)	39	3130655			6.88- 106.88	55.88
111 4-Methyl-2-pentanone					CAS #: 108-10-1		
18.522	18.522 (1.145)	58	3231617	100.000	123.62	80.00- 120.00	100.00
18.494	18.522 (1.144)	43	8407133			222.97- 322.97	260.15
18.522	18.522 (1.145)	85	1253983			0.00- 90.48	38.80

AMOUNTS

RT	EXP RT (REL RT)	MASS	RESPONSE	CAL-AMT (PPBV)	ON-COL (PPBV)	TARGET RANGE	RATIO
114 Toluene					CAS #: 108-88-3		
18.882	18.882 (1.168)	91	10622557	100.000	107.53	80.00- 120.00	100.00
18.882	18.882 (1.168)	92	6779189			13.04- 113.04	63.82
116 trans-1,3-Dichloropropene					CAS #: 10061-02-6		
19.296	19.324 (0.904)	75	5889075	100.000	113.22	80.00- 120.00	100.00
19.296	19.324 (0.904)	77	1891543			0.00- 81.65	32.12
19.296	19.324 (0.904)	39	3137203			2.52- 102.52	53.27
117 1,1,2-Trichloroethane					CAS #: 79-00-5		
19.656	19.656 (0.921)	97	4149436	100.000	108.64	80.00- 120.00	100.00
19.656	19.656 (0.921)	99	2605800			13.08- 113.08	62.80
19.656	19.656 (0.921)	83	3504268			35.32- 135.32	84.45
120 Tetrachloroethene					CAS #: 127-18-4		
19.822	19.822 (0.929)	166	5048096	100.000	99.395	80.00- 120.00	100.00
19.822	19.822 (0.929)	129	3627743			22.39- 122.39	71.86
19.822	19.822 (0.929)	131	3514583			19.80- 119.80	69.62
121 2-Hexanone					CAS #: 591-78-6		
19.960	19.960 (0.935)	58	4648378	100.000	116.53	80.00- 120.00	100.00
19.960	19.960 (0.935)	43	8666932			138.63- 238.63	186.45
19.960	19.960 (0.935)	100	771717			0.00- 67.05	16.60
122 Dibromochloromethane					CAS #: 124-48-1		
20.347	20.347 (0.953)	129	7193156	100.000	104.70	80.00- 120.00	100.00
20.347	20.347 (0.953)	127	5526699			27.62- 127.62	76.83
123 1,2-Dibromoethane					CAS #: 106-93-4		
20.623	20.624 (0.966)	107	6833270	100.000	108.68	80.00- 120.00	100.00
20.623	20.624 (0.966)	109	6483894			44.67- 144.67	94.89
127 Chlorobenzene					CAS #: 108-90-7		
21.398	21.398 (1.003)	112	8692529	100.000	102.78	80.00- 120.00	100.00
21.398	21.398 (1.003)	114	2809468			0.00- 82.43	32.32
21.398	21.398 (1.003)	77	5295683			10.75- 110.75	60.92
128 Ethyl Benzene					CAS #: 100-41-4		
21.481	21.481 (1.006)	106	4526085	100.000	105.60	80.00- 120.00	100.00
21.481	21.481 (1.006)	91	14088042			261.69- 361.69	311.26
129 m,p-Xylene					CAS #: 108-38-3		
21.674	21.674 (1.016)	106	5707165	100.000	106.51	80.00- 120.00	100.00
21.674	21.674 (1.016)	91	11155051			145.05- 245.05	195.46
130 o-Xylene					CAS #: 95-47-6		
22.393	22.393 (1.049)	106	4939741	100.000	105.81	80.00- 120.00	100.00

AMOUNTS

RT	EXP RT (REL RT)	MASS	RESPONSE	CAL-AMT (PPBV)	ON-COL (PPBV)	TARGET RANGE	RATIO
130 o-Xylene (continued)							
22.393	22.393 (1.049)	91	10133037			154.65- 254.65	205.13
131 Styrene					CAS #: 100-42-5		
22.421	22.421 (1.051)	104	8386880	100.000	118.26	80.00- 120.00	100.00
22.421	22.421 (1.051)	78	4228696			1.69- 101.69	50.42
133 Bromoform					CAS #: 75-25-2		
22.835	22.836 (1.070)	173	6219626	100.000	101.85	80.00- 120.00	100.00
22.835	22.836 (1.070)	171	3232278			1.22- 101.22	51.97
134 Cumene					CAS #: 98-82-8		
22.974	22.974 (1.076)	105	12536875	100.000	106.57	80.00- 120.00	100.00
22.974	22.974 (1.076)	120	3479782			0.00- 78.08	27.76
22.946	22.974 (1.075)	51	1373233			0.00- 61.43	10.95
140 1,1,2,2-Tetrachloroethane					CAS #: 79-34-5		
23.527	23.527 (1.102)	83	8062379	100.000	102.92	80.00- 120.00	100.00
23.527	23.527 (1.102)	85	5184917			14.35- 114.35	64.31
142 Propylbenzene					CAS #: 103-65-1		
23.637	23.637 (1.108)	91	16597227	100.000	103.47	80.00- 120.00	100.00
23.637	23.637 (1.108)	120	3775008			0.00- 72.94	22.74
23.637	23.637 (1.108)	105	628127			0.00- 54.03	3.78
145 4-Ethyltoluene					CAS #: 622-96-8		
23.831	23.831 (1.117)	105	14829235	100.000	106.36	80.00- 120.00	100.00
23.831	23.831 (1.117)	120	4239290			0.00- 78.42	28.59
147 1,3,5-Trimethylbenzene					CAS #: 108-67-8		
23.914	23.914 (1.120)	105	10575210	100.000	94.663	80.00- 120.00	100.00
23.914	23.914 (1.120)	120	6029821			3.80- 103.80	57.02
150 1,2,4-Trimethylbenzene					CAS #: 95-63-6		
24.550	24.550 (1.150)	105	10414533	100.000	104.14	80.00- 120.00	100.00
24.550	24.550 (1.150)	120	5104145			0.00- 98.95	49.01
155 1,3-Dichlorobenzene					CAS #: 541-73-1		
25.130	25.130 (1.177)	146	7750426	100.000	99.257	80.00- 120.00	100.00
25.130	25.130 (1.177)	148	4950703			14.48- 114.48	63.88
25.130	25.130 (1.177)	111	3048873			0.00- 89.68	39.34
156 1,4-Dichlorobenzene					CAS #: 106-46-7		
25.269	25.269 (1.184)	146	8013173	100.000	98.166	80.00- 120.00	100.00
25.269	25.269 (1.184)	148	5111044			13.81- 113.81	63.78
25.269	25.269 (1.184)	111	3035431			0.00- 87.35	37.88

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS CAL-AMT (PPBV)	AMOUNTS ON-COL (PPBV)	TARGET RANGE	RATIO
159 alpha-Chlorotoluene					CAS #: 100-44-7		
25.490	25.490 (1.194)	91	12186141	100.000	116.33	80.00- 120.00	100.00
25.490	25.490 (1.194)	126	2530175			0.00- 71.29	20.76
161 1,2-Dichlorobenzene					CAS #: 95-50-1		
25.932	25.932 (1.215)	146	7169014	100.000	98.310	80.00- 120.00	100.00
25.932	25.932 (1.215)	148	4537423			14.30- 114.30	63.29
25.905	25.932 (1.214)	111	2874063			0.00- 90.50	40.09
165 1,2,4-Trichlorobenzene					CAS #: 120-82-1		
28.808	28.808 (1.350)	180	3030873	100.000	105.62	80.00- 120.00	100.00
28.808	28.808 (1.350)	182	2886523			45.65- 145.65	95.24
166 Hexachlorobutadiene					CAS #: 87-68-3		
29.001	29.001 (1.359)	225	2182918	100.000	86.635	80.00- 120.00	100.00
29.001	29.001 (1.359)	223	1362900			12.64- 112.64	62.43
167 Naphthalene					CAS #: 91-20-3		
29.361	29.388 (1.376)	128	5980908	100.000	114.00	80.00- 120.00	100.00(A)
29.361	29.388 (1.376)	127	723074			0.00- 62.50	12.09
29 Isopentane					CAS #: 78-78-4		
8.375	8.375 (0.581)	43	5045198	100.000	104.46	80.00- 120.00	100.00
8.375	8.375 (0.581)	57	3389808			16.48- 116.48	67.19
19 Butane					CAS #: 106-97-8		
6.771	6.771 (0.470)	58	777002	100.000	101.84	80.00- 120.00	100.00
6.771	6.771 (0.470)	43	6189652			757.70- 857.70	796.61
102 Methyl Cyclohexane					CAS #: 108-87-2		
16.918	16.919 (1.175)	83	5443508	100.000	112.98	80.00- 120.00	100.00
16.918	16.919 (1.175)	98	2475787			0.00- 96.13	45.48
16.891	16.919 (1.173)	55	4789110			38.51- 138.51	87.98

QC Flag Legend

A - Target compound detected but, quantitated amount exceeded maximum amount.

Report Date: 23-Oct-2007 09:33

Air Toxics Ltd.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd7.i
Lab File ID: 7101807.d
Lab Smp Id: ICAL
Analysis Type: VOA
Quant Type: ISTD
Operator: cb
Method File: /chem/msd7.i/7-18oct.b/t14qO18a.m
Misc Info: 200ppbv --> 100ppbv

Calibration Date: 18-OCT-2007
Calibration Time: 15:26
Client Smp ID: Level 6
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
81 Bromochloromethan	683549	410129	956969	692933	1.37
97 1,4-Difluorobenze	2204815	1322889	3086741	2281331	3.47
126 Chlorobenzene-d5	1812979	1087787	2538171	1862597	2.74

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
81 Bromochloromethan	14.40	14.07	14.73	14.40	0.00
97 1,4-Difluorobenze	16.17	15.84	16.50	16.17	0.00
126 Chlorobenzene-d5	21.37	21.04	21.70	21.34	-0.13

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /chem/msd7.i/7-18oct.b/7101807.d

Date : 18-OCT-2007 16:15

Client ID: Level 6

Sample Info: 100mL #1576-50

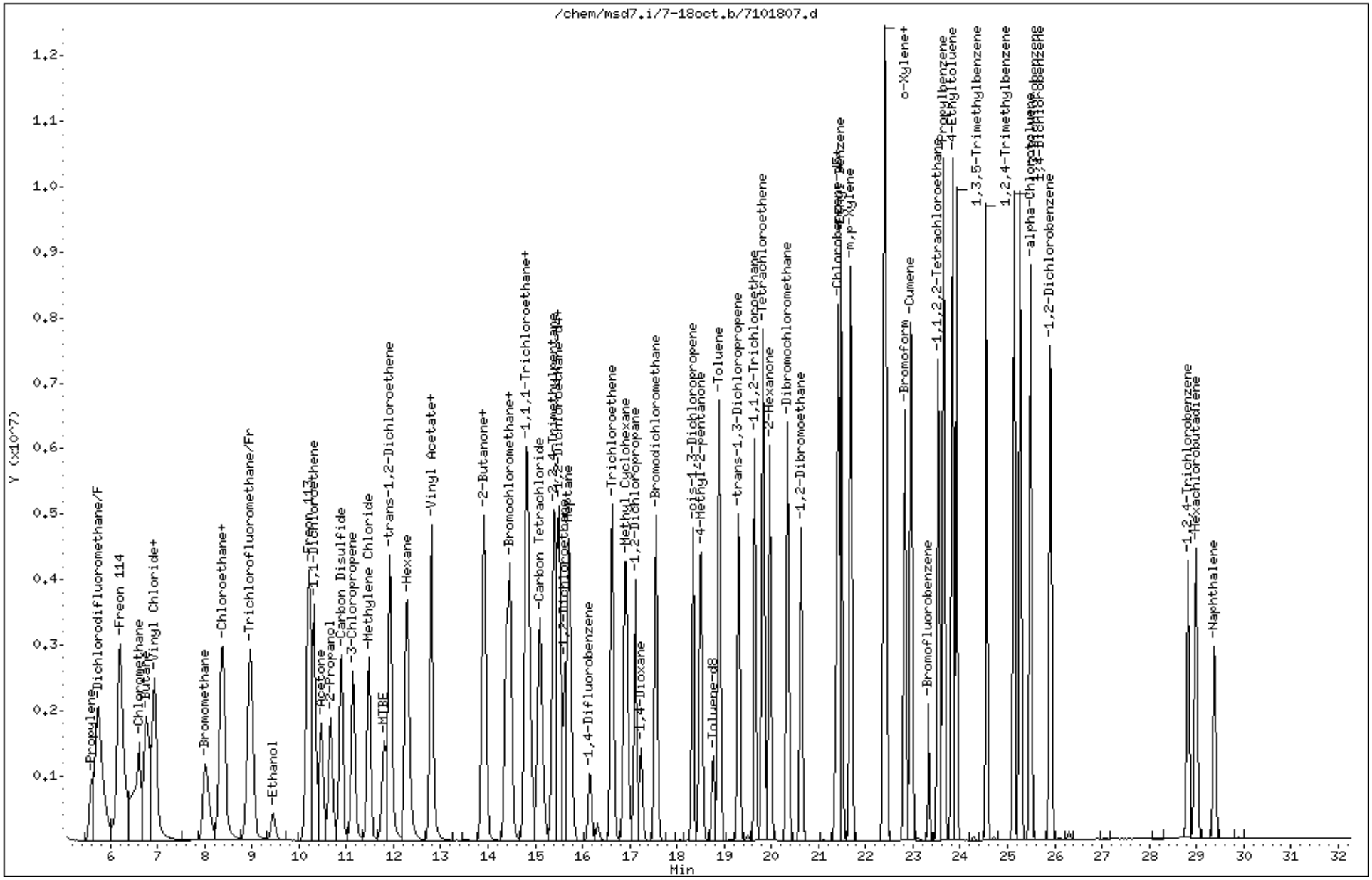
Column phase: RTx-624

Instrument: msd7.i

Operator: cb

Column diameter: 0.53

0315



Air Toxics Ltd.

AMBIENT AIR METHOD TO14

Data file : /chem/msd7.i/7-30oct.b/7103005.d
Lab Smp Id: ICAL Client Smp ID: Level 7
Inj Date : 30-OCT-2007 11:10
Operator : cb Inst ID: msd7.i
Smp Info : 200mL #1487-400
Misc Info : 200ppbv / 1200ppbv MeOH
Comment :
Method : /chem/msd7.i/7-30oct.b/t14qO18b.m
Meth Date : 30-Oct-2007 11:34 cbond Quant Type: ISTD
Cal Date : 30-OCT-2007 11:10 Cal File: 7103005.d
Als bottle: 1 Calibration Sample, Level: 7
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: sp1c.sub
Target Version: 3.50 Sample Matrix: AIR
Processing Host: eeyore

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS CAL-AMT (PPBV)	AMOUNTS ON-COL (PPBV)	TARGET RANGE	RATIO
* 81 Bromochloromethane					CAS #: 74-97-5		
14.416	14.416 (1.000)	130	522806	25.0000		50.00- 150.00	100.00
14.416	14.416 (1.000)	128	396127			26.81- 126.81	75.77
14.416	14.416 (1.000)	49	725431			112.06- 212.06	138.76
* 97 1,4-Difluorobenzene					CAS #: 540-36-3		
16.186	16.186 (1.000)	114	1724754	25.0000		50.00- 150.00	100.00
16.158	16.158 (1.000)	88	263120			0.00- 65.39	15.26
* 126 Chlorobenzene-d5					CAS #: 3114-55-4		
21.356	21.356 (1.000)	117	1260309	25.0000		50.00- 150.00	100.00
21.356	21.356 (1.000)	82	666153			4.45- 104.45	52.86
26 Methanol					CAS #: 67-56-1		
7.616	7.616 (0.528)	31	9372295	1200.00	1049.8	50.00- 150.00	100.00
7.616	7.616 (0.528)	32	6569144			96.19- 196.19	70.09

Report Date: 30-Oct-2007 11:34

Air Toxics Ltd.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd7.i
Lab File ID: 7103005.d
Lab Smp Id: ICAL
Analysis Type: VOA
Quant Type: ISTD
Operator: cb
Method File: /chem/msd7.i/7-30oct.b/t14qO18b.m
Misc Info: 200ppbv / 1200ppbv MeOH

Calibration Date: 30-OCT-2007
Calibration Time: 10:29
Client Smp ID: Level 7
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
81 Bromochloromethan	486199	291719	680679	522806	7.53
97 1,4-Difluorobenze	1616415	969849	2262981	1724754	6.70
126 Chlorobenzene-d5	1130394	678236	1582552	1260309	11.49

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
81 Bromochloromethan	14.42	14.09	14.75	14.42	0.00
97 1,4-Difluorobenze	16.19	15.86	16.52	16.19	0.00
126 Chlorobenzene-d5	21.36	21.03	21.69	21.36	0.00

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /chem/msd7.i/7-30oct.b/7103005.d

Date : 30-OCT-2007 11:10

Client ID: Level 7

Sample Info: 200mL #1487-400

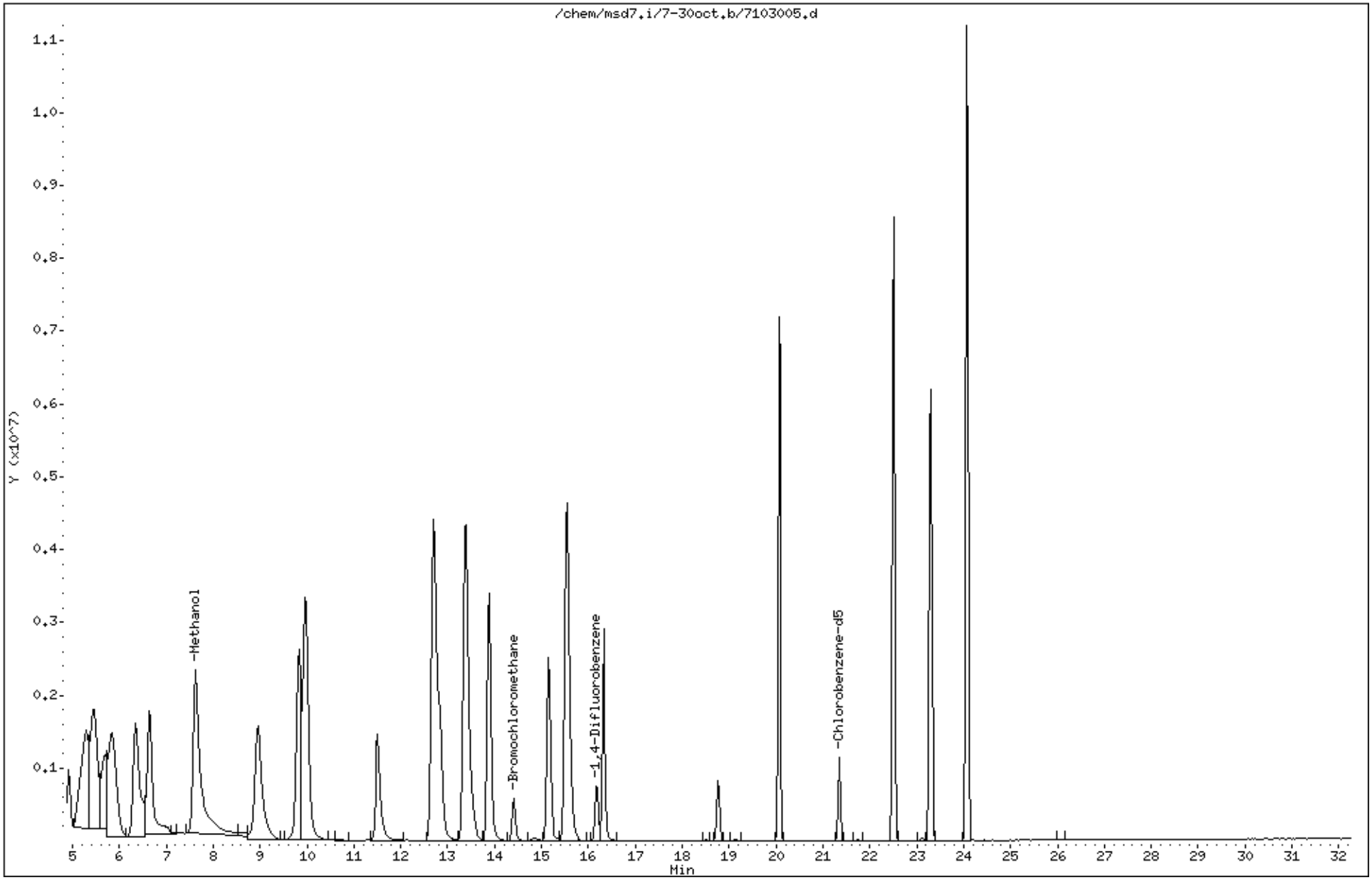
Column phase: RTx-624

Instrument: msd7.i

Operator: cb

Column diameter: 0.53

0318



Air Toxics Ltd.

AMBIENT AIR METHOD TO14

Data file : /chem/msd7.i/7-22oct.b/7102207.d
Lab Smp Id: ICAL Client Smp ID: Level 7
Inj Date : 22-OCT-2007 12:34
Operator : cb Inst ID: msd7.i
Smp Info : 200mL #1487-370
Misc Info : 200ppbv
Comment :
Method : /chem/msd7.i/7-22oct.b/t14qO18b.m
Meth Date : 22-Oct-2007 13:49 sscott Quant Type: ISTD
Cal Date : 22-OCT-2007 12:34 Cal File: 7102207.d
Als bottle: 1 Calibration Sample, Level: 7
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: sp16b.sub
Target Version: 3.50 Sample Matrix: AIR
Processing Host: eeyore

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS CAL-AMT (PPBV)	AMOUNTS ON-COL (PPBV)	TARGET RANGE	RATIO
* 81 Bromochloromethane					CAS #: 74-97-5		
14.403	14.403 (1.000)	130	673561	25.0000		50.00- 150.00	100.00
14.403	14.403 (1.000)	128	516226			26.49- 126.49	76.64
14.403	14.403 (1.000)	49	984353			116.97- 216.97	146.14
* 97 1,4-Difluorobenzene					CAS #: 540-36-3		
16.172	16.172 (1.000)	114	2139015	25.0000		50.00- 150.00	100.00
16.144	16.144 (1.000)	88	336134			0.00- 65.57	15.71
* 126 Chlorobenzene-d5					CAS #: 3114-55-4		
21.343	21.343 (1.000)	117	1735730	25.0000		50.00- 150.00	100.00
21.343	21.343 (1.000)	82	959991			5.19- 105.19	55.31
55 Cyclopentene					CAS #: 142-29-0		
11.250	11.250 (0.781)	67	24655264	200.000	196.46	50.00- 150.00	100.00
11.250	11.250 (0.781)	68	10041444			0.00- 90.48	40.73
11.250	11.250 (0.781)	53	5185944			0.00- 70.85	21.03
78 2,2-Dichloropropane					CAS #: 594-20-7		
13.877	13.877 (0.964)	77	15691308	200.000	199.68	50.00- 150.00	100.00

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                                          AMOUNTS
                                       CAL-AMT   ON-COL
   RT   EXP RT (REL RT)  MASS  RESPONSE ( PPBV)  ( PPBV)   TARGET RANGE    RATIO
   ==   ====== ========  ====  ======== =======  =======   ============    =====

   78 2,2-Dichloropropane (continued)
 13.877  13.877 (0.964)    79   5093949                     0.00-  84.30    32.46
 13.877  13.877 (0.964)    97   3105546                     0.00-  70.03    19.79
-------------------------------------------------------------------------------
   88 1,1-Dichloropropene                          CAS #: 563-58-6
 15.121  15.121 (0.935)   110   5598961 200.000   194.16  50.00- 150.00   100.00
 15.121  15.121 (0.935)    75  15225105                   218.22- 318.22   271.93
-------------------------------------------------------------------------------
  118 1,3-Dichloropropane                          CAS #: 142-28-9
 19.988  19.988 (1.236)    76  16526790 200.000   192.47  50.00- 150.00   100.00
 19.988  19.988 (1.236)    41  12361559                    21.54- 121.54    74.80
 19.988  19.988 (1.236)    78   5401543                     0.00-  81.77    32.68
-------------------------------------------------------------------------------
  125 1,1,1,2-Tetrachloroethane                    CAS #: 630-20-6
 21.536  21.536 (1.009)   131  11284242 200.000   182.31  50.00- 150.00   100.00
 21.536  21.536 (1.009)   117   7823289                    18.93- 118.93    69.33
 21.508  21.508 (1.008)    95   4494362                     0.00-  89.37    39.83
-------------------------------------------------------------------------------
  136 Bromobenzene                                 CAS #: 108-86-1
 23.610  23.610 (1.106)   156  12398942 200.000   170.72  50.00- 150.00   100.00
 23.610  23.610 (1.106)   158  11947029                    46.65- 146.65    96.36
 23.610  23.610 (1.106)    77  25141267                   147.77- 247.77   202.77
-------------------------------------------------------------------------------
  138 1,2,3-Trichloropropane                       CAS #: 96-18-4
 23.665  23.665 (1.109)   110   6154610 200.000   181.10  50.00- 150.00   100.00
 23.665  23.665 (1.109)    75  18226348                   252.90- 352.90   296.14
 23.665  23.665 (1.109)    61   5029833                    26.84- 126.84    81.72
-------------------------------------------------------------------------------
  141 2-Chlorotoluene                              CAS #: 95-49-8
 23.886  23.886 (1.119)   126   9861927 200.000   183.86  50.00- 150.00   100.00
 23.886  23.886 (1.119)    91  27734828                   243.86- 343.86   281.23
 23.886  23.886 (1.119)    65   2849980                     0.00-  78.37    28.90
-------------------------------------------------------------------------------
  143 4-Chlorotoluene                              CAS #: 106-43-4
 24.080  24.080 (1.128)   126  10574734 200.000   184.78  50.00- 150.00   100.00
 24.080  24.080 (1.128)    91  31217904                   249.00- 349.00   295.21
 24.052  24.052 (1.127)    63   4277338                     0.00-  88.24    40.45
-------------------------------------------------------------------------------
  153 p-Cymene                                     CAS #: 99-87-6
 25.020  25.020 (1.172)   119  28643628 200.000   168.92  50.00- 150.00   100.00
 25.020  25.020 (1.172)   134   8292866                     0.00-  77.89    28.95
 25.020  25.020 (1.172)    91   7805069                     0.00-  74.89    27.25
-------------------------------------------------------------------------------
  154 1,2,3-Trimethylbenzene                       CAS #: 526-73-8
 25.269  25.269 (1.184)   120  12274481 200.000   182.45  50.00- 150.00   100.00
 25.269  25.269 (1.184)   105  26523849                   168.18- 268.18   216.09
```

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS CAL-AMT (PPBV)	AMOUNTS ON-COL (PPBV)	TARGET RANGE	RATIO
154 1,2,3-Trimethylbenzene (continued)							
25.269	25.269 (1.184)	77	3529142			0.00- 78.76	28.75
158 Butylbenzene					CAS #: 104-51-8		
25.711	25.711 (1.205)	134	8414072	200.000	184.54	50.00- 150.00	100.00
25.683	25.683 (1.203)	91	32519787			362.01- 462.01	386.49
25.683	25.683 (1.203)	92	19592755			181.94- 281.94	232.86
148 tert-Butylbenzene					CAS #: 98-06-6		
24.467	24.467 (1.146)	119	25590950	200.000	167.41	50.00- 150.00	100.00
24.467	24.467 (1.146)	134	6336082			0.00- 74.64	24.76
24.467	24.467 (1.146)	91	18525334			20.96- 120.96	72.39
149 sec-Butylbenzene					CAS #: 135-98-8		
24.826	24.826 (1.163)	105	33869689	200.000	160.07	50.00- 150.00	100.00
24.826	24.826 (1.163)	134	7347588			0.00- 69.71	21.69
24.826	24.826 (1.163)	91	6246168			0.00- 65.99	18.44
162 1,2-Dibromo-3-Chloropropane					CAS #: 96-12-8		
27.287	27.287 (1.279)	157	11002854	200.000	201.08	50.00- 150.00	100.00(A)
27.287	27.287 (1.279)	75	9943412			39.96- 139.96	90.37
27.287	27.287 (1.279)	155	8612482			28.87- 128.87	78.27
201 Pentachloroethane					CAS #: 76-01-7		
24.605	24.605 (1.153)	167	7797399	200.000	170.61	50.00- 150.00	100.00
24.605	24.605 (1.153)	117	8410733			54.36- 154.36	107.87
24.605	24.605 (1.153)	169	3738433			0.00- 97.70	47.94

QC Flag Legend

A - Target compound detected but, quantitated amount exceeded maximum amount.

Report Date: 22-Oct-2007 13:49

Air Toxics Ltd.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd7.i
Lab File ID: 7102207.d
Lab Smp Id: ICAL
Analysis Type: VOA
Quant Type: ISTD
Operator: cb
Method File: /chem/msd7.i/7-22oct.b/t14qO18b.m
Misc Info: 200ppbv

Calibration Date: 22-OCT-2007
Calibration Time: 11:44
Client Smp ID: Level 7
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
81 Bromochloromethan	653745	392247	915243	673561	3.03
97 1,4-Difluorobenze	2055535	1233321	2877749	2139015	4.06
126 Chlorobenzene-d5	1681036	1008622	2353450	1735730	3.25

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
81 Bromochloromethan	14.40	14.07	14.73	14.40	0.00
97 1,4-Difluorobenze	16.17	15.84	16.50	16.17	0.00
126 Chlorobenzene-d5	21.34	21.01	21.67	21.34	0.00

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /chem/msd7.i/7-22oct.b/7102207.d

Date : 22-OCT-2007 12:34

Client ID: Level 7

Sample Info: 200mL #1487-370

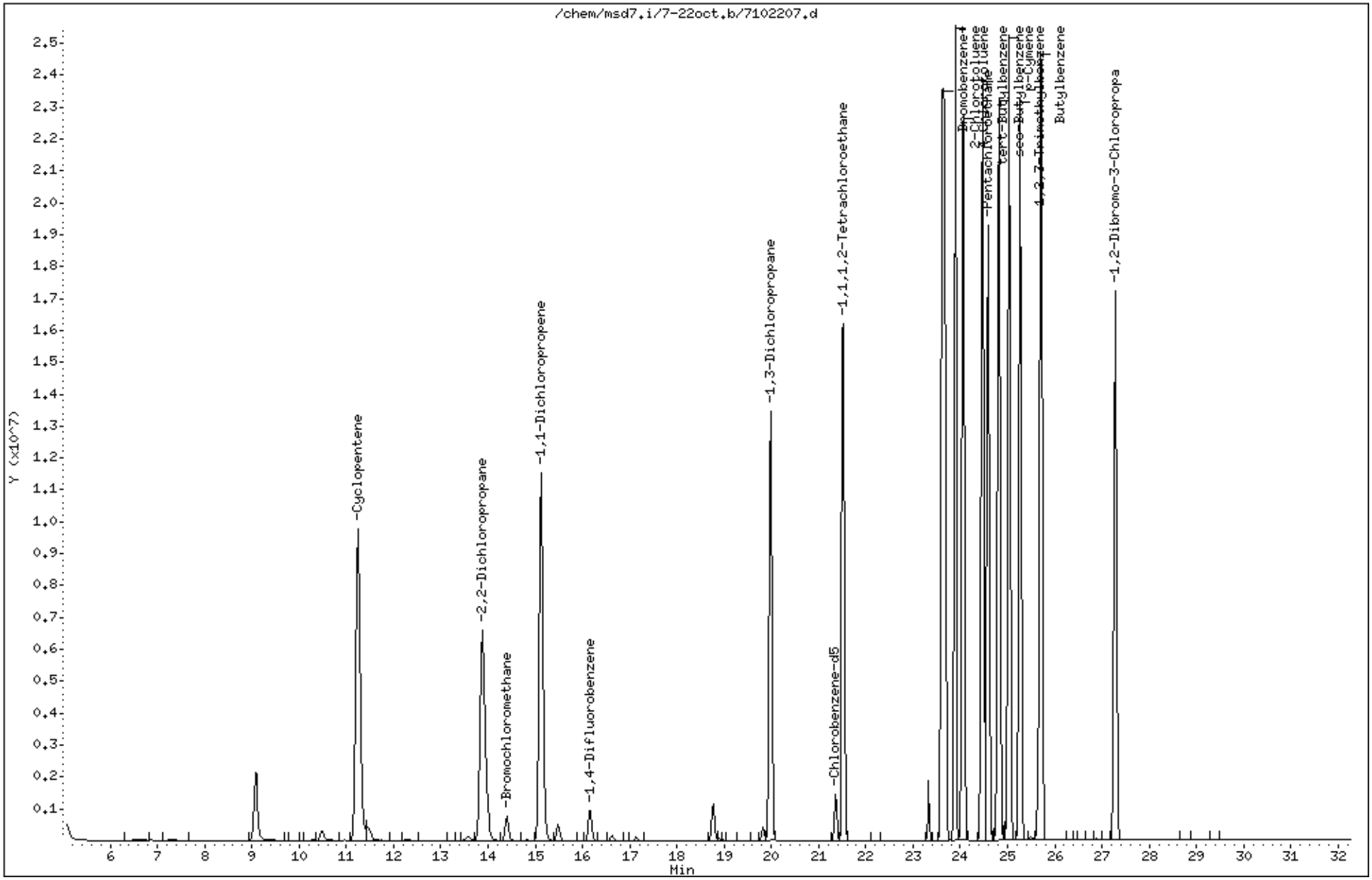
Column phase: RTx-624

Instrument: msd7.i

Operator: cb

Column diameter: 0.53

0323



Air Toxics Ltd.

AMBIENT AIR METHOD TO14

Data file : /chem/msd7.i/7-19oct.b/7101905.d
Lab Smp Id: ICAL Client Smp ID: Level 7
Inj Date : 19-OCT-2007 11:41
Operator : cb Inst ID: msd7.i
Smp Info : 200mL #1487-400
Misc Info : 200ppbv
Comment :
Method : /chem/msd7.i/7-19oct.b/t14qO18a.m
Meth Date : 19-Oct-2007 12:11 cbond Quant Type: ISTD
Cal Date : 19-OCT-2007 11:41 Cal File: 7101905.d
Als bottle: 1 Calibration Sample, Level: 7
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: sp22a.sub
Target Version: 3.50 Sample Matrix: AIR
Processing Host: eeyore

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS CAL-AMT (PPBV)	AMOUNTS ON-COL (PPBV)	TARGET RANGE	RATIO
* 81 Bromochloromethane					CAS #: 74-97-5		
14.403	14.403 (1.000)	130	719204	25.0000		50.00- 150.00	100.00
14.403	14.403 (1.000)	128	554464			26.59- 126.59	77.09
14.403	14.403 (1.000)	49	1056116			116.89- 216.89	146.85
* 97 1,4-Difluorobenzene					CAS #: 540-36-3		
16.172	16.172 (1.000)	114	2349296	25.0000		50.00- 150.00	100.00
16.172	16.172 (1.000)	88	359832			0.00- 65.64	15.32
* 126 Chlorobenzene-d5					CAS #: 3114-55-4		
21.343	21.343 (1.000)	117	1844247	25.0000		50.00- 150.00	100.00
21.343	21.343 (1.000)	82	1019868			5.24- 105.24	55.30
5 Freon 143a					CAS #: 420-46-2		
5.334	5.334 (0.370)	65	3045734	200.000	194.22	50.00- 150.00	100.00
5.278	5.278 (0.366)	69	25389070			0.00- 50.00	833.59
5.334	5.334 (0.370)	64	879543			0.00- 77.08	28.88
6 Freon142b					CAS #: 75-68-3		
6.357	6.357 (0.441)	65	12224721	200.000	191.11	50.00- 150.00	100.00

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS CAL-AMT (PPBV)	AMOUNTS ON-COL (PPBV)	TARGET RANGE	RATIO
6 Freon142b (continued)							
6.357	6.357 (0.441)	45	2982983			0.00- 74.42	24.40
13 Freon 134a						CAS #: 811-97-2	
5.472	5.472 (0.380)	83	5950549	200.000	194.14	50.00- 150.00	100.00
5.278	5.278 (0.366)	69	25368047			398.13- 498.13	426.31
5.472	5.472 (0.380)	63	881809			0.00- 64.08	14.82
15 Freon 152a						CAS #: 75-37-6	
5.693	5.693 (0.395)	65	4242747	200.000	191.73	50.00- 150.00	100.00
5.693	5.693 (0.395)	51	6723031			109.56- 209.56	158.46
5.693	5.693 (0.395)	47	1728528			0.00- 90.52	40.74
17 Freon 22						CAS #: 75-45-6	
5.831	5.831 (0.405)	51	13489320	200.000	188.69	50.00- 150.00	100.00
5.831	5.831 (0.405)	67	1587590			0.00- 61.77	11.77
5.831	5.831 (0.405)	85	174736			0.00- 51.67	1.30
34 Dichlorofluoromethane/Fr21						CAS #: 75-43-4	
8.956	8.956 (0.622)	67	12537837	200.000	197.68	50.00- 150.00	100.00
8.956	8.956 (0.622)	69	3925693			0.00- 81.12	31.31
8.956	8.956 (0.622)	35	312263			0.00- 53.83	2.49
40 Freon123a						CAS #: 354-23-4	
9.813	9.813 (0.681)	117	7250064	200.000	202.31	50.00- 150.00	100.00
9.813	9.813 (0.681)	67	10592599			110.97- 210.97	146.10
41 Freon123						CAS #: 306-83-2	
9.979	9.979 (0.693)	83	12396163	200.000	195.02	50.00- 150.00	100.00
9.979	9.979 (0.693)	133	2428184			0.00- 69.52	19.59
9.979	9.979 (0.693)	85	8627843			22.16- 122.16	69.60
57 tert-Butyl-Alcohol						CAS #: 75-65-0	
11.499	11.499 (0.798)	59	10315180	200.000	154.66	50.00- 150.00	100.00
11.499	11.499 (0.798)	41	2017442			0.00- 73.42	19.56
11.499	11.499 (0.798)	57	995118			0.00- 60.26	9.65
68 Isopropyl ether						CAS #: 108-20-3	
12.716	12.716 (0.883)	45	25503179	200.000	198.71	50.00- 150.00	100.00
12.716	12.716 (0.883)	87	5827965			0.00- 73.31	22.85
12.716	12.716 (0.883)	59	2197946			0.00- 58.30	8.62
71 1-Propanol						CAS #: 71-23-8	
12.827	12.827 (0.891)	42	1744378	200.000	216.72	50.00- 150.00	100.00(A)
12.827	12.827 (0.891)	59	2451515			95.91- 195.91	140.54
12.716	12.716 (0.883)	41	4841849			265.93- 365.93	277.57

AMOUNTS

RT	EXP RT (REL RT)	MASS	RESPONSE	CAL-AMT (PPBV)	ON-COL (PPBV)	TARGET RANGE	RATIO
73 t-Butylethyl Ether					CAS #: 637-92-3		
13.380	13.380 (0.929)	59	22428943	200.000	205.02	50.00- 150.00	100.00(A)
13.380	13.380 (0.929)	87	8578877			0.00- 88.95	38.25
13.380	13.380 (0.929)	41	3840776			0.00- 67.89	17.12
77 Ethyl Acetate					CAS #: 141-78-6		
13.877	13.877 (0.964)	45	2506944	200.000	205.24	50.00- 150.00	100.00(A)
13.877	13.877 (0.964)	61	2395467			49.04- 149.04	95.55
13.877	13.877 (0.964)	43	17175833			622.55- 722.55	685.13
92 tert-amyl-Methyl Ether					CAS #: 994-05-8		
15.536	15.536 (1.079)	73	16550042	200.000	206.99	50.00- 150.00	100.00(A)
15.536	15.536 (1.079)	87	3917490			0.00- 73.71	23.67
15.536	15.536 (1.079)	55	4261857			0.00- 78.56	25.75
96 2-Heptanone					CAS #: 110-43-0		
22.504	22.504 (1.562)	58	11184866	200.000	233.27	50.00- 150.00	100.00(A)
22.504	22.504 (1.562)	43	17315235			108.53- 208.53	154.81
98 1-Butanol					CAS #: 71-36-3		
16.310	16.310 (1.009)	56	5482757	200.000	238.74	50.00- 150.00	100.00(A)
16.310	16.310 (1.009)	41	3917821			21.86- 121.86	71.46
16.310	16.310 (1.009)	43	3065816			9.15- 109.15	55.92
99 Isobutanol					CAS #: 78-83-1		
15.149	15.149 (1.052)	59	187856	200.000	238.56	50.00- 150.00	100.00(A)
15.149	15.149 (1.052)	41	4506517			2630.47-2730.47	2398.92
15.149	15.149 (1.052)	43	6310018			3703.83-3803.83	3358.97
119 Butyl Acetate					CAS #: 123-86-4		
20.071	20.071 (1.241)	56	7474090	200.000	218.55	50.00- 150.00	100.00(A)
20.071	20.071 (1.241)	73	2366289			0.00- 82.98	31.66
20.071	20.071 (1.241)	43	18435926			197.73- 297.73	246.66
135 Cyclohexanone					CAS #: 108-94-1		
23.278	23.278 (1.091)	55	8115059	200.000	221.35	50.00- 150.00	100.00(A)
23.278	23.278 (1.091)	98	3387837			0.00- 90.62	41.75
23.278	23.278 (1.091)	42	5606169			17.43- 117.43	69.08
146 Diisobutyl Ketone					CAS #: 108-83-8		
24.080	24.080 (1.128)	57	16489699	200.000	199.54	50.00- 150.00	100.00
24.080	24.080 (1.128)	85	13022144			31.14- 131.14	78.97
0.000	1.000 (0.000)	0	0			0.00- 50.00	0.00

QC Flag Legend

A - Target compound detected but, quantitated amount
exceeded maximum amount.

Report Date: 19-Oct-2007 12:11

Air Toxics Ltd.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd7.i
Lab File ID: 7101905.d
Lab Smp Id: ICAL
Analysis Type: VOA
Quant Type: ISTD
Operator: cb
Method File: /chem/msd7.i/7-19oct.b/t14qO18a.m
Misc Info: 200ppbv

Calibration Date: 19-OCT-2007
Calibration Time: 11:00
Client Smp ID: Level 7
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
81 Bromochloromethan	694127	416476	971778	719204	3.61
97 1,4-Difluorobenze	2223212	1333927	3112497	2349296	5.67
126 Chlorobenzene-d5	1779964	1067978	2491950	1844247	3.61

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
81 Bromochloromethan	14.40	14.07	14.73	14.40	0.00
97 1,4-Difluorobenze	16.17	15.84	16.50	16.17	0.00
126 Chlorobenzene-d5	21.37	21.04	21.70	21.34	-0.13

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /chem/msd7.i/7-19oct.b/7101905.d

Date : 19-OCT-2007 11:41

Client ID: Level 7

Sample Info: 200mL #1487-400

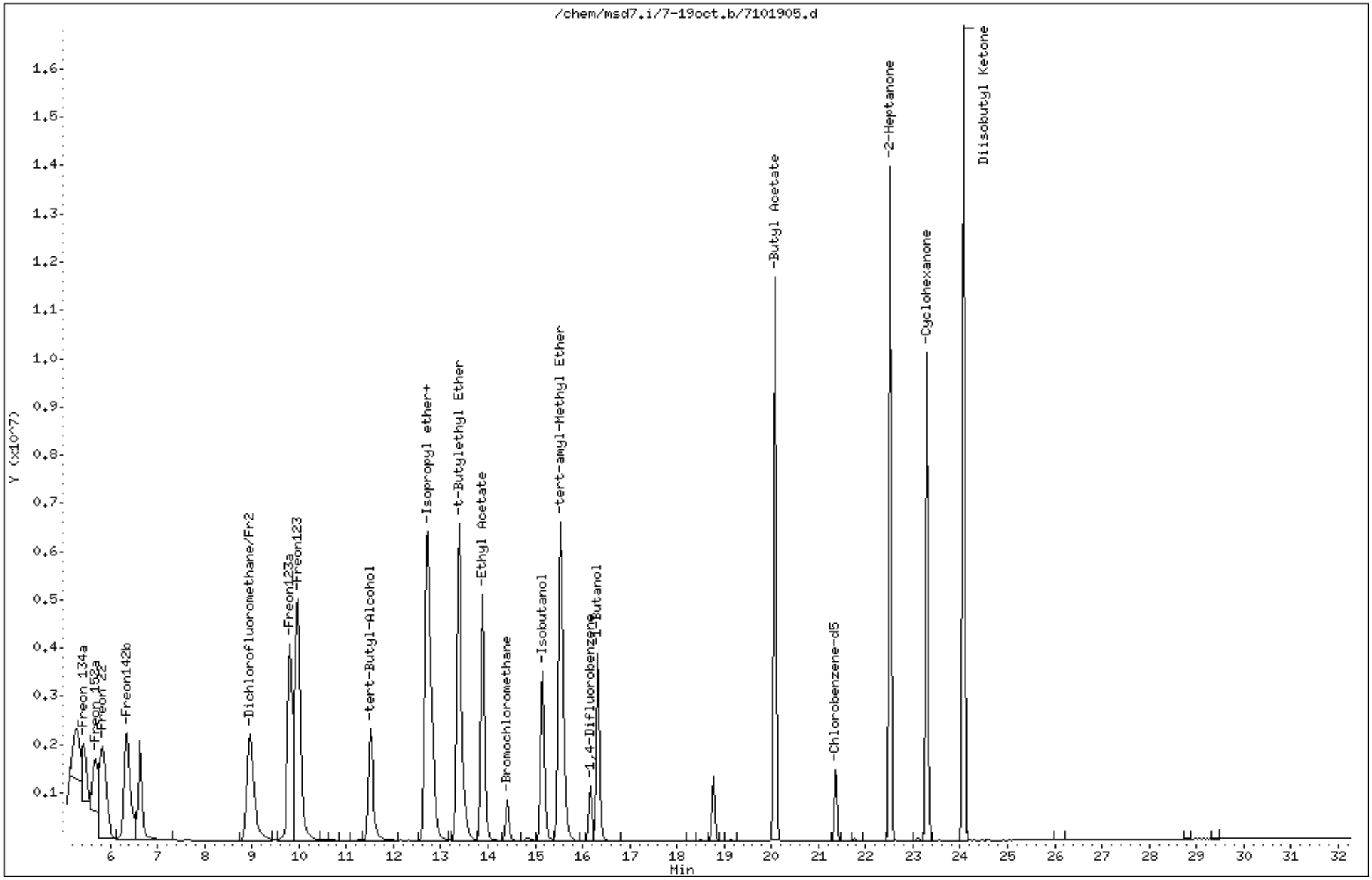
Column phase: RTx-624

Instrument: msd7.i

Operator: cb

Column diameter: 0.53

0329



Air Toxics Ltd.

AMBIENT AIR METHOD TO14

Data file : /chem/msd7.i/7-18oct.b/7101808.d
Lab Smp Id: ICAL Client Smp ID: Level 7
Inj Date : 18-OCT-2007 17:39
Operator : cb Inst ID: msd7.i
Smp Info : 200mL #1576-50
Misc Info : 200ppbv --> 200ppbv
Comment :
Method : /chem/msd7.i/7-18oct.b/t14qO18a.m
Meth Date : 22-Oct-2007 16:12 dmendoza Quant Type: ISTD
Cal Date : 18-OCT-2007 17:39 Cal File: 7101808.d
Als bottle: 1 Calibration Sample, Level: 7
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: AT04mdl+ENSR.sub
Target Version: 3.50 Sample Matrix: AIR
Processing Host: eeyore

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS CAL-AMT (PPBV)	AMOUNTS ON-COL (PPBV)	TARGET RANGE	RATIO
* 81 Bromochloromethane					CAS #: 74-97-5		
14.402	14.402 (1.000)	130	676936	25.0000		80.00- 120.00	100.00
14.402	14.402 (1.000)	128	529899			26.95- 126.95	78.28
14.458	14.402 (1.000)	49	2421312			141.62- 241.62	357.69
* 97 1,4-Difluorobenzene					CAS #: 540-36-3		
16.172	16.172 (1.000)	114	2378077	25.0000		80.00- 120.00	100.00
16.172	16.172 (1.000)	88	364352			0.00- 65.69	15.32
* 126 Chlorobenzene-d5					CAS #: 3114-55-4		
21.342	21.370 (1.000)	117	1869726	25.0000		80.00- 120.00	100.00
21.342	21.370 (1.000)	82	1037631			5.32- 105.32	55.50
$ 90 1,2-Dichloroethane-d4					CAS #: 17060-07-0		
15.481	15.508 (1.075)	65	926657	25.0000	25.481	80.00- 120.00	100.00
15.481	15.508 (1.075)	67	627207			2.91- 102.91	67.68
$ 113 Toluene-d8					CAS #: 2037-26-5		
18.771	18.771 (1.161)	98	2173091	25.0000	25.742	80.00- 120.00	100.00
18.771	18.771 (1.161)	70	240988			0.00- 61.46	11.09

```
                                          AMOUNTS
                                       CAL-AMT   ON-COL
   RT   EXP RT (REL RT)  MASS  RESPONSE ( PPBV)  ( PPBV)   TARGET RANGE    RATIO
   ==   ====== ========  ====  ======== =======  =======   ============    =====

$ 113 Toluene-d8 (continued)
 18.771  18.771 (1.161)   100   1512682                   19.18- 119.18    69.61
-------------------------------------------------------------------------------
$ 137 Bromofluorobenzene                            CAS #: 460-00-4
 23.333  23.333 (1.093)   174   1090787 25.0000   24.517  80.00- 120.00   100.00
 23.333  23.333 (1.093)    95   1407511                   76.80- 176.80   129.04
 23.333  23.333 (1.093)   176   1052507                   46.06- 146.06    96.49
-------------------------------------------------------------------------------
   11 Propylene                                     CAS #: 115-07-1
  5.638   5.610 (0.391)    41   6024485 200.000   206.49  80.00- 120.00   100.00(A)
  5.638   5.610 (0.391)    42   4229291                   21.19- 121.19    70.20
  5.638   5.610 (0.391)    39   4559811                   24.83- 124.83    75.69
-------------------------------------------------------------------------------
   12 Dichlorodifluoromethane/Fr12                  CAS #: 75-71-8
  5.776   5.748 (0.401)    85  21314692 200.000   199.25  80.00- 120.00   100.00
  5.776   5.748 (0.401)    87   7050808                    0.00-  83.07    33.08
-------------------------------------------------------------------------------
   16 Freon 114                                     CAS #: 76-14-2
  6.246   6.218 (0.434)   135  13067052 200.000   179.47  80.00- 120.00   100.00
  6.246   6.218 (0.434)   137   4161827                    0.00-  81.81    31.85
-------------------------------------------------------------------------------
   18 Chloromethane                                 CAS #: 74-87-3
  6.550   6.522 (0.455)    50   7320258 200.000   208.08  80.00- 120.00   100.00(A)
  6.550   6.522 (0.455)    52   2424741                    0.00-  84.80    33.12
-------------------------------------------------------------------------------
   20 Vinyl Chloride                                CAS #: 75-01-4
  6.882   6.882 (0.478)    62   8914081 200.000   202.96  80.00- 120.00   100.00(A)
  6.882   6.882 (0.478)    64   2806611                    0.00-  83.25    31.49
-------------------------------------------------------------------------------
   22 1,3-Butadiene                                 CAS #: 106-99-0
  6.992   6.937 (0.485)    54   7071038 200.000   224.76  80.00- 120.00   100.00(A)
  6.992   6.937 (0.485)    39   7381307                   55.97- 155.97   104.39
-------------------------------------------------------------------------------
   25 Bromomethane                                  CAS #: 74-83-9
  8.043   8.043 (0.558)    94   8554987 200.000   219.99  80.00- 120.00   100.00(A)
  8.043   8.043 (0.558)    96   8052509                   43.77- 143.77    94.13
-------------------------------------------------------------------------------
   27 Chloroethane                                  CAS #: 75-00-3
  8.375   8.375 (0.581)    64   4784892 200.000   245.58  80.00- 120.00   100.00(A)
  8.375   8.375 (0.581)    49   1297505                    0.00-  79.34    27.12
  8.375   8.375 (0.581)    66   1528927                    0.00-  83.15    31.95
-------------------------------------------------------------------------------
   31 Trichlorofluoromethane/Fr11                   CAS #: 75-69-4
  8.983   8.956 (0.624)   101  21226149 200.000   212.69  80.00- 120.00   100.00(A)
  8.983   8.956 (0.624)   103  13713885                   14.33- 114.33    64.61
-------------------------------------------------------------------------------
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AMOUNTS

RT	EXP RT (REL RT)	MASS	RESPONSE	CAL-AMT (PPBV)	ON-COL (PPBV)	TARGET RANGE	RATIO
38 Ethanol					CAS #: 64-17-5		
9.481	9.453 (0.658)	45	3122247	200.000	229.38	80.00- 120.00	100.00(A)
9.481	9.453 (0.658)	43	609786			0.00- 72.83	19.53
9.481	9.453 (0.658)	46	1215909			0.00- 88.20	38.94
42 Freon 113					CAS #: 76-13-1		
10.227	10.227 (0.710)	151	11652787	200.000	209.94	80.00- 120.00	100.00(A)
10.227	10.227 (0.710)	153	7437320			13.49- 113.49	63.82
10.200	10.227 (0.708)	101	14619562			73.17- 173.17	125.46
43 1,1-Dichloroethene					CAS #: 75-35-4		
10.338	10.338 (0.718)	61	12965105	200.000	219.51	80.00- 120.00	100.00(A)
10.338	10.338 (0.718)	96	7908848			11.42- 111.42	61.00
10.338	10.338 (0.718)	98	5068711			0.00- 89.70	39.10
45 Acetone					CAS #: 67-64-1		
10.476	10.504 (0.727)	58	4132810	200.000	226.38	80.00- 120.00	100.00(A)
10.476	10.504 (0.727)	43	12250219			247.10- 347.10	296.41
46 2-Propanol					CAS #: 67-63-0		
10.670	10.697 (0.741)	45	15447383	200.000	238.50	80.00- 120.00	100.00(A)
10.670	10.697 (0.741)	43	3565283			0.00- 75.54	23.08
10.670	10.697 (0.741)	59	612054			0.00- 53.72	3.96
47 Carbon Disulfide					CAS #: 75-15-0		
10.891	10.891 (0.756)	76	25177181	200.000	223.43	80.00- 120.00	100.00(A)
51 3-Chloropropene					CAS #: 107-05-1		
11.167	11.168 (0.775)	76	4508750	200.000	245.87	80.00- 120.00	100.00(A)
11.167	11.168 (0.775)	41	11027823			224.96- 324.96	244.59
54 Methylene Chloride					CAS #: 75-09-2		
11.472	11.472 (0.796)	49	9796957	200.000	225.62	80.00- 120.00	100.00(A)
11.472	11.472 (0.796)	84	7143181			23.49- 123.49	72.91
11.472	11.472 (0.796)	51	3006658			0.00- 80.85	30.69
60 MTBE					CAS #: 1634-04-4		
11.803	11.831 (0.820)	73	11025528	200.000	167.11	80.00- 120.00	100.00
11.803	11.831 (0.820)	57	2595297			0.00- 73.11	23.54
11.803	11.831 (0.820)	41	2404900			0.00- 76.16	21.81
61 trans-1,2-Dichloroethene					CAS #: 156-60-5		
11.942	11.942 (0.829)	96	9012807	200.000	224.59	80.00- 120.00	100.00(A)
11.942	11.942 (0.829)	61	12893816			93.77- 193.77	143.06
11.942	11.942 (0.829)	98	5726329			11.77- 111.77	63.54

```
                                        AMOUNTS
                                     CAL-AMT   ON-COL
   RT   EXP RT (REL RT)  MASS  RESPONSE ( PPBV)  ( PPBV)   TARGET RANGE    RATIO
   ==   ====== ========  ====  ======== =======  =======   ============    =====

   65 Hexane                                          CAS #: 110-54-3
 12.301  12.301 (0.854)    57  13476499 200.000   235.33  80.00- 120.00   100.00(A)
 12.301  12.301 (0.854)    43   8689968                   17.84- 117.84    64.48
 12.301  12.301 (0.854)    86   2045178                    0.00-  65.07    15.18
-------------------------------------------------------------------------------
   69 Vinyl Acetate                                   CAS #: 108-05-4
 12.799  12.799 (0.889)    86   2014922 200.000   232.87  80.00- 120.00   100.00(A)
 12.799  12.799 (0.889)    43  23503120                  1150.46-1250.46  1166.45
-------------------------------------------------------------------------------
   70 1,1-Dichloroethane                              CAS #: 75-34-3
 12.826  12.826 (0.891)    63  15208502 200.000   221.72  80.00- 120.00   100.00(A)
 12.826  12.826 (0.891)    65   4797143                    0.00-  81.66    31.54
-------------------------------------------------------------------------------
   75 2-Butanone                                      CAS #: 78-93-3
 13.877  13.905 (0.964)    72   3652475 200.000   249.12  80.00- 120.00   100.00(A)
 13.877  13.905 (0.964)    43  16402680                  412.95- 512.95   449.08
 13.877  13.905 (0.964)    57   1277677                    0.00-  86.57    34.98
-------------------------------------------------------------------------------
   76 cis-1,2-Dichloroethene                          CAS #: 156-59-2
 13.932  13.932 (0.967)    61  10627950 200.000   221.36  80.00- 120.00   100.00(A)
 13.932  13.932 (0.967)    96   7912975                   24.70- 124.70    74.45
 13.932  13.932 (0.967)    98   5079116                    0.00-  97.31    47.79
-------------------------------------------------------------------------------
   80 Tetrahydrofuran                                 CAS #: 109-99-9
 14.375  14.402 (0.998)    42   9189583 200.000   240.40  80.00- 120.00   100.00(A)
 14.375  14.402 (0.998)    71   3311270                    0.00-  85.86    36.03
 14.375  14.402 (0.998)    72   3616002                    0.00-  87.82    39.35
-------------------------------------------------------------------------------
   82 Chloroform                                      CAS #: 67-66-3
 14.458  14.485 (1.004)    83  14531456 200.000   213.20  80.00- 120.00   100.00(A)
 14.458  14.485 (1.004)    85   9504871                   15.30- 115.30    65.41
-------------------------------------------------------------------------------
   83 1,1,1-Trichloroethane                           CAS #: 71-55-6
 14.817  14.845 (1.029)    97  13926518 200.000   202.90  80.00- 120.00   100.00(A)
 14.817  14.845 (1.029)    99   8949810                   14.42- 114.42    64.26
-------------------------------------------------------------------------------
   85 Cyclohexane                                     CAS #: 110-82-7
 14.845  14.845 (1.031)    84   8942562 200.000   227.48  80.00- 120.00   100.00(A)
 14.845  14.845 (1.031)    56  11510364                   77.14- 177.14   128.71
 14.845  14.845 (1.031)    41   6322961                   22.96- 122.96    70.71
-------------------------------------------------------------------------------
   87 Carbon Tetrachloride                            CAS #: 56-23-5
 15.094  15.094 (1.048)   119  13089871 200.000   203.45  80.00- 120.00   100.00(A)
 15.094  15.094 (1.048)   117  13611237                   54.22- 154.22   103.98
-------------------------------------------------------------------------------
   91 Benzene                                         CAS #: 71-43-2
 15.508  15.508 (0.959)    78  19736309 200.000   208.88  80.00- 120.00   100.00(A)
```

```
                                          AMOUNTS
                                       CAL-AMT   ON-COL
   RT   EXP RT (REL RT)  MASS  RESPONSE ( PPBV)  ( PPBV)   TARGET RANGE    RATIO
   ==   ====== ========  ====  ======== =======  =======   ============    =====

   91 Benzene (continued)
 15.508  15.508 (0.959)    77   4339447                     0.00-  71.87    21.99
-------------------------------------------------------------------------------
   89 2,2,4-Trimethylpentane                        CAS #: 540-84-1
 15.398  15.426 (1.069)    57  31632116 200.000   230.20  80.00- 120.00   100.00(A)
 15.398  15.426 (1.069)    56  10900526                     0.00-  84.62    34.46
 15.398  15.426 (1.069)    41   8227297                     0.00-  79.27    26.01
-------------------------------------------------------------------------------
   93 1,2-Dichloroethane                            CAS #: 107-06-2
 15.619  15.647 (0.966)    62   9602381 200.000   191.27  80.00- 120.00   100.00
 15.619  15.647 (0.966)    64   3054754                     0.00-  82.89    31.81
-------------------------------------------------------------------------------
   94 Heptane                                       CAS #: 142-82-5
 15.702  15.730 (0.971)    71   6282483 200.000   216.20  80.00- 120.00   100.00(A)
 15.702  15.730 (0.971)    43  12514936                   158.53- 258.53   199.20
 15.702  15.730 (0.971)    57   6727545                    59.34- 159.34   107.08
-------------------------------------------------------------------------------
  101 Trichloroethene                               CAS #: 79-01-6
 16.642  16.642 (1.029)    95   8328807 200.000   198.44  80.00- 120.00   100.00
 16.642  16.642 (1.029)   130   8066565                    49.05- 149.05    96.85
 16.642  16.642 (1.029)    97   5388543                    14.93- 114.93    64.70
-------------------------------------------------------------------------------
  104 1,2-Dichloropropane                           CAS #: 78-87-5
 17.112  17.112 (1.058)    63   7647118 200.000   210.89  80.00- 120.00   100.00(A)
 17.112  17.112 (1.058)    62   5629589                    23.52- 123.52    73.62
 17.112  17.112 (1.058)    41   4567700                    12.01- 112.01    59.73
-------------------------------------------------------------------------------
  106 1,4-Dioxane                                   CAS #: 123-91-1
 17.250  17.250 (1.067)    88   5051505 200.000   214.19  80.00- 120.00   100.00(A)
 17.250  17.250 (1.067)    58   3620228                    21.50- 121.50    71.67
 17.250  17.250 (1.067)    57   1192718                     0.00-  74.60    23.61
-------------------------------------------------------------------------------
  107 Bromodichloromethane                          CAS #: 75-27-4
 17.554  17.555 (1.085)    83  14367494 200.000   197.17  80.00- 120.00   100.00
 17.554  17.555 (1.085)    85   9277547                    14.37- 114.37    64.57
-------------------------------------------------------------------------------
  110 cis-1,3-Dichloropropene                       CAS #: 10061-01-5
 18.329  18.329 (1.133)    75  11007513 200.000   214.82  80.00- 120.00   100.00(A)
 18.329  18.329 (1.133)    77   3583647                     0.00-  81.97    32.56
 18.329  18.329 (1.133)    39   6277823                     6.88- 106.88    57.03
-------------------------------------------------------------------------------
  111 4-Methyl-2-pentanone                          CAS #: 108-10-1
 18.522  18.522 (1.145)    58   6680445 200.000   236.26  80.00- 120.00   100.00(A)
 18.494  18.522 (1.144)    43  16914065                   222.97- 322.97   253.19
 18.522  18.522 (1.145)    85   2542376                     0.00-  90.48    38.06
-------------------------------------------------------------------------------
```

```
                                          AMOUNTS
                                       CAL-AMT   ON-COL
   RT   EXP RT (REL RT)  MASS  RESPONSE ( PPBV)  ( PPBV)   TARGET RANGE    RATIO
   ==   ====== ========  ====  ======== =======  =======   ============    =====

  114 Toluene                                          CAS #: 108-88-3
 18.882  18.882 (1.168)    91  21213764 200.000   204.98  80.00- 120.00   100.00(A)
 18.882  18.882 (1.168)    92  13605027                   13.04- 113.04    64.13
-------------------------------------------------------------------------------
  116 trans-1,3-Dichloropropene                        CAS #: 10061-02-6
 19.296  19.324 (0.904)    75  11506838 200.000   216.70  80.00- 120.00   100.00(A)
 19.296  19.324 (0.904)    77   3666959                    0.00-  81.65    31.87
 19.296  19.324 (0.904)    39   6234784                    2.52- 102.52    54.18
-------------------------------------------------------------------------------
  117 1,1,2-Trichloroethane                            CAS #: 79-00-5
 19.656  19.656 (0.921)    97   8133154 200.000   210.01  80.00- 120.00   100.00(A)
 19.656  19.656 (0.921)    99   5125477                   13.08- 113.08    63.02
 19.656  19.656 (0.921)    83   6859943                   35.32- 135.32    84.35
-------------------------------------------------------------------------------
  120 Tetrachloroethene                                CAS #: 127-18-4
 19.822  19.822 (0.929)   166   9290283 200.000   184.96  80.00- 120.00   100.00
 19.822  19.822 (0.929)   129   6818614                   22.39- 122.39    73.40
 19.822  19.822 (0.929)   131   6582279                   19.80- 119.80    70.85
-------------------------------------------------------------------------------
  121 2-Hexanone                                       CAS #: 591-78-6
 19.960  19.960 (0.935)    58   9469386 200.000   228.16  80.00- 120.00   100.00(A)
 19.960  19.960 (0.935)    43  17305893                  138.63- 238.63   182.76
 19.960  19.960 (0.935)   100   1575326                    0.00-  67.05    16.64
-------------------------------------------------------------------------------
  122 Dibromochloromethane                             CAS #: 124-48-1
 20.347  20.347 (0.953)   129  13376992 200.000   194.95  80.00- 120.00   100.00
 20.347  20.347 (0.953)   127  10423775                   27.62- 127.62    77.92
-------------------------------------------------------------------------------
  123 1,2-Dibromoethane                                CAS #: 106-93-4
 20.624  20.624 (0.966)   107  13069323 200.000   205.86  80.00- 120.00   100.00(A)
 20.624  20.624 (0.966)   109  12296113                   44.67- 144.67    94.08
-------------------------------------------------------------------------------
  127 Chlorobenzene                                    CAS #: 108-90-7
 21.398  21.398 (1.003)   112  16601996 200.000   196.27  80.00- 120.00   100.00
 21.398  21.398 (1.003)   114   5394737                    0.00-  82.43    32.49
 21.398  21.398 (1.003)    77  10031248                   10.75- 110.75    60.42
-------------------------------------------------------------------------------
  128 Ethyl Benzene                                    CAS #: 100-41-4
 21.481  21.481 (1.006)   106   8788124 200.000   203.54  80.00- 120.00   100.00(A)
 21.481  21.481 (1.006)    91  26914189                  261.69- 361.69   306.26
-------------------------------------------------------------------------------
  129 m,p-Xylene                                       CAS #: 108-38-3
 21.674  21.674 (1.016)   106  11064572 200.000   204.73  80.00- 120.00   100.00(A)
 21.674  21.674 (1.016)    91  21363976                  145.05- 245.05   193.08
-------------------------------------------------------------------------------
  130 o-Xylene                                         CAS #: 95-47-6
 22.393  22.393 (1.049)   106   9336788 200.000   199.36  80.00- 120.00   100.00
```

```
                                          AMOUNTS
                                       CAL-AMT   ON-COL
   RT   EXP RT (REL RT)  MASS  RESPONSE ( PPBV)  ( PPBV)   TARGET RANGE    RATIO
   ==   ====== ========  ====  ======== =======  =======   ============    =====

  130 o-Xylene (continued)
 22.393  22.393 (1.049)    91  18842407                  154.65- 254.65   201.81
-------------------------------------------------------------------------------
  131 Styrene                                      CAS #: 100-42-5
 22.421  22.421 (1.051)   104  15984259 200.000   220.66  80.00- 120.00   100.00(A)
 22.421  22.421 (1.051)    78   7823852                    1.69- 101.69    48.95
-------------------------------------------------------------------------------
  133 Bromoform                                    CAS #: 75-25-2
 22.835  22.836 (1.070)   173  11006294 200.000   182.67  80.00- 120.00   100.00
 22.835  22.836 (1.070)   171   5759605                    1.22- 101.22    52.33
-------------------------------------------------------------------------------
  134 Cumene                                       CAS #: 98-82-8
 22.974  22.974 (1.076)   105  23858342 200.000   201.74  80.00- 120.00   100.00(A)
 22.974  22.974 (1.076)   120   6668314                    0.00-  78.08    27.95
 22.946  22.974 (1.075)    51   2635407                    0.00-  61.43    11.05
-------------------------------------------------------------------------------
  140 1,1,2,2-Tetrachloroethane                    CAS #: 79-34-5
 23.527  23.527 (1.102)    83  15236549 200.000   194.77  80.00- 120.00   100.00
 23.527  23.527 (1.102)    85   9937979                   14.35- 114.35    65.22
-------------------------------------------------------------------------------
  142 Propylbenzene                                CAS #: 103-65-1
 23.637  23.637 (1.108)    91  29315025 200.000   184.82  80.00- 120.00   100.00
 23.637  23.637 (1.108)   120   7179772                    0.00-  72.94    24.49
 23.637  23.637 (1.108)   105   1208835                    0.00-  54.03     4.12
-------------------------------------------------------------------------------
  145 4-Ethyltoluene                               CAS #: 622-96-8
 23.831  23.831 (1.117)   105  28130830 200.000   200.83  80.00- 120.00   100.00(A)
 23.831  23.831 (1.117)   120   8039568                    0.00-  78.42    28.58
-------------------------------------------------------------------------------
  147 1,3,5-Trimethylbenzene                       CAS #: 108-67-8
 23.914  23.914 (1.120)   105  19886270 200.000   180.74  80.00- 120.00   100.00
 23.914  23.914 (1.120)   120  11506570                    3.80- 103.80    57.86
-------------------------------------------------------------------------------
  150 1,2,4-Trimethylbenzene                       CAS #: 95-63-6
 24.550  24.550 (1.150)   105  19601387 200.000   196.03  80.00- 120.00   100.00
 24.550  24.550 (1.150)   120   9673988                    0.00-  98.95    49.35
-------------------------------------------------------------------------------
  155 1,3-Dichlorobenzene                          CAS #: 541-73-1
 25.130  25.130 (1.177)   146  14469122 200.000   187.00  80.00- 120.00   100.00
 25.130  25.130 (1.177)   148   9170698                   14.48- 114.48    63.38
 25.130  25.130 (1.177)   111   5741172                    0.00-  89.68    39.68
-------------------------------------------------------------------------------
  156 1,4-Dichlorobenzene                          CAS #: 106-46-7
 25.269  25.269 (1.184)   146  14827054 200.000   183.87  80.00- 120.00   100.00
 25.269  25.269 (1.184)   148   9476740                   13.81- 113.81    63.92
 25.269  25.269 (1.184)   111   5716851                    0.00-  87.35    38.56
-------------------------------------------------------------------------------
```

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS CAL-AMT (PPBV)	ON-COL (PPBV)	TARGET RANGE	RATIO
159 alpha-Chlorotoluene					CAS #: 100-44-7		
25.490	25.490 (1.194)	91	23309446	200.000	217.73	80.00- 120.00	100.00(A)
25.490	25.490 (1.194)	126	4853718			0.00- 71.29	20.82
161 1,2-Dichlorobenzene					CAS #: 95-50-1		
25.932	25.932 (1.215)	146	13249955	200.000	183.92	80.00- 120.00	100.00
25.932	25.932 (1.215)	148	8480902			14.30- 114.30	64.01
25.905	25.932 (1.214)	111	5527605			0.00- 90.50	41.72
165 1,2,4-Trichlorobenzene					CAS #: 120-82-1		
28.808	28.808 (1.350)	180	6421549	200.000	217.94	80.00- 120.00	100.00(A)
28.808	28.808 (1.350)	182	6143942			45.65- 145.65	95.68
166 Hexachlorobutadiene					CAS #: 87-68-3		
29.001	29.001 (1.359)	225	4260828	200.000	173.94	80.00- 120.00	100.00
29.001	29.001 (1.359)	223	2664913			12.64- 112.64	62.54
167 Naphthalene					CAS #: 91-20-3		
29.388	29.388 (1.377)	128	13072303	200.000	236.80	80.00- 120.00	100.00(A)
29.388	29.388 (1.377)	127	1572392			0.00- 62.50	12.03
29 Isopentane					CAS #: 78-78-4		
8.402	8.375 (0.583)	43	10508368	200.000	217.77	80.00- 120.00	100.00(A)
8.402	8.375 (0.583)	57	7144223			16.48- 116.48	67.99
19 Butane					CAS #: 106-97-8		
6.826	6.771 (0.474)	58	1573883	200.000	208.82	80.00- 120.00	100.00(A)
6.799	6.771 (0.472)	43	12494796			757.70- 857.70	793.88
102 Methyl Cyclohexane					CAS #: 108-87-2		
16.918	16.919 (1.175)	83	10993866	200.000	227.21	80.00- 120.00	100.00(A)
16.918	16.919 (1.175)	98	5086864			0.00- 96.13	46.27
16.891	16.919 (1.173)	55	9808425			38.51- 138.51	89.22

QC Flag Legend

A - Target compound detected but, quantitated amount exceeded maximum amount.

Report Date: 23-Oct-2007 09:34

Air Toxics Ltd.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd7.i
Lab File ID: 7101808.d
Lab Smp Id: ICAL
Analysis Type: VOA
Quant Type: ISTD
Operator: cb
Method File: /chem/msd7.i/7-18oct.b/t14qO18a.m
Misc Info: 200ppbv --> 200ppbv

Calibration Date: 18-OCT-2007
Calibration Time: 15:26
Client Smp ID: Level 7
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
81 Bromochloromethan	683549	410129	956969	676936	-0.97
97 1,4-Difluorobenze	2204815	1322889	3086741	2378077	7.86
126 Chlorobenzene-d5	1812979	1087787	2538171	1869726	3.13

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
81 Bromochloromethan	14.40	14.07	14.73	14.40	0.00
97 1,4-Difluorobenze	16.17	15.84	16.50	16.17	0.00
126 Chlorobenzene-d5	21.37	21.04	21.70	21.34	-0.13

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

0339

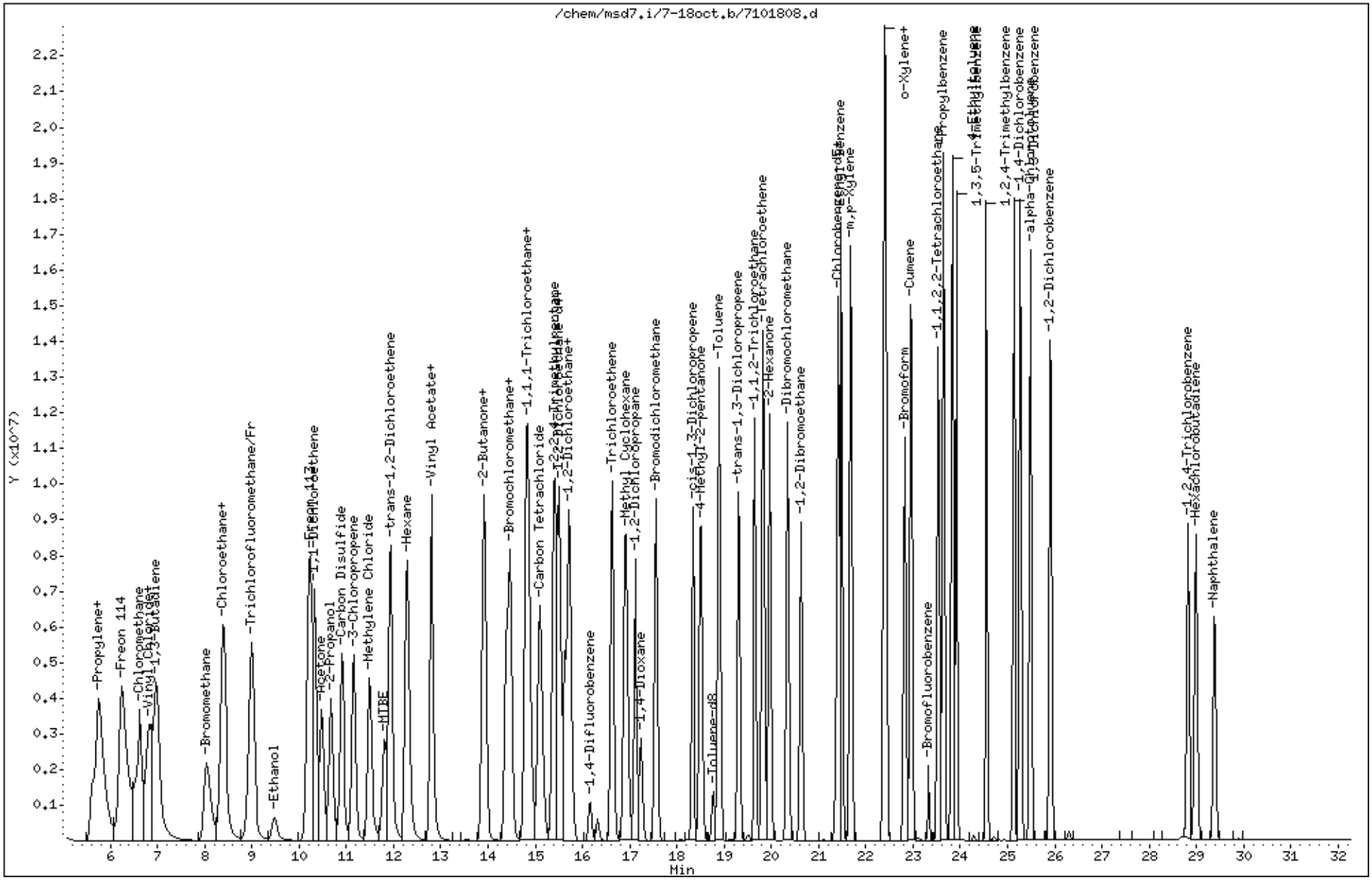
Data File: /chem/msd7.i/7-18oct.b/7101808.d
Date : 18-OCT-2007 17:39
Client ID: Level 7
Sample Info: 200mL #1576-50

Instrument: msd7.i

Operator: cb

Column phase: RTx-624

Column diameter: 0.53



AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: CCV

Lab ID#: 0711008-08A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**7110409**	**Date of Collection: NA**
Dil. Factor:	**1.00**	**Date of Analysis: 11/4/07 10:27 PM**

Compound	%Recovery
Freon 12	80
Freon 114	87
Chloromethane	81
Vinyl Chloride	80
1,3-Butadiene	87
Bromomethane	75
Chloroethane	83
Freon 11	86
Ethanol	89
Freon 113	91
1,1-Dichloroethene	86
Acetone	82
2-Propanol	90
Carbon Disulfide	77
Methylene Chloride	85
Methyl tert-butyl ether	81
trans-1,2-Dichloroethene	84
Hexane	90
1,1-Dichloroethane	86
2-Butanone (Methyl Ethyl Ketone)	88
cis-1,2-Dichloroethene	91
Tetrahydrofuran	97
Chloroform	92
1,1,1-Trichloroethane	94
Cyclohexane	93
Carbon Tetrachloride	98
Benzene	93
1,2-Dichloroethane	87
Heptane	94
Trichloroethene	96
1,2-Dichloropropane	94
1,4-Dioxane	91
Bromodichloromethane	95
cis-1,3-Dichloropropene	96
4-Methyl-2-pentanone	100
Toluene	96
trans-1,3-Dichloropropene	98
1,1,2-Trichloroethane	101
Tetrachloroethene	111

AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: CCV

Lab ID#: 0711008-08A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**7110409**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 11/4/07 10:27 PM**	

Compound	**%Recovery**
2-Hexanone	96
Dibromochloromethane	108
1,2-Dibromoethane (EDB)	104
Chlorobenzene	100
Ethyl Benzene	101
m,p-Xylene	101
o-Xylene	100
Styrene	111
Bromoform	112
1,1,2,2-Tetrachloroethane	92
4-Ethyltoluene	96
1,3,5-Trimethylbenzene	97
1,2,4-Trimethylbenzene	101
1,3-Dichlorobenzene	102
1,4-Dichlorobenzene	101
alpha-Chlorotoluene	82
1,2-Dichlorobenzene	96
1,2,4-Trichlorobenzene	88
Hexachlorobutadiene	91
Chlorodifluoromethane	91
Methanol	93
n-Butanol	105
Propylene	84

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
Toluene-d8	100	70-130
1,2-Dichloroethane-d4	92	70-130
4-Bromofluorobenzene	105	70-130

Air Toxics Ltd.

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: msd7.i Injection Date: 04-NOV-2007 22:27
Lab File ID: 7110409.d Init. Cal. Date(s): 18-OCT-2007 30-OCT-2007
Analysis Type: AIR Init. Cal. Times: 12:17 11:10
Lab Sample ID: ccv-1 Quant Type: ISTD
Method: /chem/msd7.i/7-04nova.b/t14qO18c.m

COMPOUND	RRF / AMOUNT	RF50	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
$ 90 1,2-Dichloroethane-d4	1.34304	1.23144	0.010	8.31002	30.00000	Averaged
$ 113 Toluene-d8	0.88746	0.89168	0.010	-0.47465	30.00000	Averaged
$ 137 Bromofluorobenzene	0.59489	0.62400	0.010	-4.89301	30.00000	Averaged
11 Propylene	1.07750	0.90544	0.010	15.96857	30.00000	Averaged
12 Dichlorodifluoromethane/Fr1	3.95067	3.15078	0.010	20.24686	30.00000	Averaged
16 Freon 114	2.68890	2.33126	0.010	13.30067	30.00000	Averaged
18 Chloromethane	1.29926	1.05795	0.010	18.57293	30.00000	Averaged
20 Vinyl Chloride	1.62201	1.30544	0.010	19.51727	30.00000	Averaged
22 1,3-Butadiene	1.16186	1.01526	0.010	12.61752	30.00000	Averaged
25 Bromomethane	1.43619	1.07579	0.010	25.09418	30.00000	Averaged
27 Chloroethane	0.71958	0.59926	0.010	16.72125	30.00000	Averaged
31 Trichlorofluoromethane/Fr11	3.68565	3.15710	0.010	14.34084	30.00000	Averaged
38 Ethanol	0.50270	0.44971	0.010	10.54079	30.00000	Averaged
42 Freon 113	2.04987	1.86730	0.010	8.90663	30.00000	Averaged
43 1,1-Dichloroethene	2.18125	1.88396	0.010	13.62933	30.00000	Averaged
45 Acetone	0.67421	0.55686	0.010	17.40638	30.00000	Averaged
46 2-Propanol	2.39202	2.16631	0.010	9.43597	30.00000	Averaged
47 Carbon Disulfide	4.16162	3.20455	0.010	22.99760	30.00000	Averaged
51 3-Chloropropene	0.67724	0.52203	0.010	22.91849	30.00000	Averaged
54 Methylene Chloride	1.60367	1.36767	0.010	14.71626	30.00000	Averaged
60 MTBE	2.43665	1.97491	0.010	18.94982	30.00000	Averaged
61 trans-1,2-Dichloroethene	1.48204	1.24640	0.010	15.89979	30.00000	Averaged
65 Hexane	2.11488	1.89446	0.010	10.42241	30.00000	Averaged
69 Vinyl Acetate	0.31955	0.26711	0.010	16.41043	30.00000	Averaged
70 1,1-Dichloroethane	2.53322	2.19005	0.010	13.54691	30.00000	Averaged
75 2-Butanone	0.54146	0.47592	0.010	12.10499	30.00000	Averaged
76 cis-1,2-Dichloroethene	1.77314	1.61312	0.010	9.02474	30.00000	Averaged
80 Tetrahydrofuran	1.41176	1.36949	0.010	2.99393	30.00000	Averaged
82 Chloroform	2.51713	2.31546	0.010	8.01175	30.00000	Averaged
83 1,1,1-Trichloroethane	2.53479	2.38419	0.010	5.94145	30.00000	Averaged
85 Cyclohexane	1.45184	1.35531	0.010	6.64845	30.00000	Averaged
87 Carbon Tetrachloride	2.37608	2.32500	0.010	2.15005	30.00000	Averaged
89 2,2,4-Trimethylpentane	5.07476	4.91832	0.010	3.08281	30.00000	Averaged
91 Benzene	0.99332	0.92678	0.010	6.69903	30.00000	Averaged
93 1,2-Dichloroethane	0.52777	0.45910	0.010	13.01193	30.00000	Averaged

Air Toxics Ltd.

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: msd7.i Injection Date: 04-NOV-2007 22:27
Lab File ID: 7110409.d Init. Cal. Date(s): 18-OCT-2007 30-OCT-2007
Analysis Type: AIR Init. Cal. Times: 12:17 11:10
Lab Sample ID: ccv-1 Quant Type: ISTD
Method: /chem/msd7.i/7-04nova.b/t14qO18c.m

COMPOUND	RRF / AMOUNT	RF50	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
94 Heptane	0.30549	0.28613	0.010	6.33854	30.00000	Averaged
101 Trichloroethene	0.44124	0.42357	0.010	4.00352	30.00000	Averaged
104 1,2-Dichloropropane	0.38121	0.35711	0.010	6.32203	30.00000	Averaged
106 1,4-Dioxane	0.24794	0.22471	0.010	9.36749	30.00000	Averaged
107 Bromodichloromethane	0.76606	0.72991	0.010	4.71809	30.00000	Averaged
110 cis-1,3-Dichloropropene	0.53866	0.51465	0.010	4.45784	30.00000	Averaged
111 4-Methyl-2-pentanone	0.29726	0.29747	0.010	-0.07269	30.00000	Averaged
114 Toluene	1.08799	1.04694	0.010	3.77271	30.00000	Averaged
116 trans-1,3-Dichloropropene	0.71002	0.69949	0.010	1.48247	30.00000	Averaged
117 1,1,2-Trichloroethane	0.51782	0.52275	0.010	-0.95210	30.00000	Averaged
120 Tetrachloroethene	0.67159	0.74503	0.010	-10.93607	30.00000	Averaged
121 2-Hexanone	0.55495	0.53228	0.010	4.08498	30.00000	Averaged
122 Dibromochloromethane	0.91748	0.99039	0.010	-7.94652	30.00000	Averaged
123 1,2-Dibromoethane	0.84888	0.87963	0.010	-3.62213	30.00000	Averaged
127 Chlorobenzene	1.13099	1.13505	0.010	-0.35823	30.00000	Averaged
128 Ethyl Benzene	0.57731	0.58146	0.010	-0.71738	30.00000	Averaged
129 m,p-Xylene	0.72261	0.72962	0.010	-0.96945	30.00000	Averaged
130 o-Xylene	0.62621	0.62900	0.010	-0.44601	30.00000	Averaged
131 Styrene	0.96855	1.07675	0.010	-11.17212	30.00000	Averaged
133 Bromoform	0.80564	0.90109	0.010	-11.84723	30.00000	Averaged
134 Cumene	1.58127	1.62763	0.010	-2.93198	30.00000	Averaged
140 1,1,2,2-Tetrachloroethane	1.04598	0.96697	0.010	7.55358	30.00000	Averaged
142 Propylbenzene	2.12085	2.06445	0.010	2.65919	30.00000	Averaged
145 4-Ethyltoluene	1.87287	1.79932	0.010	3.92751	30.00000	Averaged
147 1,3,5-Trimethylbenzene	1.47112	1.43193	0.010	2.66387	30.00000	Averaged
150 1,2,4-Trimethylbenzene	1.33697	1.35164	0.010	-1.09762	30.00000	Averaged
155 1,3-Dichlorobenzene	1.03460	1.05267	0.010	-1.74686	30.00000	Averaged
156 1,4-Dichlorobenzene	1.07824	1.08804	0.010	-0.90906	30.00000	Averaged
159 alpha-Chlorotoluene	1.43143	1.17298	0.010	18.05536	30.00000	Averaged
161 1,2-Dichlorobenzene	0.96328	0.92877	0.010	3.58268	30.00000	Averaged
165 1,2,4-Trichlorobenzene	0.39398	0.34872	0.010	11.48860	30.00000	Averaged
166 Hexachlorobutadiene	0.32753	0.29700	0.010	9.32009	30.00000	Averaged
29 Isopentane	1.78205	1.51569	0.010	14.94676	30.00000	Averaged
19 Butane	0.27835	0.22812	0.010	18.04491	30.00000	Averaged
102 Methyl Cyclohexane	1.78694	1.72677	0.010	3.36745	30.00000	Averaged
167 Naphthalene	0.73814	0.61031	0.010	17.31766	30.00000	Averaged

Air Toxics Ltd.

AMBIENT AIR METHOD TO14

Data file : /chem/msd7.i/7-04nova.b/7110409.d
Lab Smp Id: ccv-1 Client Smp ID: ccv-1
Inj Date : 04-NOV-2007 22:27
Operator : dm Inst ID: msd7.i
Smp Info : 100mL #1576-50A
Misc Info : 100ppbv-50ppbv
Comment :
Method : /chem/msd7.i/7-04nova.b/t14qO18c.m
Meth Date : 05-Nov-2007 00:40 dmendoza Quant Type: ISTD
Cal Date : 30-OCT-2007 11:10 Cal File: 7103005.d
Als bottle: 1 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: AT04ENSR.sub
Target Version: 3.50 Sample Matrix: AIR
Processing Host: eeyore

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS CAL-AMT (PPBV)	AMOUNTS ON-COL (PPBV)	TARGET RANGE	RATIO
* 81 Bromochloromethane					CAS #: 74-97-5		
14.388	14.388 (1.000)	130	651162	25.0000		80.00- 120.00	100.00
14.388	14.388 (1.000)	128	508454			28.08- 128.08	78.08
14.388	14.388 (1.000)	49	1164258			128.80- 228.80	178.80
* 97 1,4-Difluorobenzene					CAS #: 540-36-3		
16.158	16.158 (1.000)	114	2188066	25.0000		80.00- 120.00	100.00
16.158	16.158 (1.000)	88	325633			0.00- 64.88	14.88
* 126 Chlorobenzene-d5					CAS #: 3114-55-4		
21.356	21.356 (1.000)	117	1729248	25.0000		80.00- 120.00	100.00
21.356	21.356 (1.000)	82	880677			4.45- 104.45	50.93
$ 90 1,2-Dichloroethane-d4					CAS #: 17060-07-0		
15.494	15.494 (1.077)	65	801864	25.0000	22.922	80.00- 120.00	100.00
15.494	15.494 (1.077)	67	435879			2.91- 102.91	54.36
$ 113 Toluene-d8					CAS #: 2037-26-5		
18.757	18.757 (1.161)	98	1951045	25.0000	25.119	80.00- 120.00	100.00
18.757	18.757 (1.161)	70	198286			0.00- 61.46	10.16

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS CAL-AMT (PPBV)	AMOUNTS ON-COL (PPBV)	TARGET RANGE	RATIO
$ 113 Toluene-d8 (continued)							
18.757	18.757 (1.161)	100	1345596			19.18- 119.18	68.97
$ 137 Bromofluorobenzene						CAS #: 460-00-4	
23.347	23.347 (1.093)	174	1079056	25.0000	26.223	80.00- 120.00	100.00
23.319	23.319 (1.092)	95	1224575			63.49- 163.49	113.49
23.347	23.347 (1.093)	176	1044164			46.77- 146.77	96.77
11 Propylene						CAS #: 115-07-1	
5.617	5.617 (0.390)	41	1179179	50.0000	42.016	80.00- 120.00	100.00
5.617	5.617 (0.390)	42	828510			21.19- 121.19	70.26
5.617	5.617 (0.390)	39	880430			24.83- 124.83	74.66
12 Dichlorodifluoromethane/Fr12						CAS #: 75-71-8	
5.729	5.729 (0.398)	85	4103337	50.0000	39.876	80.00- 120.00	100.00
5.729	5.729 (0.398)	87	1316369			0.00- 83.07	32.08
16 Freon 114						CAS #: 76-14-2	
6.180	6.180 (0.430)	135	3036051	50.0000	43.350	80.00- 120.00	100.00
6.180	6.180 (0.430)	137	968470			0.00- 81.90	31.90
18 Chloromethane						CAS #: 74-87-3	
6.518	6.518 (0.453)	50	1377797	50.0000	40.714	80.00- 120.00	100.00
6.518	6.518 (0.453)	52	469242			0.00- 84.80	34.06
20 Vinyl Chloride						CAS #: 75-01-4	
6.856	6.856 (0.476)	62	1700106	50.0000	40.241	80.00- 120.00	100.00
6.856	6.856 (0.476)	64	523822			0.00- 83.25	30.81
22 1,3-Butadiene						CAS #: 106-99-0	
6.940	6.940 (0.482)	54	1322195	50.0000	43.691	80.00- 120.00	100.00
6.940	6.940 (0.482)	39	1368847			55.97- 155.97	103.53
25 Bromomethane						CAS #: 74-83-9	
8.011	8.011 (0.557)	94	1401028	50.0000	37.453	80.00- 120.00	100.00
8.011	8.011 (0.557)	96	1318788			44.13- 144.13	94.13
27 Chloroethane						CAS #: 75-00-3	
8.348	8.348 (0.580)	64	780426	50.0000	41.639	80.00- 120.00	100.00
8.348	8.348 (0.580)	49	229577			0.00- 79.34	29.42
8.348	8.348 (0.580)	66	242995			0.00- 83.15	31.14
31 Trichlorofluoromethane/Fr11						CAS #: 75-69-4	
8.940	8.940 (0.621)	101	4111565	50.0000	42.830	80.00- 120.00	100.00
8.940	8.940 (0.621)	103	2654108			14.55- 114.55	64.55

AMOUNTS

RT	EXP RT (REL RT)	MASS	RESPONSE	CAL-AMT (PPBV)	ON-COL (PPBV)	TARGET RANGE	RATIO
38 Ethanol					CAS #: 64-17-5		
9.439	9.439 (0.656)	45	585672	50.0000	44.730	80.00- 120.00	100.00
9.439	9.439 (0.656)	43	120372			0.00- 72.83	20.55
9.439	9.439 (0.656)	46	217438			0.00- 88.20	37.13
42 Freon 113					CAS #: 76-13-1		
10.186	10.186 (0.708)	151	2431826	50.0000	45.547	80.00- 120.00	100.00
10.186	10.186 (0.708)	153	1538789			13.28- 113.28	63.28
10.186	10.186 (0.708)	101	2687424			60.51- 160.51	110.51
43 1,1-Dichloroethene					CAS #: 75-35-4		
10.324	10.324 (0.718)	61	2453522	50.0000	43.185	80.00- 120.00	100.00
10.324	10.324 (0.718)	96	1428647			8.23- 108.23	58.23
10.324	10.324 (0.718)	98	917169			0.00- 87.38	37.38
45 Acetone					CAS #: 67-64-1		
10.462	10.462 (0.727)	58	725208	50.0000	41.297	80.00- 120.00	100.00
10.462	10.462 (0.727)	43	2388629			247.10- 347.10	329.37
46 2-Propanol					CAS #: 67-63-0		
10.656	10.656 (0.741)	45	2821238	50.0000	45.282	80.00- 120.00	100.00
10.656	10.656 (0.741)	43	644933			0.00- 75.54	22.86
10.656	10.656 (0.741)	59	99483			0.00- 53.72	3.53
47 Carbon Disulfide					CAS #: 75-15-0		
10.877	10.877 (0.756)	76	4173362	50.0000	38.501	80.00- 120.00	100.00
51 3-Chloropropene					CAS #: 107-05-1		
11.153	11.153 (0.775)	76	679852	50.0000	38.541	80.00- 120.00	100.00
11.153	11.153 (0.775)	41	2070327			224.96- 324.96	304.53
54 Methylene Chloride					CAS #: 75-09-2		
11.457	11.457 (0.796)	49	1781150	50.0000	42.642	80.00- 120.00	100.00
11.457	11.457 (0.796)	84	1170676			15.73- 115.73	65.73
11.457	11.457 (0.796)	51	548326			0.00- 80.85	30.78
60 MTBE					CAS #: 1634-04-4		
11.817	11.817 (0.821)	73	2571971	50.0000	40.525	80.00- 120.00	100.00
11.817	11.817 (0.821)	57	634285			0.00- 74.66	24.66
11.817	11.817 (0.821)	41	633451			0.00- 76.16	24.63
61 trans-1,2-Dichloroethene					CAS #: 156-60-5		
11.928	11.928 (0.829)	96	1623216	50.0000	42.050	80.00- 120.00	100.00
11.928	11.928 (0.829)	61	2443928			100.56- 200.56	150.56
11.928	11.928 (0.829)	98	1058164			11.77- 111.77	65.19

AMOUNTS

RT	EXP RT (REL RT)	MASS	RESPONSE	CAL-AMT (PPBV)	ON-COL (PPBV)	TARGET RANGE	RATIO
65 Hexane					CAS #: 110-54-3		
12.287	12.287 (0.854)	57	2467198	50.0000	44.789	80.00- 120.00	100.00
12.287	12.287 (0.854)	43	1669144			17.84- 117.84	67.65
12.287	12.287 (0.854)	86	339623			0.00- 65.07	13.77
69 Vinyl Acetate					CAS #: 108-05-4		
12.785	12.785 (0.889)	86	347864	50.0000	41.795	80.00- 120.00	100.00
12.785	12.785 (0.889)	43	4496218			1150.46-1250.46	1292.52
70 1,1-Dichloroethane					CAS #: 75-34-3		
12.812	12.812 (0.890)	63	2852153	50.0000	43.226	80.00- 120.00	100.00
12.812	12.812 (0.890)	65	881488			0.00- 80.91	30.91
75 2-Butanone					CAS #: 78-93-3		
13.891	13.891 (0.965)	72	619799	50.0000	43.948	80.00- 120.00	100.00
13.891	13.891 (0.965)	43	3152230			458.59- 558.59	508.59
13.891	13.891 (0.965)	57	233106			0.00- 86.57	37.61
76 cis-1,2-Dichloroethene					CAS #: 156-59-2		
13.918	13.918 (0.967)	61	2100809	50.0000	45.488	80.00- 120.00	100.00
13.918	13.918 (0.967)	96	1536096			23.12- 123.12	73.12
13.918	13.918 (0.967)	98	999764			0.00- 97.59	47.59
80 Tetrahydrofuran					CAS #: 109-99-9		
14.388	14.388 (1.000)	42	1783522	50.0000	48.503	80.00- 120.00	100.00
14.388	14.388 (1.000)	71	598690			0.00- 83.57	33.57
14.388	14.388 (1.000)	72	648551			0.00- 87.82	36.36
82 Chloroform					CAS #: 67-66-3		
14.471	14.471 (1.006)	83	3015480	50.0000	45.994	80.00- 120.00	100.00
14.471	14.471 (1.006)	85	1989690			15.98- 115.98	65.98
83 1,1,1-Trichloroethane					CAS #: 71-55-6		
14.831	14.831 (1.031)	97	3104986	50.0000	47.029	80.00- 120.00	100.00
14.831	14.831 (1.031)	99	2000324			14.42- 114.42	64.42
85 Cyclohexane					CAS #: 110-82-7		
14.831	14.831 (1.031)	84	1765059	50.0000	46.676	80.00- 120.00	100.00
14.831	14.831 (1.031)	56	2318180			81.34- 181.34	131.34
14.831	14.831 (1.031)	41	1299860			23.64- 123.64	73.64
87 Carbon Tetrachloride					CAS #: 56-23-5		
15.107	15.107 (1.050)	119	3027900	50.0000	48.925	80.00- 120.00	100.00
15.080	15.080 (1.048)	117	3155462			54.21- 154.21	104.21
89 2,2,4-Trimethylpentane					CAS #: 540-84-1		
15.411	15.411 (1.071)	57	6405241	50.0000	48.458	80.00- 120.00	100.00

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                                          AMOUNTS
                                       CAL-AMT   ON-COL
   RT   EXP RT (REL RT)  MASS  RESPONSE ( PPBV)  ( PPBV)   TARGET RANGE    RATIO
   ==   ====== ========  ====  ======== =======  =======   ============    =====

   89 2,2,4-Trimethylpentane (continued)
 15.411  15.411 (1.071)    56   2174431                     0.00-  84.62    33.95
 15.411  15.411 (1.071)    41   1648316                     0.00-  79.27    25.73
-------------------------------------------------------------------------------
   91 Benzene                                        CAS #: 71-43-2
 15.522  15.522 (0.961)    78   4055709 50.0000   46.650  80.00- 120.00   100.00
 15.522  15.522 (0.961)    77    889502                     0.00-  71.87    21.93
-------------------------------------------------------------------------------
   93 1,2-Dichloroethane                             CAS #: 107-06-2
 15.633  15.633 (0.967)    62   2009063 50.0000   43.494  80.00- 120.00   100.00
 15.633  15.633 (0.967)    64    639620                     0.00-  82.89    31.84
-------------------------------------------------------------------------------
   94 Heptane                                        CAS #: 142-82-5
 15.716  15.716 (0.973)    71   1252133 50.0000   46.831  80.00- 120.00   100.00
 15.716  15.716 (0.973)    43   2585747                   158.53- 258.53   206.51
 15.716  15.716 (0.973)    57   1377577                    59.34- 159.34   110.02
-------------------------------------------------------------------------------
  101 Trichloroethene                                CAS #: 79-01-6
 16.628  16.628 (1.029)    95   1853617 50.0000   47.998  80.00- 120.00   100.00
 16.628  16.628 (1.029)   130   1945472                    54.96- 154.96   104.96
 16.628  16.628 (1.029)    97   1205426                    15.03- 115.03    65.03
-------------------------------------------------------------------------------
  104 1,2-Dichloropropane                           CAS #: 78-87-5
 17.126  17.126 (1.060)    63   1562743 50.0000   46.839  80.00- 120.00   100.00
 17.126  17.126 (1.060)    62   1132619                    22.48- 122.48    72.48
 17.126  17.126 (1.060)    41    942992                    10.34- 110.34    60.34
-------------------------------------------------------------------------------
  106 1,4-Dioxane                                   CAS #: 123-91-1
 17.236  17.236 (1.067)    88    983368 50.0000   45.316  80.00- 120.00   100.00
 17.236  17.236 (1.067)    58    696079                    20.79- 120.79    70.79
 17.236  17.236 (1.067)    57    227364                     0.00-  74.60    23.12
-------------------------------------------------------------------------------
  107 Bromodichloromethane                          CAS #: 75-27-4
 17.540  17.540 (1.086)    83   3194199 50.0000   47.641  80.00- 120.00   100.00
 17.540  17.540 (1.086)    85   2046473                    14.07- 114.07    64.07
-------------------------------------------------------------------------------
  110 cis-1,3-Dichloropropene                       CAS #: 10061-01-5
 18.342  18.342 (1.135)    75   2252177 50.0000   47.771  80.00- 120.00   100.00
 18.342  18.342 (1.135)    77    724360                     0.00-  82.16    32.16
 18.342  18.342 (1.135)    39   1245364                     5.30- 105.30    55.30
-------------------------------------------------------------------------------
  111 4-Methyl-2-pentanone                          CAS #: 108-10-1
 18.508  18.508 (1.145)    58   1301783 50.0000   50.036  80.00- 120.00   100.00
 18.508  18.508 (1.145)    43   3354684                   222.97- 322.97   257.70
 18.508  18.508 (1.145)    85    505317                     0.00-  90.48    38.82
-------------------------------------------------------------------------------
```

AMOUNTS

RT	EXP RT (REL RT)	MASS	RESPONSE	CAL-AMT (PPBV)	ON-COL (PPBV)	TARGET RANGE	RATIO
114 Toluene					CAS #: 108-88-3		
18.895	18.895 (1.169)	91	4581561	50.0000	48.114	80.00- 120.00	100.00
18.895	18.895 (1.169)	92	2877815			12.81- 112.81	62.81
116 trans-1,3-Dichloropropene					CAS #: 10061-02-6		
19.310	19.310 (0.904)	75	2419187	50.0000	49.259	80.00- 120.00	100.00
19.310	19.310 (0.904)	77	779241			0.00- 82.21	32.21
19.310	19.310 (0.904)	39	1239632			1.24- 101.24	51.24
117 1,1,2-Trichloroethane					CAS #: 79-00-5		
19.669	19.669 (0.921)	97	1807916	50.0000	50.476	80.00- 120.00	100.00
19.669	19.669 (0.921)	99	1131199			12.57- 112.57	62.57
19.642	19.642 (0.920)	83	1478293			31.77- 131.77	81.77
120 Tetrachloroethene					CAS #: 127-18-4		
19.835	19.835 (0.929)	166	2576695	50.0000	55.468	80.00- 120.00	100.00
19.835	19.835 (0.929)	129	1769268			18.66- 118.66	68.66
19.835	19.835 (0.929)	131	1721418			16.81- 116.81	66.81
121 2-Hexanone					CAS #: 591-78-6		
19.974	19.974 (0.935)	58	1840877	50.0000	47.958	80.00- 120.00	100.00
19.974	19.974 (0.935)	43	3363891			132.73- 232.73	182.73
19.974	19.974 (0.935)	100	320497			0.00- 67.05	17.41
122 Dibromochloromethane					CAS #: 124-48-1		
20.361	20.361 (0.953)	129	3425262	50.0000	53.973	80.00- 120.00	100.00
20.361	20.361 (0.953)	127	2648377			27.62- 127.62	77.32
123 1,2-Dibromoethane					CAS #: 106-93-4		
20.637	20.637 (0.966)	107	3042191	50.0000	51.811	80.00- 120.00	100.00
20.637	20.637 (0.966)	109	2902204			45.40- 145.40	95.40
127 Chlorobenzene					CAS #: 108-90-7		
21.411	21.411 (1.003)	112	3925550	50.0000	50.179	80.00- 120.00	100.00
21.411	21.411 (1.003)	114	1273713			0.00- 82.45	32.45
21.411	21.411 (1.003)	77	2622364			16.80- 116.80	66.80
128 Ethyl Benzene					CAS #: 100-41-4		
21.494	21.494 (1.006)	106	2010965	50.0000	50.359	80.00- 120.00	100.00
21.494	21.494 (1.006)	91	6076836			261.69- 361.69	302.19
129 m,p-Xylene					CAS #: 108-38-3		
21.688	21.688 (1.016)	106	2523376	50.0000	50.485	80.00- 120.00	100.00
21.688	21.688 (1.016)	91	4766816			145.05- 245.05	188.91
130 o-Xylene					CAS #: 95-47-6		
22.379	22.379 (1.048)	106	2175410	50.0000	50.223	80.00- 120.00	100.00

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS CAL-AMT (PPBV)	AMOUNTS ON-COL (PPBV)	TARGET RANGE	RATIO
130 o-Xylene (continued)							
22.379	22.379 (1.048)	91	4352086			150.06- 250.06	200.06
131 Styrene					CAS #: 100-42-5		
22.407	22.407 (1.049)	104	3723945	50.0000	55.586	80.00- 120.00	100.00
22.407	22.407 (1.049)	78	1738581			0.00- 96.69	46.69
133 Bromoform					CAS #: 75-25-2		
22.821	22.821 (1.069)	173	3116406	50.0000	55.924	80.00- 120.00	100.00
22.821	22.821 (1.069)	171	1605054			1.50- 101.50	51.50
134 Cumene					CAS #: 98-82-8		
22.960	22.960 (1.075)	105	5629162	50.0000	51.466	80.00- 120.00	100.00
22.960	22.960 (1.075)	120	1589881			0.00- 78.08	28.24
22.960	22.960 (1.075)	51	532192			0.00- 61.43	9.45
140 1,1,2,2-Tetrachloroethane					CAS #: 79-34-5		
23.540	23.540 (1.102)	83	3344260	50.0000	46.223	80.00- 120.00	100.00
23.540	23.540 (1.102)	85	2150700			14.31- 114.31	64.31
142 Propylbenzene					CAS #: 103-65-1		
23.651	23.651 (1.107)	91	7139904	50.0000	48.670	80.00- 120.00	100.00
23.651	23.651 (1.107)	120	1713270			0.00- 72.94	24.00
23.651	23.651 (1.107)	105	258516			0.00- 54.03	3.62
145 4-Ethyltoluene					CAS #: 622-96-8		
23.817	23.817 (1.115)	105	6222932	50.0000	48.036	80.00- 120.00	100.00
23.817	23.817 (1.115)	120	2015124			0.00- 82.38	32.38
147 1,3,5-Trimethylbenzene					CAS #: 108-67-8		
23.927	23.927 (1.120)	105	4952335	50.0000	48.668	80.00- 120.00	100.00
23.927	23.927 (1.120)	120	2624471			3.80- 103.80	52.99
150 1,2,4-Trimethylbenzene					CAS #: 95-63-6		
24.563	24.563 (1.150)	105	4674642	50.0000	50.549	80.00- 120.00	100.00
24.563	24.563 (1.150)	120	2312743			0.00- 98.95	49.47
155 1,3-Dichlorobenzene					CAS #: 541-73-1		
25.116	25.116 (1.176)	146	3640663	50.0000	50.873	80.00- 120.00	100.00
25.116	25.116 (1.176)	148	2322745			14.48- 114.48	63.80
25.116	25.116 (1.176)	111	1363625			0.00- 89.68	37.46
156 1,4-Dichlorobenzene					CAS #: 106-46-7		
25.282	25.282 (1.184)	146	3762975	50.0000	50.454	80.00- 120.00	100.00
25.282	25.282 (1.184)	148	2395494			13.81- 113.81	63.66
25.282	25.282 (1.184)	111	1338485			0.00- 87.35	35.57

AMOUNTS

RT	EXP RT (REL RT)	MASS	RESPONSE	CAL-AMT (PPBV)	ON-COL (PPBV)	TARGET RANGE	RATIO
159 alpha-Chlorotoluene					CAS #: 100-44-7		
25.476	25.476 (1.193)	91	4056747	50.0000	40.972	80.00- 120.00	100.00
25.476	25.476 (1.193)	126	884739			0.00- 71.29	21.81
161 1,2-Dichlorobenzene					CAS #: 95-50-1		
25.918	25.918 (1.214)	146	3212149	50.0000	48.209	80.00- 120.00	100.00
25.918	25.918 (1.214)	148	2059250			14.11- 114.11	64.11
25.918	25.918 (1.214)	111	1232183			0.00- 88.36	38.36
165 1,2,4-Trichlorobenzene					CAS #: 120-82-1		
28.821	28.821 (1.350)	180	1206031	50.0000	44.256	80.00- 120.00	100.00
28.821	28.821 (1.350)	182	1149265			45.29- 145.29	95.29
166 Hexachlorobutadiene					CAS #: 87-68-3		
28.987	28.987 (1.357)	225	1027176	50.0000	45.340	80.00- 120.00	100.00
28.987	28.987 (1.357)	223	648504			12.64- 112.64	63.13
29 Isopentane					CAS #: 78-78-4		
8.348	8.348 (0.580)	43	1973923	50.0000	42.527	80.00- 120.00	100.00
8.348	8.348 (0.580)	57	1297539			16.48- 116.48	65.73
19 Butane					CAS #: 106-97-8		
6.743	6.743 (0.469)	58	297087	50.0000	40.978	80.00- 120.00	100.00
6.743	6.743 (0.469)	43	2486732			757.70- 857.70	837.04
102 Methyl Cyclohexane					CAS #: 108-87-2		
16.904	16.904 (1.175)	83	2248810	50.0000	48.316	80.00- 120.00	100.00
16.904	16.904 (1.175)	98	1079581			0.00- 96.13	48.01
16.904	16.904 (1.175)	55	1952912			38.51- 138.51	86.84
167 Naphthalene					CAS #: 91-20-3		
29.374	29.374 (1.375)	128	2110763	50.0000	41.341	80.00- 120.00	100.00
29.374	29.374 (1.375)	127	249666			0.00- 62.50	11.83

Report Date: 05-Nov-2007 00:40

Air Toxics Ltd.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd7.i
Lab File ID: 7110409.d
Lab Smp Id: ccv-1
Analysis Type: VOA
Quant Type: ISTD
Operator: dm
Method File: /chem/msd7.i/7-04nova.b/t14qO18c.m
Misc Info: 100ppbv-50ppbv

Calibration Date: 04-NOV-2007
Calibration Time: 23:11
Client Smp ID: ccv-1
Level: LOW
Sample Type: AIR

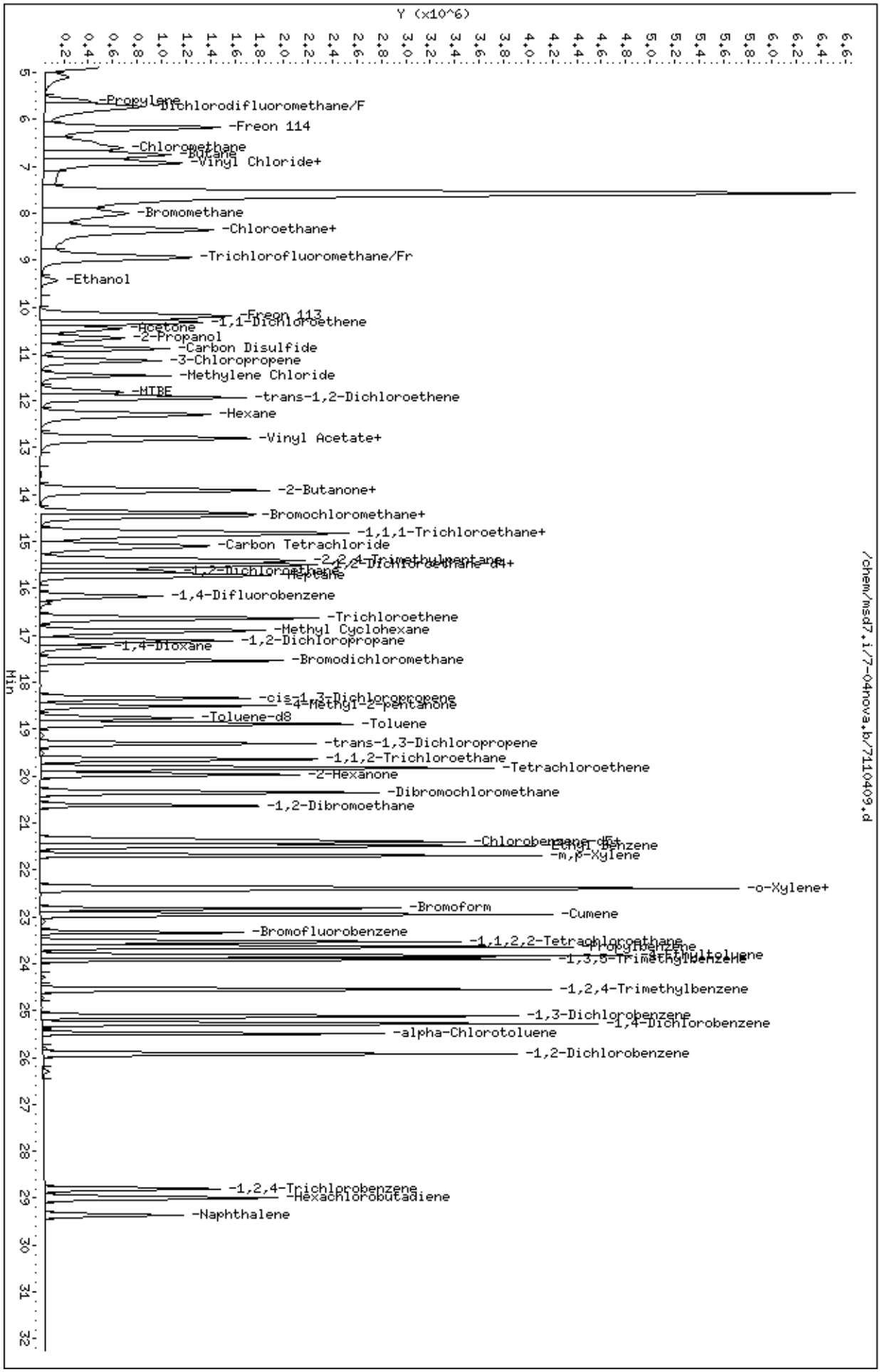
		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
81 Bromochloromethan	640543	384326	896760	651162	1.66
97 1,4-Difluorobenze	2138324	1282994	2993654	2188066	2.33
126 Chlorobenzene-d5	1456889	874133	2039645	1729248	18.69

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
81 Bromochloromethan	14.42	14.09	14.75	14.39	-0.19
97 1,4-Difluorobenze	16.16	15.83	16.49	16.16	0.00
126 Chlorobenzene-d5	21.36	21.03	21.69	21.36	0.00

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /chem/msd7.i/7-04nov.b/710409.d
Date : 04-NOV-2007 22:27
Client ID: ccv-1
Sample Info: 100mL #1576-50A
Column phase: RTx-624

Instrument: msd7.i
Operator: dm
Column diameter: 0.53



Report Date: 05-Nov-2007 00:40

Air Toxics Ltd.

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: msd7.i Injection Date: 04-NOV-2007 23:11
Lab File ID: 7110410.d Init. Cal. Date(s): 18-OCT-2007 30-OCT-2007
Analysis Type: AIR Init. Cal. Times: 12:17 11:10
Lab Sample ID: ccvsp Quant Type: ISTD
Method: /chem/msd7.i/7-04nova.b/t14qO18c.m

COMPOUND	RRF / AMOUNT	RF50	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE	
$ 90 1,2-Dichloroethane-d4	1.34304	1.16725	0.010	13.08899	30.00000	Averaged	
$ 113 Toluene-d8	0.88746	0.75470	0.010	14.95939	30.00000	Averaged	
$ 137 Bromofluorobenzene	0.59489	0.65551	0.010	-10.18920	30.00000	Averaged	
5 Freon 143a	0.54510	0.49751	0.010	8.73027	40.00000	Averaged	
6 Freon142b	2.22349	2.05488	0.010	7.58314	40.00000	Averaged	
9 Freon 13	++++	0.65031	0.010	++++	40.00000	Averaged	<-
13 Freon 134a	1.06546	0.95704	0.010	10.17639	40.00000	Averaged	
15 Freon 152a	0.76921	0.66026	0.010	14.16317	40.00000	Averaged	
17 Freon 22	2.48505	2.26471	0.010	8.86655	40.00000	Averaged	
26 Methanol	0.42691	0.39691	0.010	7.02799	40.00000	Averaged	
34 Dichlorofluoromethane/Fr21	2.20471	1.89698	0.010	13.95799	40.00000	Averaged	
40 Freon123a	1.24571	1.21932	0.010	2.11837	40.00000	Averaged	
41 Freon123	2.20945	1.92263	0.010	12.98122	40.00000	Averaged	
57 tert-Butyl-Alcohol	2.31844	2.47658	0.010	-6.82069	40.00000	Averaged	
68 Isopropyl ether	4.46135	4.24020	0.010	4.95710	40.00000	Averaged	
71 1-Propanol	0.27978	0.28687	0.010	-2.53333	40.00000	Averaged	
73 t-Butylethyl Ether	3.80281	3.75729	0.010	1.19701	40.00000	Averaged	
77 Ethyl Acetate	0.42459	0.41463	0.010	2.34526	40.00000	Averaged	
92 tert-amyl-Methyl Ether	2.77937	2.82406	0.010	-1.60809	40.00000	Averaged	
96 2-Heptanone	1.66671	1.55157	0.010	6.90846	40.00000	Averaged	
98 1-Butanol	0.24439	0.25595	0.010	-4.73074	40.00000	Averaged	
99 Isobutanol	0.02737	0.02893	0.010	-5.67468	40.00000	Averaged	
119 Butyl Acetate	0.36393	0.33249	0.010	8.63939	40.00000	Averaged	
135 Cyclohexanone	0.49697	0.48607	0.010	2.19338	40.00000	Averaged	
146 Diisobutyl Ketone	1.12021	1.22044	0.010	-8.94749	40.00000	Averaged	

Air Toxics Ltd.

AMBIENT AIR METHOD TO14

Data file : /chem/msd7.i/7-04nova.b/7110410.d
Lab Smp Id: ccvsp Client Smp ID: ccvsp
Inj Date : 04-NOV-2007 23:11
Operator : dm Inst ID: msd7.i
Smp Info : 50mL #1487-400
Misc Info : 200ppbv-50ppbv
Comment :
Method : /chem/msd7.i/7-04nova.b/t14qO18c.m
Meth Date : 05-Nov-2007 00:40 dmendoza Quant Type: ISTD
Cal Date : 30-OCT-2007 11:10 Cal File: 7103005.d
Als bottle: 1 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: sp22aCCV.sub
Target Version: 3.50 Sample Matrix: AIR
Processing Host: eeyore

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS CAL-AMT (PPBV)	AMOUNTS ON-COL (PPBV)	TARGET RANGE	RATIO
* 81 Bromochloromethane					CAS #: 74-97-5		
14.416	14.416 (1.000)	130	640543	25.0000		80.00- 120.00	100.00
14.416	14.416 (1.000)	128	485516			25.80- 125.80	75.80
14.388	14.388 (1.000)	49	862980			84.73- 184.73	134.73
* 97 1,4-Difluorobenzene					CAS #: 540-36-3		
16.158	16.158 (1.000)	114	2138324	25.0000		80.00- 120.00	100.00
16.158	16.158 (1.000)	88	315556			0.00- 64.76	14.76
* 126 Chlorobenzene-d5					CAS #: 3114-55-4		
21.356	21.356 (1.000)	117	1456889	25.0000		80.00- 120.00	100.00
21.356	21.356 (1.000)	82	747911			4.45- 104.45	51.34
$ 90 1,2-Dichloroethane-d4					CAS #: 17060-07-0		
15.494	15.494 (1.075)	65	747675	25.0000	21.728	80.00- 120.00	100.00
15.494	15.494 (1.075)	67	389480			2.91- 102.91	52.09
$ 113 Toluene-d8					CAS #: 2037-26-5		
18.757	18.757 (1.161)	98	1613802	25.0000	21.260	80.00- 120.00	100.00
18.757	18.757 (1.161)	70	169307			0.00- 61.46	10.49

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS CAL-AMT (PPBV)	AMOUNTS ON-COL (PPBV)	TARGET RANGE	RATIO
$ 113 Toluene-d8 (continued)							
18.757	18.757 (1.161)	100	1115538			19.18- 119.18	69.12
$ 137 Bromofluorobenzene					CAS #: 460-00-4		
23.347	23.347 (1.093)	174	955005	25.0000	27.547	80.00- 120.00	100.00
23.319	23.319 (1.092)	95	1093417			64.49- 164.49	114.49
23.347	23.347 (1.093)	176	928086			47.18- 147.18	97.18
5 Freon 143a					CAS #: 420-46-2		
5.307	5.307 (0.368)	65	637353	50.0000	45.635	80.00- 120.00	100.00
5.251	5.251 (0.364)	69	5613004			0.00- 50.00	880.67
5.307	5.307 (0.368)	64	177881			0.00- 77.08	27.91
6 Freon142b					CAS #: 75-68-3		
6.349	6.349 (0.440)	65	2632478	50.0000	46.208	80.00- 120.00	100.00
6.349	6.349 (0.440)	45	619936			0.00- 74.42	23.55
9 Freon 13					CAS #: 75-72-9		
5.194	5.194 (0.360)	85	833106	50.0000		80.00- 120.00	100.00(a)
5.194	5.194 (0.360)	87	269536			0.00- 0.00	32.35
5.251	5.251 (0.364)	69	5604515			0.00- 0.00	672.73
13 Freon 134a					CAS #: 811-97-2		
5.448	5.448 (0.378)	83	1226046	50.0000	44.912	80.00- 120.00	100.00
5.251	5.251 (0.364)	69	5621683			398.13- 498.13	458.52
5.448	5.448 (0.378)	63	170875			0.00- 64.08	13.94
15 Freon 152a					CAS #: 75-37-6		
5.673	5.673 (0.394)	65	845854	50.0000	42.918	80.00- 120.00	100.00
5.673	5.673 (0.394)	51	1435057			109.56- 209.56	169.66
5.673	5.673 (0.394)	47	379960			0.00- 90.52	44.92
17 Freon 22					CAS #: 75-45-6		
5.814	5.814 (0.403)	51	2901290	50.0000	45.567	80.00- 120.00	100.00
5.842	5.842 (0.405)	67	333158			0.00- 61.77	11.48
5.842	5.842 (0.405)	85	37516			0.00- 51.67	1.29
26 Methanol					CAS #: 67-56-1		
7.588	7.588 (0.526)	31	3050863	300.000	278.92	80.00- 120.00	100.00
7.588	7.588 (0.526)	32	1923705			13.05- 113.05	63.05
34 Dichlorofluoromethane/Fr21					CAS #: 75-43-4		
8.912	8.912 (0.618)	67	2430190	50.0000	43.021	80.00- 120.00	100.00
8.912	8.912 (0.618)	69	734459			0.00- 81.12	30.22
8.912	8.912 (0.618)	35	117266			0.00- 53.83	4.83

AMOUNTS

RT	EXP RT (REL RT)	MASS	RESPONSE	CAL-AMT (PPBV)	ON-COL (PPBV)	TARGET RANGE	RATIO
40 Freon123a					CAS #: 354-23-4		
9.798	9.798 (0.680)	117	1562057	50.0000	48.941	80.00- 120.00	100.00
9.798	9.798 (0.680)	67	2073675			110.97- 210.97	132.75
41 Freon123					CAS #: 306-83-2		
9.964	9.964 (0.691)	83	2463060	50.0000	43.509	80.00- 120.00	100.00
9.964	9.964 (0.691)	133	562982			0.00- 69.52	22.86
9.964	9.964 (0.691)	85	1764957			22.16- 122.16	71.66
57 tert-Butyl-Alcohol					CAS #: 75-65-0		
11.513	11.513 (0.799)	59	3172708	50.0000	53.410	80.00- 120.00	100.00
11.513	11.513 (0.799)	41	639927			0.00- 73.42	20.17
11.513	11.513 (0.799)	57	306817			0.00- 60.26	9.67
68 Isopropyl ether					CAS #: 108-20-3		
12.702	12.702 (0.881)	45	5432057	50.0000	47.521	80.00- 120.00	100.00
12.702	12.702 (0.881)	87	1168158			0.00- 73.31	21.50
12.702	12.702 (0.881)	59	470082			0.00- 58.30	8.65
71 1-Propanol					CAS #: 71-23-8		
12.840	12.840 (0.891)	42	367506	50.0000	51.267	80.00- 120.00	100.00
12.840	12.840 (0.891)	59	474812			95.91- 195.91	129.20
12.702	12.702 (0.881)	41	1009868			265.93- 365.93	274.79
73 t-Butylethyl Ether					CAS #: 637-92-3		
13.365	13.365 (0.927)	59	4813415	50.0000	49.401	80.00- 120.00	100.00
13.393	13.393 (0.929)	87	1773150			0.00- 88.95	36.84
13.365	13.365 (0.927)	41	814267			0.00- 67.89	16.92
77 Ethyl Acetate					CAS #: 141-78-6		
13.890	13.890 (0.964)	45	531176	50.0000	48.827	80.00- 120.00	100.00
13.890	13.890 (0.964)	61	494867			49.04- 149.04	93.16
13.890	13.890 (0.964)	43	3684788			622.55- 722.55	693.70
92 tert-amyl-Methyl Ether					CAS #: 994-05-8		
15.549	15.549 (1.079)	73	3617864	50.0000	50.804	80.00- 120.00	100.00
15.549	15.549 (1.079)	87	887717			0.00- 73.71	24.54
15.549	15.549 (1.079)	55	939261			0.00- 78.56	25.96
96 2-Heptanone					CAS #: 110-43-0		
22.517	22.517 (1.562)	58	1987689	50.0000	46.546	80.00- 120.00	100.00
22.517	22.517 (1.562)	43	3142048			108.53- 208.53	158.08
98 1-Butanol					CAS #: 71-36-3		
16.324	16.324 (1.010)	56	1094609	50.0000	52.365	80.00- 120.00	100.00
16.324	16.324 (1.010)	41	772895			21.86- 121.86	70.61

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS CAL-AMT (PPBV)	AMOUNTS ON-COL (PPBV)	TARGET RANGE	RATIO
98 1-Butanol (continued)							
16.324	16.324 (1.010)	43	612921			9.15- 109.15	55.99
99 Isobutanol					CAS #: 78-83-1		
15.135	15.135 (1.050)	59	37057	50.0000	52.837	80.00- 120.00	100.00
15.135	15.135 (1.050)	41	932140			2630.47-2730.47	2515.42
15.135	15.135 (1.050)	43	1286620			3703.83-3803.83	3472.00
119 Butyl Acetate					CAS #: 123-86-4		
20.056	20.056 (1.241)	56	1421927	50.0000	45.680	80.00- 120.00	100.00
20.084	20.084 (1.243)	73	443596			0.00- 81.20	31.20
20.056	20.056 (1.241)	43	3589550			202.44- 302.44	252.44
135 Cyclohexanone					CAS #: 108-94-1		
23.291	23.291 (1.091)	55	1416288	50.0000	48.903	80.00- 120.00	100.00
23.291	23.291 (1.091)	98	602178			0.00- 90.62	42.52
23.291	23.291 (1.091)	42	967147			17.43- 117.43	68.29
146 Diisobutyl Ketone					CAS #: 108-83-8		
24.065	24.065 (1.127)	57	3556084	50.0000	54.474	80.00- 120.00	100.00
24.065	24.065 (1.127)	85	2892209			31.33- 131.33	81.33
0.000	1.000 (0.000)	0	0			0.00- 50.00	0.00

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).

Report Date: 05-Nov-2007 00:40

Air Toxics Ltd.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd7.i
Lab File ID: 7110410.d
Lab Smp Id: ccvsp
Analysis Type: VOA
Quant Type: ISTD
Operator: dm
Method File: /chem/msd7.i/7-04nova.b/t14qO18c.m
Misc Info: 200ppbv-50ppbv

Calibration Date: 04-NOV-2007
Calibration Time: 22:27
Client Smp ID: ccvsp
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
81 Bromochloromethan	651162	390697	911627	640543	-1.63
97 1,4-Difluorobenze	2188066	1312840	3063292	2138324	-2.27
126 Chlorobenzene-d5	1729248	1037549	2420947	1456889	-15.75

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
81 Bromochloromethan	14.39	14.06	14.72	14.42	0.19
97 1,4-Difluorobenze	16.16	15.83	16.49	16.16	0.00
126 Chlorobenzene-d5	21.36	21.03	21.69	21.36	0.00

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

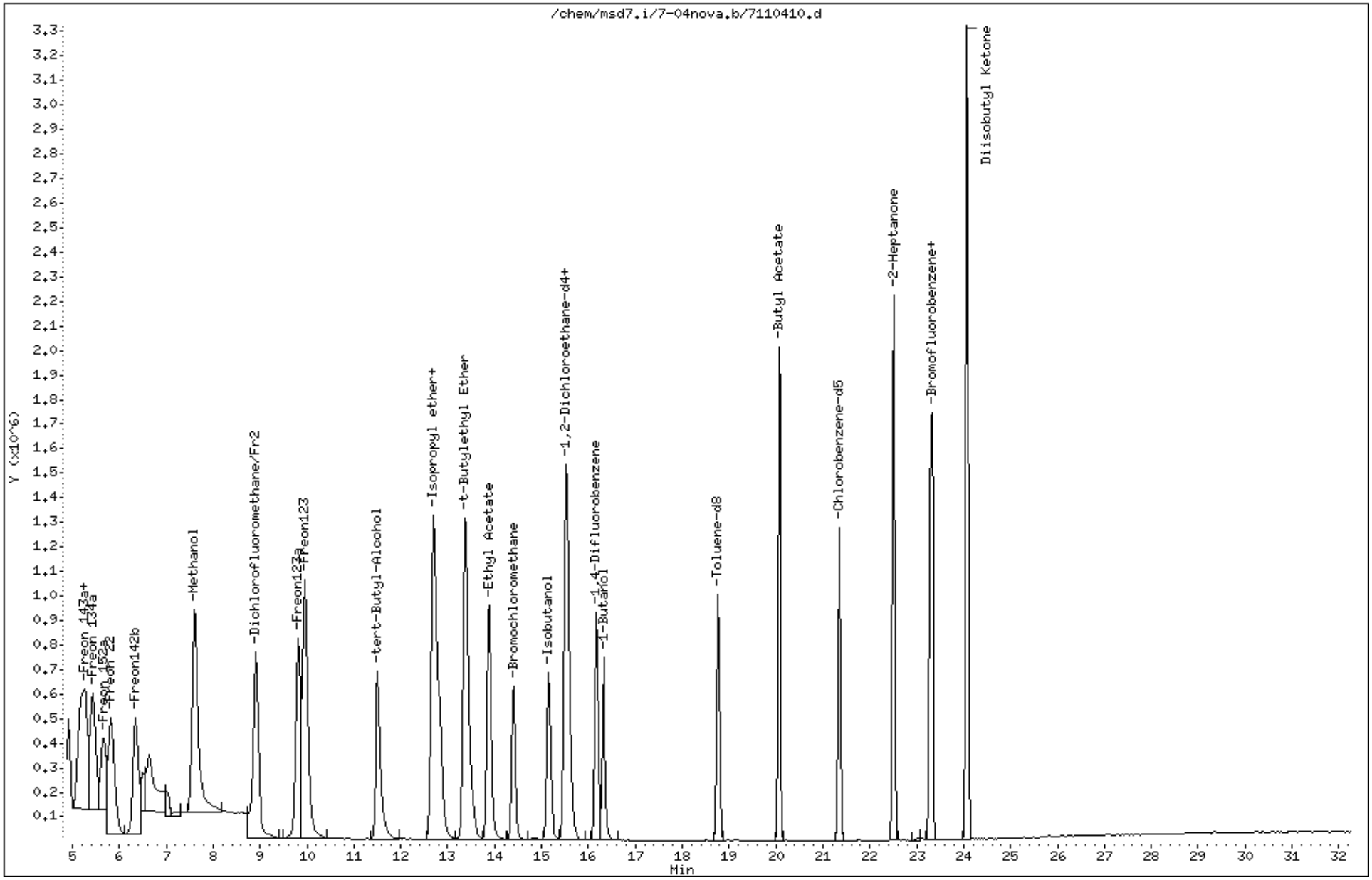
0360

Data File: /chem/msd7.i/7-04nova.b/7110410.d
Date : 04-NOV-2007 23:11
Client ID: ccvsp
Sample Info: 50mL #1487-400

Column phase: RTx-624

Instrument: msd7.i

Operator: dm
Column diameter: 0.53



AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: LCS

Lab ID#: 0711008-09A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**7110411**	**Date of Collection: NA**
Dil. Factor:	**1.00**	**Date of Analysis: 11/4/07 11:58 PM**

Compound	%Recovery
Freon 12	86
Freon 114	95
Chloromethane	89
Vinyl Chloride	87
1,3-Butadiene	92
Bromomethane	82
Chloroethane	90
Freon 11	93
Ethanol	106
Freon 113	111
1,1-Dichloroethene	106
Acetone	94
2-Propanol	103
Carbon Disulfide	85
Methylene Chloride	100
Methyl tert-butyl ether	105
trans-1,2-Dichloroethene	94
Hexane	101
1,1-Dichloroethane	98
2-Butanone (Methyl Ethyl Ketone)	100
cis-1,2-Dichloroethene	101
Tetrahydrofuran	108
Chloroform	104
1,1,1-Trichloroethane	105
Cyclohexane	106
Carbon Tetrachloride	109
Benzene	104
1,2-Dichloroethane	98
Heptane	104
Trichloroethene	106
1,2-Dichloropropane	103
1,4-Dioxane	104
Bromodichloromethane	106
cis-1,3-Dichloropropene	105
4-Methyl-2-pentanone	112
Toluene	110
trans-1,3-Dichloropropene	108
1,1,2-Trichloroethane	110
Tetrachloroethene	122

AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: LCS

Lab ID#: 0711008-09A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**7110411**	**Date of Collection: NA**
Dil. Factor:	**1.00**	**Date of Analysis: 11/4/07 11:58 PM**

Compound	**%Recovery**
2-Hexanone	106
Dibromochloromethane	118
1,2-Dibromoethane (EDB)	110
Chlorobenzene	108
Ethyl Benzene	106
m,p-Xylene	106
o-Xylene	107
Styrene	113
Bromoform	120
1,1,2,2-Tetrachloroethane	97
4-Ethyltoluene	101
1,3,5-Trimethylbenzene	102
1,2,4-Trimethylbenzene	103
1,3-Dichlorobenzene	102
1,4-Dichlorobenzene	100
alpha-Chlorotoluene	102
1,2-Dichlorobenzene	94
1,2,4-Trichlorobenzene	64 Q
Hexachlorobutadiene	69 Q
Chlorodifluoromethane	Not Spiked
Methanol	Not Spiked
n-Butanol	Not Spiked
Propylene	96

Q = Exceeds Quality Control limits.

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
Toluene-d8	100	70-130
1,2-Dichloroethane-d4	93	70-130
4-Bromofluorobenzene	107	70-130

Report Date: 05-Nov-2007 00:42

Air Toxics Ltd.

RECOVERY REPORT

Client Name:
Client SDG: 7-04nova
Sample Matrix: GAS
Fraction: VOA
Lab Smp Id: LCS-1
Client Smp ID: LCS-1
Level: LOW
Operator: ab
Data Type: MS DATA
SampleType: LCS
SpikeList File: 2926spectra.spk
Quant Type: ISTD
Sublist File: AT04ENSR.sub
Method File: /chem/msd7.i/7-04nova.b/t14qO18c.m
Misc Info: 200ppbv-50ppbv

SPIKE COMPOUND	CONC ADDED PPBV	CONC RECOVERED PPBV	% RECOVERED	LIMITS
12 Dichlorodifluorome	50.000	42.789	85.58	70-130
16 Freon 114	50.000	47.341	94.68	70-130
18 Chloromethane	50.000	44.320	88.64	70-130
20 Vinyl Chloride	50.000	43.377	86.75	70-130
22 1,3-Butadiene	50.000	46.222	92.44	60-140
25 Bromomethane	50.000	40.921	81.84	70-130
27 Chloroethane	50.000	44.754	89.51	70-130
31 Trichlorofluoromet	50.000	46.371	92.74	70-130
38 Ethanol	50.000	52.864	105.73	60-140
42 Freon 113	50.000	55.678	111.36	70-130
43 1,1-Dichloroethene	50.000	52.900	105.80	70-130
45 Acetone	50.000	47.287	94.57	60-140
47 Carbon Disulfide	50.000	42.350	84.70	60-140
46 2-Propanol	50.000	51.498	103.00	60-140
54 Methylene Chloride	50.000	50.136	100.27	70-130
60 MTBE	50.000	52.546	105.09	60-140
61 trans-1,2-Dichloro	50.000	47.098	94.20	60-140
65 Hexane	50.000	50.447	100.89	60-140
69 Vinyl Acetate	50.000	46.927	93.85	60-140
70 1,1-Dichloroethane	50.000	49.278	98.56	70-130
76 cis-1,2-Dichloroet	50.000	50.615	101.23	70-130
75 2-Butanone	50.000	50.019	100.04	60-140
80 Tetrahydrofuran	50.000	53.943	107.89	60-140
82 Chloroform	50.000	51.941	103.88	70-130
85 Cyclohexane	50.000	52.882	105.76	60-140
83 1,1,1-Trichloroeth	50.000	52.638	105.28	70-130
87 Carbon Tetrachlori	50.000	54.319	108.64	70-130
91 Benzene	50.000	51.783	103.57	70-130
93 1,2-Dichloroethane	50.000	49.085	98.17	70-130
94 Heptane	50.000	51.990	103.98	60-140
101 Trichloroethene	50.000	52.822	105.64	70-130
104 1,2-Dichloropropan	50.000	51.324	102.65	70-130
106 1,4-Dioxane	50.000	52.162	104.32	60-140

SPIKE COMPOUND	CONC ADDED PPBV	CONC RECOVERED PPBV	% RECOVERED	LIMITS
107 Bromodichlorometha	50.000	52.787	105.57	60-140
110 cis-1,3-Dichloropr	50.000	52.464	104.93	70-130
111 4-Methyl-2-pentano	50.000	56.245	112.49	60-140
114 Toluene	50.000	55.086	110.17	70-130
116 trans-1,3-Dichloro	50.000	53.750	107.50	70-130
117 1,1,2-Trichloroeth	50.000	54.940	109.88	70-130
120 Tetrachloroethene	50.000	61.274	122.55	70-130
121 2-Hexanone	50.000	53.056	106.11	60-140
122 Dibromochlorometha	50.000	58.813	117.63	60-140
123 1,2-Dibromoethane	50.000	55.177	110.35	70-130
127 Chlorobenzene	50.000	54.003	108.01	70-130
128 Ethyl Benzene	50.000	53.119	106.24	70-130
129 m,p-Xylene	50.000	53.268	106.54	70-130
130 o-Xylene	50.000	53.338	106.68	70-130
131 Styrene	50.000	56.477	112.95	70-130
133 Bromoform	50.000	59.856	119.71	60-140
140 1,1,2,2-Tetrachlor	50.000	48.465	96.93	70-130
145 4-Ethyltoluene	50.000	50.610	101.22	60-140
147 1,3,5-Trimethylben	50.000	50.933	101.87	70-130
150 1,2,4-Trimethylben	50.000	51.315	102.63	70-130
155 1,3-Dichlorobenzen	50.000	51.182	102.36	70-130
156 1,4-Dichlorobenzen	50.000	50.218	100.44	70-130
159 alpha-Chlorotoluen	50.000	50.861	101.72	70-130
161 1,2-Dichlorobenzen	50.000	47.075	94.15	70-130
165 1,2,4-Trichloroben	50.000	31.867	63.73*	70-130
166 Hexachlorobutadien	50.000	34.539	69.08*	70-130
142 Propylbenzene	50.000	52.279	104.56	60-140
134 Cumene	50.000	56.723	113.45	60-140
51 3-Chloropropene	50.000	42.817	85.63	60-140
89 2,2,4-Trimethylpen	50.000	53.666	107.33	60-140
29 Isopentane	50.000	45.799	91.60	70-130
19 Butane	50.000	45.410	90.82	70-130
102 Methyl Cyclohexane	50.000	54.255	108.51	70-130
11 Propylene	50.000	47.994	95.99	60-140
167 Naphthalene	50.000	27.196	54.39*	60-140

SURROGATE COMPOUND	CONC ADDED PPBV	CONC RECOVERED PPBV	% RECOVERED	LIMITS
$ 90 1,2-Dichloroethane	25.000	23.189	92.76	70-130
$ 113 Toluene-d8	25.000	25.034	100.14	70-130
$ 137 Bromofluorobenzene	25.000	26.802	107.21	70-130

Air Toxics Ltd.

AMBIENT AIR METHOD TO14

Data file : /chem/msd7.i/7-04nova.b/7110411.d
Lab Smp Id: LCS-1 Client Smp ID: LCS-1
Inj Date : 04-NOV-2007 23:58
Operator : ab Inst ID: msd7.i
Smp Info : 50mL #1443-302
Misc Info : 200ppbv-50ppbv
Comment :
Method : /chem/msd7.i/7-04nova.b/t14qO18c.m
Meth Date : 05-Nov-2007 00:40 dmendoza Quant Type: ISTD
Cal Date : 30-OCT-2007 11:10 Cal File: 7103005.d
Als bottle: 1 QC Sample: LCS
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: AT04ENSR.sub
Target Version: 3.50 Sample Matrix: AIR
Processing Host: eeyore

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

RT	EXP RT (REL RT)	MASS	RESPONSE	CONCENTRATIONS ON-COL (PPBV)	FINAL (PPBV)	TARGET RANGE	RATIO
* 81 Bromochloromethane						CAS #: 74-97-5	
14.388	14.388 (1.000)	130	626813	25.0000		80.00- 120.00	100.00
14.388	14.388 (1.000)	128	488302			28.08- 128.08	77.90
14.388	14.388 (1.000)	49	1154733			128.80- 228.80	184.22
* 97 1,4-Difluorobenzene						CAS #: 540-36-3	
16.158	16.158 (1.000)	114	2122832	25.0000		80.00- 120.00	100.00
16.158	16.158 (1.000)	88	317674			0.00- 64.88	14.96
* 126 Chlorobenzene-d5						CAS #: 3114-55-4	
21.356	21.356 (1.000)	117	1687430	25.0000		80.00- 120.00	100.00
21.356	21.356 (1.000)	82	880830			4.45- 104.45	52.20
$ 90 1,2-Dichloroethane-d4						CAS #: 17060-07-0	
15.494	15.494 (1.077)	65	780852	23.1889	23.189	80.00- 120.00	100.00
15.494	15.494 (1.077)	67	433236			2.91- 102.91	55.48
$ 113 Toluene-d8						CAS #: 2037-26-5	
18.757	18.757 (1.161)	98	1886542	25.0346	25.034	80.00- 120.00	100.00
18.757	18.757 (1.161)	70	196953			0.00- 61.46	10.44

RT	EXP RT (REL RT)	MASS	RESPONSE	CONCENTRATIONS ON-COL (PPBV)	FINAL (PPBV)	TARGET RANGE	RATIO
$ 113 Toluene-d8 (continued)							
18.757	18.757 (1.161)	100	1313527			19.18- 119.18	69.63
$ 137 Bromofluorobenzene						CAS #: 460-00-4	
23.347	23.347 (1.093)	174	1076224	26.8026	26.802	80.00- 120.00	100.00
23.319	23.319 (1.092)	95	1209364			63.49- 163.49	112.37
23.347	23.347 (1.093)	176	1033863			46.77- 146.77	96.06
11 Propylene						CAS #: 115-07-1	
5.617	5.617 (0.390)	41	1296609	47.9946	47.994	80.00- 120.00	100.00
5.617	5.617 (0.390)	42	881557			21.19- 121.19	67.99
5.617	5.617 (0.390)	39	968632			24.83- 124.83	74.71
12 Dichlorodifluoromethane/Fr12						CAS #: 75-71-8	
5.758	5.729 (0.400)	85	4238424	42.7894	42.789	80.00- 120.00	100.00
5.758	5.729 (0.400)	87	1361762			0.00- 83.07	32.13
16 Freon 114						CAS #: 76-14-2	
6.180	6.180 (0.430)	135	3191582	47.3406	47.341	80.00- 120.00	100.00
6.180	6.180 (0.430)	137	1027872			0.00- 81.90	32.21
18 Chloromethane						CAS #: 74-87-3	
6.518	6.518 (0.453)	50	1443761	44.3200	44.320	80.00- 120.00	100.00
6.518	6.518 (0.453)	52	471969			0.00- 84.80	32.69
20 Vinyl Chloride						CAS #: 75-01-4	
6.856	6.856 (0.476)	62	1764052	43.3770	43.377	80.00- 120.00	100.00
6.856	6.856 (0.476)	64	552803			0.00- 83.25	31.34
22 1,3-Butadiene						CAS #: 106-99-0	
6.940	6.940 (0.482)	54	1346479	46.2221	46.222	80.00- 120.00	100.00
6.940	6.940 (0.482)	39	1382823			55.97- 155.97	102.70
25 Bromomethane						CAS #: 74-83-9	
8.039	8.011 (0.559)	94	1473510	40.9207	40.921	80.00- 120.00	100.00
8.039	8.011 (0.559)	96	1389257			44.13- 144.13	94.28
27 Chloroethane						CAS #: 75-00-3	
8.349	8.348 (0.580)	64	807437	44.7540	44.754	80.00- 120.00	100.00
8.349	8.348 (0.580)	49	233334			0.00- 79.34	28.90
8.349	8.348 (0.580)	66	243148			0.00- 83.15	30.11
31 Trichlorofluoromethane/Fr11						CAS #: 75-69-4	
8.940	8.940 (0.621)	101	4285064	46.3708	46.371	80.00- 120.00	100.00
8.968	8.940 (0.623)	103	2776194			14.55- 114.55	64.79

RT	EXP RT (REL RT)	MASS	RESPONSE	CONCENTRATIONS ON-COL (PPBV)	FINAL (PPBV)	TARGET RANGE	RATIO
38 Ethanol					CAS #: 64-17-5		
9.439	9.439 (0.656)	45	666298	52.8640	52.864	80.00- 120.00	100.00
9.439	9.439 (0.656)	43	134884			0.00- 72.83	20.24
9.439	9.439 (0.656)	46	257790			0.00- 88.20	38.69
42 Freon 113					CAS #: 76-13-1		
10.213	10.186 (0.710)	151	2861603	55.6781	55.678	80.00- 120.00	100.00
10.186	10.186 (0.708)	153	1824988			13.28- 113.28	63.78
10.186	10.186 (0.708)	101	3219900			60.51- 160.51	112.52
43 1,1-Dichloroethene					CAS #: 75-35-4		
10.324	10.324 (0.718)	61	2893064	52.9000	52.900	80.00- 120.00	100.00
10.324	10.324 (0.718)	96	1682969			8.23- 108.23	58.17
10.324	10.324 (0.718)	98	1074306			0.00- 87.38	37.13
45 Acetone					CAS #: 67-64-1		
10.490	10.462 (0.729)	58	799349	47.2870	47.287	80.00- 120.00	100.00
10.490	10.462 (0.729)	43	2634912			247.10- 347.10	329.63
46 2-Propanol					CAS #: 67-63-0		
10.683	10.656 (0.742)	45	3088566	51.4984	51.498	80.00- 120.00	100.00
10.656	10.656 (0.741)	43	714655			0.00- 75.54	23.14
10.683	10.656 (0.742)	59	115131			0.00- 53.72	3.73
47 Carbon Disulfide					CAS #: 75-15-0		
10.877	10.877 (0.756)	76	4418859	42.3496	42.350	80.00- 120.00	100.00
51 3-Chloropropene					CAS #: 107-05-1		
11.153	11.153 (0.775)	76	727037	42.8167	42.817	80.00- 120.00	100.00
11.153	11.153 (0.775)	41	2323125			224.96- 324.96	319.53
54 Methylene Chloride					CAS #: 75-09-2		
11.458	11.457 (0.796)	49	2015872	50.1360	50.136	80.00- 120.00	100.00
11.458	11.457 (0.796)	84	1357558			15.73- 115.73	67.34
11.458	11.457 (0.796)	51	615353			0.00- 80.85	30.53
60 MTBE					CAS #: 1634-04-4		
11.817	11.817 (0.821)	73	3210164	52.5456	52.546	80.00- 120.00	100.00
11.817	11.817 (0.821)	57	801272			0.00- 74.66	24.96
11.817	11.817 (0.821)	41	785425			0.00- 76.16	24.47
61 trans-1,2-Dichloroethene					CAS #: 156-60-5		
11.928	11.928 (0.829)	96	1750081	47.0977	47.098	80.00- 120.00	100.00
11.928	11.928 (0.829)	61	2580182			100.56- 200.56	147.43
11.928	11.928 (0.829)	98	1118259			11.77- 111.77	63.90

RT	EXP RT (REL RT)	MASS	RESPONSE	CONCENTRATIONS ON-COL (PPBV)	FINAL (PPBV)	TARGET RANGE	RATIO
65 Hexane					CAS #: 110-54-3		
12.287	12.287 (0.854)	57	2674968	50.4470	50.447	80.00- 120.00	100.00
12.287	12.287 (0.854)	43	1777721			17.84- 117.84	66.46
12.287	12.287 (0.854)	86	373113			0.00- 65.07	13.95
69 Vinyl Acetate					CAS #: 108-05-4		
12.785	12.785 (0.889)	86	375977	46.9272	46.927	80.00- 120.00	100.00
12.785	12.785 (0.889)	43	4867462			1150.46-1250.46	1294.62
70 1,1-Dichloroethane					CAS #: 75-34-3		
12.812	12.812 (0.890)	63	3129884	49.2784	49.278	80.00- 120.00	100.00
12.812	12.812 (0.890)	65	969239			0.00- 80.91	30.97
75 2-Butanone					CAS #: 78-93-3		
13.891	13.891 (0.965)	72	679052	50.0193	50.019	80.00- 120.00	100.00
13.891	13.891 (0.965)	43	3445989			458.59- 558.59	507.47
13.891	13.891 (0.965)	57	250325			0.00- 86.57	36.86
76 cis-1,2-Dichloroethene					CAS #: 156-59-2		
13.918	13.918 (0.967)	61	2250218	50.6154	50.615	80.00- 120.00	100.00
13.918	13.918 (0.967)	96	1672926			23.12- 123.12	74.35
13.918	13.918 (0.967)	98	1080759			0.00- 97.59	48.03
80 Tetrahydrofuran					CAS #: 109-99-9		
14.388	14.388 (1.000)	42	1909392	53.9432	53.943	80.00- 120.00	100.00
14.388	14.388 (1.000)	71	631233			0.00- 83.57	33.06
14.388	14.388 (1.000)	72	694313			0.00- 87.82	36.36
82 Chloroform					CAS #: 67-66-3		
14.471	14.471 (1.006)	83	3278052	51.9413	51.941	80.00- 120.00	100.00
14.471	14.471 (1.006)	85	2139191			15.98- 115.98	65.26
83 1,1,1-Trichloroethane					CAS #: 71-55-6		
14.831	14.831 (1.031)	97	3345373	52.6386	52.638	80.00- 120.00	100.00
14.831	14.831 (1.031)	99	2160013			14.42- 114.42	64.57
85 Cyclohexane					CAS #: 110-82-7		
14.858	14.831 (1.033)	84	1924960	52.8817	52.882	80.00- 120.00	100.00
14.831	14.831 (1.031)	56	2458435			81.34- 181.34	127.71
14.831	14.831 (1.031)	41	1383457			23.64- 123.64	71.87
87 Carbon Tetrachloride					CAS #: 56-23-5		
15.107	15.107 (1.050)	119	3236022	54.3190	54.319	80.00- 120.00	100.00
15.107	15.080 (1.050)	117	3352238			54.21- 154.21	103.59
89 2,2,4-Trimethylpentane					CAS #: 540-84-1		
15.411	15.411 (1.071)	57	6828333	53.6662	53.666	80.00- 120.00	100.00

RT	EXP RT (REL RT)	MASS	RESPONSE	CONCENTRATIONS ON-COL (PPBV)	FINAL (PPBV)	TARGET RANGE	RATIO
89 2,2,4-Trimethylpentane (continued)							
15.411	15.411 (1.071)	56	2319265			0.00- 84.62	33.97
15.411	15.411 (1.071)	41	1770377			0.00- 79.27	25.93
91 Benzene					CAS #: 71-43-2		
15.522	15.522 (0.961)	78	4367692	51.7829	51.783	80.00- 120.00	100.00
15.522	15.522 (0.961)	77	963032			0.00- 71.87	22.05
93 1,2-Dichloroethane					CAS #: 107-06-2		
15.633	15.633 (0.967)	62	2199736	49.0853	49.085	80.00- 120.00	100.00
15.633	15.633 (0.967)	64	699203			0.00- 82.89	31.79
94 Heptane					CAS #: 142-82-5		
15.716	15.716 (0.973)	71	1348627	51.9897	51.990	80.00- 120.00	100.00
15.716	15.716 (0.973)	43	2749009			158.53- 258.53	203.84
15.716	15.716 (0.973)	57	1468579			59.34- 159.34	108.89
101 Trichloroethene					CAS #: 79-01-6		
16.628	16.628 (1.029)	95	1979104	52.8225	52.822	80.00- 120.00	100.00
16.628	16.628 (1.029)	130	2074260			54.96- 154.96	104.81
16.628	16.628 (1.029)	97	1292407			15.03- 115.03	65.30
104 1,2-Dichloropropane					CAS #: 78-87-5		
17.126	17.126 (1.060)	63	1661324	51.3238	51.324	80.00- 120.00	100.00
17.126	17.126 (1.060)	62	1223804			22.48- 122.48	73.66
17.126	17.126 (1.060)	41	1004298			10.34- 110.34	60.45
106 1,4-Dioxane					CAS #: 123-91-1		
17.236	17.236 (1.067)	88	1098181	52.1623	52.162	80.00- 120.00	100.00
17.236	17.236 (1.067)	58	773953			20.79- 120.79	70.48
17.236	17.236 (1.067)	57	252985			0.00- 74.60	23.04
107 Bromodichloromethane					CAS #: 75-27-4		
17.540	17.540 (1.086)	83	3433720	52.7871	52.787	80.00- 120.00	100.00
17.540	17.540 (1.086)	85	2215249			14.07- 114.07	64.51
110 cis-1,3-Dichloropropene					CAS #: 10061-01-5		
18.342	18.342 (1.135)	75	2399667	52.4636	52.464	80.00- 120.00	100.00
18.342	18.342 (1.135)	77	756648			0.00- 82.16	31.53
18.342	18.342 (1.135)	39	1320726			5.30- 105.30	55.04
111 4-Methyl-2-pentanone					CAS #: 108-10-1		
18.508	18.508 (1.145)	58	1419690	56.2452	56.245	80.00- 120.00	100.00
18.508	18.508 (1.145)	43	3693000			222.97- 322.97	260.13
18.508	18.508 (1.145)	85	560451			0.00- 90.48	39.48

RT	EXP RT (REL RT)	MASS	RESPONSE	CONCENTRATIONS ON-COL (PPBV)	FINAL (PPBV)	TARGET RANGE	RATIO
114 Toluene					CAS #: 108-88-3		
18.895	18.895 (1.169)	91	5089096	55.0859	55.086	80.00- 120.00	100.00
18.895	18.895 (1.169)	92	3196861			12.81- 112.81	62.82
116 trans-1,3-Dichloropropene					CAS #: 10061-02-6		
19.310	19.310 (0.904)	75	2575912	53.7498	53.750	80.00- 120.00	100.00
19.310	19.310 (0.904)	77	822742			0.00- 82.21	31.94
19.310	19.310 (0.904)	39	1319749			1.24- 101.24	51.23
117 1,1,2-Trichloroethane					CAS #: 79-00-5		
19.669	19.669 (0.921)	97	1920216	54.9400	54.940	80.00- 120.00	100.00
19.669	19.669 (0.921)	99	1211123			12.57- 112.57	63.07
19.642	19.642 (0.920)	83	1569584			31.77- 131.77	81.74
120 Tetrachloroethene					CAS #: 127-18-4		
19.835	19.835 (0.929)	166	2777574	61.2741	61.274	80.00- 120.00	100.00
19.835	19.835 (0.929)	129	1900963			18.66- 118.66	68.44
19.835	19.835 (0.929)	131	1838478			16.81- 116.81	66.19
121 2-Hexanone					CAS #: 591-78-6		
19.974	19.974 (0.935)	58	1987355	53.0565	53.056	80.00- 120.00	100.00
19.974	19.974 (0.935)	43	3656517			132.73- 232.73	183.99
19.974	19.974 (0.935)	100	345193			0.00- 67.05	17.37
122 Dibromochloromethane					CAS #: 124-48-1		
20.361	20.361 (0.953)	129	3642161	58.8133	58.813	80.00- 120.00	100.00
20.361	20.361 (0.953)	127	2813448			27.62- 127.62	77.25
123 1,2-Dibromoethane					CAS #: 106-93-4		
20.637	20.637 (0.966)	107	3161498	55.1773	55.177	80.00- 120.00	100.00
20.637	20.637 (0.966)	109	2985156			45.40- 145.40	94.42
127 Chlorobenzene					CAS #: 108-90-7		
21.411	21.411 (1.003)	112	4122515	54.0028	54.003	80.00- 120.00	100.00
21.411	21.411 (1.003)	114	1326584			0.00- 82.45	32.18
21.411	21.411 (1.003)	77	2773989			16.80- 116.80	67.29
128 Ethyl Benzene					CAS #: 100-41-4		
21.494	21.494 (1.006)	106	2069909	53.1193	53.119	80.00- 120.00	100.00
21.494	21.494 (1.006)	91	6308807			261.69- 361.69	304.79
129 m,p-Xylene					CAS #: 108-38-3		
21.688	21.688 (1.016)	106	2598084	53.2675	53.268	80.00- 120.00	100.00
21.688	21.688 (1.016)	91	4942988			145.05- 245.05	190.26
130 o-Xylene					CAS #: 95-47-6		
22.379	22.379 (1.048)	106	2254491	53.3386	53.338	80.00- 120.00	100.00

RT	EXP RT (REL RT)	MASS	RESPONSE	CONCENTRATIONS ON-COL (PPBV)	FINAL (PPBV)	TARGET RANGE	RATIO
130 o-Xylene (continued)							
22.379	22.379 (1.048)	91	4543884			150.06- 250.06	201.55
131 Styrene						CAS #: 100-42-5	
22.407	22.407 (1.049)	104	3692159	56.4774	56.477	80.00- 120.00	100.00
22.407	22.407 (1.049)	78	1756164			0.00- 96.69	47.56
133 Bromoform						CAS #: 75-25-2	
22.822	22.821 (1.069)	173	3254906	59.8565	59.856	80.00- 120.00	100.00
22.822	22.821 (1.069)	171	1683910			1.50- 101.50	51.73
134 Cumene						CAS #: 98-82-8	
22.960	22.960 (1.075)	105	6054113	56.7229	56.723	80.00- 120.00	100.00
22.960	22.960 (1.075)	120	1688774			0.00- 78.08	27.89
22.960	22.960 (1.075)	51	585230			0.00- 61.43	9.67
140 1,1,2,2-Tetrachloroethane						CAS #: 79-34-5	
23.540	23.540 (1.102)	83	3421644	48.4648	48.465	80.00- 120.00	100.00
23.540	23.540 (1.102)	85	2203282			14.31- 114.31	64.39
142 Propylbenzene						CAS #: 103-65-1	
23.651	23.651 (1.107)	91	7483793	52.2788	52.279	80.00- 120.00	100.00
23.651	23.651 (1.107)	120	1793077			0.00- 72.94	23.96
23.651	23.651 (1.107)	105	276678			0.00- 54.03	3.70
145 4-Ethyltoluene						CAS #: 622-96-8	
23.817	23.817 (1.115)	105	6397828	50.6102	50.610	80.00- 120.00	100.00
23.817	23.817 (1.115)	120	2084424			0.00- 82.38	32.58
147 1,3,5-Trimethylbenzene						CAS #: 108-67-8	
23.927	23.927 (1.120)	105	5057501	50.9333	50.933	80.00- 120.00	100.00
23.927	23.927 (1.120)	120	2651496			3.80- 103.80	52.43
150 1,2,4-Trimethylbenzene						CAS #: 95-63-6	
24.563	24.563 (1.150)	105	4630746	51.3151	51.315	80.00- 120.00	100.00
24.563	24.563 (1.150)	120	2311224			0.00- 98.95	49.91
155 1,3-Dichlorobenzene						CAS #: 541-73-1	
25.116	25.116 (1.176)	146	3574141	51.1816	51.182	80.00- 120.00	100.00
25.144	25.116 (1.177)	148	2274261			14.48- 114.48	63.63
25.116	25.116 (1.176)	111	1316086			0.00- 89.68	36.82
156 1,4-Dichlorobenzene						CAS #: 106-46-7	
25.282	25.282 (1.184)	146	3654783	50.2183	50.218	80.00- 120.00	100.00
25.282	25.282 (1.184)	148	2335553			13.81- 113.81	63.90
25.282	25.282 (1.184)	111	1274193			0.00- 87.35	34.86

RT	EXP RT (REL RT)	MASS	RESPONSE	CONCENTRATIONS ON-COL (PPBV)	FINAL (PPBV)	TARGET RANGE	RATIO
159 alpha-Chlorotoluene					CAS #: 100-44-7		
25.476	25.476 (1.193)	91	4914102	50.8614	50.861	80.00- 120.00	100.00
25.476	25.476 (1.193)	126	1079864			0.00- 71.29	21.97
161 1,2-Dichlorobenzene					CAS #: 95-50-1		
25.918	25.918 (1.214)	146	3060786	47.0754	47.075	80.00- 120.00	100.00
25.918	25.918 (1.214)	148	1947743			14.11- 114.11	63.64
25.918	25.918 (1.214)	111	1159717			0.00- 88.36	37.89
165 1,2,4-Trichlorobenzene					CAS #: 120-82-1		
28.821	28.821 (1.350)	180	847420	31.8670	31.867	80.00- 120.00	100.00(R)
28.821	28.821 (1.350)	182	802683			45.29- 145.29	94.72
166 Hexachlorobutadiene					CAS #: 87-68-3		
28.987	28.987 (1.357)	225	763569	34.5395	34.539	80.00- 120.00	100.00(R)
28.987	28.987 (1.357)	223	482855			12.64- 112.64	63.24
29 Isopentane					CAS #: 78-78-4		
8.377	8.348 (0.582)	43	2046336	45.7993	45.799	80.00- 120.00	100.00
8.377	8.348 (0.582)	57	1338093			16.48- 116.48	65.39
19 Butane					CAS #: 106-97-8		
6.743	6.743 (0.469)	58	316912	45.4101	45.410	80.00- 120.00	100.00
6.743	6.743 (0.469)	43	2601699			757.70- 857.70	820.95
102 Methyl Cyclohexane					CAS #: 108-87-2		
16.905	16.904 (1.175)	83	2430791	54.2549	54.255	80.00- 120.00	100.00
16.905	16.904 (1.175)	98	1159884			0.00- 96.13	47.72
16.905	16.904 (1.175)	55	2105496			38.51- 138.51	86.62
167 Naphthalene					CAS #: 91-20-3		
29.374	29.374 (1.375)	128	1354969	27.1959	27.196	80.00- 120.00	100.00(R)
29.374	29.374 (1.375)	127	156516			0.00- 62.50	11.55

QC Flag Legend

R - Spike/Surrogate failed recovery limits.

Report Date: 05-Nov-2007 00:42

Air Toxics Ltd.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd7.i
Lab File ID: 7110411.d
Lab Smp Id: LCS-1
Analysis Type: VOA
Quant Type: ISTD
Operator: ab
Method File: /chem/msd7.i/7-04nova.b/t14qO18c.m
Misc Info: 200ppbv-50ppbv

Calibration Date: 04-NOV-2007
Calibration Time: 22:27
Client Smp ID: LCS-1
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
81 Bromochloromethan	651162	390697	911627	626813	-3.74
97 1,4-Difluorobenze	2188066	1312840	3063292	2122832	-2.98
126 Chlorobenzene-d5	1729248	1037549	2420947	1687430	-2.42

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
81 Bromochloromethan	14.39	14.06	14.72	14.39	0.00
97 1,4-Difluorobenze	16.16	15.83	16.49	16.16	0.00
126 Chlorobenzene-d5	21.36	21.03	21.69	21.36	0.00

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /chem/msd7.i/7-04nova.b/7110411.d

Date : 04-NOV-2007 23:58

Client ID: LCS-1

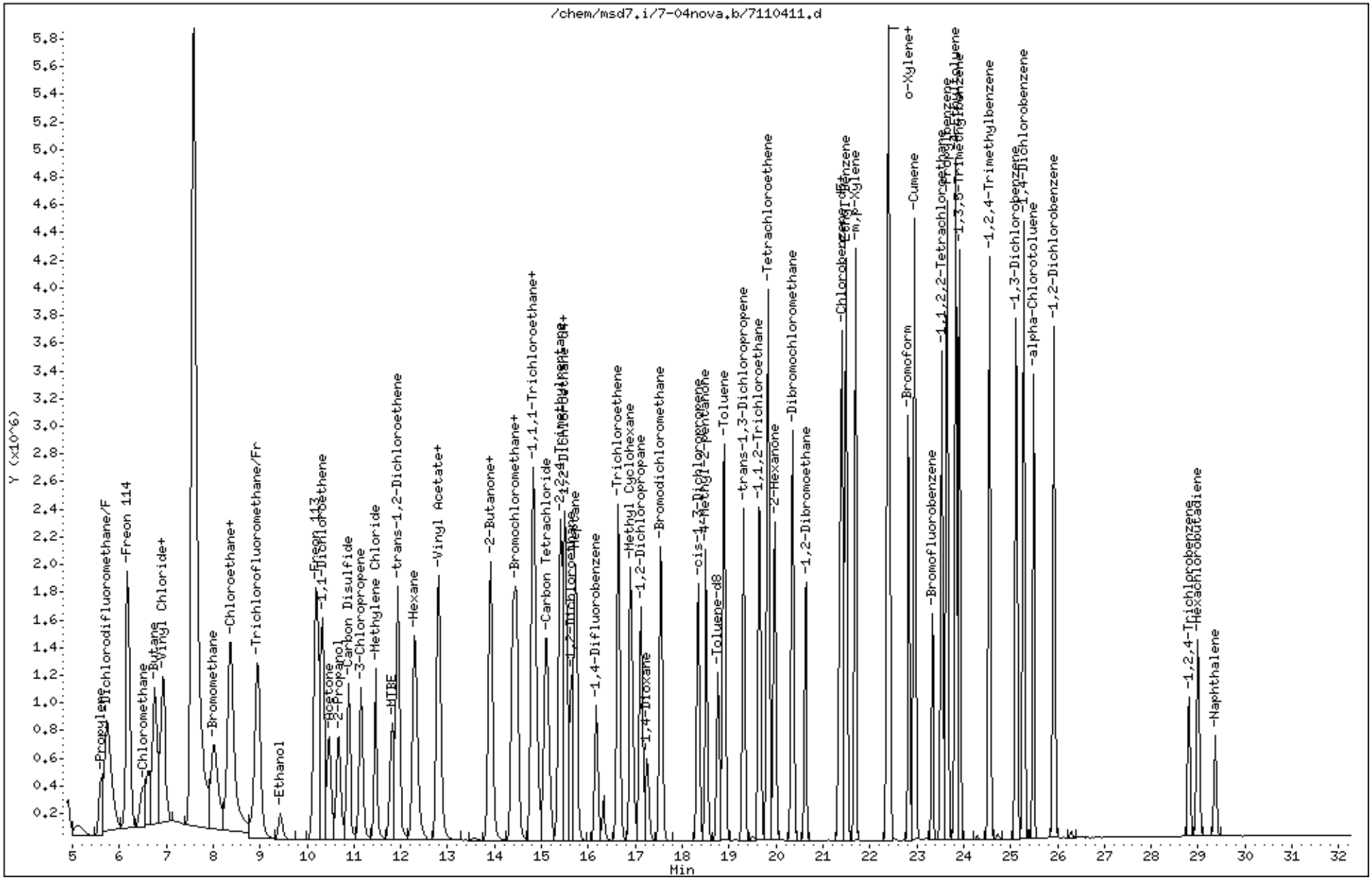
Sample Info: 50mL #1443-302

Column phase: RTx-624

Instrument: msd7.i

Operator: ab

Column diameter: 0.53



Data File: /chem/msd7.i/7-04nova.b/7110411.d

Date : 04-NOV-2007 23:58

Client ID: LCS-1

Instrument: msd7.i

Sample Info: 50mL #1443-302

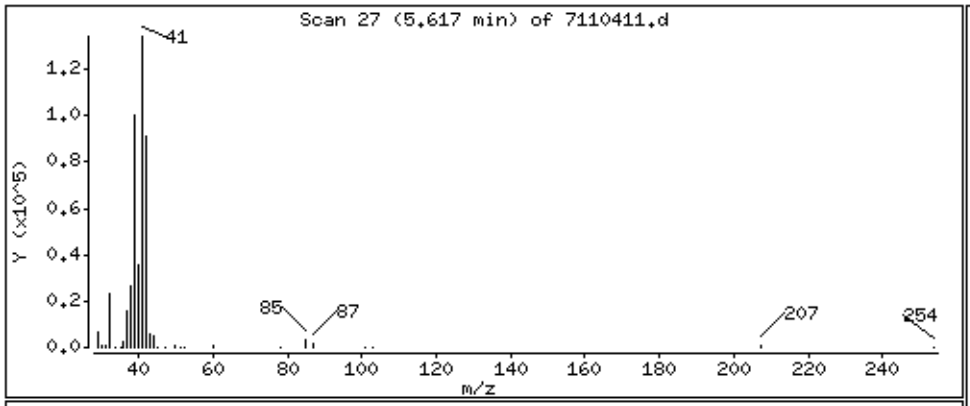
Operator: ab

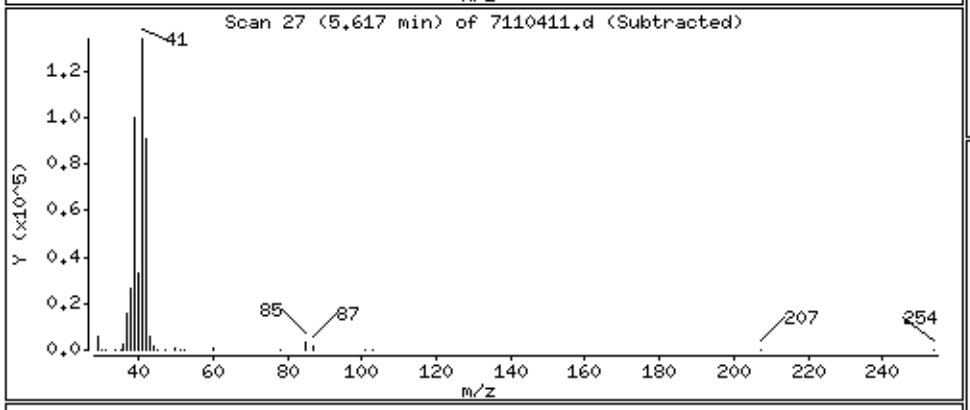
Column phase: RTx-624

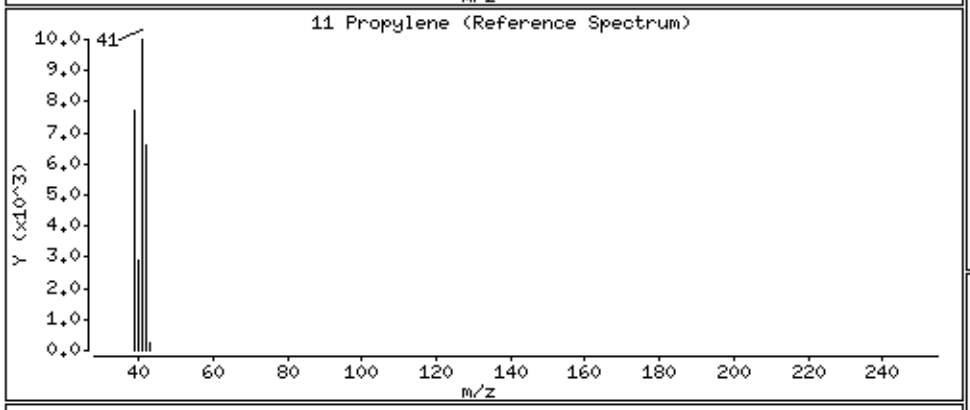
Column diameter: 0.53

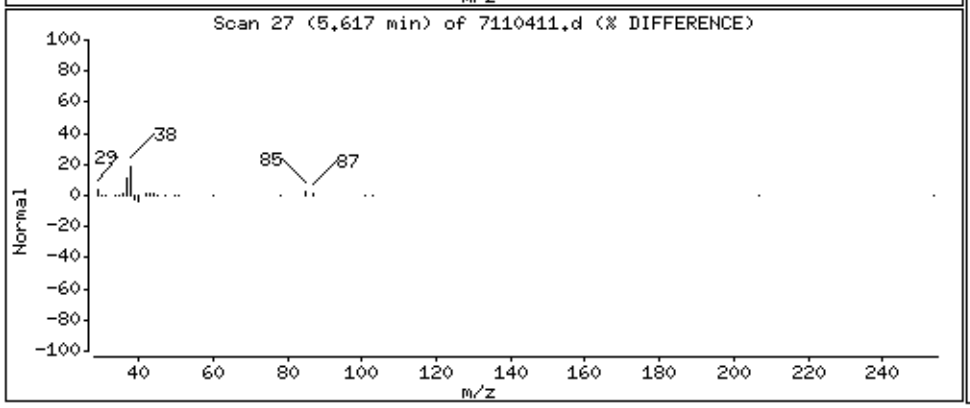
11 Propylene

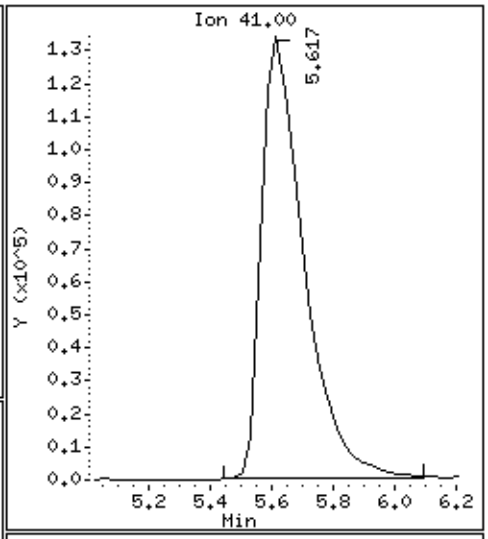
Concentration: 47.994 PPBV

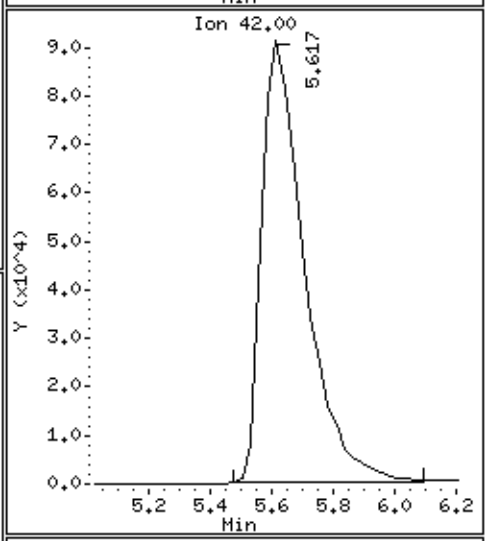


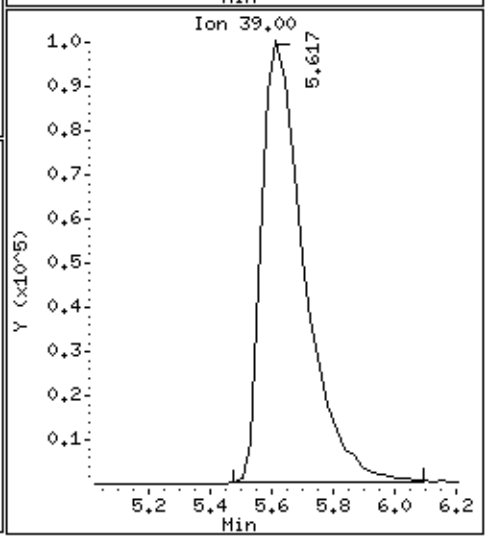












Data File: /chem/msd7.i/7-04nova.b/7110411.d

Date : 04-NOV-2007 23:58

Client ID: LCS-1

Instrument: msd7.i

Sample Info: 50mL #1443-302

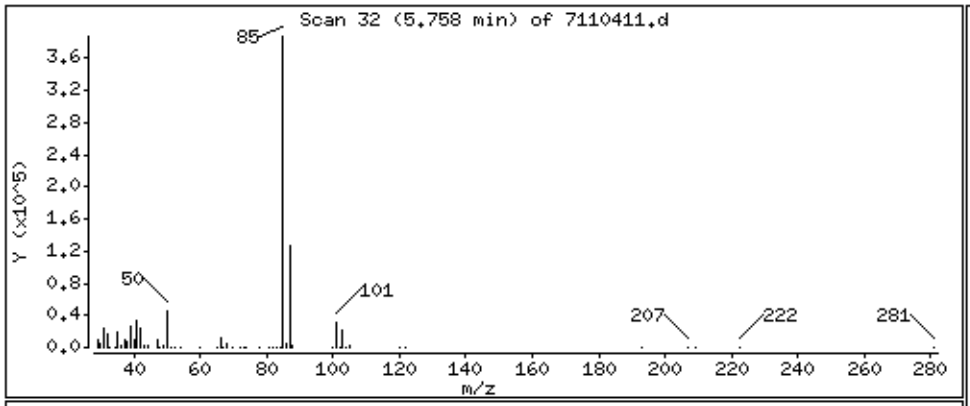
Operator: ab

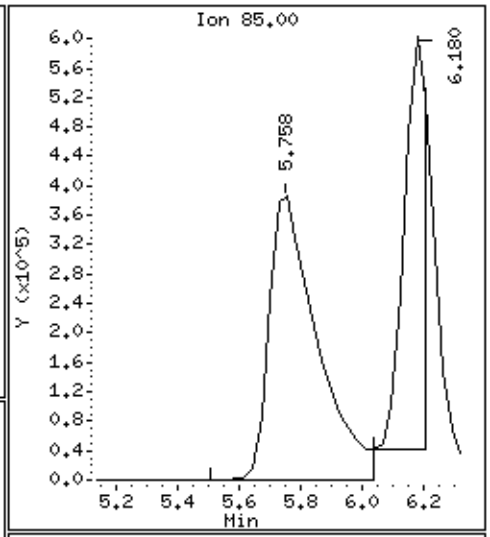
Column phase: RTx-624

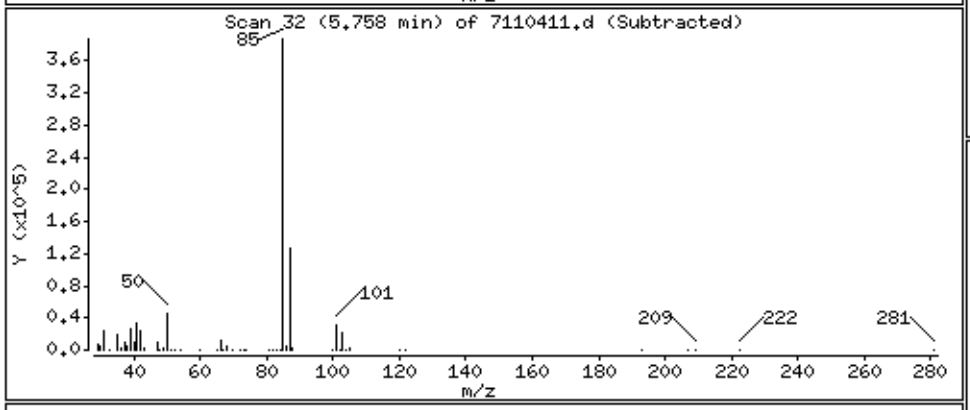
Column diameter: 0.53

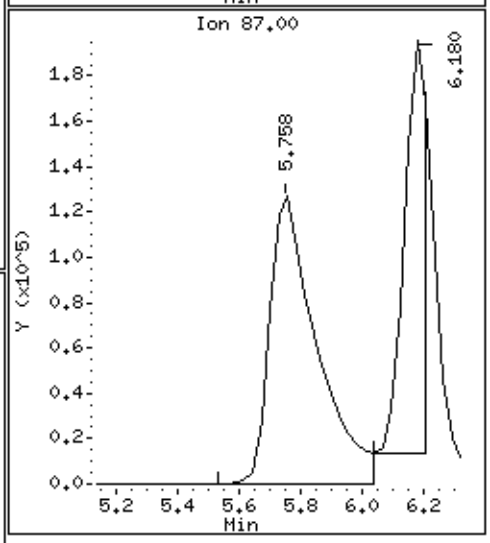
12 Dichlorodifluoromethane/Fr12

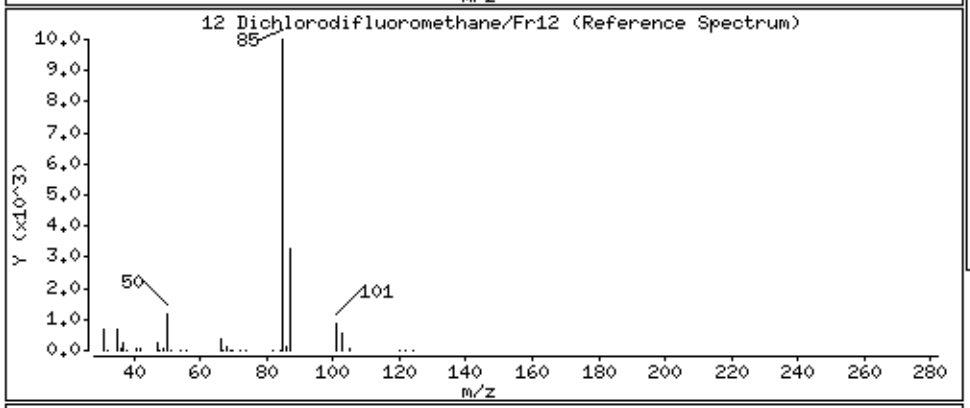
Concentration: 42.789 PPBV

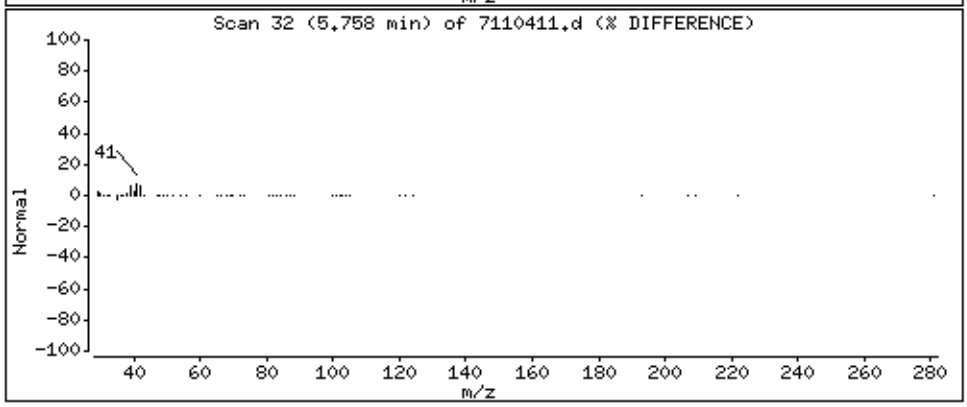












Data File: /chem/msd7.i/7-04nova.b/7110411.d

Date : 04-NOV-2007 23:58

Client ID: LCS-1

Instrument: msd7.i

Sample Info: 50mL #1443-302

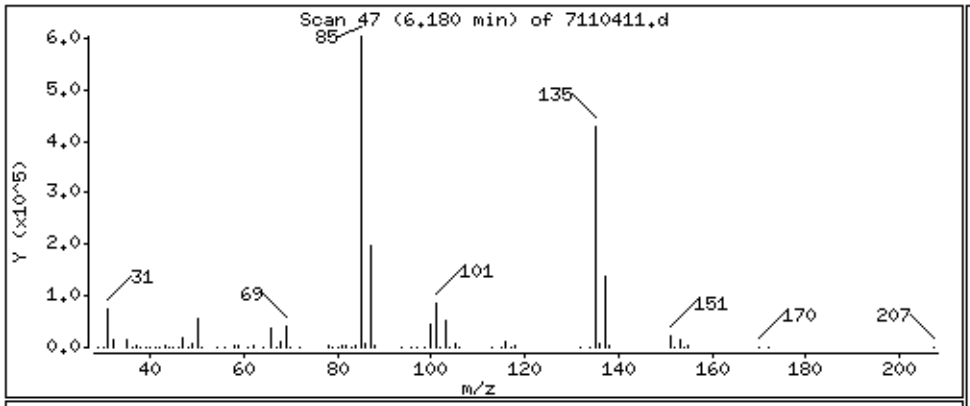
Operator: ab

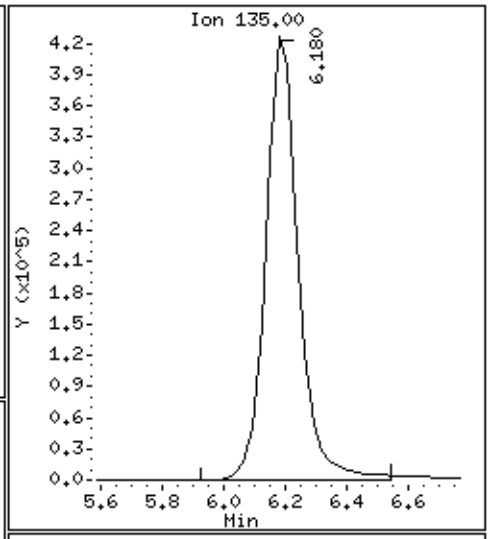
Column phase: RTx-624

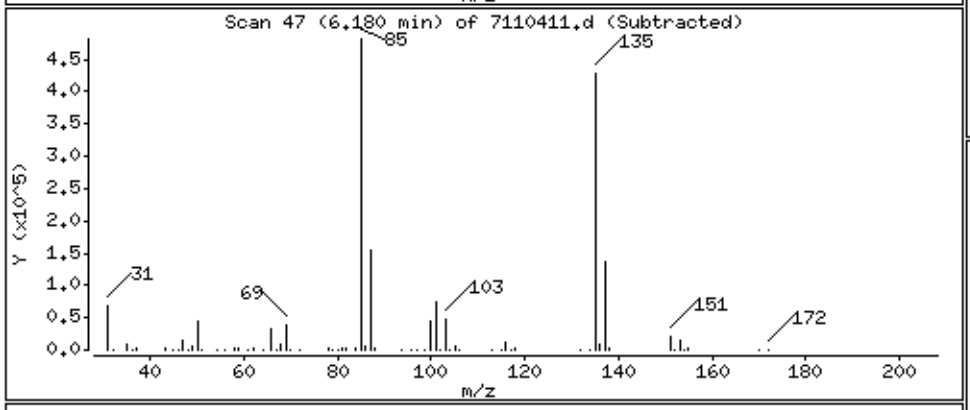
Column diameter: 0.53

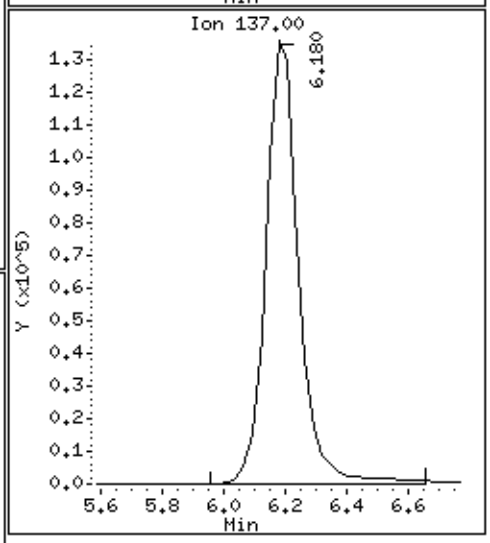
16 Freon 114

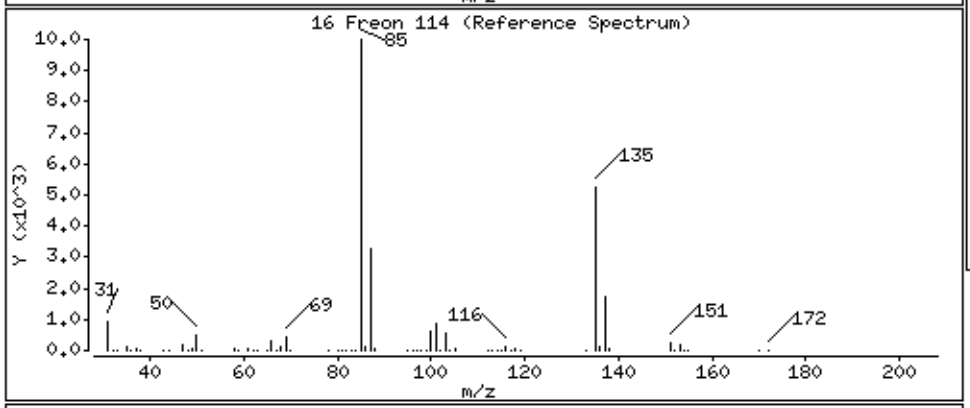
Concentration: 47.341 PPBV

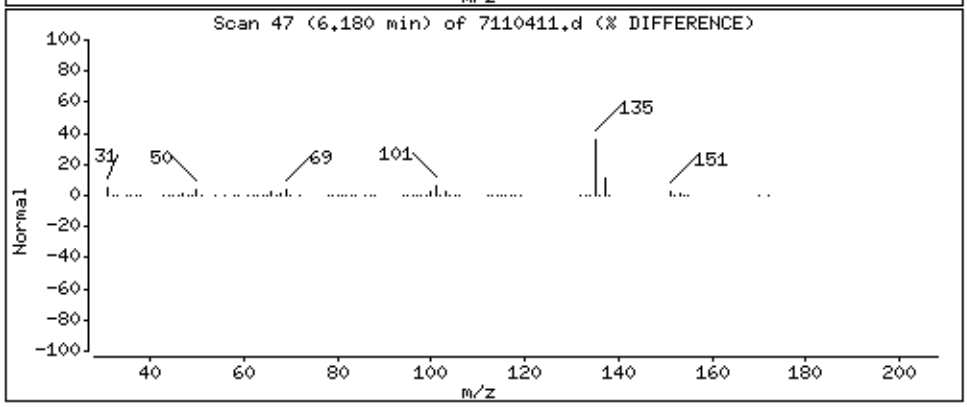












Data File: /chem/msd7.i/7-04nova.b/7110411.d

Date : 04-NOV-2007 23:58

Client ID: LCS-1

Instrument: msd7.i

Sample Info: 50mL #1443-302

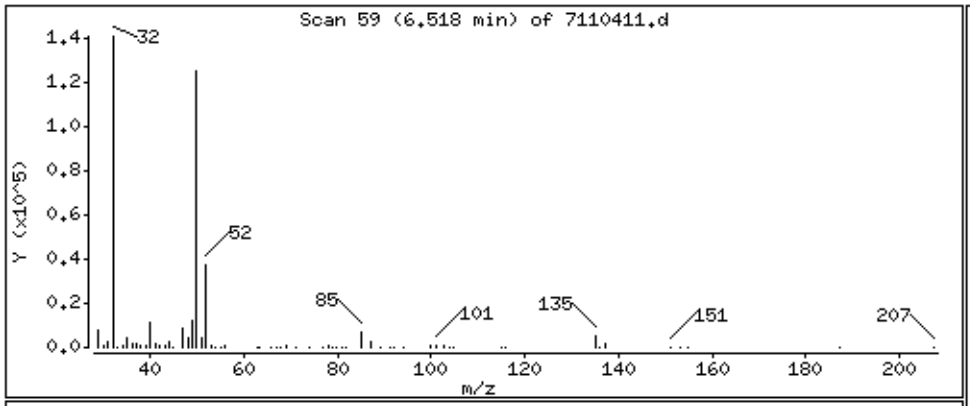
Operator: ab

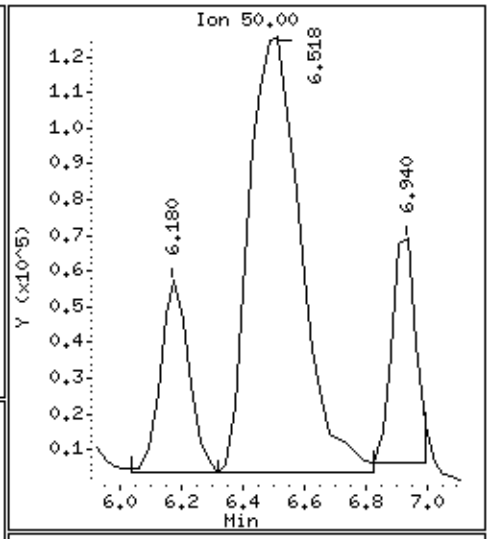
Column phase: RTx-624

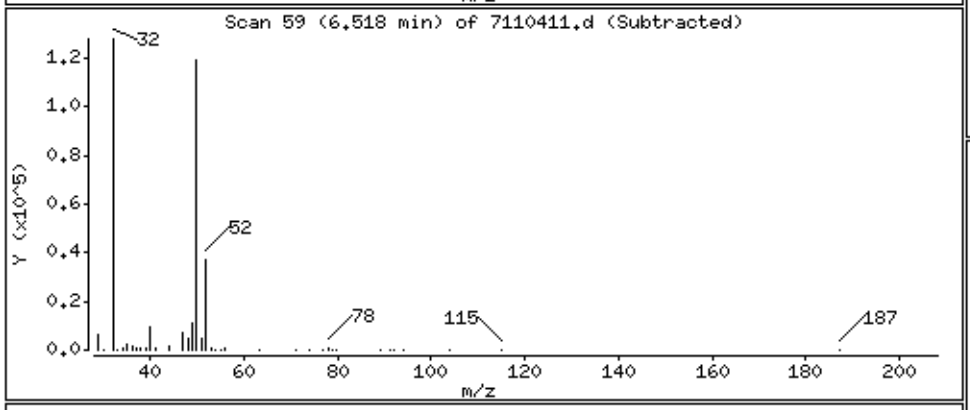
Column diameter: 0.53

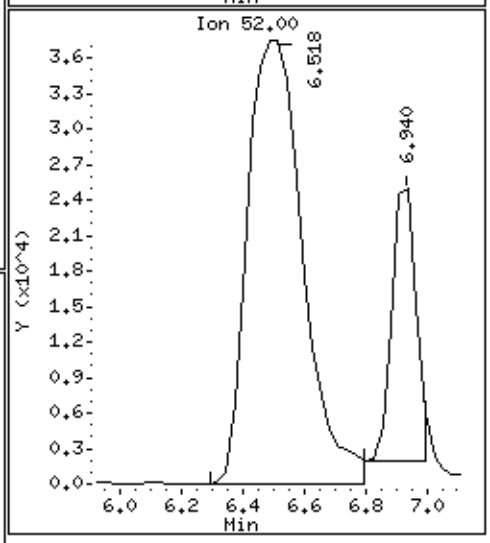
18 Chloromethane

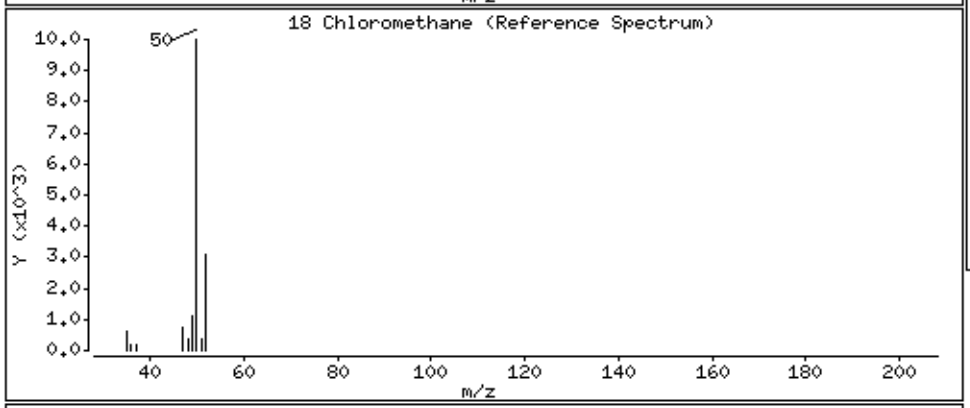
Concentration: 44.320 PPBV

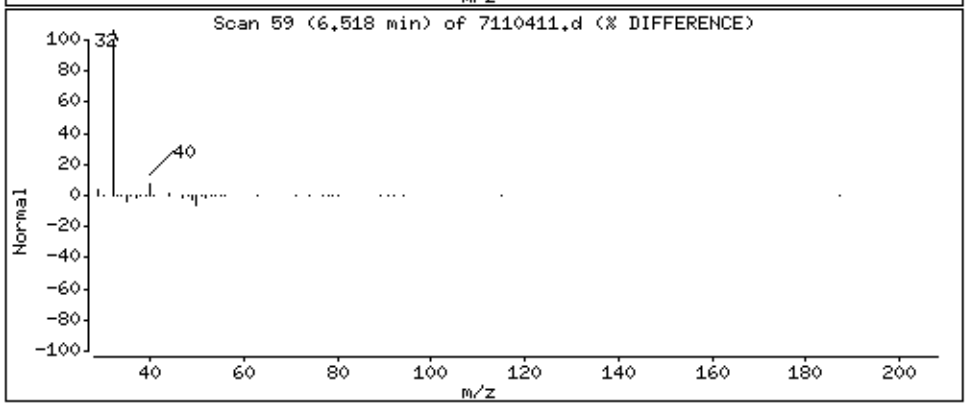












Data File: /chem/msd7.i/7-04nova.b/7110411.d

Date : 04-NOV-2007 23:58

Client ID: LCS-1

Instrument: msd7.i

Sample Info: 50mL #1443-302

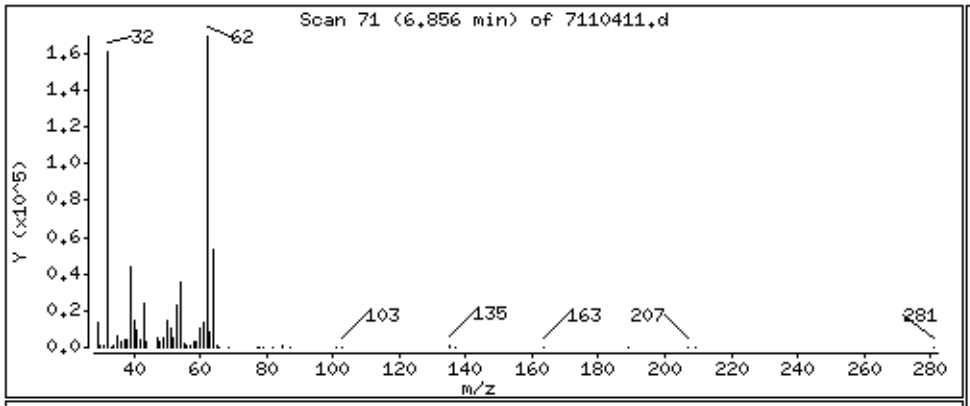
Operator: ab

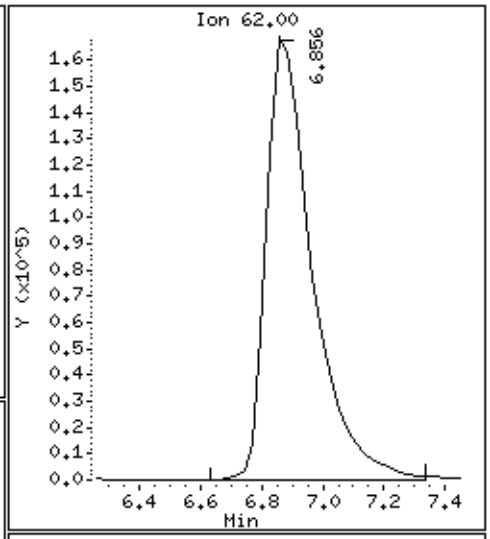
Column phase: RTx-624

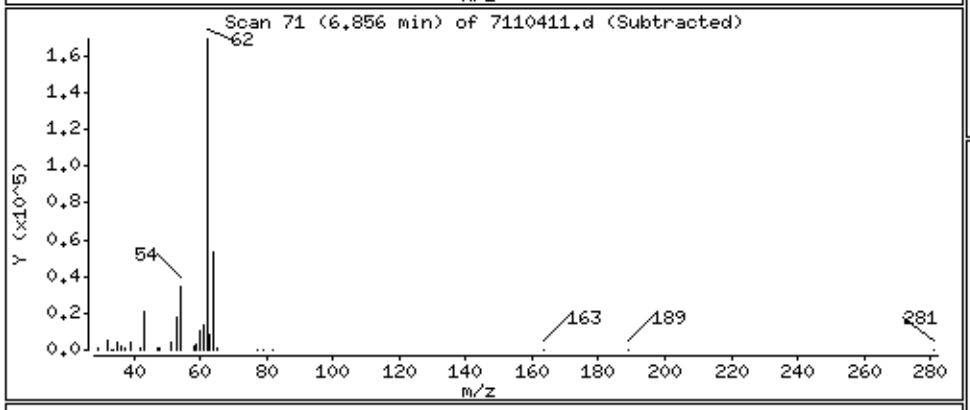
Column diameter: 0.53

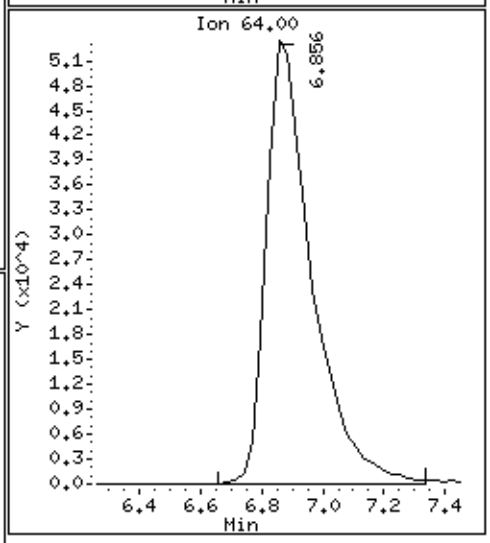
20 Vinyl Chloride

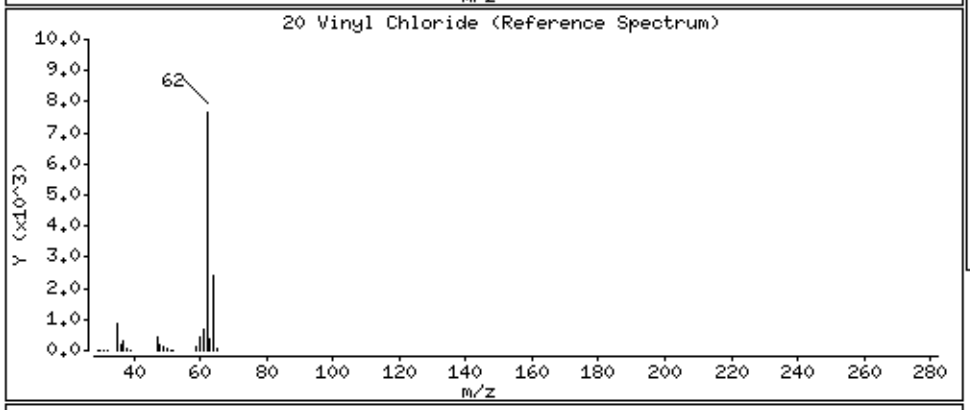
Concentration: 43.377 PPBV

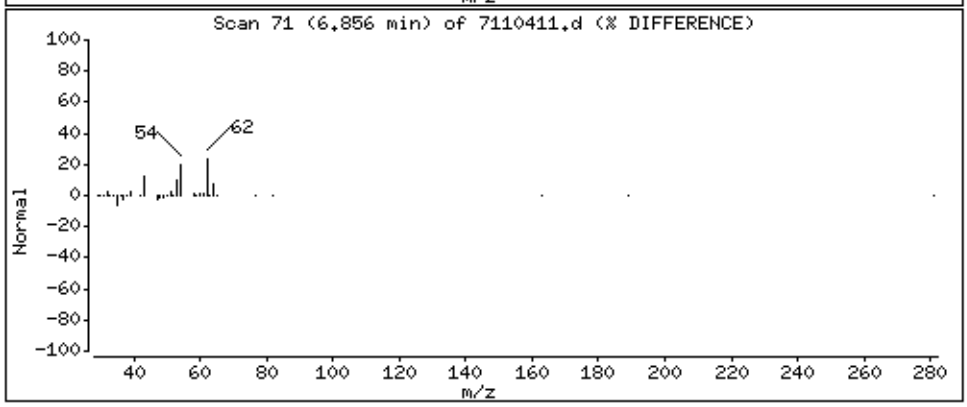












Data File: /chem/msd7.i/7-04nova.b/7110411.d

Date : 04-NOV-2007 23:58

Client ID: LCS-1

Instrument: msd7.i

Sample Info: 50mL #1443-302

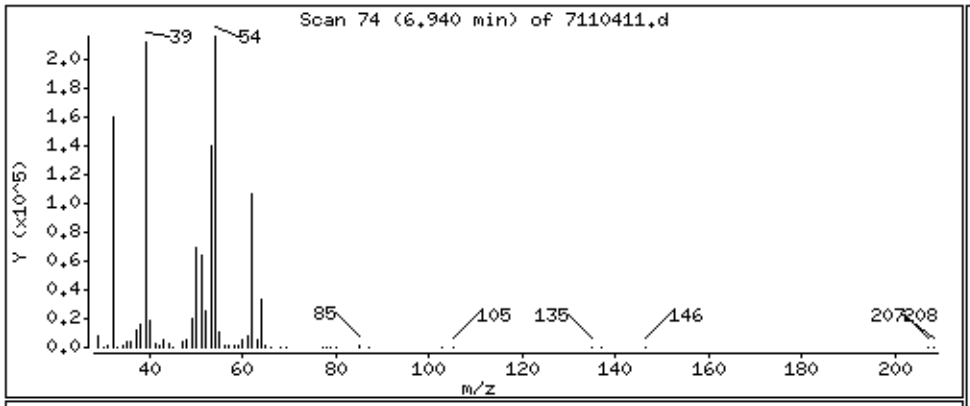
Operator: ab

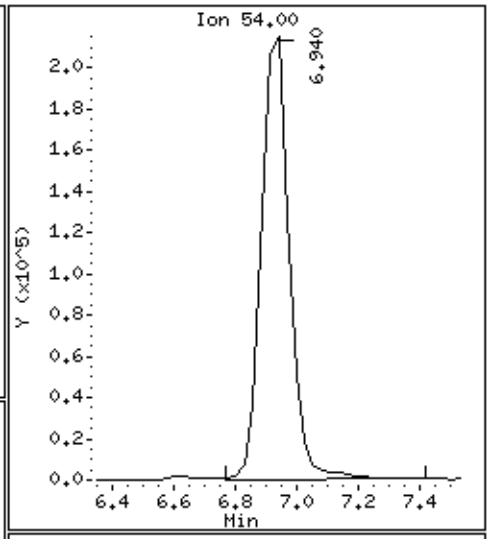
Column phase: RTx-624

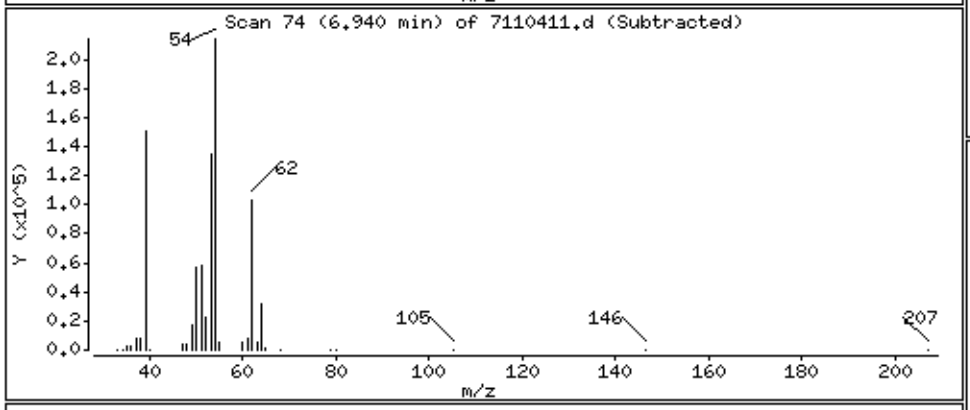
Column diameter: 0.53

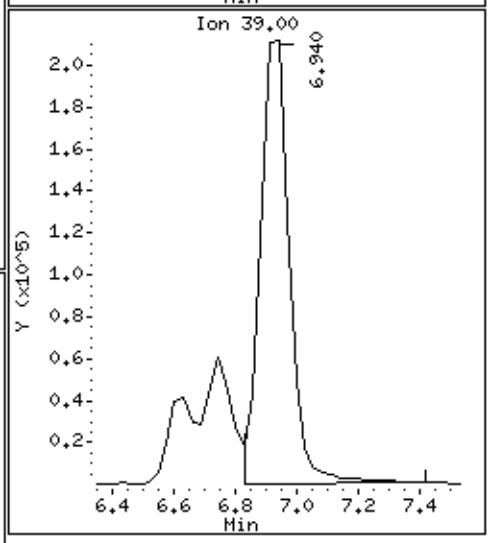
22 1,3-Butadiene

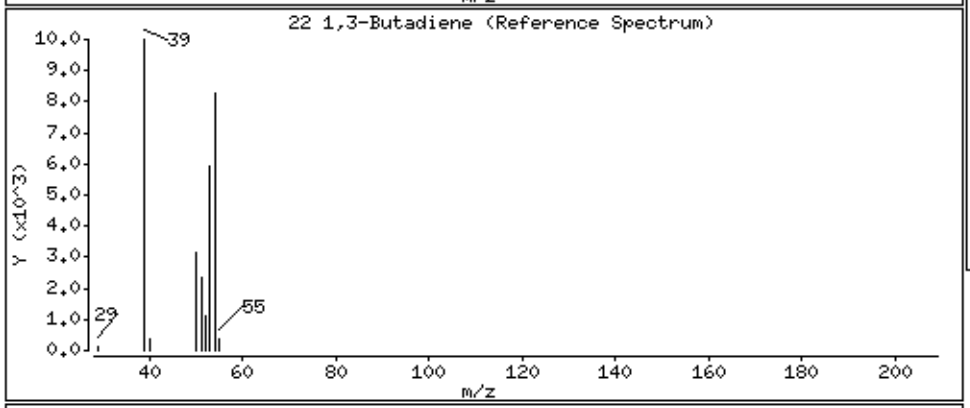
Concentration: 46.222 PPBV

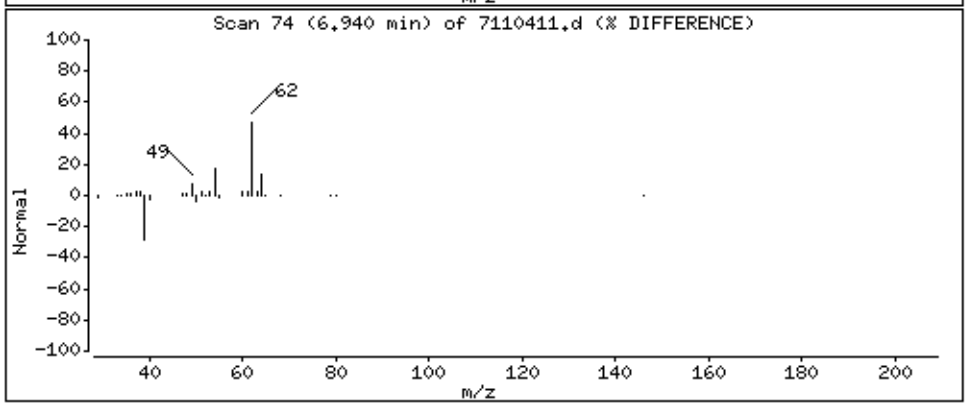












Data File: /chem/msd7.i/7-04nova.b/7110411.d

Date : 04-NOV-2007 23:58

Client ID: LCS-1

Instrument: msd7.i

Sample Info: 50mL #1443-302

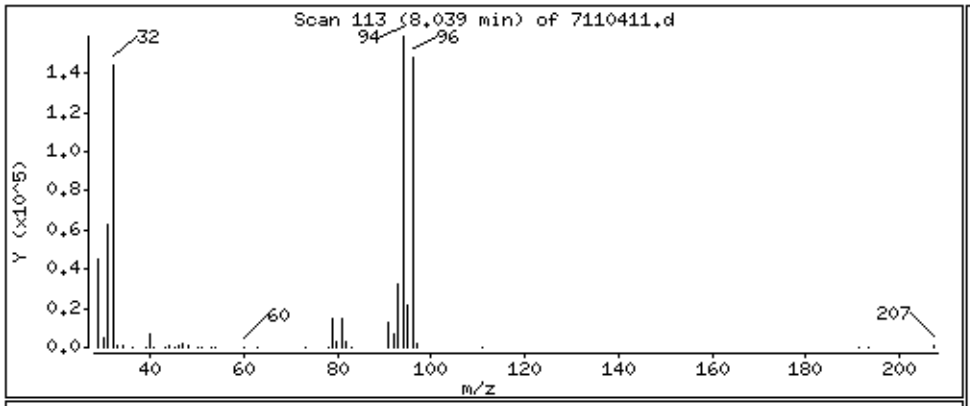
Operator: ab

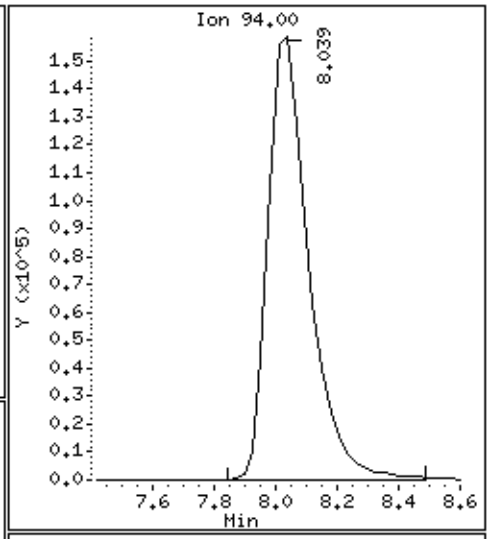
Column phase: RTx-624

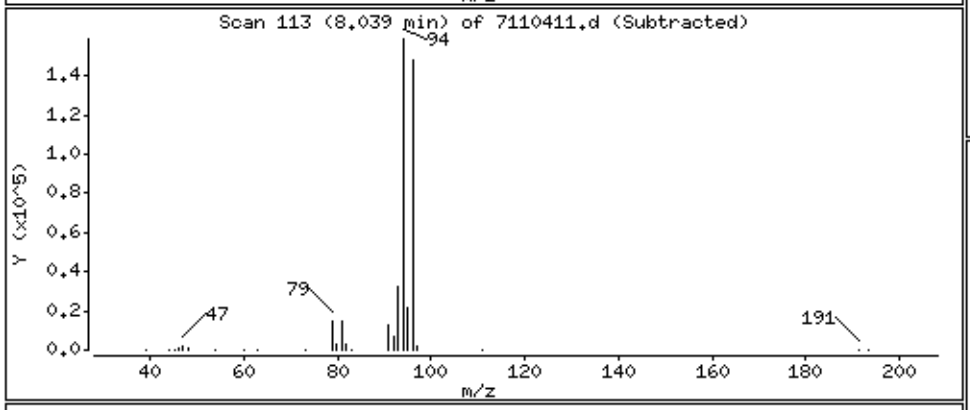
Column diameter: 0.53

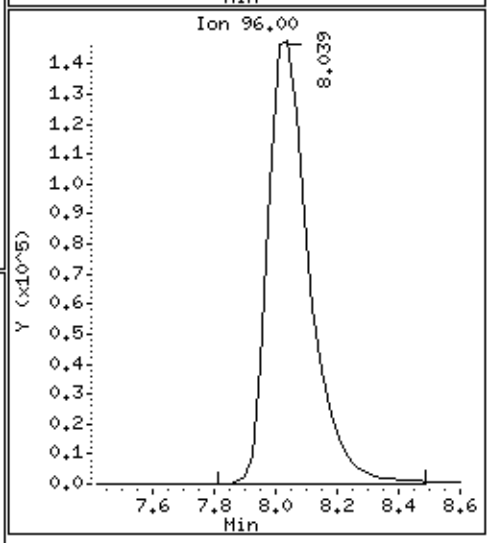
25 Bromomethane

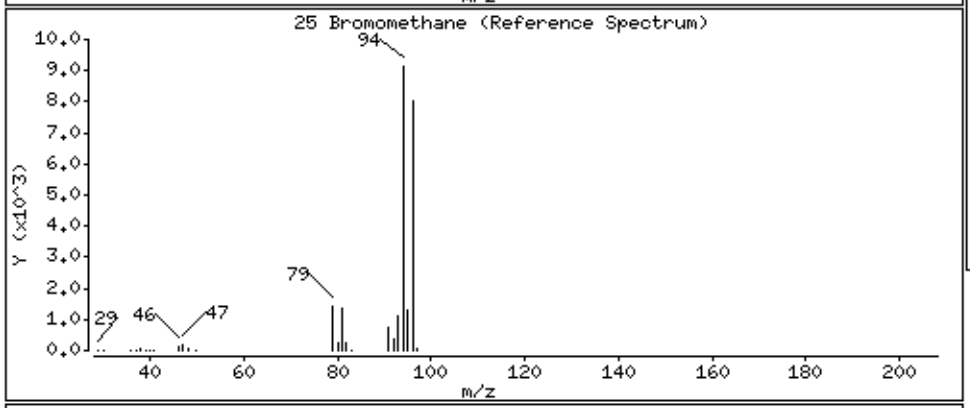
Concentration: 40.921 PPBV

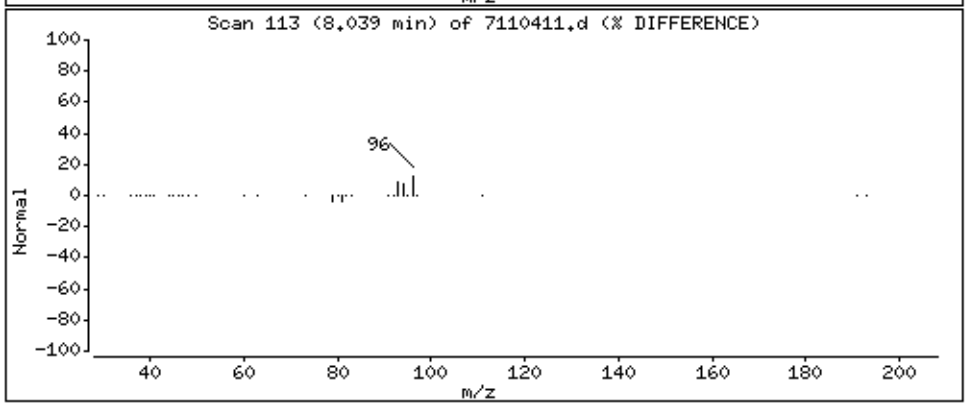












Data File: /chem/msd7.i/7-04nova.b/7110411.d

Date : 04-NOV-2007 23:58

Client ID: LCS-1

Instrument: msd7.i

Sample Info: 50mL #1443-302

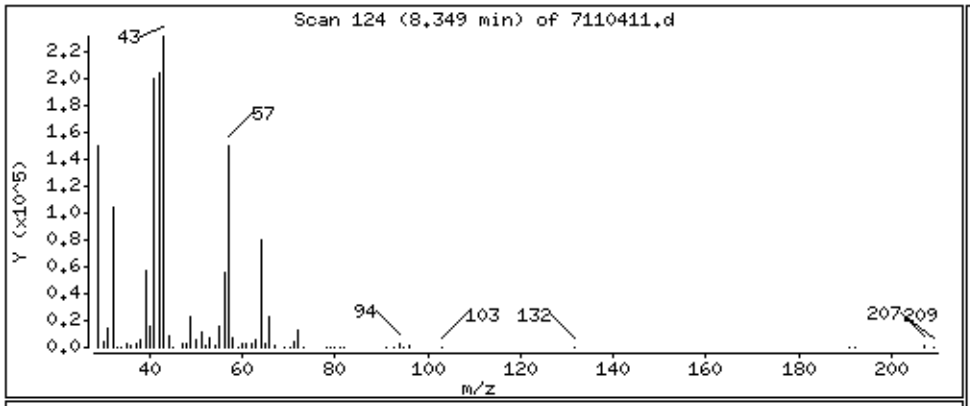
Operator: ab

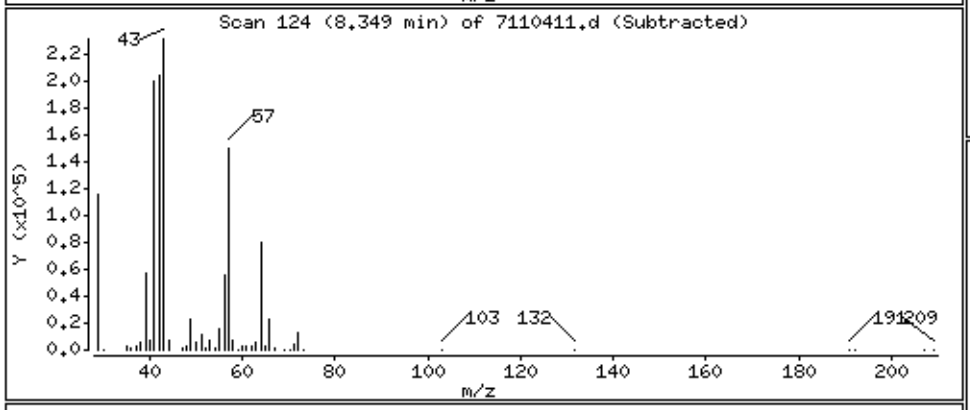
Column phase: RTx-624

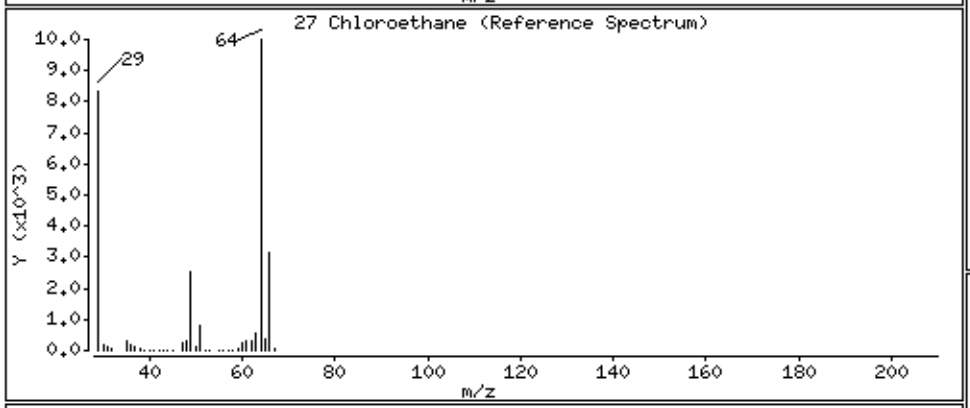
Column diameter: 0.53

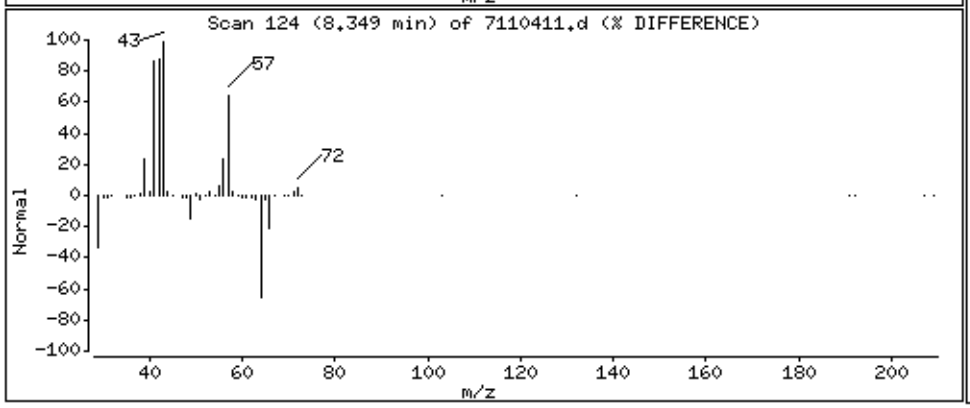
27 Chloroethane

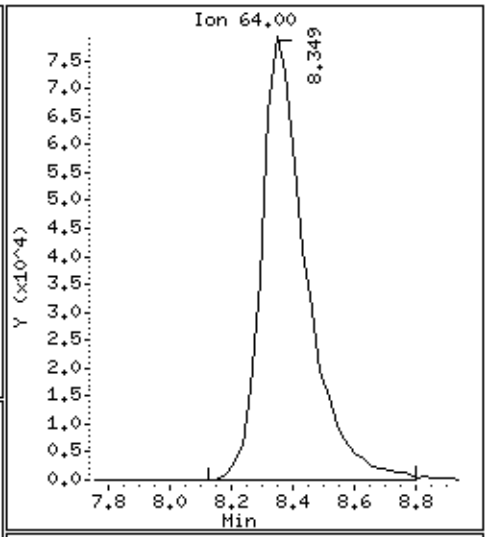
Concentration: 44.754 PPBV

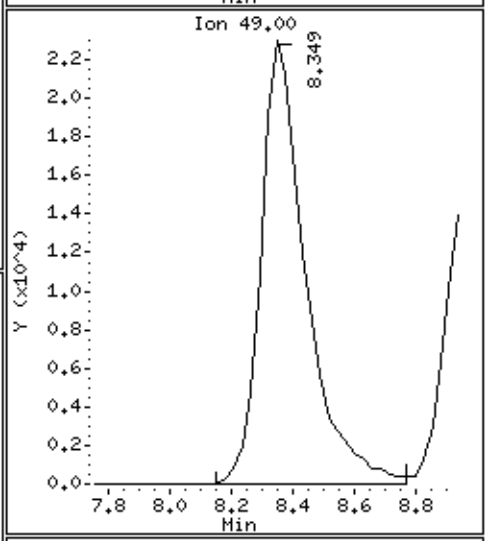


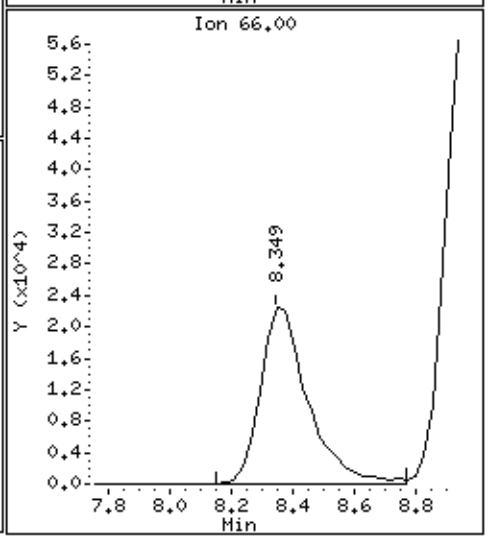












Data File: /chem/msd7.i/7-04nova.b/7110411.d

Date : 04-NOV-2007 23:58

Client ID: LCS-1

Instrument: msd7.i

Sample Info: 50mL #1443-302

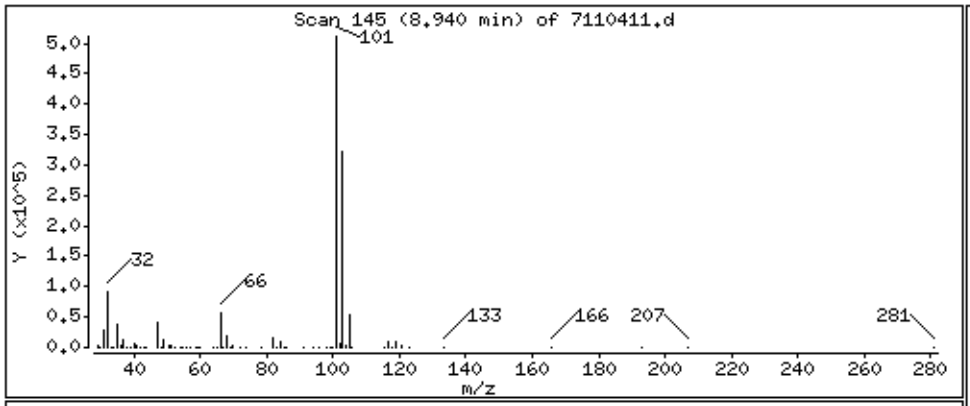
Operator: ab

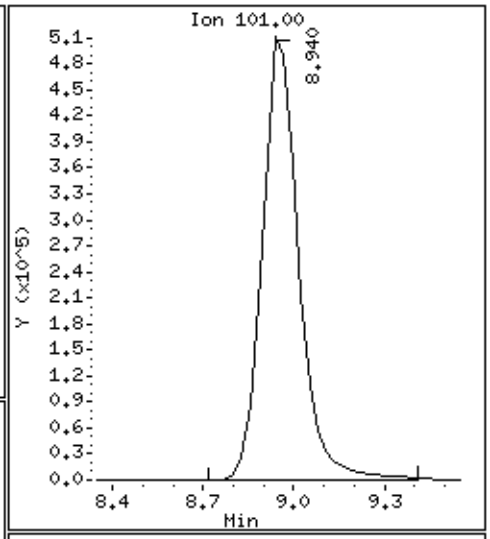
Column phase: RTx-624

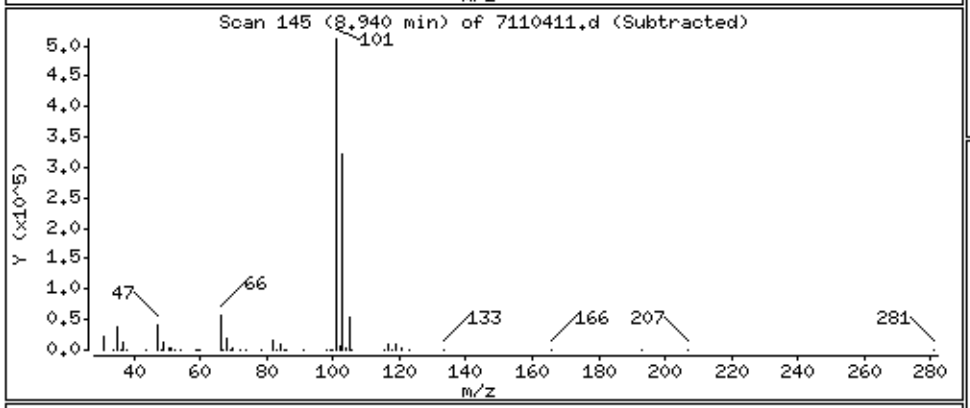
Column diameter: 0.53

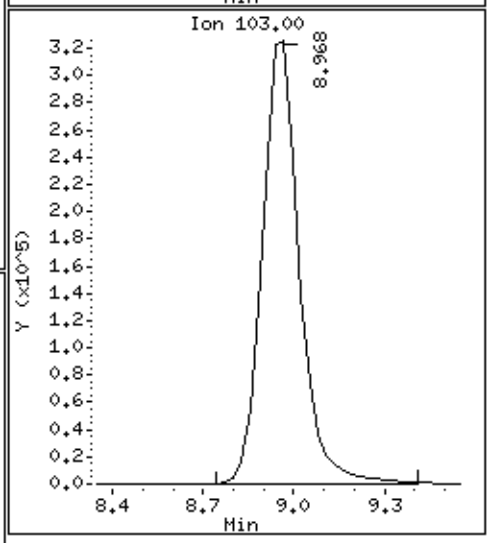
31 Trichlorofluoromethane/Fr11

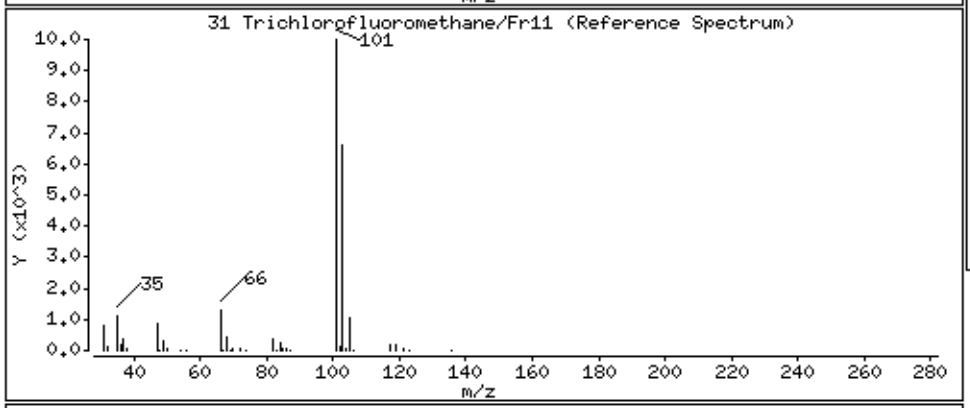
Concentration: 46.371 PPBV

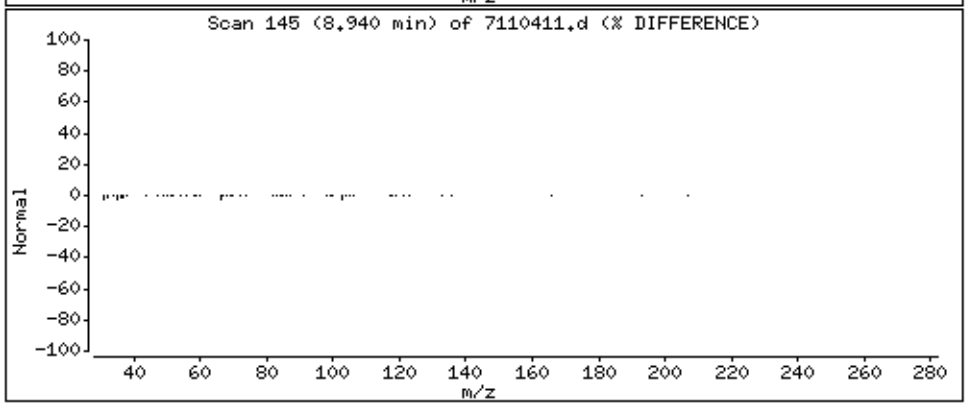












Data File: /chem/msd7.i/7-04nova.b/7110411.d

Date : 04-NOV-2007 23:58

Client ID: LCS-1

Instrument: msd7.i

Sample Info: 50mL #1443-302

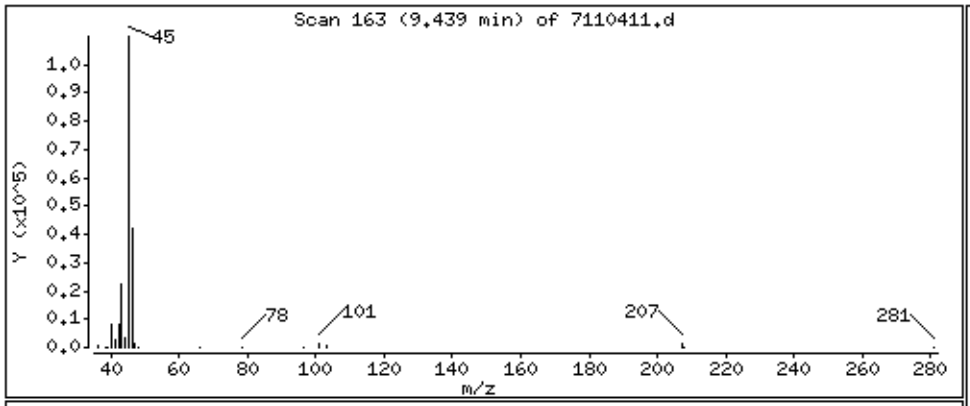
Operator: ab

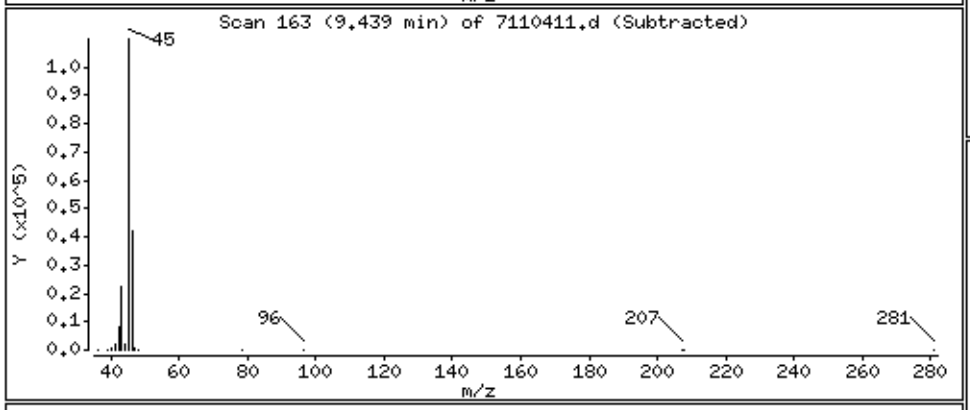
Column phase: RTx-624

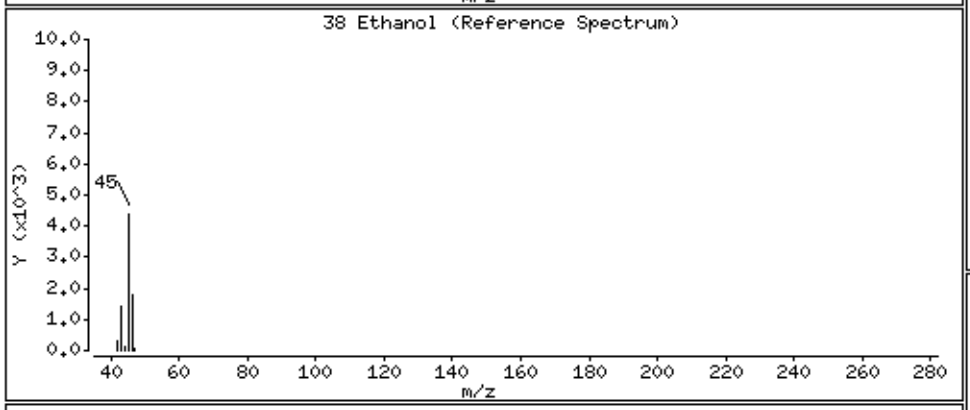
Column diameter: 0.53

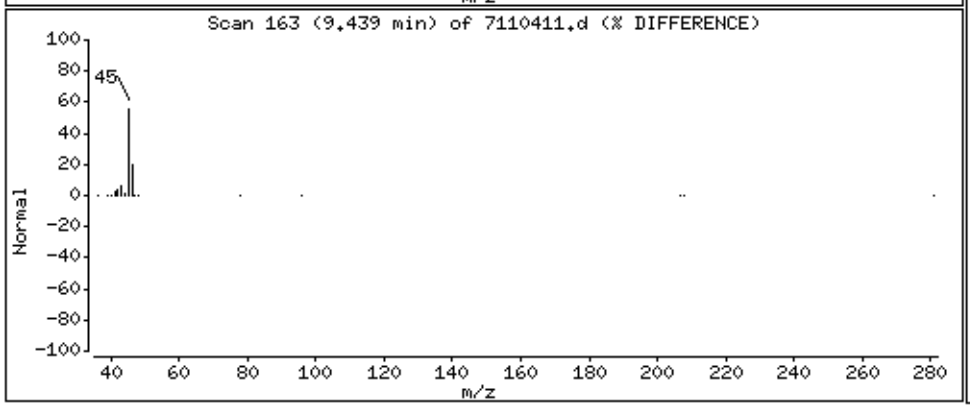
38 Ethanol

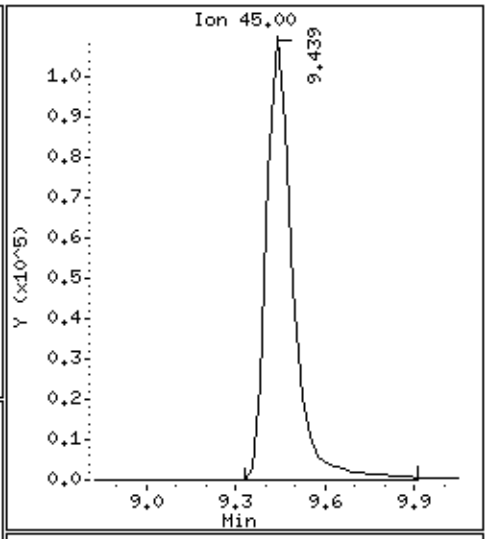
Concentration: 52.864 PPBV

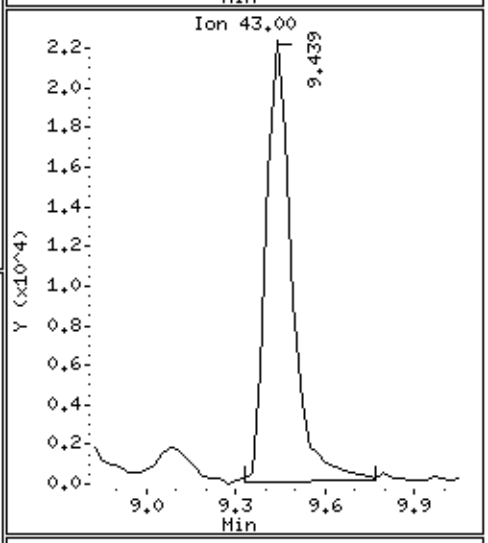


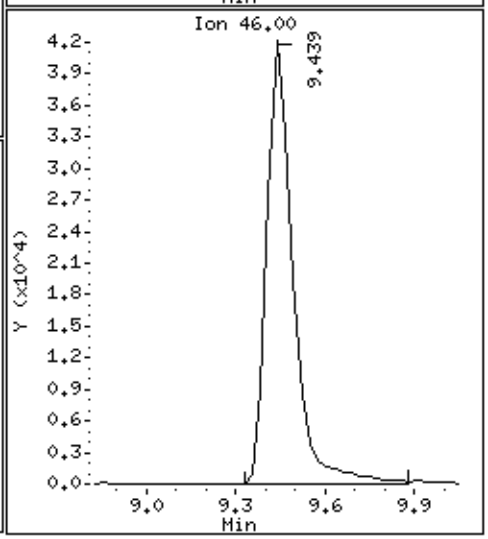












Data File: /chem/msd7.i/7-04nova.b/7110411.d

Date : 04-NOV-2007 23:58

Client ID: LCS-1

Instrument: msd7.i

Sample Info: 50mL #1443-302

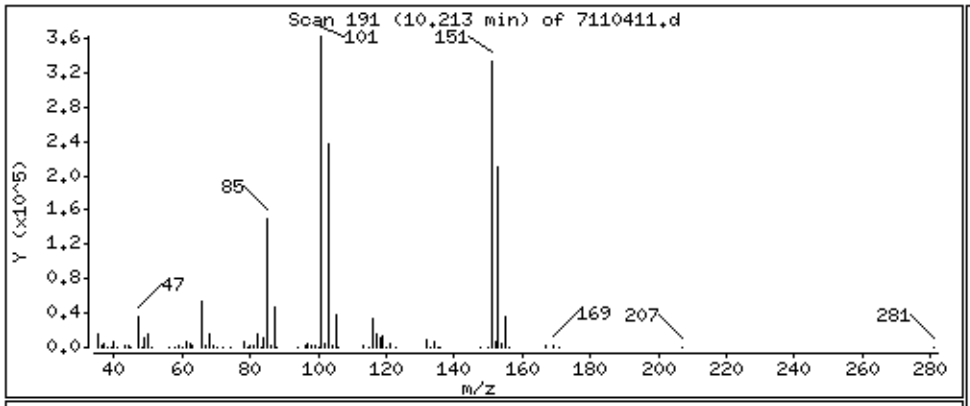
Operator: ab

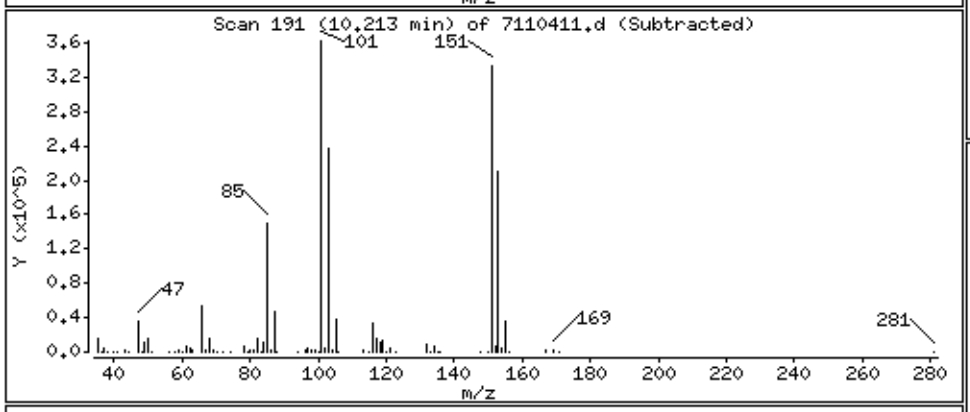
Column phase: RTx-624

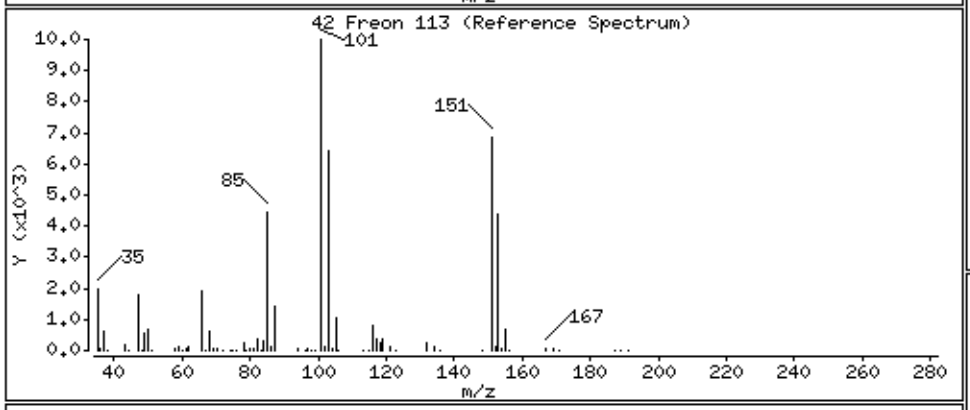
Column diameter: 0.53

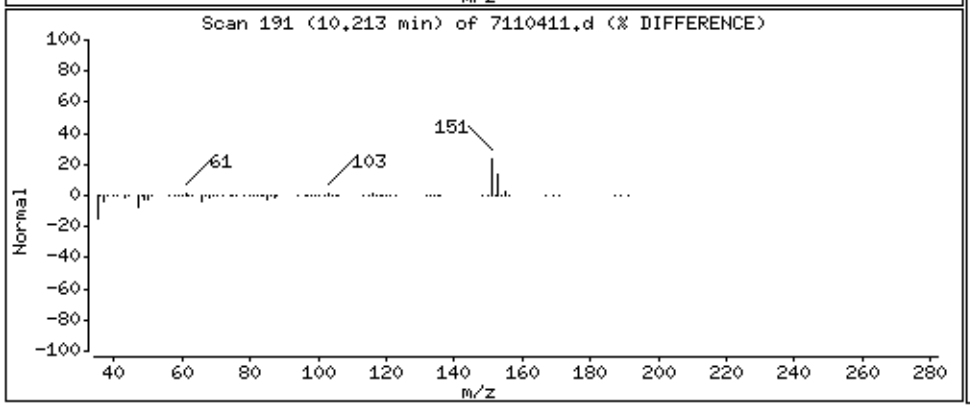
42 Freon 113

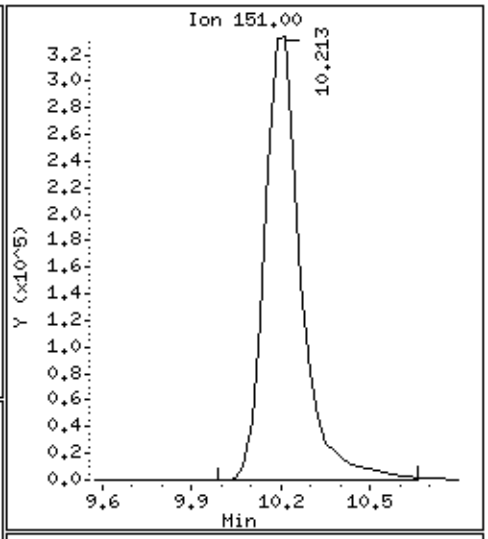
Concentration: 55.678 PPBV

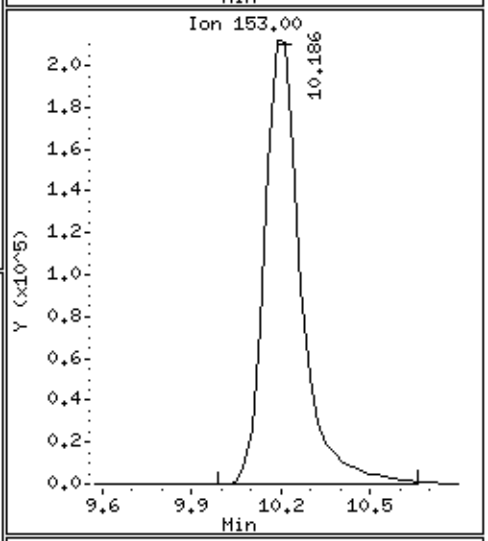


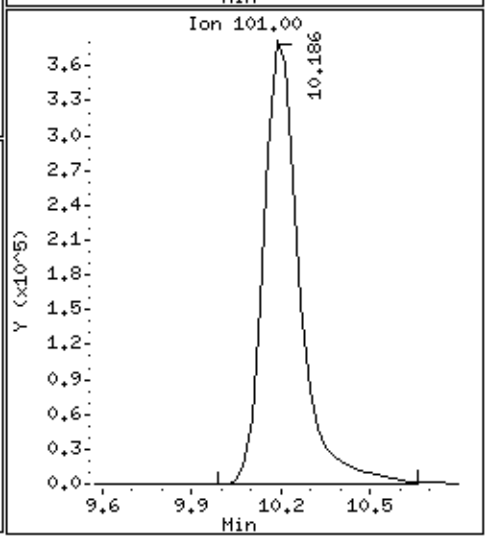












Data File: /chem/msd7.i/7-04nova.b/7110411.d

Date : 04-NOV-2007 23:58

Client ID: LCS-1

Instrument: msd7.i

Sample Info: 50mL #1443-302

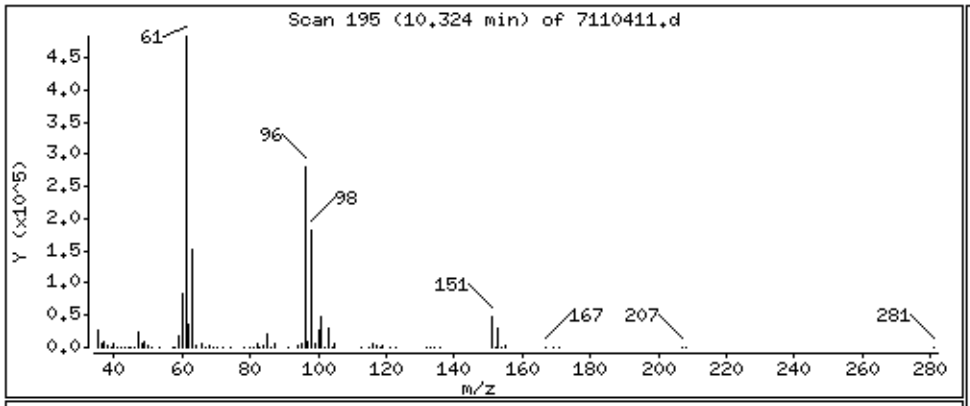
Operator: ab

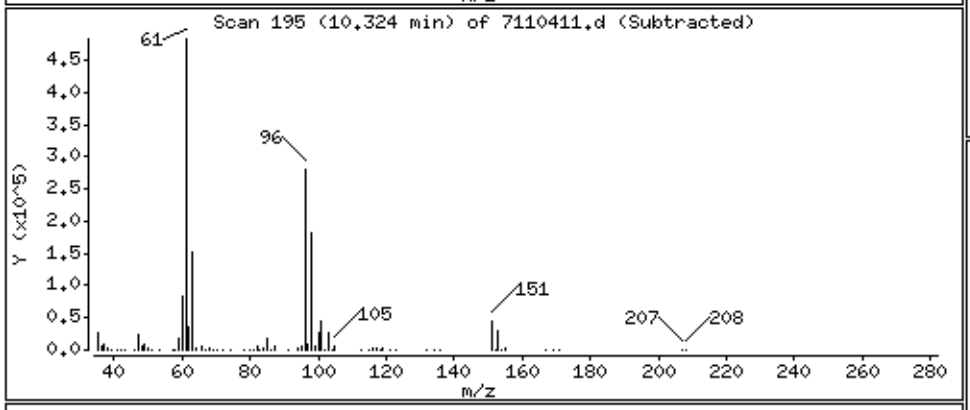
Column phase: RTx-624

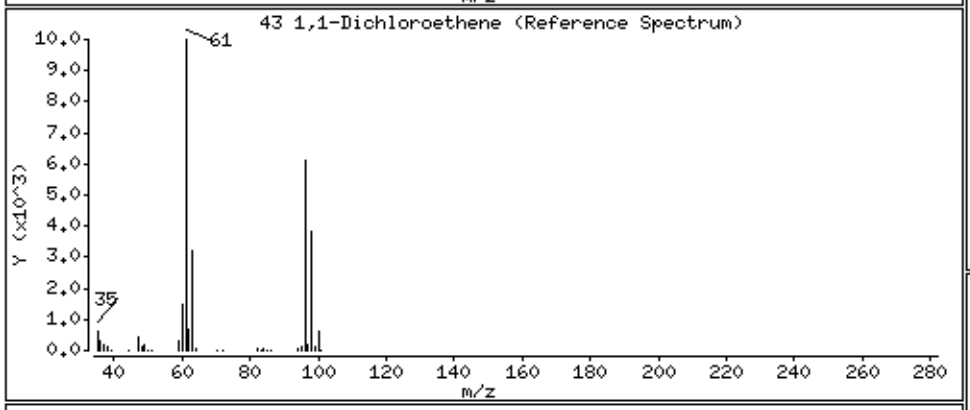
Column diameter: 0.53

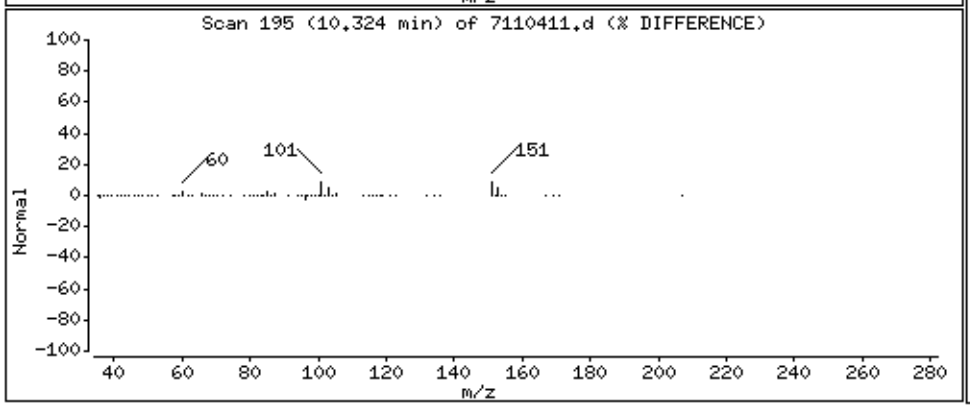
43 1,1-Dichloroethene

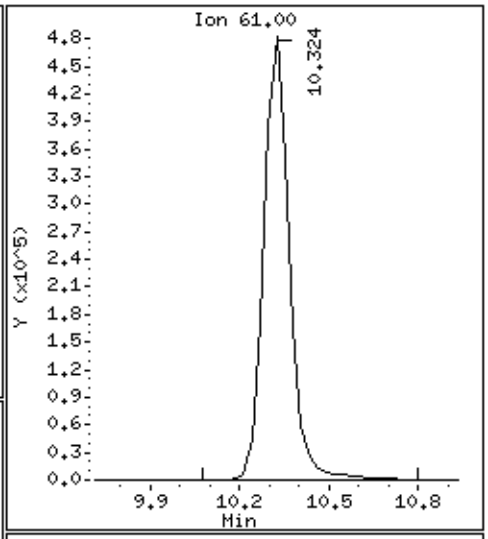
Concentration: 52.900 PPBV

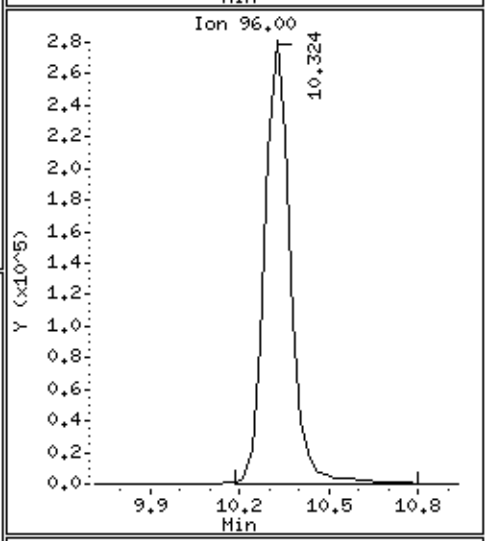


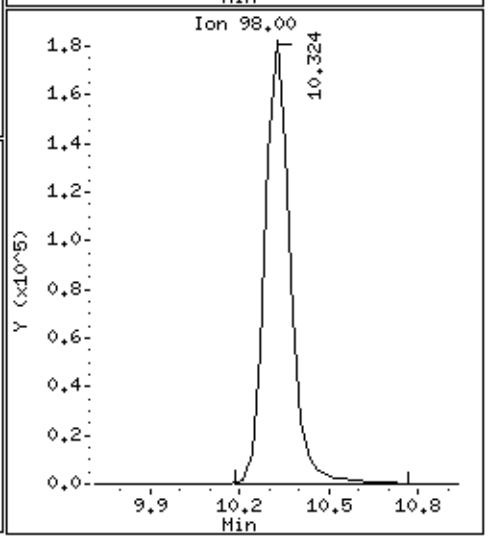












Data File: /chem/msd7.i/7-04nova.b/7110411.d

Date : 04-NOV-2007 23:58

Client ID: LCS-1

Instrument: msd7.i

Sample Info: 50mL #1443-302

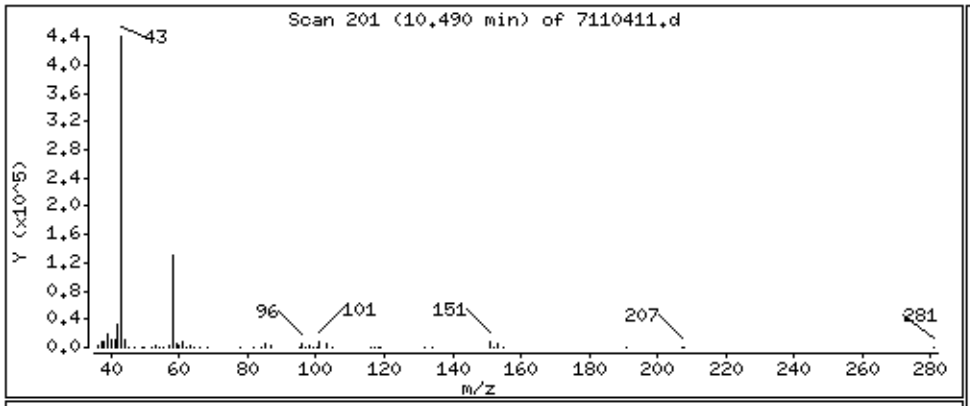
Operator: ab

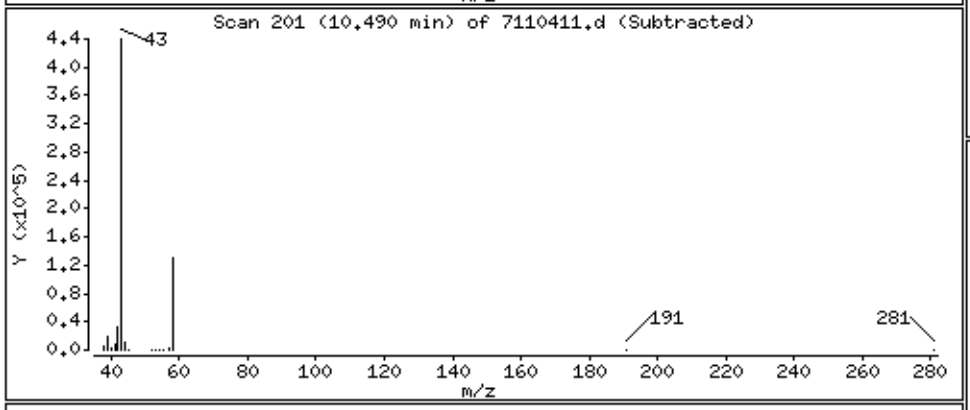
Column phase: RTx-624

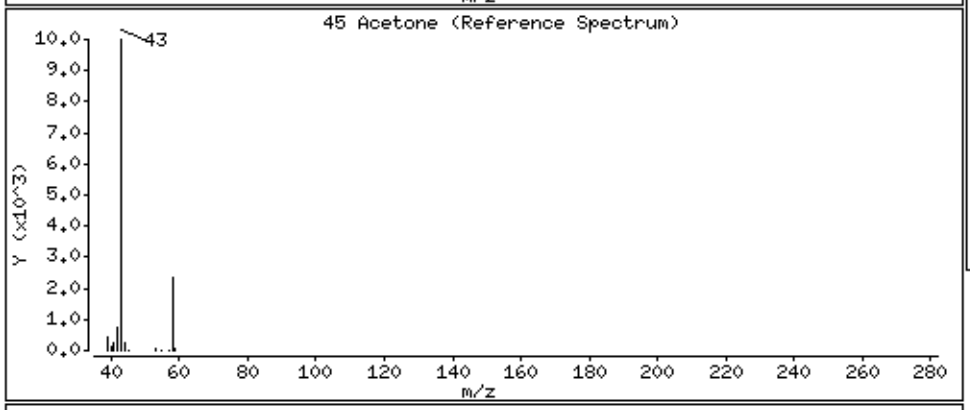
Column diameter: 0.53

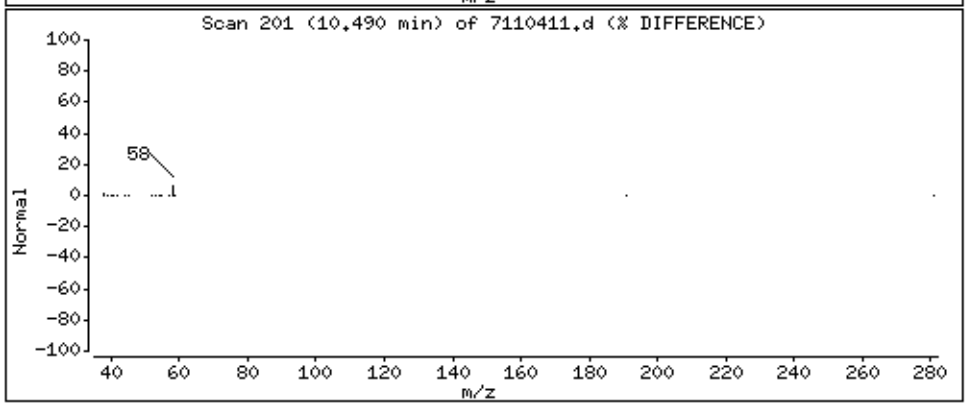
45 Acetone

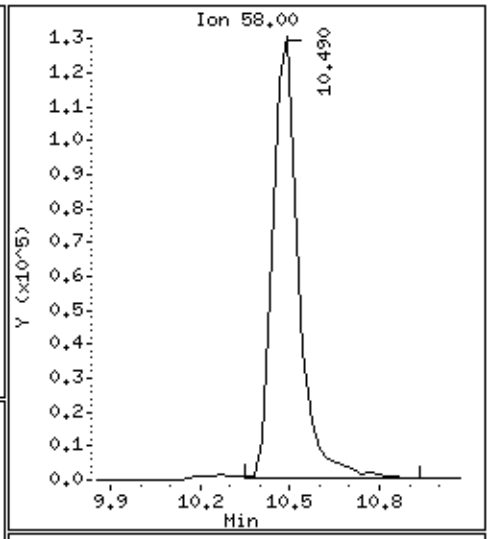
Concentration: 47.287 PPBV

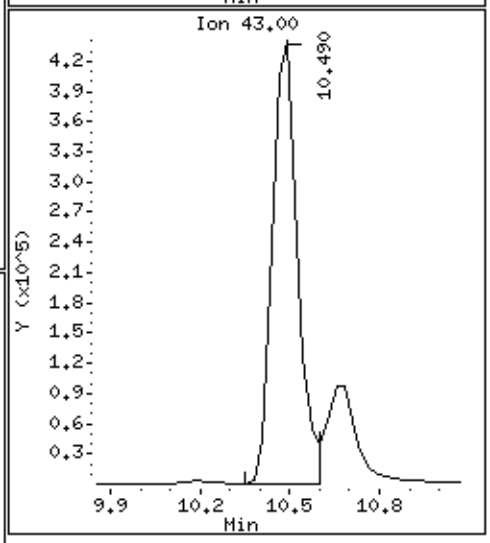












Data File: /chem/msd7.i/7-04nova.b/7110411.d

Date : 04-NOV-2007 23:58

Client ID: LCS-1

Instrument: msd7.i

Sample Info: 50mL #1443-302

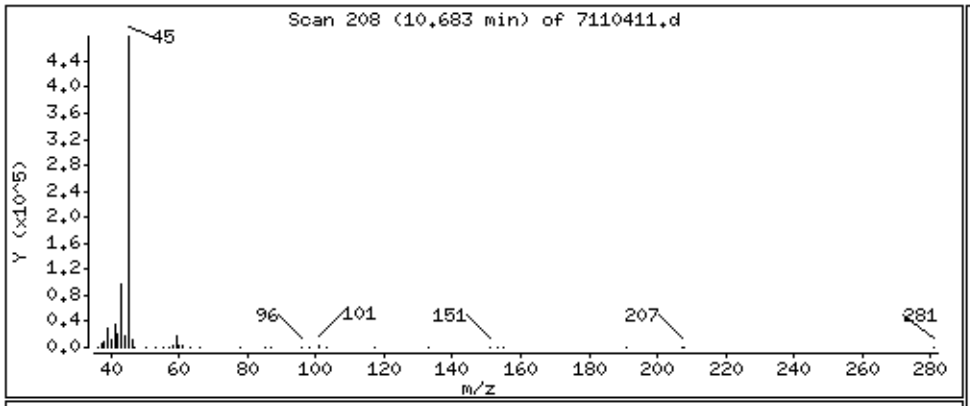
Operator: ab

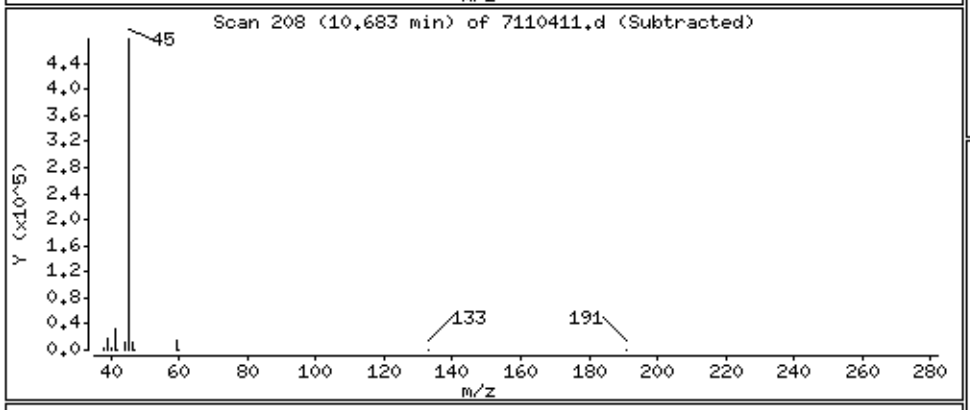
Column phase: RTx-624

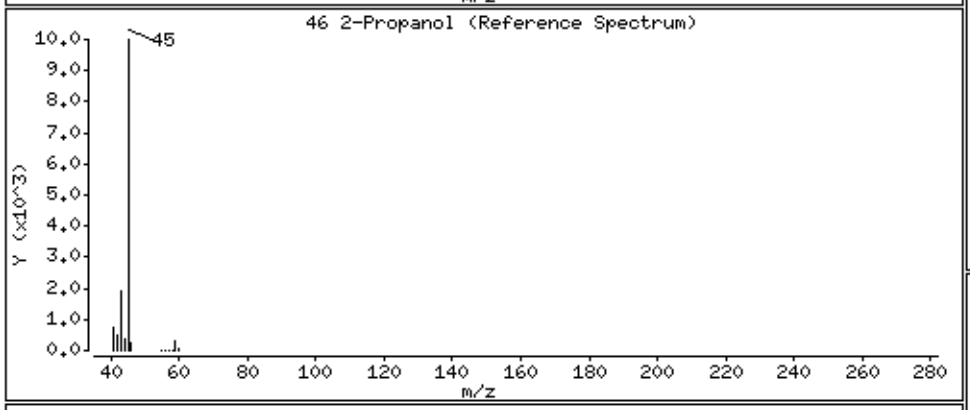
Column diameter: 0.53

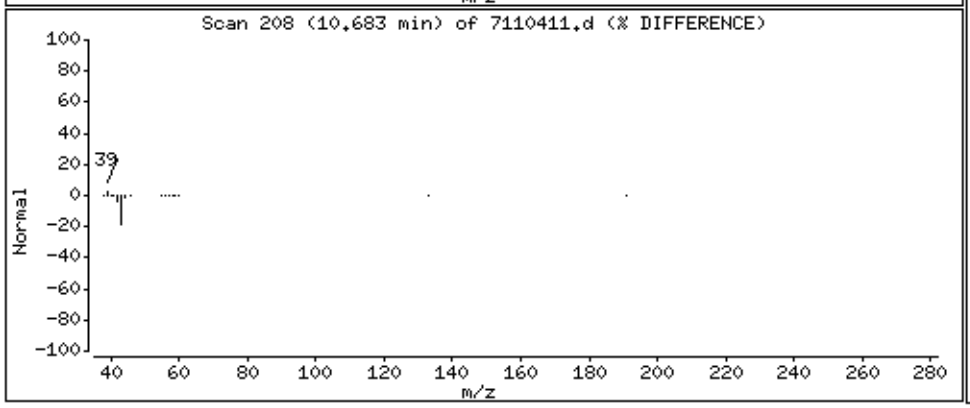
46 2-Propanol

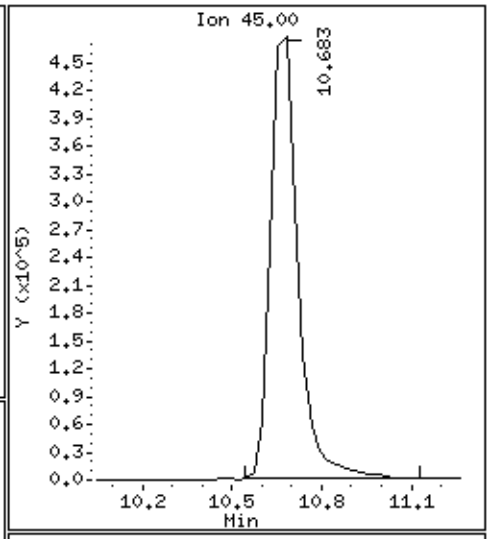
Concentration: 51.498 PPBV

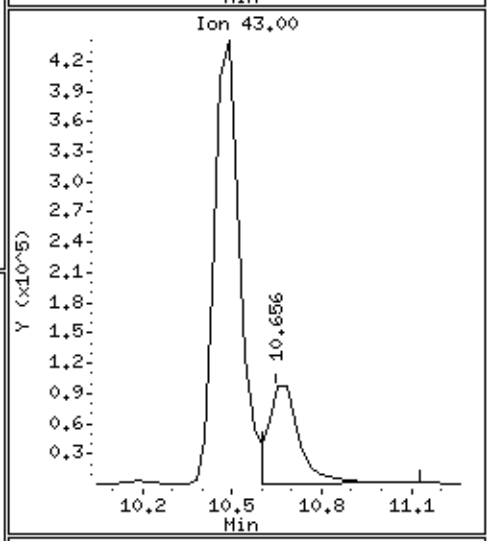


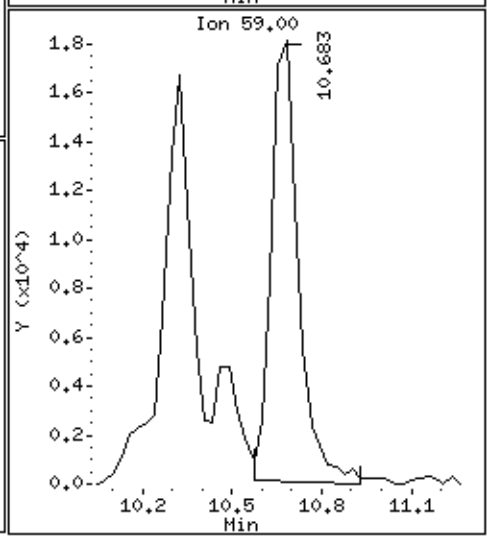












Data File: /chem/msd7.i/7-04nova.b/7110411.d

Date : 04-NOV-2007 23:58

Client ID: LCS-1

Instrument: msd7.i

Sample Info: 50mL #1443-302

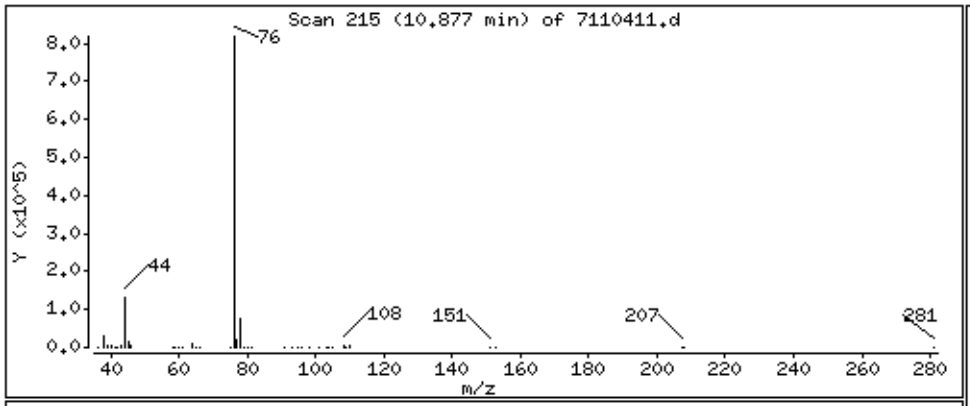
Operator: ab

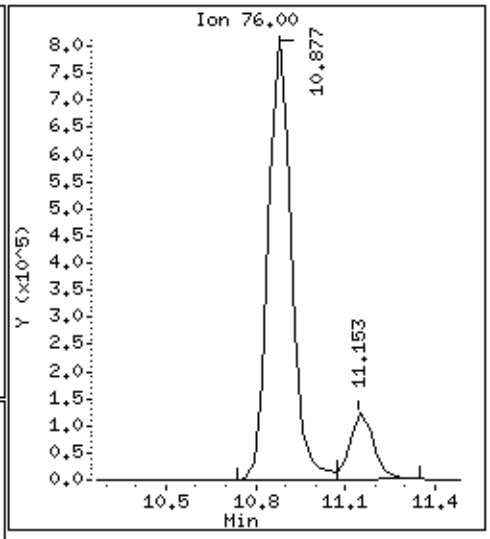
Column phase: RTx-624

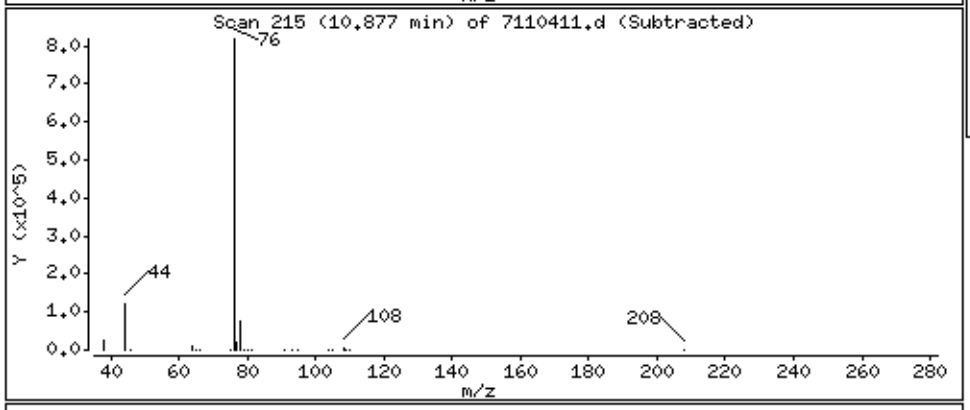
Column diameter: 0.53

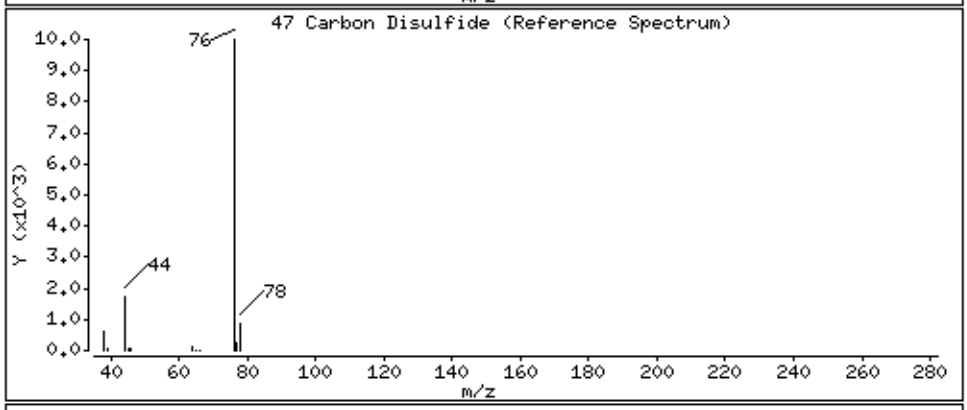
47 Carbon Disulfide

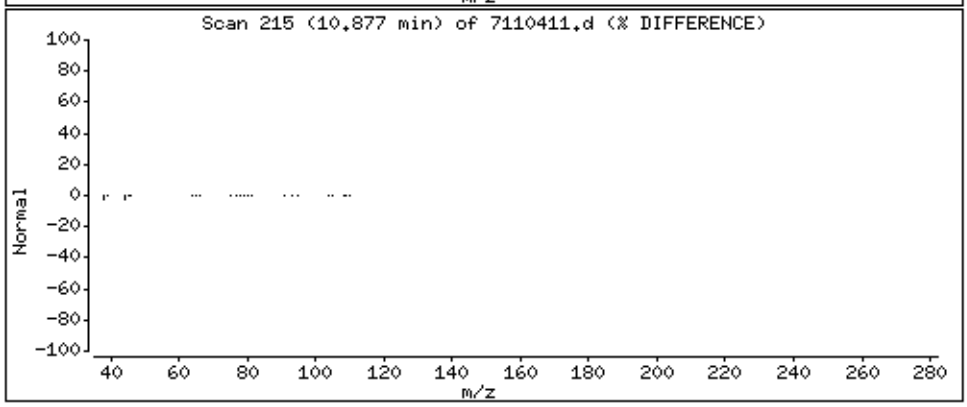
Concentration: 42.350 PPBV











Data File: /chem/msd7.i/7-04nova.b/7110411.d

Date : 04-NOV-2007 23:58

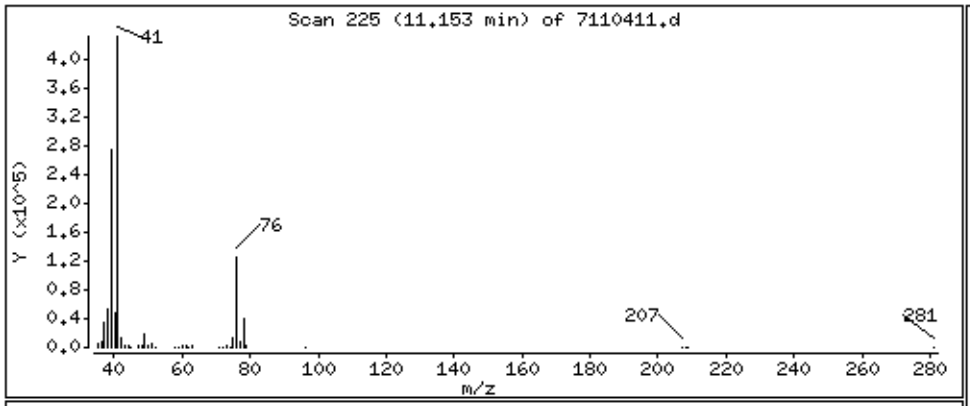
Client ID: LCS-1 Instrument: msd7.i

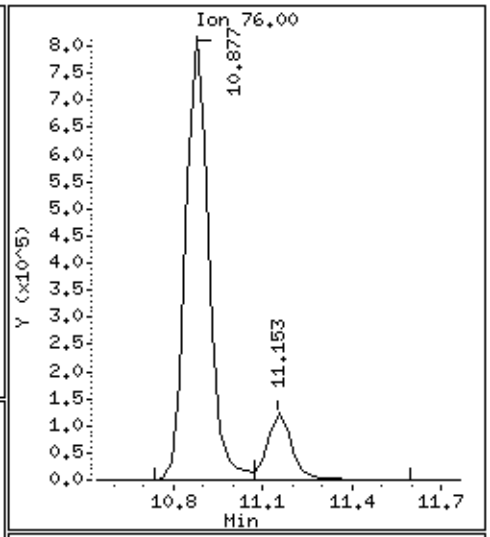
Sample Info: 50mL #1443-302

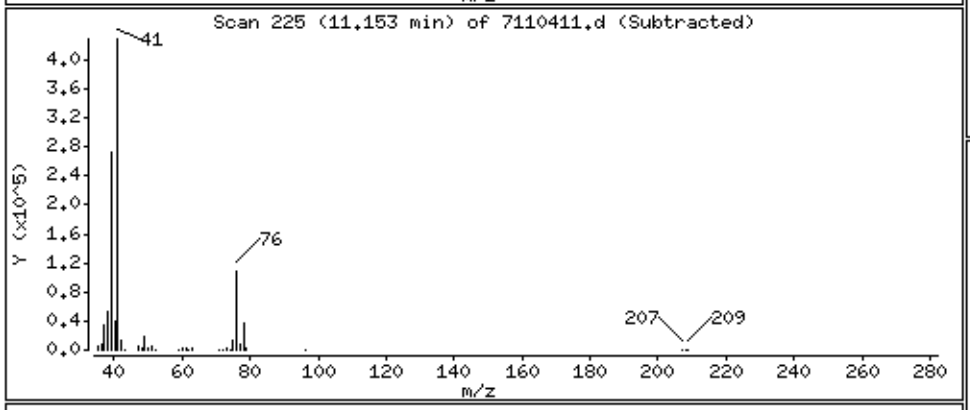
Operator: ab

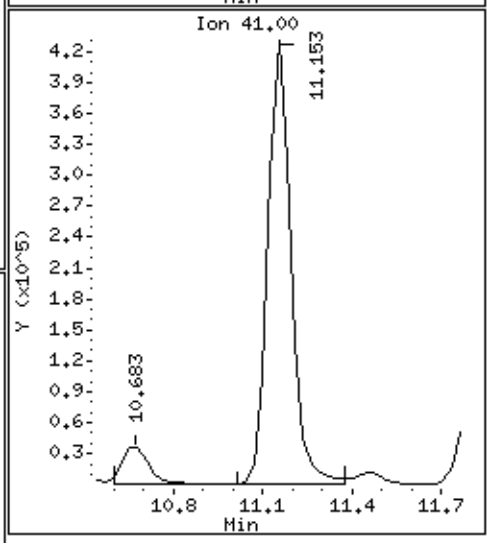
Column phase: RTx-624 Column diameter: 0.53

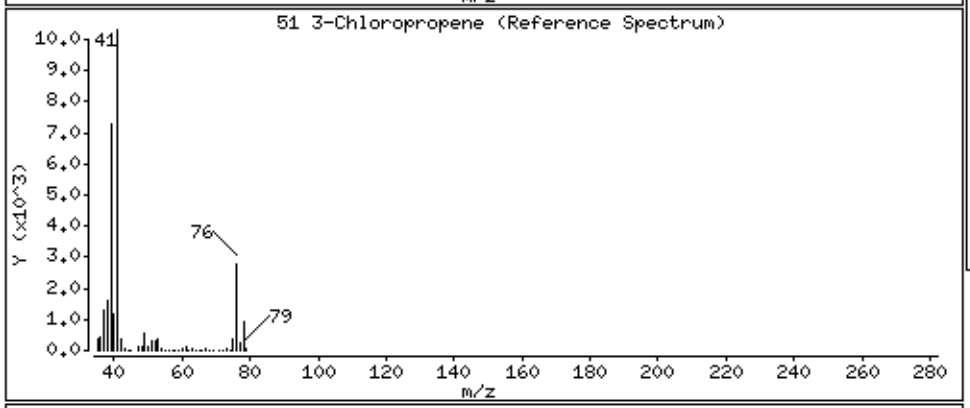
51 3-Chloropropene Concentration: 42.817 PPBV

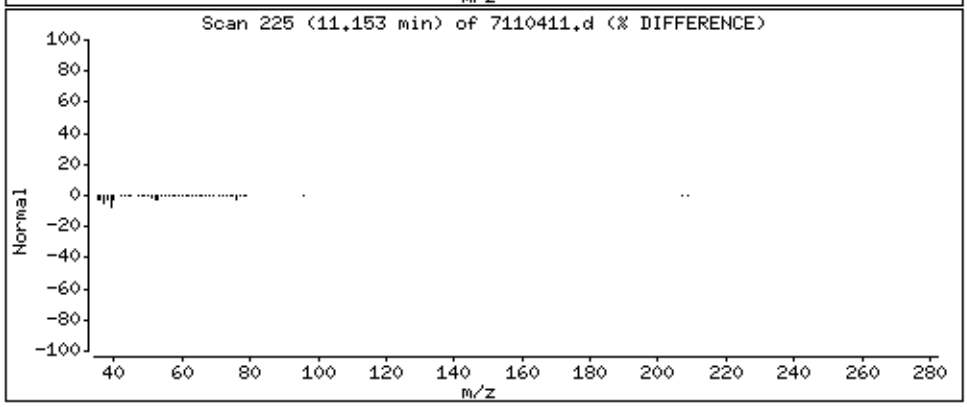












Data File: /chem/msd7.i/7-04nova.b/7110411.d

Date : 04-NOV-2007 23:58

Client ID: LCS-1

Instrument: msd7.i

Sample Info: 50mL #1443-302

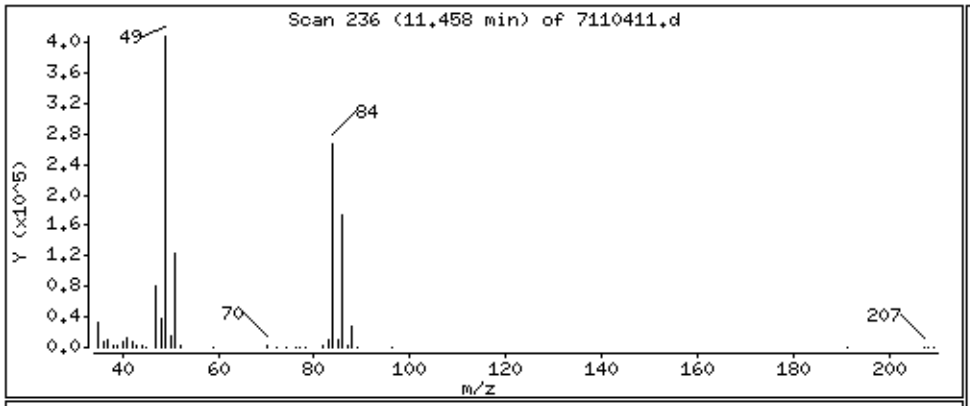
Operator: ab

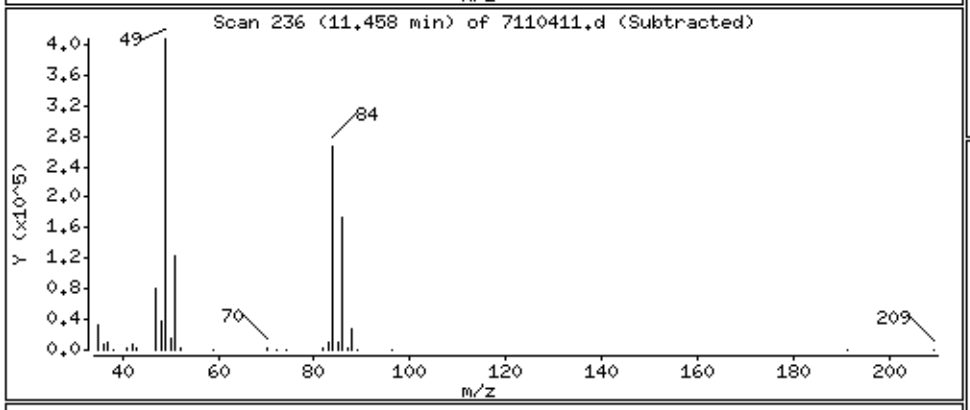
Column phase: RTx-624

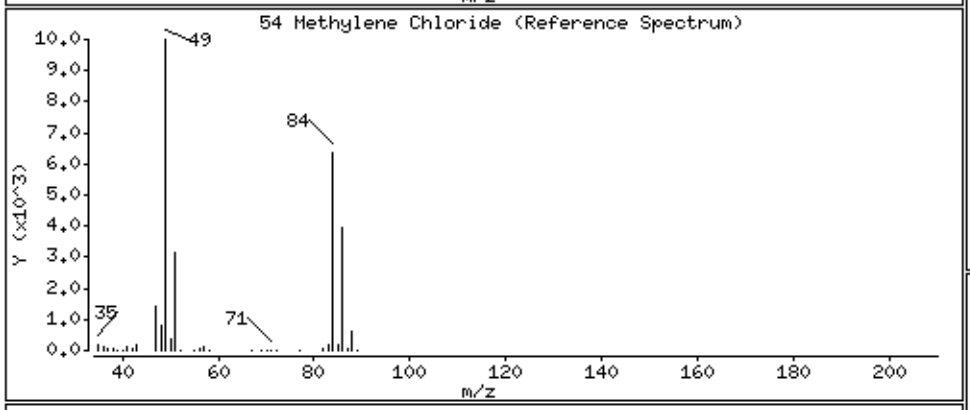
Column diameter: 0.53

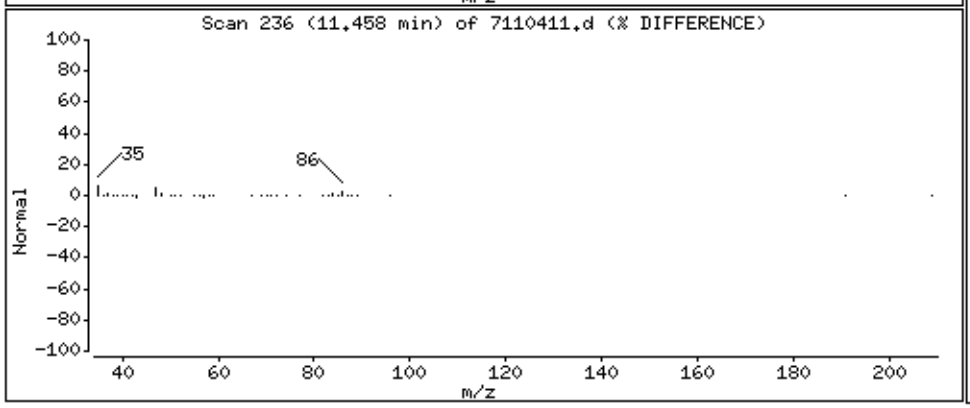
54 Methylene Chloride

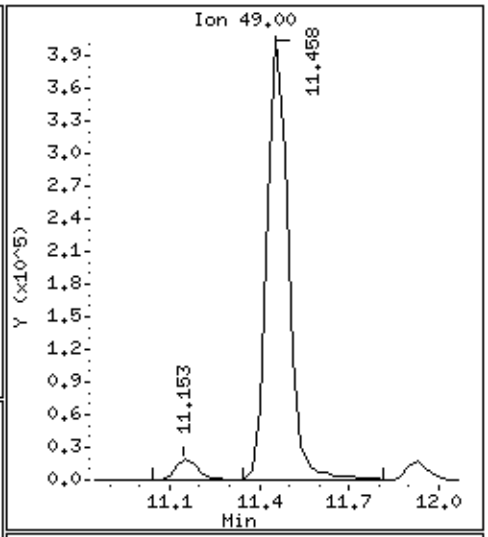
Concentration: 50.136 PPBV

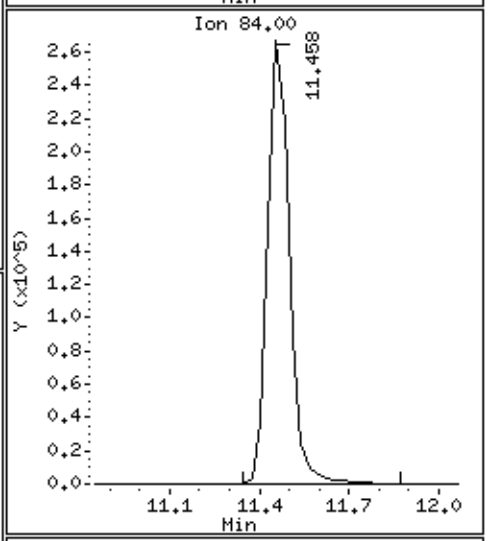


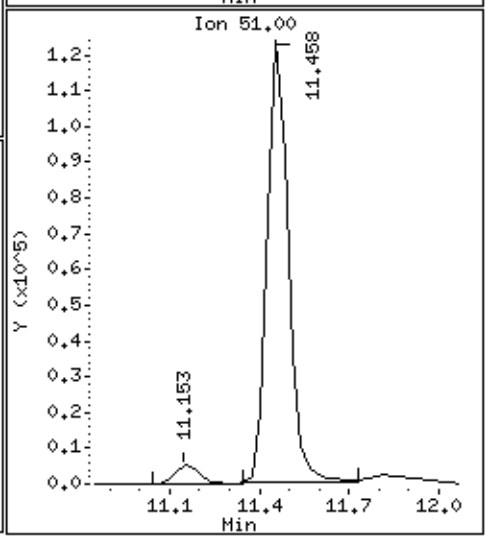












Data File: /chem/msd7.i/7-04nova.b/7110411.d

Date : 04-NOV-2007 23:58

Client ID: LCS-1

Instrument: msd7.i

Sample Info: 50mL #1443-302

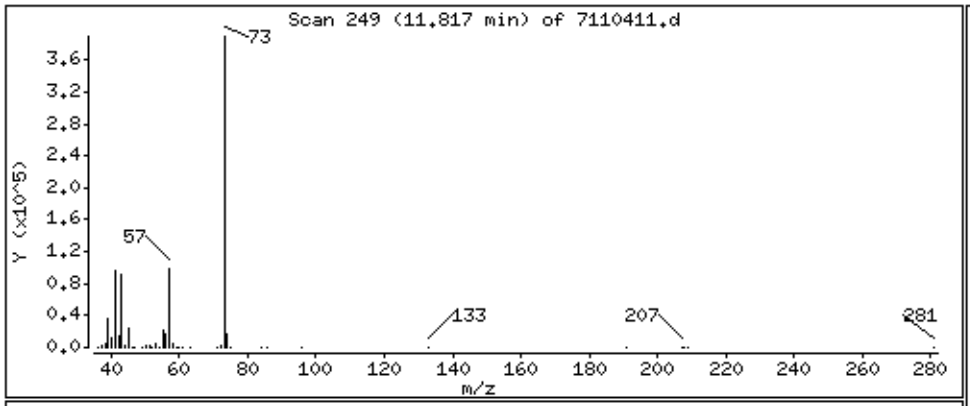
Operator: ab

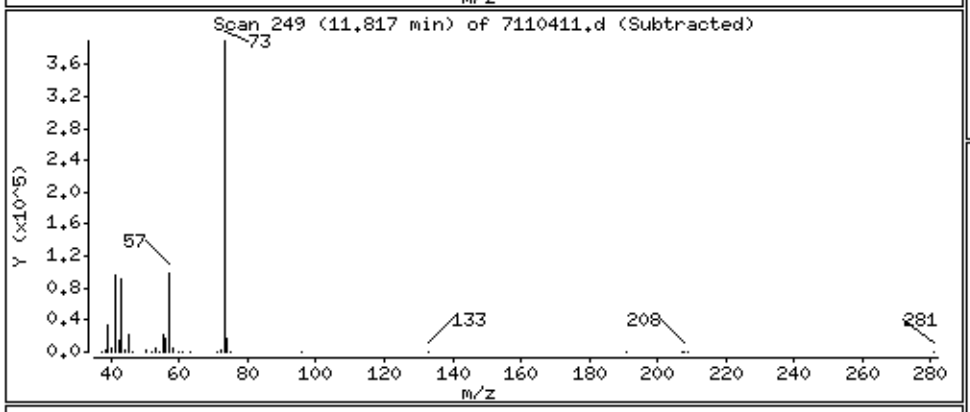
Column phase: RTx-624

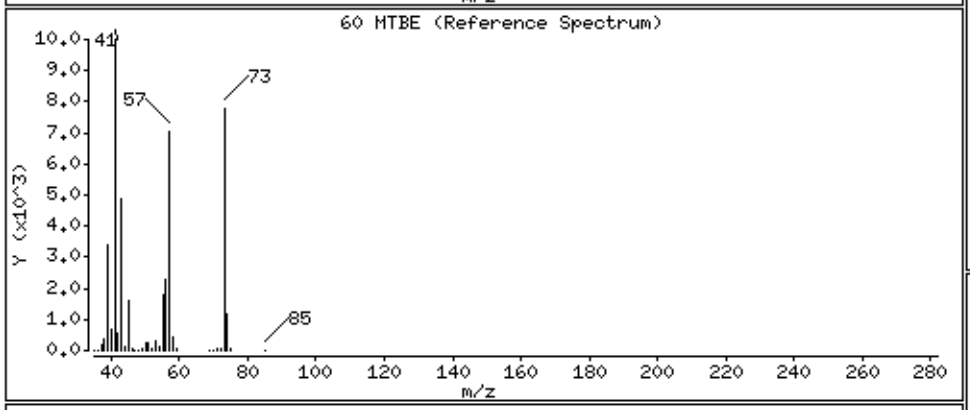
Column diameter: 0.53

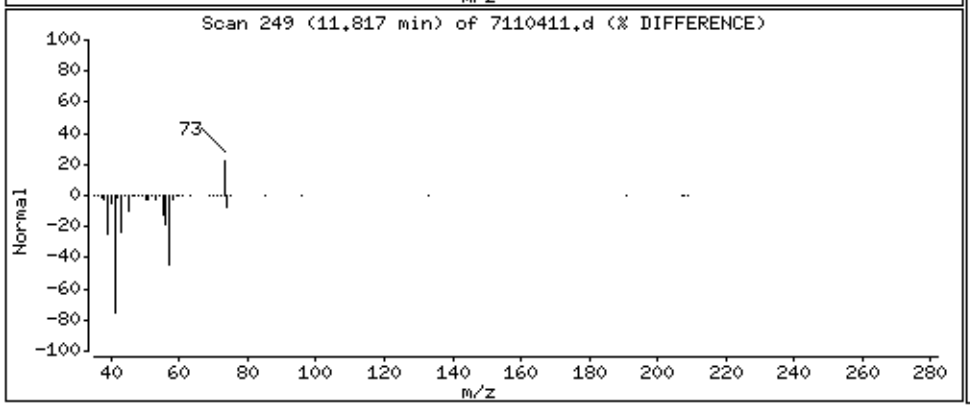
60 MTBE

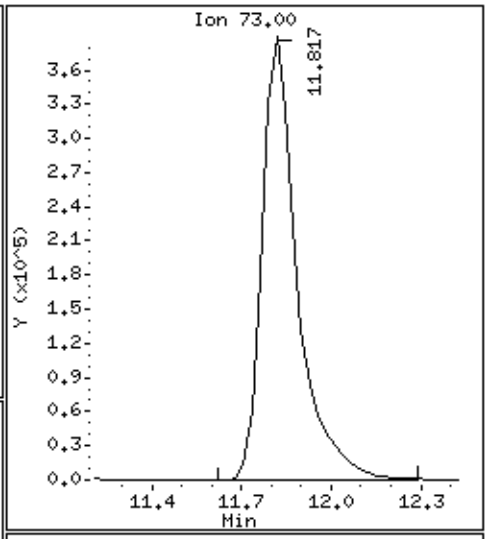
Concentration: 52.546 PPBV

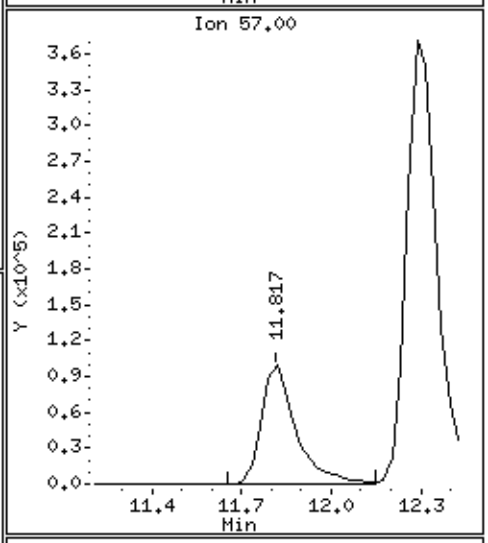


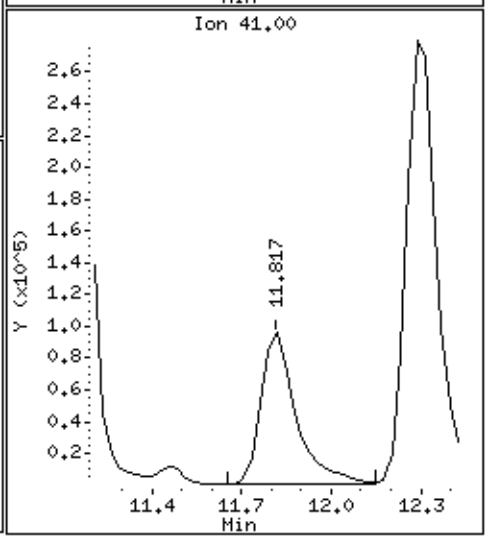












Data File: /chem/msd7.i/7-04nova.b/7110411.d

Date : 04-NOV-2007 23:58

Client ID: LCS-1

Instrument: msd7.i

Sample Info: 50mL #1443-302

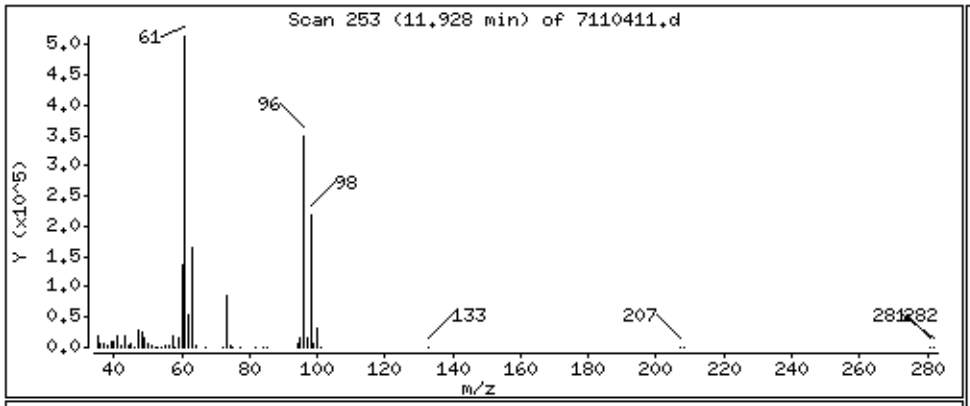
Operator: ab

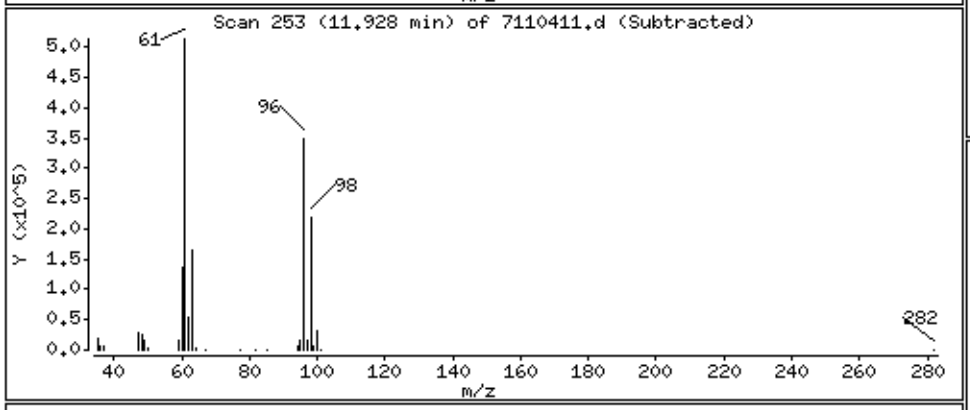
Column phase: RTx-624

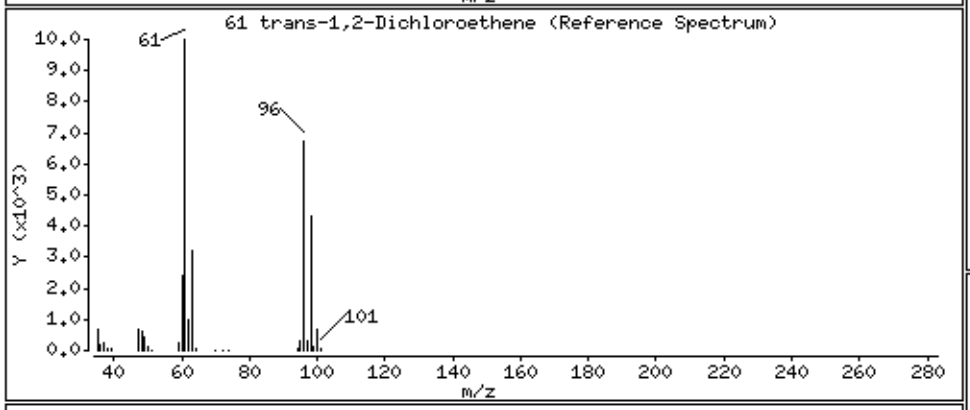
Column diameter: 0.53

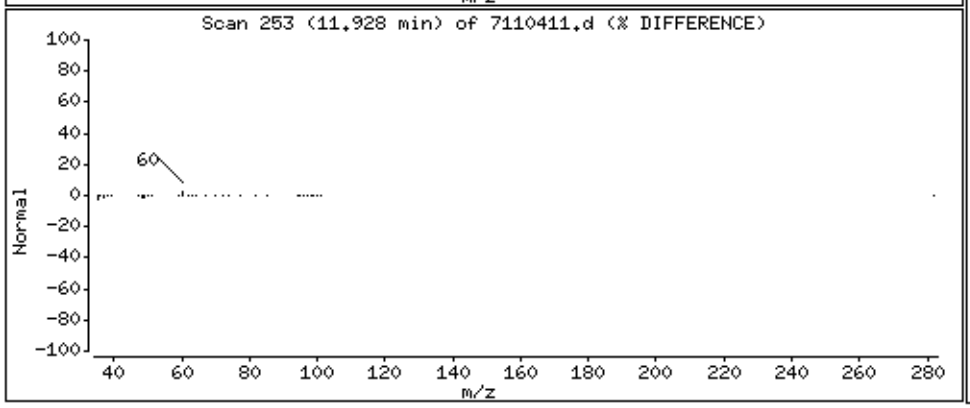
61 trans-1,2-Dichloroethene

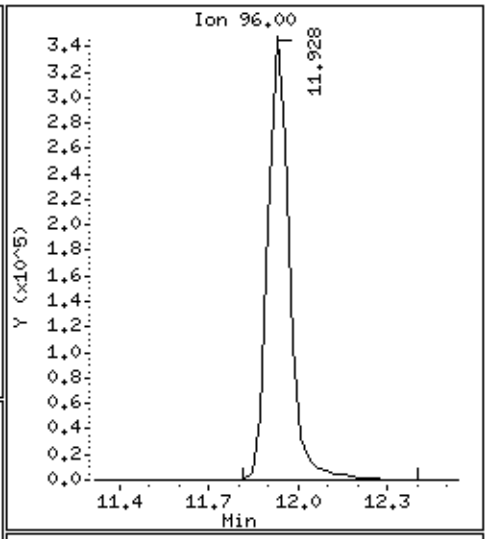
Concentration: 47.098 PPBV

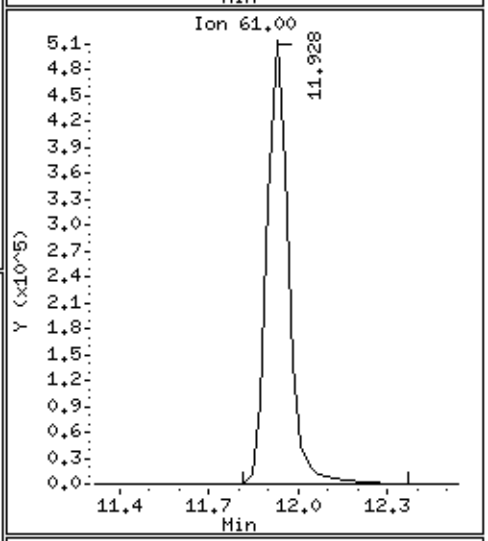


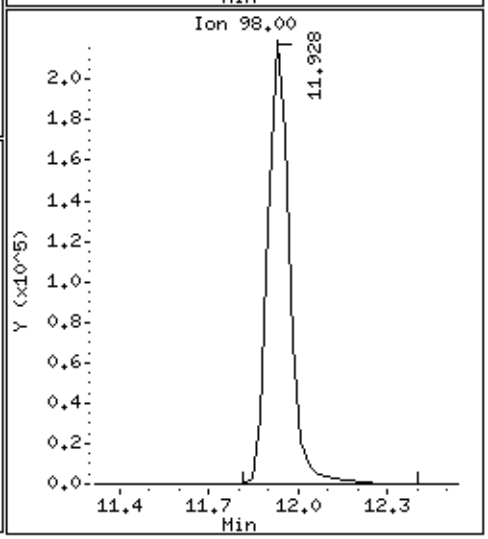












Data File: /chem/msd7.i/7-04nova.b/7110411.d

Date : 04-NOV-2007 23:58

Client ID: LCS-1

Instrument: msd7.i

Sample Info: 50mL #1443-302

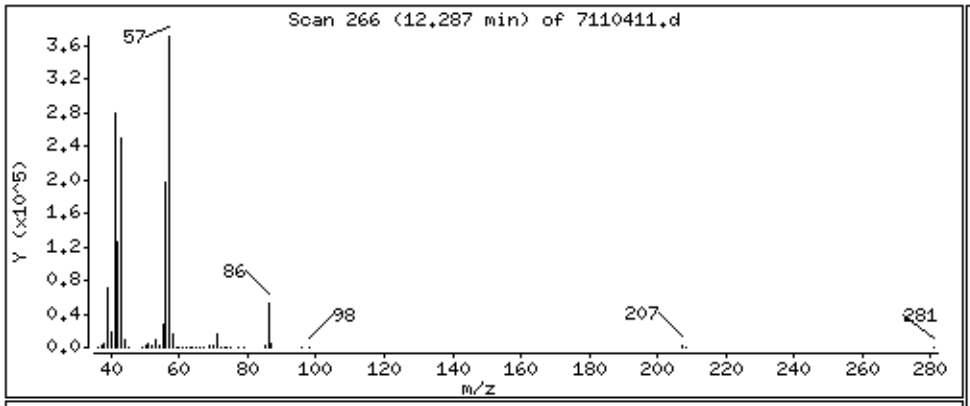
Operator: ab

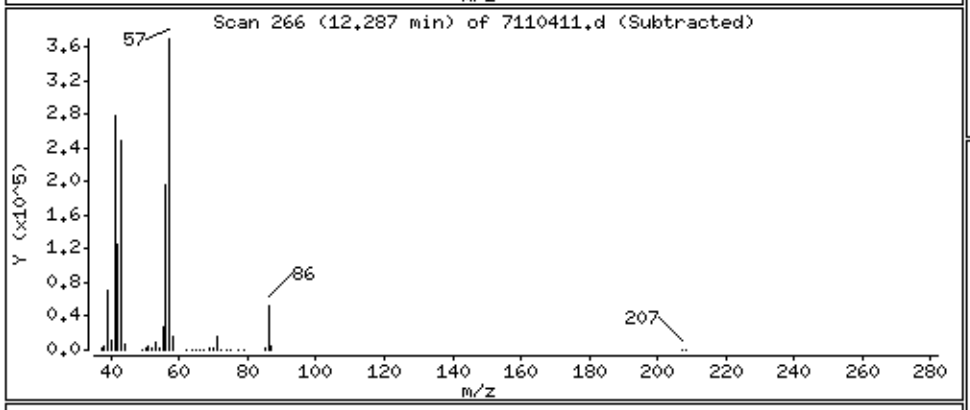
Column phase: RTx-624

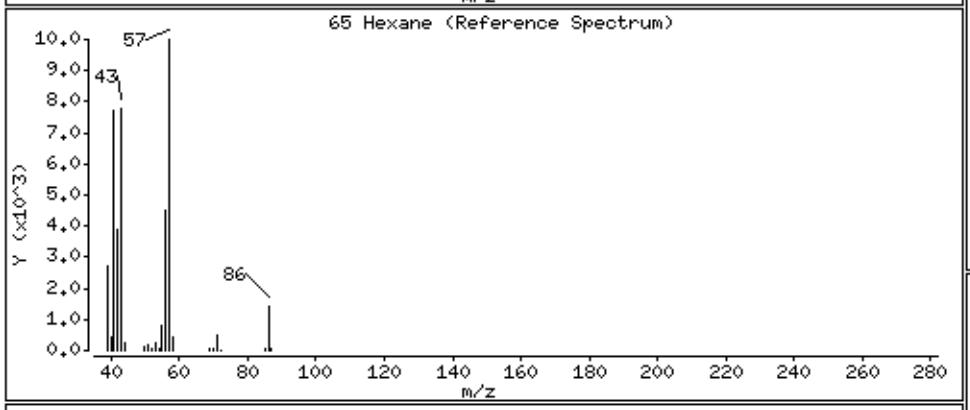
Column diameter: 0.53

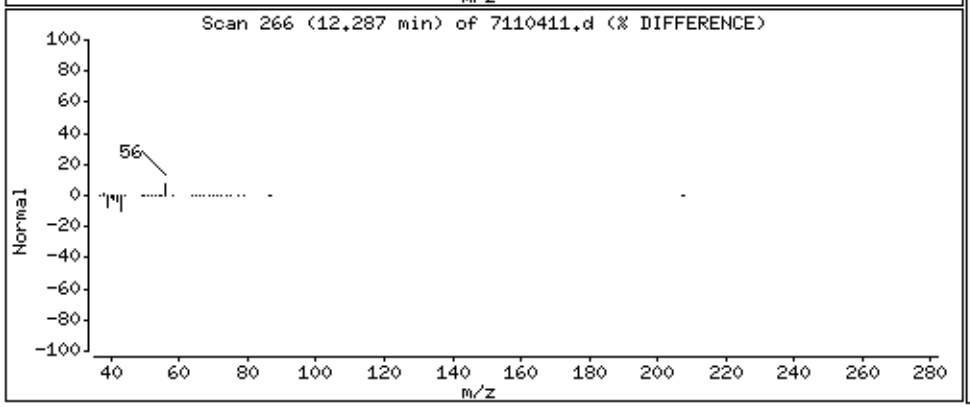
65 Hexane

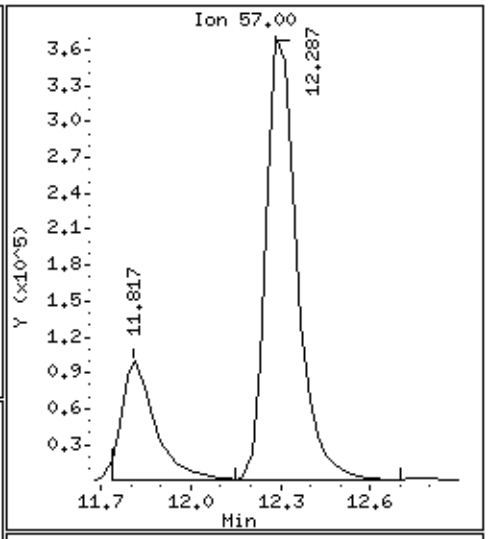
Concentration: 50.447 PPBV

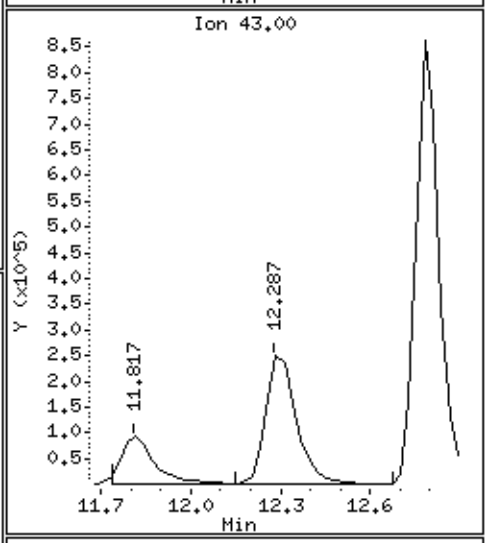


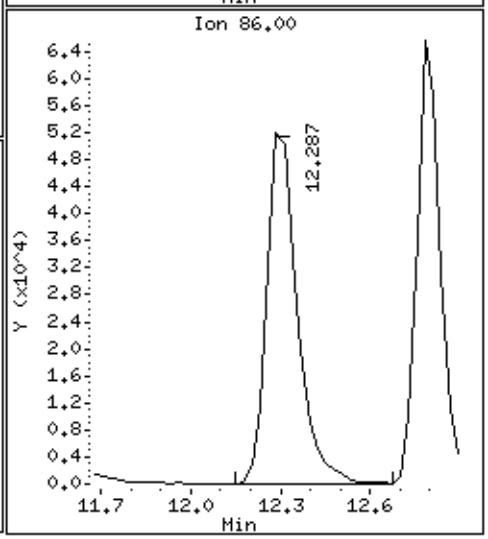












Data File: /chem/msd7.i/7-04nova.b/7110411.d

Date : 04-NOV-2007 23:58

Client ID: LCS-1

Instrument: msd7.i

Sample Info: 50mL #1443-302

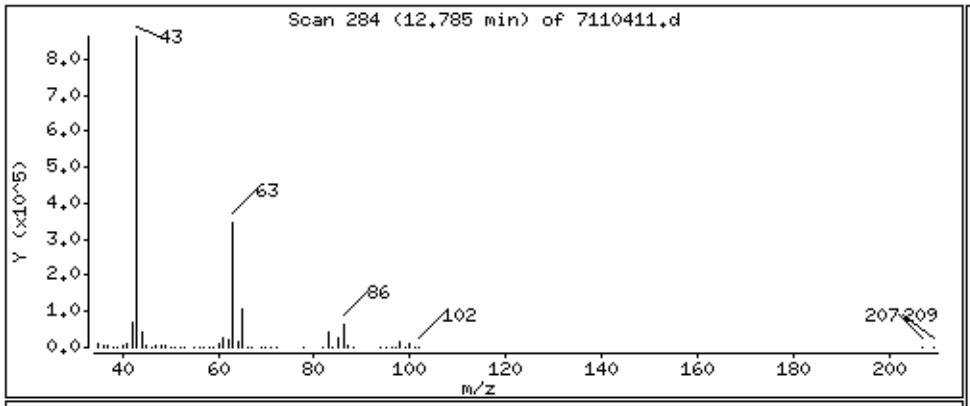
Operator: ab

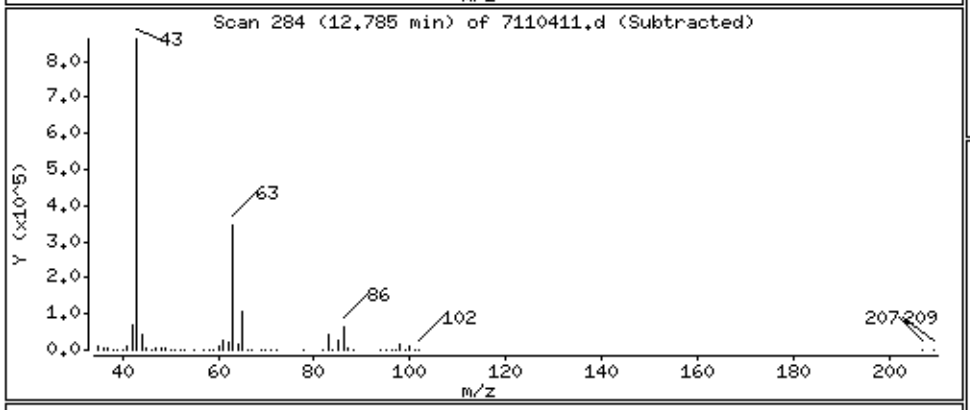
Column phase: RTx-624

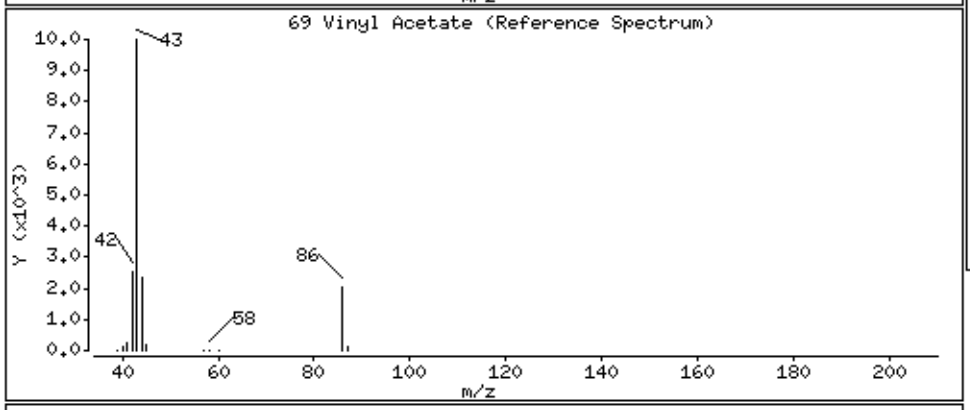
Column diameter: 0.53

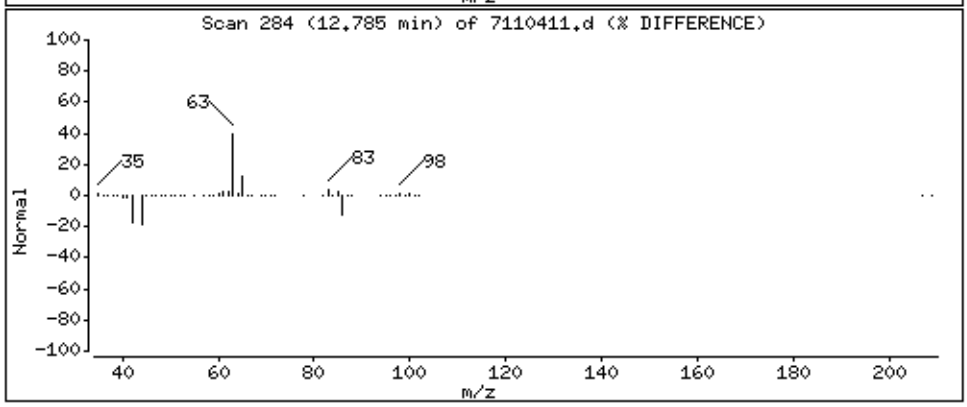
69 Vinyl Acetate

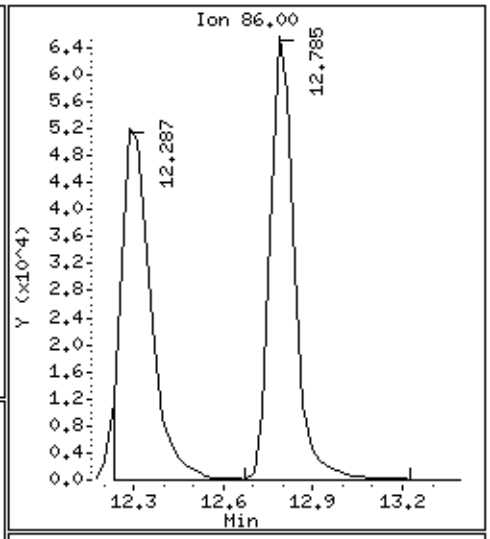
Concentration: 46.927 PPBV

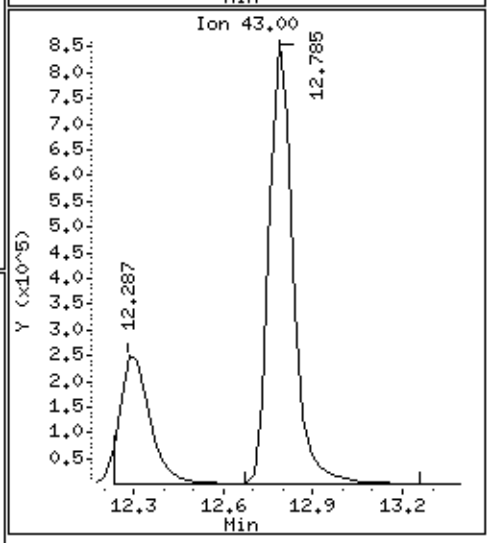












Data File: /chem/msd7.i/7-04nova.b/7110411.d

Date : 04-NOV-2007 23:58

Client ID: LCS-1

Instrument: msd7.i

Sample Info: 50mL #1443-302

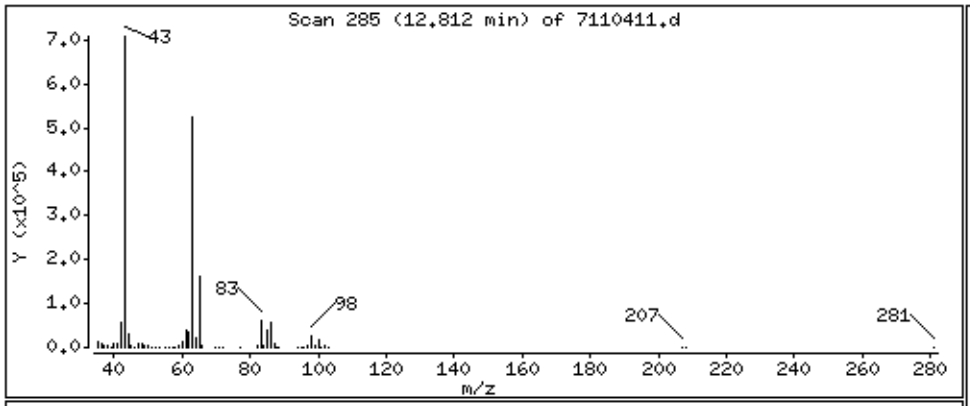
Operator: ab

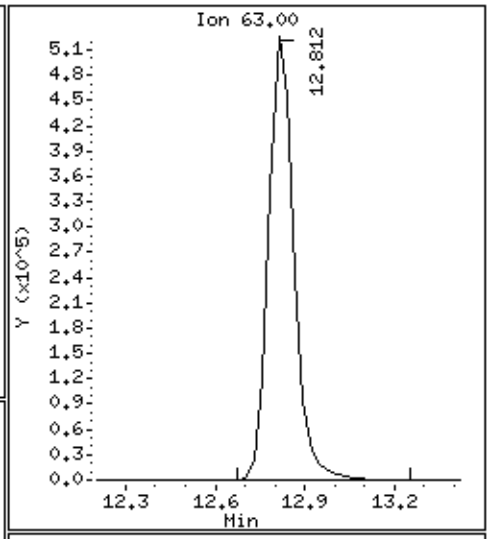
Column phase: RTx-624

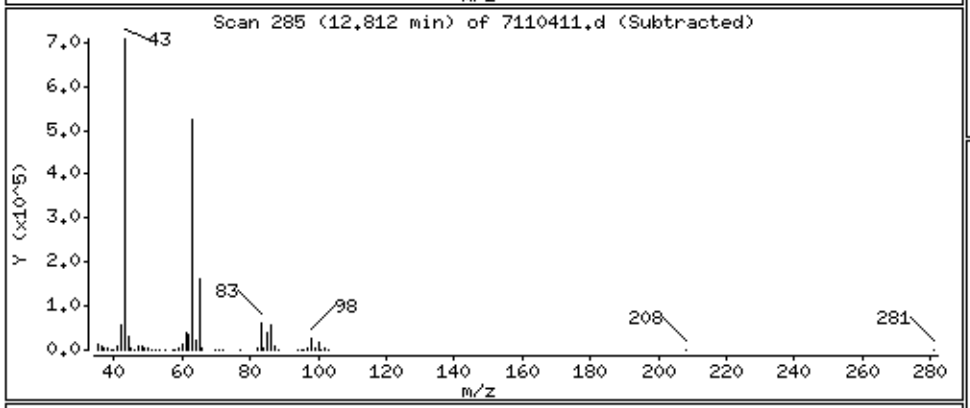
Column diameter: 0.53

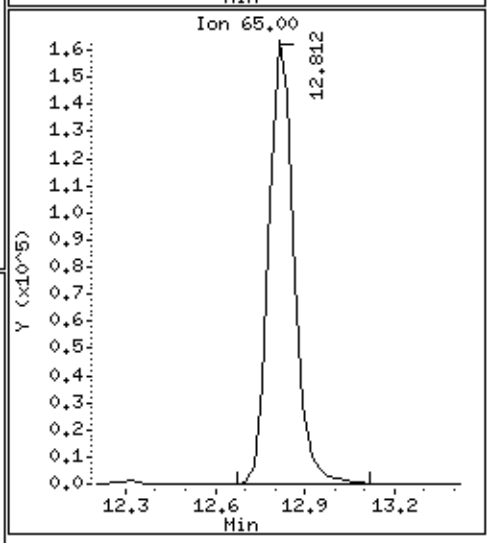
70 1,1-Dichloroethane

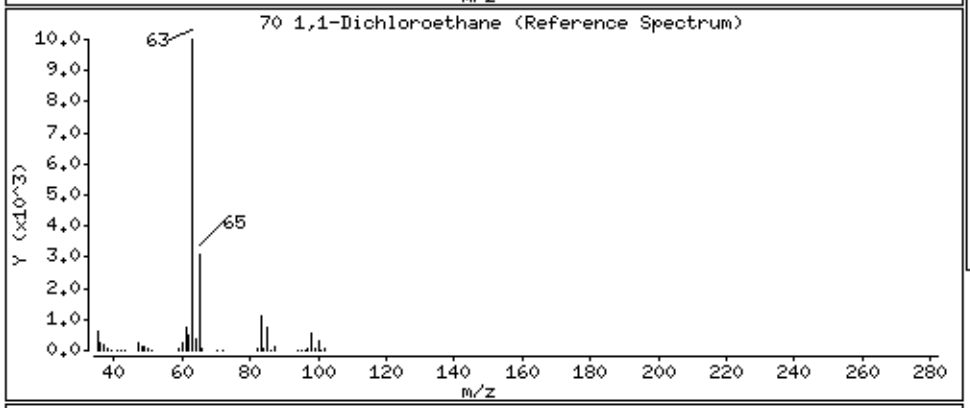
Concentration: 49.278 PPBV

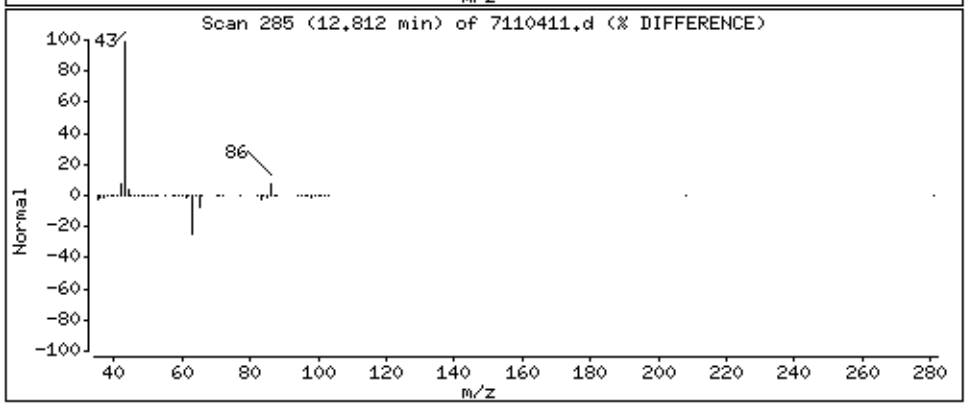












Data File: /chem/msd7.i/7-04nova.b/7110411.d

Date : 04-NOV-2007 23:58

Client ID: LCS-1

Instrument: msd7.i

Sample Info: 50mL #1443-302

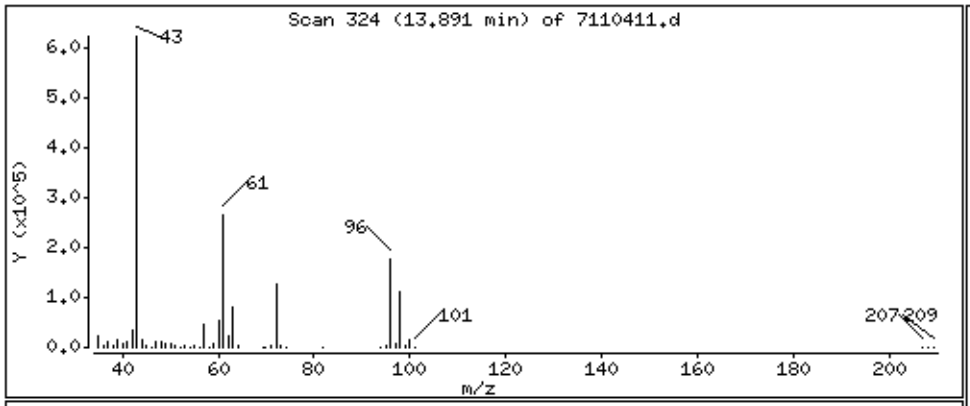
Operator: ab

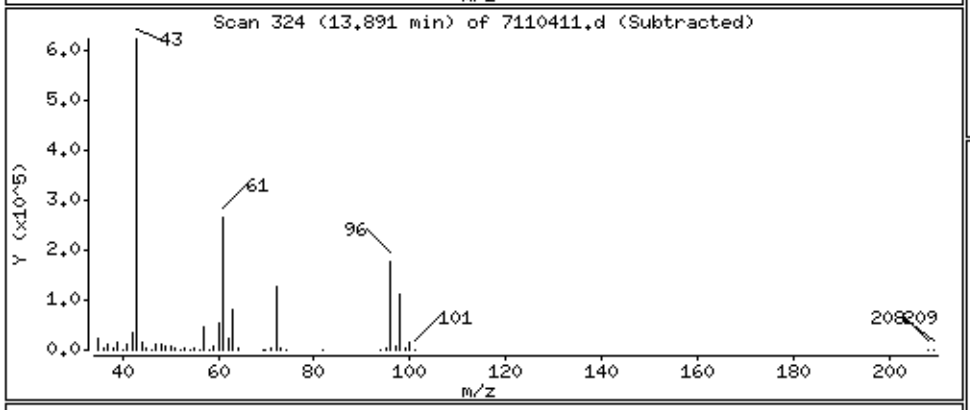
Column phase: RTx-624

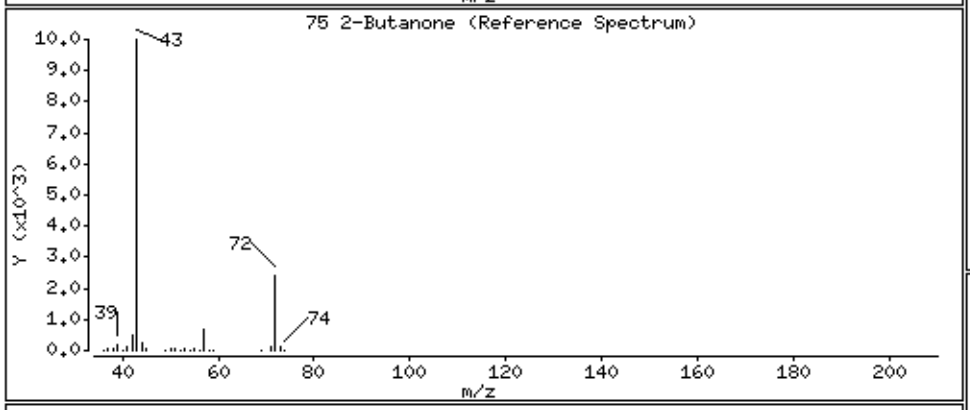
Column diameter: 0.53

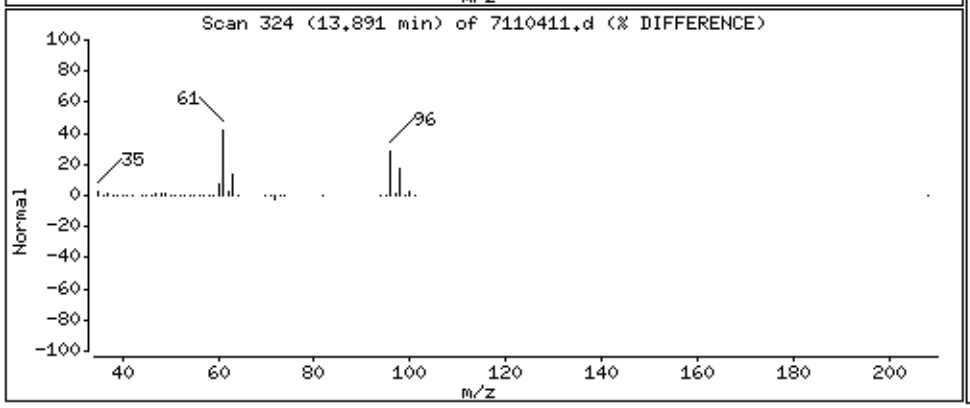
75 2-Butanone

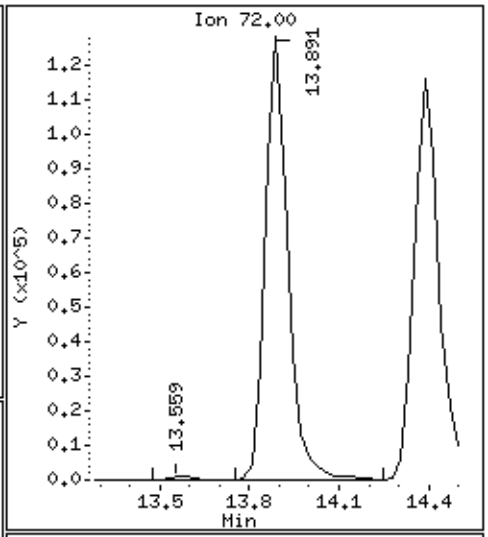
Concentration: 50.019 PPBV

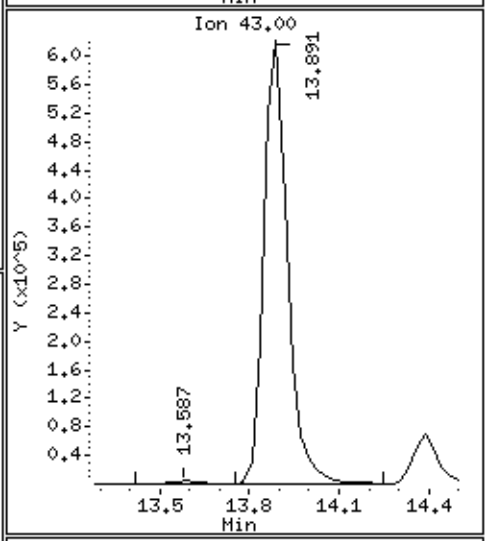


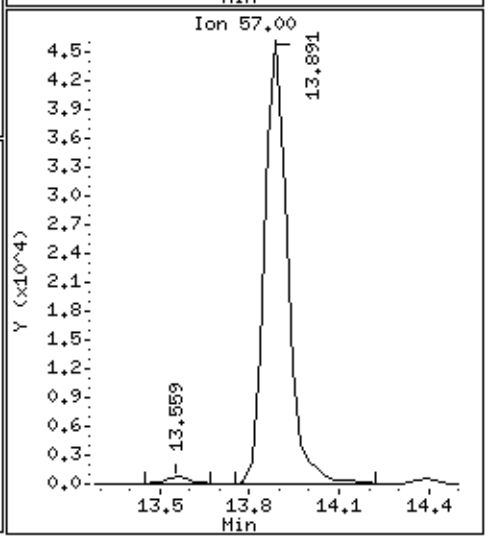












Data File: /chem/msd7.i/7-04nova.b/7110411.d

Date : 04-NOV-2007 23:58

Client ID: LCS-1

Instrument: msd7.i

Sample Info: 50mL #1443-302

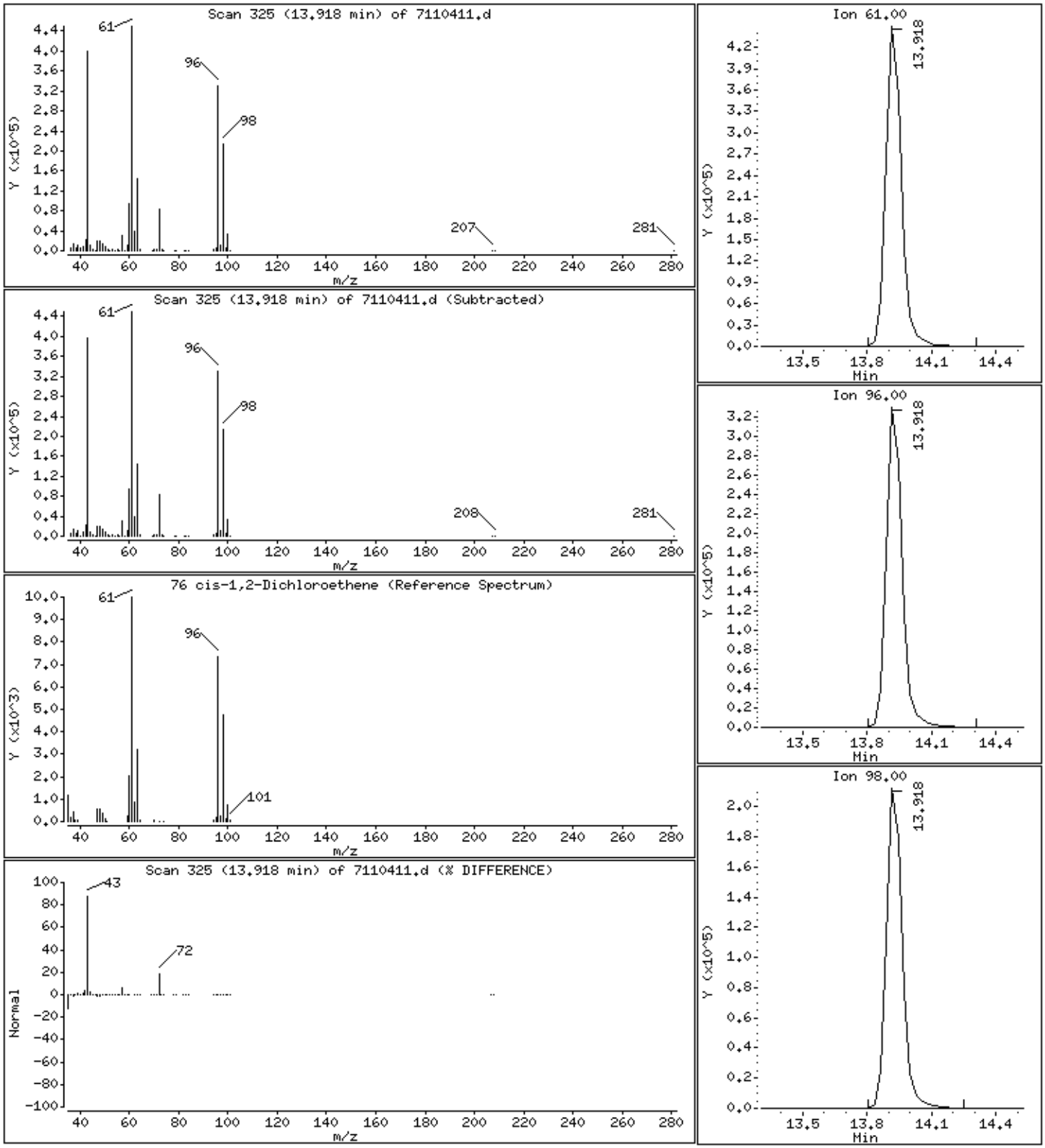
Operator: ab

Column phase: RTx-624

Column diameter: 0.53

76 cis-1,2-Dichloroethene

Concentration: 50.615 PPBV



Data File: /chem/msd7.i/7-04nova.b/7110411.d

Date : 04-NOV-2007 23:58

Client ID: LCS-1

Instrument: msd7.i

Sample Info: 50mL #1443-302

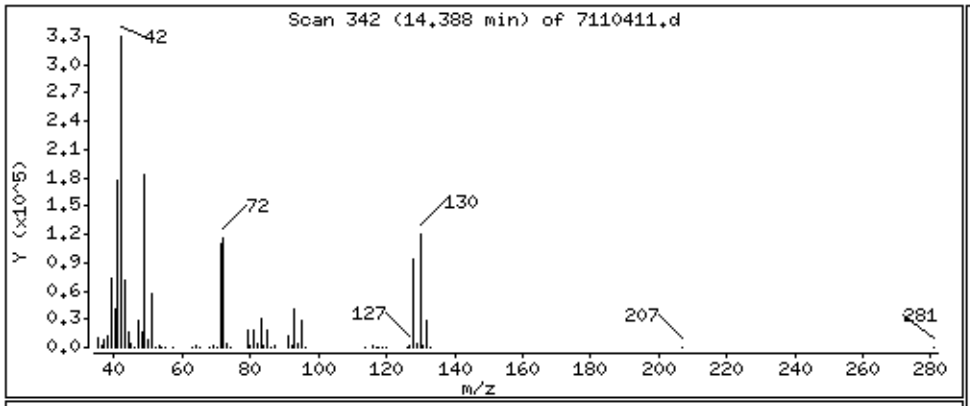
Operator: ab

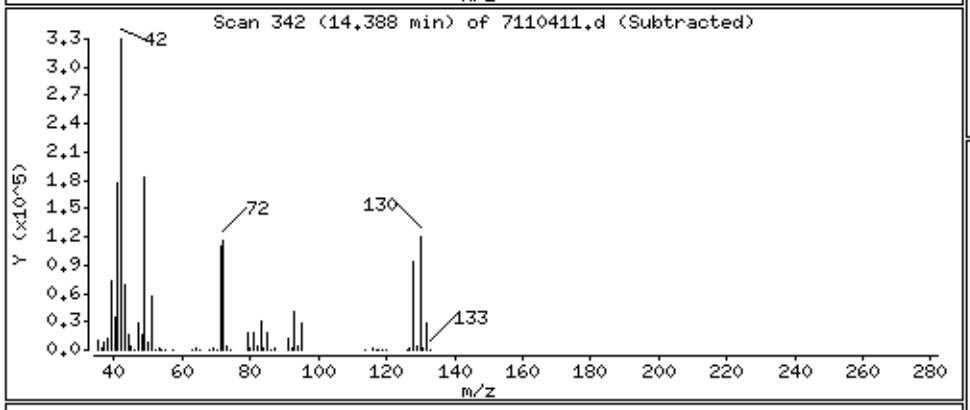
Column phase: RTx-624

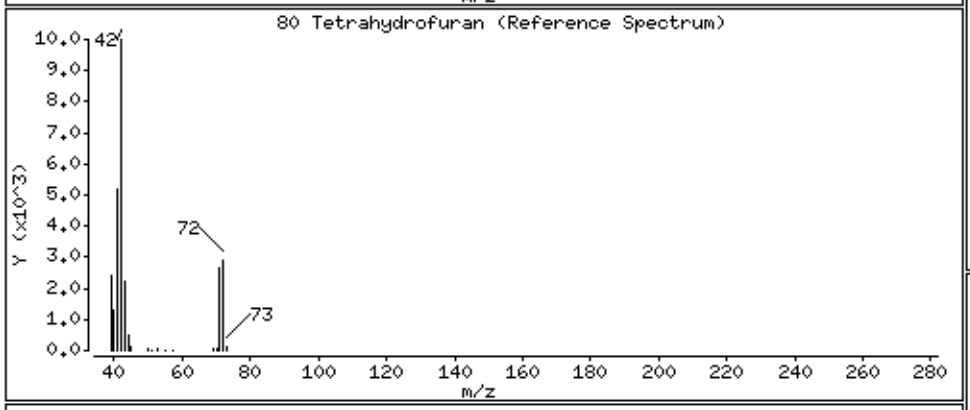
Column diameter: 0.53

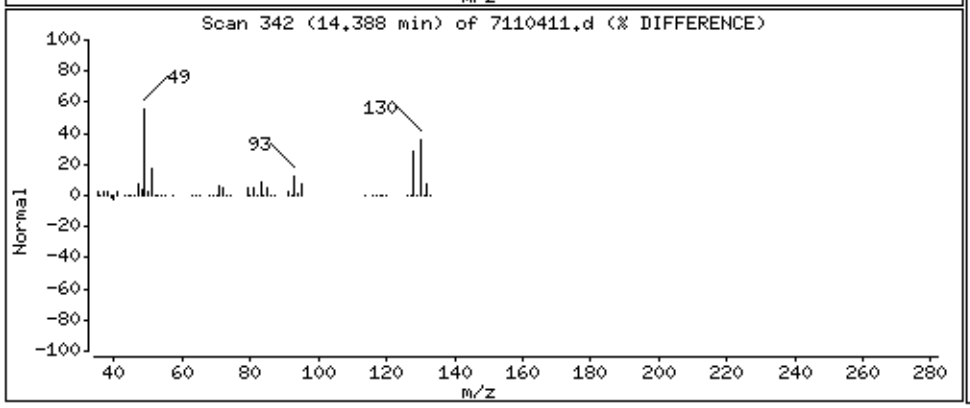
80 Tetrahydrofuran

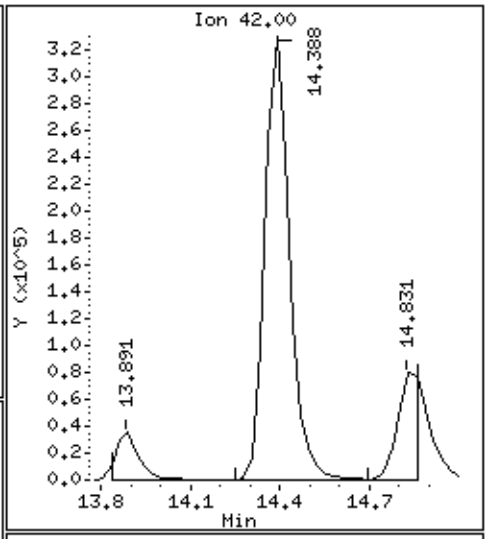
Concentration: 53.943 PPBV

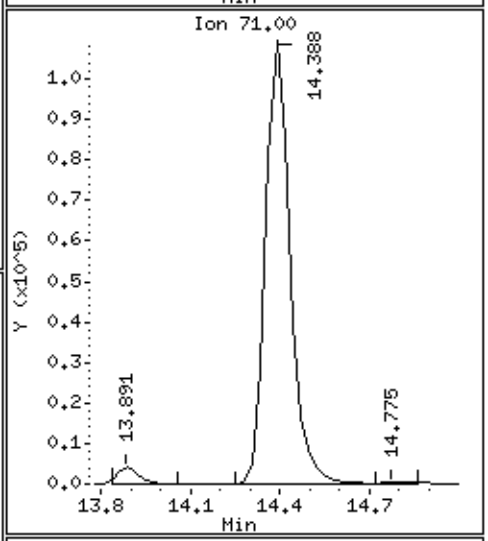


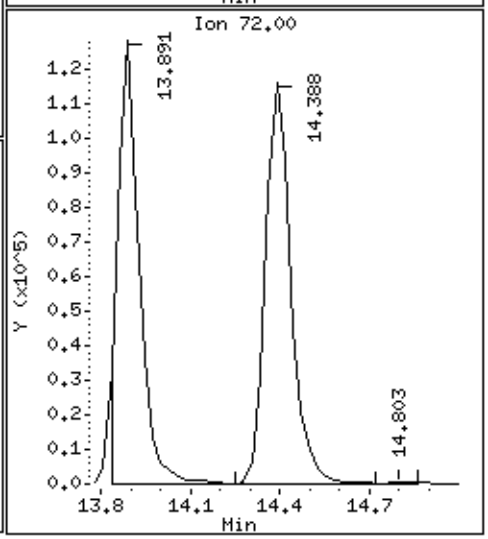












Data File: /chem/msd7.i/7-04nova.b/7110411.d

Date : 04-NOV-2007 23:58

Client ID: LCS-1

Instrument: msd7.i

Sample Info: 50mL #1443-302

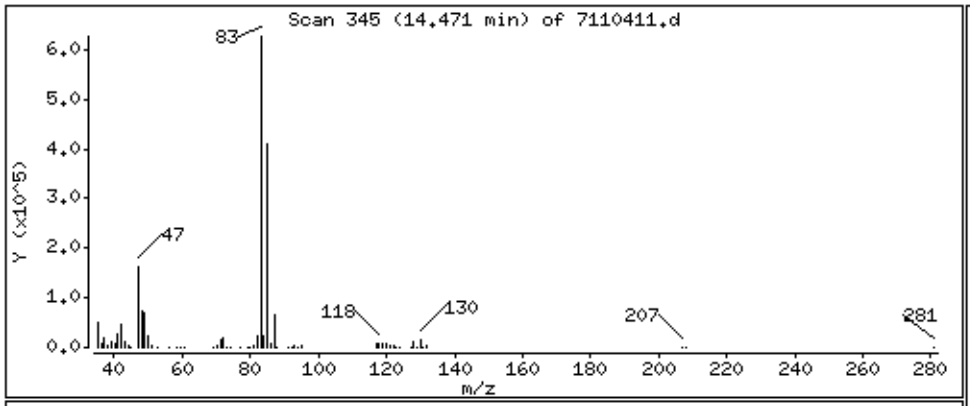
Operator: ab

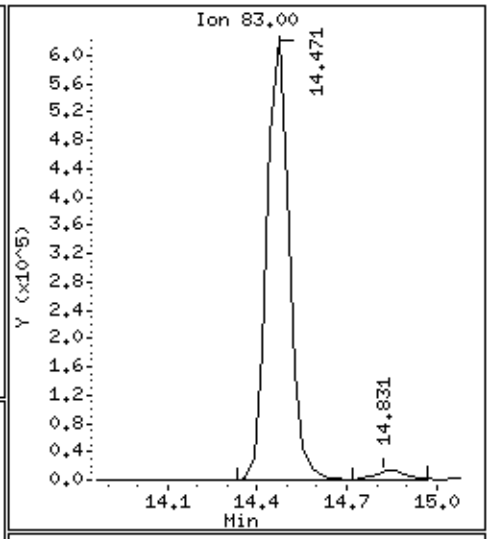
Column phase: RTx-624

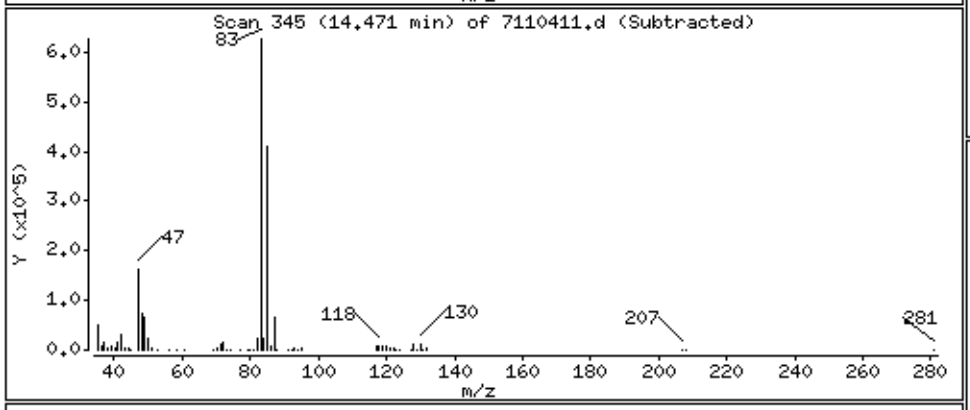
Column diameter: 0.53

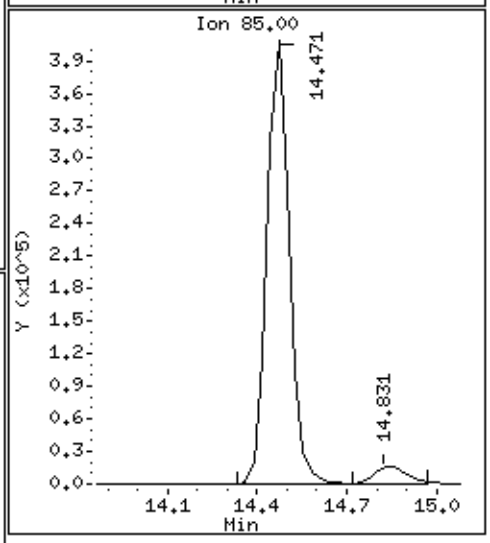
82 Chloroform

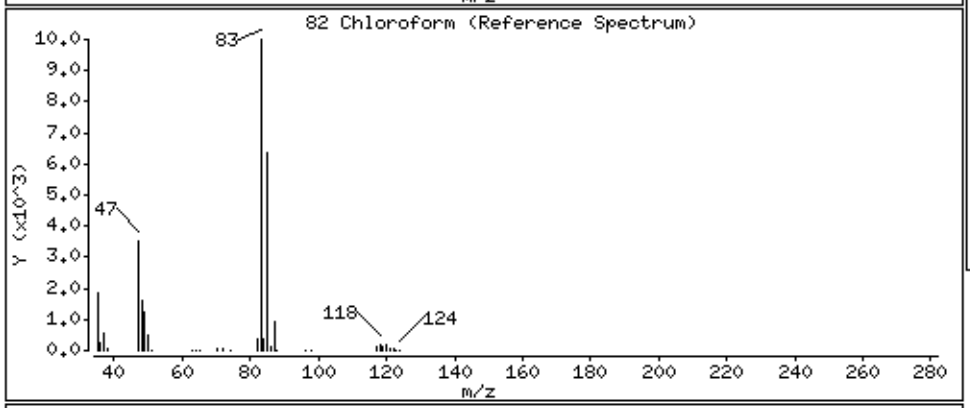
Concentration: 51.941 PPBV

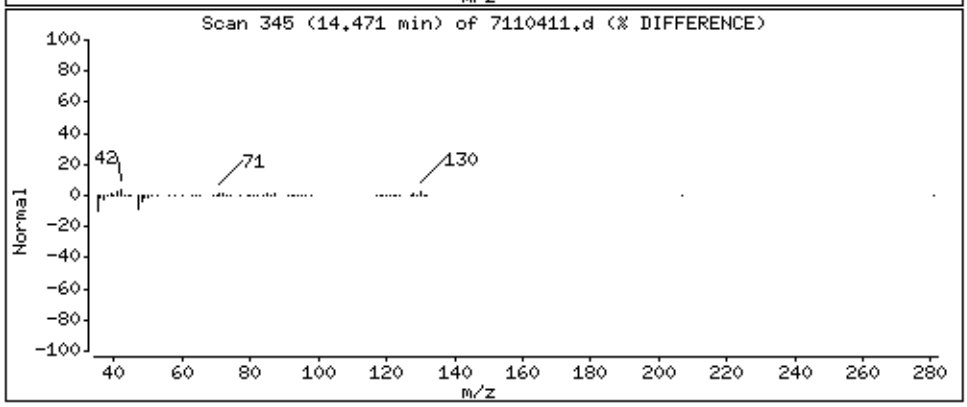












Data File: /chem/msd7.i/7-04nova.b/7110411.d

Date : 04-NOV-2007 23:58

Client ID: LCS-1

Instrument: msd7.i

Sample Info: 50mL #1443-302

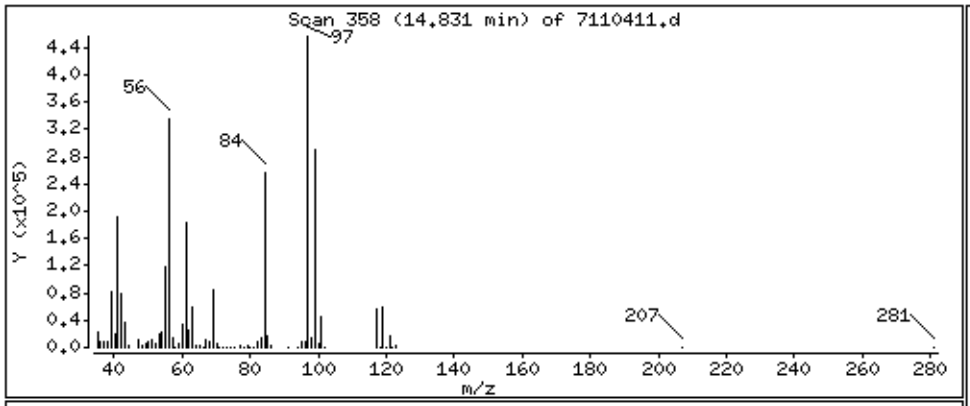
Operator: ab

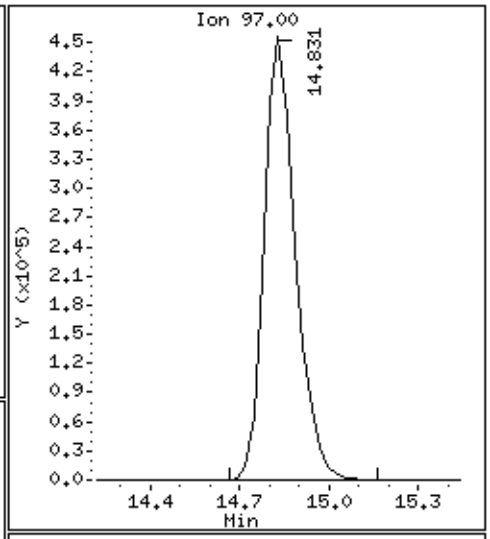
Column phase: RTx-624

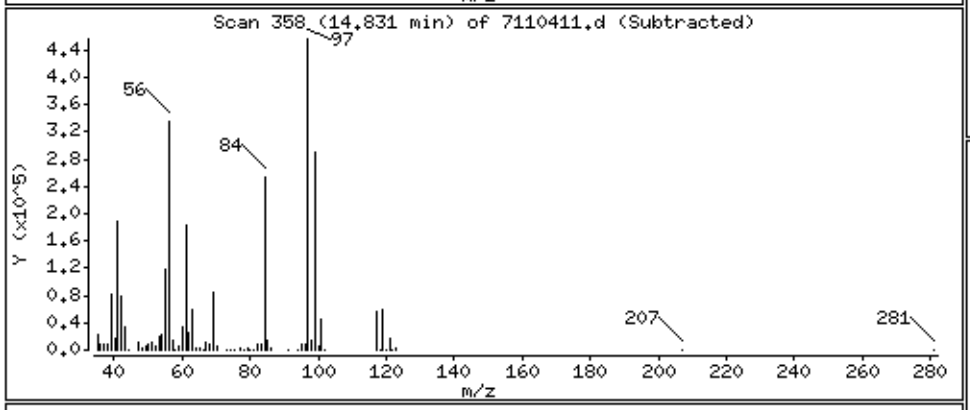
Column diameter: 0.53

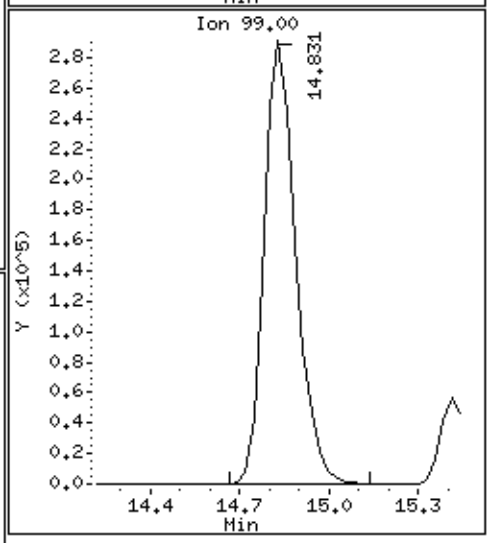
83 1,1,1-Trichloroethane

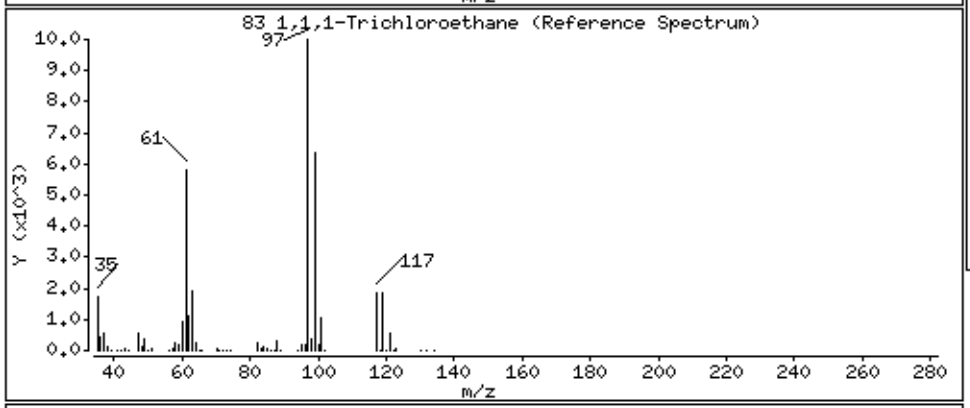
Concentration: 52.638 PPBV

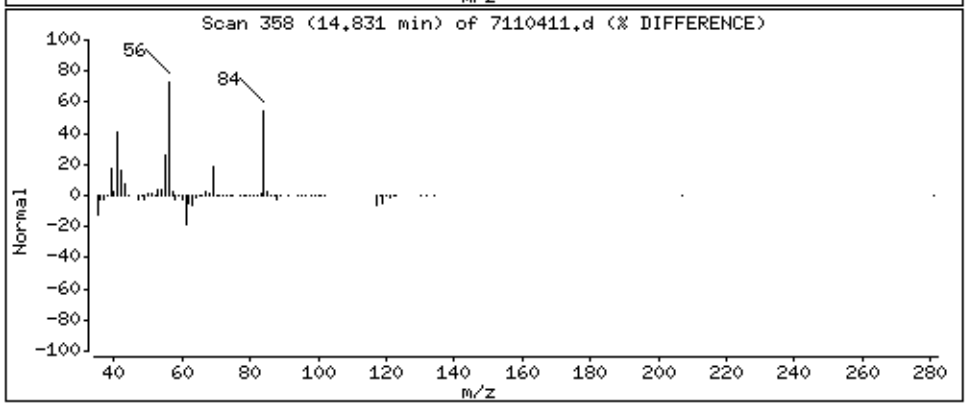












Data File: /chem/msd7.i/7-04nova.b/7110411.d

Date : 04-NOV-2007 23:58

Client ID: LCS-1

Instrument: msd7.i

Sample Info: 50mL #1443-302

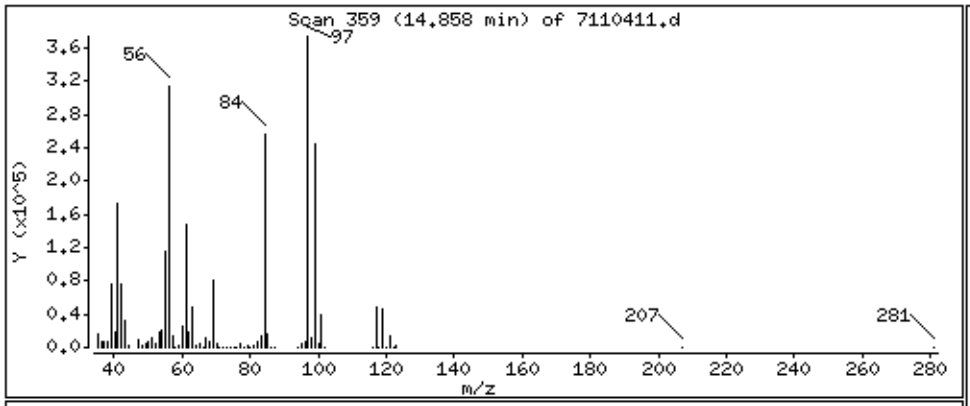
Operator: ab

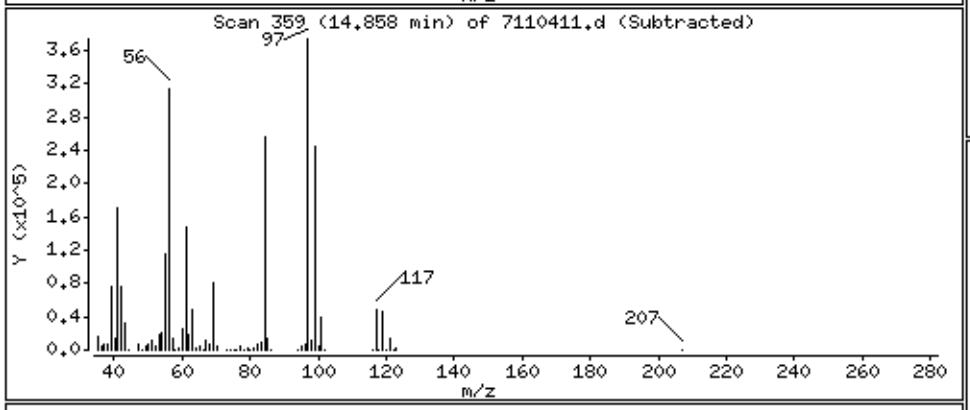
Column phase: RTx-624

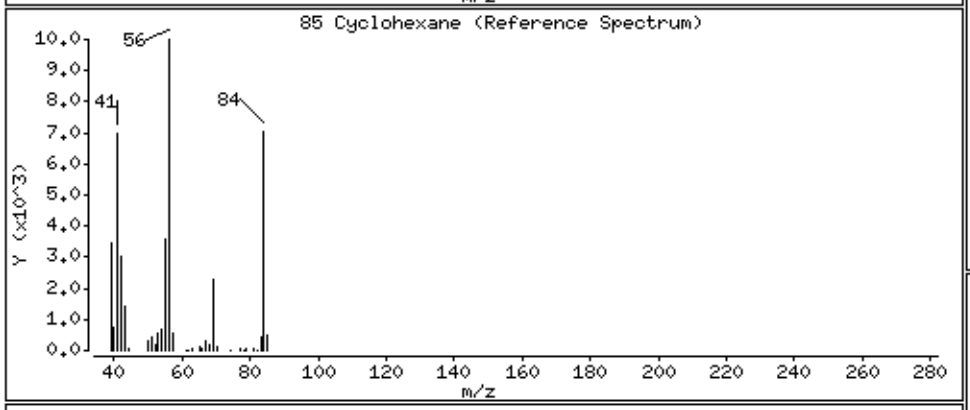
Column diameter: 0.53

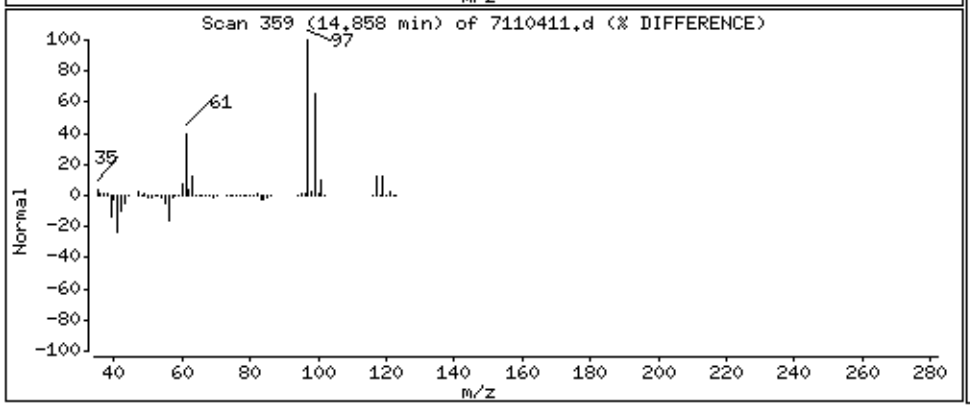
85 Cyclohexane

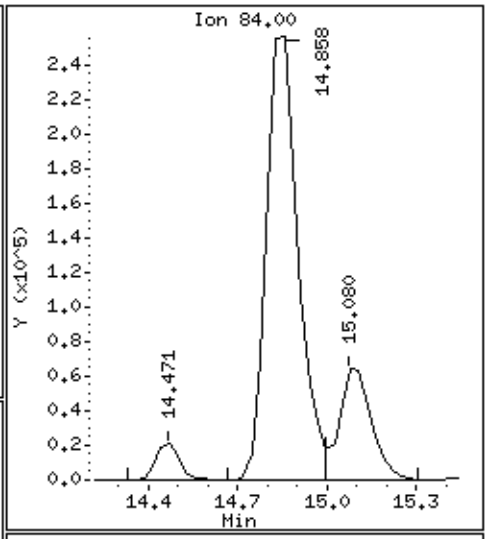
Concentration: 52.882 PPBV

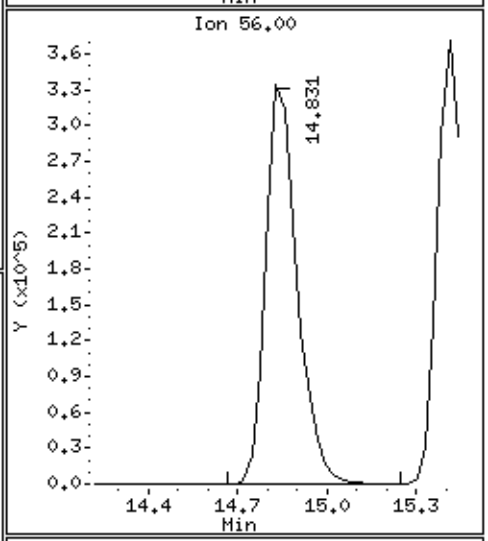


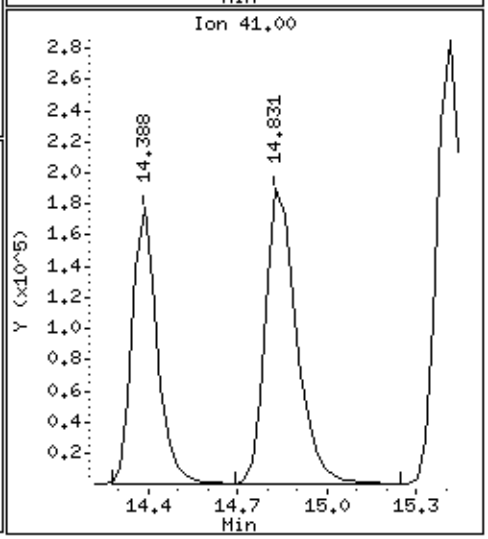












Data File: /chem/msd7.i/7-04nova.b/7110411.d

Date : 04-NOV-2007 23:58

Client ID: LCS-1

Instrument: msd7.i

Sample Info: 50mL #1443-302

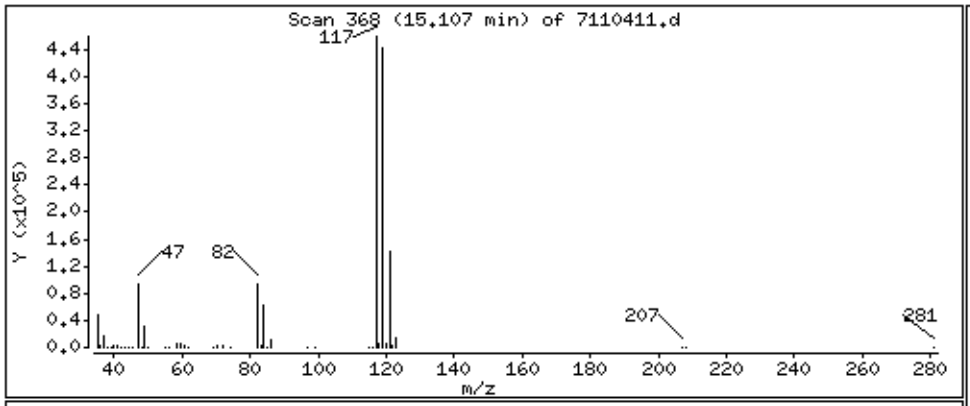
Operator: ab

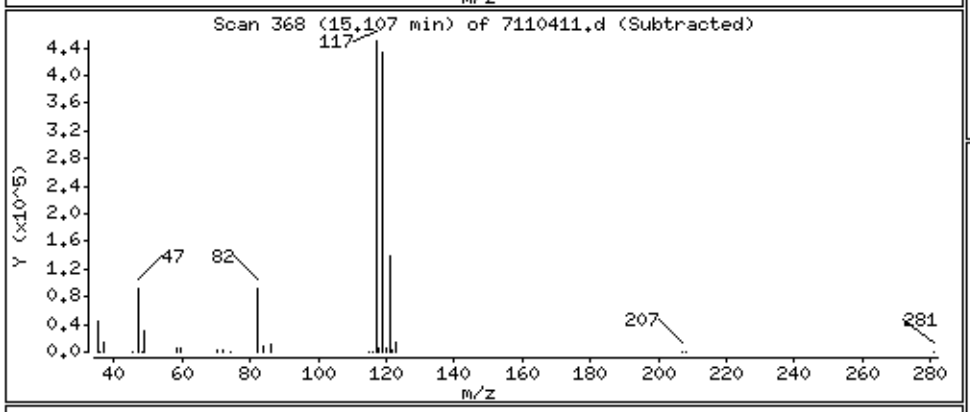
Column phase: RTx-624

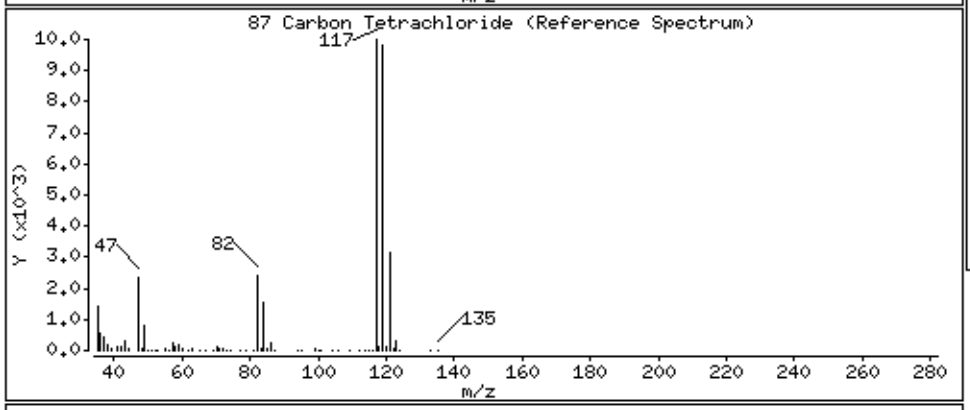
Column diameter: 0.53

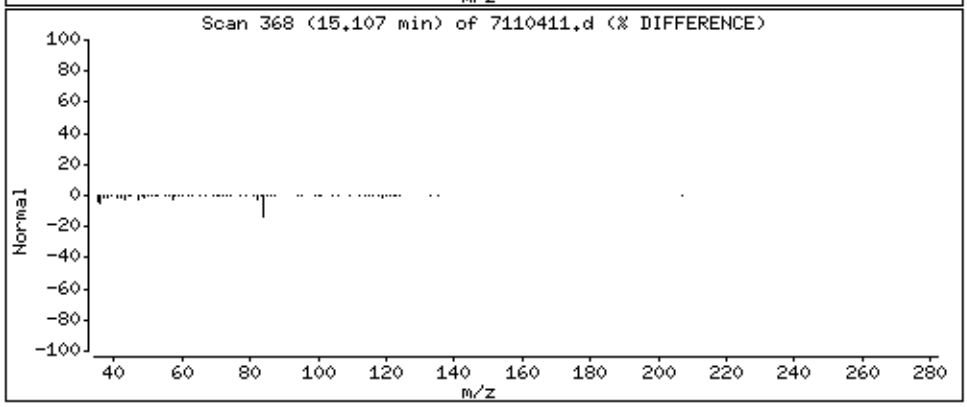
87 Carbon Tetrachloride

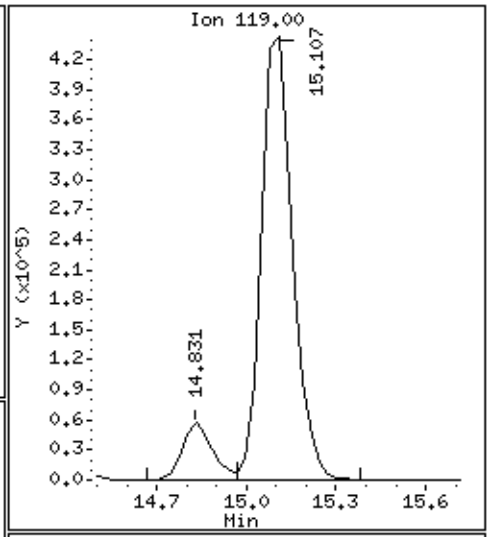
Concentration: 54.319 PPBV

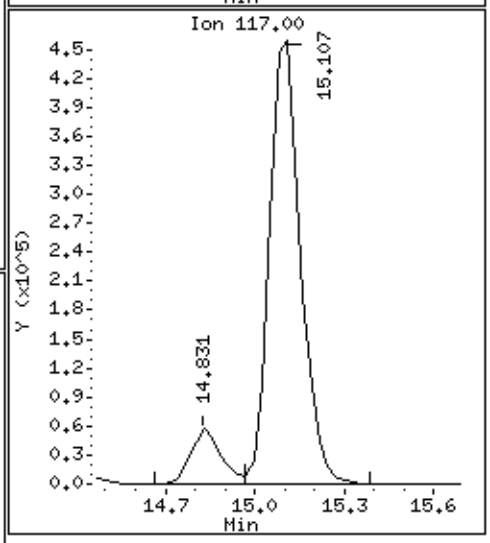












Data File: /chem/msd7.i/7-04nova.b/7110411.d

Date : 04-NOV-2007 23:58

Client ID: LCS-1

Instrument: msd7.i

Sample Info: 50mL #1443-302

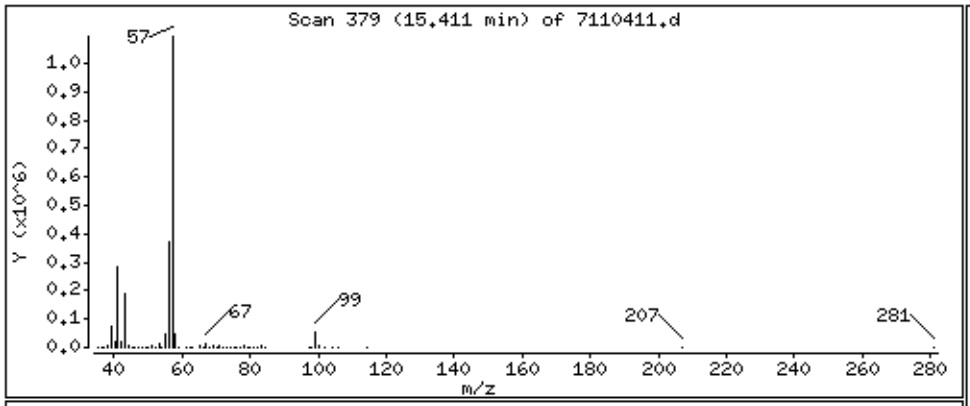
Operator: ab

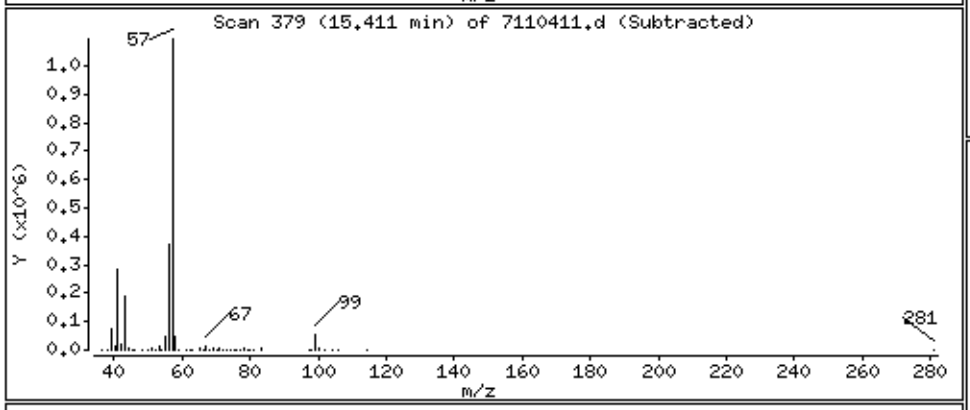
Column phase: RTx-624

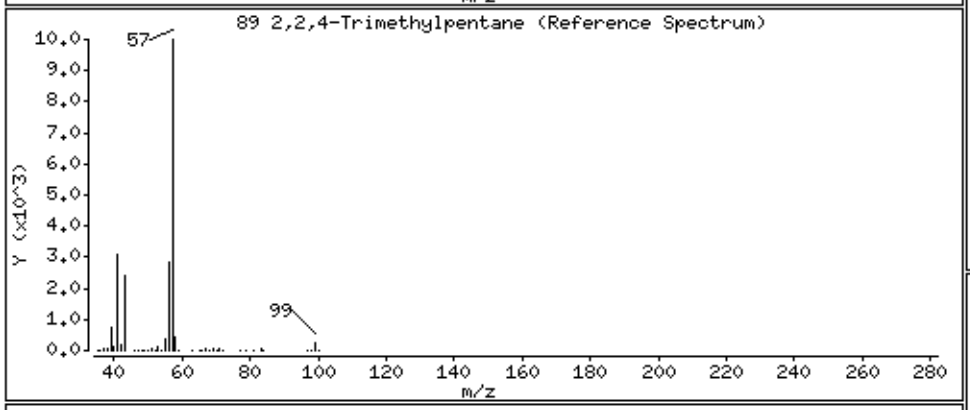
Column diameter: 0.53

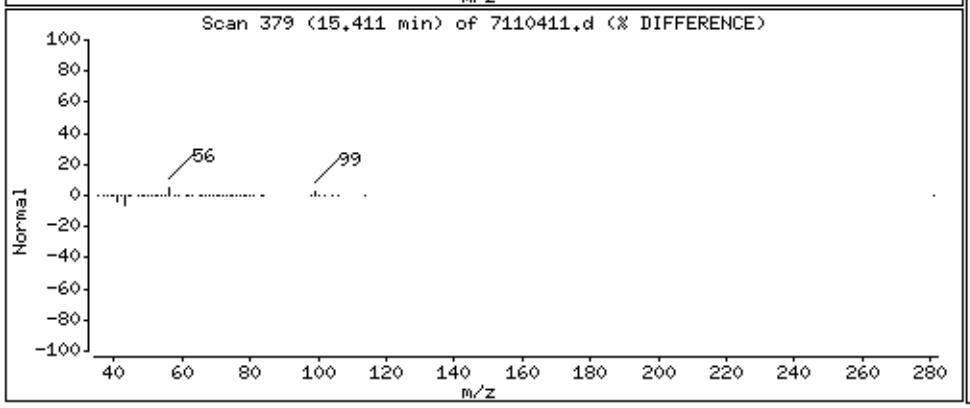
89 2,2,4-Trimethylpentane

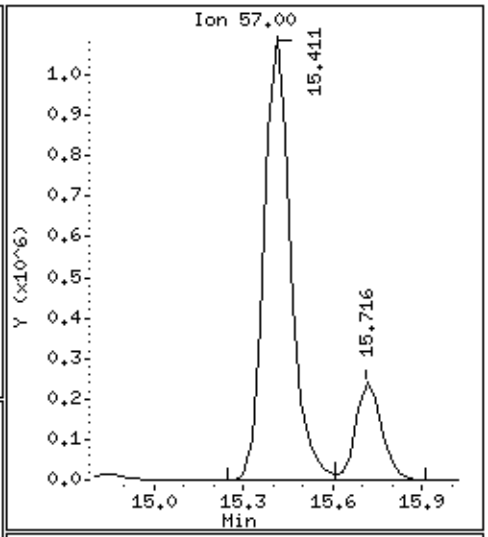
Concentration: 53.666 PPBV

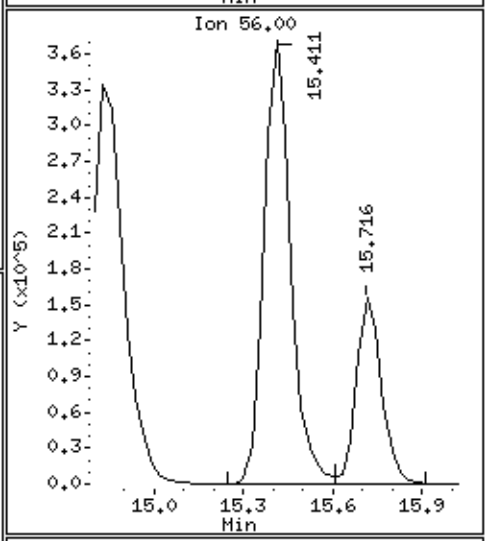


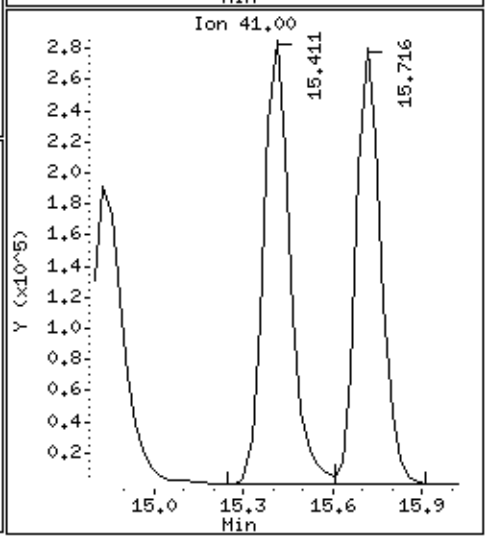












Data File: /chem/msd7.i/7-04nova.b/7110411.d

Date : 04-NOV-2007 23:58

Client ID: LCS-1

Instrument: msd7.i

Sample Info: 50mL #1443-302

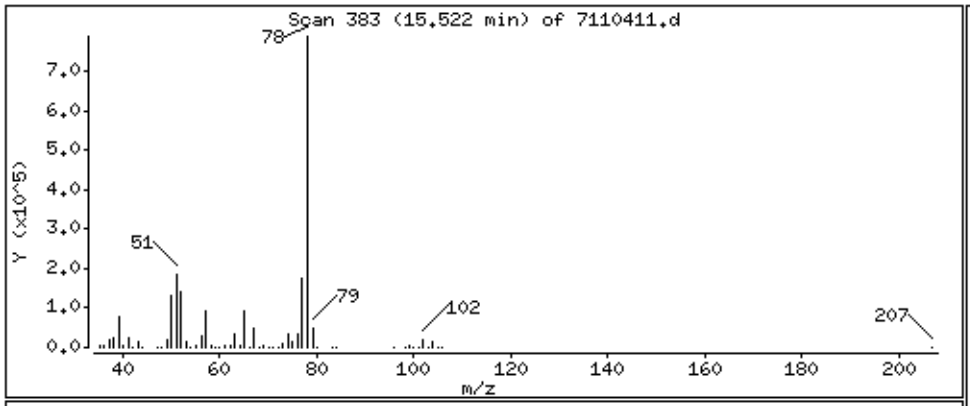
Operator: ab

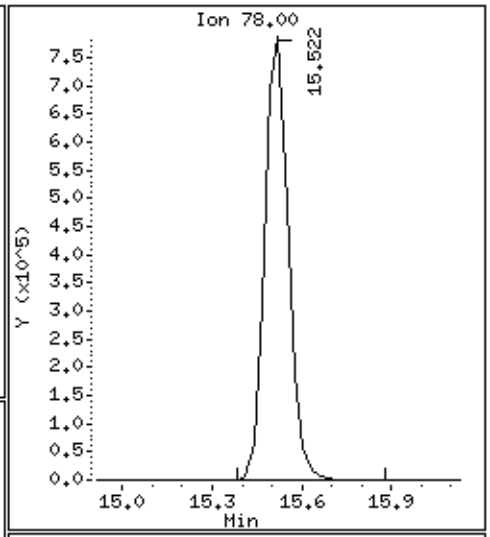
Column phase: RTx-624

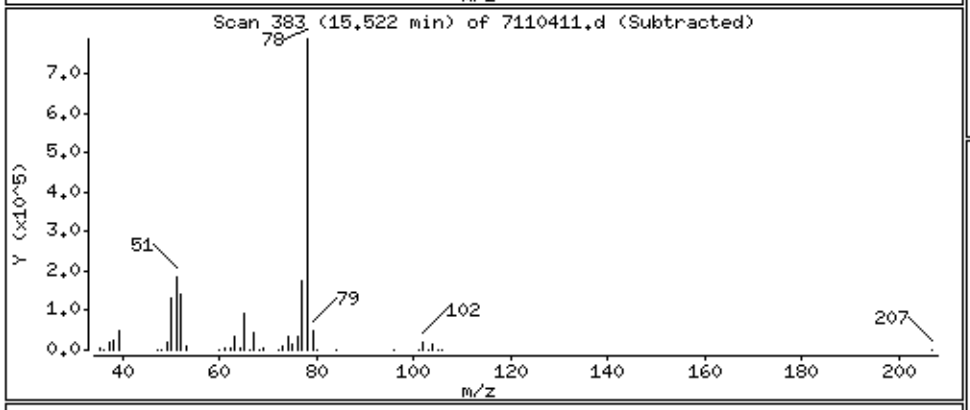
Column diameter: 0.53

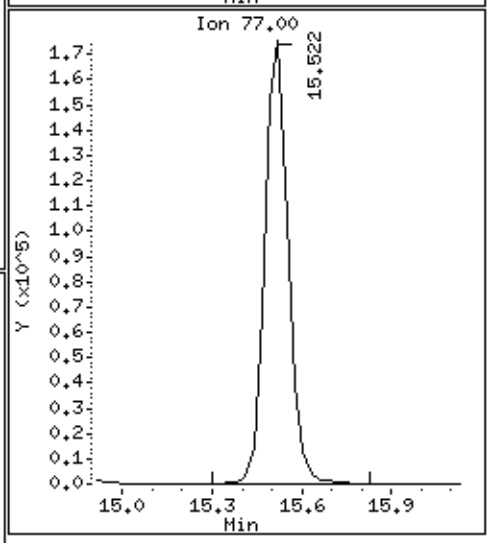
91 Benzene

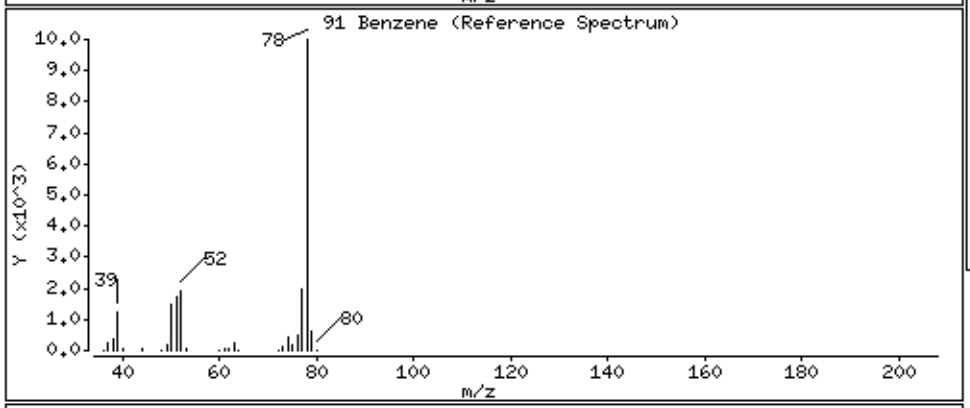
Concentration: 51.783 PPBV

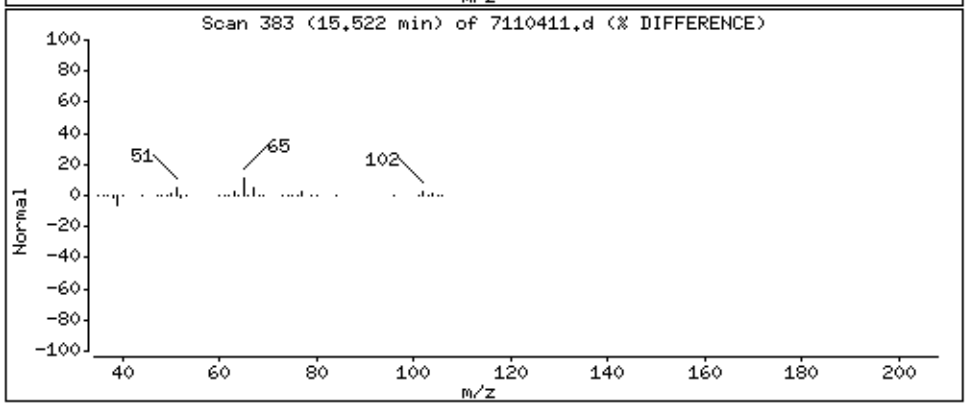












Data File: /chem/msd7.i/7-04nova.b/7110411.d

Date : 04-NOV-2007 23:58

Client ID: LCS-1

Instrument: msd7.i

Sample Info: 50mL #1443-302

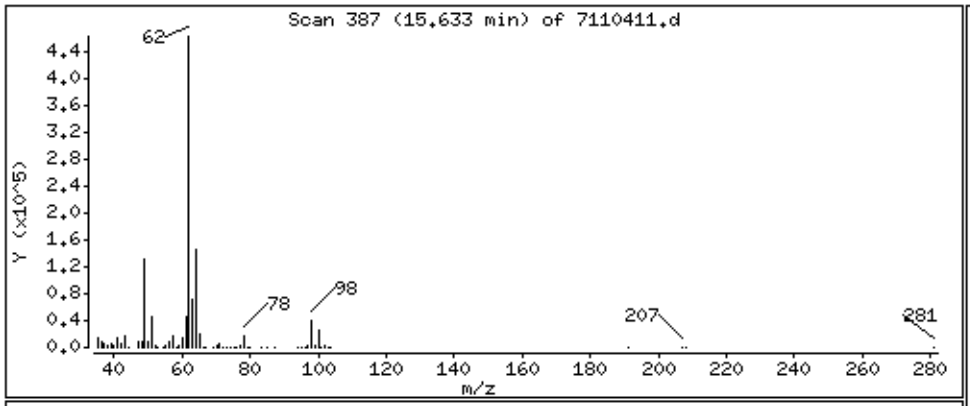
Operator: ab

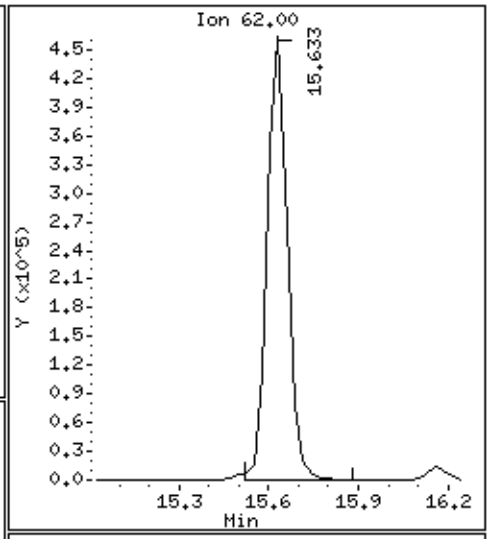
Column phase: RTx-624

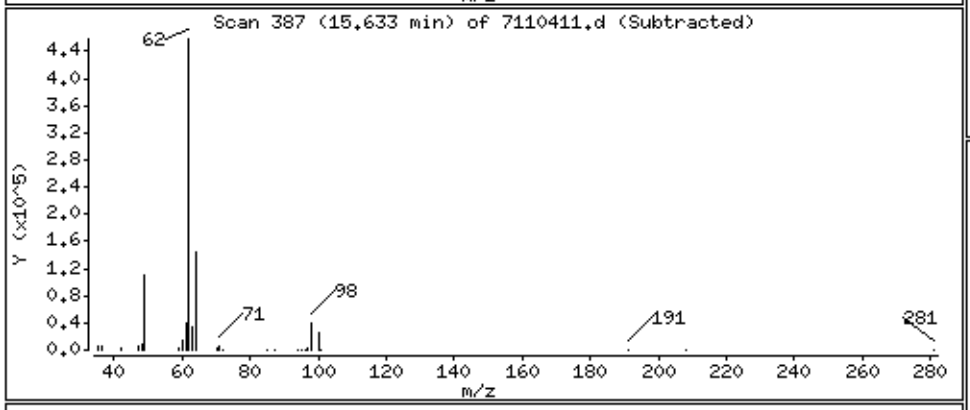
Column diameter: 0.53

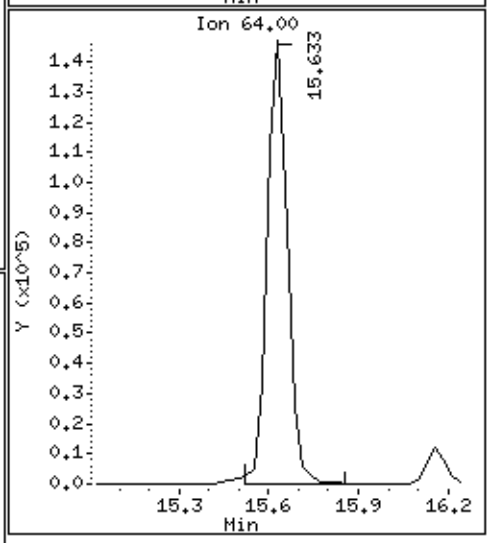
93 1,2-Dichloroethane

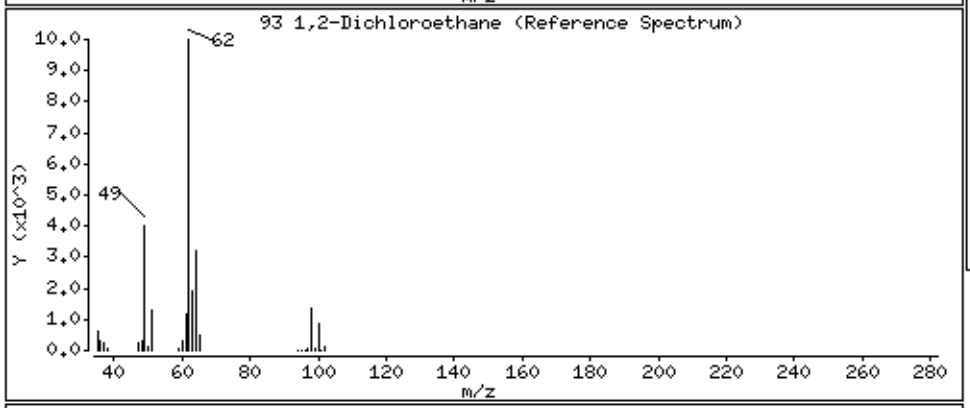
Concentration: 49.085 PPBV

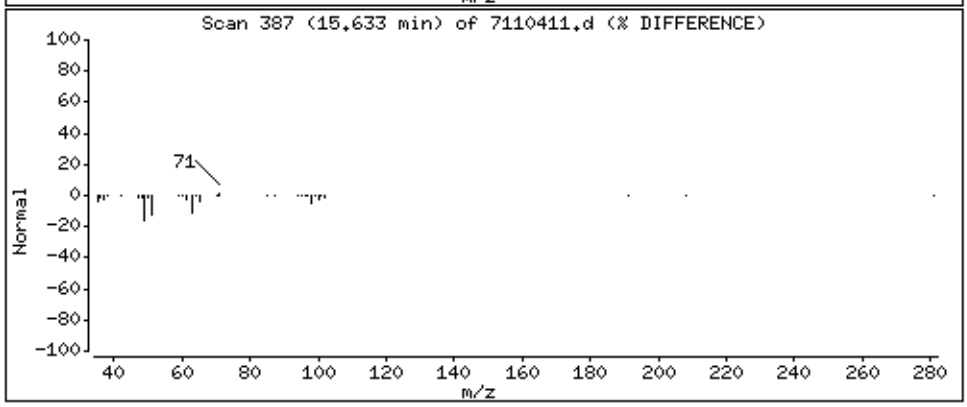












Data File: /chem/msd7.i/7-04nova.b/7110411.d

Date : 04-NOV-2007 23:58

Client ID: LCS-1

Instrument: msd7.i

Sample Info: 50mL #1443-302

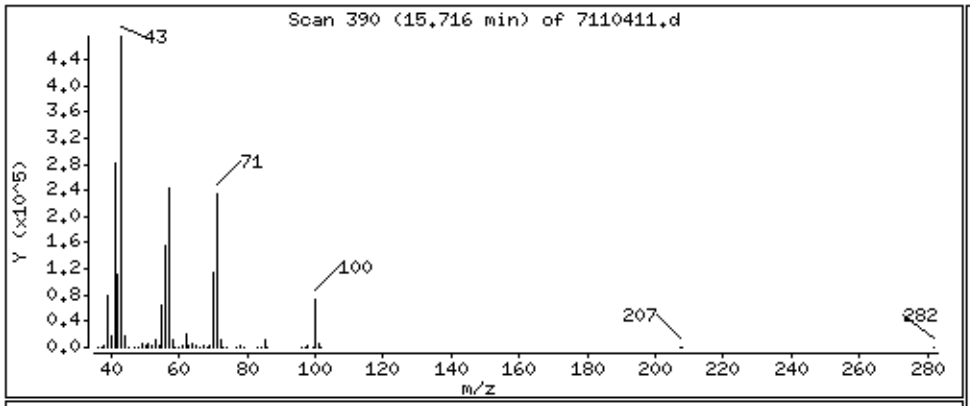
Operator: ab

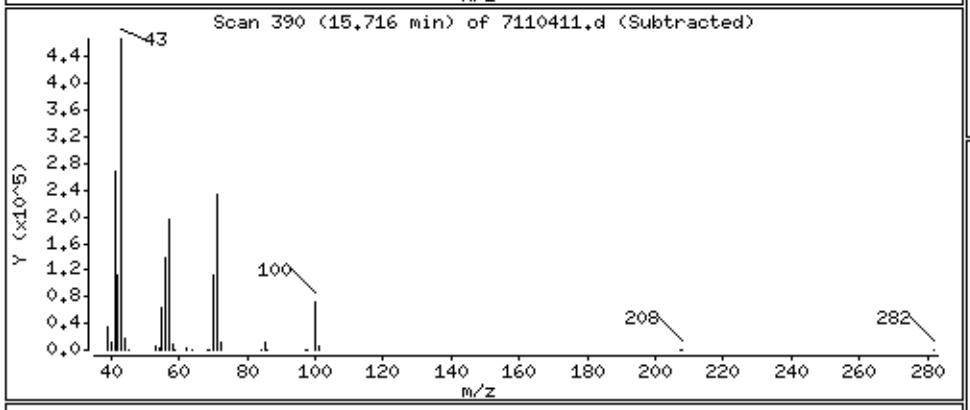
Column phase: RTx-624

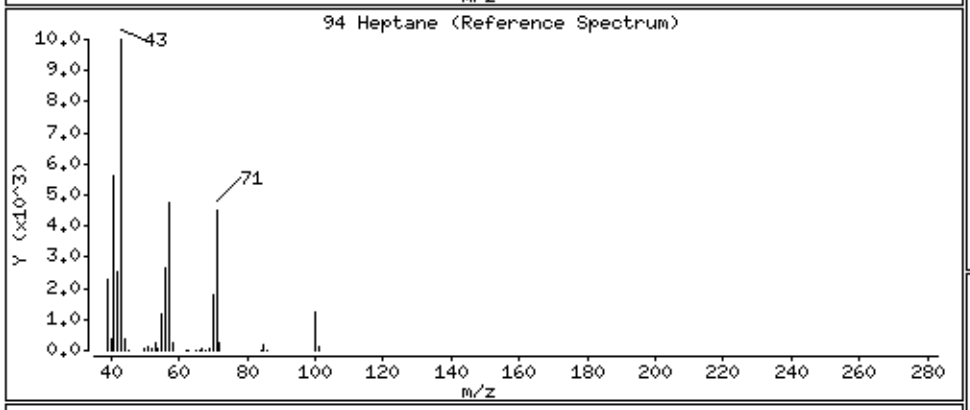
Column diameter: 0.53

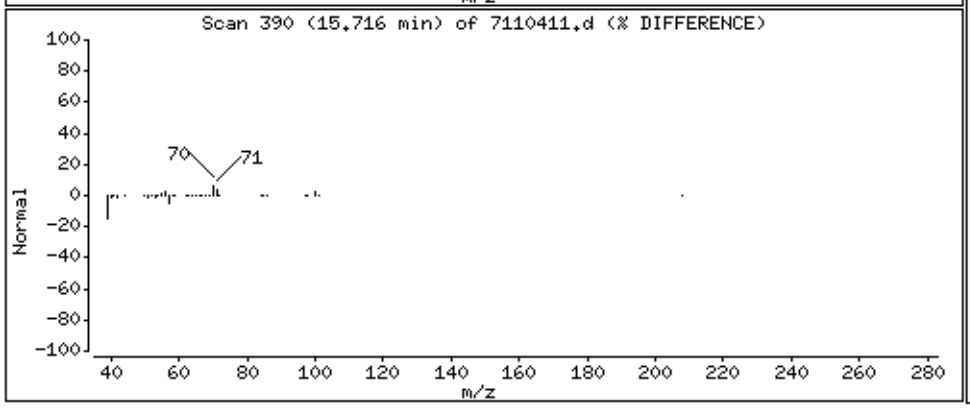
94 Heptane

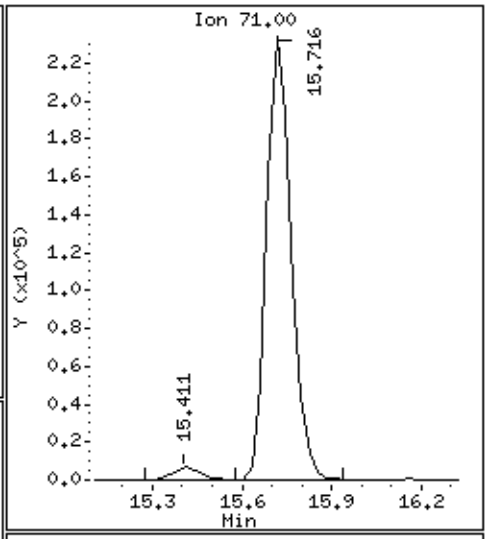
Concentration: 51.990 PPBV

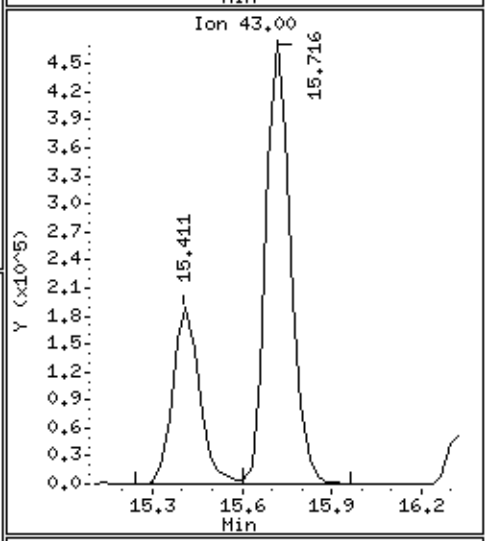


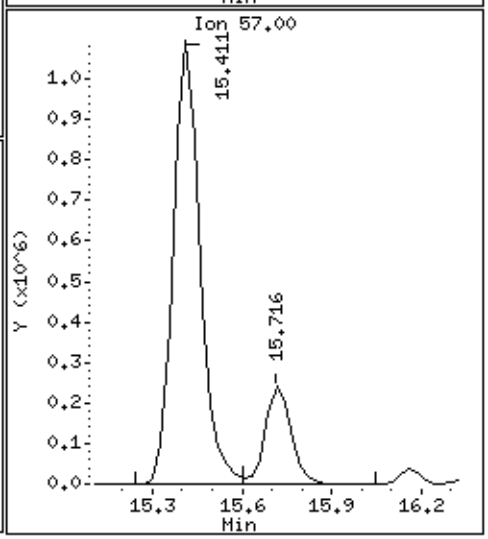












Data File: /chem/msd7.i/7-04nova.b/7110411.d

Date : 04-NOV-2007 23:58

Client ID: LCS-1

Instrument: msd7.i

Sample Info: 50mL #1443-302

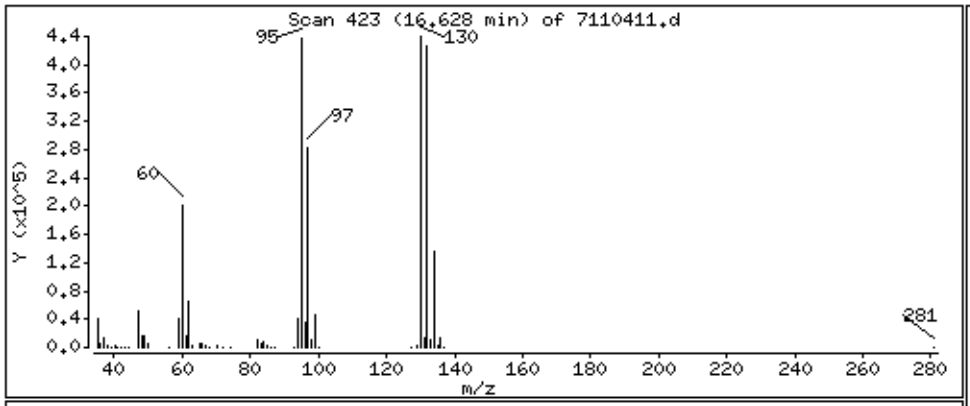
Operator: ab

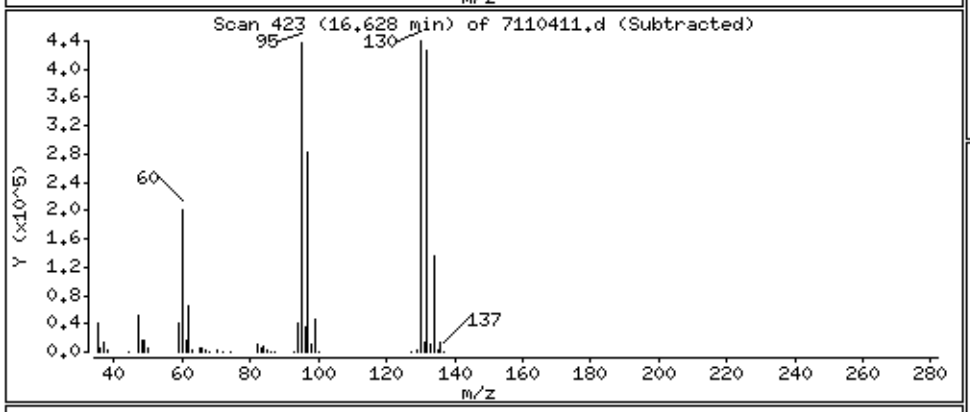
Column phase: RTx-624

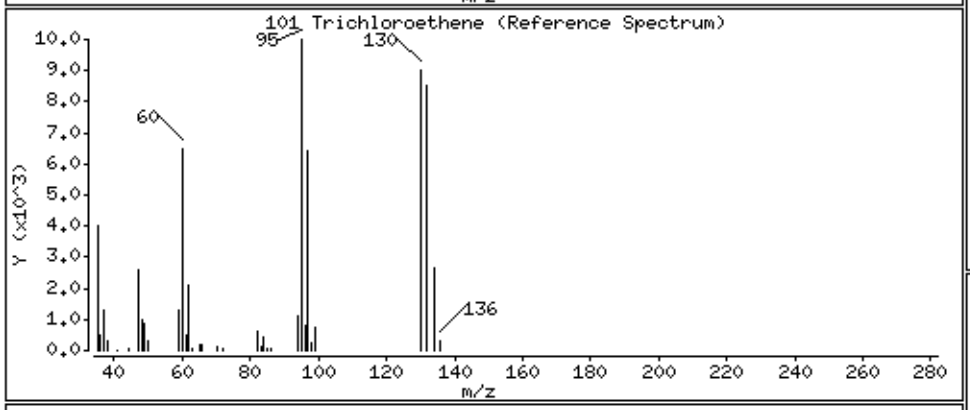
Column diameter: 0.53

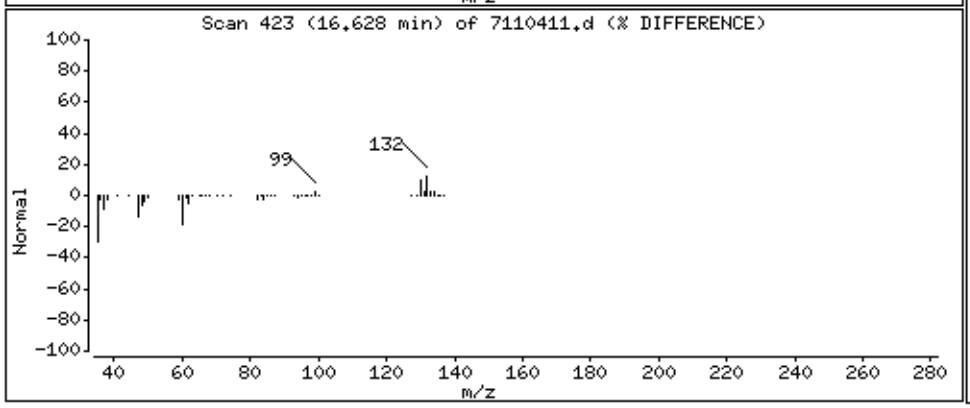
101 Trichloroethene

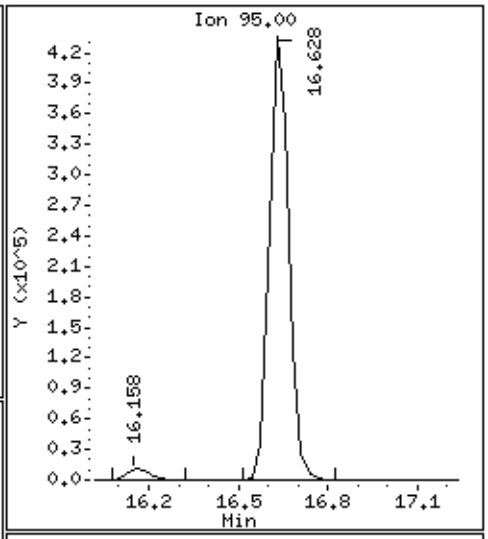
Concentration: 52.822 PPBV

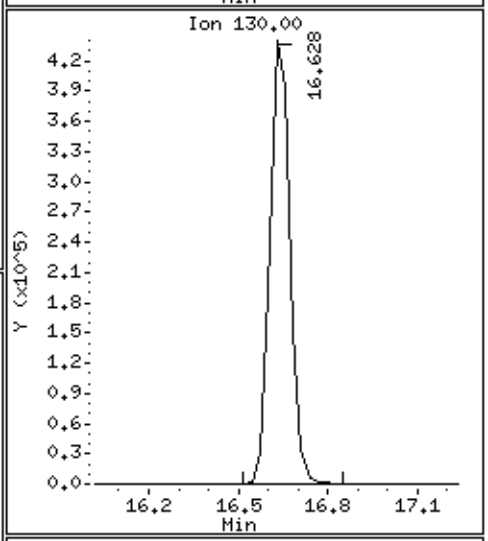


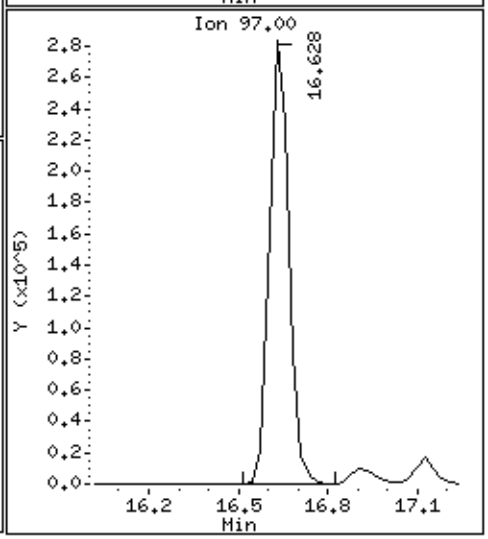












Data File: /chem/msd7.i/7-04nova.b/7110411.d

Date : 04-NOV-2007 23:58

Client ID: LCS-1

Instrument: msd7.i

Sample Info: 50mL #1443-302

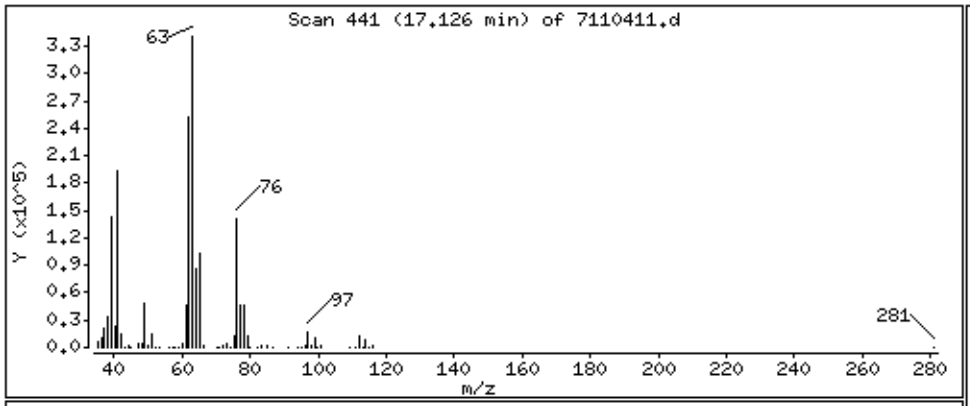
Operator: ab

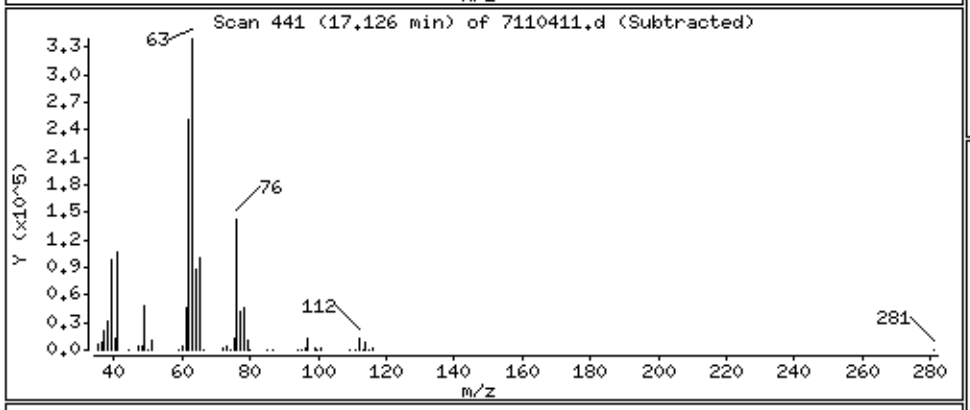
Column phase: RTx-624

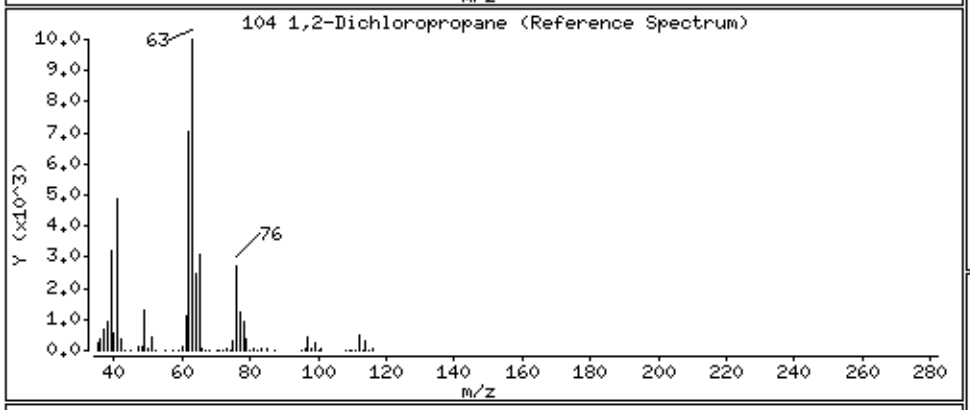
Column diameter: 0.53

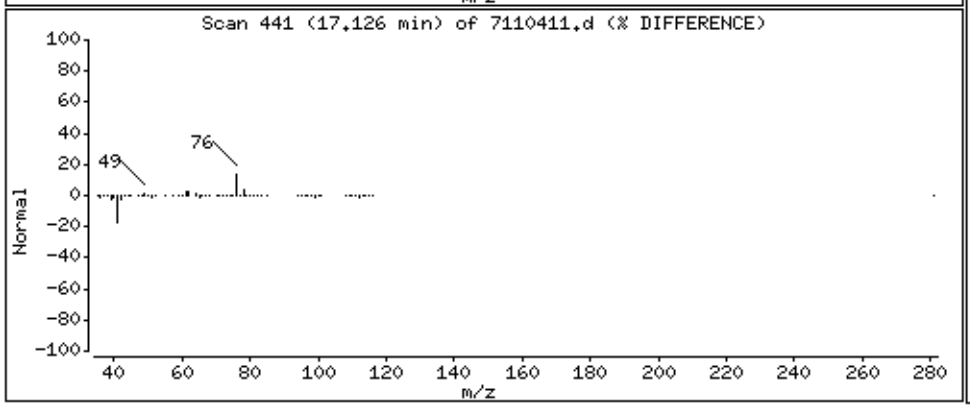
104 1,2-Dichloropropane

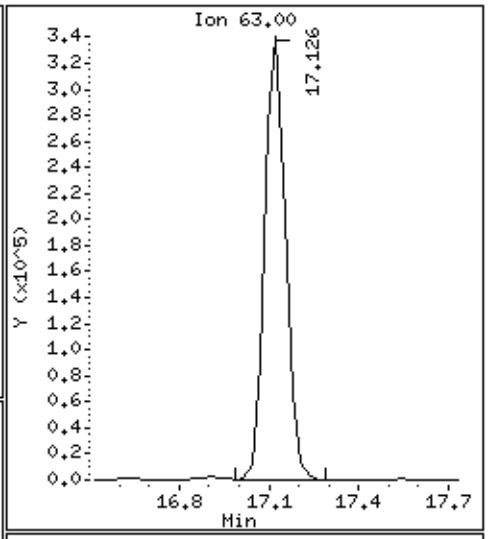
Concentration: 51.324 PPBV

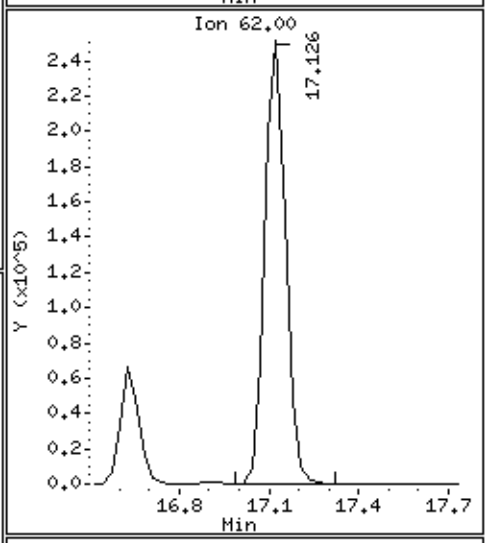


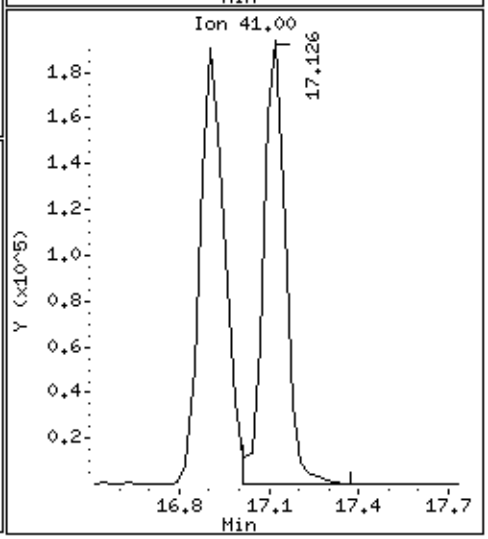












Data File: /chem/msd7.i/7-04nova.b/7110411.d

Date : 04-NOV-2007 23:58

Client ID: LCS-1

Instrument: msd7.i

Sample Info: 50mL #1443-302

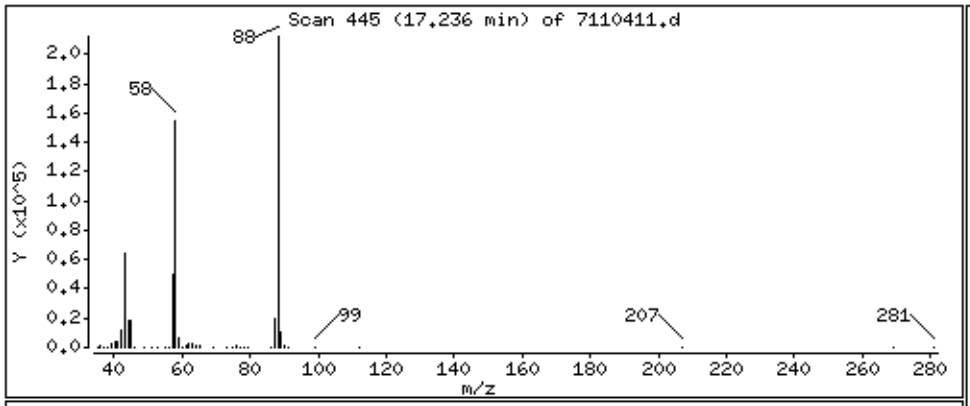
Operator: ab

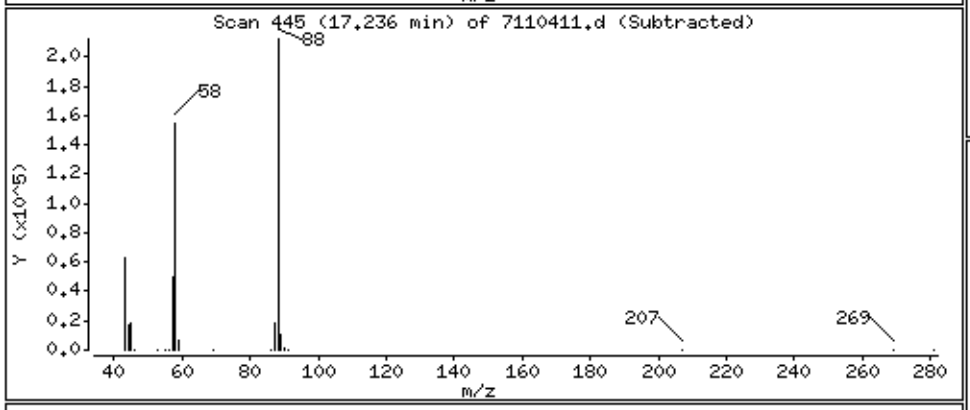
Column phase: RTx-624

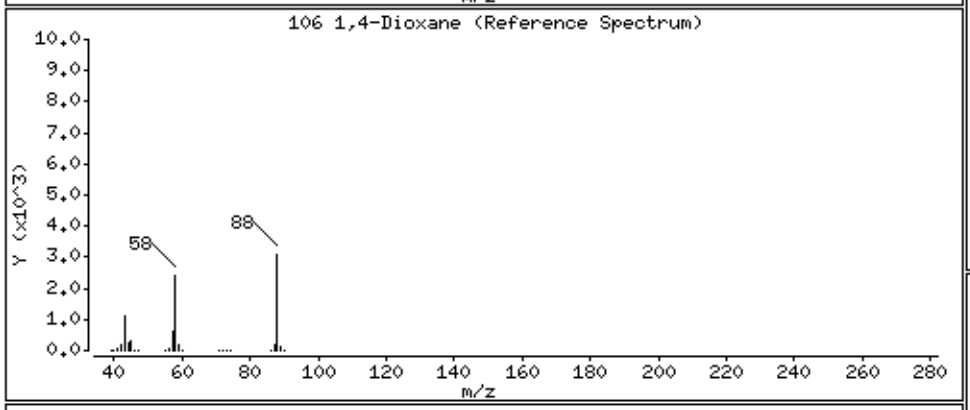
Column diameter: 0.53

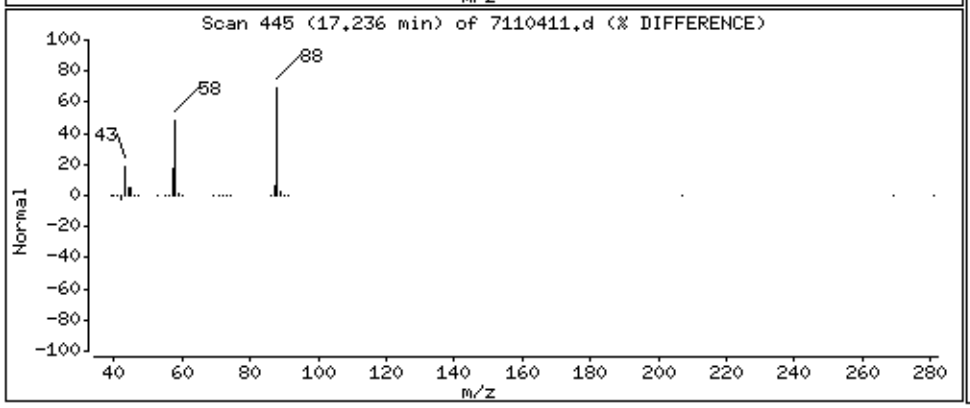
106 1,4-Dioxane

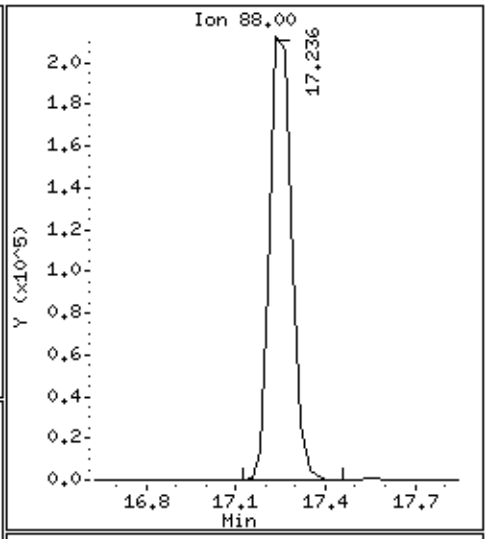
Concentration: 52.162 PPBV

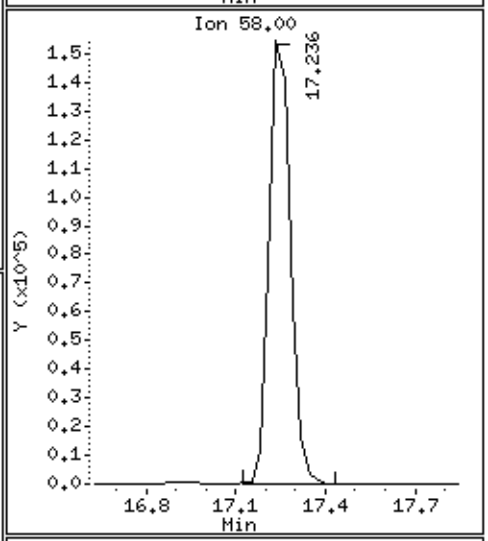


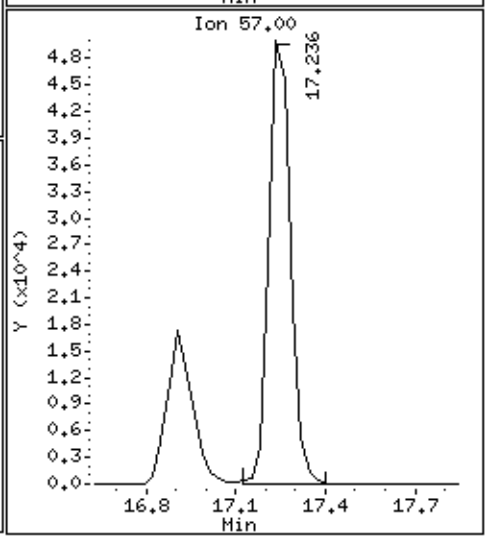












Data File: /chem/msd7.i/7-04nova.b/7110411.d

Date : 04-NOV-2007 23:58

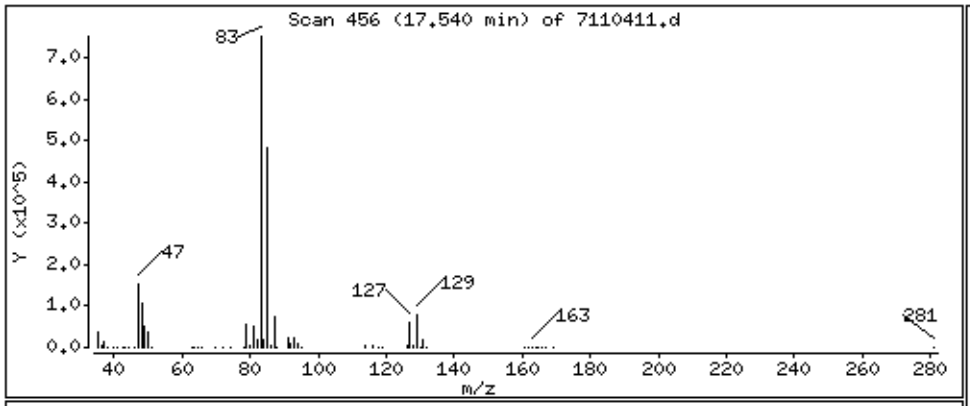
Client ID: LCS-1 Instrument: msd7.i

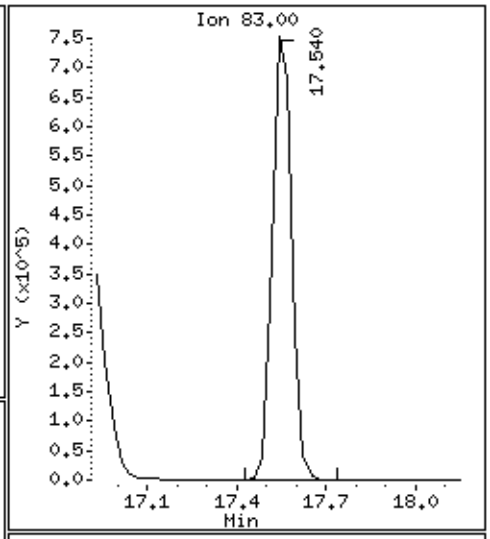
Sample Info: 50mL #1443-302

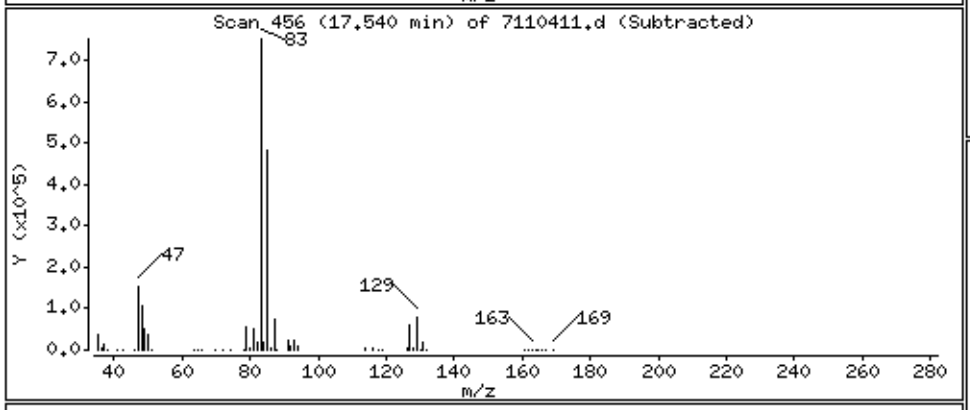
Operator: ab

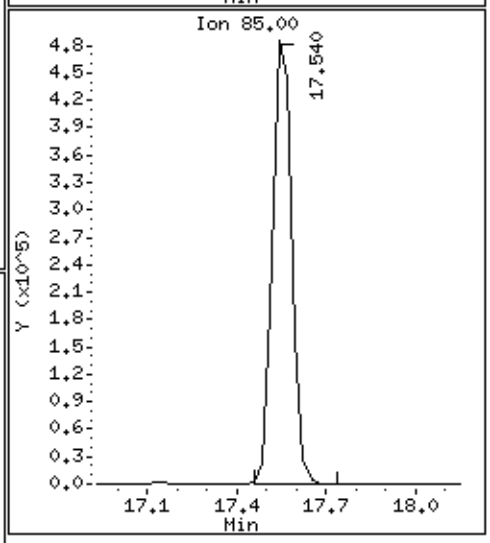
Column phase: RTx-624 Column diameter: 0.53

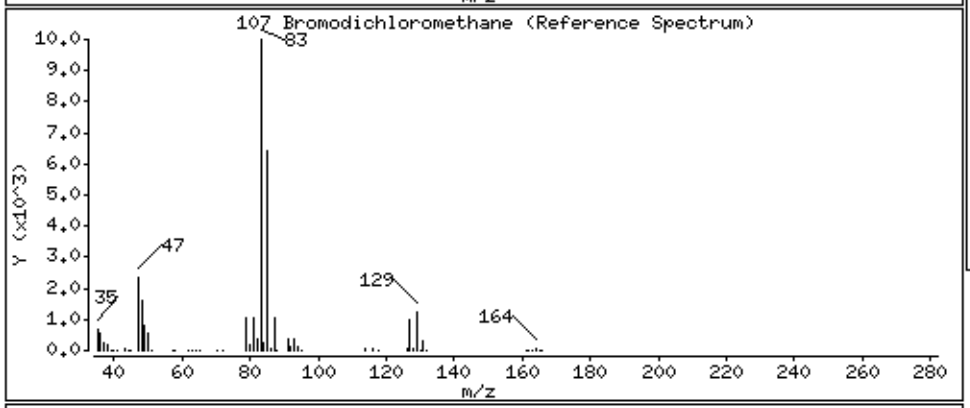
107 Bromodichloromethane Concentration: 52.787 PPBV

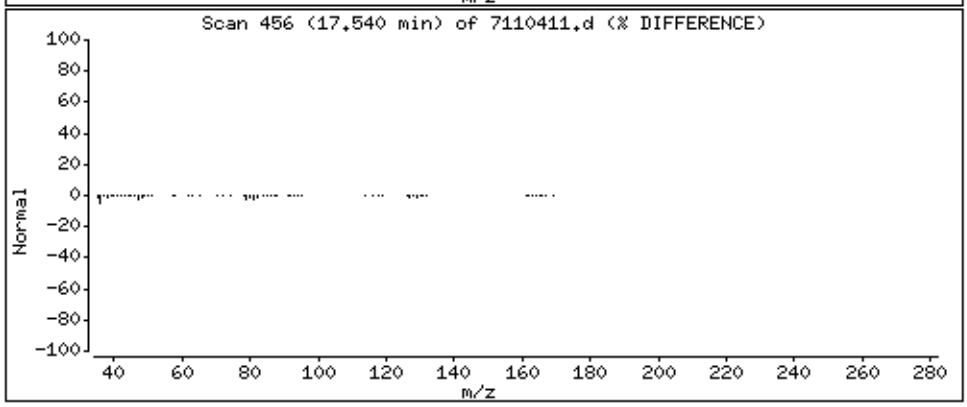












Data File: /chem/msd7.i/7-04nova.b/7110411.d

Date : 04-NOV-2007 23:58

Client ID: LCS-1

Instrument: msd7.i

Sample Info: 50mL #1443-302

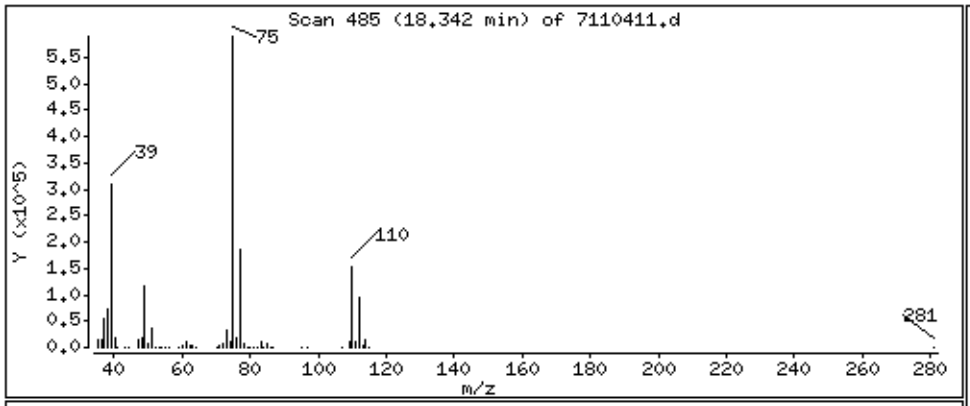
Operator: ab

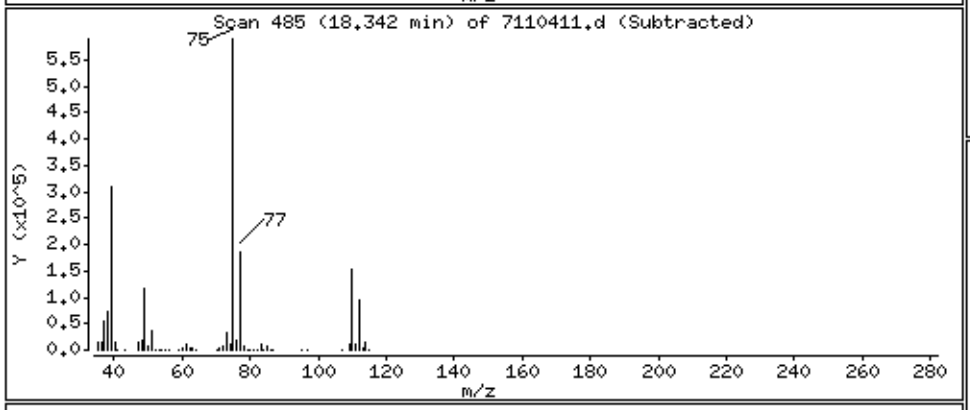
Column phase: RTx-624

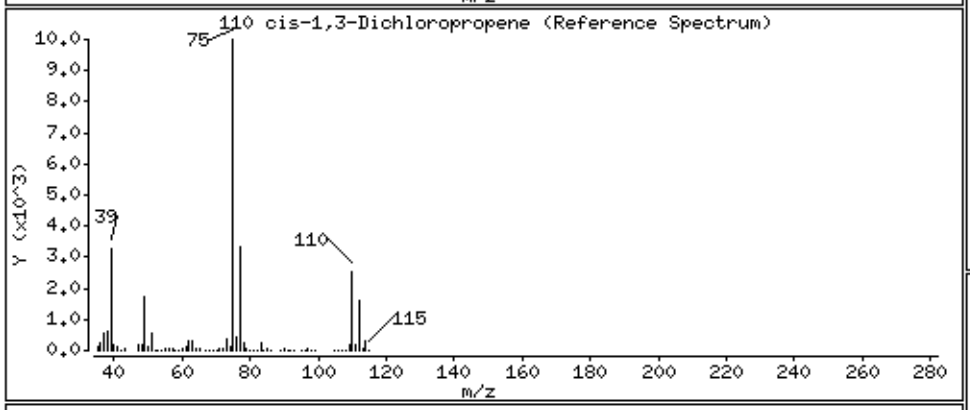
Column diameter: 0.53

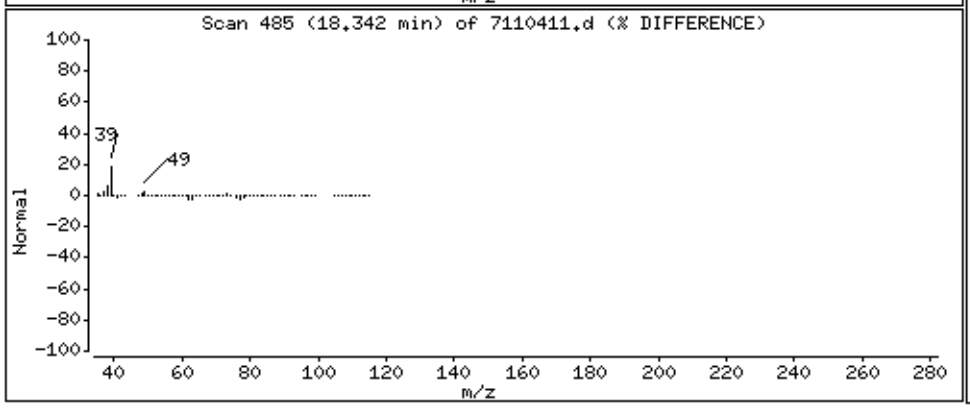
110 cis-1,3-Dichloropropene

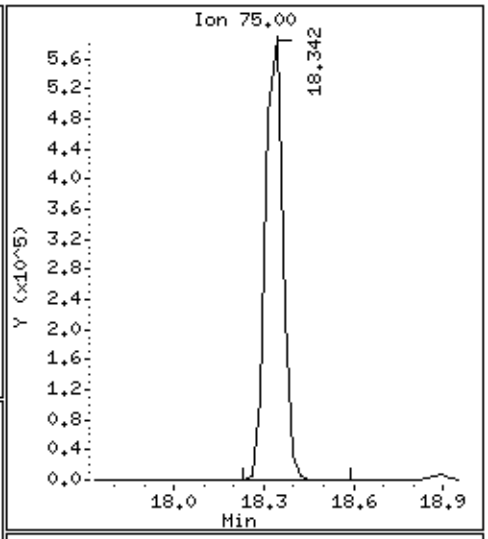
Concentration: 52.464 PPBV

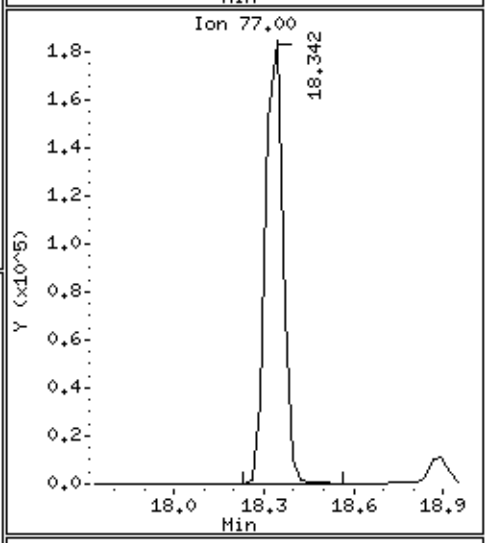


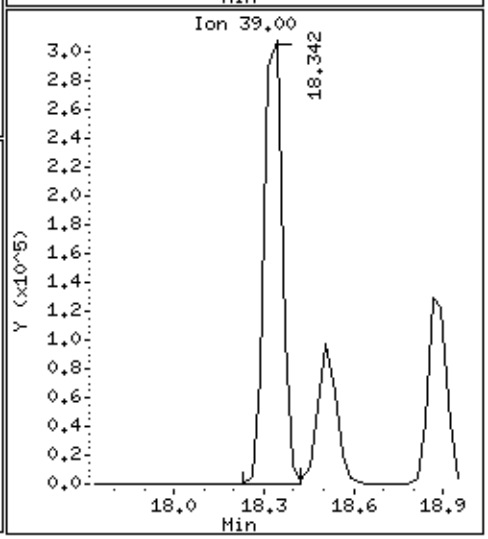












Data File: /chem/msd7.i/7-04nova.b/7110411.d

Date : 04-NOV-2007 23:58

Client ID: LCS-1

Instrument: msd7.i

Sample Info: 50mL #1443-302

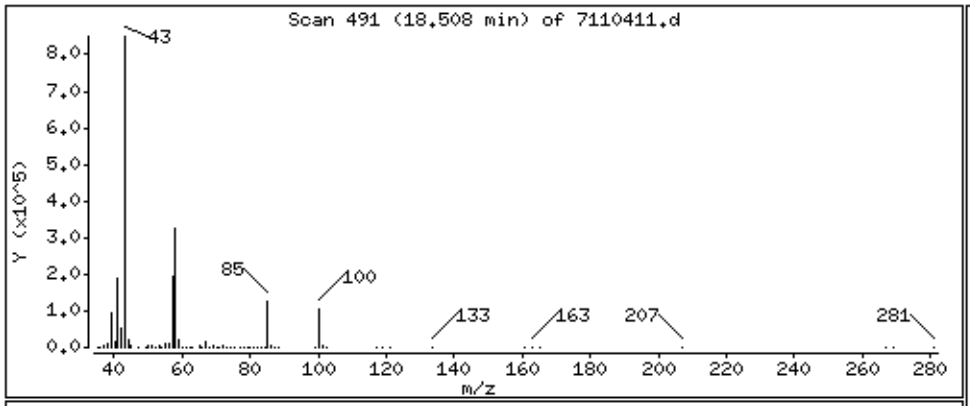
Operator: ab

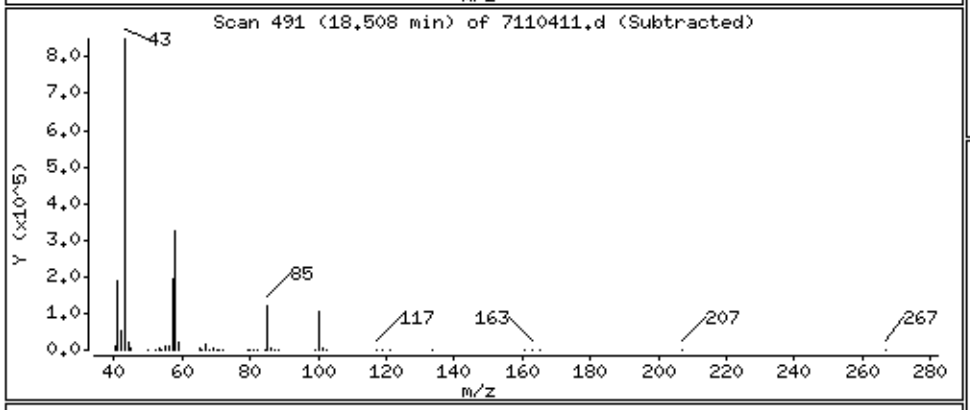
Column phase: RTx-624

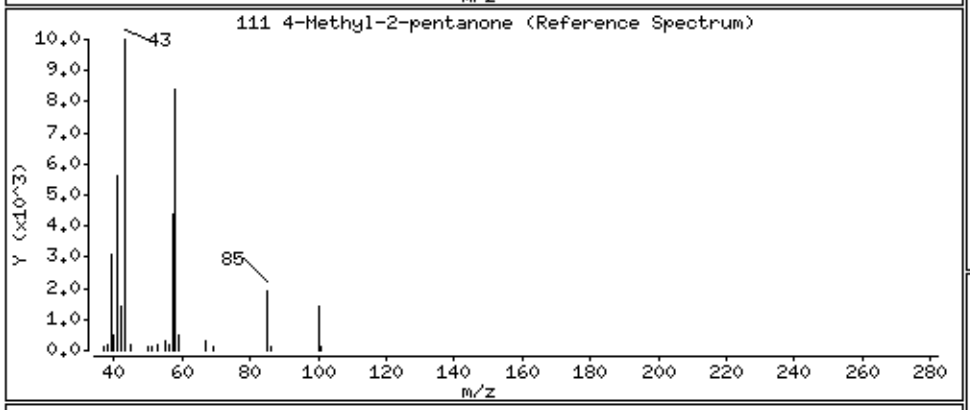
Column diameter: 0.53

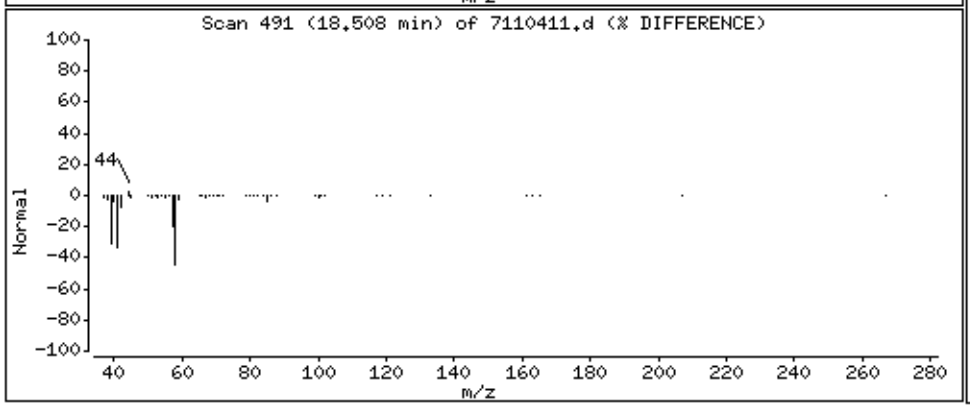
111 4-Methyl-2-pentanone

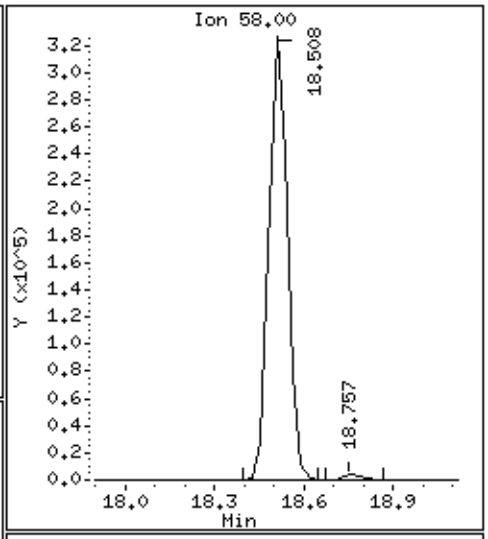
Concentration: 56.245 PPBV

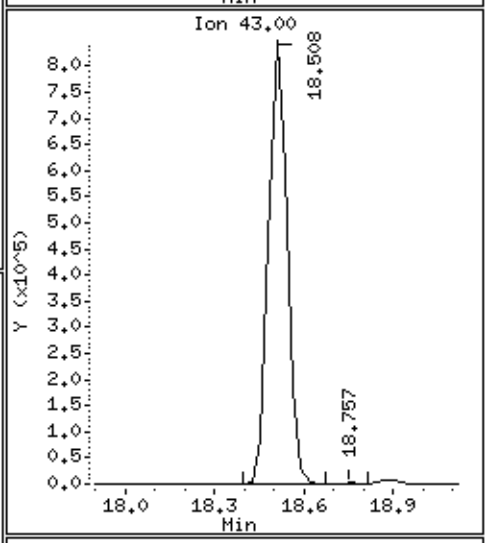


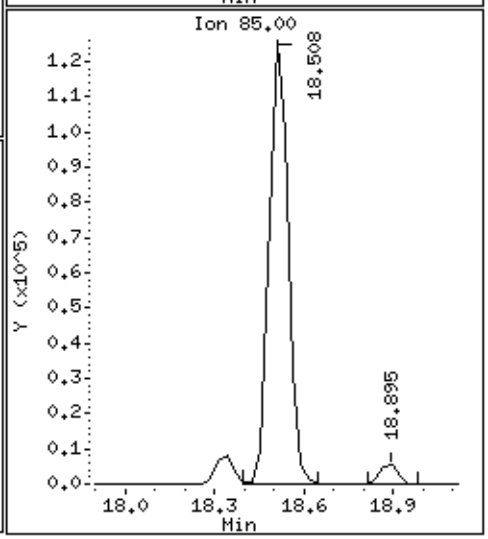












Data File: /chem/msd7.i/7-04nova.b/7110411.d

Date : 04-NOV-2007 23:58

Client ID: LCS-1

Instrument: msd7.i

Sample Info: 50mL #1443-302

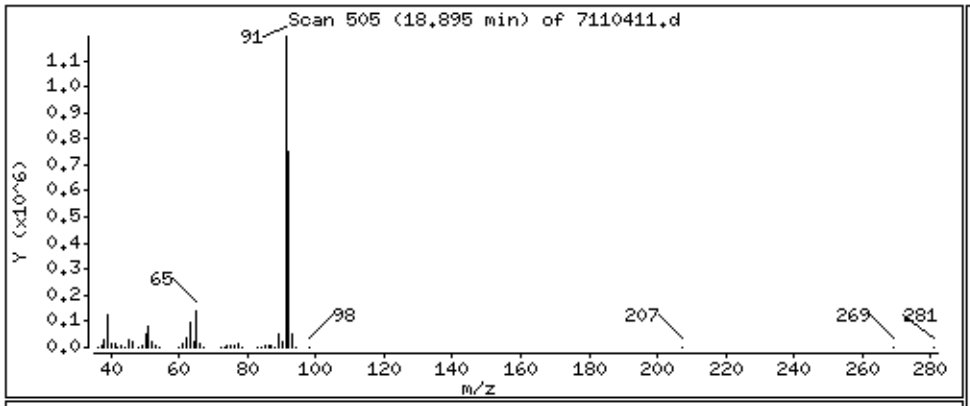
Operator: ab

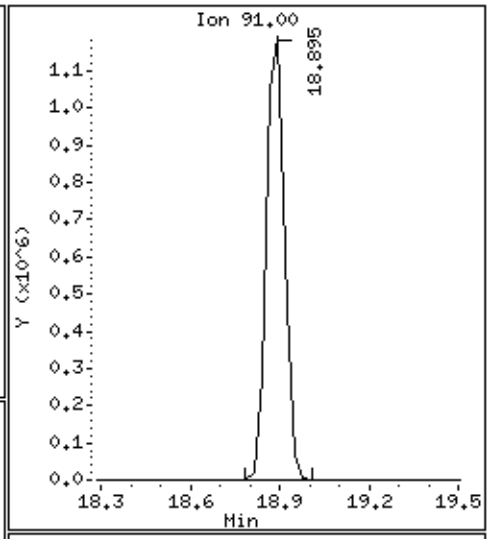
Column phase: RTx-624

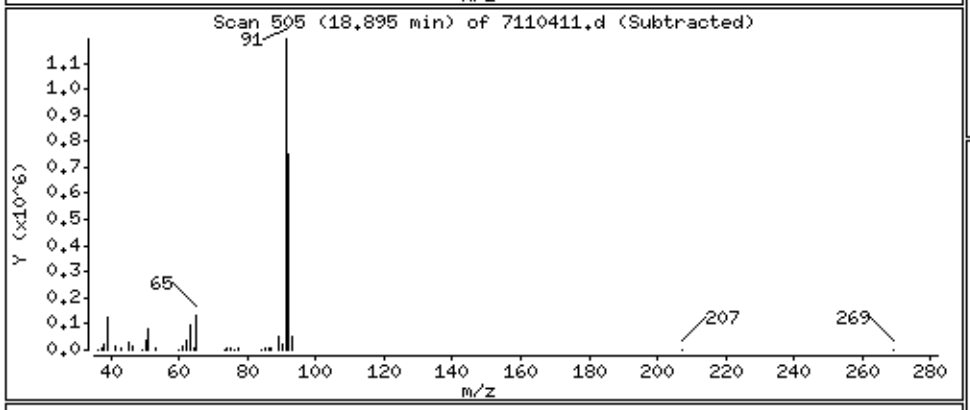
Column diameter: 0.53

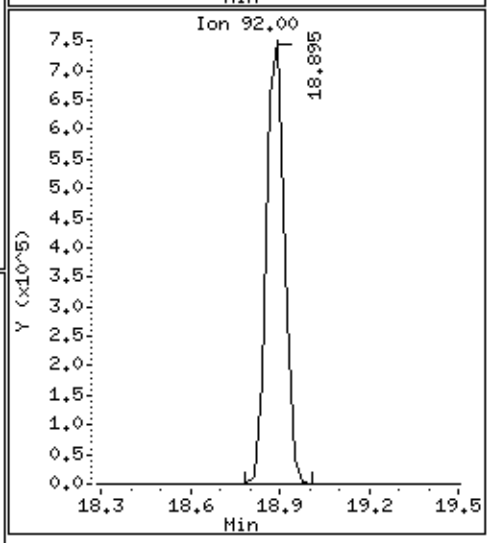
114 Toluene

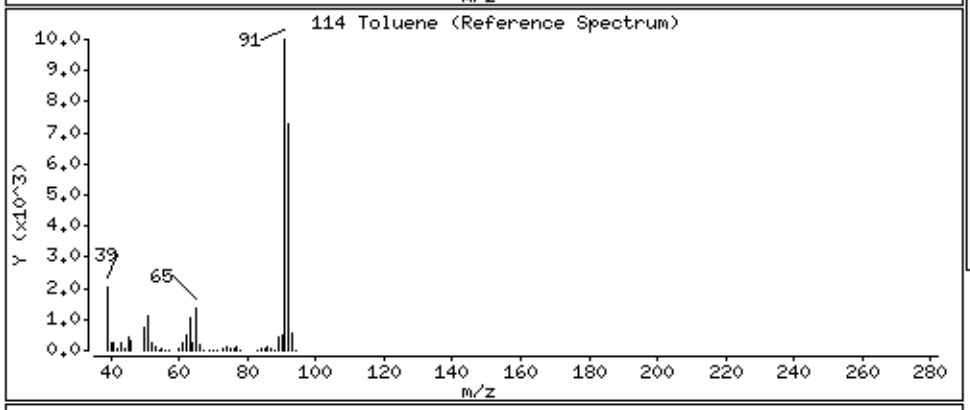
Concentration: 55.086 PPBV

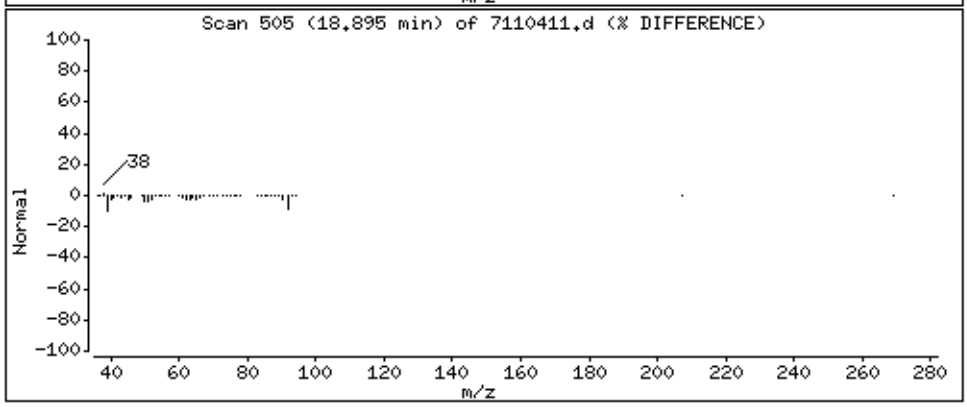












Data File: /chem/msd7.i/7-04nova.b/7110411.d

Date : 04-NOV-2007 23:58

Client ID: LCS-1

Instrument: msd7.i

Sample Info: 50mL #1443-302

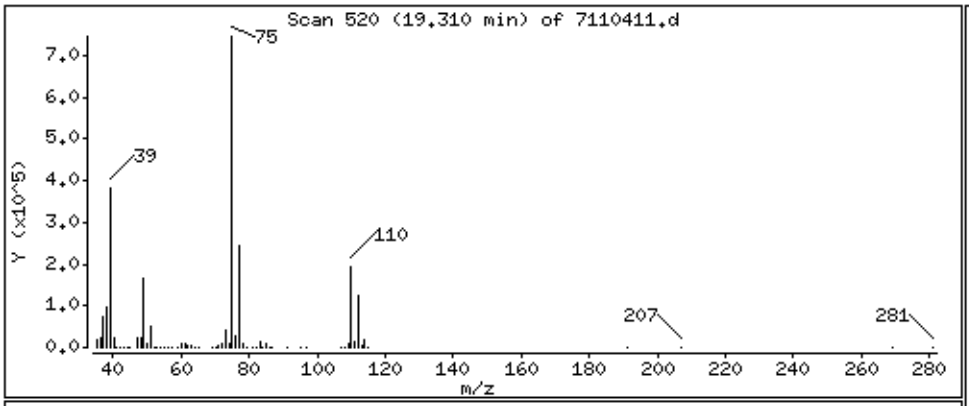
Operator: ab

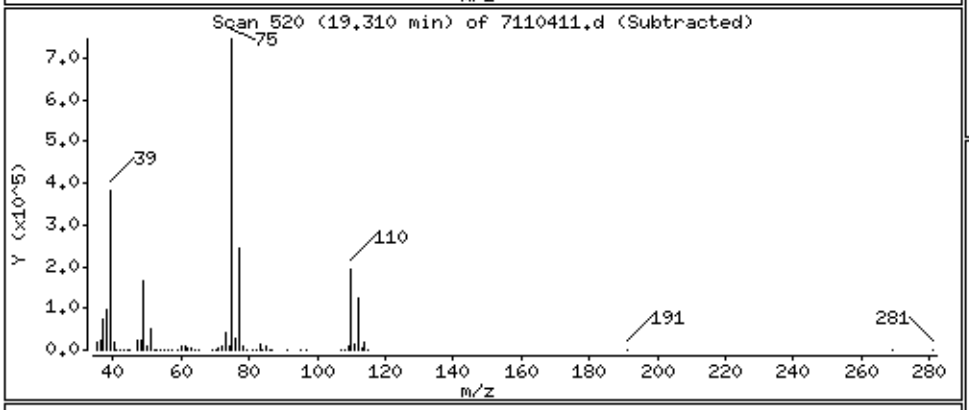
Column phase: RTx-624

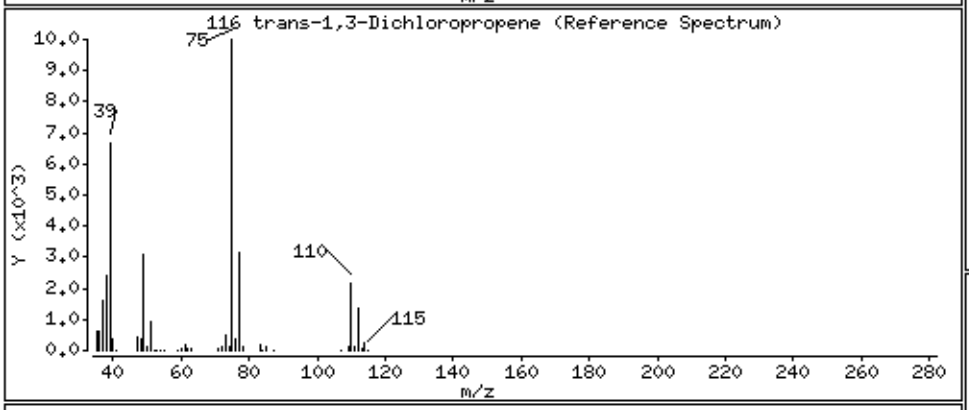
Column diameter: 0.53

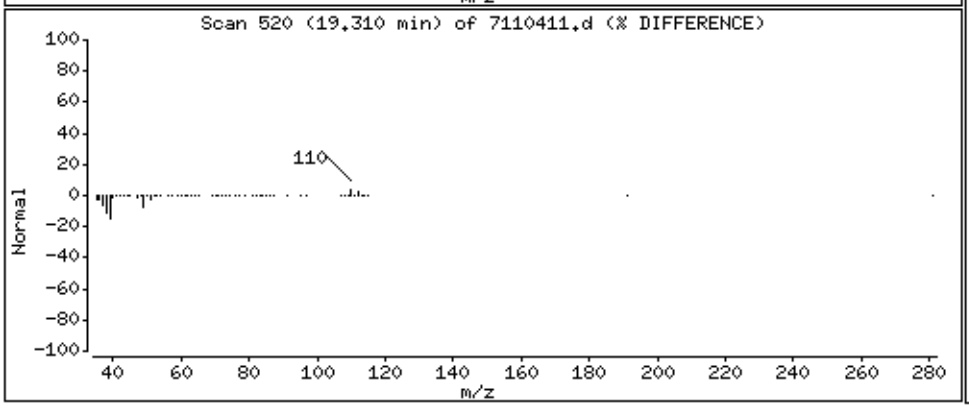
116 trans-1,3-Dichloropropene

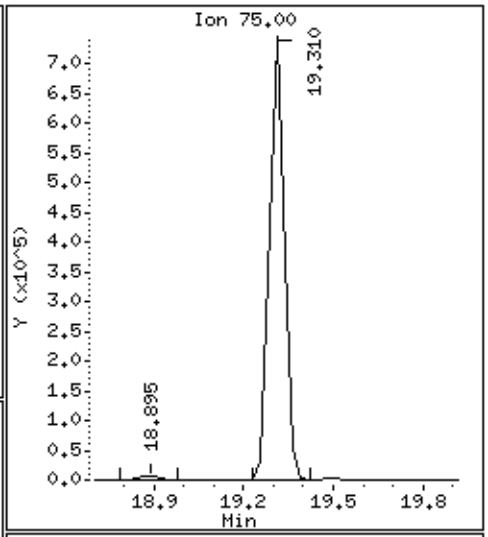
Concentration: 53.750 PPBV

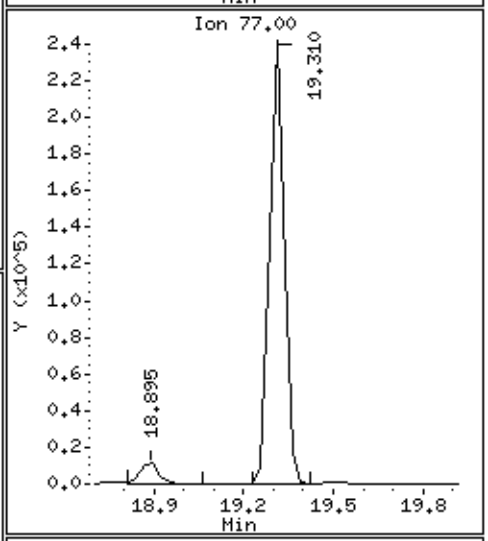


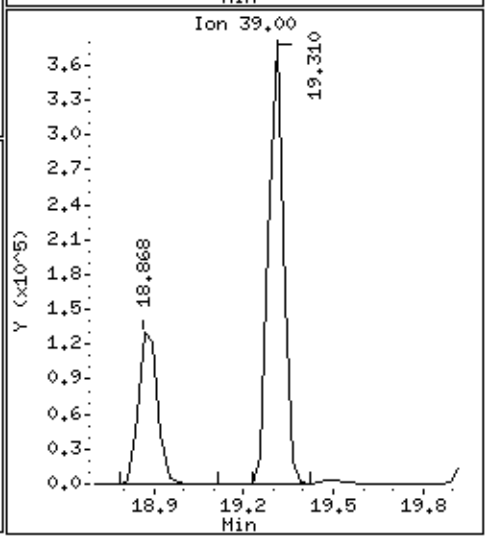












Data File: /chem/msd7.i/7-04nova.b/7110411.d

Date : 04-NOV-2007 23:58

Client ID: LCS-1

Instrument: msd7.i

Sample Info: 50mL #1443-302

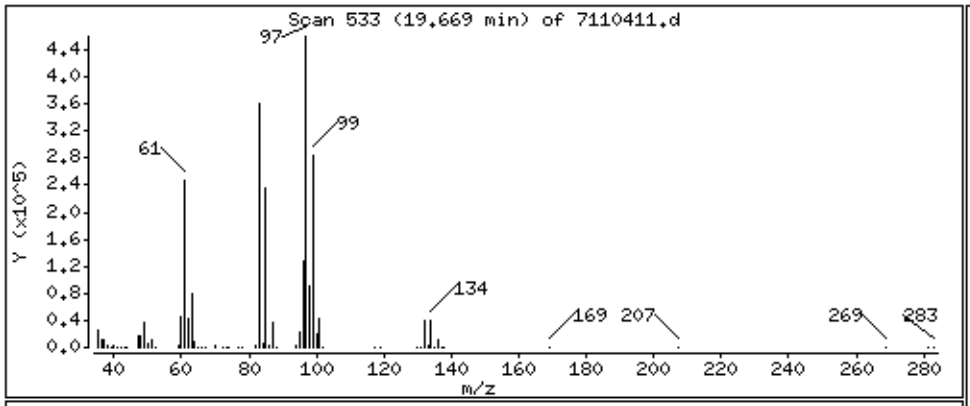
Operator: ab

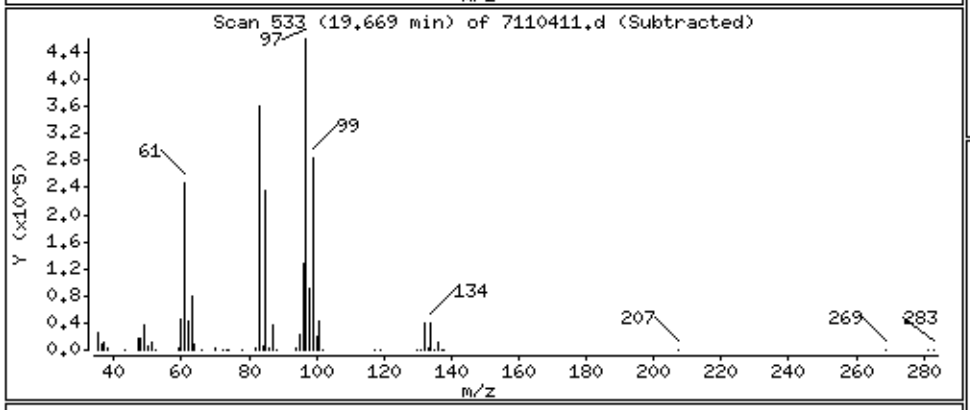
Column phase: RTx-624

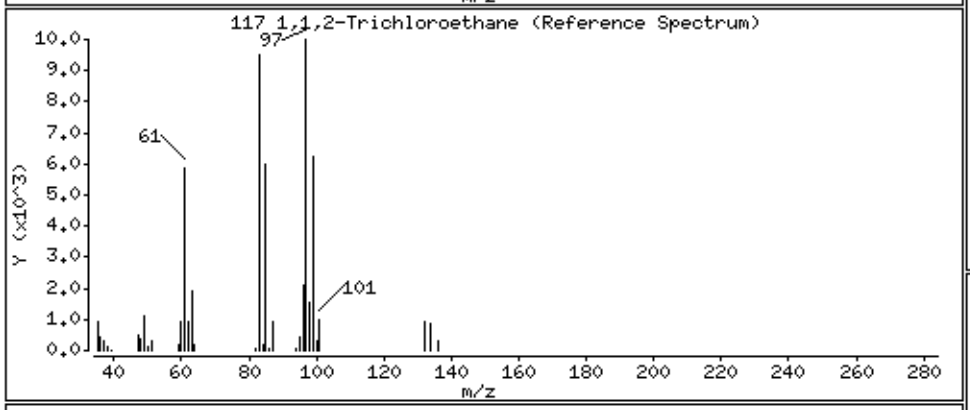
Column diameter: 0.53

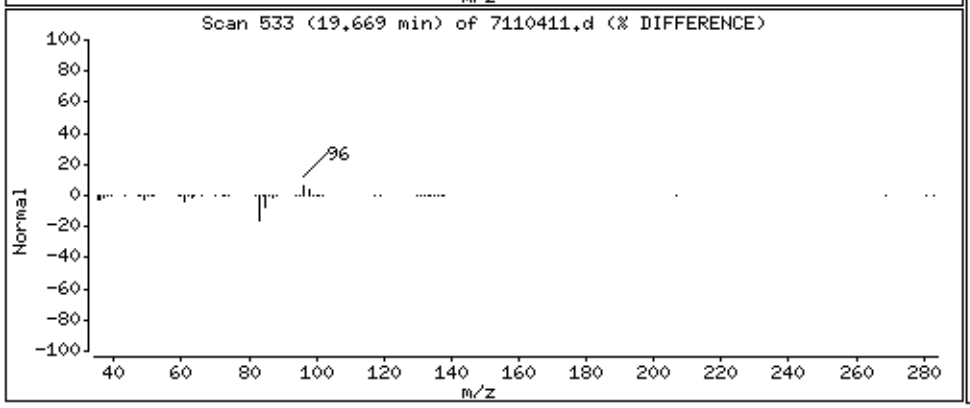
117 1,1,2-Trichloroethane

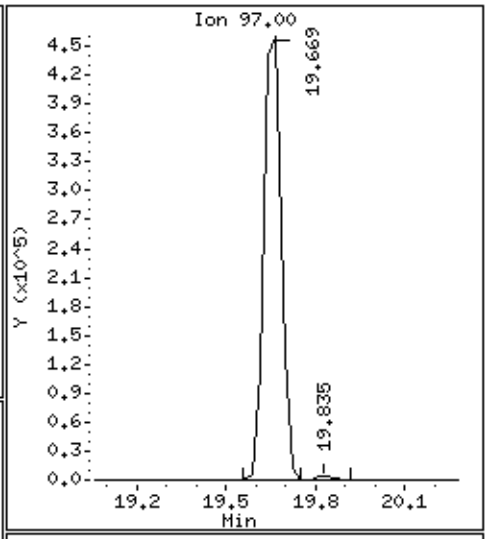
Concentration: 54.940 PPBV

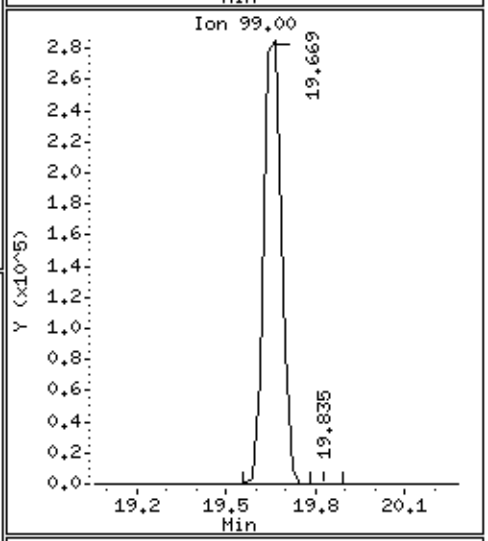


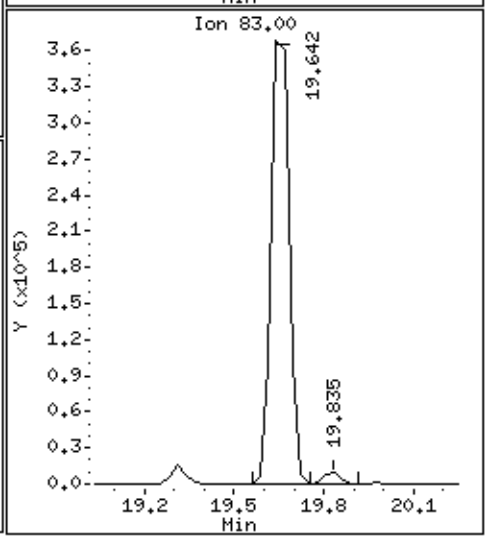












Data File: /chem/msd7.i/7-04nova.b/7110411.d

Date : 04-NOV-2007 23:58

Client ID: LCS-1

Instrument: msd7.i

Sample Info: 50mL #1443-302

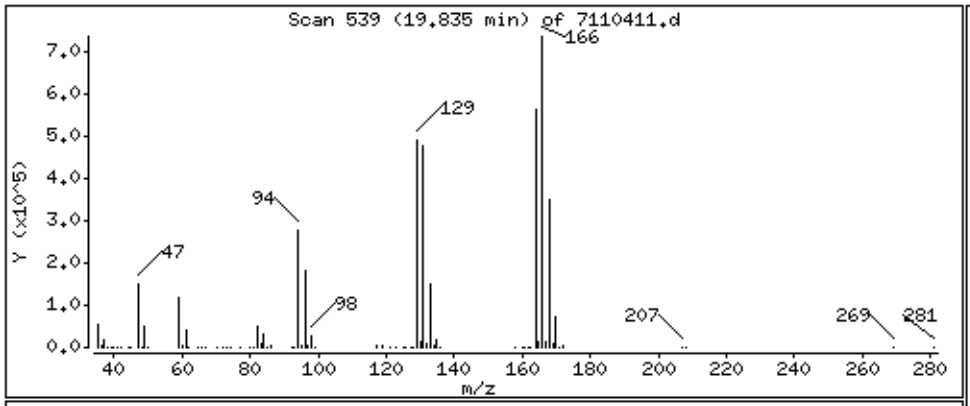
Operator: ab

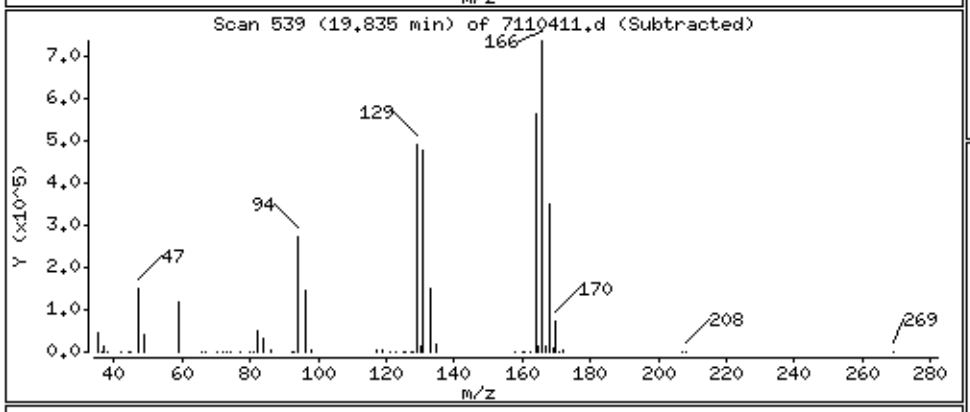
Column phase: RTx-624

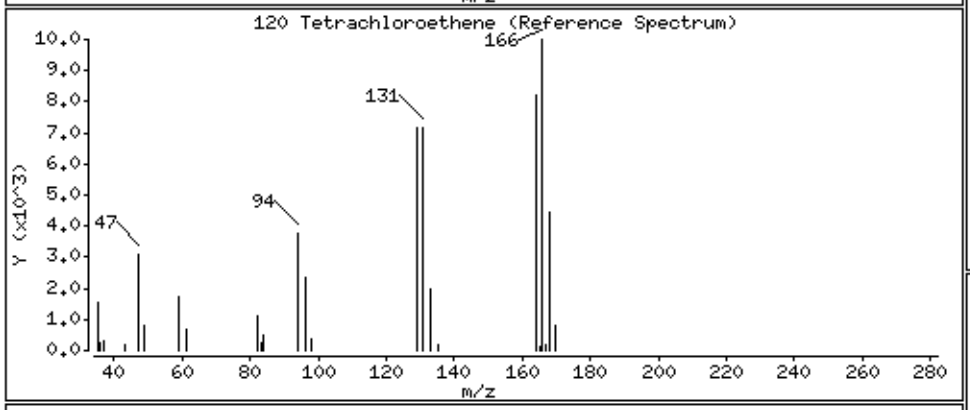
Column diameter: 0.53

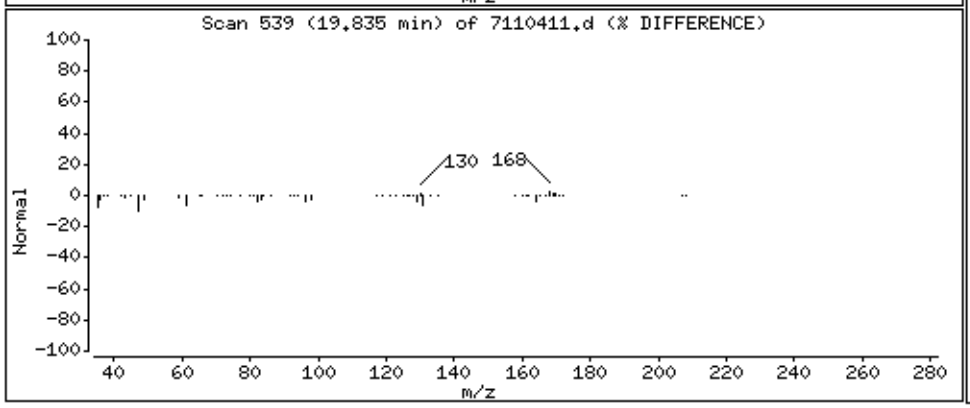
120 Tetrachloroethene

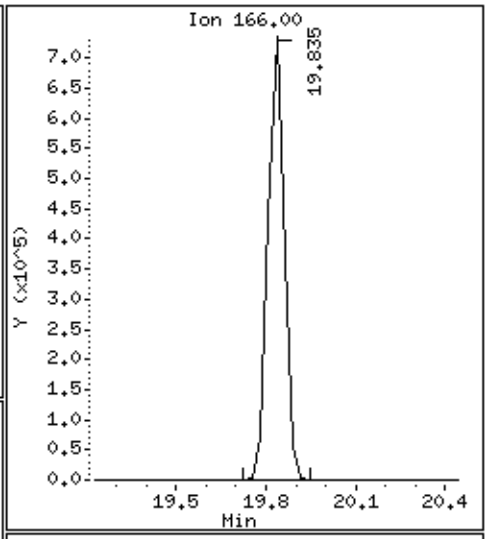
Concentration: 61.274 PPBV

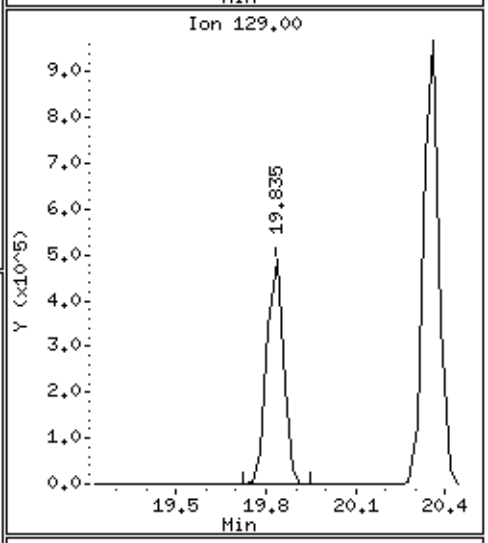


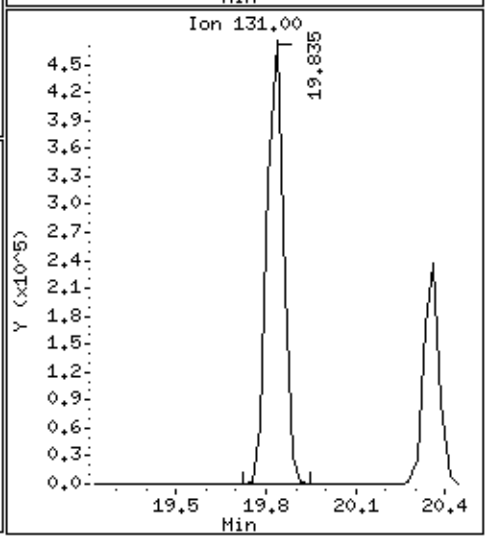












Data File: /chem/msd7.i/7-04nova.b/7110411.d

Date : 04-NOV-2007 23:58

Client ID: LCS-1

Instrument: msd7.i

Sample Info: 50mL #1443-302

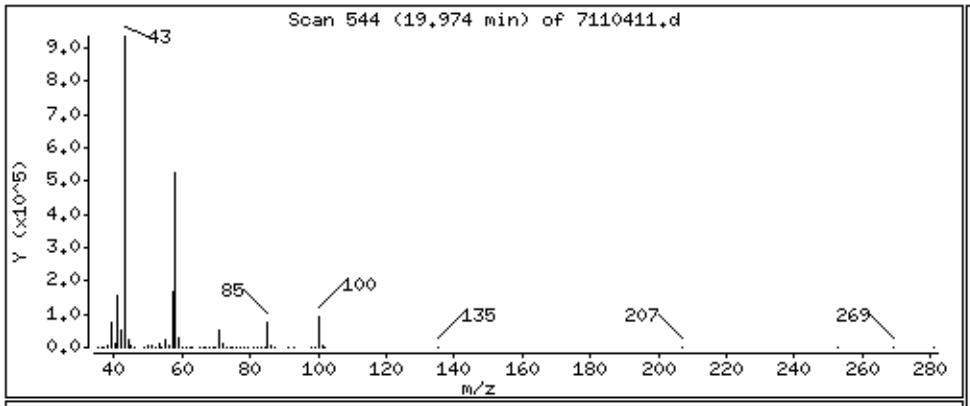
Operator: ab

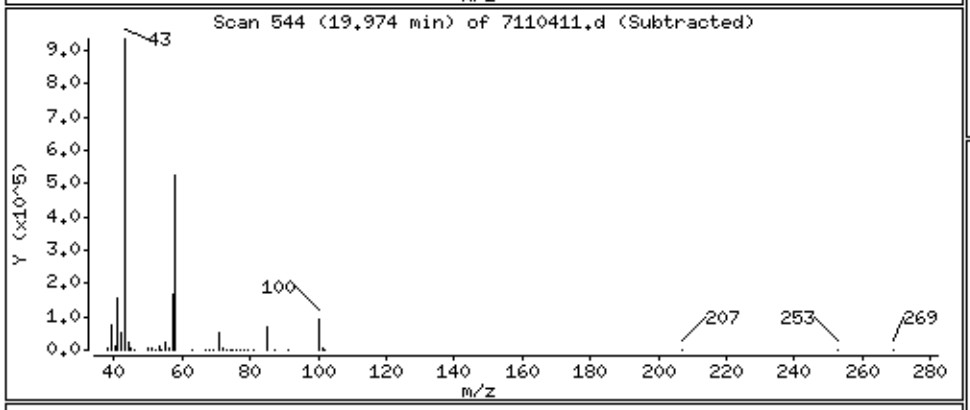
Column phase: RTx-624

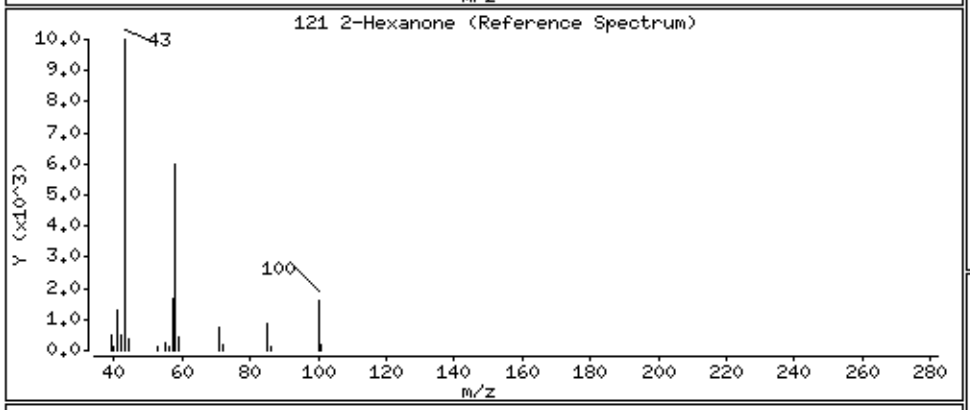
Column diameter: 0.53

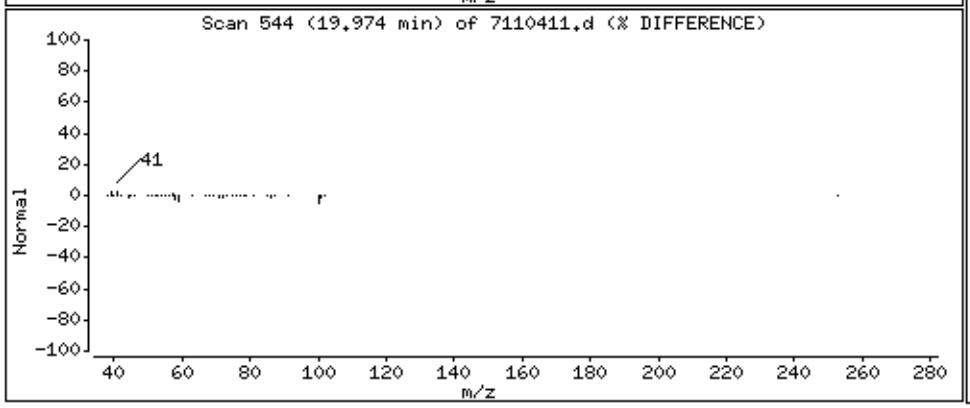
121 2-Hexanone

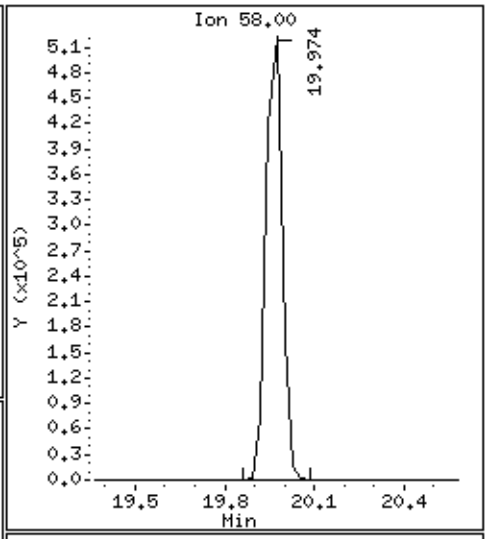
Concentration: 53.056 PPBV

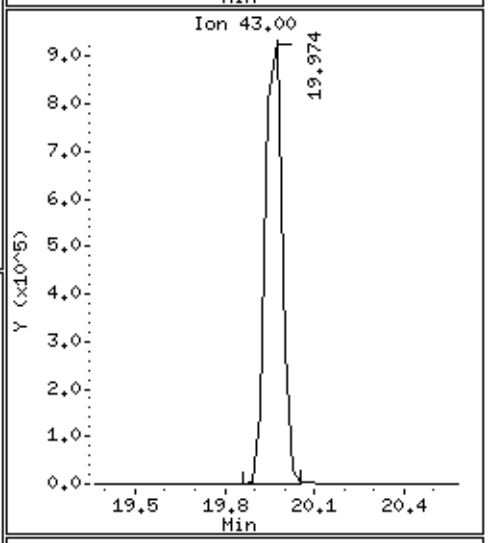


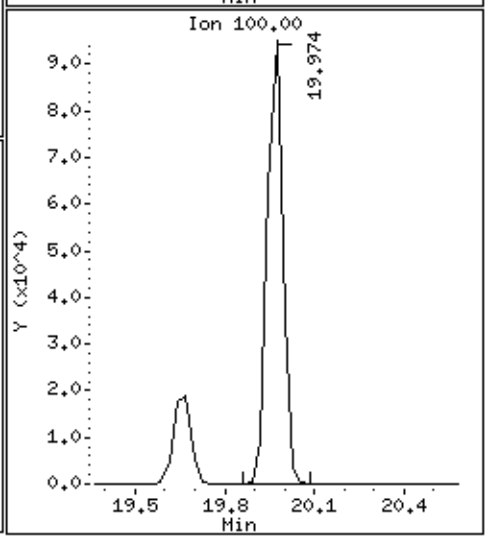












Data File: /chem/msd7.i/7-04nova.b/7110411.d

Date : 04-NOV-2007 23:58

Client ID: LCS-1

Instrument: msd7.i

Sample Info: 50mL #1443-302

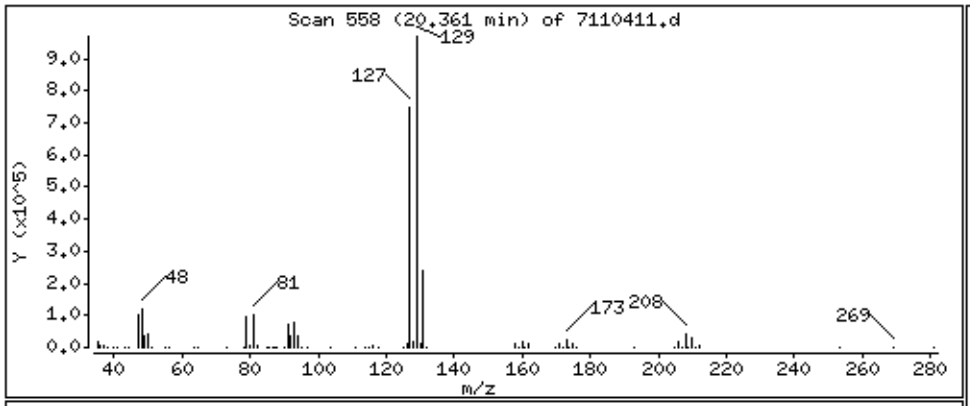
Operator: ab

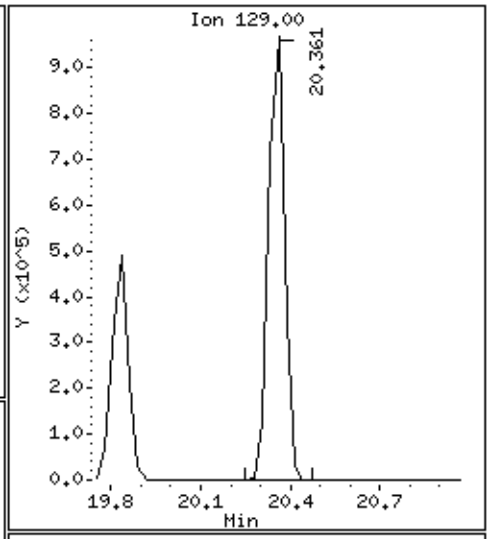
Column phase: RTx-624

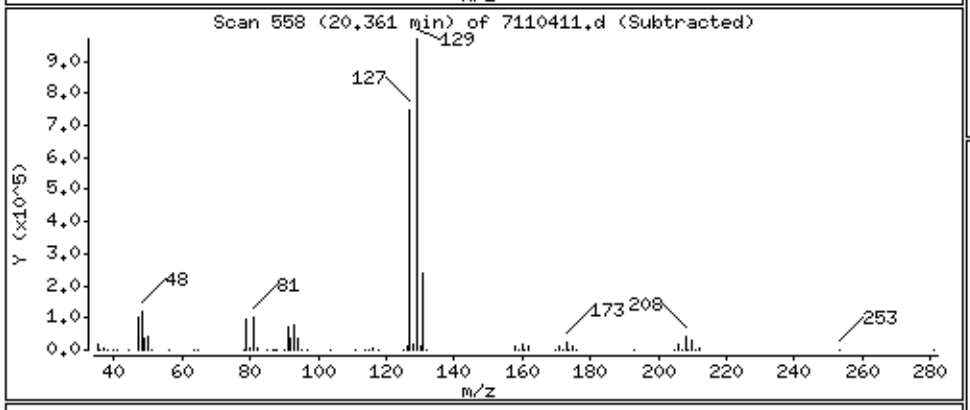
Column diameter: 0.53

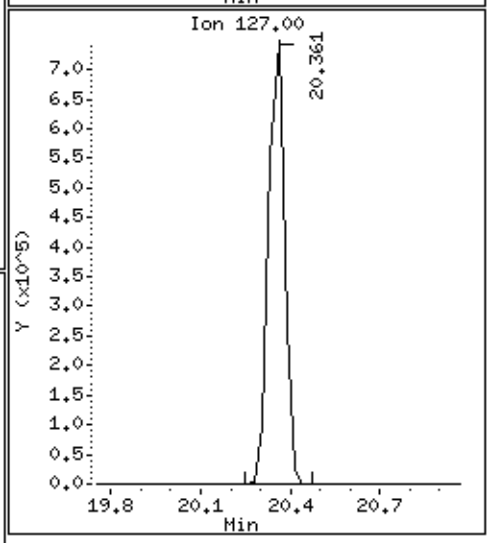
122 Dibromochloromethane

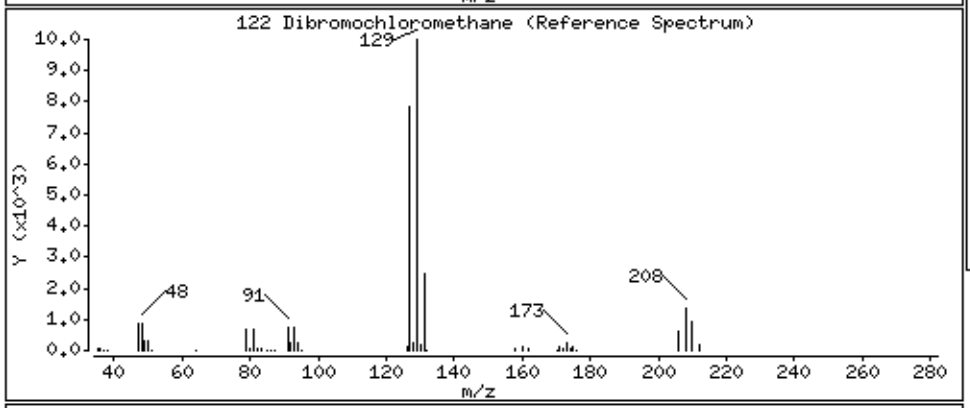
Concentration: 58.813 PPBV

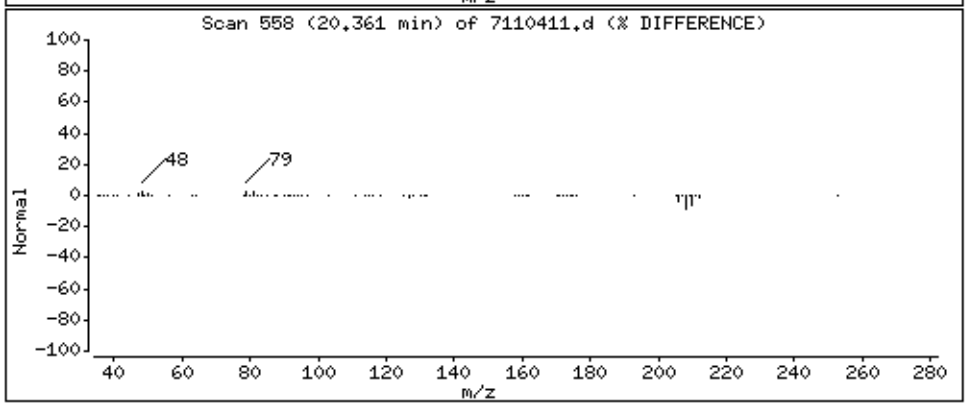












Data File: /chem/msd7.i/7-04nova.b/7110411.d

Date : 04-NOV-2007 23:58

Client ID: LCS-1

Instrument: msd7.i

Sample Info: 50mL #1443-302

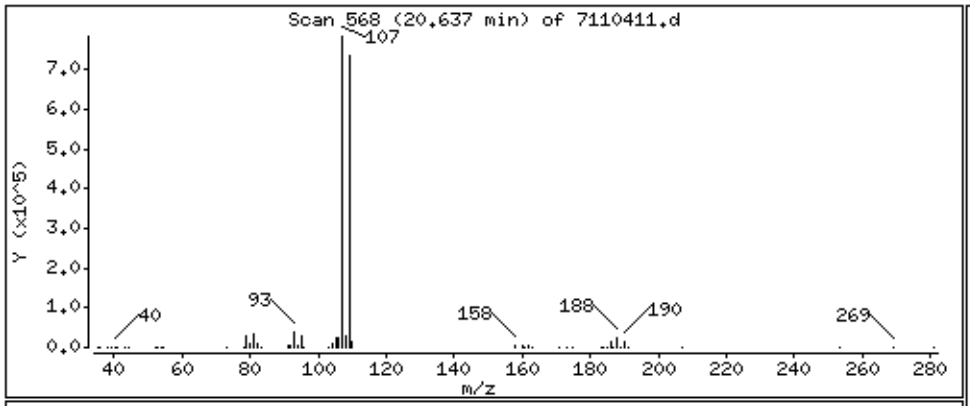
Operator: ab

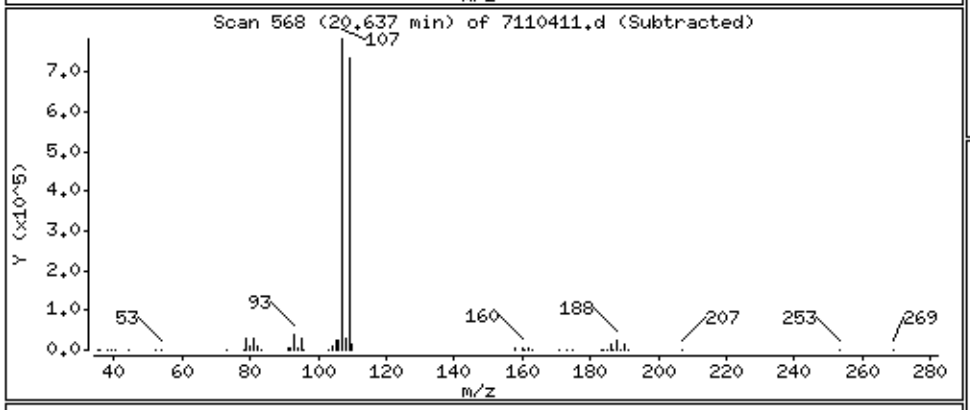
Column phase: RTx-624

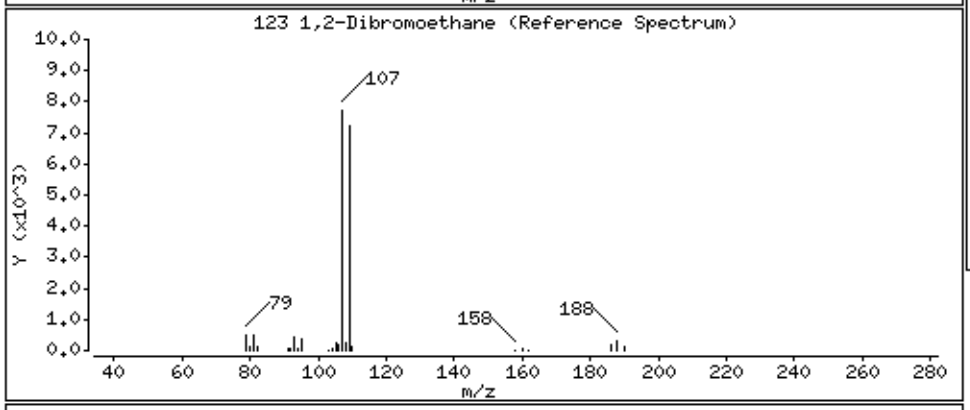
Column diameter: 0.53

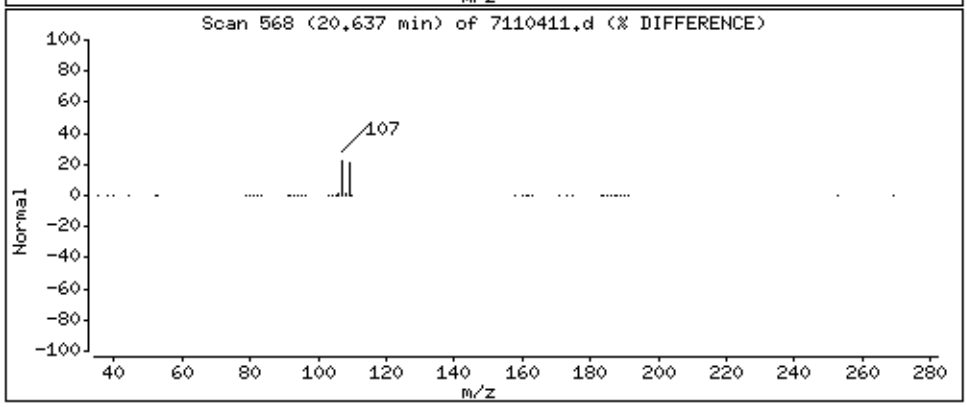
123 1,2-Dibromoethane

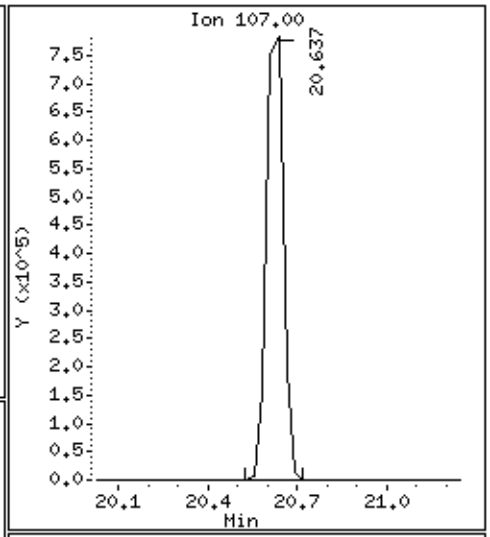
Concentration: 55.177 PPBV

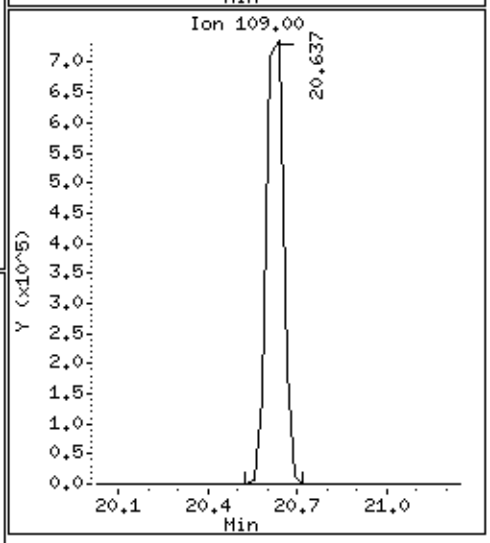












Data File: /chem/msd7.i/7-04nova.b/7110411.d

Date : 04-NOV-2007 23:58

Client ID: LCS-1

Instrument: msd7.i

Sample Info: 50mL #1443-302

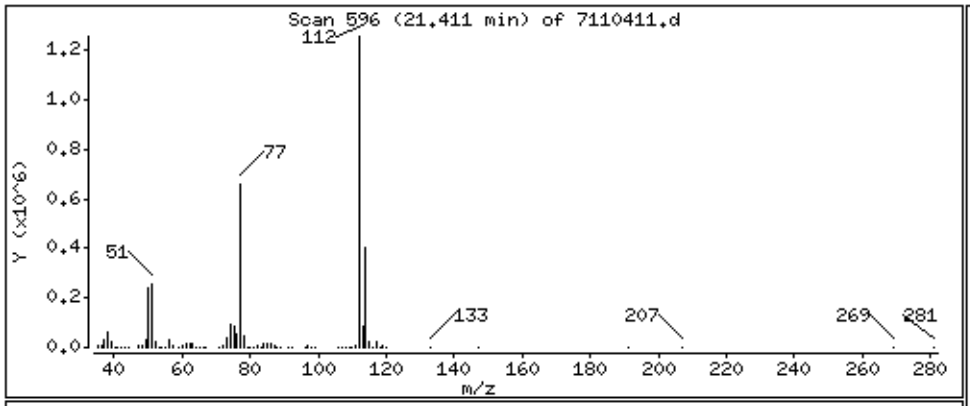
Operator: ab

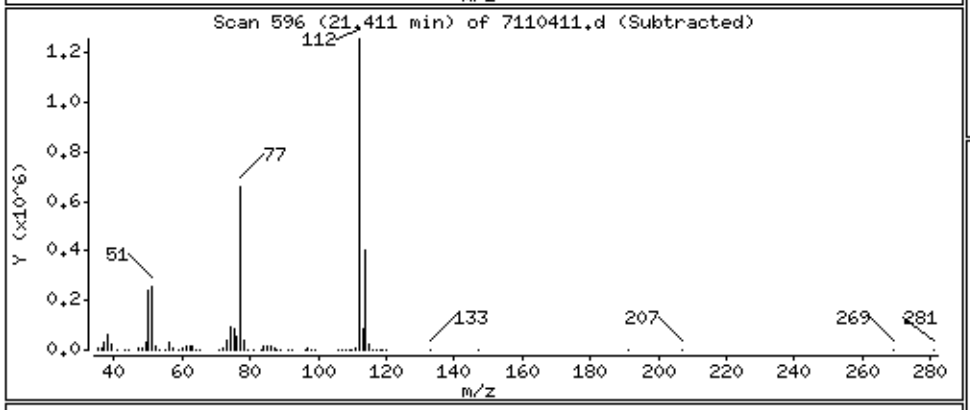
Column phase: RTx-624

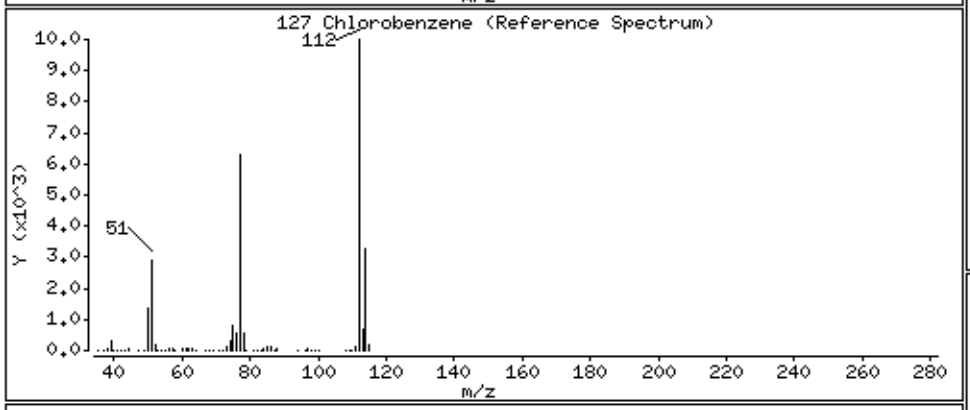
Column diameter: 0.53

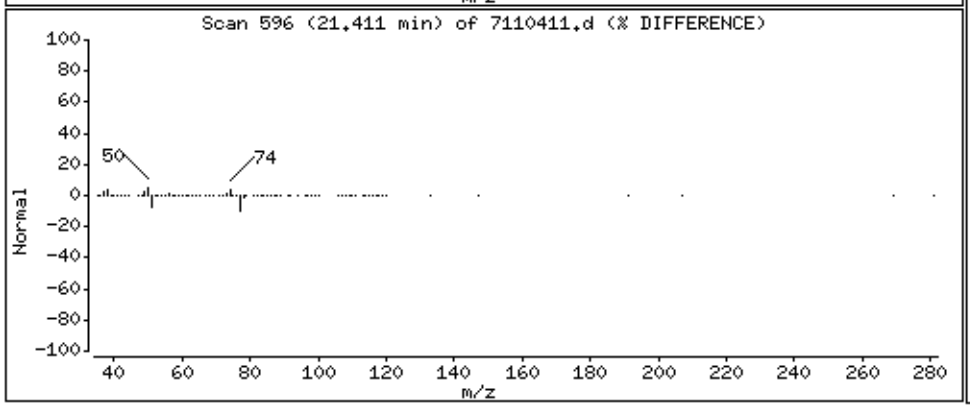
127 Chlorobenzene

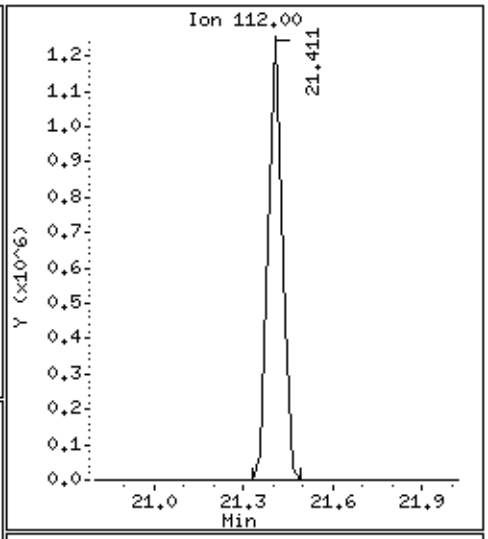
Concentration: 54.003 PPBV

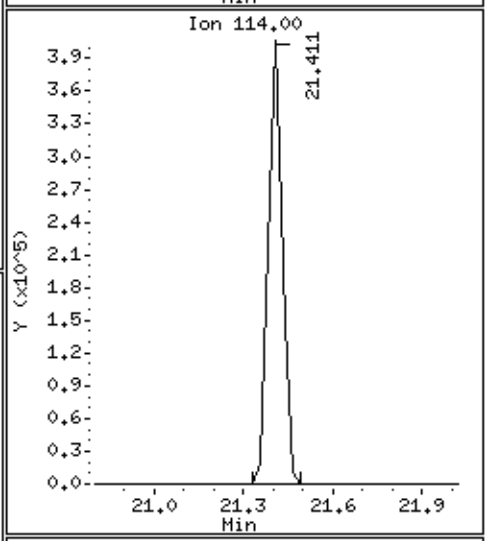


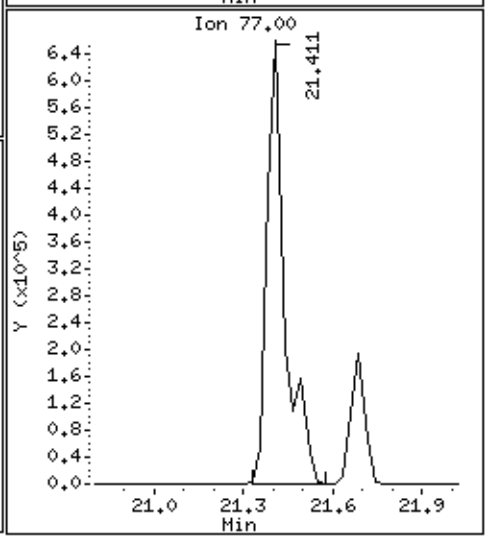












Data File: /chem/msd7.i/7-04nova.b/7110411.d

Date : 04-NOV-2007 23:58

Client ID: LCS-1

Instrument: msd7.i

Sample Info: 50mL #1443-302

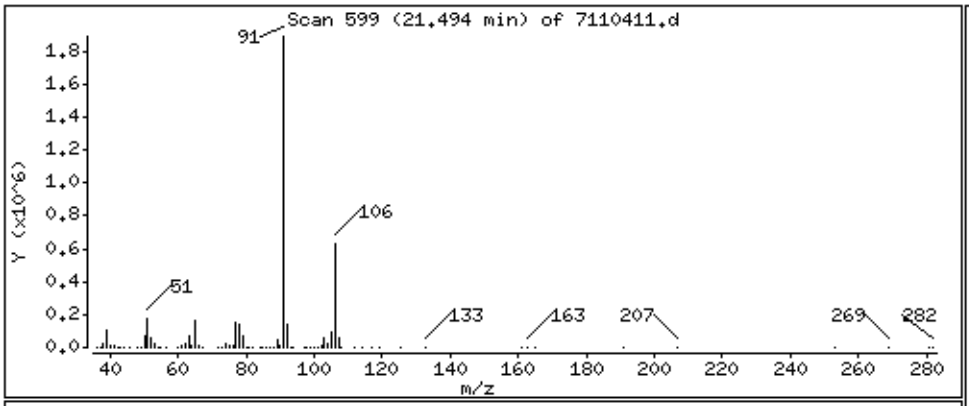
Operator: ab

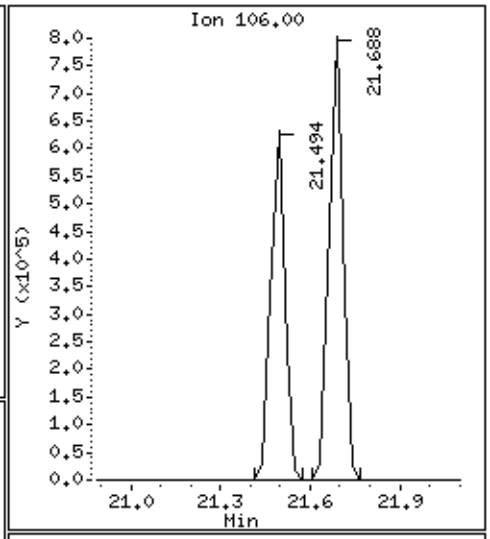
Column phase: RTx-624

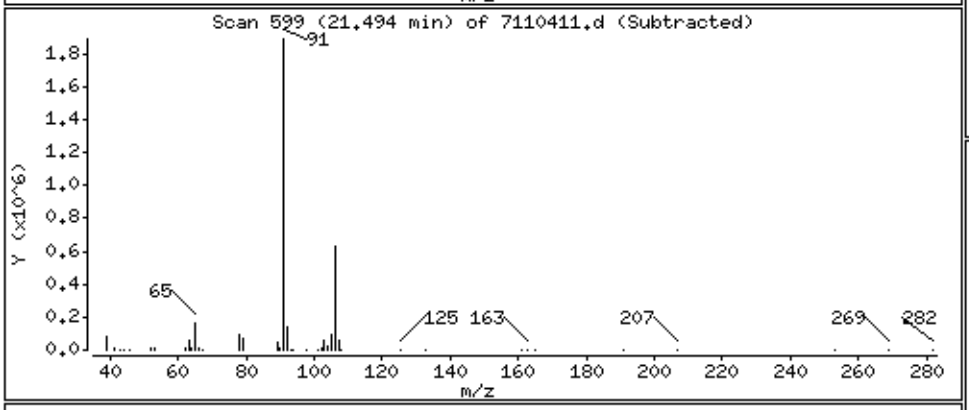
Column diameter: 0.53

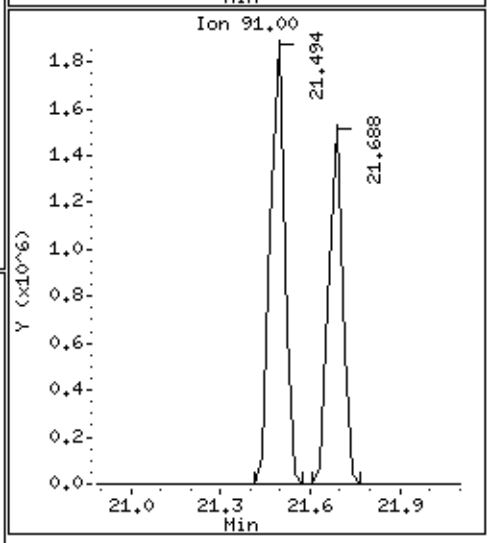
128 Ethyl Benzene

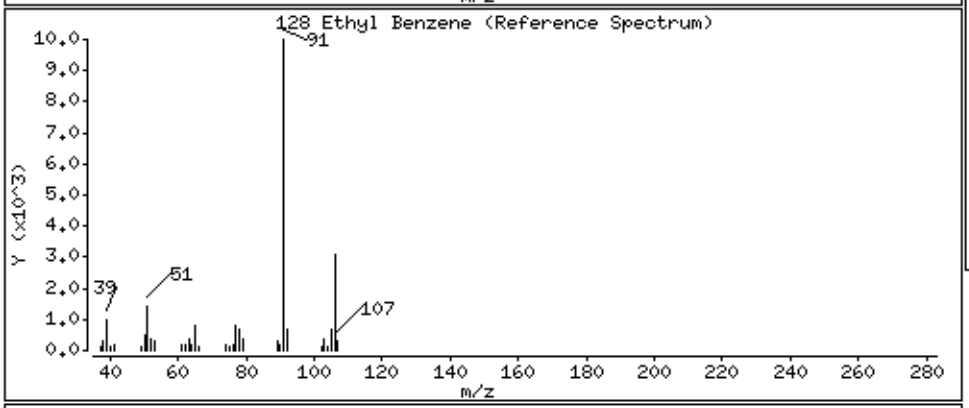
Concentration: 53.119 PPBV

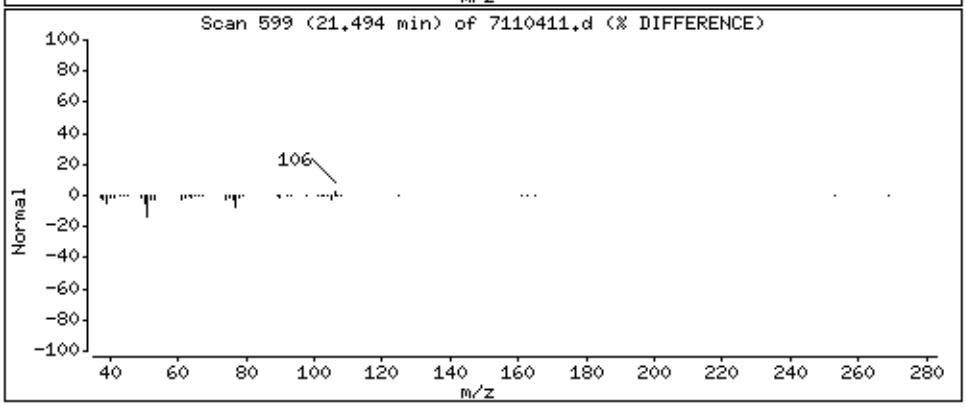












Data File: /chem/msd7.i/7-04nova.b/7110411.d

Date : 04-NOV-2007 23:58

Client ID: LCS-1

Instrument: msd7.i

Sample Info: 50mL #1443-302

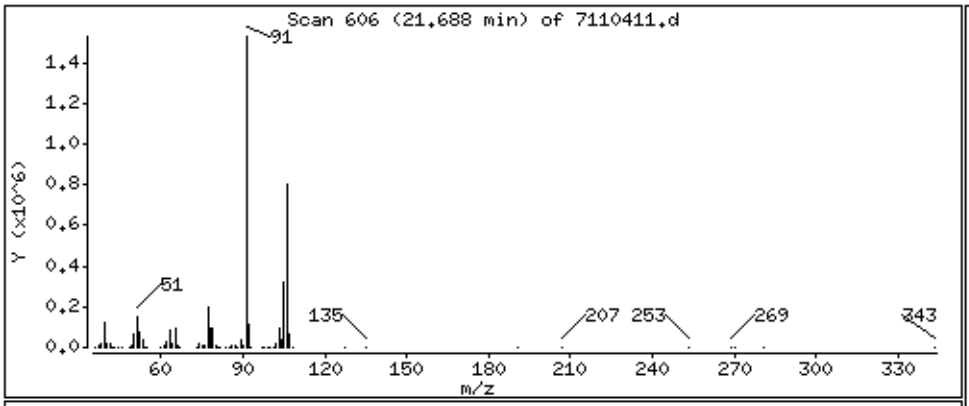
Operator: ab

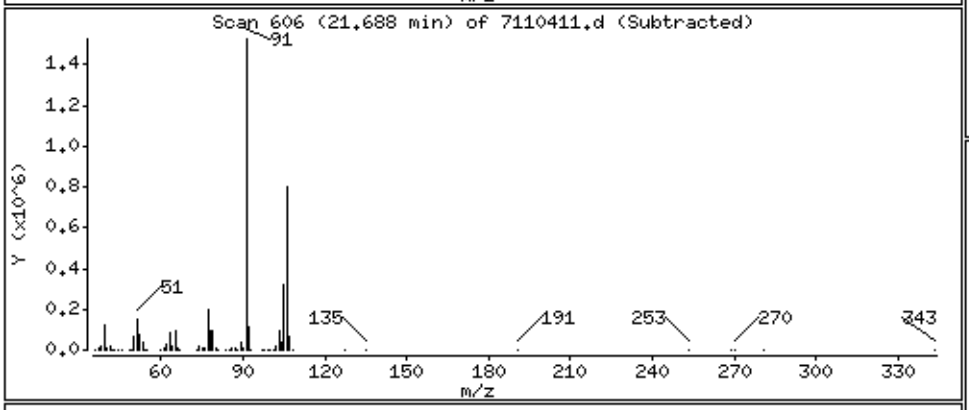
Column phase: RTx-624

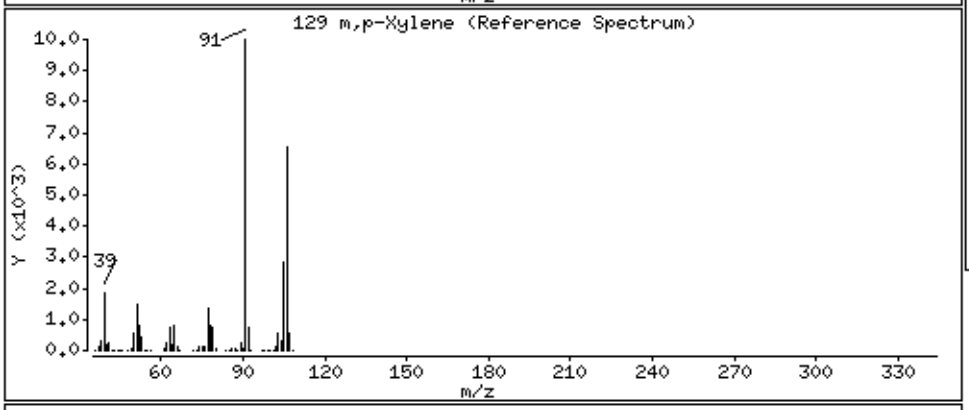
Column diameter: 0.53

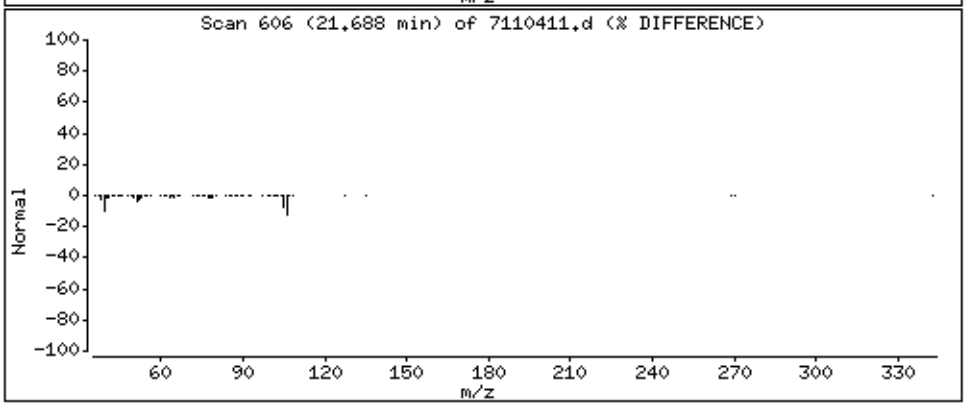
129 m,p-Xylene

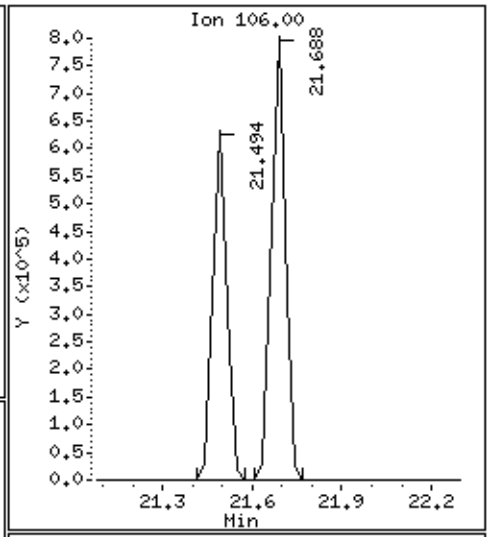
Concentration: 53.268 PPBV

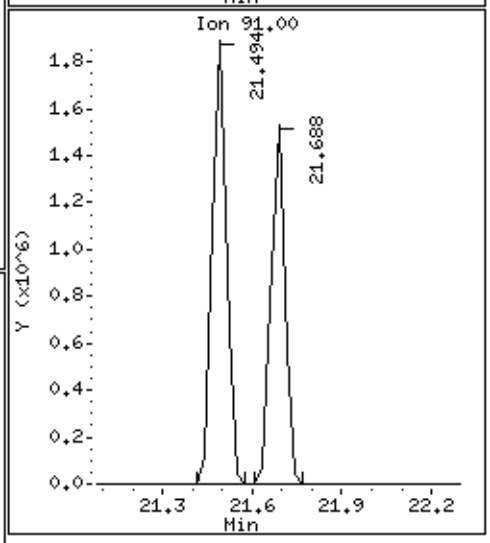












Data File: /chem/msd7.i/7-04nova.b/7110411.d

Date : 04-NOV-2007 23:58

Client ID: LCS-1

Instrument: msd7.i

Sample Info: 50mL #1443-302

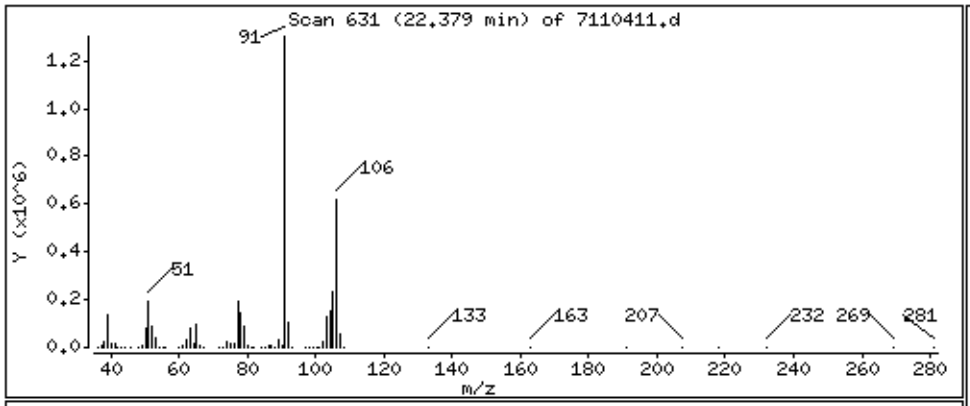
Operator: ab

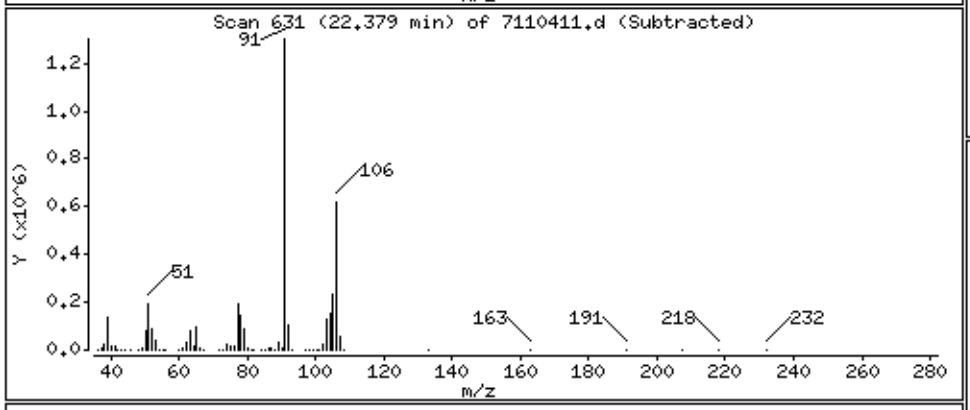
Column phase: RTx-624

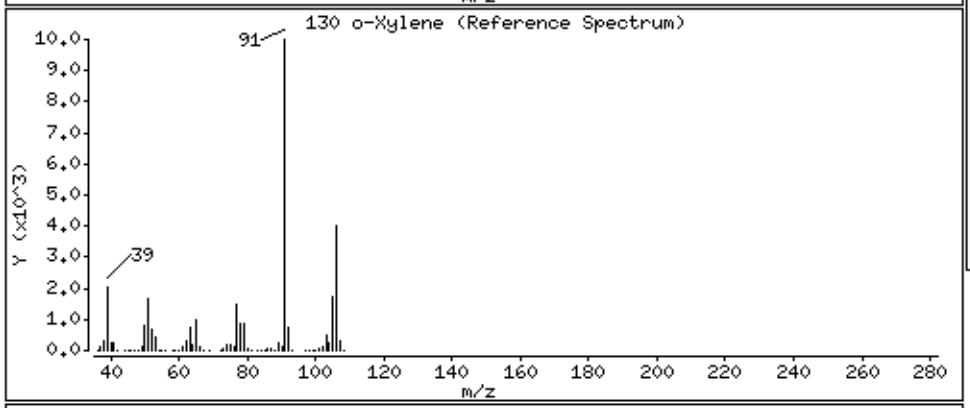
Column diameter: 0.53

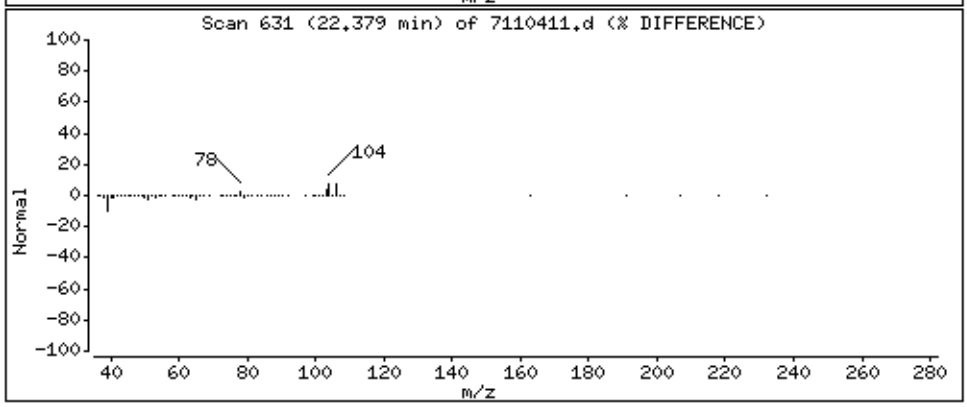
130 o-Xylene

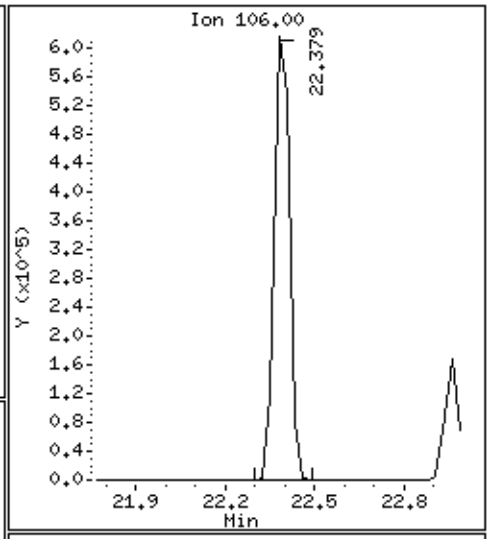
Concentration: 53.338 PPBV

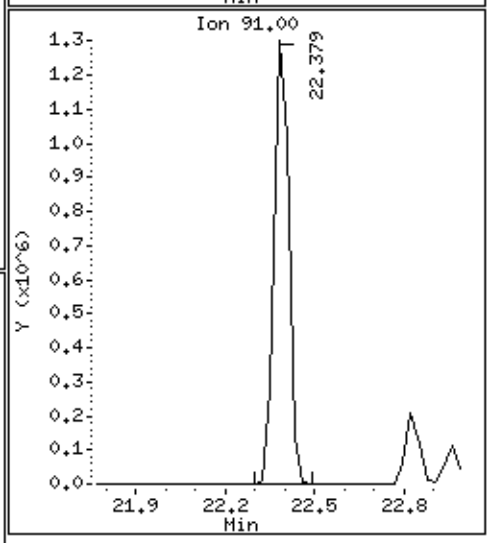












Data File: /chem/msd7.i/7-04nova.b/7110411.d

Date : 04-NOV-2007 23:58

Client ID: LCS-1

Instrument: msd7.i

Sample Info: 50mL #1443-302

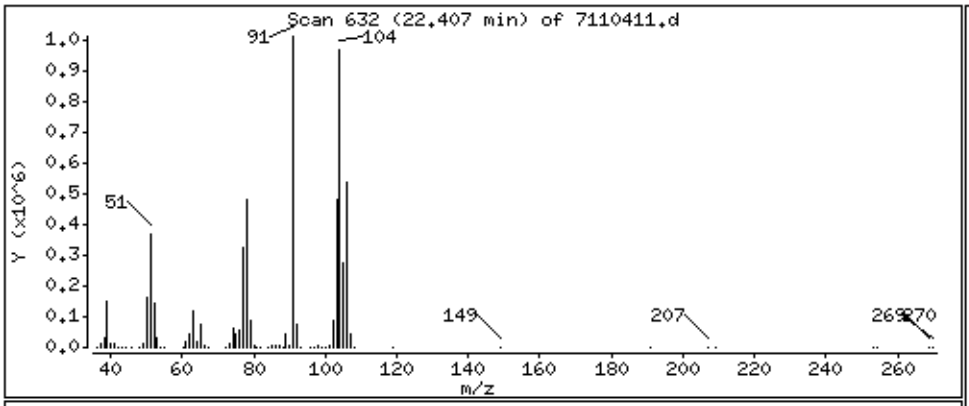
Operator: ab

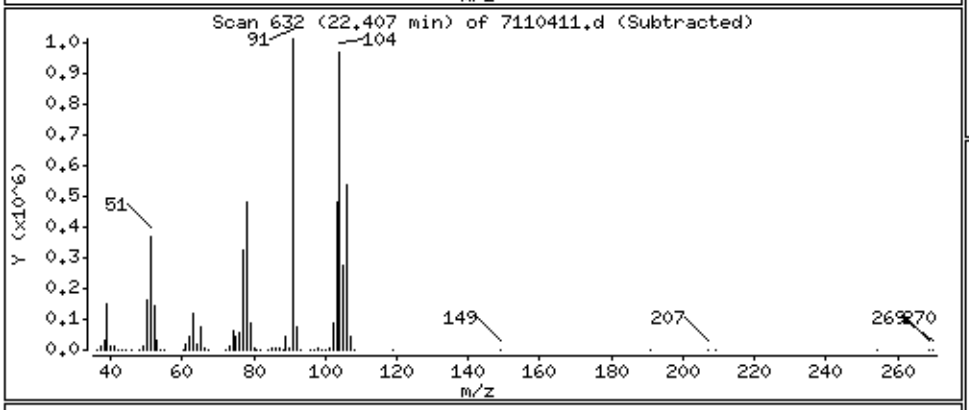
Column phase: RTx-624

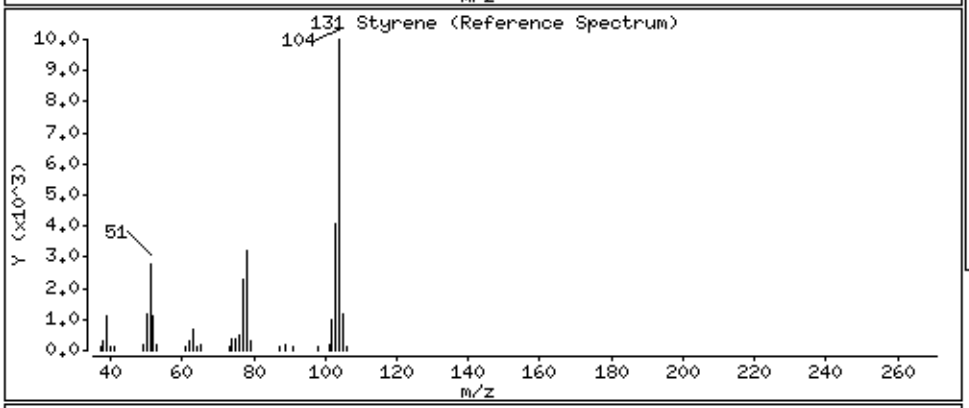
Column diameter: 0.53

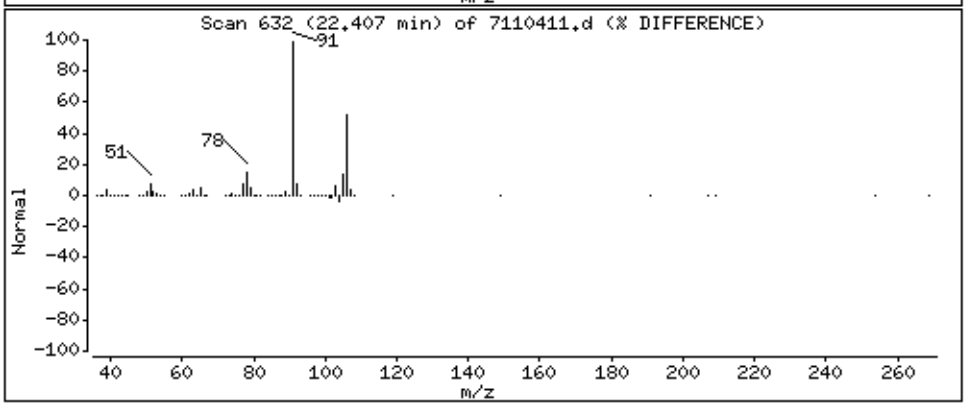
131 Styrene

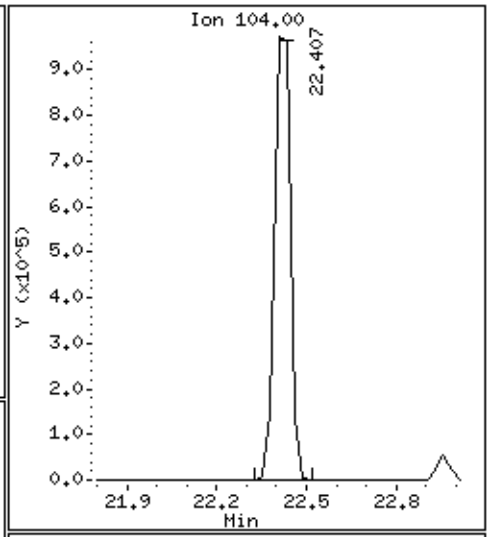
Concentration: 56.477 PPBV

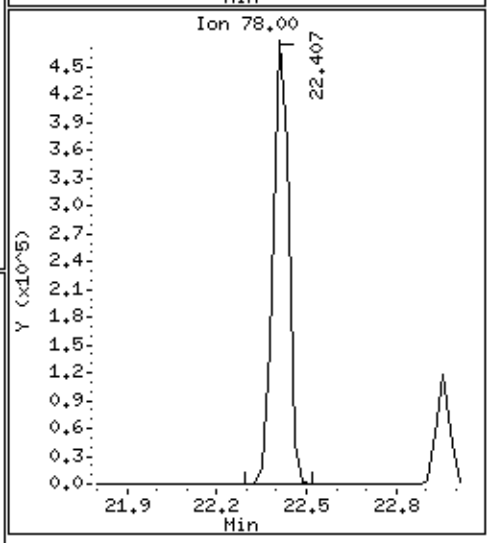












Data File: /chem/msd7.i/7-04nova.b/7110411.d

Date : 04-NOV-2007 23:58

Client ID: LCS-1

Instrument: msd7.i

Sample Info: 50mL #1443-302

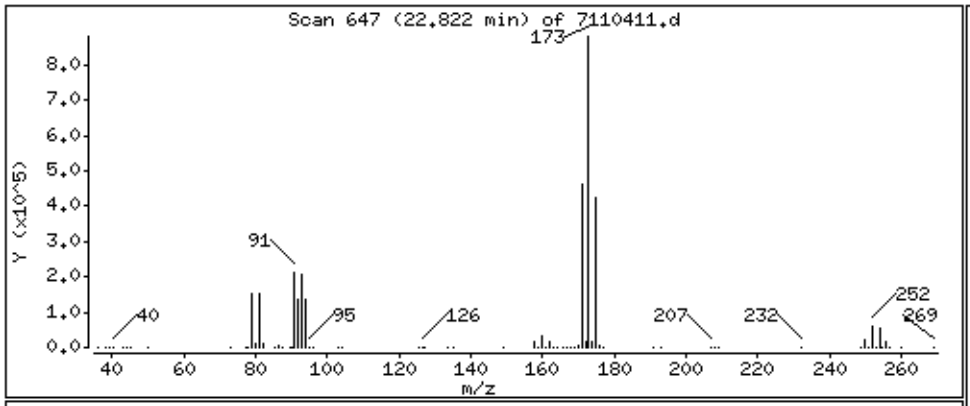
Operator: ab

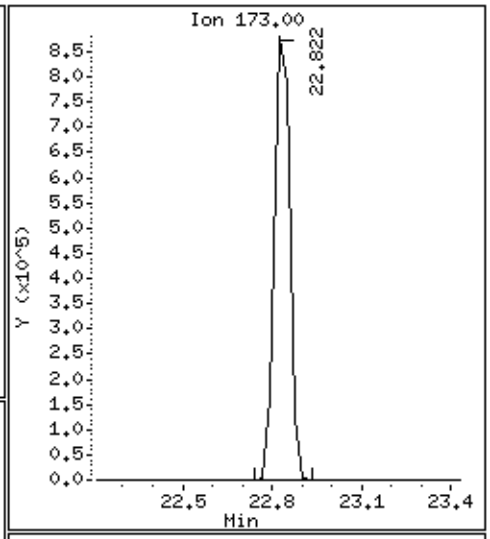
Column phase: RTx-624

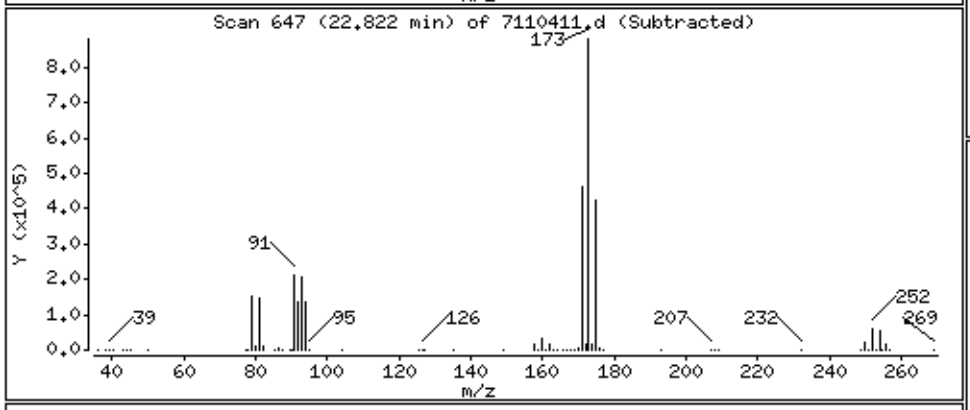
Column diameter: 0.53

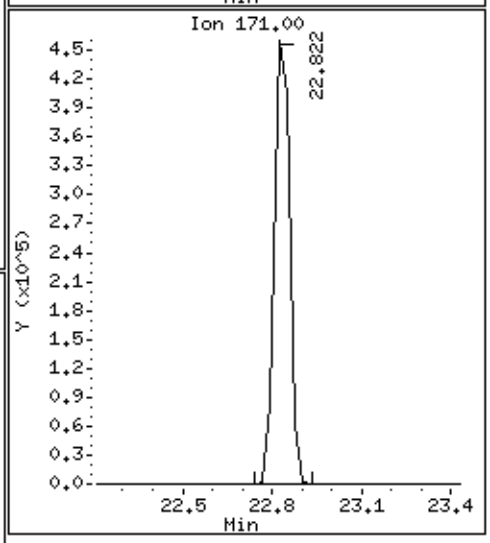
133 Bromoform

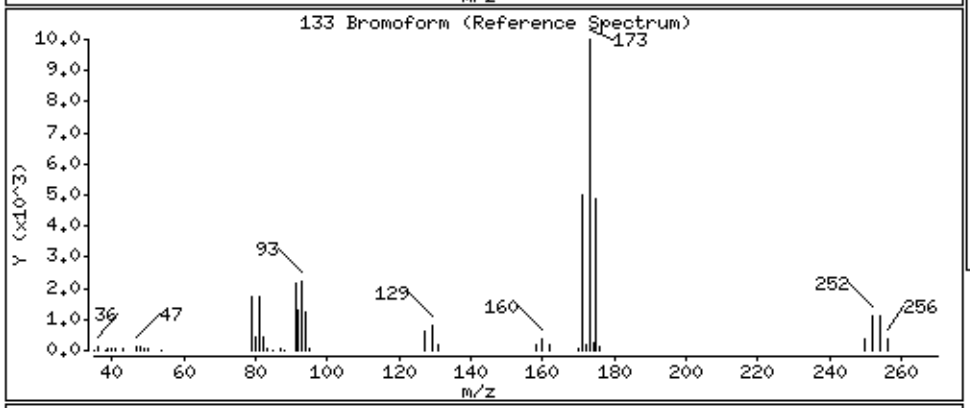
Concentration: 59.856 PPBV

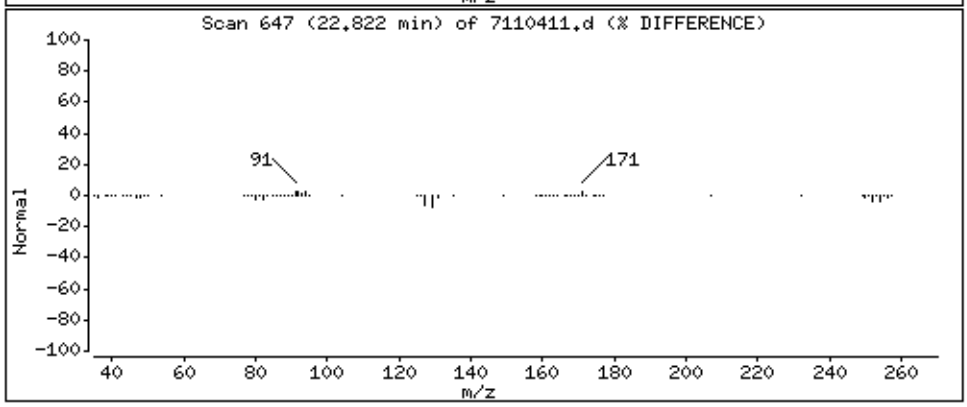












Data File: /chem/msd7.i/7-04nova.b/7110411.d

Date : 04-NOV-2007 23:58

Client ID: LCS-1

Instrument: msd7.i

Sample Info: 50mL #1443-302

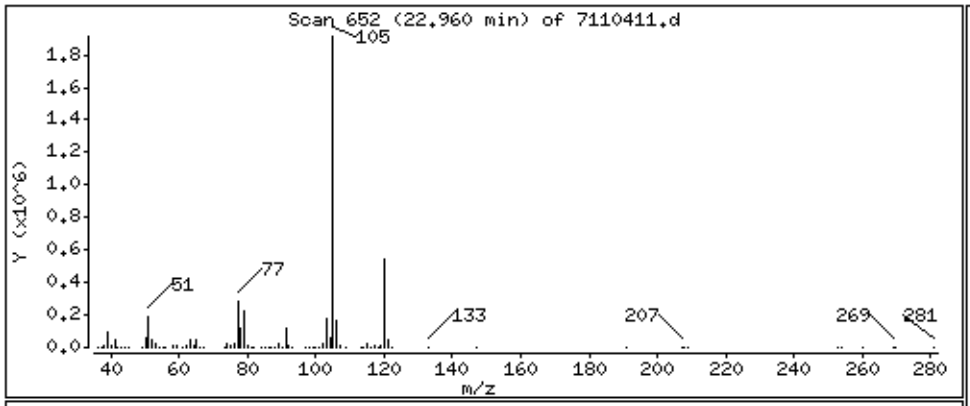
Operator: ab

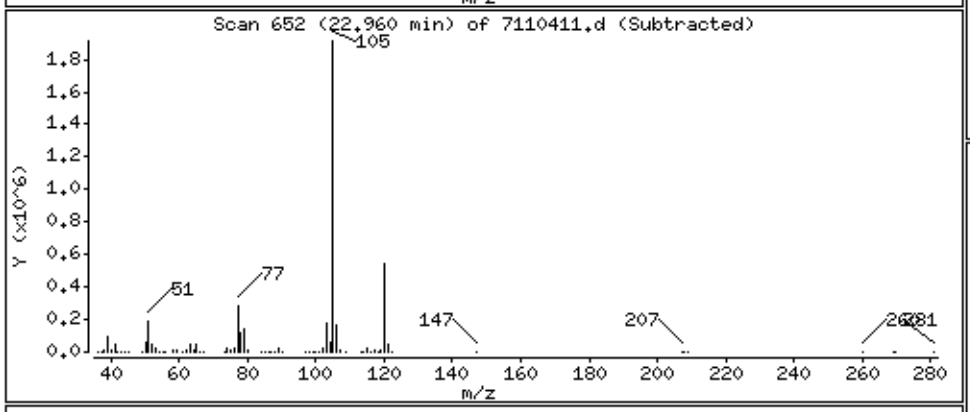
Column phase: RTx-624

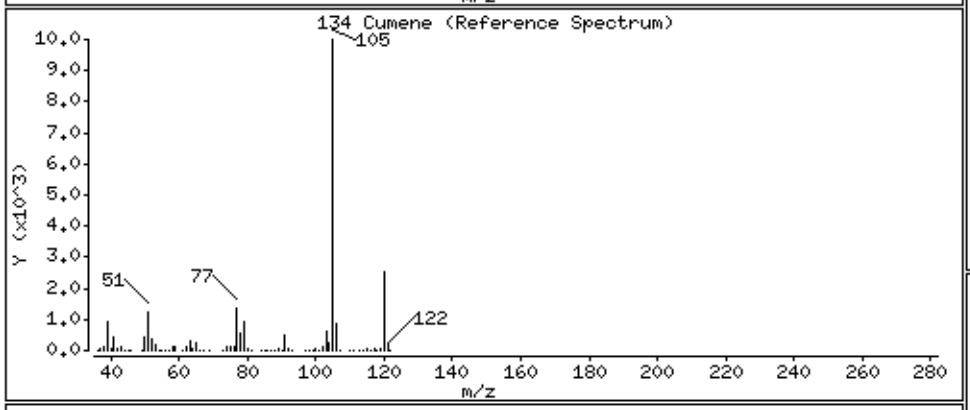
Column diameter: 0.53

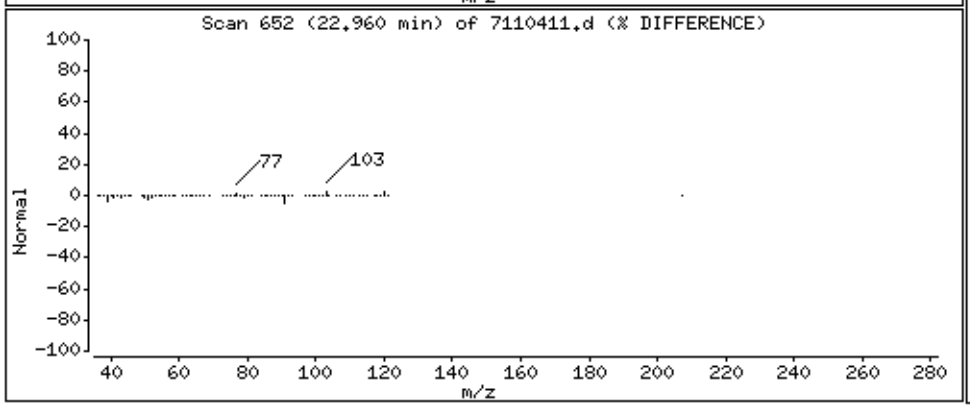
134 Cumene

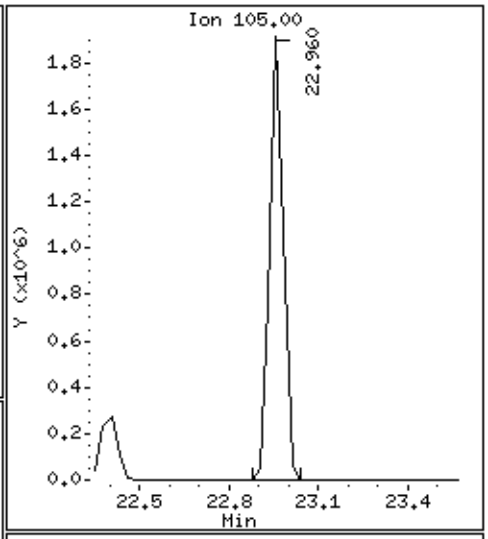
Concentration: 56.723 PPBV

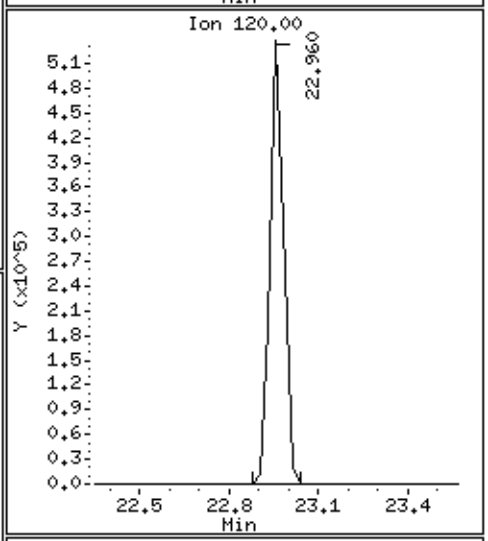


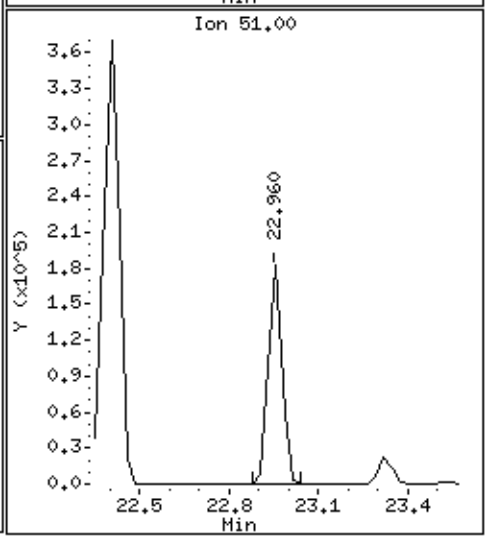












Data File: /chem/msd7.i/7-04nova.b/7110411.d

Date : 04-NOV-2007 23:58

Client ID: LCS-1

Instrument: msd7.i

Sample Info: 50mL #1443-302

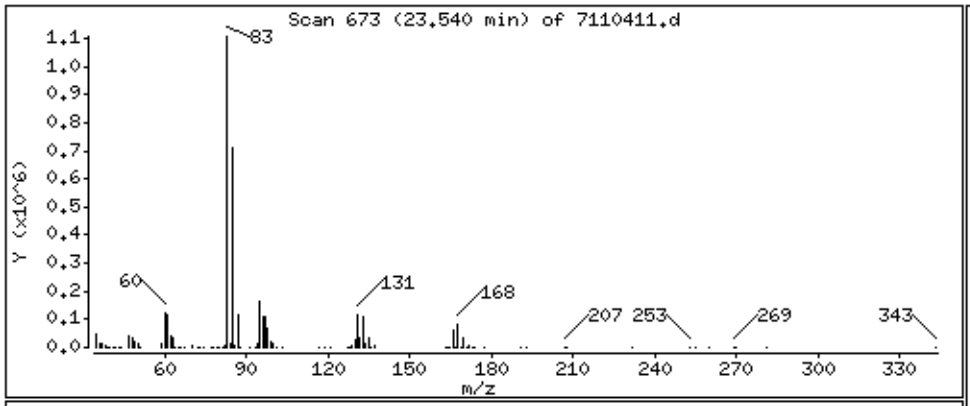
Operator: ab

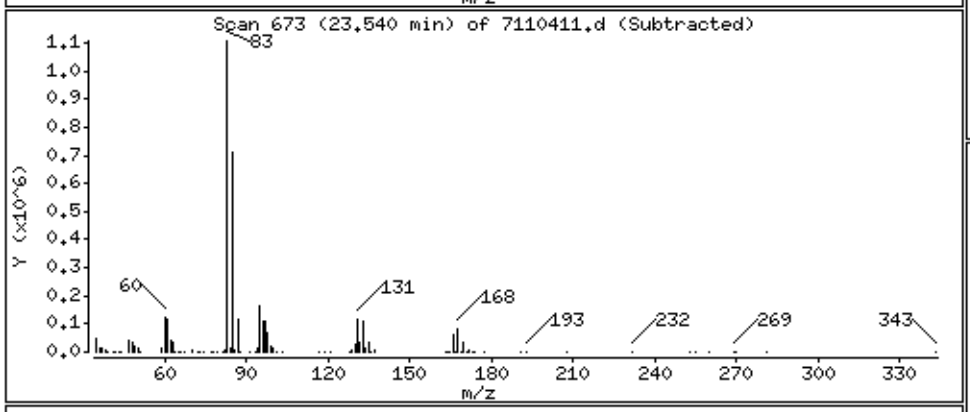
Column phase: RTx-624

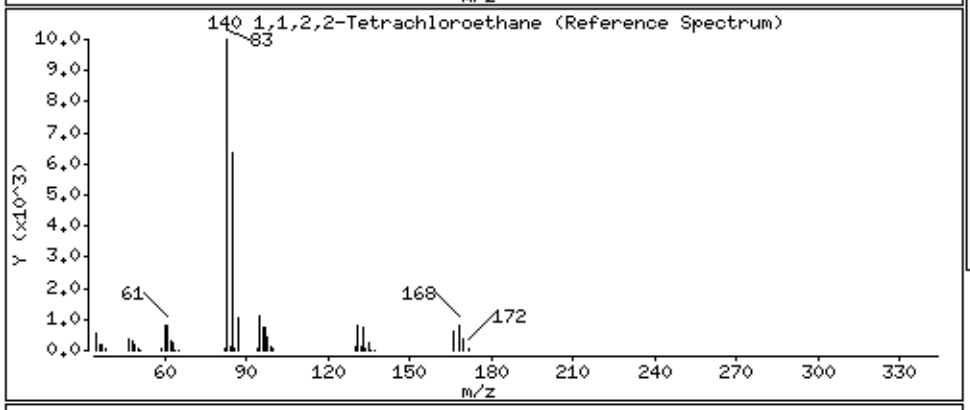
Column diameter: 0.53

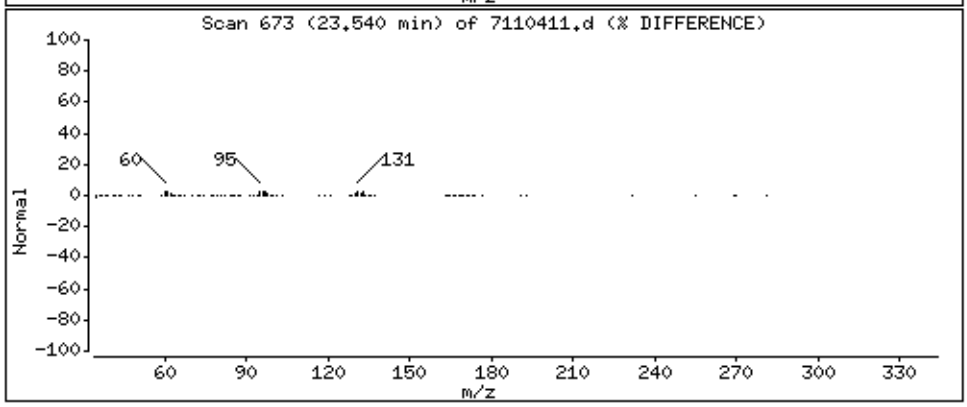
140 1,1,2,2-Tetrachloroethane

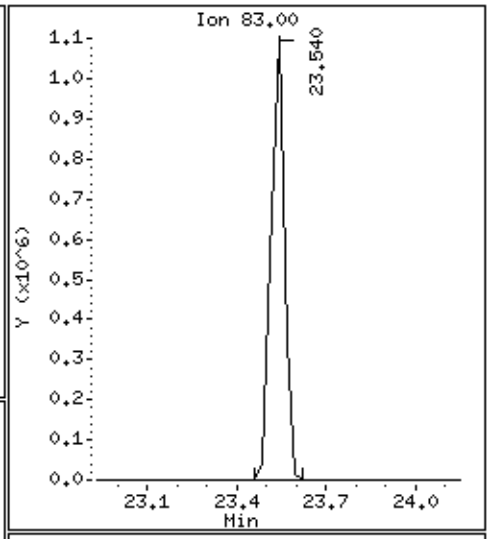
Concentration: 48.465 PPBV

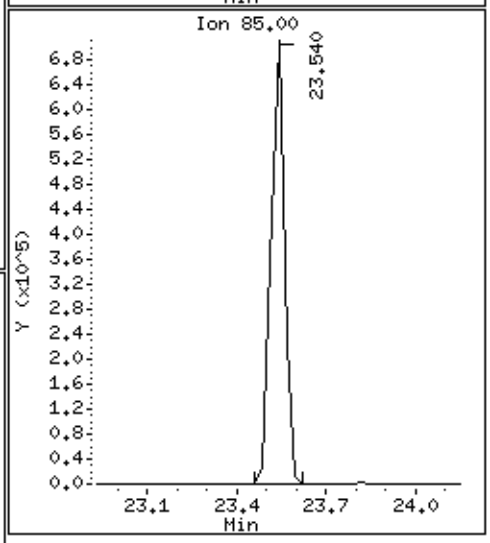












Data File: /chem/msd7.i/7-04nova.b/7110411.d

Date : 04-NOV-2007 23:58

Client ID: LCS-1

Instrument: msd7.i

Sample Info: 50mL #1443-302

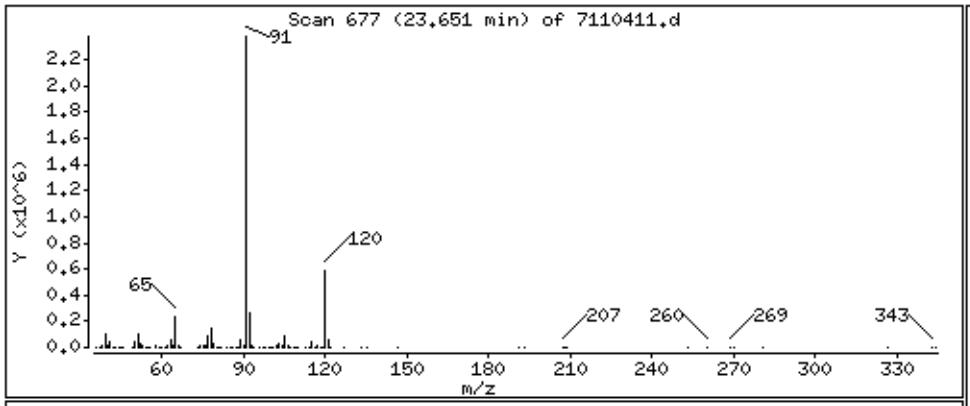
Operator: ab

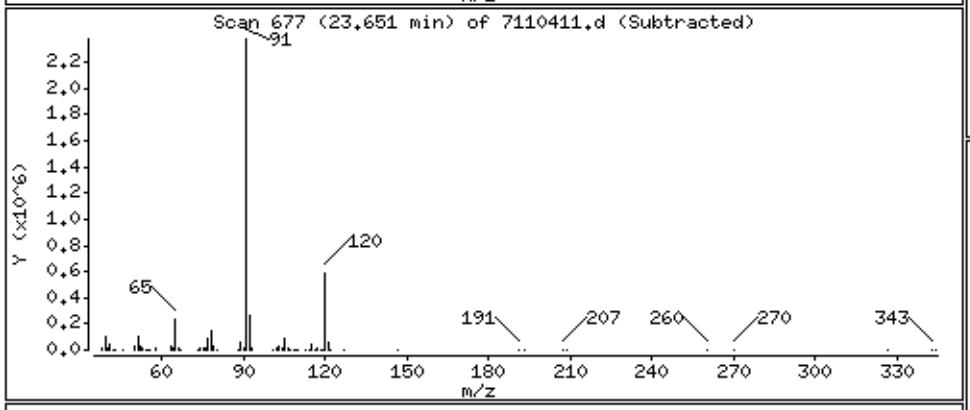
Column phase: RTx-624

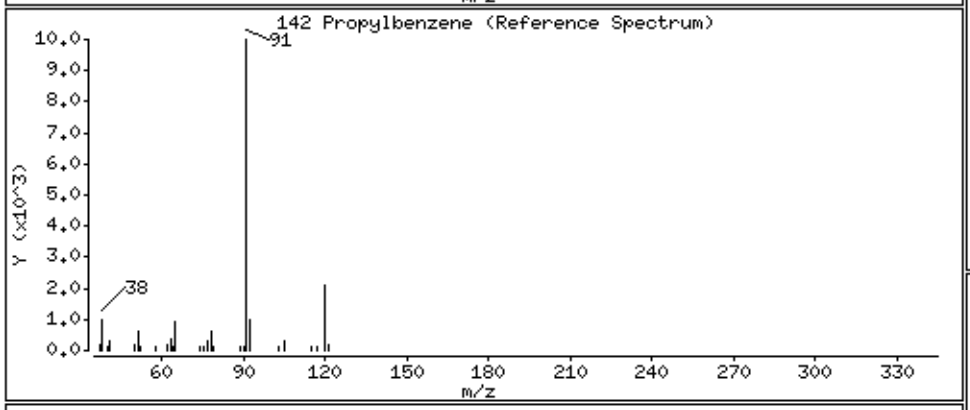
Column diameter: 0.53

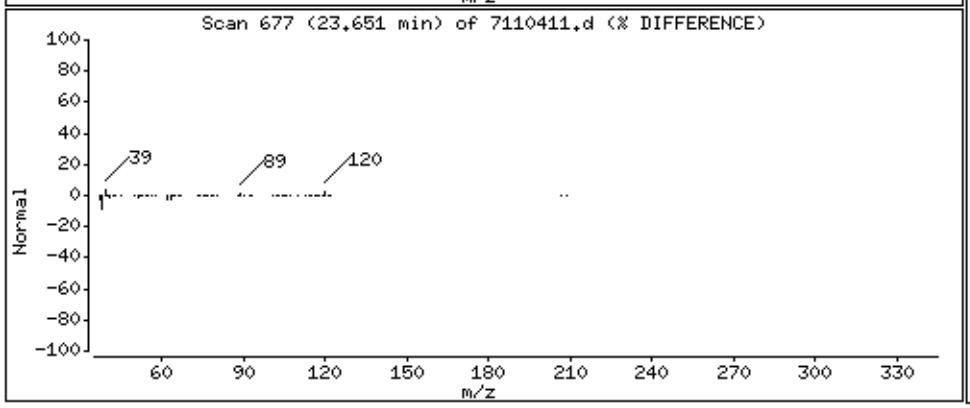
142 Propylbenzene

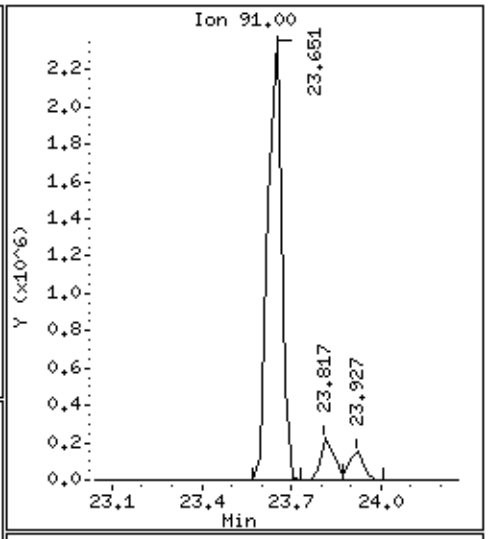
Concentration: 52.279 PPBV

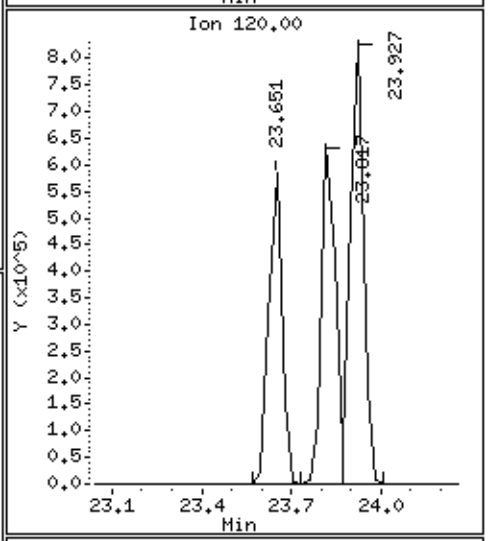


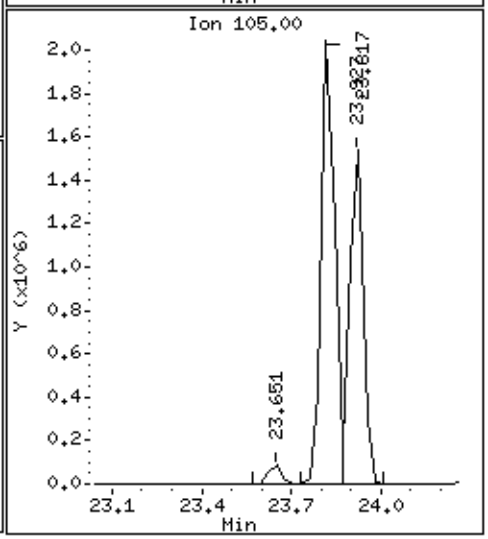












Data File: /chem/msd7.i/7-04nova.b/7110411.d

Date : 04-NOV-2007 23:58

Client ID: LCS-1

Instrument: msd7.i

Sample Info: 50mL #1443-302

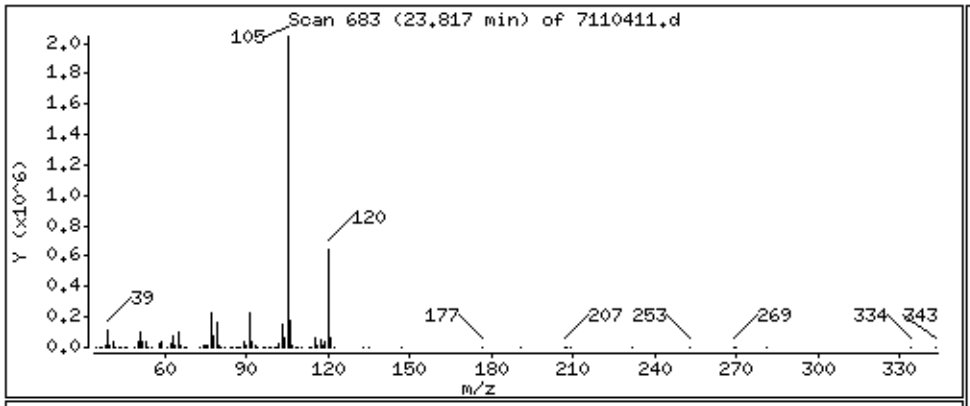
Operator: ab

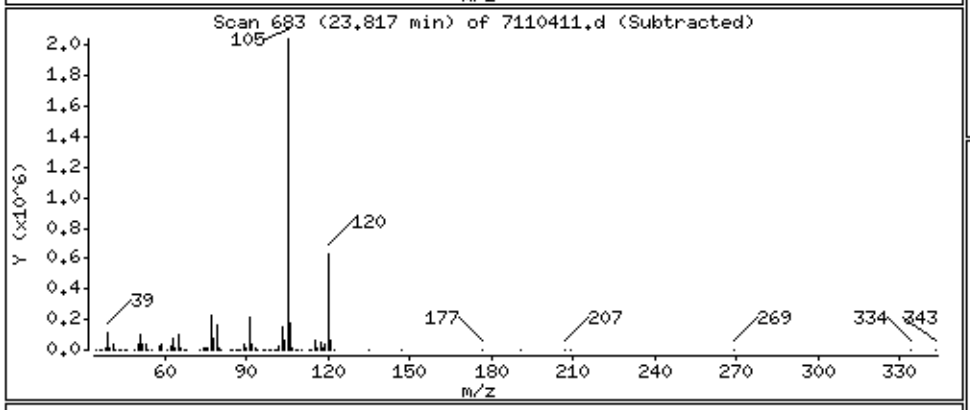
Column phase: RTx-624

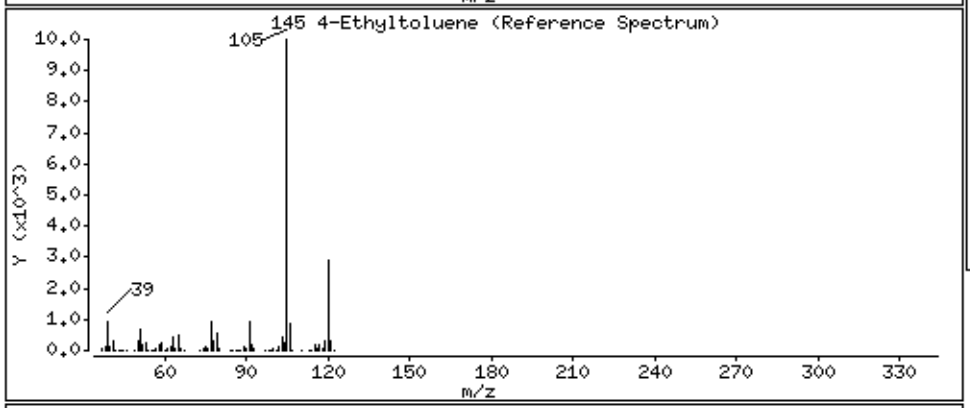
Column diameter: 0.53

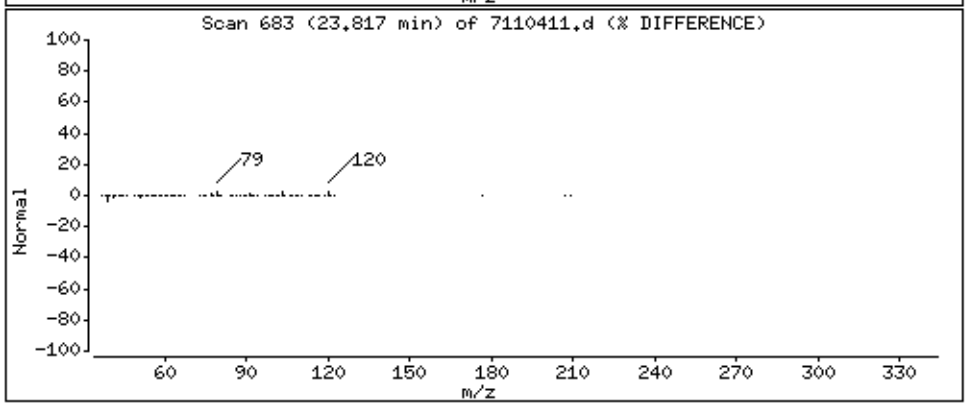
145 4-Ethyltoluene

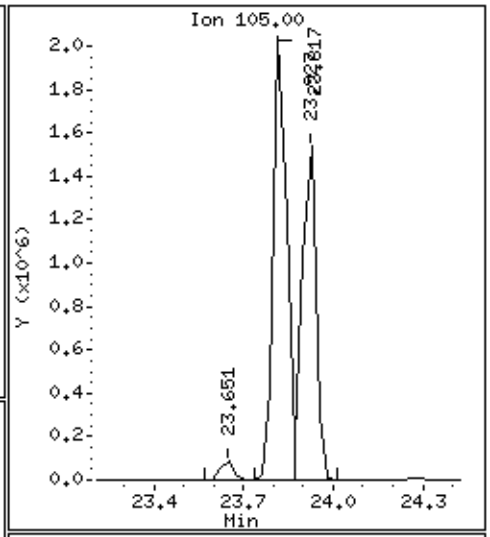
Concentration: 50.610 PPBV

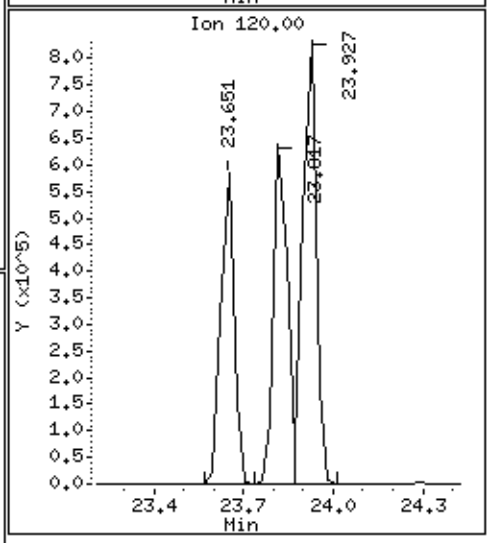












Data File: /chem/msd7.i/7-04nova.b/7110411.d

Date : 04-NOV-2007 23:58

Client ID: LCS-1

Instrument: msd7.i

Sample Info: 50mL #1443-302

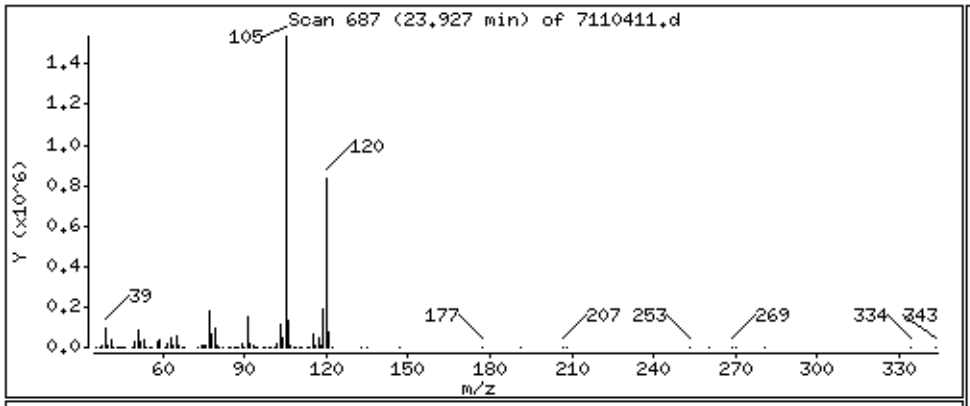
Operator: ab

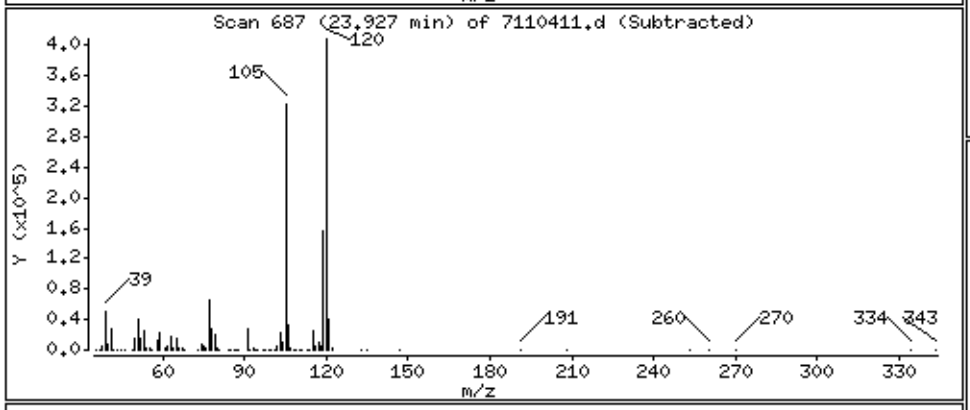
Column phase: RTx-624

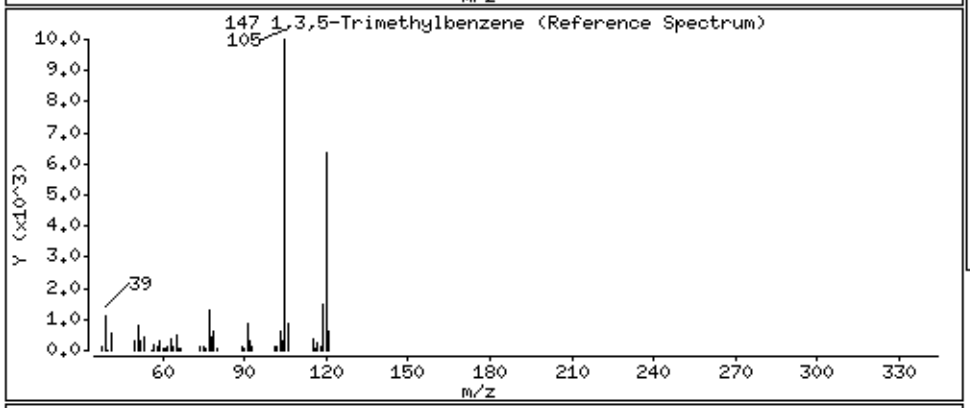
Column diameter: 0.53

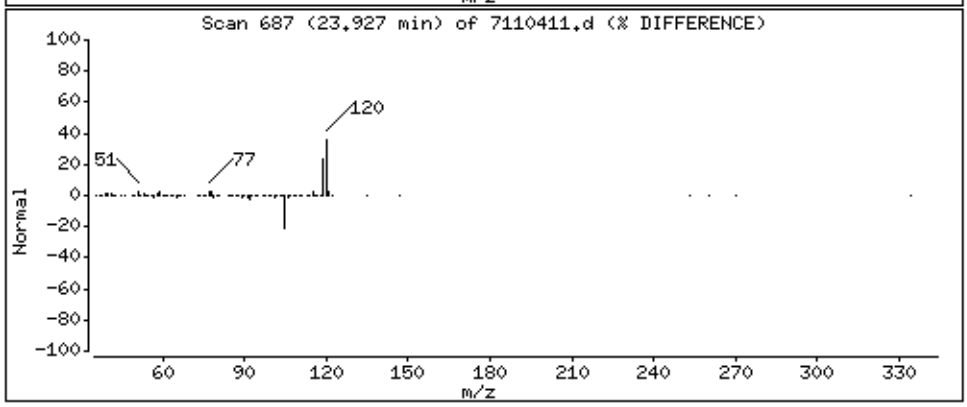
147 1,3,5-Trimethylbenzene

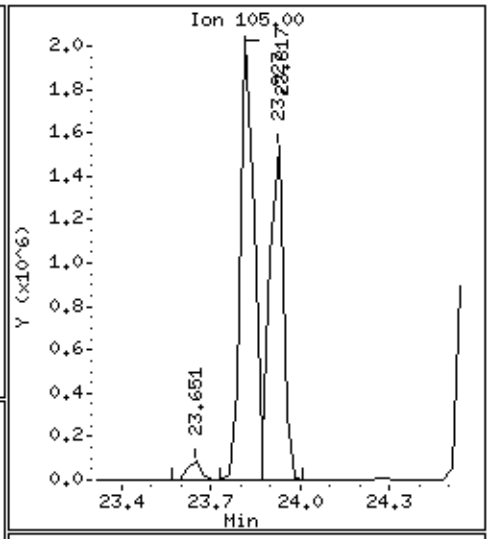
Concentration: 50.933 PPBV

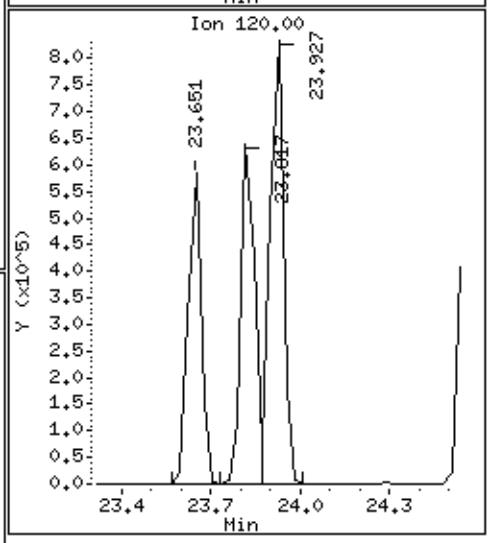












Data File: /chem/msd7.i/7-04nova.b/7110411.d

Date : 04-NOV-2007 23:58

Client ID: LCS-1

Instrument: msd7.i

Sample Info: 50mL #1443-302

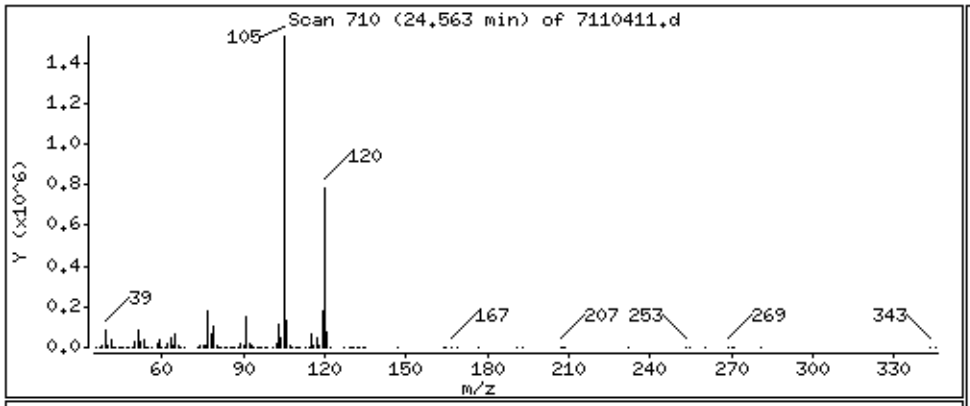
Operator: ab

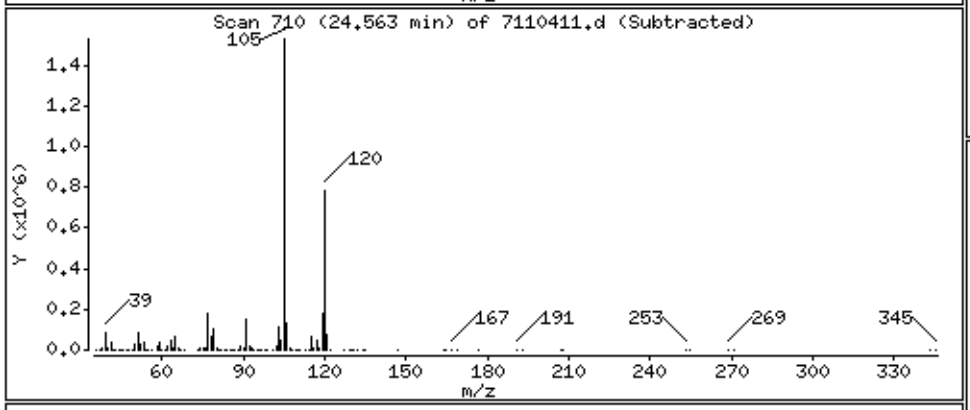
Column phase: RTx-624

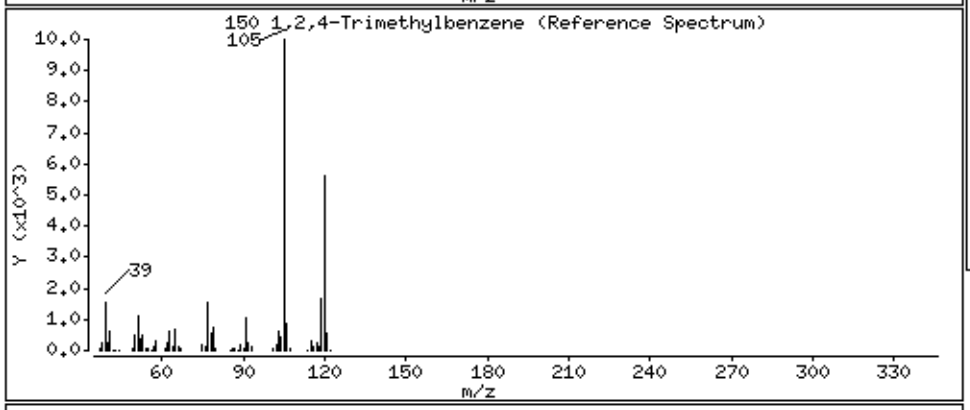
Column diameter: 0.53

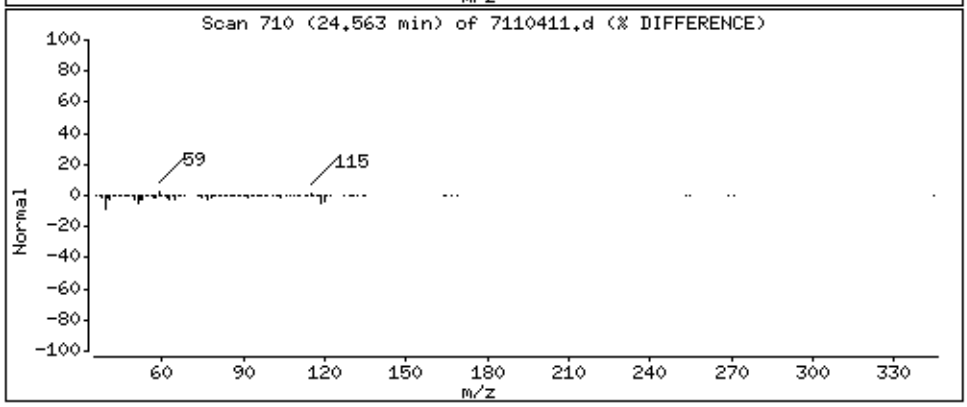
150 1,2,4-Trimethylbenzene

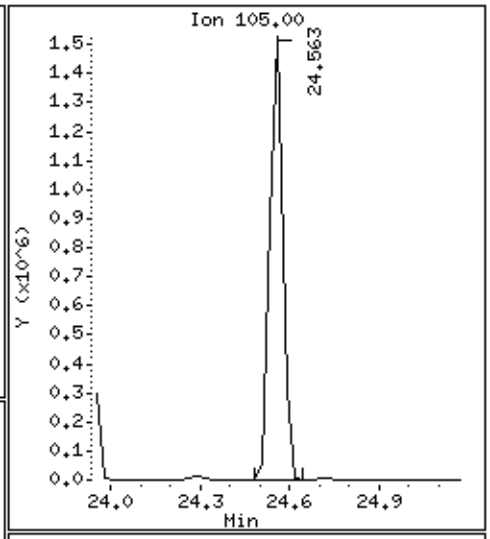
Concentration: 51.315 PPBV

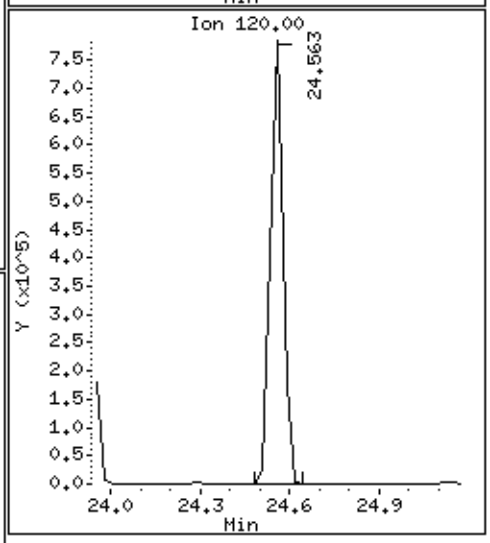












Data File: /chem/msd7.i/7-04nova.b/7110411.d

Date : 04-NOV-2007 23:58

Client ID: LCS-1

Instrument: msd7.i

Sample Info: 50mL #1443-302

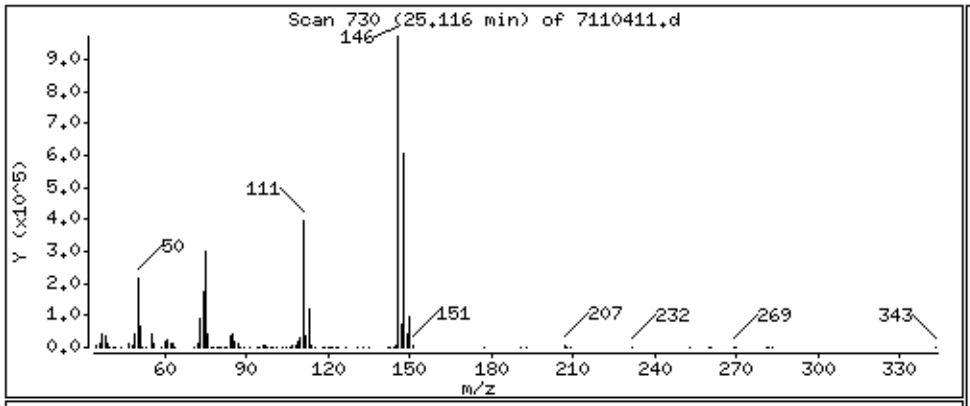
Operator: ab

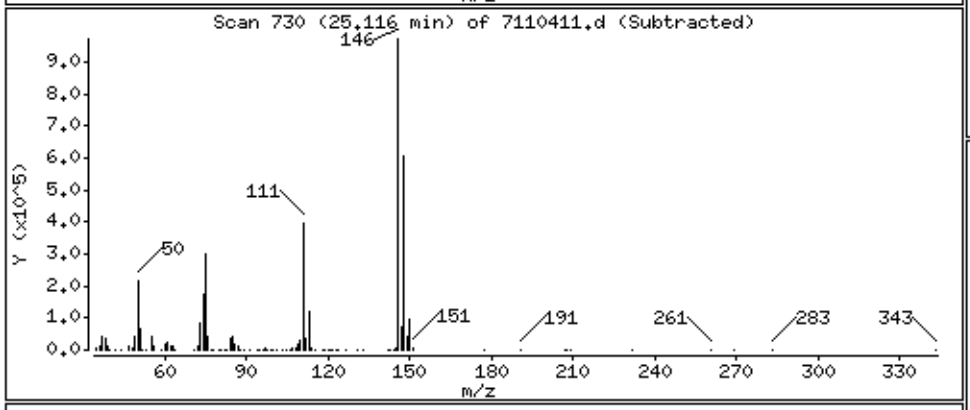
Column phase: RTx-624

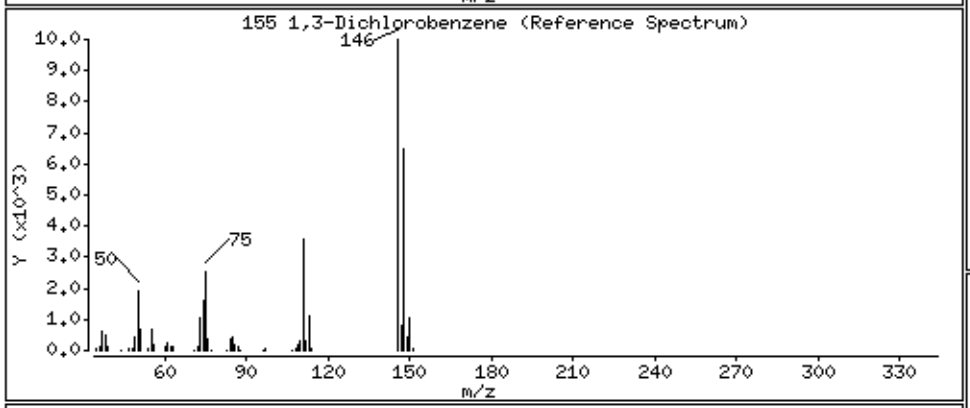
Column diameter: 0.53

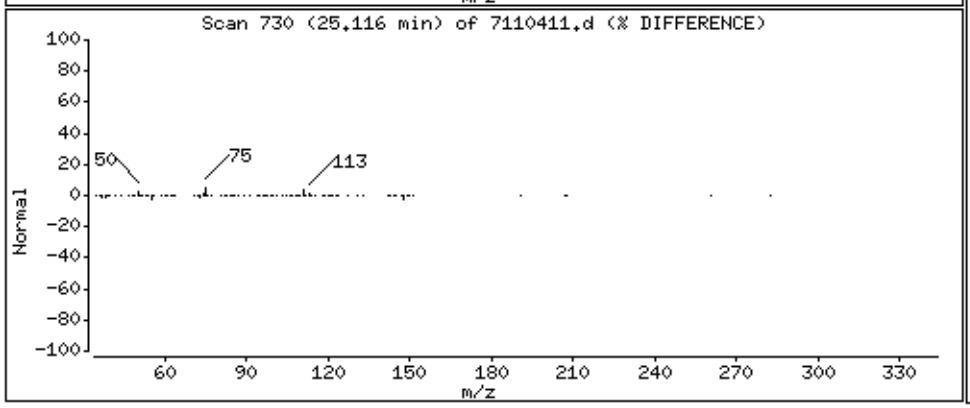
155 1,3-Dichlorobenzene

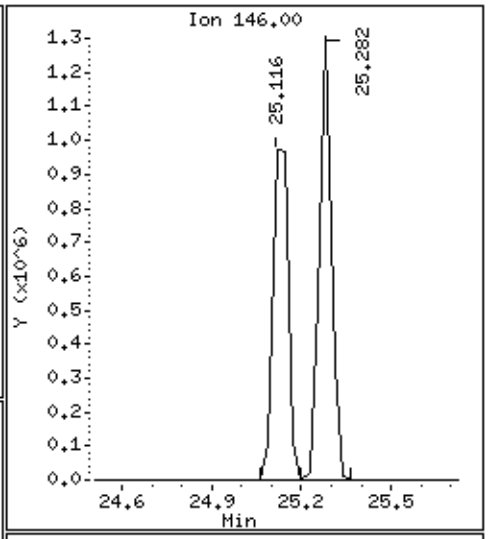
Concentration: 51.182 PPBV

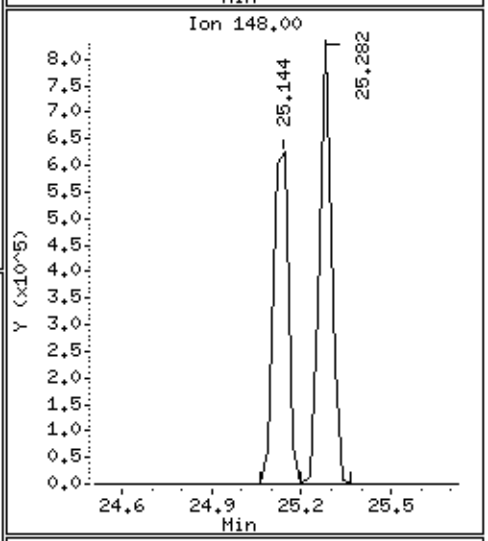


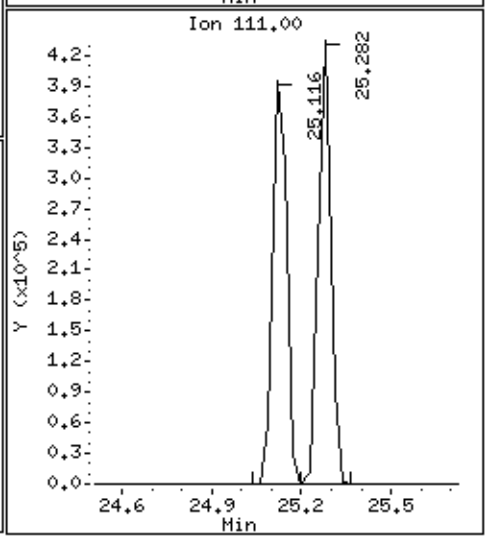












Data File: /chem/msd7.i/7-04nova.b/7110411.d

Date : 04-NOV-2007 23:58

Client ID: LCS-1

Instrument: msd7.i

Sample Info: 50mL #1443-302

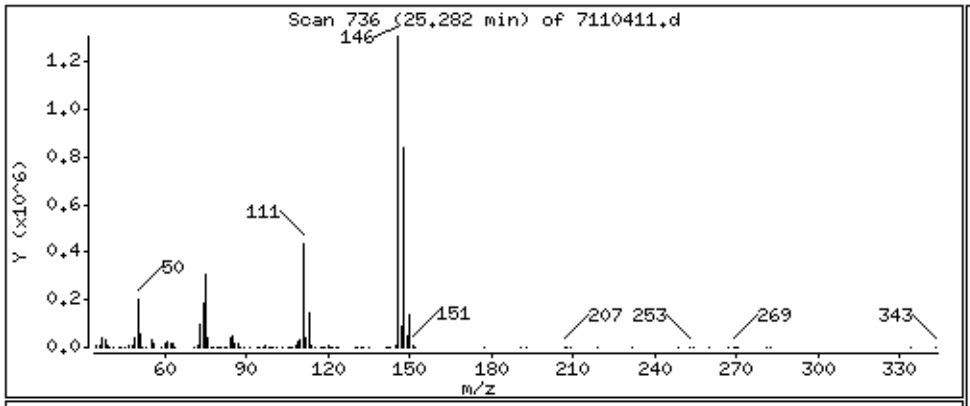
Operator: ab

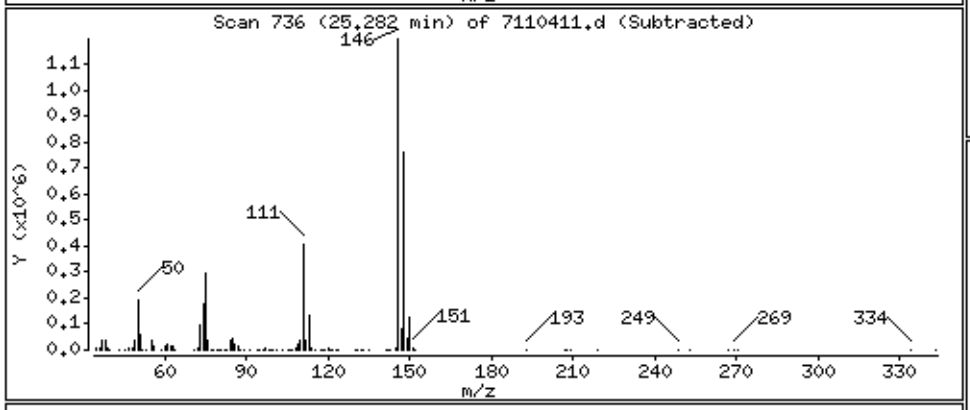
Column phase: RTx-624

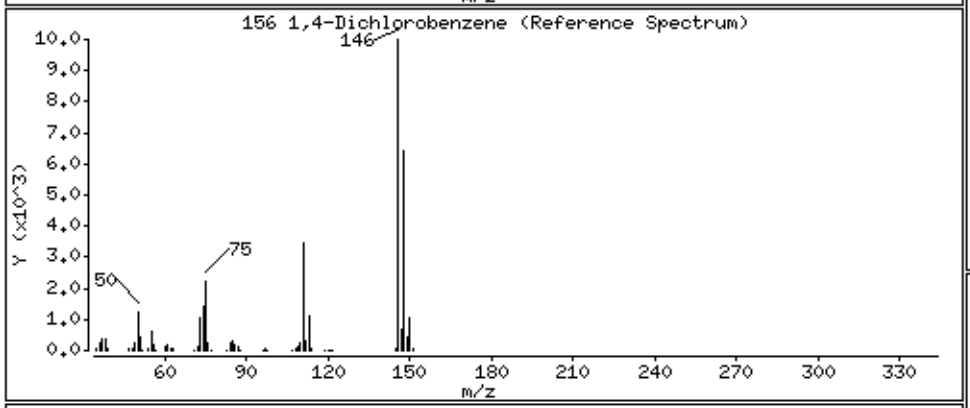
Column diameter: 0.53

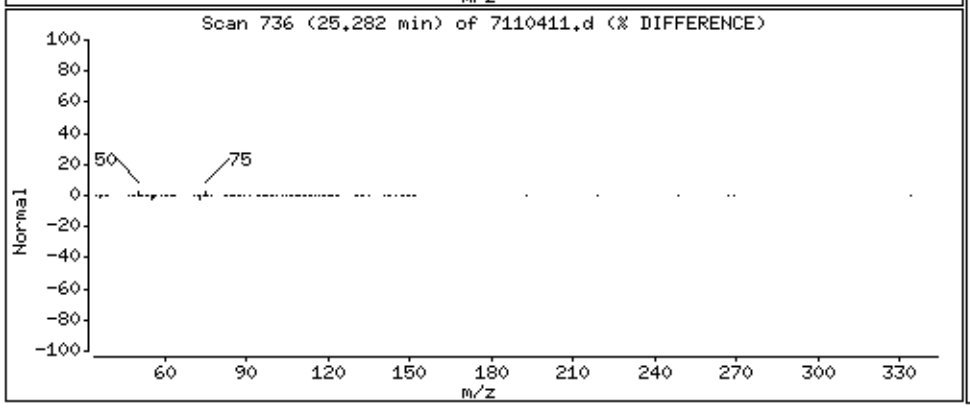
156 1,4-Dichlorobenzene

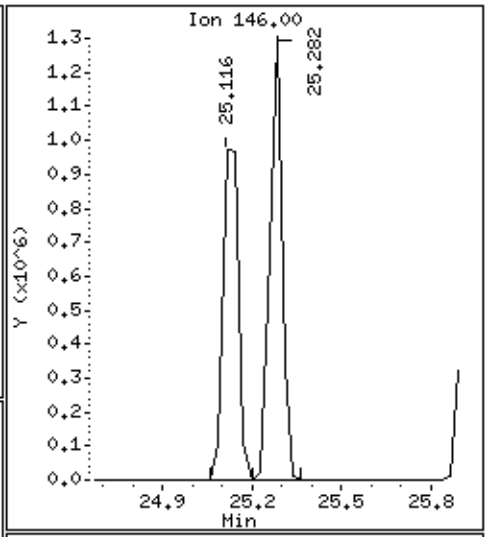
Concentration: 50.218 PPBV

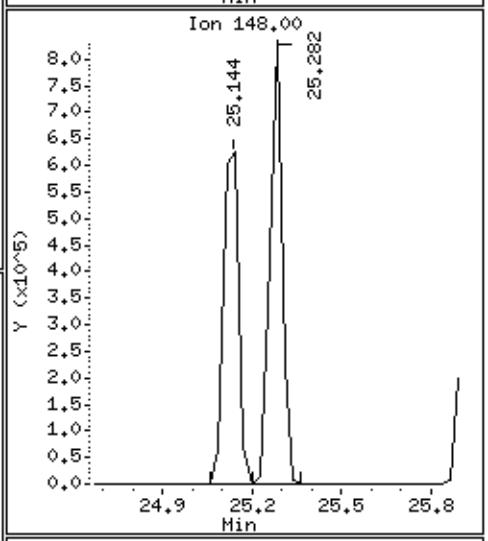


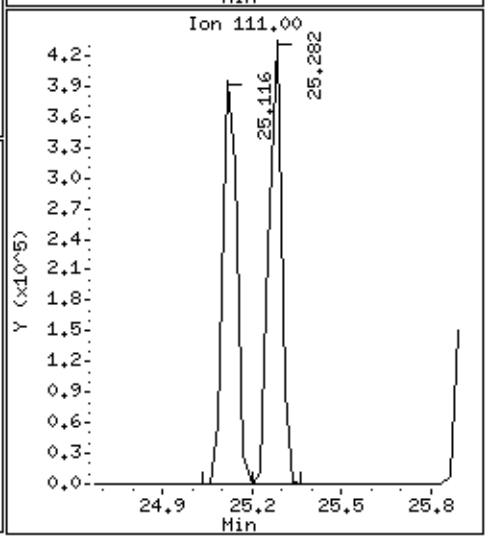












Data File: /chem/msd7.i/7-04nova.b/7110411.d

Date : 04-NOV-2007 23:58

Client ID: LCS-1

Instrument: msd7.i

Sample Info: 50mL #1443-302

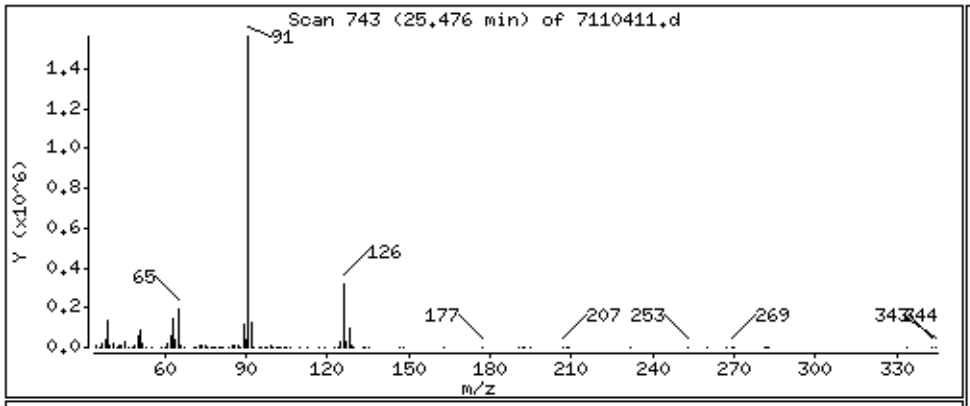
Operator: ab

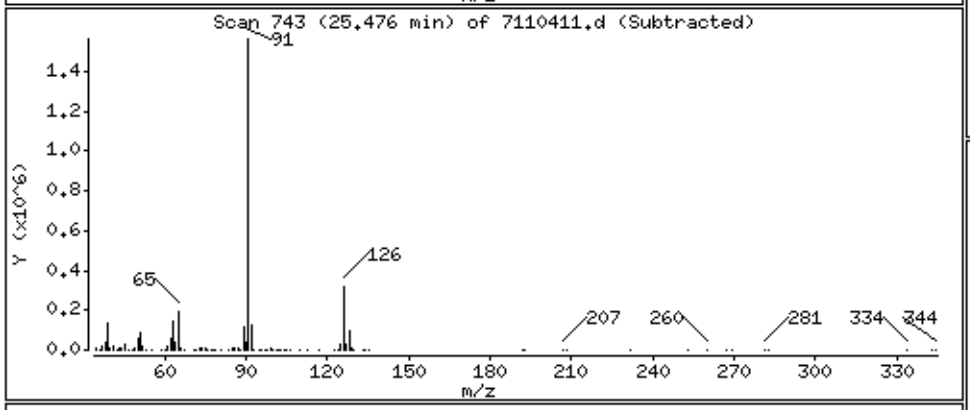
Column phase: RTx-624

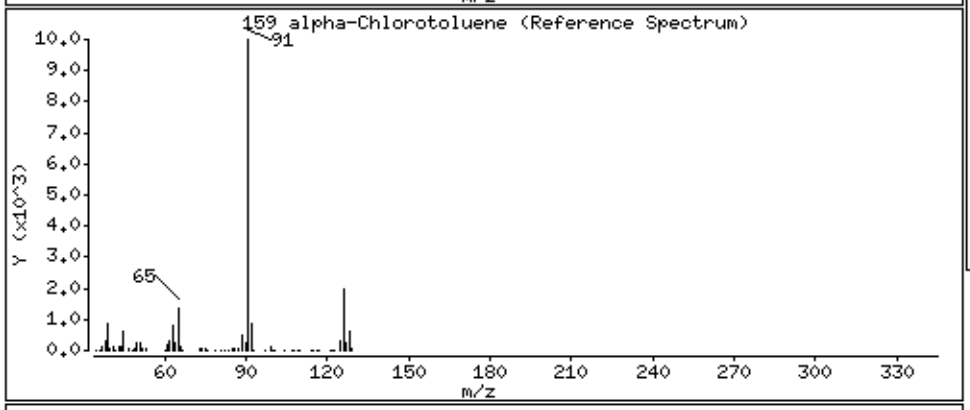
Column diameter: 0.53

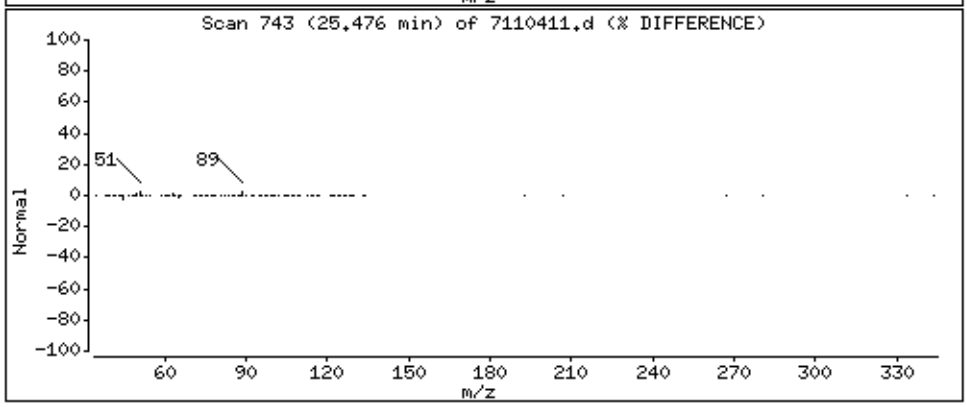
159 alpha-Chlorotoluene

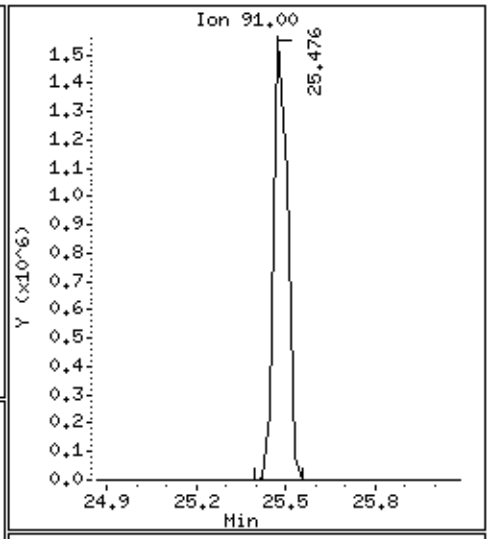
Concentration: 50.861 PPBV

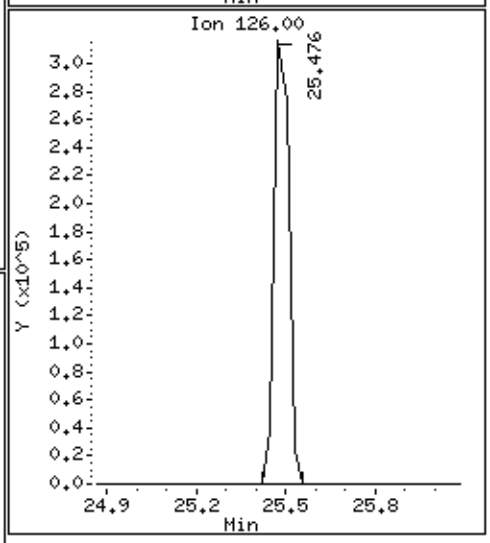












Data File: /chem/msd7.i/7-04nova.b/7110411.d

Date : 04-NOV-2007 23:58

Client ID: LCS-1

Instrument: msd7.i

Sample Info: 50mL #1443-302

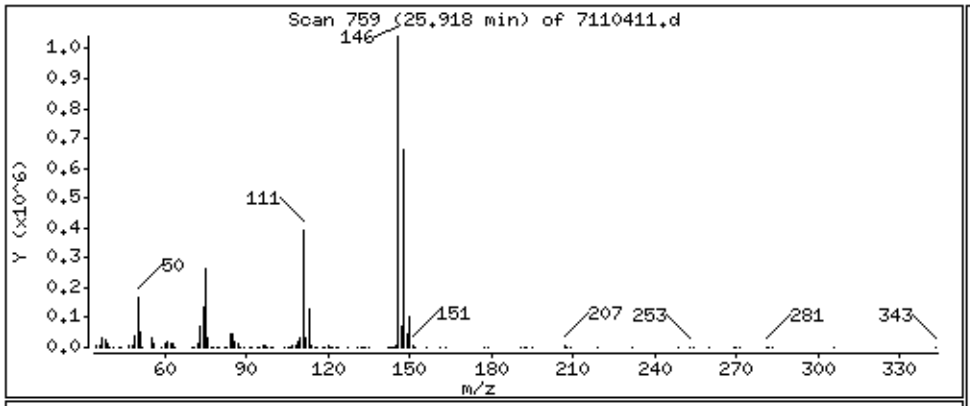
Operator: ab

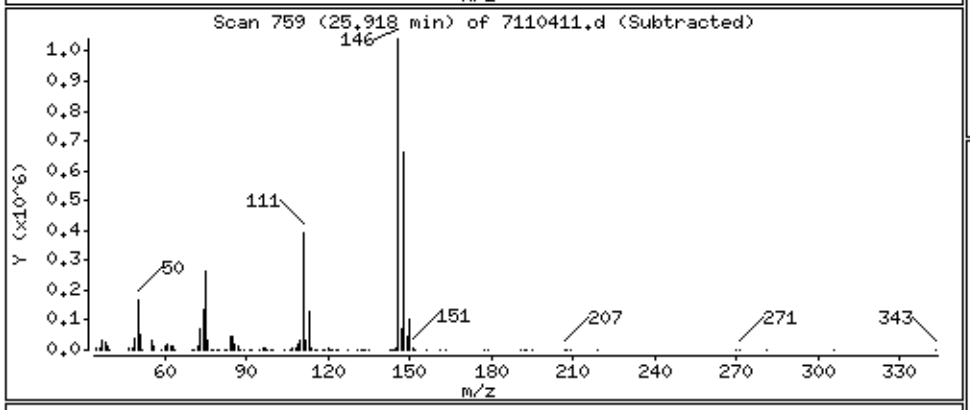
Column phase: RTx-624

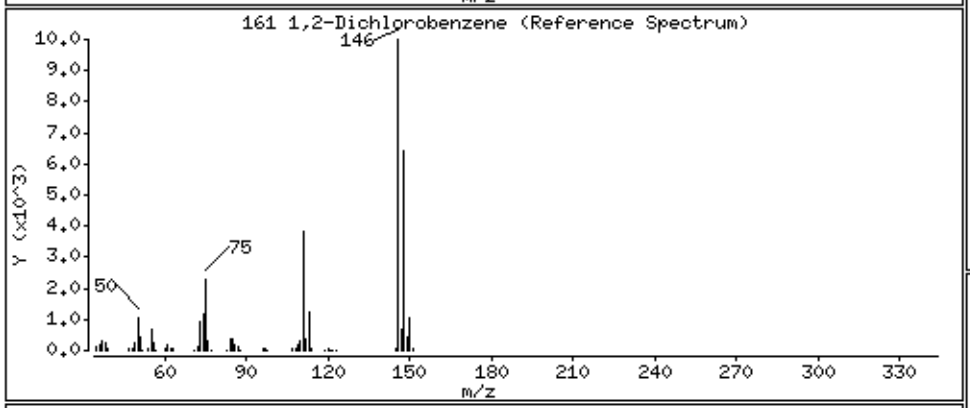
Column diameter: 0.53

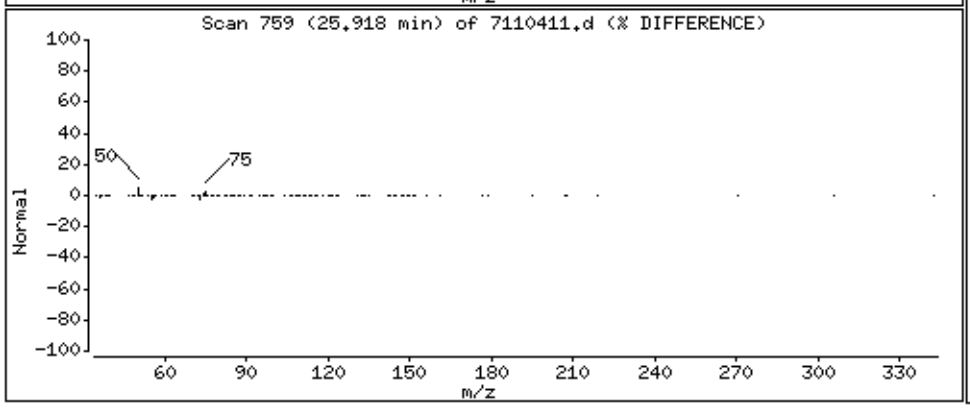
161 1,2-Dichlorobenzene

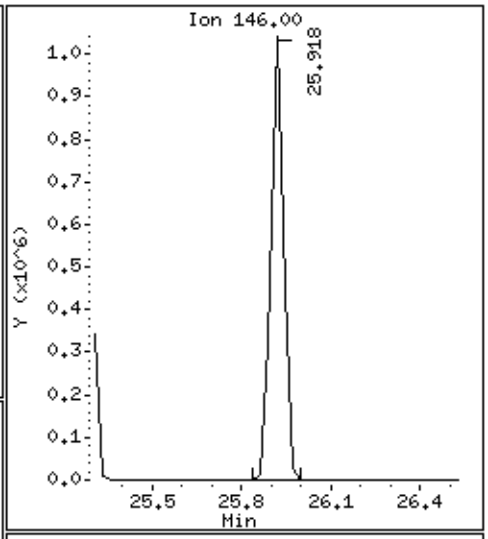
Concentration: 47.075 PPBV

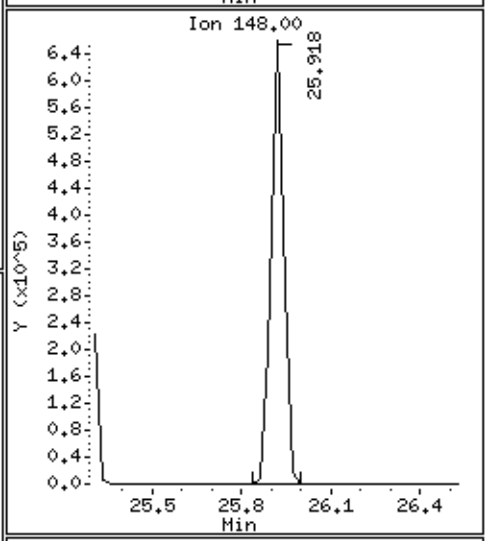


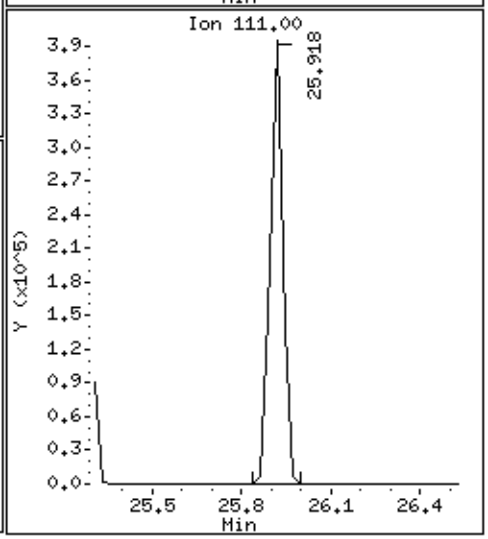












Data File: /chem/msd7.i/7-04nova.b/7110411.d

Date : 04-NOV-2007 23:58

Client ID: LCS-1

Instrument: msd7.i

Sample Info: 50mL #1443-302

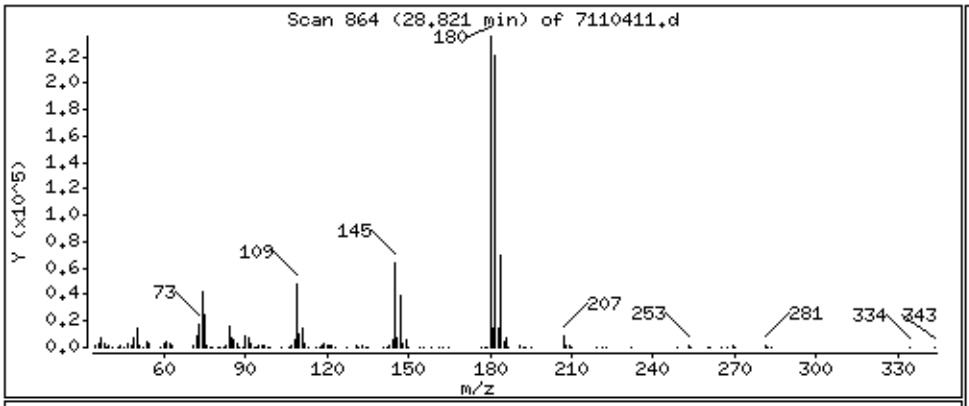
Operator: ab

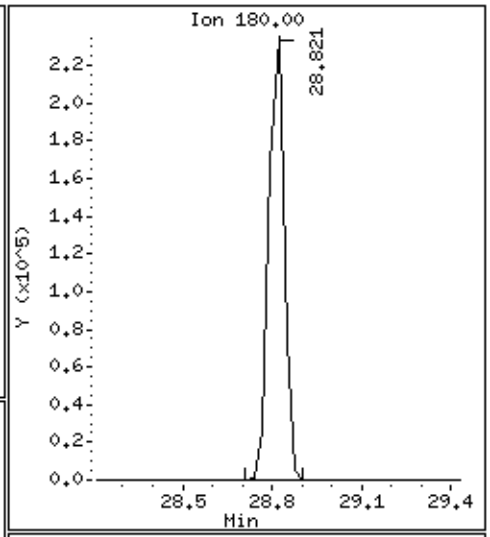
Column phase: RTx-624

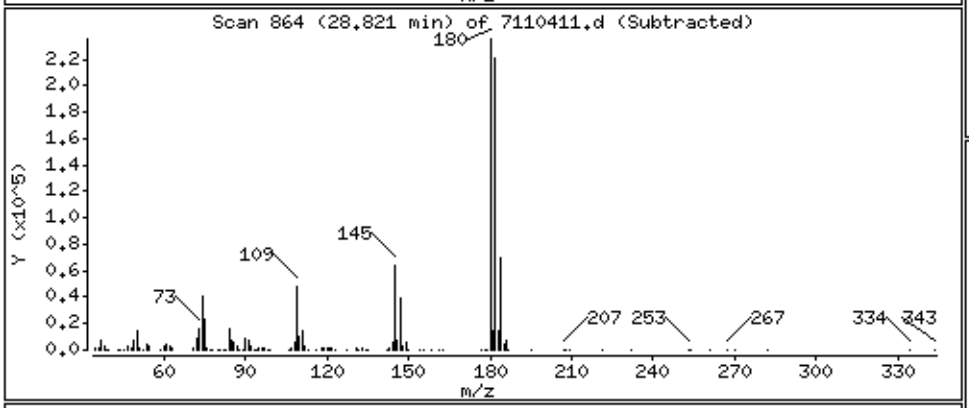
Column diameter: 0.53

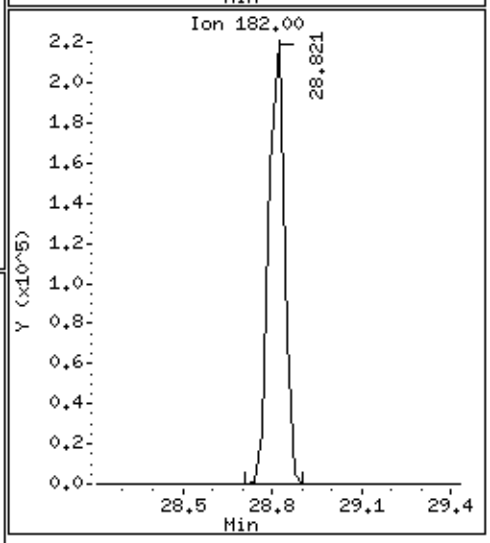
165 1,2,4-Trichlorobenzene

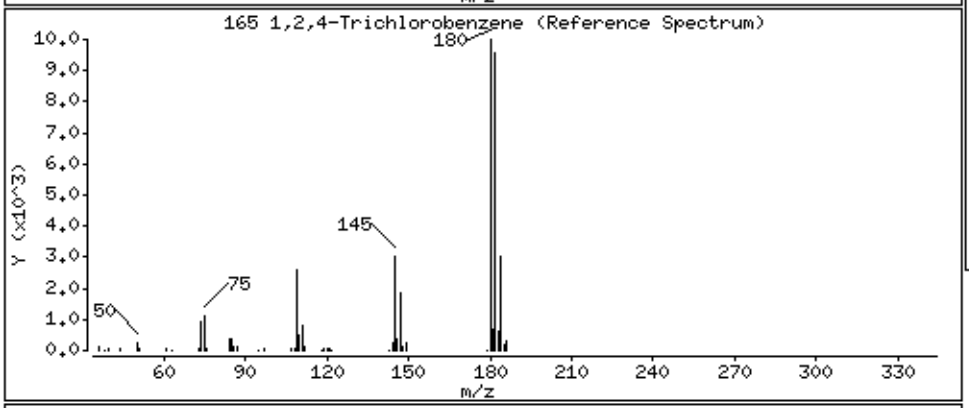
Concentration: 31.867 PPBV

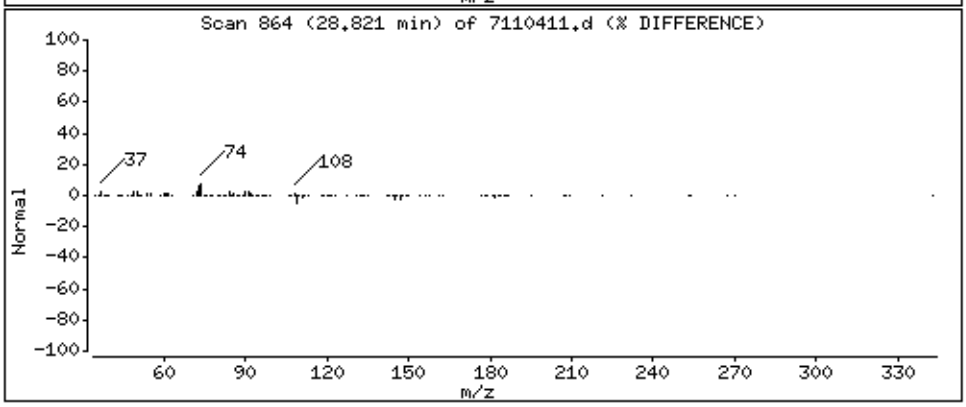












Data File: /chem/msd7.i/7-04nova.b/7110411.d

Date : 04-NOV-2007 23:58

Client ID: LCS-1

Instrument: msd7.i

Sample Info: 50mL #1443-302

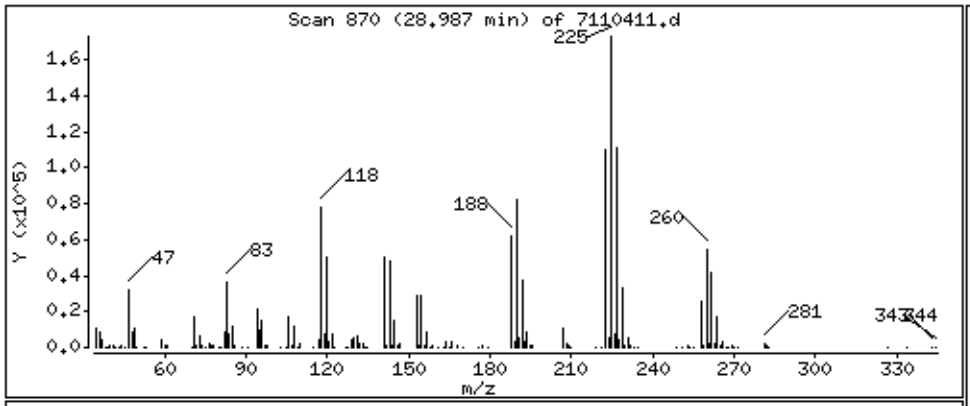
Operator: ab

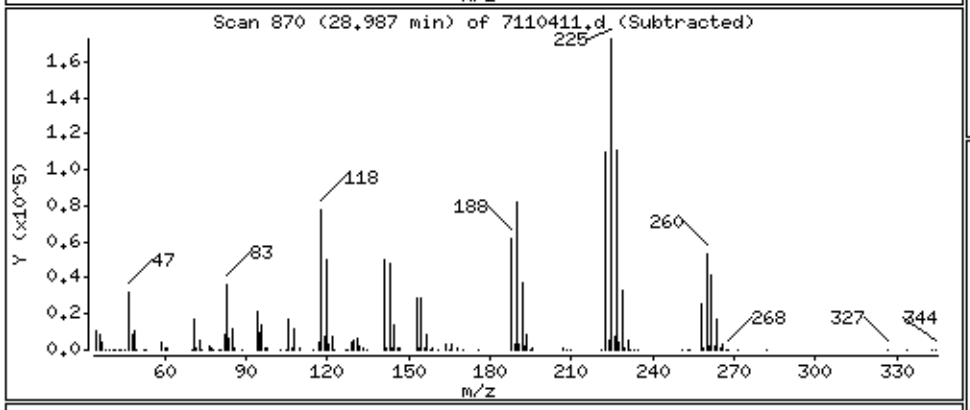
Column phase: RTx-624

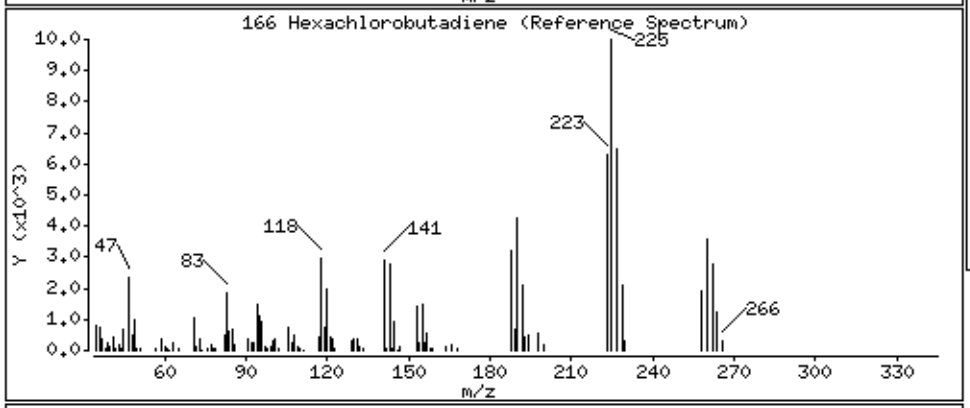
Column diameter: 0.53

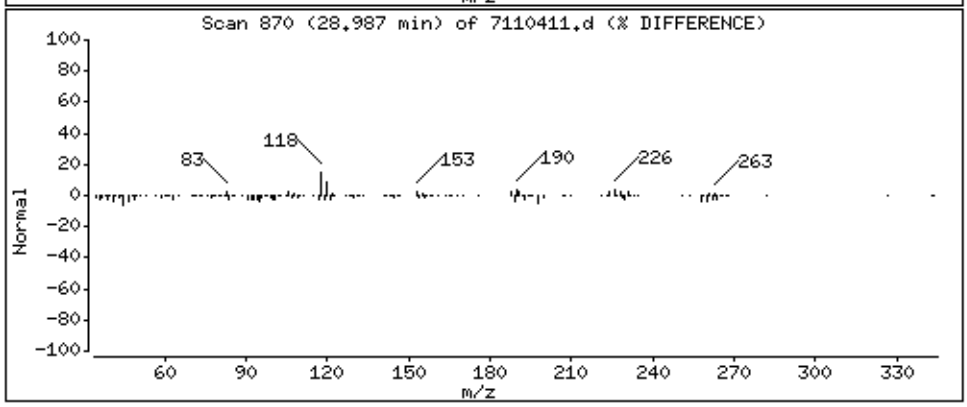
166 Hexachlorobutadiene

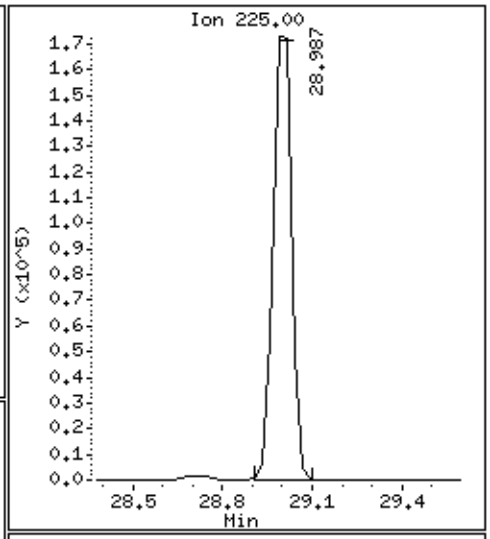
Concentration: 34.539 PPBV

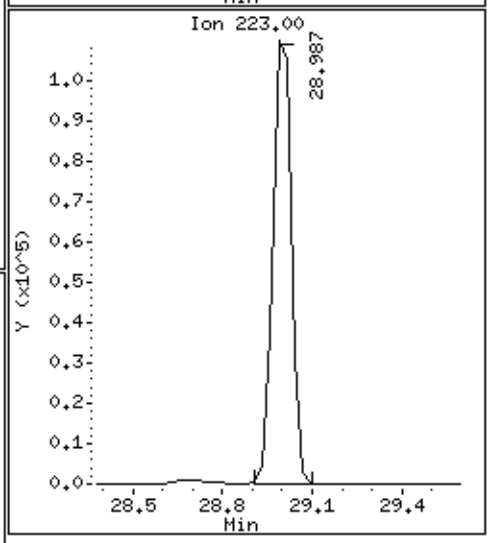












Data File: /chem/msd7.i/7-04nova.b/7110411.d

Date : 04-NOV-2007 23:58

Client ID: LCS-1

Instrument: msd7.i

Sample Info: 50mL #1443-302

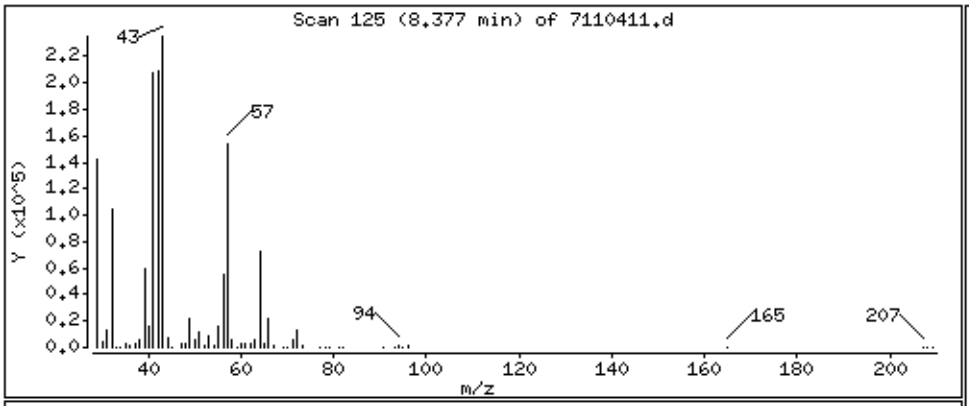
Operator: ab

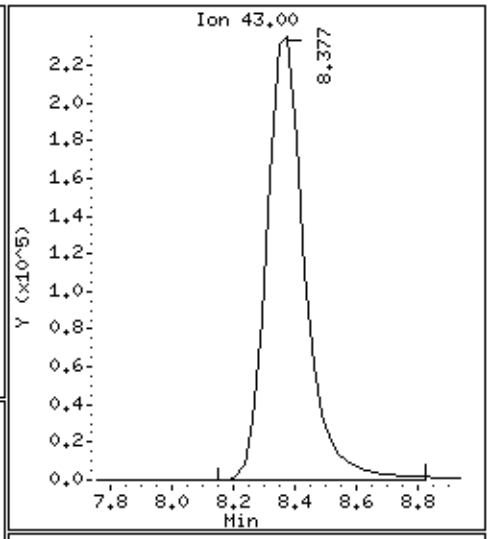
Column phase: RTx-624

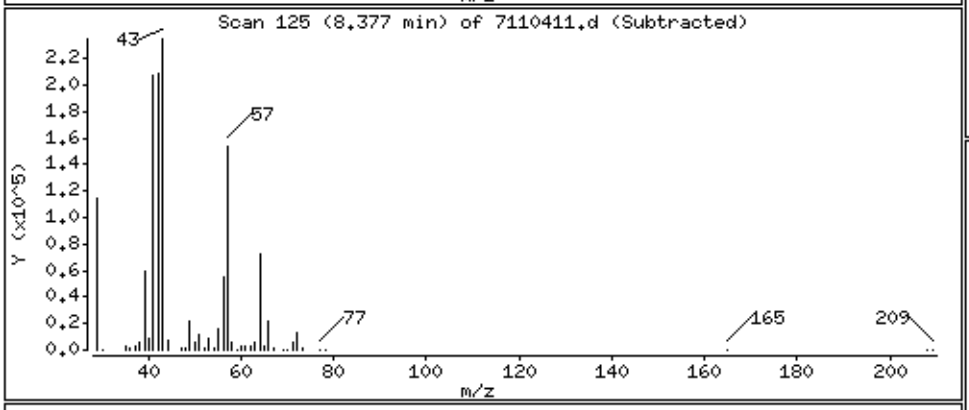
Column diameter: 0.53

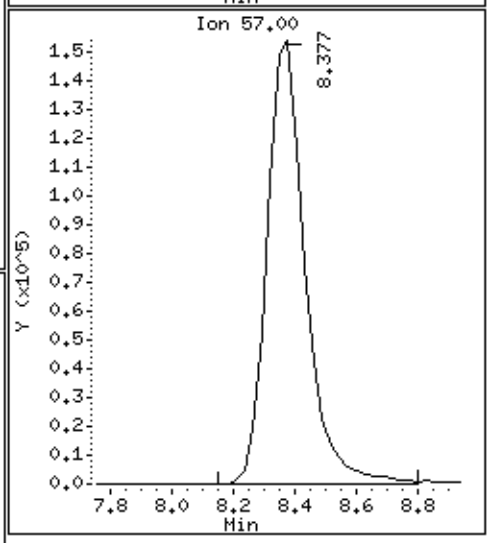
29 Isopentane

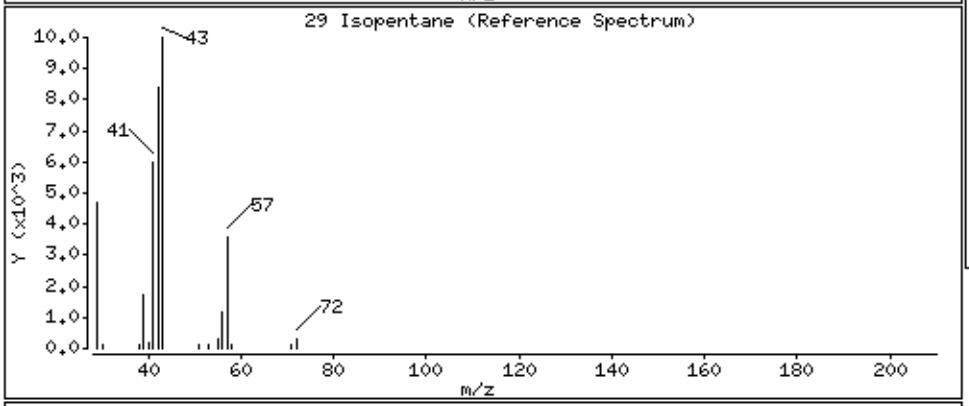
Concentration: 45.799 PPBV

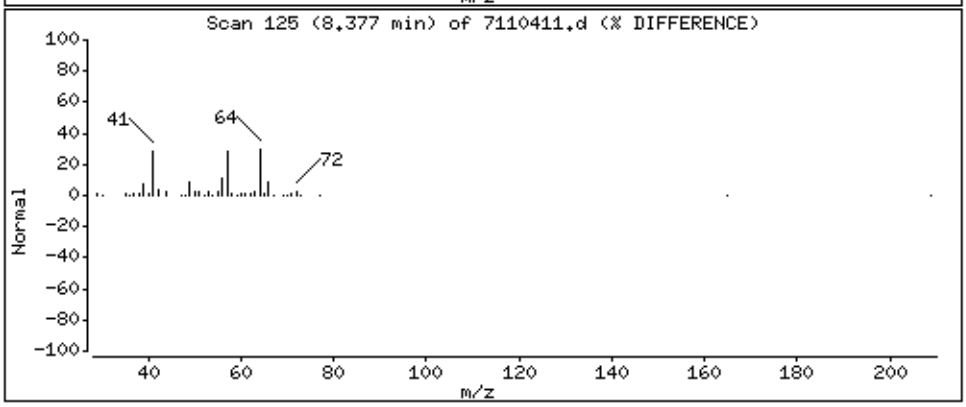












Data File: /chem/msd7.i/7-04nova.b/7110411.d

Date : 04-NOV-2007 23:58

Client ID: LCS-1

Instrument: msd7.i

Sample Info: 50mL #1443-302

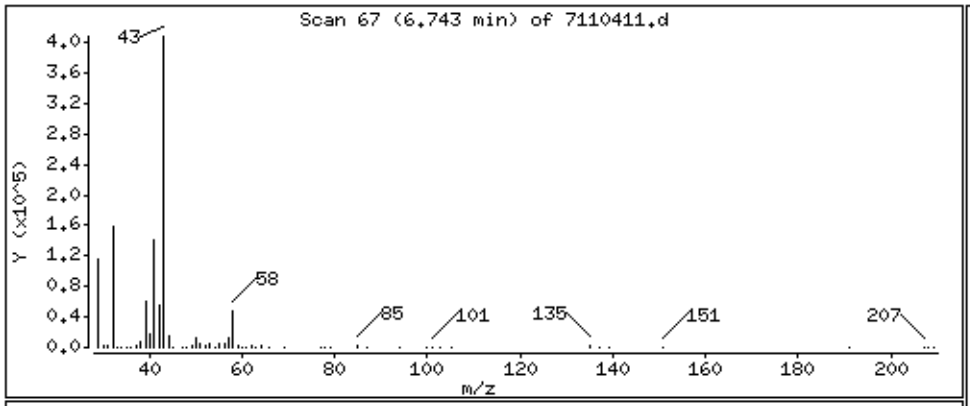
Operator: ab

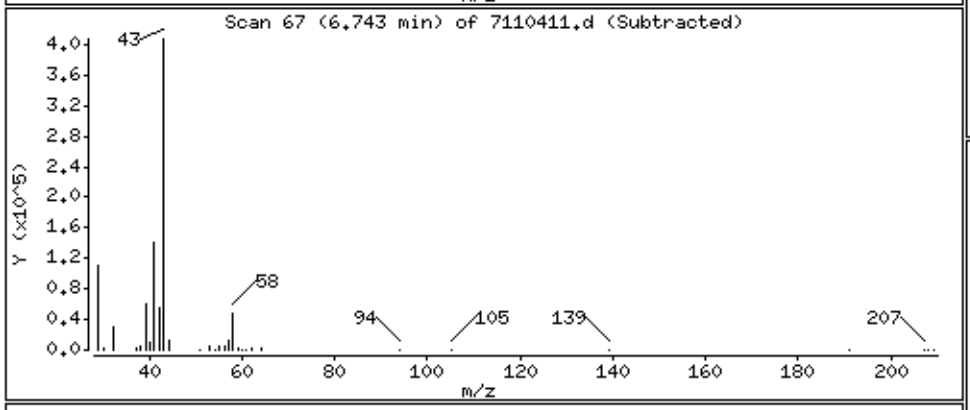
Column phase: RTx-624

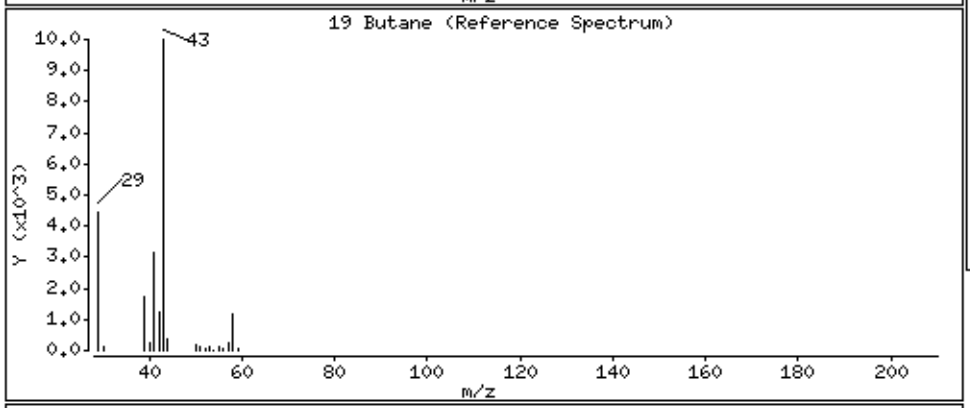
Column diameter: 0.53

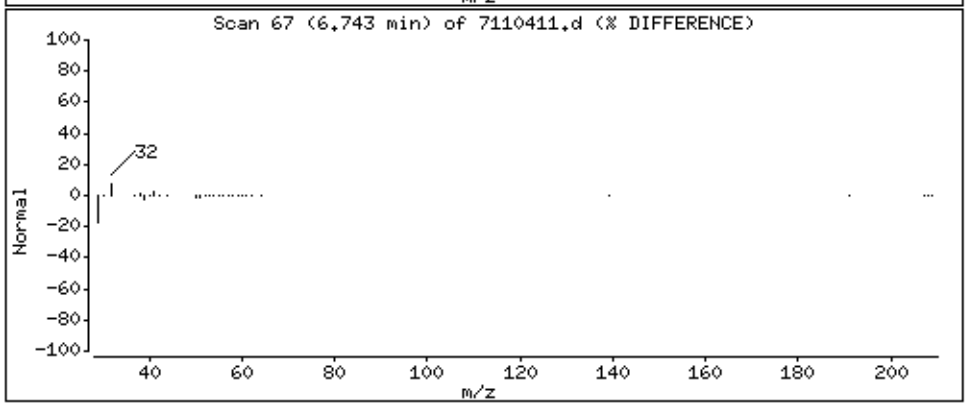
19 Butane

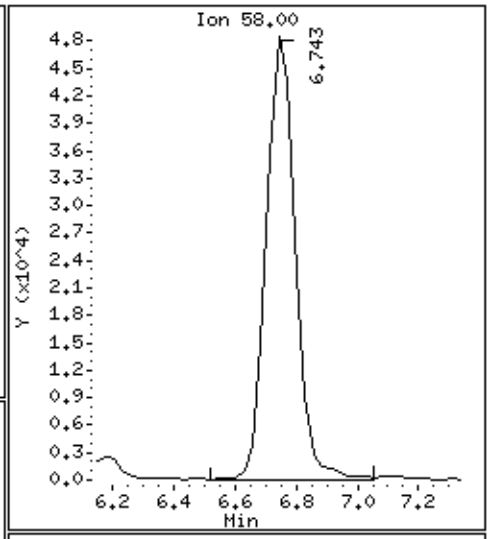
Concentration: 45.410 PPBV

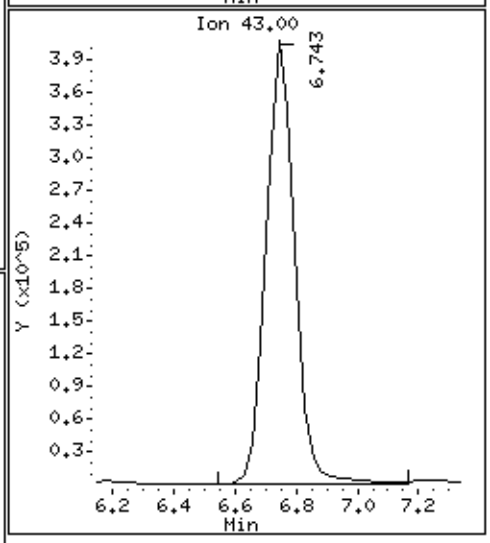












Data File: /chem/msd7.i/7-04nova.b/7110411.d

Date : 04-NOV-2007 23:58

Client ID: LCS-1

Instrument: msd7.i

Sample Info: 50mL #1443-302

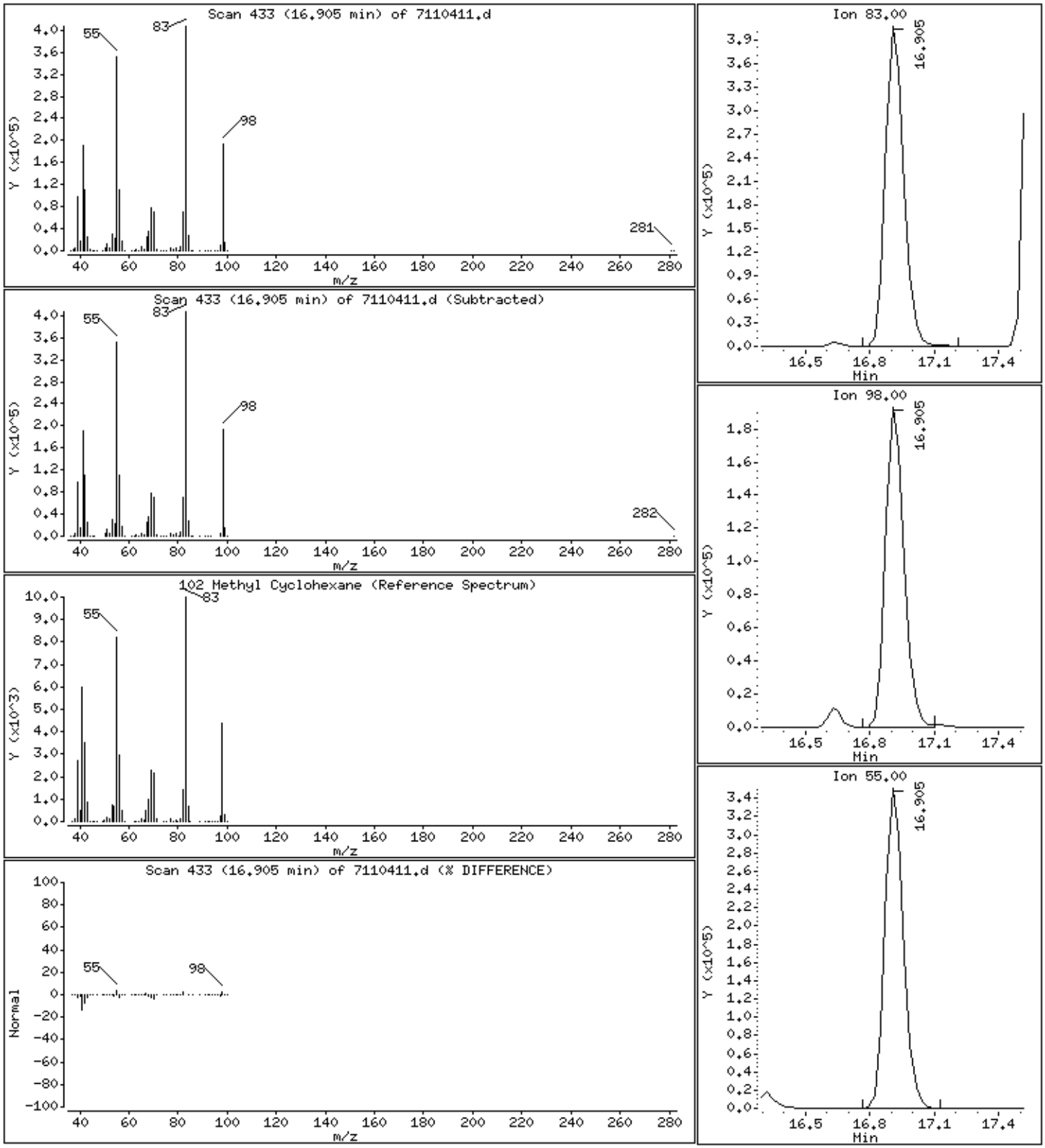
Operator: ab

Column phase: RTx-624

Column diameter: 0.53

102 Methyl Cyclohexane

Concentration: 54.255 PPBV



Data File: /chem/msd7.i/7-04nova.b/7110411.d

Date : 04-NOV-2007 23:58

Client ID: LCS-1

Instrument: msd7.i

Sample Info: 50mL #1443-302

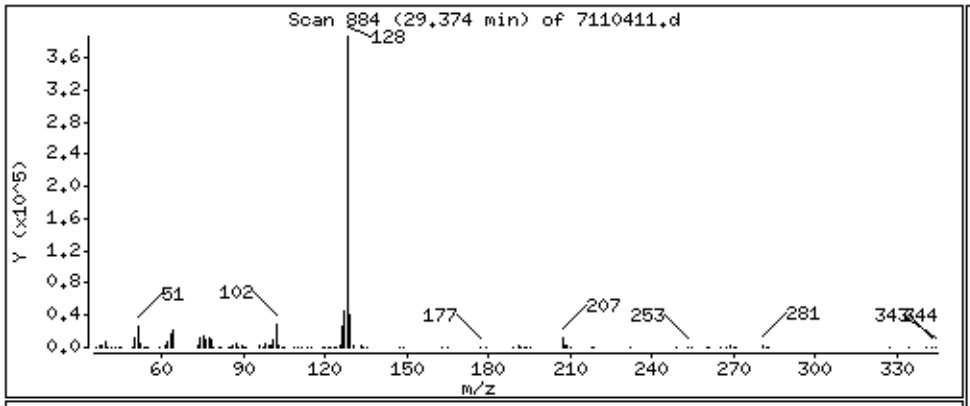
Operator: ab

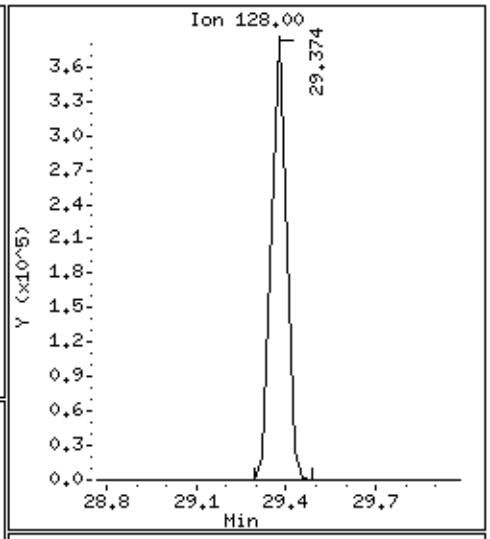
Column phase: RTx-624

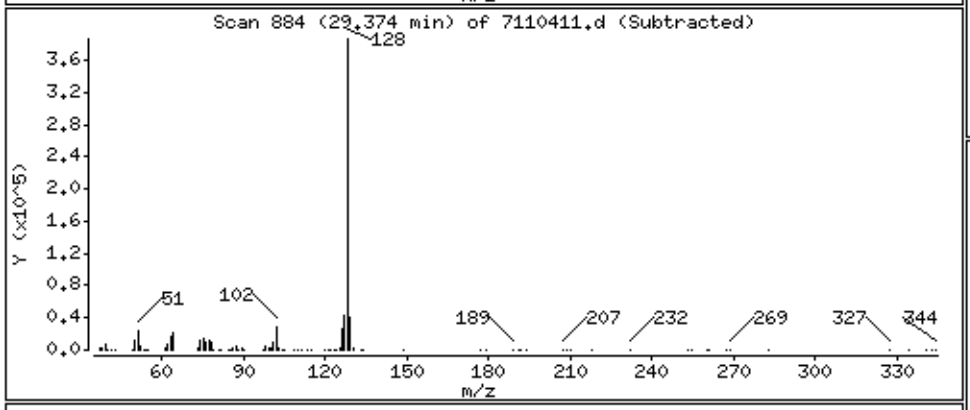
Column diameter: 0.53

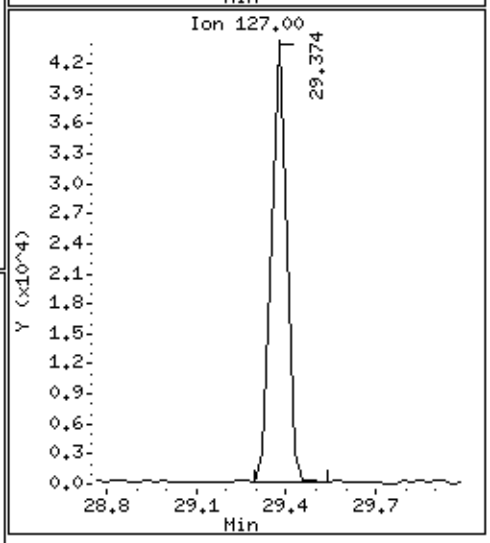
167 Naphthalene

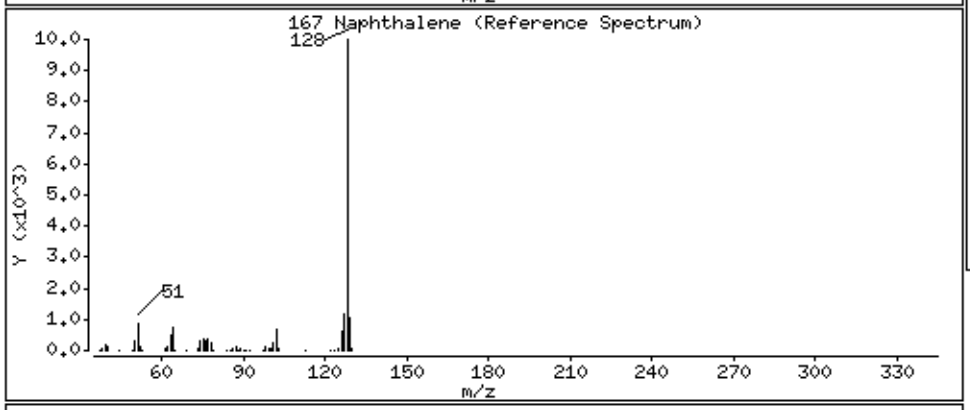
Concentration: 27.196 PPBV

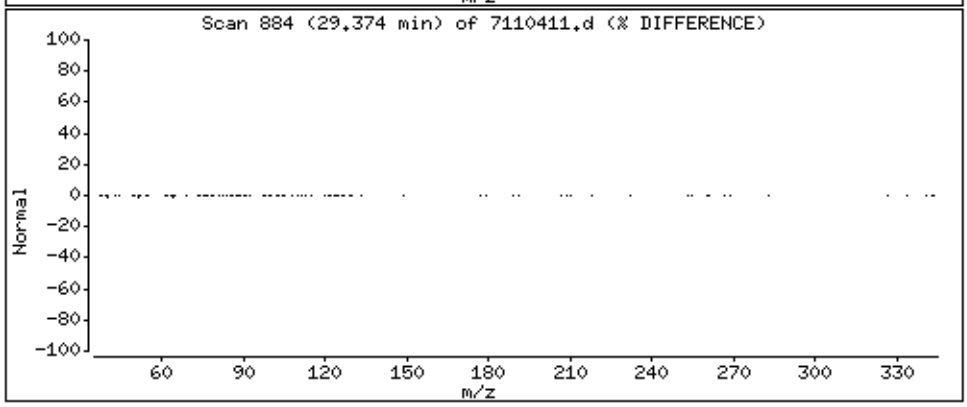












0443

@ Air Toxics Ltd.

MSD-7

Logbook #: 1594

m/z	ION ABUNDANCE CRITERIA	% REL. ABUNDANCE
50	15.0 – 40.0% of mass 95	19.54
75	30.0 – 60.0% of mass 95	39.38
95	Base peak, 100.00% relative abundance	100.00
96	5.0 – 9.0% of mass 95	6.97
173	Less than 2.0% of mass 174	(0.47)[1]
174	Greater than 50.0% of mass 95	94.97
175	5.0 – 9.0% of mass 174	(6.85)[1]
176	Greater than 95.0% but less than 101.0% of mass 174	(98.13)[1]
177	5.0 – 9.0% of mass 176	(6.52)[2]

[1] - value in parenthesis is % mass 174

[2] - value in parenthesis is % mass 176

BFB Injection Date: 11/4/07

BFB Injection Time: 2200

BFB File ID: 7110408

Tekmar Purge Flow: ~~20ml/min~~

Vacuum:

IS/S Std.#: 1443-339	Exp. Date: 12/26/07	
BCM	651162	
1,4-DFB	2188066	
CB-d5	1729242	

Verified CCV IS vs ICAL mid-point (- 40%D) EA *initials*

Verify 176/174 m/z Ratio: 996330/1015338 X100 = 98.13

NOAH Cart #: NA **File #:** NA

Calculation Check:

ppbv of compound $= \frac{Area_{Sample}}{Area_{IS}} \times \frac{Conc._{IS}}{RRF} = \frac{(195045)}{(2188066)} \times \frac{(25)}{(0.887416)} = 25.119$

Reported Result 25.119

File ID:	7110409
Compound:	Tol-d8
Initials:	EA

	Use	File #	Sample / Client Name	Can #	Pressure	Amt Loaded	DF	Date Analyzed	Time Analyzed	Review Init.	Comments
1	✓	7110408	BFB TUNE CHECK	1467-64	Sony	2.0 µL	1.00	11/4/07	2200	[illegible]	
2	✓	09	CCV-1 (100ppbv)	1576-[illegible]	50ppbv	100mL	↓	↓	2227	[illegible]	
3	✓	10	CCVSP (200ppbv)	1467-60	↓	50mL	↓	↓	2311	[illegible]	
4	✓	11	LCS-1 (200ppbv)	1443-302	↓	50mL	↓	↓	2358	[illegible]	
5	✗	12	System Blank	34190	Humid	200mL	↓	11/5/07	0110	[illegible]	
6	✓	13	Lab Blank	↓	↓	↓	↓	↓	0213	[illegible]	
7	✓	14	0711008-01A	TO-1556	6.0"Hg-5psi	↓	1.68	↓	0315	[illegible]	
8	✓	15	-02A	34422	7.5"Hg-5psi	↓	1.79	↓	0430	[illegible]	
9	✓	16	↓ 04A ~~-03A~~ 11/5/07	R-11	8.0"Hg-5psi	↓	1.83	↓	0536	[illegible]	

Laura Overman

11/5/07 Date

10	✓	7110417	0711008-03A	34327	9.0 lb/cpi	200mL	1.91	11/5/07	0536	KB/LD	
11	✓	18	-05A	14003	80 lb/cpi	200mL	1.83		0724	KB/LD	"E" Propylene 4404
12	✓	19	06A	35979	75 lb/cpi		1.79		0817	LA	
13											
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29											
30											
31											
32											

Comments:

11/5/07

Signature

11/5/07
Date

0441

Air Toxics Ltd.

Data file : /var/chem/msd7.i/7-18oct.b/7101801.d
Lab Smp Id: Client Smp ID: BFB
Inj Date : 18-OCT-2007 11:50
Operator : cb Inst ID: msd7.i
Smp Info : 2uL #1467-64;BFB tune check;BFB tune check
Misc Info : 50ng
Comment :
Method : /var/chem/msd7.i/7-18oct.b/bfb105.m
Meth Date : 18-Oct-2007 11:45 Quant Type: ESTD
Cal Date : Cal File:
Als bottle: 1 QC Sample: BFB
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 3.50 Sample Matrix: WATER
Processing Host: eeyore

Concentration Formula: Amt * DF * Uf * Vf * Vi * CpndVariable

Name	Value	Description
DF	1.00000	Dilution Factor
Uf	1.00000	ng unit correction factor
Vf	1.00000	Volumetric correction factor
Vi	2.00000	Injection Volume

Cpnd Variable Local Compound Variable

RT	EXP RT	DLT RT	MASS	RESPONSE	CONCENTRATIONS ON-COL (ug/L)	FINAL (ug/L)	TARGET RANGE	RATIO
1 bfb						CAS #: 460-00-4		
8.204	8.232	-0.028	95	1361542			100.00- 100.00	100.00
8.204	8.232	-0.028	50	253402			15.00- 40.00	18.61
8.204	8.232	-0.028	75	540735			30.00- 60.00	39.71
8.204	8.232	-0.028	96	92275			5.00- 9.00	6.78
8.204	8.232	-0.028	173	5478			0.00- 2.00	0.49
8.204	8.232	-0.028	174	1112403			50.00- 100.00	81.70
8.204	8.232	-0.028	175	76512			5.00- 9.00	6.88
8.204	8.232	-0.028	176	1072385			95.00- 101.00	96.40
8.204	8.232	-0.028	177	71737			5.00- 9.00	6.69

Data File: /var/chem/msd7.i/7-18oct.b/7101801.d

Date : 18-OCT-2007 11:50

Client ID: BFB

Instrument: msd7.i

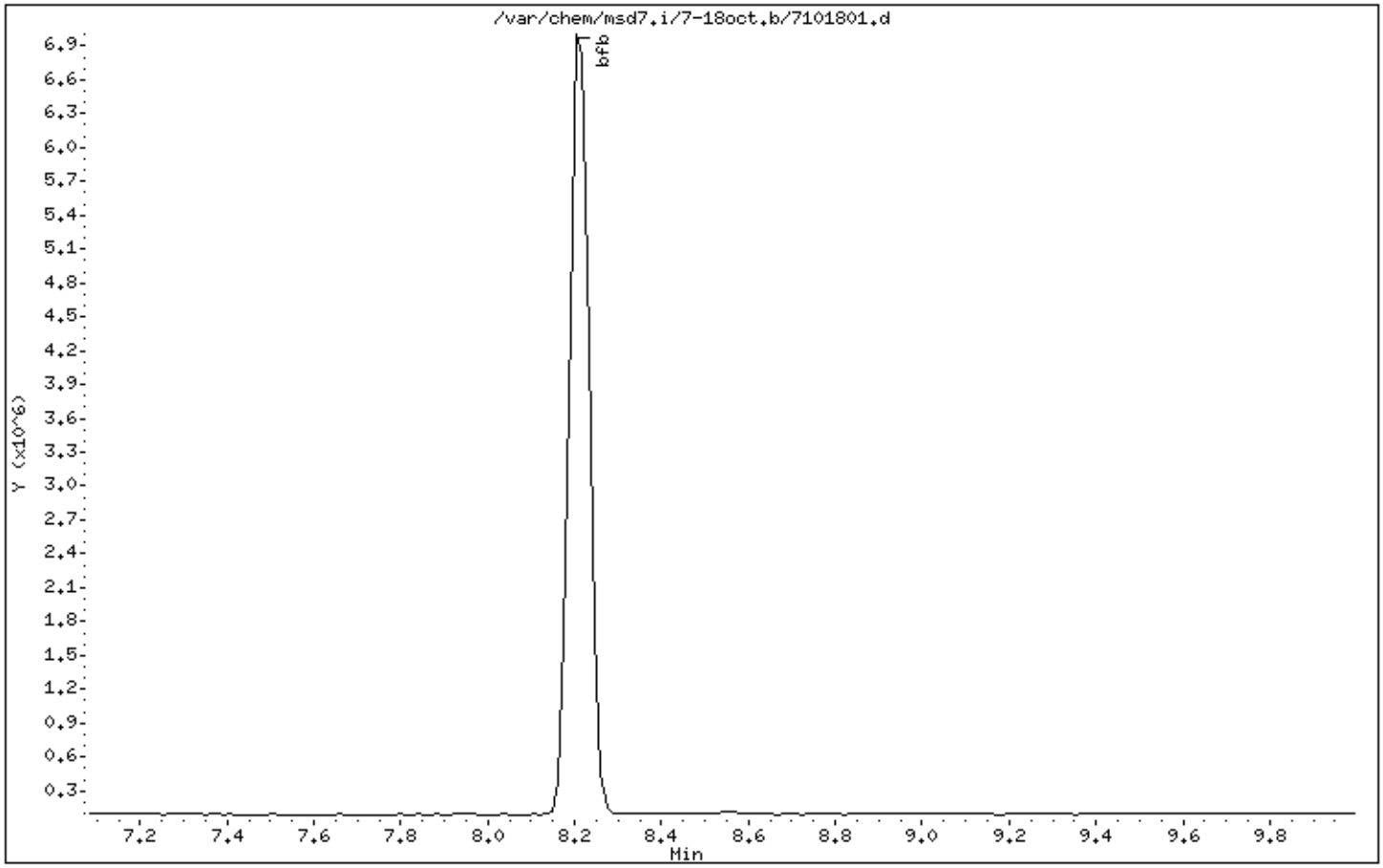
Sample Info: 2uL #1467-64;BFB tune check;BFB tune check

Volume Injected (uL): 2.0

Operator: cb

Column phase:

Column diameter: 0.53



Data File: /var/chem/msd7.i/7-18oct.b/7101801.d

Date : 18-OCT-2007 11:50

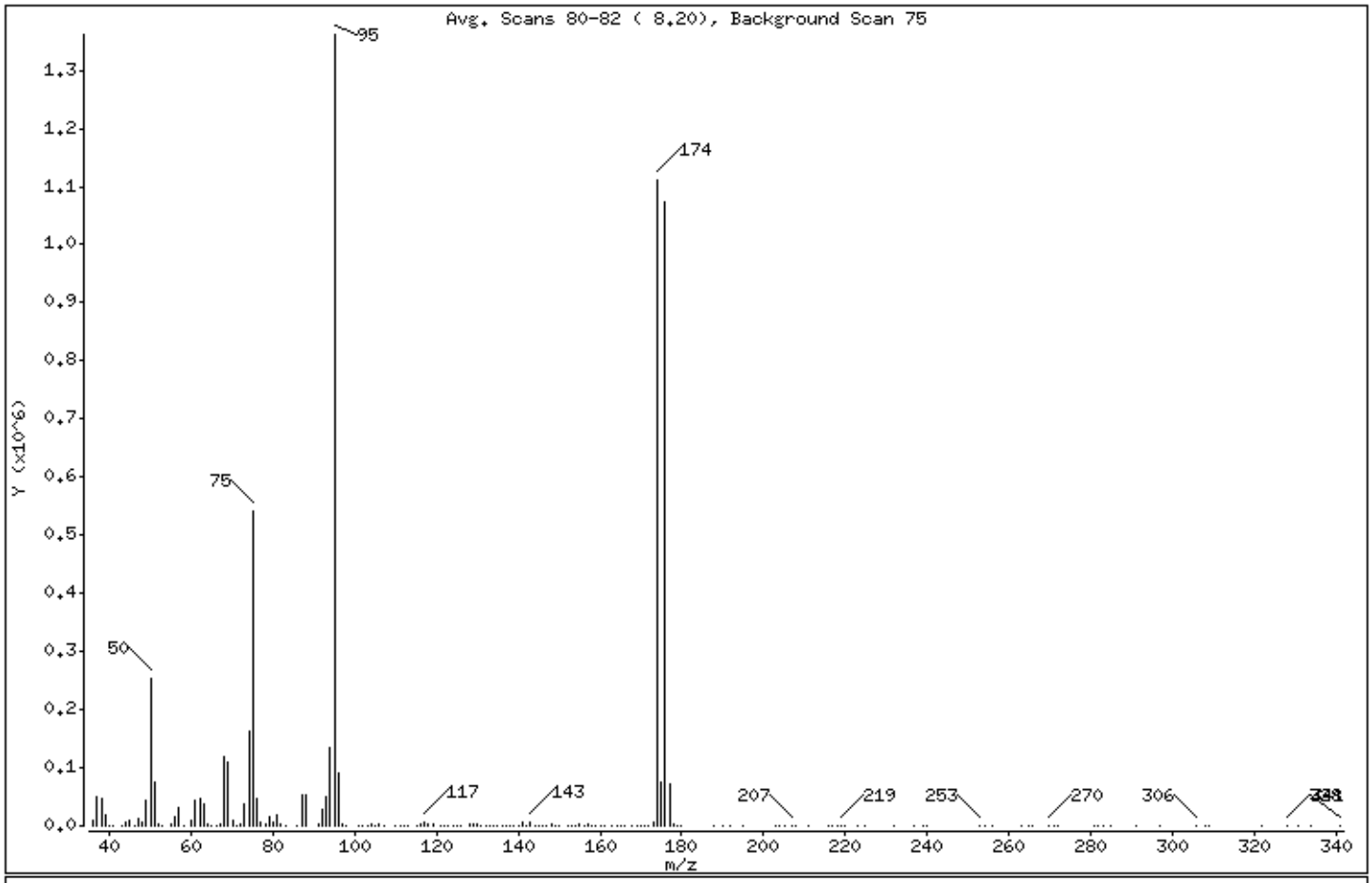
Client ID: BFB Instrument: msd7.i

Sample Info: 2uL #1467-64;BFB tune check;BFB tune check

Volume Injected (uL): 2.0 Operator: cb

Column phase: Column diameter: 0.53

1 bfb



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
95	Base Peak, 100% relative abundance	100.00
50	15.00 - 40.00% of mass 95	18.61
75	30.00 - 60.00% of mass 95	39.71
96	5.00 - 9.00% of mass 95	6.78
173	Less than 2.00% of mass 174	0.40 (0.49)
174	50.00 - 100.00% of mass 95	81.70
175	5.00 - 9.00% of mass 174	5.62 (6.88)
176	95.00 - 101.00% of mass 174	78.76 (96.40)
177	5.00 - 9.00% of mass 176	5.27 (6.69)

Data File: /var/chem/msd7.i/7-18oct.b/7101801.d

Date : 18-OCT-2007 11:50

Client ID: BFB

Instrument: msd7.i

Sample Info: 2uL #1467-64;BFB tune check;BFB tune check

Volume Injected (uL): 2.0

Operator: cb

Column phase:

Column diameter: 0.53

Data File: 7101801.d
Spectrum: Avg. Scans 80-82 (8.20), Background Scan 75
Location of Maximum: 95.00
Number of points: 172

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	8158	83.00	554	138.00	104	203.00	51
37.00	49192	86.00	1313	139.00	375	204.00	50
38.00	45528	87.00	54192	140.00	632	205.00	189
39.00	18720	88.00	53800	141.00	6507	207.00	741
40.00	732	91.00	2816	142.00	957	208.00	504
41.00	74	92.00	27664	143.00	6881	211.00	169
43.00	497	93.00	48888	144.00	483	216.00	66
44.00	4997	94.00	133568	145.00	361	217.00	63
45.00	9825	95.00	1361408	146.00	1560	218.00	35
46.00	873	96.00	92272	147.00	676	219.00	212
47.00	13741	97.00	2838	148.00	2309	220.00	15
48.00	5492	98.00	75	149.00	1043	223.00	146
49.00	42264	101.00	135	150.00	871	225.00	51
50.00	253376	102.00	118	152.00	549	232.00	107
51.00	73776	103.00	426	153.00	862	237.00	53
52.00	3233	104.00	3526	154.00	656	239.00	108
53.00	104	105.00	1311	155.00	2400	240.00	51
55.00	2446	106.00	3382	156.00	486	253.00	738
56.00	14834	107.00	1234	157.00	1946	254.00	63
57.00	31320	110.00	477	158.00	503	256.00	73
58.00	1332	111.00	643	159.00	927	263.00	50
60.00	8076	112.00	546	160.00	166	265.00	164
61.00	44952	113.00	773	161.00	951	266.00	131
62.00	46256	115.00	711	163.00	50	270.00	379
63.00	36824	116.00	3373	164.00	6	271.00	115
64.00	3340	117.00	5525	165.00	191	272.00	119
65.00	65	118.00	2784	166.00	52	281.00	44
66.00	128	119.00	4176	168.00	237	282.00	150
67.00	2479	121.00	195	169.00	104	283.00	43
68.00	119376	122.00	240	170.00	388	285.00	69
69.00	110568	123.00	240	171.00	532	291.00	52
70.00	8062	124.00	581	172.00	1047	297.00	50
71.00	416	125.00	238	173.00	5478	306.00	182
72.00	4070	126.00	222	174.00	1112064	308.00	72
73.00	38304	128.00	3372	175.00	76512	309.00	53

Data File: /var/chem/msd7.i/7-18oct.b/7101801.d

Date : 18-OCT-2007 11:50

Client ID: BFB

Instrument: msd7.i

Sample Info: 2uL #1467-64;BFB tune check;BFB tune check

Volume Injected (uL): 2.0

Operator: cb

Column phase:

Column diameter: 0.53

Data File: 7101801.d
Spectrum: Avg. Scans 80-82 (8.20), Background Scan 75
Location of Maximum: 95.00
Number of points: 172

m/z	Y	m/z	Y	m/z	Y	m/z	Y
74.00	163648	129.00	1628	176.00	1072128	322.00	66
75.00	540672	130.00	3411	177.00	71736	328.00	157
76.00	45504	131.00	1190	178.00	1947	331.00	61
77.00	6657	132.00	336	179.00	187	334.00	27
78.00	3945	133.00	196	180.00	198	341.00	150
79.00	17176	134.00	119	188.00	83		
80.00	5949	135.00	1488	190.00	234		
81.00	17288	136.00	367	192.00	279		
82.00	3829	137.00	1534	195.00	264		

Air Toxics Ltd.

Data file : /chem/msd7.i/7-19oct.b/7101901.d
Lab Smp Id: Client Smp ID: BFB
Inj Date : 19-OCT-2007 09:09
Operator : cb Inst ID: msd7.i
Smp Info : 2uL #1467-64;BFB tune check;BFB tune check
Misc Info : 50ng
Comment :
Method : /var/chem/msd7.i/7-19oct.b/bfb105.m
Meth Date : 19-Oct-2007 09:04 Quant Type: ESTD
Cal Date : Cal File:
Als bottle: 1 QC Sample: BFB
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 3.50 Sample Matrix: WATER
Processing Host: eeyore

Concentration Formula: Amt * DF * Uf * Vf * Vi * CpndVariable

Name	Value	Description
DF	1.00000	Dilution Factor
Uf	1.00000	ng unit correction factor
Vf	1.00000	Volumetric correction factor
Vi	2.00000	Injection Volume

Cpnd Variable Local Compound Variable

RT	EXP RT	DLT RT	MASS	RESPONSE	CONCENTRATIONS ON-COL (ug/L)	FINAL (ug/L)	TARGET RANGE	RATIO
1 bfb						CAS #: 460-00-4		
8.218	8.232	-0.014	95	1279483			100.00- 100.00	100.00
8.218	8.232	-0.014	50	234402			15.00- 40.00	18.32
8.218	8.232	-0.014	75	514967			30.00- 60.00	40.25
8.218	8.232	-0.014	96	87384			5.00- 9.00	6.83
8.218	8.232	-0.014	173	5154			0.00- 2.00	0.49
8.218	8.232	-0.014	174	1045184			50.00- 100.00	81.69
8.218	8.232	-0.014	175	74282			5.00- 9.00	7.11
8.218	8.232	-0.014	176	1015727			95.00- 101.00	97.18
8.218	8.232	-0.014	177	67754			5.00- 9.00	6.67

Data File: /chem/msd7.i/7-19oct.b/7101901.d

Date : 19-OCT-2007 09:09

Client ID: BFB

Instrument: msd7.i

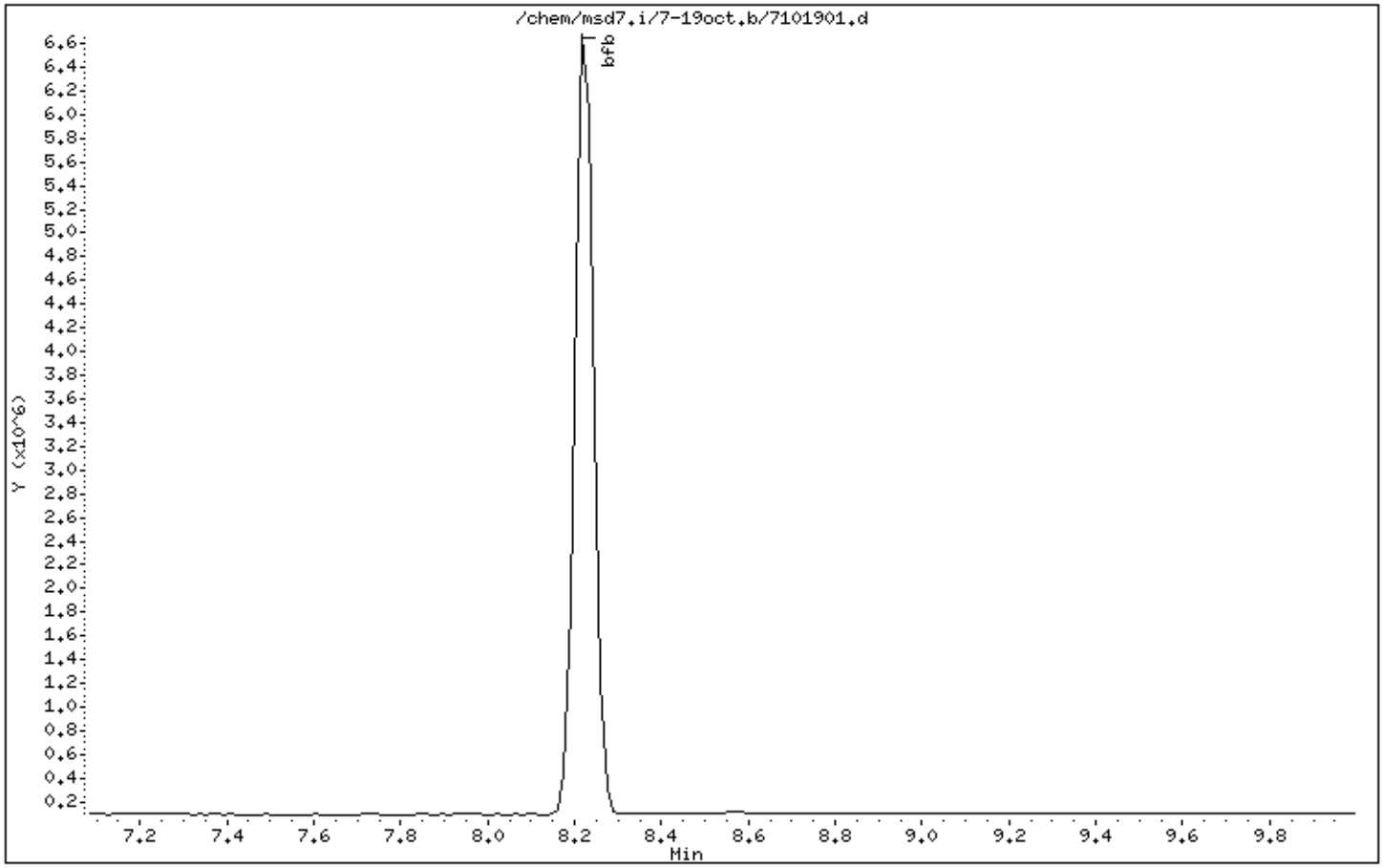
Sample Info: 2uL #1467-64;BFB tune check;BFB tune check

Volume Injected (uL): 2.0

Operator: cb

Column phase:

Column diameter: 0.53



Data File: /chem/msd7.i/7-19oct.b/7101901.d

Date : 19-OCT-2007 09:09

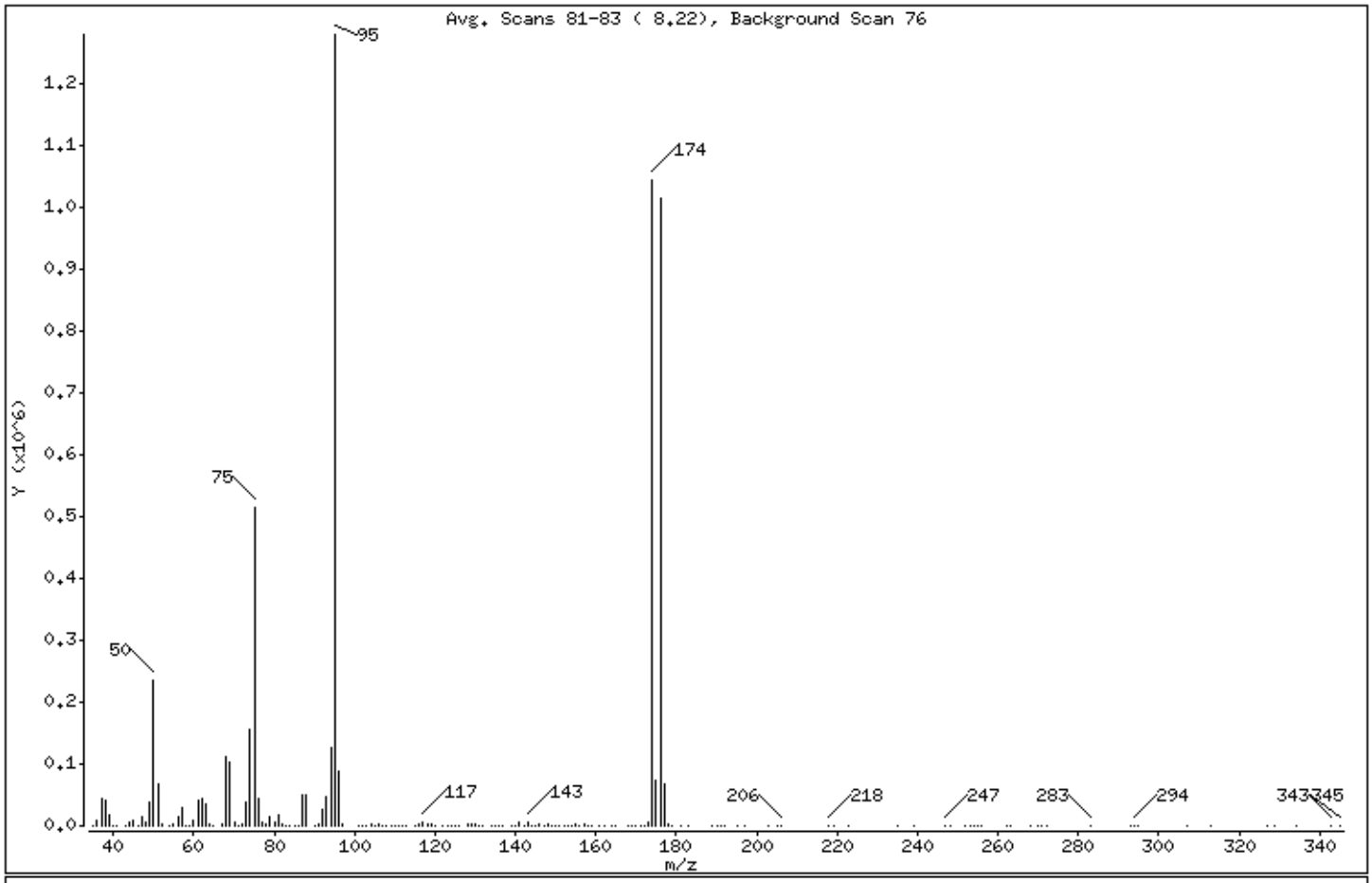
Client ID: BFB Instrument: msd7.i

Sample Info: 2uL #1467-64;BFB tune check;BFB tune check

Volume Injected (uL): 2.0 Operator: cb

Column phase: Column diameter: 0.53

1 bfb



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
95	Base Peak, 100% relative abundance	100.00
50	15.00 - 40.00% of mass 95	18.32
75	30.00 - 60.00% of mass 95	40.25
96	5.00 - 9.00% of mass 95	6.83
173	Less than 2.00% of mass 174	0.40 (0.49)
174	50.00 - 100.00% of mass 95	81.69
175	5.00 - 9.00% of mass 174	5.81 (7.11)
176	95.00 - 101.00% of mass 174	79.39 (97.18)
177	5.00 - 9.00% of mass 176	5.30 (6.67)

Data File: /chem/msd7.i/7-19oct.b/7101901.d

Date : 19-OCT-2007 09:09

Client ID: BFB Instrument: msd7.i

Sample Info: 2uL #1467-64;BFB tune check;BFB tune check

Volume Injected (uL): 2.0 Operator: cb

Column phase: Column diameter: 0.53

Data File: 7101901.d
Spectrum: Avg. Scans 81-83 (8.22), Background Scan 76
Location of Maximum: 95.00
Number of points: 169

m/z	Y	m/z	Y	m/z	Y	m/z	Y
35.00	72	81.00	16704	131.00	1146	181.00	171
36.00	7566	82.00	3637	132.00	454	183.00	50
37.00	45072	83.00	479	134.00	161	189.00	206
38.00	40240	84.00	53	135.00	1280	190.00	52
39.00	17640	85.00	82	136.00	225	191.00	120
40.00	628	86.00	903	137.00	1337	192.00	19
41.00	514	87.00	50640	139.00	320	195.00	40
43.00	189	88.00	48824	140.00	552	197.00	61
44.00	4493	90.00	132	141.00	6532	203.00	123
45.00	9647	91.00	2770	142.00	943	205.00	82
46.00	741	92.00	27528	143.00	7001	206.00	177
47.00	14368	93.00	47072	144.00	545	218.00	236
48.00	5164	94.00	125368	145.00	738	219.00	161
49.00	39688	95.00	1278976	146.00	1511	223.00	27
50.00	234368	96.00	87384	147.00	819	235.00	67
51.00	68168	97.00	2415	148.00	2386	239.00	107
52.00	2980	101.00	172	149.00	484	247.00	182
54.00	63	102.00	133	150.00	1007	248.00	62
55.00	2156	103.00	141	151.00	144	252.00	66
56.00	13491	104.00	2803	152.00	540	253.00	19
57.00	28776	105.00	1086	153.00	901	254.00	160
58.00	1021	106.00	3164	154.00	676	255.00	25
59.00	272	107.00	1031	155.00	2357	256.00	50
60.00	7740	108.00	15	156.00	629	262.00	82
61.00	41792	109.00	150	157.00	1793	263.00	50
62.00	43952	110.00	458	158.00	360	268.00	131
63.00	34352	111.00	504	159.00	1015	270.00	109
64.00	3135	112.00	313	161.00	1159	271.00	85
65.00	478	113.00	444	162.00	295	272.00	57
67.00	2376	115.00	640	164.00	102	283.00	471
68.00	112072	116.00	2542	165.00	171	293.00	77
69.00	101736	117.00	4565	168.00	62	294.00	66
70.00	7312	118.00	2517	169.00	215	295.00	52
71.00	405	119.00	4082	170.00	464	307.00	60
72.00	4296	120.00	347	171.00	397	313.00	52

Data File: /chem/msd7.i/7-19oct.b/7101901.d

Date : 19-OCT-2007 09:09

Client ID: BFB

Instrument: msd7.i

Sample Info: 2uL #1467-64;BFB tune check;BFB tune check

Volume Injected (uL): 2.0

Operator: cb

Column phase:

Column diameter: 0.53

Data File: 7101901.d
Spectrum: Avg. Scans 81-83 (8.22), Background Scan 76
Location of Maximum: 95.00
Number of points: 169

m/z	Y	m/z	Y	m/z	Y	m/z	Y
73.00	37336	122.00	296	172.00	834	327.00	42
74.00	157248	123.00	375	173.00	5154	329.00	64
75.00	514944	124.00	587	174.00	1045184	334.00	39
76.00	44472	125.00	107	175.00	74280	343.00	346
77.00	6177	126.00	562	176.00	1015680	345.00	241
78.00	4351	128.00	3477	177.00	67752		
79.00	15940	129.00	1800	178.00	1868		
80.00	5885	130.00	3276	179.00	89		

Air Toxics Ltd.

Data file : /var/chem/msd7.i/7-22oct.b/7102201.d
Lab Smp Id: Client Smp ID: BFB
Inj Date : 22-OCT-2007 08:22
Operator : cb Inst ID: msd7.i
Smp Info : 2uL #1467-64;BFB tune check;BFB tune check
Misc Info : 50ng
Comment :
Method : /var/chem/msd7.i/7-22oct.b/bfb105.m
Meth Date : 22-Oct-2007 08:17 Quant Type: ESTD
Cal Date : Cal File:
Als bottle: 1 QC Sample: BFB
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 3.50 Sample Matrix: WATER
Processing Host: eeyore

Concentration Formula: Amt * DF * Uf * Vf * Vi * CpndVariable

Name	Value	Description
DF	1.00000	Dilution Factor
Uf	1.00000	ng unit correction factor
Vf	1.00000	Volumetric correction factor
Vi	2.00000	Injection Volume

Cpnd Variable Local Compound Variable

RT	EXP RT	DLT RT	MASS	RESPONSE	CONCENTRATIONS ON-COL (ug/L)	FINAL (ug/L)	TARGET RANGE	RATIO
1 bfb						CAS #: 460-00-4		
8.218	8.232	-0.014	95	1368062			100.00- 100.00	100.00
8.218	8.232	-0.014	50	244266			15.00- 40.00	17.85
8.218	8.232	-0.014	75	543796			30.00- 60.00	39.75
8.218	8.232	-0.014	96	92363			5.00- 9.00	6.75
8.218	8.232	-0.014	173	6310			0.00- 2.00	0.53
8.218	8.232	-0.014	174	1182801			50.00- 100.00	86.46
8.218	8.232	-0.014	175	81821			5.00- 9.00	6.92
8.218	8.232	-0.014	176	1142984			95.00- 101.00	96.63
8.218	8.232	-0.014	177	74057			5.00- 9.00	6.48

Data File: /var/chem/msd7.i/7-22oct.b/7102201.d

Date : 22-OCT-2007 08:22

Client ID: BFB

Instrument: msd7.i

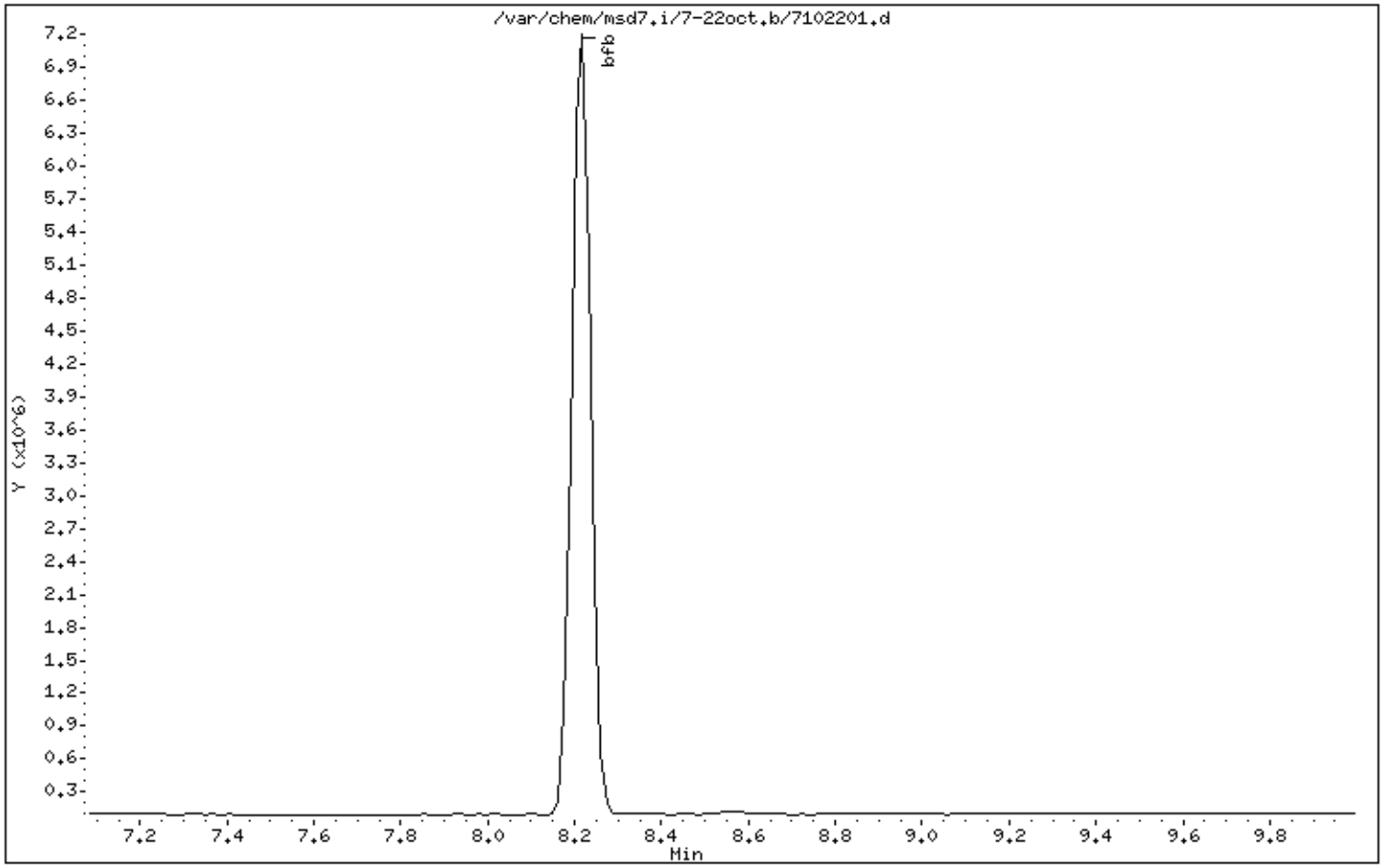
Sample Info: 2uL #1467-64;BFB tune check;BFB tune check

Volume Injected (uL): 2.0

Operator: cb

Column phase:

Column diameter: 0.53



Data File: /var/chem/msd7.i/7-22oct.b/7102201.d

Date : 22-OCT-2007 08:22

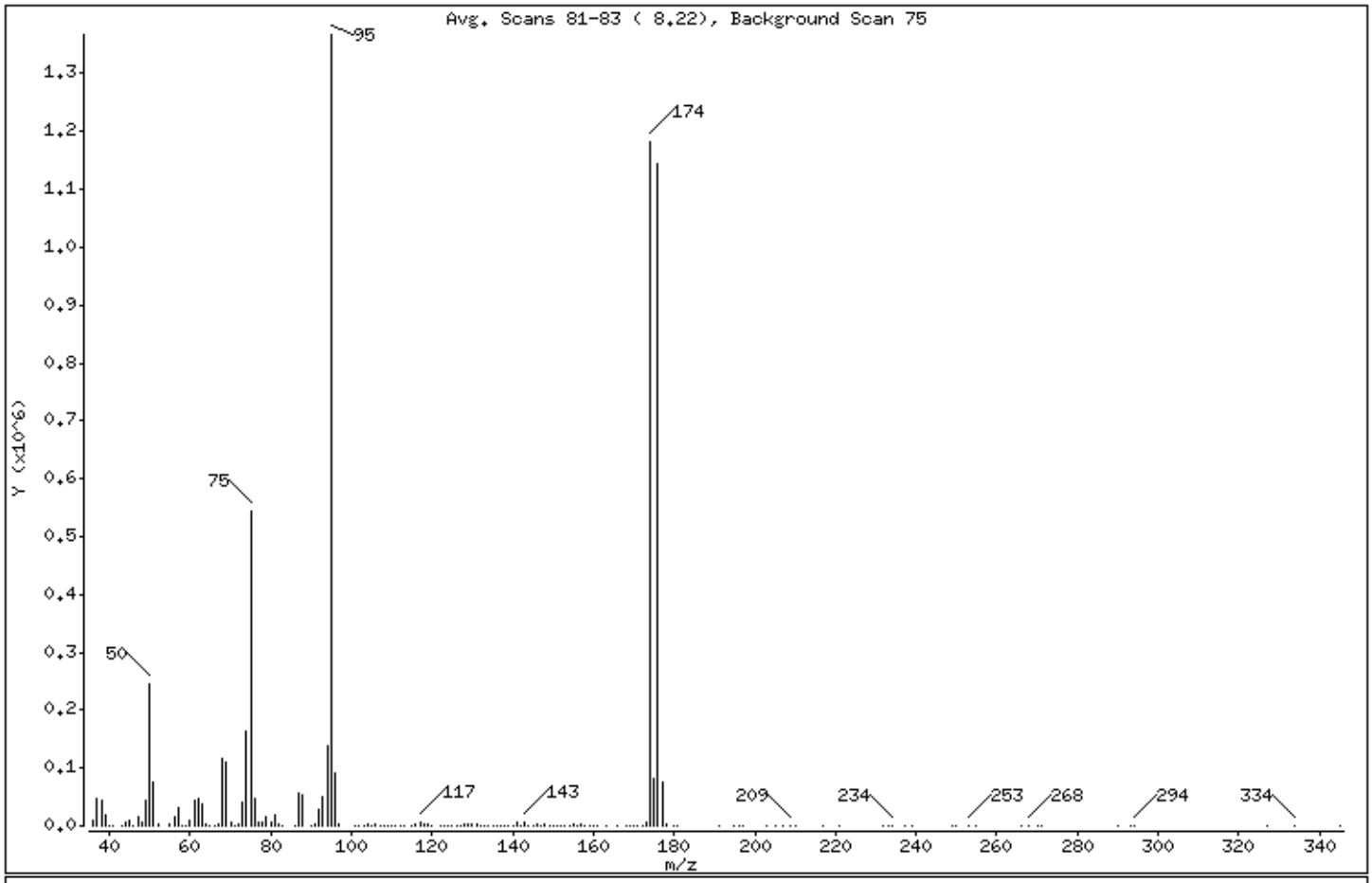
Client ID: BFB Instrument: msd7.i

Sample Info: 2uL #1467-64;BFB tune check;BFB tune check

Volume Injected (uL): 2.0 Operator: cb

Column phase: Column diameter: 0.53

1 bfb



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
95	Base Peak, 100% relative abundance	100.00
50	15.00 - 40.00% of mass 95	17.85
75	30.00 - 60.00% of mass 95	39.75
96	5.00 - 9.00% of mass 95	6.75
173	Less than 2.00% of mass 174	0.46 (0.53)
174	50.00 - 100.00% of mass 95	86.46
175	5.00 - 9.00% of mass 174	5.98 (6.92)
176	95.00 - 101.00% of mass 174	83.55 (96.63)
177	5.00 - 9.00% of mass 176	5.41 (6.48)

Data File: /var/chem/msd7.i/7-22oct.b/7102201.d

Date : 22-OCT-2007 08:22

Client ID: BFB

Instrument: msd7.i

Sample Info: 2uL #1467-64;BFB tune check;BFB tune check

Volume Injected (uL): 2.0

Operator: cb

Column phase:

Column diameter: 0.53

Data File: 7102201.d
Spectrum: Avg. Scans 81-83 (8.22), Background Scan 75
Location of Maximum: 95.00
Number of points: 160

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	7934	80.00	6507	129.00	1848	174.00	1182720
37.00	46400	81.00	17392	130.00	3596	175.00	81816
38.00	43896	82.00	4057	131.00	1722	176.00	1142784
39.00	18320	83.00	366	132.00	246	177.00	74056
40.00	466	86.00	1209	133.00	474	178.00	1906
41.00	102	87.00	55040	134.00	351	180.00	63
43.00	446	88.00	52696	135.00	1238	181.00	60
44.00	5254	90.00	94	136.00	390	191.00	49
45.00	10160	91.00	2596	137.00	1212	195.00	127
46.00	749	92.00	28584	138.00	67	196.00	50
47.00	14258	93.00	49208	139.00	329	197.00	54
48.00	4923	94.00	136960	140.00	640	203.00	23
49.00	44064	95.00	1367552	141.00	6885	205.00	114
50.00	244224	96.00	92360	142.00	1006	207.00	64
51.00	74240	97.00	2784	143.00	7115	209.00	162
52.00	2711	101.00	64	144.00	424	210.00	61
55.00	2537	102.00	33	145.00	525	217.00	109
56.00	14247	103.00	527	146.00	1988	221.00	104
57.00	30944	104.00	3615	147.00	642	232.00	114
58.00	1172	105.00	1276	148.00	2214	233.00	24
59.00	16	106.00	3588	149.00	812	234.00	201
60.00	8822	107.00	1268	150.00	1058	237.00	52
61.00	43248	108.00	66	151.00	149	239.00	80
62.00	45912	109.00	216	152.00	573	249.00	279
63.00	37216	110.00	357	153.00	1089	250.00	65
64.00	3029	111.00	609	154.00	769	253.00	409
65.00	121	112.00	147	155.00	2837	255.00	19
66.00	148	113.00	586	156.00	132	266.00	68
67.00	2227	115.00	534	157.00	1838	268.00	195
68.00	116288	116.00	2972	158.00	266	270.00	108
69.00	109120	117.00	5461	159.00	1124	271.00	4
70.00	7621	118.00	2641	160.00	100	290.00	51
71.00	436	119.00	4156	161.00	871	293.00	50
72.00	4566	120.00	149	163.00	80	294.00	54
73.00	39520	122.00	241	166.00	50	327.00	35

Data File: /var/chem/msd7.i/7-22oct.b/7102201.d

Date : 22-OCT-2007 08:22

Client ID: BFB

Instrument: msd7.i

Sample Info: 2uL #1467-64;BFB tune check;BFB tune check

Volume Injected (uL): 2.0

Operator: cb

Column phase:

Column diameter: 0.53

Data File: 7102201.d
Spectrum: Avg. Scans 81-83 (8.22), Background Scan 75
Location of Maximum: 95.00
Number of points: 160

m/z	Y	m/z	Y	m/z	Y	m/z	Y
74.00	164672	123.00	275	168.00	118	334.00	71
75.00	543744	124.00	566	169.00	146	345.00	25
76.00	47160	125.00	204	170.00	403		
77.00	6258	126.00	206	171.00	332		
78.00	4752	127.00	159	172.00	1080		
79.00	16057	128.00	3594	173.00	6310		

Air Toxics Ltd.

Data file : /var/chem/msd7.i/7-30oct.b/7103001.d
Lab Smp Id: Client Smp ID: BFB
Inj Date : 30-OCT-2007 08:26
Operator : cb Inst ID: msd7.i
Smp Info : 2uL #1467-64;BFB tune check;BFB tune check
Misc Info : 50ng
Comment :
Method : /var/chem/msd7.i/7-30oct.b/bfb105.m
Meth Date : 30-Oct-2007 08:20 Quant Type: ESTD
Cal Date : Cal File:
Als bottle: 1 QC Sample: BFB
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 3.50 Sample Matrix: WATER
Processing Host: eeyore

Concentration Formula: Amt * DF * Uf * Vf * Vi * CpndVariable

Name	Value	Description
DF	1.00000	Dilution Factor
Uf	1.00000	ng unit correction factor
Vf	1.00000	Volumetric correction factor
Vi	2.00000	Injection Volume

Cpnd Variable Local Compound Variable

RT	EXP RT	DLT RT	MASS	RESPONSE	CONCENTRATIONS ON-COL (ug/L)	FINAL (ug/L)	TARGET RANGE	RATIO
1 bfb						CAS #: 460-00-4		
8.218	8.232	-0.014	95	985898			100.00- 100.00	100.00
8.218	8.232	-0.014	50	179605			15.00- 40.00	18.22
8.218	8.232	-0.014	75	386803			30.00- 60.00	39.23
8.218	8.232	-0.014	96	65481			5.00- 9.00	6.64
8.218	8.232	-0.014	173	4443			0.00- 2.00	0.52
8.218	8.232	-0.014	174	855253			50.00- 100.00	86.75
8.218	8.232	-0.014	175	60898			5.00- 9.00	7.12
8.218	8.232	-0.014	176	835758			95.00- 101.00	97.72
8.218	8.232	-0.014	177	53944			5.00- 9.00	6.45

Data File: /var/chem/msd7.i/7-30oct.b/7103001.d

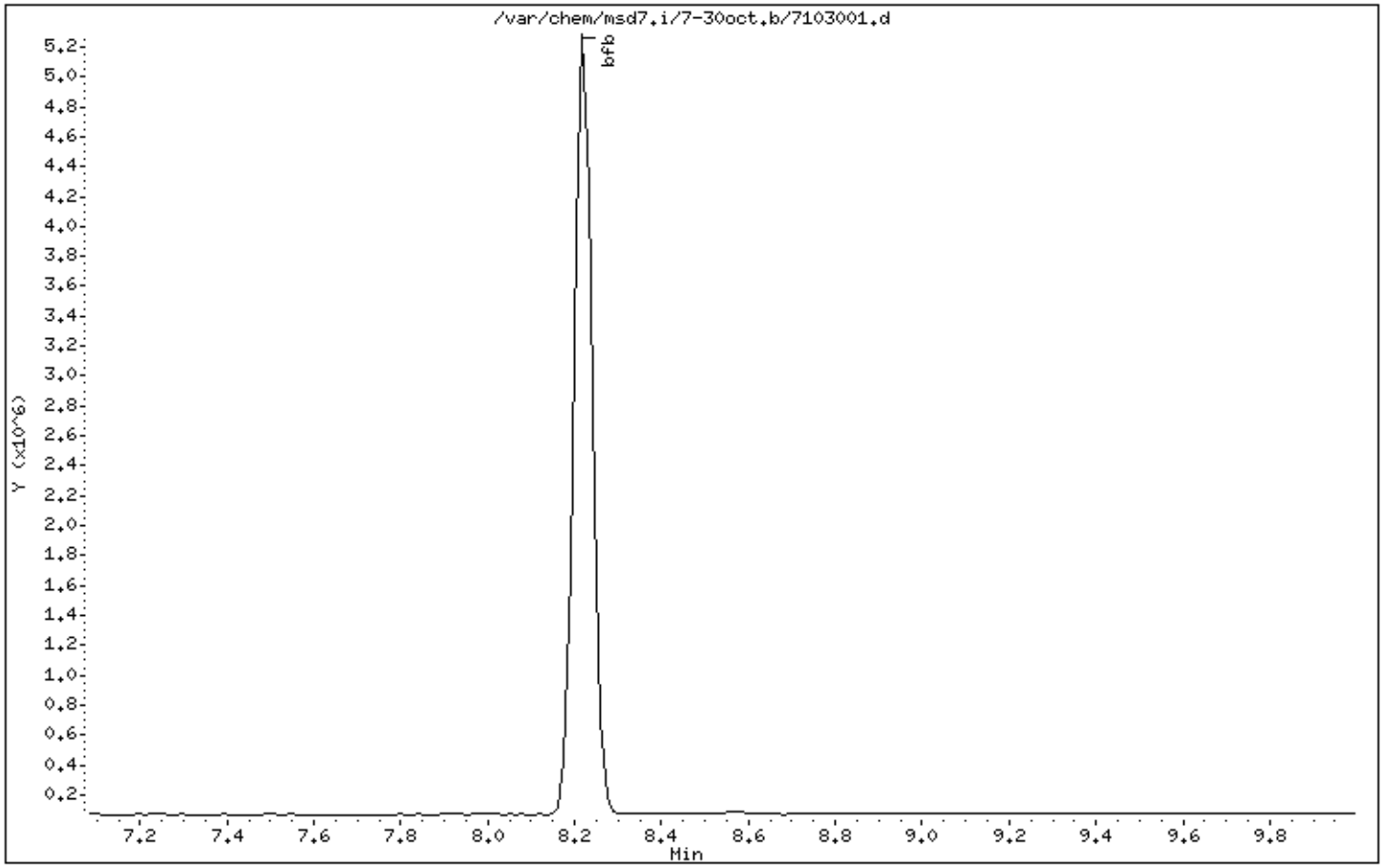
Date : 30-OCT-2007 08:26

Client ID: BFB Instrument: msd7.i

Sample Info: 2uL #1467-64;BFB tune check;BFB tune check

Volume Injected (uL): 2.0 Operator: cb

Column phase: Column diameter: 0.53



Data File: /var/chem/msd7.i/7-30oct.b/7103001.d

Date : 30-OCT-2007 08:26

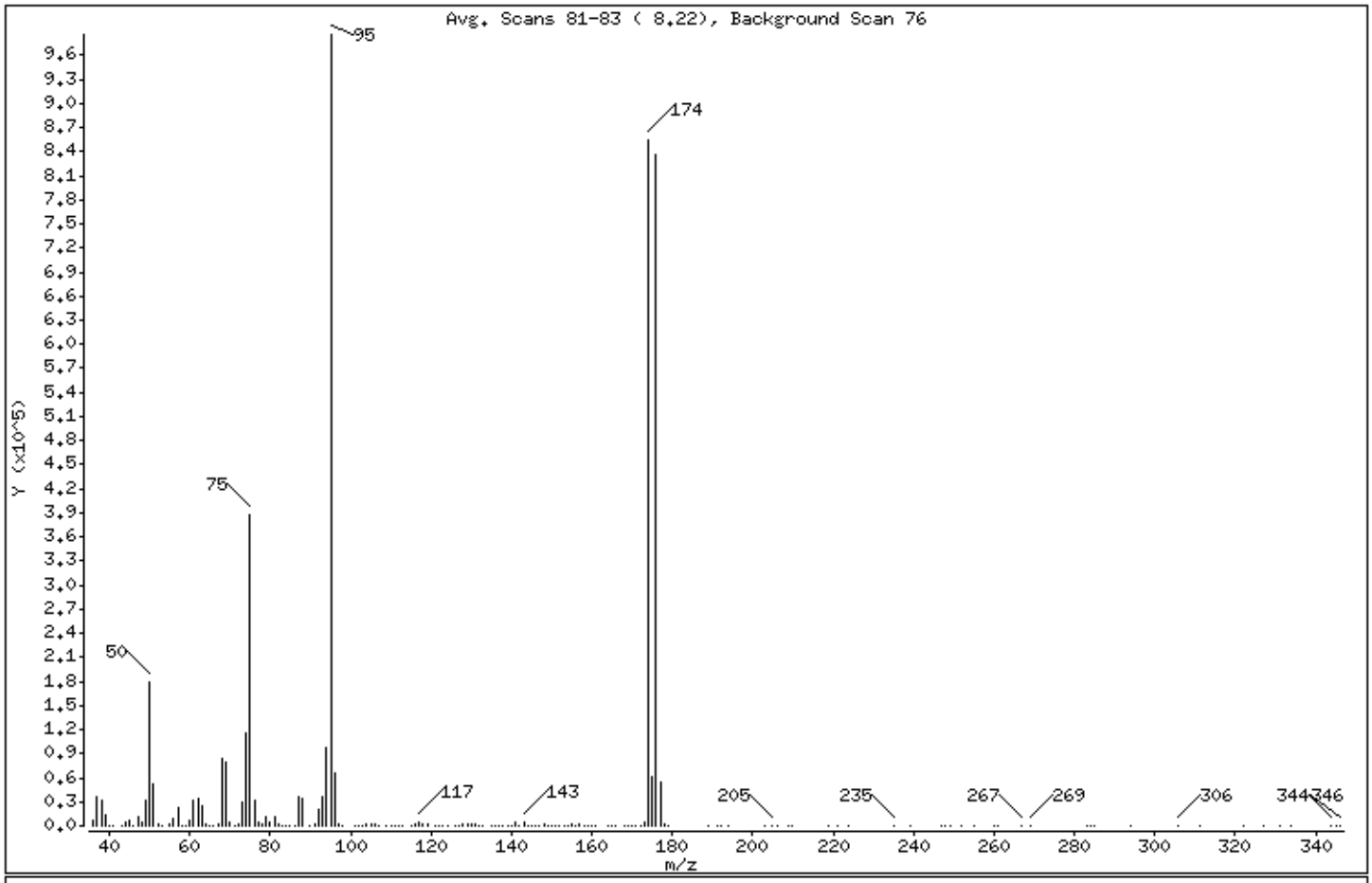
Client ID: BFB Instrument: msd7.i

Sample Info: 2uL #1467-64;BFB tune check;BFB tune check

Volume Injected (uL): 2.0 Operator: cb

Column phase: Column diameter: 0.53

1 bfb



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
95	Base Peak, 100% relative abundance	100.00
50	15.00 - 40.00% of mass 95	18.22
75	30.00 - 60.00% of mass 95	39.23
96	5.00 - 9.00% of mass 95	6.64
173	Less than 2.00% of mass 174	0.45 (0.52)
174	50.00 - 100.00% of mass 95	86.75
175	5.00 - 9.00% of mass 174	6.18 (7.12)
176	95.00 - 101.00% of mass 174	84.77 (97.72)
177	5.00 - 9.00% of mass 176	5.47 (6.45)

Data File: /var/chem/msd7.i/7-30oct.b/7103001.d

Date : 30-OCT-2007 08:26

Client ID: BFB

Instrument: msd7.i

Sample Info: 2uL #1467-64;BFB tune check;BFB tune check

Volume Injected (uL): 2.0

Operator: cb

Column phase:

Column diameter: 0.53

Data File: 7103001.d
Spectrum: Avg. Scans 81-83 (8.22), Background Scan 76
Location of Maximum: 95.00
Number of points: 167

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	5864	80.00	4195	129.00	1278	175.00	60896
37.00	35984	81.00	12097	130.00	2851	176.00	835712
38.00	32616	82.00	2437	131.00	1250	177.00	53944
39.00	13375	83.00	269	132.00	40	178.00	1321
40.00	252	84.00	56	133.00	221	179.00	25
41.00	118	85.00	51	135.00	850	189.00	147
43.00	194	86.00	972	136.00	239	191.00	119
44.00	3444	87.00	35968	137.00	991	192.00	85
45.00	7216	88.00	33456	138.00	108	194.00	76
46.00	550	90.00	115	139.00	64	203.00	51
47.00	10457	91.00	1553	140.00	426	205.00	142
48.00	4077	92.00	20376	141.00	4690	206.00	91
49.00	30808	93.00	35520	142.00	663	209.00	22
50.00	179584	94.00	96568	143.00	4970	210.00	105
51.00	53056	95.00	985856	144.00	322	219.00	106
52.00	2430	96.00	65480	145.00	447	221.00	68
53.00	124	97.00	1839	146.00	920	224.00	52
55.00	1522	98.00	50	147.00	386	235.00	132
56.00	9728	101.00	140	148.00	1872	239.00	74
57.00	22088	102.00	66	149.00	667	247.00	32
58.00	909	103.00	111	150.00	776	248.00	64
59.00	161	104.00	2660	151.00	123	249.00	223
60.00	5809	105.00	1235	152.00	504	252.00	106
61.00	30872	106.00	2288	153.00	738	255.00	1
62.00	34136	107.00	825	154.00	588	260.00	24
63.00	26000	109.00	263	155.00	2007	261.00	87
64.00	2039	110.00	310	156.00	425	267.00	404
65.00	308	111.00	281	157.00	1404	269.00	145
66.00	94	112.00	327	158.00	200	283.00	48
67.00	1714	113.00	417	159.00	927	284.00	39
68.00	83912	115.00	523	160.00	55	285.00	64
69.00	79304	116.00	1973	161.00	708	294.00	75
70.00	5473	117.00	4153	164.00	197	306.00	76
71.00	168	118.00	2490	165.00	28	311.00	53
72.00	2901	119.00	3262	166.00	172	322.00	151

Data File: /var/chem/msd7.i/7-30oct.b/7103001.d

Date : 30-OCT-2007 08:26

Client ID: BFB

Instrument: msd7.i

Sample Info: 2uL #1467-64;BFB tune check;BFB tune check

Volume Injected (uL): 2.0

Operator: cb

Column phase:

Column diameter: 0.53

Data File: 7103001.d
Spectrum: Avg. Scans 81-83 (8.22), Background Scan 76
Location of Maximum: 95.00
Number of points: 167

m/z	Y	m/z	Y	m/z	Y	m/z	Y
73.00	28448	121.00	198	168.00	123	327.00	38
74.00	115952	122.00	214	169.00	68	331.00	60
75.00	386752	123.00	289	170.00	319	334.00	24
76.00	32240	124.00	318	171.00	440	344.00	306
77.00	4494	126.00	237	172.00	936	345.00	85
78.00	2890	127.00	171	173.00	4443	346.00	56
79.00	11211	128.00	2629	174.00	855232		

Air Toxics Ltd.

Data file : /var/chem/msd7.i/7-04nova.b/7110408.d
Lab Smp Id: Client Smp ID: BFB
Inj Date : 04-NOV-2007 22:00
Operator : dm Inst ID: msd7.i
Smp Info : 2.0uL #1467-64;bfb tune check;bfb tune check;
Misc Info : 50ng
Comment :
Method : /var/chem/msd7.i/7-04nova.b/bfb105.m
Meth Date : 04-Nov-2007 21:55 Quant Type: ESTD
Cal Date : Cal File:
Als bottle: 1 QC Sample: BFB
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 3.50 Sample Matrix: WATER
Processing Host: eeyore

Concentration Formula: Amt * DF * Uf * Vf * Vi * CpndVariable

Name	Value	Description
DF	1.00000	Dilution Factor
Uf	1.00000	ng unit correction factor
Vf	1.00000	Volumetric correction factor
Vi	2.00000	Injection Volume

Cpnd Variable Local Compound Variable

RT	EXP RT	DLT RT	MASS	RESPONSE	CONCENTRATIONS ON-COL (ug/L)	FINAL (ug/L)	TARGET RANGE	RATIO
1 bfb						CAS #: 460-00-4		
8.218	8.232	-0.014	95	1069149			100.00- 100.00	100.00
8.218	8.232	-0.014	50	208948			15.00- 40.00	19.54
8.218	8.232	-0.014	75	421024			30.00- 60.00	39.38
8.218	8.232	-0.014	96	73430			5.00- 9.00	6.87
8.218	8.232	-0.014	173	4750			0.00- 2.00	0.47
8.218	8.232	-0.014	174	1015338			50.00- 100.00	94.97
8.218	8.232	-0.014	175	69509			5.00- 9.00	6.85
8.218	8.232	-0.014	176	996330			95.00- 101.00	98.13
8.218	8.232	-0.014	177	64980			5.00- 9.00	6.52

Data File: /var/chem/msd7.i/7-04nova.b/7110408.d

Date : 04-NOV-2007 22:00

Client ID: BFB

Instrument: msd7.i

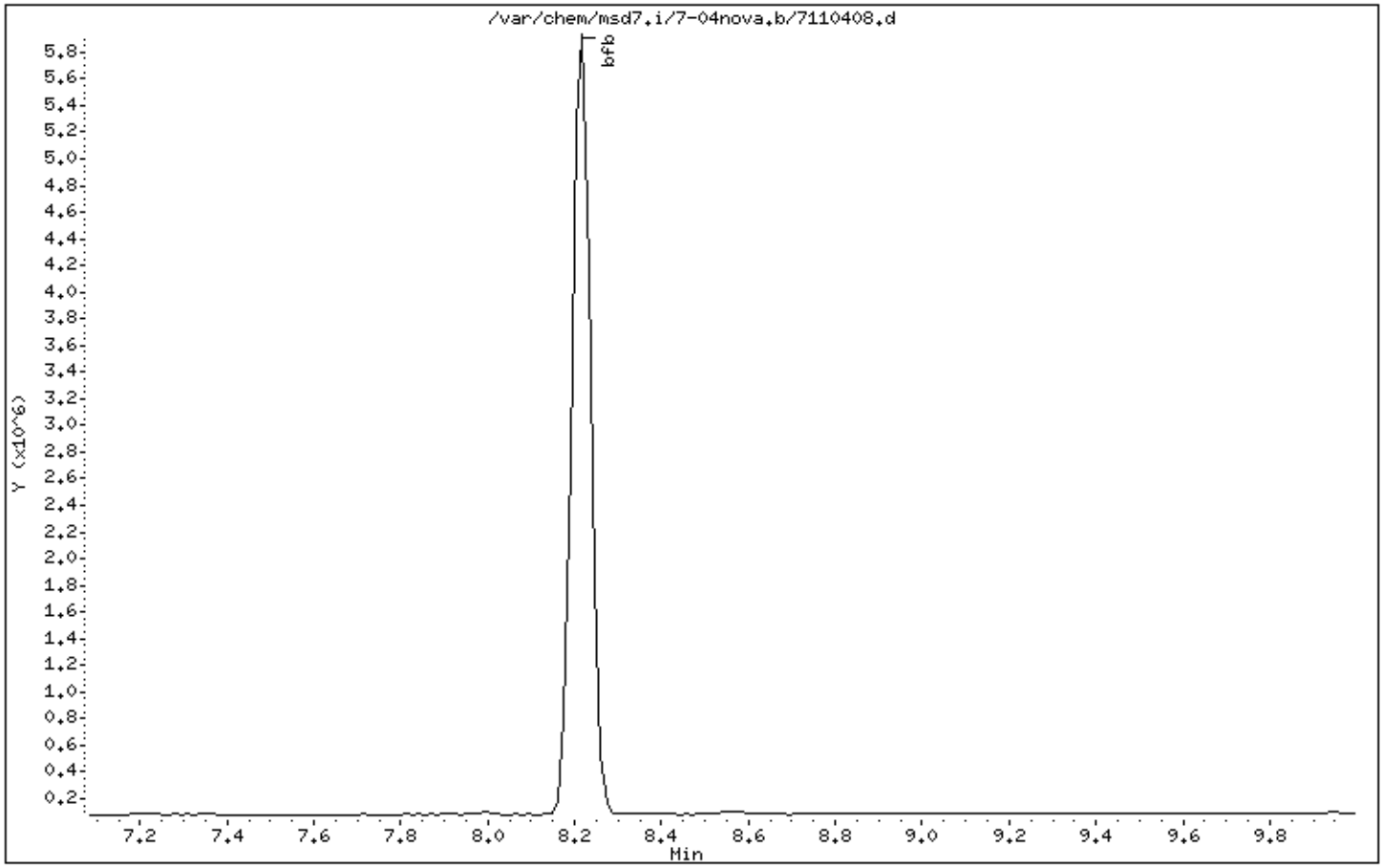
Sample Info: 2.0uL #1467-64;bfb tune check;bfb tune check;

Volume Injected (uL): 2.0

Operator: dm

Column phase:

Column diameter: 0.53



Data File: /var/chem/msd7.i/7-04nova.b/7110408.d

Date : 04-NOV-2007 22:00

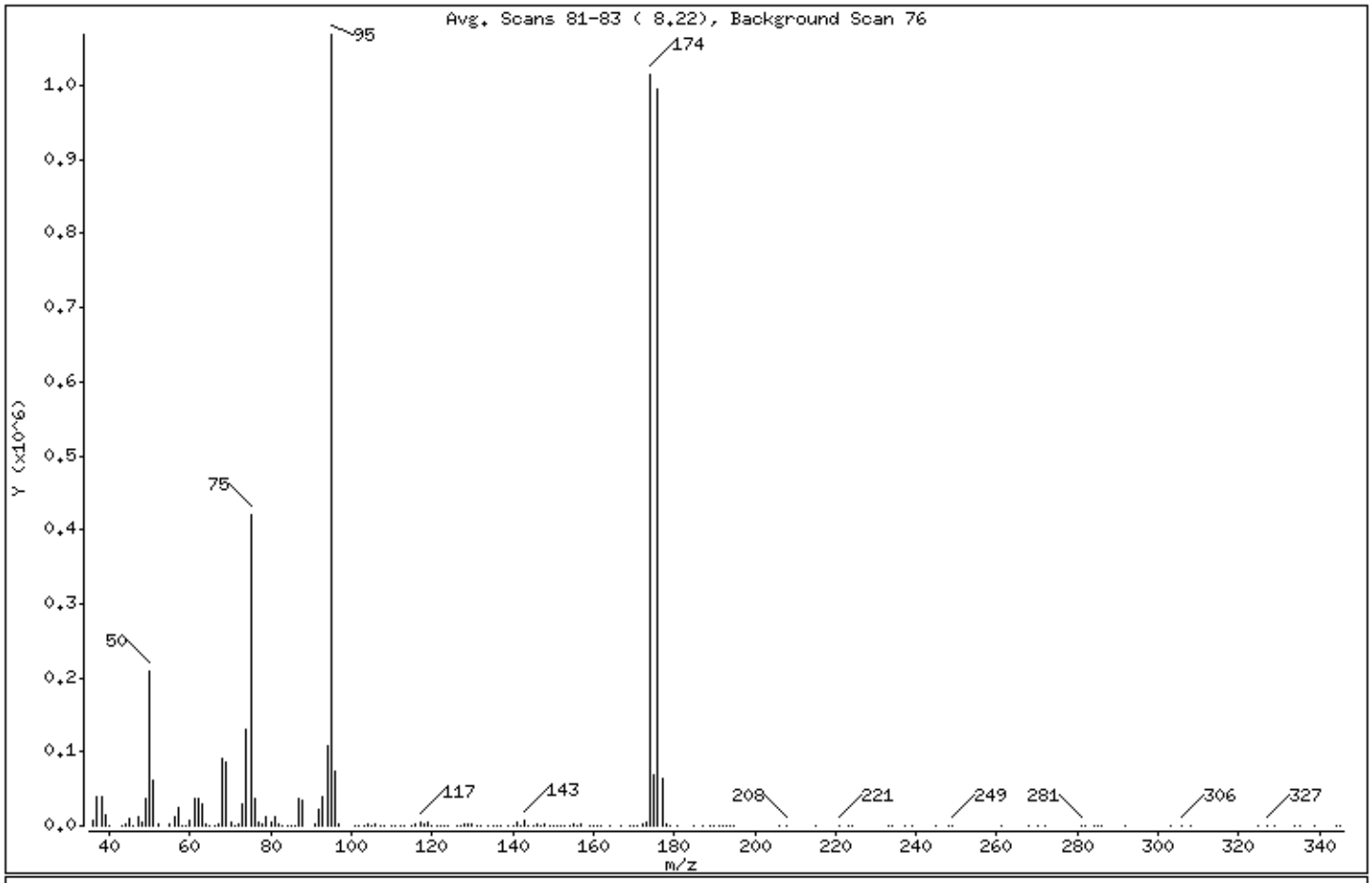
Client ID: BFB Instrument: msd7.i

Sample Info: 2.0uL #1467-64;bfb tune check;bfb tune check;

Volume Injected (uL): 2.0 Operator: dm

Column phase: Column diameter: 0.53

1 bfb



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
95	Base Peak, 100% relative abundance	100.00
50	15.00 - 40.00% of mass 95	19.54
75	30.00 - 60.00% of mass 95	39.38
96	5.00 - 9.00% of mass 95	6.87
173	Less than 2.00% of mass 174	0.44 (0.47)
174	50.00 - 100.00% of mass 95	94.97
175	5.00 - 9.00% of mass 174	6.50 (6.85)
176	95.00 - 101.00% of mass 174	93.19 (98.13)
177	5.00 - 9.00% of mass 176	6.08 (6.52)

Data File: /var/chem/msd7.i/7-04nova.b/7110408.d

Date : 04-NOV-2007 22:00

Client ID: BFB

Instrument: msd7.i

Sample Info: 2.0uL #1467-64;bfb tune check;bfb tune check;

Volume Injected (uL): 2.0

Operator: dm

Column phase:

Column diameter: 0.53

Data File: 7110408.d
Spectrum: Avg. Scans 81-83 (8.22), Background Scan 76
Location of Maximum: 95.00
Number of points: 169

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	6500	83.00	367	135.00	637	190.00	177
37.00	40536	84.00	68	136.00	168	191.00	139
38.00	38528	85.00	158	137.00	1032	192.00	12
39.00	15323	86.00	1027	139.00	221	193.00	167
40.00	736	87.00	36280	140.00	435	194.00	41
43.00	92	88.00	34432	141.00	5643	195.00	51
44.00	3677	91.00	1884	142.00	838	206.00	109
45.00	9096	92.00	22720	143.00	6349	208.00	966
46.00	653	93.00	38656	144.00	538	215.00	61
47.00	11857	94.00	108208	145.00	590	221.00	307
48.00	4329	95.00	1069056	146.00	1419	223.00	39
49.00	35736	96.00	73424	147.00	367	224.00	67
50.00	208896	97.00	2099	148.00	2276	233.00	65
51.00	60776	101.00	110	149.00	645	234.00	50
52.00	2817	102.00	16	150.00	888	237.00	51
55.00	1742	103.00	109	151.00	206	239.00	128
56.00	11632	104.00	2894	152.00	537	245.00	50
57.00	23944	105.00	933	153.00	790	248.00	55
58.00	1160	106.00	2687	154.00	576	249.00	175
59.00	48	107.00	748	155.00	2622	261.00	6
60.00	6668	108.00	182	156.00	199	268.00	83
61.00	36872	110.00	309	157.00	1939	270.00	119
62.00	36480	111.00	478	159.00	955	272.00	61
63.00	29280	112.00	294	160.00	143	281.00	524
64.00	2340	113.00	487	161.00	672	282.00	140
65.00	397	115.00	448	162.00	56	284.00	41
66.00	55	116.00	2217	164.00	71	285.00	59
67.00	1737	117.00	4156	167.00	120	286.00	50
68.00	90584	118.00	2218	169.00	238	292.00	54
69.00	85808	119.00	3721	170.00	134	303.00	57
70.00	5632	120.00	307	171.00	411	306.00	160
71.00	153	121.00	251	172.00	1231	308.00	57
72.00	3428	122.00	119	173.00	4750	325.00	142
73.00	28520	123.00	297	174.00	1015296	327.00	188
74.00	130128	124.00	498	175.00	69504	329.00	102

Data File: /var/chem/msd7.i/7-04nova.b/7110408.d

Date : 04-NOV-2007 22:00

Client ID: BFB

Instrument: msd7.i

Sample Info: 2.0uL #1467-64;bfb tune check;bfb tune check;

Volume Injected (uL): 2.0

Operator: dm

Column phase:

Column diameter: 0.53

Data File: 7110408.d
Spectrum: Avg. Scans 81-83 (8.22), Background Scan 76
Location of Maximum: 95.00
Number of points: 169

m/z	Y	m/z	Y	m/z	Y	m/z	Y
75.00	420992	126.00	199	176.00	996288	334.00	185
76.00	36416	127.00	73	177.00	64976	335.00	138
77.00	4262	128.00	2943	178.00	1771	339.00	58
78.00	2868	129.00	1492	179.00	11	344.00	109
79.00	12792	130.00	3022	181.00	61	345.00	170
80.00	4261	131.00	1037	185.00	52		
81.00	12487	132.00	241	187.00	66		
82.00	2697	134.00	146	189.00	130		

Shipping/ Receiving Documents

AN ENVIRONMENTAL ANALYTICAL LABORATORY

180 Blue Ravine Road, Suite B
Folsom, CA 95630

Phone (916) 985-1000 FAX (916) 985-1020
Hours 8:00 A.M. to 6:00 P.M. Pacific

COMPANY: Los Alamos National Laboratories
ATTENTION: Mr. Keith Greene
FAX #: 505-665-8855
FROM: Sample Receiving
Workorder #: 0711008
# of pages (Including Cover): 1

11/7/2007

Thank you for selecting Air Toxics Ltd. We have received your samples and have found no discrepancies. In order to expedite analysis and reporting, please review the attached information for accuracy. Corrections can be faxed to **Brandon Dunmore at 916-985-1020.**
ATL will proceed with the analysis as specified on the Chain of Custody and Sample Login page.

Wednesday, October 31, 2007

LAB CHAIN OF CUSTODY DOCUMENT NUMBER: 08-98C

REQUEST NUMBER: 08-98

LOS ALAMOS

NATIONAL LABORATORY

ATTN: Lisa Argento

Air Toxic LTD

180 Blue Ravine Rd. Suite B

Folsom, CA 95630

TURNAROUND/REPORT DUE: 11/5/2007

TURNAROUND REQ'D: 5

LAB REQUEST COMMENTS:

	SAMPLE ID	08 11/1/07 Receipt Vacuum	CTNR	CTNR DESC	ORDER	PRESERV	MATRIX
01A	MD21-07-6810	6.0"Hg	1	6 L SUMMA CANISTER	TO15	None	GAS
02A	MD21-07-6807	7.5"Hg	1	6 L SUMMA CANISTER	TO15	None	GAS
03A	MD21-07-6811	9.0"Hg	1	6 L SUMMA CANISTER	TO15	None	GAS
04A	MD21-07-6809	8.0"Hg	1	6 L SUMMA CANISTER	TO15	None	GAS
05A	MD21-07-6808	8.0"Hg	1	6 L SUMMA CANISTER	TO15	None	GAS
06A	MD21-07-6812	7.5"Hg	1	6 L SUMMA CANISTER	TO15	None	GAS

Relinquished By:		Date	Time	Received By:		Date	Time
		10/31/07	3:00	AScott ATL		11/1/07	0845
Printed Name	Signature			Printed Name	Signature		
Printed Name	Signature			Printed Name	Signature		
Printed Name	Signature			Printed Name	Signature		

Received for DISPOSAL By:		Date	Time	Remarks:
Printed Name	Signature			

CUSTODY SEAL INTACT?
Y N NONE TEMP NA

CUSTODY SEAL INTACT?
Y N NONE TEMP

AS 11/1/07

Wednesday, October 31, 2007

REQUEST NUMBER: 08-98 0711008

0473

LOS ALAMOS
NATIONAL LABORATORY

ATTN: Lisa Argento
Air Toxic LTD
180 Blue Ravine Rd. Suite B
Folsom, CA 95630

These Samples are on:
LANL Request Number:08-98
Per Agreement Number:TIPS#24256
Project Cost Code: MR8R0225FB00

Please analyse the enclosed samples according to the schedule indicated:

SHIP DATE: 10/31/2007
TURNAROUND/REPORT DUE: 11/5/2007
TURNAROUND REQ'D: 5 Days

RAD SCREENING: Not Required
LAB REQUEST COMMENTS:

LANL ER SMO CONTACT:
Signature:

PRIORITY	METHOD CODE	CNTNR	SAMPLE ID	SAMPLE MATRIX	DATE SAMPLED	SAMPLE COMMENTS	SPECIAL INSTRUCTIONS
	EPA-TO15	1	MD21-07-6807	GAS	10/30/2007		
		1	MD21-07-6808	GAS	10/30/2007		
		1	MD21-07-6809	GAS	10/30/2007		
		1	MD21-07-6810	GAS	10/30/2007		
		1	MD21-07-6811	GAS	10/30/2007		
		1	MD21-07-6812	GAS	10/30/2007		

Final Page of REQUEST NUMBER 08-98

AN ENVIRONMENTAL ANALYTICAL LABORATORY

SAMPLE RECEIPT SUMMARY

WORKORDER 0711008

Client

Mr. Keith Greene
Los Alamos National Laboratories
Mail Stop 240
P.O. Box 1663
Los Alamos, NM 87545

Sales Rep: R6

Phone

505-665-9966

Fax

505-665-8855

Date Promised: 11/05/07 4:00 pm
Date Completed: 11/5/07
Date Received: 11/1/07
PO#: 47247-001-07
Project#: 08-98

Total $: $ 2,722.50
Logged By: AS

Fraction	Sample #	Analysis	Collected	Receipt Vac./Pres.	Amount$
01A	MD21-07-6810	Modified TO-15	10/30/2007	6.0 "Hg	$358.75
02A	MD21-07-6807	Modified TO-15	10/30/2007	7.5 "Hg	$358.75
03A	MD21-07-6811	Modified TO-15	10/30/2007	9.0 "Hg	$358.75
04A	MD21-07-6809	Modified TO-15	10/30/2007	8.0 "Hg	$358.75
05A	MD21-07-6808	Modified TO-15	10/30/2007	8.0 "Hg	$358.75
06A	MD21-07-6812	Modified TO-15	10/30/2007	7.5 "Hg	$358.75
07A	Lab Blank	Modified TO-15	NA	NA	$0.00
08A	CCV	Modified TO-15	NA	NA	$0.00
09A	LCS	Modified TO-15	NA	NA	$0.00

Misc. Charges	6 Liter Summa Canister (6) @ $60.00 each.	$360.00
	CVP (6) @ $20.00 each.	$120.00
	Client Specific EDD (6) @ $5.00 each.	$30.00
	eCVP (6) @ $10.00 each.	$60.00

Note: Samples received after 3 P.M. PST are considered to be received on the following work day.
Atlas Project Name/Profile#: LANL/2153

BILL TO: Accounts Payable
Los Alamos National Laboratories
P.O. Box 1663
Mail Stop P240
Los Alamos, NM 87545

Analysis Code: TO-14A

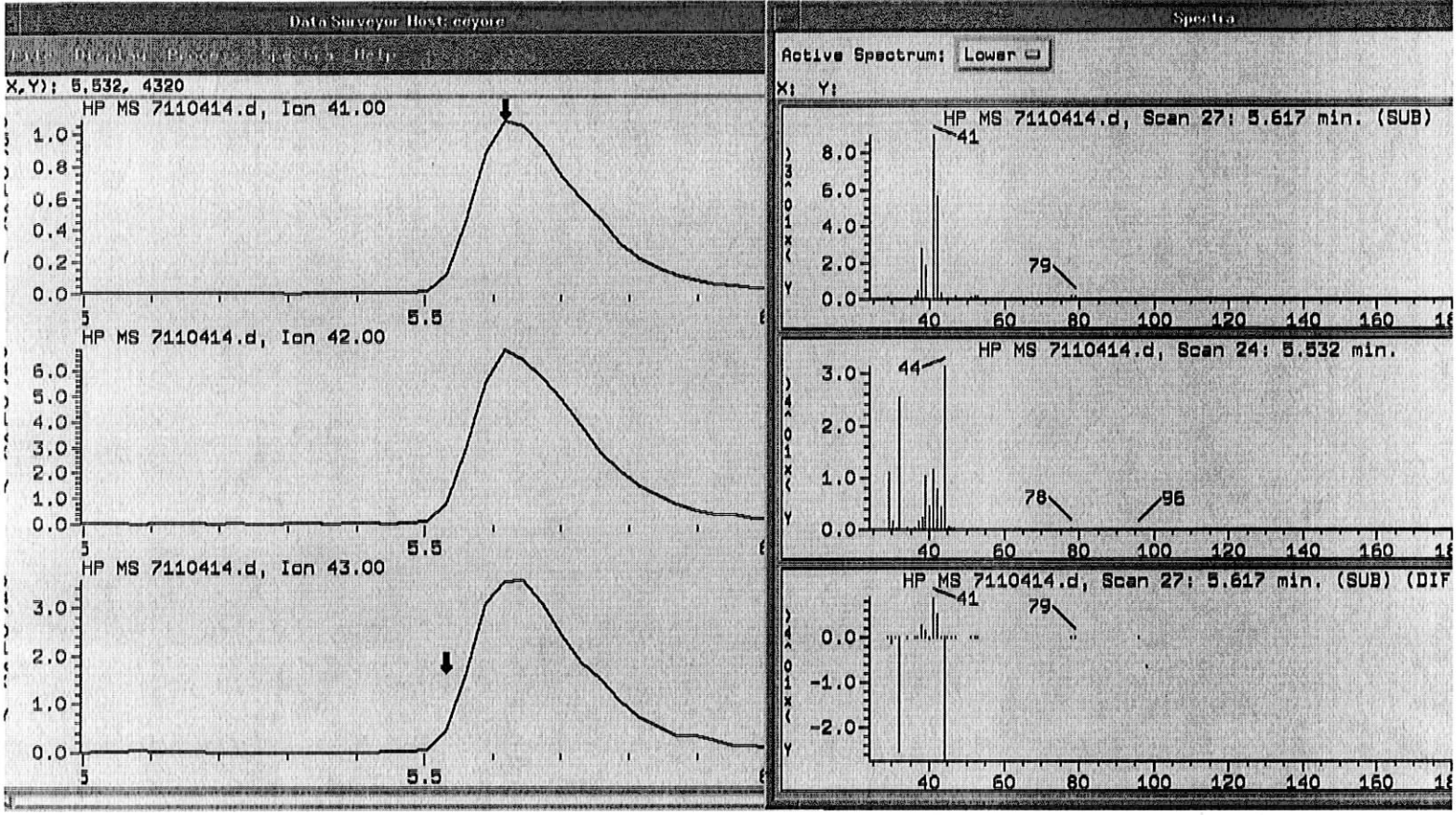
REMARKS: A 75% surcharge is applied for a 48 hour turnaround time.

TERMS:

Reporting Method: Modified TO-15 (Sp)-Los Alamos v2

180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 95630
(916) 985-1000 . (800) 985-5955 . FAX (916) 985-1020

Other Records



Team VOC	
Date / Initial	NK
Poor Integration	
Split Peak	
Peak Tailing	
Background Subtraction	X
Zoom In	
Missed Peak	
Merged Peaks	

Propylene

NK 11/05/07

DILUTION FACTORS

$$\text{Dilution Factor} = \frac{\text{Final Pressure}}{\text{Initial Vacuum}} = \frac{\text{14.7 psi + Final Pressure (psi)}}{\text{14.7 psi - [(Initial Pressure ("Hg)) (14.7 psi / 30 "Hg)]}}$$

$$\text{Dilution Factor} = \frac{\text{Final Pressure}}{\text{Initial Pressure}} = \frac{\text{14.7 psi + Final Pressure (psi)}}{\text{14.7 psi + Initial Pressure (psi)}}$$

Initial Vacuum ("Hg)	**5 psi** Final Press. Dil. Factor	**10 psi** Final Press. Dil. Factor	**15 psi** Final Press. Dil. Factor
0.0	1.34	1.68	2.02
0.5	1.36	1.71	2.05
1.0	1.39	1.74	2.09
1.5	1.41	1.77	2.13
2.0	1.44	1.80	2.16
2.5	1.46	1.83	2.20
3.0	1.49	1.87	2.24
3.5	1.52	1.90	2.29
4.0	1.55	1.94	2.33
4.5	1.58	1.98	2.38
5.0	1.61	2.02	2.42
5.5	1.64	2.06	2.47
6.0	1.68	2.10	2.53
6.5	1.71	2.15	2.58
7.0	1.75	2.19	2.64
7.5	1.79	2.24	2.69
8.0	1.83	2.29	2.76
8.5	1.87	2.34	2.82
9.0	1.91	2.40	2.89
9.5	1.96	2.46	2.96
10.0	2.01	2.52	3.03
10.5	2.06	2.59	3.11
11.0	2.12	2.65	3.19
11.5	2.17	2.72	3.28
12.0	2.23	2.80	3.37
12.5	2.30	2.88	3.46
13.0	2.36	2.97	3.57
13.5	2.44	3.06	3.67
14.0	2.51	3.15	3.79
14.5	2.59	3.25	3.91
15.0	2.68	3.36	4.04
15.5	2.77	3.48	4.18
16.0	2.87	3.60	4.33
16.5	2.98	3.73	4.49
17.0	3.09	3.88	4.66
17.5	3.22	4.03	4.85
18.0	3.35	4.20	5.05
18.5	3.50	4.38	5.27
19.0	3.65	4.58	5.51
19.5	3.83	4.80	5.77
20.0	4.02	5.04	6.06
20.5	4.23	5.31	6.38

Initial Vacuum ("Hg)	**5 psi** Final Press. Dil. Factor	**10 psi** Final Press. Dil. Factor	**15 psi** Final Press. Dil. Factor
21.0	4.47	5.60	6.73
21.5	4.73	5.93	7.13
22.0	5.03	6.30	7.58
22.5	5.36	6.72	8.08
23.0	5.74	7.20	8.66
23.5	6.19	7.76	9.32
24.0	6.70	8.40	10.10
24.5	7.31	9.17	11.02
25.0	8.04	10.08	12.12
25.5	8.93	11.20	13.47
26.0	10.05	12.60	15.15
26.5	11.49	14.40	17.32
27.0	13.40	16.80	20.20
27.5	16.08	20.16	24.24
28.0	20.10	25.20	30.31
28.5	26.80	33.61	40.41
29.0	40.20	50.41	60.61

Initial Pressure (psi)	**5 psi** Final Press. Dil. Factor	**10 psi** Final Press. Dil. Factor	**15 psi** Final Press. Dil. Factor
0.0	1.34	1.68	2.02
0.2	1.32	1.66	1.99
0.4	1.30	1.64	1.97
0.6	1.29	1.61	1.94
0.8	1.27	1.59	1.92
1.0	1.25	1.57	1.89
1.2	1.24	1.55	1.87
1.4	1.22	1.53	1.84
1.6	1.21	1.52	1.82
1.8	1.19	1.50	1.80
2.0	1.18	1.48	1.78
2.2	1.17	1.46	1.76
2.4	1.15	1.44	1.74
2.6	1.14	1.43	1.72
2.8	1.13	1.41	1.70
3.0	1.11	1.40	1.68
3.2	1.10	1.38	1.66
3.4	1.09	1.36	1.64
3.6	1.08	1.35	1.62
3.8	1.06	1.34	1.61
4.0	1.05	1.32	1.59

DILUTION FACTORS

$$\text{Dilution Factor} = \frac{\text{Final Pressure}}{\text{Initial Pressure}} = \frac{14.7\text{ psi} + \text{Final Pressure (psi)}}{14.7\text{ psi} + \text{Initial Pressure (psi)}}$$

Initial Pressure (psi)	**5 psi** Final Press. Dil. Factor	**10 psi** Final Press. Dil. Factor	**15 psi** Final Press. Dil. Factor
0.0	1.34	1.68	2.02
0.2	1.32	1.66	1.99
0.4	1.30	1.64	1.97
0.6	1.29	1.61	1.94
0.8	1.27	1.59	1.92
1.0	1.25	1.57	1.89
1.2	1.24	1.55	1.87
1.4	1.22	1.53	1.84
1.6	1.21	1.52	1.82
1.8	1.19	1.50	1.80
2.0	1.18	1.48	1.78
2.2	1.17	1.46	1.76
2.4	1.15	1.44	1.74
2.6	1.14	1.43	1.72
2.8	1.13	1.41	1.70
3.0	1.11	1.40	1.68
3.2	1.10	1.38	1.66
3.4	1.09	1.36	1.64
3.6	1.08	1.35	1.62
3.8	1.06	1.34	1.61
4.0	1.05	1.32	1.59
4.2	1.04	1.31	1.57
4.4	1.03	1.29	1.55
4.6	1.02	1.28	1.54
4.8	1.01	1.27	1.52
5.0	1.00	1.25	1.51
5.2	NA	1.24	1.49
5.4	NA	1.23	1.48
5.6	NA	1.22	1.46
5.8	NA	1.20	1.45
6.0	NA	1.19	1.43
6.2	NA	1.18	1.42
6.4	NA	1.17	1.41
6.6	NA	1.16	1.39
6.8	NA	1.15	1.38
7.0	NA	1.14	1.37
7.2	NA	1.13	1.36
7.4	NA	1.12	1.34

Initial Pressure (psi)	**5 psi** Final Press. Dil. Factor	**10 psi** Final Press. Dil. Factor	**15 psi** Final Press. Dil. Factor
7.6	NA	1.11	1.33
7.8	NA	1.10	1.32
8.0	NA	1.09	1.31
8.2	NA	1.08	1.30
8.4	NA	1.07	1.29
8.6	NA	1.06	1.27
8.8	NA	1.05	1.26
9.0	NA	1.04	1.25
9.2	NA	1.03	1.24
9.4	NA	1.02	1.23
9.6	NA	1.02	1.22
9.8	NA	1.01	1.21
10.0	NA	1.00	1.20
10.2	NA	NA	1.19
10.4	NA	NA	1.18
10.6	NA	NA	1.17
10.8	NA	NA	1.16
11.0	NA	NA	1.16
11.2	NA	NA	1.15
11.4	NA	NA	1.14
11.6	NA	NA	1.13
11.8	NA	NA	1.12
12.0	NA	NA	1.11
12.2	NA	NA	1.10
12.4	NA	NA	1.10
12.6	NA	NA	1.09
12.8	NA	NA	1.08
13.0	NA	NA	1.07
13.2	NA	NA	1.06
13.4	NA	NA	1.06
13.6	NA	NA	1.05
13.8	NA	NA	1.04
14.0	NA	NA	1.03
14.2	NA	NA	1.03
14.4	NA	NA	1.02
14.6	NA	NA	1.01
14.8	NA	NA	1.01

Compound Listing

Modified TO-15 (Sp)-Los Alamos v2

CAS Number	Compound	Detection Limit ppbv	Type
67-66-3	Chloroform	0.50	
71-55-6	1,1,1-Trichloroethane	0.50	
75-25-2	Bromoform	0.50	
67-56-1	Methanol	50	
79-34-5	1,1,2,2-Tetrachloroethane	0.50	
71-36-3	n-Butanol	2.0	
622-96-8	4-Ethyltoluene	0.50	
108-67-8	1,3,5-Trimethylbenzene	0.50	
95-63-6	1,2,4-Trimethylbenzene	0.50	
541-73-1	1,3-Dichlorobenzene	0.50	
106-46-7	1,4-Dichlorobenzene	0.50	
100-44-7	alpha-Chlorotoluene	0.50	
95-50-1	1,2-Dichlorobenzene	0.50	
120-82-1	1,2,4-Trichlorobenzene	2.0	
87-68-3	Hexachlorobutadiene	2.0	
2037-26-5	Toluene-d8		
17060-07-0	1,2-Dichloroethane-d4		
460-00-4	4-Bromofluorobenzene		
115-07-1	Propylene	2.0	
75-71-8	Freon 12	0.50	
76-14-2	Freon 114	0.50	
74-87-3	Chloromethane	2.0	
75-01-4	Vinyl Chloride	0.50	
106-99-0	1,3-Butadiene	0.50	
74-83-9	Bromomethane	0.50	
75-00-3	Chloroethane	0.50	
75-69-4	Freon 11	0.50	
64-17-5	Ethanol	2.0	
76-13-1	Freon 113	0.50	
75-35-4	1,1-Dichloroethene	0.50	
67-64-1	Acetone	2.0	
67-63-0	2-Propanol	2.0	
75-15-0	Carbon Disulfide	0.50	
75-09-2	Methylene Chloride	0.50	
1634-04-4	Methyl tert-butyl ether	0.50	
156-60-5	trans-1,2-Dichloroethene	0.50	
110-54-3	Hexane	0.50	
75-34-3	1,1-Dichloroethane	0.50	
78-93-3	2-Butanone (Methyl Ethyl Ketone)	0.50	
156-59-2	cis-1,2-Dichloroethene	0.50	
109-99-9	Tetrahydrofuran	0.50	
110-82-7	Cyclohexane	0.50	
56-23-5	Carbon Tetrachloride	0.50	
75-45-6	Chlorodifluoromethane	2.0	
71-43-2	Benzene	0.50	
107-06-2	1,2-Dichloroethane	0.50	

Compound Listing

Modified TO-15 (Sp)-Los Alamos v2

CAS Number	Compound	Detection Limit ppbv	Type
142-82-5	Heptane	0.50	
79-01-6	Trichloroethene	0.50	
78-87-5	1,2-Dichloropropane	0.50	
123-91-1	1,4-Dioxane	2.0	
75-27-4	Bromodichloromethane	0.50	
10061-01-5	cis-1,3-Dichloropropene	0.50	
108-10-1	4-Methyl-2-pentanone	0.50	
108-88-3	Toluene	0.50	
10061-02-6	trans-1,3-Dichloropropene	0.50	
79-00-5	1,1,2-Trichloroethane	0.50	
127-18-4	Tetrachloroethene	0.50	
591-78-6	2-Hexanone	2.0	
124-48-1	Dibromochloromethane	0.50	
106-93-4	1,2-Dibromoethane (EDB)	0.50	
108-90-7	Chlorobenzene	0.50	
100-41-4	Ethyl Benzene	0.50	
108-38-3	m,p-Xylene	0.50	
95-47-6	o-Xylene	0.50	
100-42-5	Styrene	0.50	

@Air Toxics Ltd.

DATA REVIEW CHECKLIST

Work Order #: 0711008

A	R	T	M	Q	
☑	☑	☐	☑	☐	Analysis/Reporting vs. Project Profile/SOP requirements checked (i.e. 100% Dups, J-Flag to MDL, etc)
	☑	☐	☑	☐	The final report has the correct reporting list, special units, and header info.
	☑	☐	☑	☐	Lab Narrative is correct (proper method & description/Receiving & Analytical notes correct)
NA	NA	☐	☑	☐	Corrective Action issued - #_____
NA	☑	☐	☑	☐	Unusual circumstances have been documented in the notes section below

LUMEN *validation report present and initialed* ***CIRCLE (YES / NO)***

☑	☐	☐	☐	☐	Lab Blank, CCV, LCS and DUP met QC criteria
☑	☐	☐	☐	☐	Hold time is met for all samples
	☐	☐	☐	☐	Appropriate data qualifier flags are applied
	☐	☐	☐	☐	Manual integrations for samples and QC are properly documented
☑	☐	☐		☐	Samples analyzed within the project or method specific clock
	☐	☐			Retention times have been verified
☑	☐	☐		☐	Appropriate ICAL(s) included
	☐	☐	☐	☐	At least one result per sample is verified against the target quant sheets/raw data

☑	☑	☐		☐	Dilution factor correctly calculated (sample load volume, syringe and bag dilutions, can pressurization(s))
☑	☑	☐			Correct amount of sample analyzed (i.e. sample not over-diluted)
	☑	☐			Spectra verified - documentation of spectral defense included (Section 5A of eCVP pkg)
	NA	☐			TICs resemble reference spectra
	NA	☐			TICs between duplicate samples are consistent
☑	☑	☐	☑		Checked samples for trends (i.e. Influent>Effluent, Landfill or Ambient etc)
	☑		☑		Special units for all samples in the final report are correctly calculated
	☑	☐	☑		Manually entered results checked (i.e. special CCV compounds)
	NA	☐	☑		TPH/NMOC (verify calculations and correct reference compound used)
	☑				Chain of Custody scanned correctly
				☐	Verify sample id's vs. chain of custody
☑	☑				Samples pressurized w/ appropriate gas (N_2 or He) ☐ Tedlar Bag only
☑	☑				Final pressure consistent with canister size (6L vs. 1L)
☑	☑				Verify receipt pressures against logbook and Target
☑	☑				Verify canister ID #'s
	NA		☑		Extra printed copies are provided per client profile
	☑		☑		Final invoice amount correct (adjusted for TAT, Penalties, Re-issue Charges etc.)
	NA	☐	☐	☐	Client LUMEN report reviewed for accuracy and completeness

Notes: *(to include: noting samples with QA/QC problems, Blanks with positive hits, narratives, etc.)*

A/R:

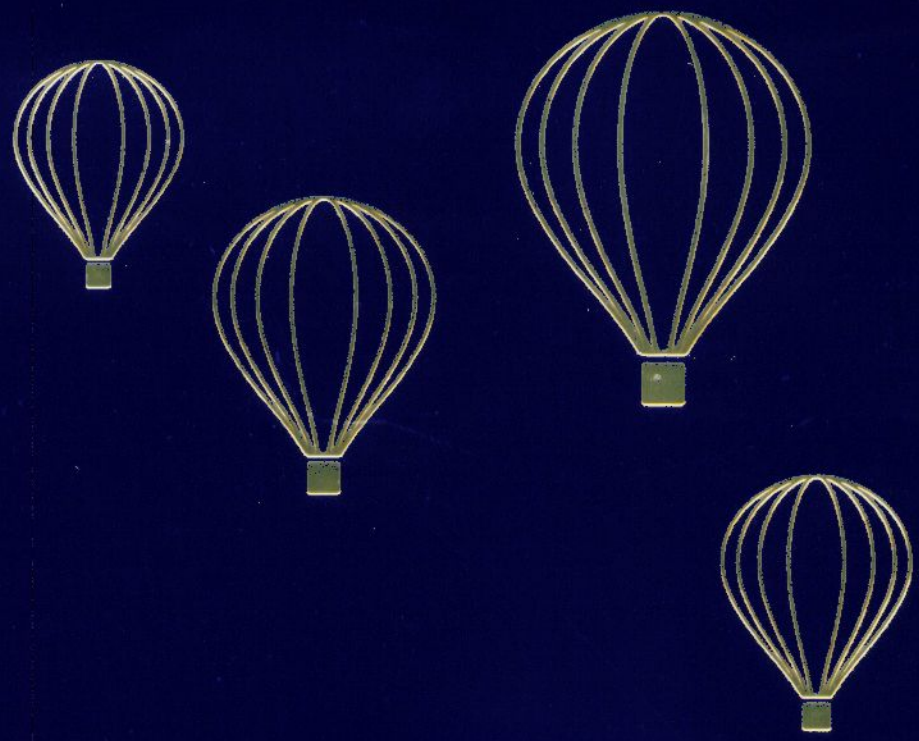
2 out in LCS
multiple files for CCV.

M/Q:

A (Analytical Review/Date)	R/T (Reporting Review/Date)	M (Management Review/Date)	Q (QA Review/Date)
AL 11/5/07	R: NE 11/05/07	[illegible] 11/5/07	
	T:		

Note (1): Please check all the appropriate boxes. Indicate "NA" for any statement that does not apply. Rev. 08/29/05
Note (2): Management reviewer and reporting reviewer must be separate individuals.

Not Applicable



AIR TOXICS LIMITED
QUALITY MANUAL

"Quality....the totality of features and characteristics of a product or service that bear on its ability to satisfy stated or implied needs."

"Quality Assurance....all those planned and systematic actions necessary to provide adequate confidence that a product or service will satisfy given requirements for quality."

Excerpts from ISO 8402

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This Quality Manual was designed to meet 2003 NELAP (National Environmental Laboratory Accreditation Program) standards and supports assessment programs and/or certifications with the following agencies:

Certifying Agency	ATL Certificate #	Basis of Certification/Approval
California DOH (Primary NELAP)	02110CA	Onsite assessment (biennial) and WP PTs
Florida DOH (Primary NELAP)	E87680	Onsite assessment (biennial) and SOP Review
New Jersey DEP (Primary NELAP)	CA004	Onsite assessment (biennial), LQAP and SOP Review
Louisiana DEQ	02089	SOP Review, WP PTs, Secondary NELAP
New York State DOH	11291	LQAP, Secondary NELAP
State of Utah DOH	9166389892	LQAP, PT, Secondary NELAP
U.S. Navy NFESC/IR/QA	NA	DOD Quality System Manual for Environmental Laboratories v.3/ Recognition of NELAP Accreditation
Arkansas DEQ	03-084-0	LQAP, PT, MDL Review, Secondary NELAP
Pennsylvania State Dept. Health	68-690	

MANAGEMENT QUALITY POLICY STATEMENT

At ATL, we strive to be the **BEST** in everything that we do. Our very existence is based on our continued ability to provide innovative, dependable, and cost effective environmental services to our clients. We **CARE** about our clients as well as our co-workers and manage our daily activities to build relationships based on mutual **TRUST, HONESTY,** and **RESPECT**. We are **LEADERS** in our field and accept the risks associated with building new frontiers in our professional lives. Our strength comes from our **TEAMS** for through them we can achieve our goals. This Quality Assurance Manual defines and documents the core systems surrounding good professional as well as laboratory best practices for all staff. The management signatures below represent our commitment to continually define, assess, and improve the quality systems, which provide the basic infrastructure in support of these goals.

Linda L. Freeman — 08/22/07
CEO, Laboratory Director (Technical Director I) — Date

Heidi C. Hayes — 8/22/07
VP, Director of Business Development (Technical Director II) — Date

Melanie A. Levesque — 08/22/07
Quality Assurance Manager — Date

The Air Toxics Limited Quality Assurance Manual is effective as of the date of the signature of the Laboratory Director.

1.0 INTRODUCTION

The Air Toxics Limited (ATL) Quality Manual describes the Quality Assurance (QA) program and Quality Control (QC) procedures used to ensure that data of known and documented quality are produced. It is designed to be used as a manual that outlines the process by which we ensure that the customer expectations are met, and hence, the quality goal is met. *ISO/IEC Guide 17025-General Requirements for Competence of Calibration and Testing Laboratories* are incorporated wherever possible, however the primary guidance document is *Chapter 5: Quality Systems* as published in the June 5, 2003 NELAP Standard.

The Quality Manual contains a discussion of the following topics:

Introduction: The quality objective is discussed along with management and information systems in support of the objective.

Organization: Staff qualifications and responsibilities, management organization, laboratory facilities, and equipment are detailed in this section.

Quality Assurance Program: This section deals with project management, standard operating procedures, staff members' training, evaluation and documentation of adherence to quality assurance and quality control requirements, corrective action system, and health and safety.

Quality Objectives: This section explains the quality control parameters and procedures, procedures to establish limits of detection and quantitation and perform calibrations, traceability, and preparation of standards.

Sample Handling: Sampling containers, preservation and Chain-of-Custody requirements, sample receiving and tracking procedures, internal custody, storage and disposal are discussed.

Analytical Methods and Procedures: In this section, a brief method description is given for all analytical procedures carried out at ATL. The limit of quantitation concentrations, quality control acceptance criteria and method modifications are provided as well.

Data Review and Reporting: This section explains the procedures involved in data collection/reduction, data review, and final report production. Hardcopy and electronic data production, data flagging, and data storage are also discussed in this section.

Establishing Acceptance Criteria: The control chart program is outlined in this section along with generating and evaluating in-house statistical limits.

Preventative Maintenance: Routine maintenance, service contracts, and control of miscellaneous monitoring equipment are explained briefly.

Assessments and PT Samples: A brief explanation of internal and external assessments programs and NELAP PT samples program is provided.

Computer and Software Systems: This section of the quality manual deals with the management of computer and software systems. Data storage, back-up routines, and internal software validation efforts are included.

Control of Purchased Items: Control of purchased items and external services as well as the purchase requisition system are outlined in this section.

Project Management System: This part of the quality manual gives a brief description of steps to ensure that the customer expectations are met once the project is undertaken.

1.1 QUALITY OBJECTIVE

Air Toxics Limited is committed to producing data that meet or exceed the client's measurement needs. Customer satisfaction is the motivating force behind most of the ATL processes. An underlying network of systems designed to define, document, and process each individual customer's need supports this primary objective. This systems network includes Marketing/Sales, Project Management, IT, Laboratory Production, Support Services, Technical Services, Quality Assurance, and Finance. Each of these operational areas is organized around an empowered work team accountable for delivering an automated, on time and defensible result.

We believe the ultimate responsibility for quality resides at the team level. Every team member has the responsibility and authority to suspend a process if it appears that the quality objectives are not being met. Analytical team members are informed of the quality objectives via documented Standard Operation Procedures (SOPs) and project related information systems (ATL's Project Profiles and Project Requirement tables). Team members work closely with the Project Management and QA Departments to ensure that the quality objectives are met.

1.2 QUALITY MANAGEMENT SYSTEM

The role of the ATL management team is to help ensure that the quality objective is met through a continuous and reiterative program of process improvements. The management team consists of Business Directors, Department Managers and Team/Task Leaders.

The primary role of the management team is to establish performance goals at the corporate and team levels as well as to develop tools capable of producing quantifiable measures of performance against these goals (e.g., customer satisfaction index, sales quotas, report turn around time, net profit, days to complete corrective actions, etc.). A secondary role of management is to help ensure that the work environment and facilities promote continued development of empowered work teams through facilities management and programs for recruiting, training, and retaining qualified staff.

Quality Assurance Management: The role of the ATL Quality Assurance team is to help ensure that the systems described above are designed, documented, and operating in accordance with the quality objectives. This is accomplished via coordination and dissemination of internal and external assessment information, review of SOPs to document variances taken to published methods, monitoring of the Quality Manual to assure consistency with actual practices, maintenance of an ongoing Corrective Action Program with monthly reports to management, and a leadership role in employee training programs. A secondary function of the QA team deals with data review and other quality control related programs.

The QA team is free from any commercial, financial, or production pressures when making assessments or decisions regarding the quality of work produced or effectiveness of the quality systems. The Quality Assurance Manager reports directly to the President in order to maintain independence from business operating units and facilitate communications regarding quality related issues.

Communication between the QA team and other management teams occurs on a regular basis via weekly status meetings. Information regarding outstanding corrective action items, upcoming assessments, assessment results or general observations are brought up and documented via a database of agenda notes. The corrective action database along with the ATLAS database compiles a 'Monthly Quality Assurance Status Report', which is distributed to the entire management team for review.

Sales and Project Management: The role of the ATL Sales and Client Services teams is to effectively document and communicate the needs of the customer. These teams represent the

customer in all matters and serve as a liaison between the customer and the Technical Services, Laboratory, Support Services, Finance, and Quality Assurance areas. The ATL Marketing and Client Services teams ensure that client needs are matched by laboratory resources. Strong communication linkages exist between the lab Department Managers, Team Leaders and the ATL Marketing and Client Services teams. Information regarding customer needs flows into all ATL systems via these two teams. Interactions may be as complex as Quality Assurance Project Plan (QAPP), contract or Scope of Work (SOW) review or as simple as processing shipments of canisters and other sampling media. Project specifics are documented and stored via an interactive database that assigns a unique identifier for every reference.

Sample Receiving: The goal of the department is to enable every sample to be received and processed into a unique laboratory Work Order within 24 hours of sample receipt. Sample non-conformities are communicated to the clients in the same time frame. Custody information relating to sample receipt, a copy of the sample receipt summary, and an example report format is emailed or faxed to the client for review and comments.

Laboratory Management: Laboratory management is divided into work teams equipped with necessary resources to complete the sample analysis, review, data reporting and creation of all electronic data packages, which include email, EDD and eCVP on CD-ROM. The laboratory work teams are responsible for verifying the quality of electronic deliverables by reviewing a percentage of the product. In this way, team members are easily able to accept the control and accountability for quality. The Support Services team is responsible for cleaning, assembling, coordinating media certification and shipping all sampling media. The primary responsibility of the Team or Task Leaders is to monitor customer needs versus resource availability. Staff and equipment management are carefully balanced with customer needs. The goal for each team is to deliver defensible data within the time frame promised to the client. The Team or Task Leaders review daily sample receipt work lists to determine that the laboratory has adequate resources to perform the work. In those cases where either the technical or sample capacity demands cannot be met, the Team or Task Leader works with the Client Services Representative and the client to provide a solution via inside resource re-allocation or outside subcontracting. The ATLAS laboratory automation system creates and tracks special analytical lists, deliverables, or Turn Around Time (TAT) requests which are automated via customized linkages (work tools) into the centralized Structured Query Language (SQL) database. Performance measurements against the goal are routinely monitored using the same SQL database. Performance and quality related information is shared with team members during team meetings. Project or client related information resides both in the project management module and in sample tracking modules, reducing the need for relying on verbal communication of project specifics to the team. The Team and Task Leaders report to a Department Manager who reports to the President.

The remaining team positions are divided into four levels:

1) **Senior Scientist** (Lab Personnel) or **Senior Associate** (non-Lab Personnel):

This is the highest level professional position reporting to a Director, Manager, or Team Leader. The Senior Scientist or Senior Associate works independently at a company wide level. In addition to all of the responsibilities of the Scientist described below, the Senior Scientist or Senior Associate is recognized within the company as an expert in his/her field. He or she is often asked to work outside of the team whenever the need arises, and is able to demonstrate above average leadership skills. Senior Scientists or Senior Associates are

responsible for method development activities and take a lead role in proprietary software and hardware design and testing. High profile projects or client relations, including more intricate analyses and data interpretations, are assigned to a Senior Scientist to oversee. The Senior Scientist or Senior Associate maintains knowledge at the level of Masters Degree or equivalent with a minimum of 5 years of analytical environmental experience.

Scientist (Lab Personnel) or
Associate (Non-Lab Personnel):

The Scientist or Associate works independently at the team level. A Scientist or Associate demonstrates a high level of skill, judgement, problem solving ability, and is able to independently perform troubleshooting. The responsibilities of a Scientist/Associate include: scheduling of work, providing routine as well as non-routine bench level activities in a highly efficient manner, writing SOPs, reviewing data, performing non-routine instrument maintenance and troubleshooting, and representing the team during internal/external assessments. Individuals in this position play a lead role in monitoring health and safety on the team, and acting as a resource or trainer. A Scientist or Associate must have a Bachelor's Degree and a minimum of three years of analytical environmental experience.

Analyst (Lab Personnel
and Non-Lab Personnel):

The Analyst works under the direct supervision of a Scientist, Senior Scientist, Team Leader and/or Manager at all times. He/she follows a specific formal training program to learn the necessary skills required of the position and demonstrates the ability to recognize problems and to seek assistance. The primary responsibility of an Analyst is to follow written laboratory SOPs in an efficient and well-informed manner. The Analyst performs routine maintenance on the equipment, prepares standards, and performs all relevant bench level activities. The minimum qualification for a laboratory analyst is a Bachelor's Degree.

Each team has a mix of Scientists and Analysts. Each Team Leader coordinates the activities of the respective team, serves as a resource to the Analysts and Scientists, communicates the corporate objectives to the team, and monitors team progress against the quality objective, which is customer satisfaction. A Scientist may be assigned as 'team lead' in a subset of team activities. As 'team lead' the Scientist is responsible for all the technical activities of the assigned area, oversees both the quality and quantity of work produced, and serves as resource for the Analysts. The Analyst performs all of the routine activities and quality checks (i.e., makes sure the customer expectations are met).

Every team member is empowered to make sure that the customer expectations are met, is trained in the elements of the quality process, and has the responsibility and authority to stop or suspend a process when the quality objective is in jeopardy.

Technician (Lab Personnel
and Non-Lab Personnel):

The Technician works directly under the supervision of a more experienced team member, Team Leader and/or Manager at all times. He/she is responsible for meeting the team's production and quality goals. The Technician performs a variety of tasks in whatever area of the laboratory they are assigned. For example, the Technician's responsibilities may include washing and solvent rinsing glassware, cleaning and preparing media to ship to clients, pressurizing and screening samples, logging samples, assist in preparing standards and other duties as assigned. He/she is also expected to communicate issues to a team Scientist and/or Team Leader. The minimum qualification for a Technician is a High School Diploma.

Information Technology:

The Information Technology (IT) team is responsible for the design and maintenance of the SQL server based data system. Its primary goal is to ensure that customer satisfaction is achieved by the way information is transferred, processed, or queried. This includes systems relating to telephone service, e-mail service, Internet access, project management, data acquisition, assessment trails, data security, and automated data reporting linkages. The group consists of the IT Manager, and one full time programmer. Around-the-clock, system support is achieved via a combination of in-house and contract support. Additional programmers are hired on a project specific basis. All of the ATL information systems are designed, coded, and tested in house and as such, are proprietary in nature. The IT Manager reports to the President.

Financial Management: The quality systems rely on bottom line profitability to provide strength to the framework that produces quality results. The ATL Finance team is responsible for monitoring the profitability of all operations. Customer satisfaction goals are built into budgeting, purchasing, invoicing, employee compensation and benefits programs, collections, contracts, insurance, and banking. The primary goal of the team is help ensure bottom line profitability while achieving the quality objective, which is customer satisfaction. The group consists of a Controller, a Finance Associate, a Credit & Collection Associate and an Accounts Payable/Purchasing Associate. The Finance Manager reports to the President.

Data Integrity Procedures: Since a commitment to data integrity is a vital component for credibility of our core product, Air Toxics Limited cannot function as a business entity without a clear definition of ethical expectations for all employees. Integrity is defined as the ability to discern right from wrong, and the commitment to do what is right, good and proper. Data integrity procedures relating to generation of analytical reports are built into the systems via the operational SOPs, which describe appropriate practices. Additional systems and training programs that safeguard strict adherence to the SOPs ultimately ensure that data integrity procedures are employed. Intentional fraud will be grounds for severe reprimand and/or termination of complicit employees. In addition, employees who witness or are otherwise aware of data integrity violations, even if they are not a party to such acts, are expected to immediately report these lapses to their Team/Task Leader, their Department Manager or to a member of the Board of Directors.

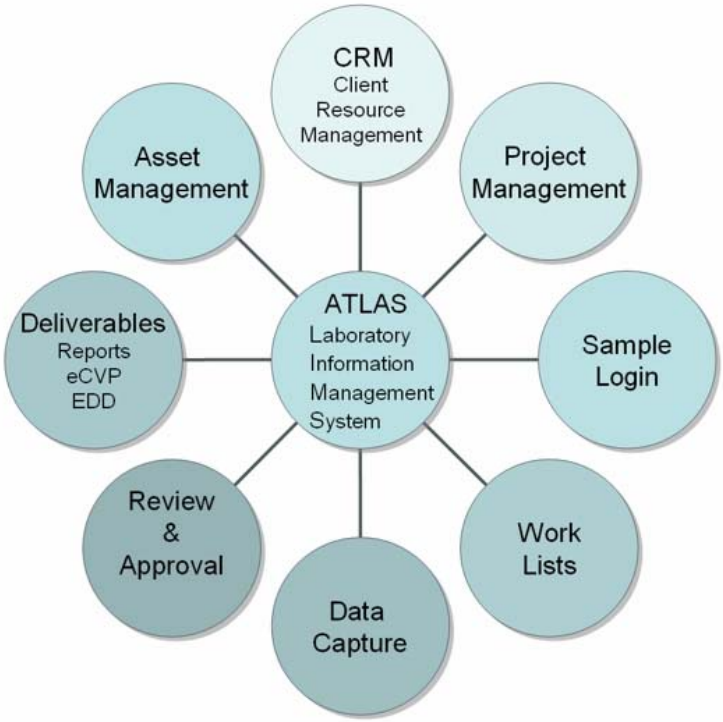
Data integrity training is conducted within a variety of frameworks and is mandatory for all Air Toxics Limited employees. New employees read both the LQAP and the Employee Handbook to properly orient ethical expectations. In addition, within one month of date of hire there is basic training provided by the Quality Assurance Department to familiarize new employees with principles of documentation to pre-empt practices that would call into question the data integrity procedures of the laboratory. The Chief Executive Officer of Air Toxics conducts a Standards of Conduct presentation that defines data integrity expectations, potential penalties and consequences for lapses of integrity for new employees as they join the company. In addition, the CEO conducts a yearly ongoing Ethics Training II for the remainder of the employees. The Inappropriate Lab Practices Class (also done on a yearly basis) defines allowable parameters for the lab to assure defensibility and to define illegal practices. The purpose of all training is to provide specific examples of data integrity expectations that are relevant to actual job functions. Employees document the training in their training records (see Section 3.2.1).

1.3 INFORMATION MANAGEMENT SYSTEM

Information is stored in the Air Toxics Laboratory Automation System (ATLAS) databases using ATL designed hardware and proprietary software. This in-house Laboratory Information Management System (LIMS) is an

evolving development project designed to find more efficient means to meet the customer needs. Each client contact (telephone call, quote, shipping request, or inquiry) is stored in a database, which can be queried for sample log-in, project backlogs, project TAT or revenue statistics.

Some modules are designed to track non-traditional information such as the sample history of individual canisters, number of reports completed per analyst per shift, and overdue work by reason code. These types of information directly affect the ability of the management team to provide quality process improvements. Some non-traditional calculations such as the boiling point distribution of a hydrocarbon background, EPA rounding, and percent difference calculations have been made available at the bench. This type of information directly affects the ability of the individual employee to meet the quality objectives.



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2.0 ORGANIZATION

2.1 STAFF QUALIFICATIONS AND RESPONSIBILITIES

ATL's management organization includes the Board of Directors comprising four core areas: Operations, Finance, IT, and Sales. In addition there are Department Managers, Area Managers and Team/Task Leaders. Each operating area is either lead by a Department Manager or a Team/Task Leader. Due to the size and complexity of the main laboratory, Department Managers and Team or Task Leaders are required. Most Managers and Team/Task Leaders report to a member of the Board of Directors. One of the Directors is designated as the Vice President. If the President is absent, the Vice President may fulfill the responsibilities as President. In addition, if the primary Technical Director is absent the second Technical Director will fulfill the responsibilities. If the QA Manager is absent, the Technical Directors may fulfill QA responsibilities. In the absence of a Manager or Team/Task Leader, one of the Directors will name an interim successor.

LINDA L. FREEMAN
CHIEF EXECUTIVE OFFICER AND LABORATORY (TECHNICAL) DIRECTOR (1)

Ms. Linda L. Freeman is the Technical Director and the Chief Executive Officer of ATL providing leadership that ensures the founding mission and core values of the company are put into practice. Ms. Freeman leads programs relating to the development of long range strategy, quality systems, and financial infrastructure. As Technical Director (1), her responsibilities include: the administrative review of laboratory operations and qualifications for the technical positions, ensuring and documenting initial and ongoing proficiency, and oversight of the Quality systems. She holds a Bachelor's Degree from Boston College and a Master's Degree in Chemistry from the University of Wisconsin-Madison. Ms. Freeman has over 20 years of combined environmental experience and 18 years of laboratory business management experience.

BRAD MOSAKOWSKI
PRESIDENT

Mr. Mosakowski is the President of ATL and represents the partnership in all matters. Mr. Mosakowski provides day-to-day leadership and management of programs for overseeing the processes and resources necessary for establishing long-range service objectives, plans and policies, in cooperation with the CEO and Board of Managers. He is responsible for the measurement and effectiveness of both internal and external processes by providing accurate and timely feedback on the operating condition of the company. In addition, Mr. Mosakowski also directs the definition and operation of the laboratory production by fostering a success-oriented and accountable environment within the company. A critical component of which is his ability to motivate and lead a high performance management team capable of meeting both customer service and bottom line financial objectives. Mr. Mosakowski has over 15 years of combined environmental laboratory experience.

HEIDI C. HAYES
VICE PRESIDENT, DIRECTOR OF BUSINESS DEVELOPMENT AND TECHNICAL DIRECTOR (2)

Ms. Heidi C. Hayes is the Vice President, the Director of Business Development and Technical Director (2) of ATL. Ms. Hayes is responsible for developing sustainable customer relations by providing customized solutions through technical leadership in marketing, sales and service. She is the key technical interface between laboratory services and major clients. Ms. Hayes plans, develops, and establishes policies and objectives for developing a more technical marketing, sales and service organization by performing the

following duties personally or through subordinate managers; provides the technical leadership, management and vision necessary to ensure the company has the proper operational controls, administrative procedures and human resource management in place to meet customer need and quality objectives. Ms. Hayes holds a Bachelor's Degree in Chemistry and Mathematics from Luther College and a Master's Degree in Chemistry from the Colorado School of Mines.

MELANIE LEVESQUE
QUALITY ASSURANCE MANAGER

Ms. Melanie Levesque develops and supervises programs intended to ensure that the laboratory is producing data of known and acceptable quality. Ms. Levesque oversees QC activities including various independent checks of laboratory systems, SOP generation, and corrective action procedures, as well as monitoring laboratory certification programs. Ms. Levesque has documented training in the approved methods and can verify that the laboratory is following SOPs. Ms. Levesque maintains independence from the operations by not engaging in production activities and reports directly to the President. The QA Department conducts a yearly independent audit of the quality systems and methods criteria, and notifies laboratory directors of deficiencies via a written report. Ms. Levesque holds a Bachelor's degree in Chemistry and a Master of Science degree in Analytical Chemistry both from Rochester Institute of Technology, followed by eight years of environmental laboratory experience. Ms. Levesque has worked in a variety of positions including HPLC chemist, GC/MS chemist, and laboratory supervisor.

NATHAN SHAFER
LABORATORY DEPARTMENT HEAD

Mr. Nathan Shafer is the Department Manager for the Volatile Organic Compound (VOC) GC/MS analysis group. This department is responsible for all analyses via methods TO-14A/15, VOST methods 0030 and 0031, TO-17, and all VOC pptv work in the area of vapor intrusion. Mr. Shafer is responsible for managing and overseeing all processes and resources involved in the daily operations of the VOC department. In addition, he provides technical support to client services, sales, and the department; he is also responsible for coaching and training team members, data review, scheduling, and conferencing. Mr. Shafer has been employed by Air Toxics since 1997 and has 10 years of environmental laboratory experience. His experience comes from roles such as GC/MS chemist, laboratory supervisor, and project development chemist. Mr. Shafer holds a dual degree from Claremont McKenna College in the fields of chemistry and psychology.

SEPIDEH SAEED
LABORATORY DEPARTMENT HEAD

Ms. Sepideh Saeed is the Department Manager for the GC, HPLC and GC/MS semi volatiles analysis, which includes EPA Method TO-3/TO-12, ASTM D-1945/1946, 25C/3C, TO-14A Direct Inject, Extractions, Headspace, Sulfur ASTM D-5504, TO-13A, TO-5/CARB430, TO-11, Method 0011, PM10, TSP, NIOSH, Siloxanes, Pesticide and PCB Analytical Group. She is responsible for managing and overseeing all processes resources involved in the daily operations of SVOC department. In addition, she serves as Team Leader for the Reporting Team. She provides technical support to client services, sales, and the department and is also responsible for supporting both the Senior Scientist and the Task Leader in managing staff, production and technical matters. Ms. Saeed has been employed at Air Toxics since 1998 and has over 15 years of environmental laboratory experience. Her experience comes from roles such as a GC, HPLC, GC/MS and extraction chemist and laboratory supervisor. Ms. Saeed has a B.S. Degree in Biochemistry from University of California, Davis.

MINDY WILKE-DOUGLAS
SALES & MARKETING MANAGER

Ms Mindy Wilke-Douglas is the Sales & Marketing Manager of Air Toxics, Ltd. She is responsible for establishing and leading the sales and marketing efforts through the development and implementation of strategies to generate profitable sales and growth of the company. She also provides the leadership, management and vision necessary to the project management team to exceed client expectations. Ms Wilke-Douglas has 10 years of laboratory research experience as well as over 13 years of experience in scientific sales and marketing. She also spent 4 years as an Adjunct Professor teaching Environmental Biology within the Los Rios Community College District. Ms Wilke-Douglas holds a Bachelor's Degree in Microbiology and a Master's Degree in Molecular Biology (Bacteriology) both from the University of California, Davis.

KEN ZELENY
INFORMATION TECHNOLOGY MANAGER

Mr. Zeleny is the Information Technology Manager for the IT Group. His responsibilities include database management, software development and network management. Mr. Zeleny has over 18 years experience with computer and technology functions in both large and small organizations. His experience also includes 5 years as a Sr. Systems Architect and then as a Manager of the Development Team. Prior to this, Mr. Zeleny has worked as a Sr. NT Systems Engineer, IT Supervisor, Network Administrator and Sr. Technical Support Analyst. Mr. Zeleny has been employed at Air Toxics Limited since August, 2005.

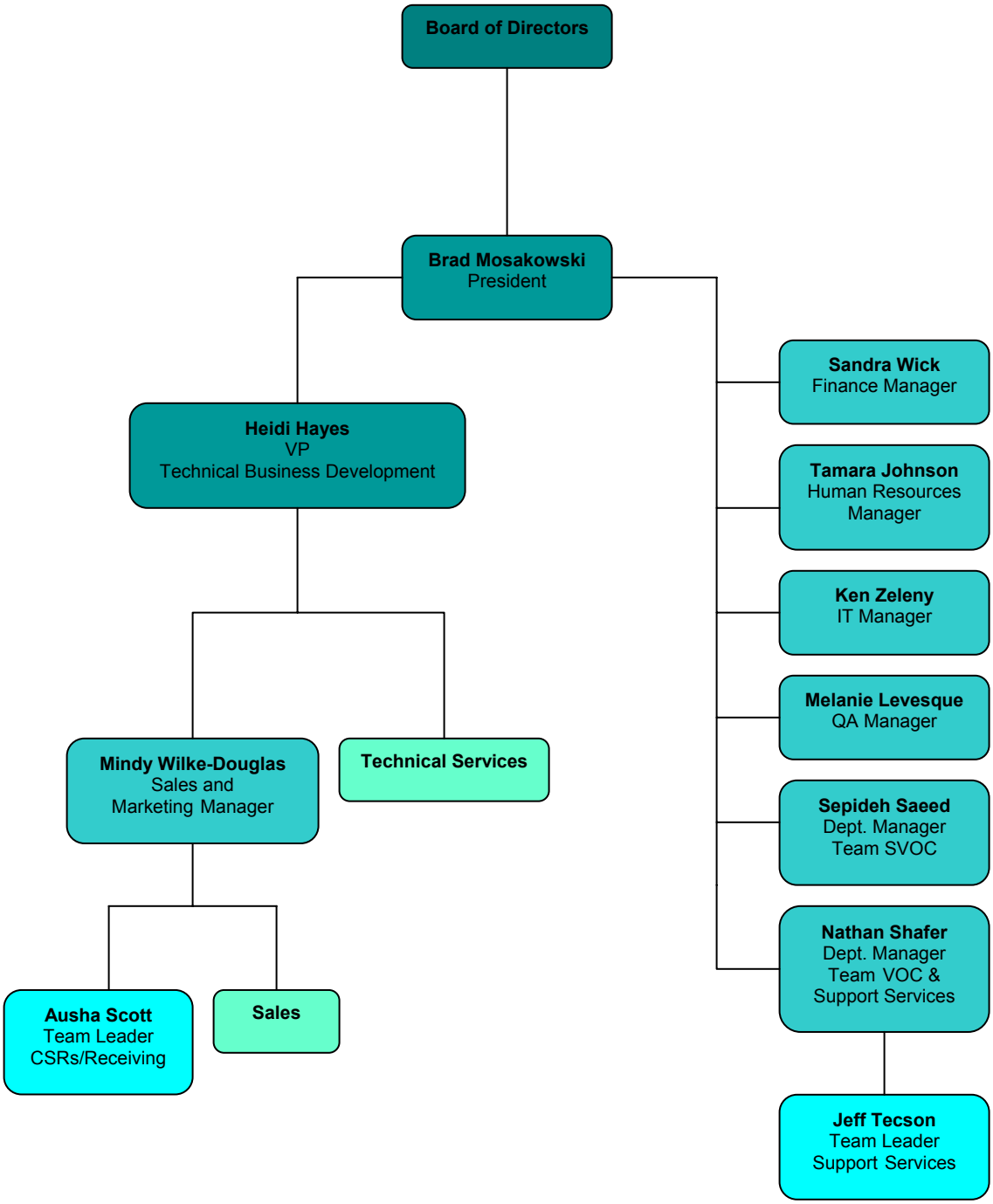
JEFFREY TECSON
SUPPORT SERVICES TEAM LEADER

Mr. Jeffrey Tecson is the Team Leader for the Support Services Team. This team is responsible for cleaning and coordinating the certification of Summa, Silco and Silonite Canisters. Other responsibilities include preparation of flow controllers, TO-17 tubes, VOST/SMVOC tubes for Methods 0030 and 0031. Mr. Tecson has 5 years experience in doing bench work for Support Services; currently Mr. Tecson is spending 25% of his time on the bench. Mr. Tecson has an A.S. Degree in Computer Technology Heald College in Rancho Cordova, CA; he also has 11 years management experience.

AUSHA SCOTT
CLIENT SERVICES/RECEIVING
TEAM LEADER

Ms. Ausha Scott is the Team Leader for the Client Services and Login/Receiving Departments. She is responsible for overseeing the project management functions, including client relations and technical support. In addition, she directs the daily activities of the Login/Receiving team. Ms. Scott has 6 years of environmental laboratory experience in a variety of positions including GC/MS chemist and client service representative. Ms. Scott holds a Bachelor's degree in Marine Biology from University of California, Santa Cruz.

Exhibit 2.1. ATL Management Organization



2.2 FACILITIES

The ATL laboratory occupies 30,000 square feet of space in Folsom, California with approximately 6,000 square feet of office space. The single story building is custom designed to suit the specifications of an air laboratory. Design criteria included floor plans to accommodate segregation of conflicting tests and provide an environment that is conducive for cross-functional work teams. The main instrumentation laboratory is based on an "open" concept in which walls are removed to promote a sense of community and teamwork. Wide hallways with alcoves are designed to encourage congregation and discussion. The number of private offices is minimized so that barriers between management and staff are removed. Elements of the quality system are evident throughout the facility design.

Sample receiving occupies approximately 950 square feet. There is sufficient floor space to receive, unpack, and tag up to 150 Summa™ canisters per day. The main laboratory is centrally located and houses twenty GC/MS systems, eight GCs, and a network of computers.

A caged canister storage area was constructed on one side of the laboratory to securely hold all canister and Tedlar bag samples. An isolated negative pressure room was designed for solvent handling and extraction activities. Approximately 1000 square feet of air-conditioned space is designated for research and development activities, and a work shop/tooling area. Sorbent tube preparation and canister cleaning operations are located in segregated areas. Long-term file storage occurs off site. A local document storage and retrieval service picks up files for storage. Files are kept in bar coded boxes making retrieval easier. Typically a file can be retrieved within one working day from the original request.

Security is maintained through a controlled access system. Representatives of State, Federal or private entities have access to the laboratory facility and records during laboratory normal business hours. Guests must enter/exit through a central reception area. The receptionist keeps a date/time log. After work hours, the building is secured and linked to a commercial security agency. The security system is equipped with perimeter alarms, motion sensors, and speakers that monitor background sounds. Heat activated fire alarms are monitored by an outside agency. A fire alarm also activates the security system. ATL SOP #30 describes the security and controlled access protocols.

2.3 EQUIPMENT AND INSTRUMENTATION

The laboratory is equipped with over $2,000,000 of instrumentation, dedicated exclusively to the analysis of air samples. Much of the commercially available equipment is modified in-house in order to enhance performance in the areas of:

- *overcoming challenging sampling problems;*
- *analyzing difficult matrices;*
- *achieving greater sensitivity.*

A staff of design engineers and a 1,000 square feet fabrication shop is maintained by ATL in order to build, test, and service the custom equipment. A facilities map and equipment list can be found in Exhibit 2.2 and Tables 2.1 and 2.2.

Exhibit 2.2. Facilities Map

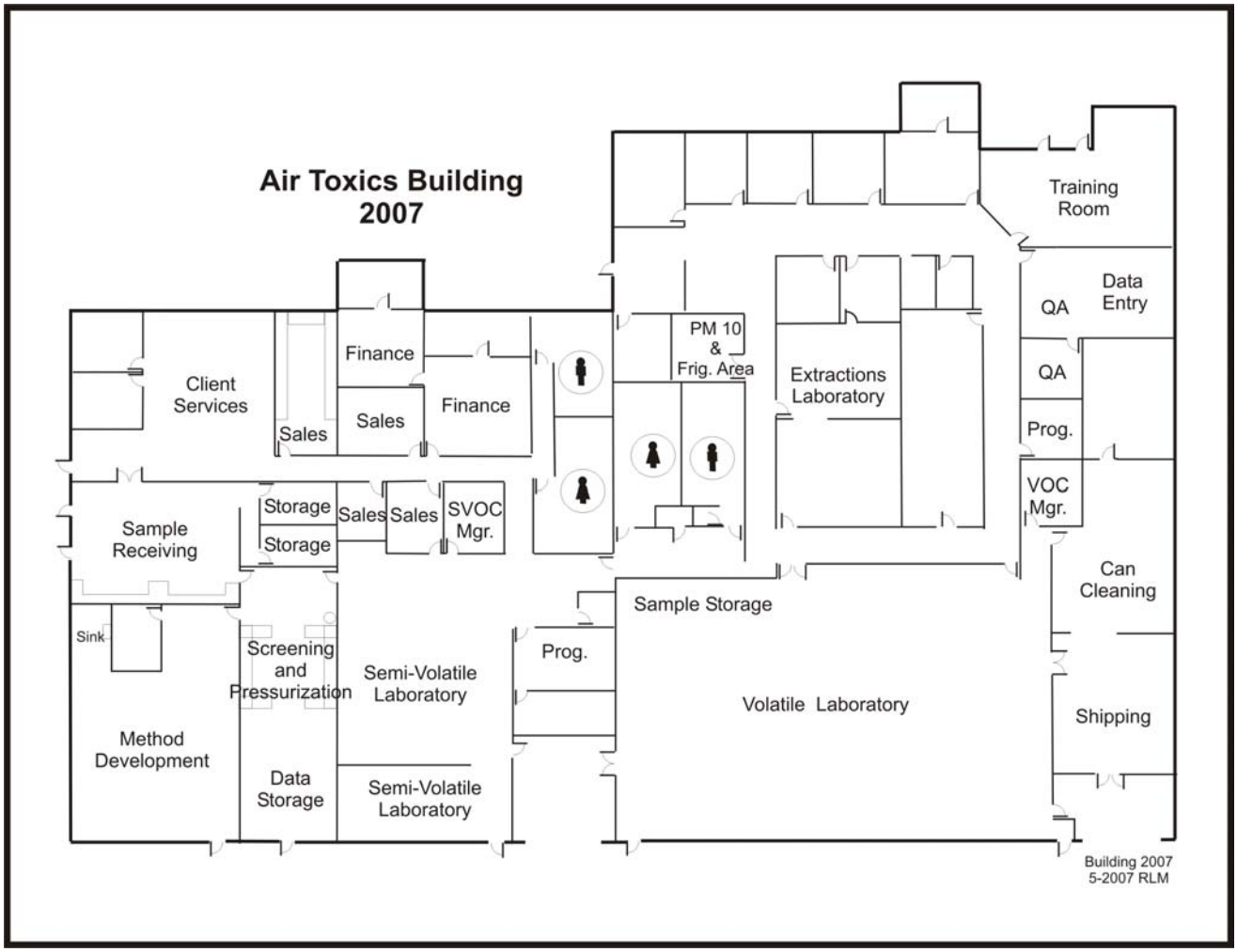


Table 2.1. Laboratory Instrumentation and Equipment

#	Description
9	Agilent 5973 GC/MSD
9	Agilent 5975 GC/MSD
1	Leco Time of Flight MS
1	Markes Autosampler
1	Hewlett-Packard 5980 GC/ECD/ECD
2	Hewlett-Packard 5980 GC/SCD
2	Hewlett-Packard 5890 GC/FID
1	Hewlett-Packard 5890 GC/TCD/FID
2	Hewlett-Packard 6890 GC/PID/FID
1	Hewlett-Packard 5890 GC/TCD/ECD
1	Sequoia-Turner Spectrophotometer
1	SIS Shortpath Thermal Desorber
1	Hewlett-Packard 1200 Gradient HPLC
2	Air Toxics Canister Autosampler
2	Air Toxics Custom Sorbent Tube Desorption Unit
1	Air Toxics Permeation calibration system
3	Canister pressurization stations
40	Soxhlets Extractors
1	Automated Canister CART Cleaning Station
2	Automatic Solvent Extraction System
8	Custom Convectron Pressure/Vacuum Canister Cleaning Manifold

Table 2.2. Sampling Media

Description	Quantity
Air sampling canisters	
6-Liter Summa canister	2120
1-Liter Summa canister	1300
PAC250 Summa Canister	240
High Pressure Sample Cylinder	30
Flow Controllers for air sampling canisters	800
24-hour flow controllers for canisters	700
Vacuum gauges	200
Tedlar bags: 1, 3, 10 liter	In inventory
MM5 air sampling traps	20
Midget impingers	30
VOST tubes kept in inventory	50 pair
TO-13 PUF/XAD and TO-4/TO-10 air sampling cartridges	200
TO-17 CarboTrap 300 air sampling tubes	150

3.0 QUALITY PROGRAM PLAN

Air Toxics Limited maintains comprehensive Quality Assurance programs to ensure that analyses are being conducted according to prescribed analytical methodology, and are within project specific QAPP requirements. The program is an integrated system of activities involving planning, quality assessment, quality control, reporting, and quality improvement. The basic elements of this program include:

- ***DOCUMENTING*** *procedures, method requirements, and project requirements*
- *Organizing, monitoring, and leading* ***TRAINING*** *programs on quality related issues*
- ***ASSESSING*** *adherence to requirements, including maintenance of a system which documents, tracks, and provides closure when corrective actions are necessary*
- *Formally* ***COMMUNICATING*** *results of those assessments to laboratory management*

These critical elements of the Quality Plan are described in detail in the following sections.

3.1 DOCUMENTING

3.1.1 The Quality Assurance Manual

The Quality Assurance Manual describes the major programs or systems by which the laboratory provides data of known and predictable quality. The QA Manager and the President are responsible for the content, accuracy and completeness of the Manual. The Manual must comply with all State and Federal requirements for those programs in which the laboratory maintains accreditation. The Quality Assurance Manual is a required reading for all laboratory staff and everyone must comply with the procedures documented as a condition of continued employment. Each staff person documents in his/her training record that the latest revision Manual has been read and understood. The Department Manager and/or the Team Leader assess the accuracy and completeness of the documentation annually at the time of the employee's performance review. Missing or incomplete documentation is noted in the performance review.

The Quality Assurance Manual is reviewed and updated annually. All personnel are required to document reading the latest version in their training record.

3.1.2 Standard Operating Procedures/Methods Manual

The laboratory procedures used at ATL are documented in method-specific standard operating procedures (SOPs). These procedures are based on standard EPA or ASTM methodology whenever possible. The SOPs contain all necessary QC parameters, acceptance criteria, and directions for corrective action measures. The SOPs govern the laboratory response to results that are outside acceptance limits and address anticipated problems with associated recommended corrective action to eliminate the problem or further occurrences of the problem. SOPs also specify the type of written records (typically Corrective Action Requests known as CARs) necessary to fully document anticipated as well as unanticipated problems. The SOPs are maintained in numerical order in binders, which also serve as the laboratories Methods Manual. The SOPs address the following (where applicable):

- Identification of the test method
- Applicable matrix or matrices
- Limit of Detection (MDL)
- Method reporting limits
- Scope and application (includes target analytes)
- Summary of the method

- Table of significant variances from the method
- Definitions and interferences
- Safety
- Equipment and supplies
- Reagents and calibration standards
- Sample preservation and storage requirements
- Quality control
- Calibration, validation, and standardization
- Procedures
- Data analysis and calculations
- Method performance objectives
- Pollution prevention (if applicable)
- Data review and acceptance QC criteria
- Corrective Action for out of control data
- Waste management (if applicable)
- Method identifier and references
- Any relevant tables, flow charts or diagrams

The SOPs are written by the Department Manager, the Team/Task Leader or an experienced Scientist and are reviewed annually for technical accuracy and adherence to general QA/QC protocols. The SOP is signed and dated by the author, then is submitted for technical review, QA review, and final review by the laboratory director. Each method SOP contains a detailed table of all modifications taken against the actual reference method. Modifications and/or additions to the SOP are similarly reviewed and signed. Each hard copy SOP carries a unique revision number, control copy number, and date of generation. The SOPs are treated as confidential and proprietary and are maintained under the authority of the QA department. The original is kept in the QA department and extra copies in various laboratory sections as needed. Electronic versions of the SOPs are stored on a secured network drive, which only the QA Department can access. SOP summaries that include analyte lists, reporting limits, QC criteria and current variances to published methods are available to clients in .pdf form as the ATL Methods Manual Summary. Copies of SOPs are made available to State and Federal accreditation and regulatory entities.

Current SOPs are stored electronically in a secured read-only database to allow review online by laboratory personnel. Whenever an SOP is updated and implemented, it appears in the electronic database. The QA personnel inform the Department Managers and the Team Leaders of the availability of the revised SOP. The Department Managers or the Team Leaders inform team members who then access the SOP from the laboratory network in order to read the SOP. Once the Scientist/Analyst reads the SOP, he/she logs the date in the SOP tracking software, or signs and dates a copy of the title page from the hard copy stored in the laboratory. This documentation is then filed in his/her training record. The Department Manager and/or the Team Leader assess the accuracy and completeness of the documentation annually at the time of the employee's performance review. Missing or incomplete documentation is noted in the employee's performance review.

A comprehensive list of ATL's SOPs can be found in Appendix B.

3.1.3 Revisions to SOPs

The revision number of the referenced method is noted in the method-specific SOPs. The protocols and deviations are specific to that revision number. Air Toxics does not operate under more than one version of a referenced method at any time. The specific protocol used for analysis can be tracked using the effective date noted on the front page of the SOP.

Each SOP update is identified by a unique revision number. As with referenced method revisions, only one revision of an SOP is used in the laboratory at any one time. A complete description of ATL's system for writing and

updating SOPs can be found in ATL's SOP #46.

3.1.4 Documenting Method Specific Deviations

Most air methods were not written as definitive and all have a strong performance based component to them. It is not unusual for the lab to have to design and create sampling interfaces or moisture control devices or to add additional quality assurance requirements to the methods in order to meet more stringent project or program requirements. Any variances to referenced methods are summarized in tabular form in the laboratory SOP. Signatures of the Laboratory Director and QA Manager on the front page of each SOP indicate review and approval of these variances. A copy of the method modifications table from the SOP appears in the Laboratory Narrative section of the comprehensive validation package or standard final report (Table 3.1). The QA team maintains and updates the templates used to create the Laboratory Narrative section of each work order. Each template has a revision date to ensure that only the most recent SOP table appears in the Laboratory Narrative.

On occasion, the need arises to change some aspect of an established SOP to accommodate enhancements to either the equipment or the method. The bench chemist documents the request for the change and the reasons behind it in the 'Request for Technical Change' form (Exhibit 3.1). The form is routed through the Department Manager and Team Leader with approval for the change noted by signature of the Laboratory Director and Technical Director. The form also identifies any established SOP's which should be revised/amended to incorporate the changes made. The forms are serialized in order to track progress and implementation. SOP Amendment forms are also used to reflect changes that are made to SOPs prior to a new revision.

Table 3.1. Example Method Modification Table

Requirement	EPA Method TO-3	ATL Modifications
Preparation of Standards	Levels achieved through dilution of gas mixture	Levels achieved through loading various volumes of the gas mixture
Initial Calibration Calculation	4-point calibration using a linear regression model	5-point calibration using average Response Factor
Initial Calibration Frequency	Weekly	When daily calibration standard recovery is outside 75 – 125 %, or upon significant changes to procedure or instrumentation
Daily Calibration Standard Frequency	Prior to sample analysis and every 4 - 6 hrs	Prior to sample analysis
Minimum Detection Limit (MDL)	Calculated using the equation DL = A+3.3S, where A is intercept of calibration line and S is the standard deviation of at least 3 reps of low level standard	40 CFR Pt. 136 App. B
Moisture Control	Nafion system	Sorbent system

Exhibit 3.1. Example Technical Change Request Form

Request for Technical Change Form **No.** VOC -001

This form is to be used to propose any technical changes from ATL's Standard Operating Procedures.

Initiated By: _____ Date: _____

I. Description of Proposed Change:

_____
_____
_____
_____
_____
_____
_____
_____

II. Reasons for Proposed Change:

_____
_____
_____
_____
_____
_____
_____
_____

III. Method/Instruments Affected:

_____
_____

(continued)

Exhibit 3.1. Example Technical Change Request Form (*Continued)*

IV. Approvals:

Laboratory Director Approval: _____ _____
Linda L. Freeman Date

Technical Director Approval: _____ _____
Signature Date

V. Changes in ATLAS Database

Valid Values Table(s)/Analyte Lists changed by: _____ _____
Signature Date

VI. Affected SOPs:

SOP/Rev #: _____ Date Revised/Amended: _____ Revised/Amended by:_____
Initials

SOP/Rev #:_____ Date Revised/Amended: _____ Revised/Amended by:_____
Initials

SOP/Rev #: _____ Date Revised/Amended: _____ Revised/Amended by:_____
Initials

VII. Additional Comments:

_____

_____

Initials:_____ Date:____

VIII. Notifications:

QA Manager: _____ _____
Signature Date

Department Manager: _____ _____
Signature Date

CSR Team Leader (as required): _____ _____
Signature Date

Team Leader (as required): _____ _____
Signature Date

Team Leader (as required): _____ _____
Signature Date

Team Leader (as required): _____ _____
Signature Date

Date Implemented:

This change to ATL's Standard Operating Procedures has been implemented by:

_____ _____
QA Signature Date

3.1.5 Documenting Project Specific Deviations

Project specific QAPPs are reviewed by the Project Chemist (or designee) or a Technical Director. Project Managers, Team Leaders and key Scientists may review these documents as well. The laboratory may also take variances against method criteria established in project specific SOWs or QAPPs. The Project Chemist (or designee) reviews the project specific criteria during project proposal and notes any variances from standard laboratory SOP in a table. A variance table (Table 3.2) is then incorporated into the bid proposal for review and acceptance by the prospective client. The client notes acceptance by signature or initial and date in the designated field of the table. The project specific variance table is stored on a secured network drive following approval. A Project Profile (Exhibit 3.2) is initiated at the same time. A summary of the analytical requirements which differ from ATL's relevant SOP is documented in a Project Requirement Table and included in each Work Order folder. The Project Profile may also be accessed through the ATLAS database. The Client Service Representative is responsible for noting the location of the Project Requirement Table in the Project Profile. Finally, the variance table is included in the Comprehensive Validation Package (CVP). The project specific QAPPs are maintained in electronic form on a network drive.

Table 3.2. Example Project Specific Variance Table

SOW	ATL SOP	VARIANCE APPROVAL*
Method 2720C Fixed Gases	ASTM D-1945 Fixed Gases	
RDLs determined upon receipt of lab MDLs	Standard lab RDLs of 10 ppmv	
Field blank can one per batch	Not provided	
Canister released 90 days past reporting	Canisters released 30 days past day of sampling	
72 hour retention time study	±0.06 minutes standard SW-846	
Calibration verification daily with all analytes ±25% expected value	All compounds within 15%; Spike concentration is 25 ppbv	
Accuracy/precision study per analyst with project limits	Per analyst once every 12 months using ATL standard limits only	
LCS once per 5 point, ±25% difference for all compounds	All compounds within ±15%; Spike concentration is 25 ppbv	

*NOTE: Each variance needs to be approved by the client's initial and date. An initialed copy of this variance table will appear in the Comprehensive Validation Package.

3.2 TRAINING

3.2.1 Team Training

ATL laboratory staff members have sufficient education, training, and technical knowledge to perform their assigned duties. Each team has both experienced and in-training staff members. Those in training work under the supervision of a more experienced peer who is typically the lead Scientist assigned to that area.

Training of laboratory staff in analysis consists of three developmental stages:

- *STAGE I. Introduction*

Initial instruction by the analytical team leader or an experienced staff member concerning basic elements of the method and brief overview of instrumentation. Applicable SOPs and methods are read. During this time, the trainee is an observer.

- *STAGE II. Training*

Periods of close contact and direct supervision by an experienced staff member. During this time, which may last for several weeks, the analyst performs tasks independently. All aspects of his/her work are reviewed by the supervisor or experienced staff member.

- *STAGE III. Advanced Operation*

Independent work with data review by the analytical team leader or a designated peer.

The final step in the training process allows the bench Analyst to document competency by analyzing four consecutive Laboratory Control Samples which is documented by a Demonstration of Capability Form (see Exhibit 3.5). A Continuing Demonstration of Capability must be made on an annual basis and documented by a Continued Method Proficiency Form (see Exhibit 3.6). Personnel who perform on odd shifts and do not commonly spec out instrumentation may substitute a duplicate analysis with acceptable precision (%RPD) for the four Laboratory Control Sample analyses when fulfilling the Continuing Demonstration of Capability.

The QA team ensures that training of each member of the technical staff is complete, documented, and up to date. Exhibit 3.4 is an example of a Training Record form. It is the responsibility of the employee to keep his/her record current. An Analyst's/Scientist's training is considered current if the training record contains evidence that the employee has:

Training Record Checklist

- read the current version of the QA Manual
- completed laboratory training record
- completed necessary internal or external training classes
- completed the training class on ethical responsibilities
- read and understood the current version of relevant SOPs
- demonstrated initial proficiency in the methods by acceptable performance on four Laboratory Control Samples; proficiency is measured by accuracy and precision
- demonstrated continued proficiency in the methods by acceptable performance on four Laboratory Control Samples or duplicate analysis with RPD ≤ 25% between two analysts; proficiency is measured by accuracy and precision

The Department Manager and/or Team Leader review the training record on a yearly basis during an employee's annual performance review. Deficiencies in the training record are documented and returned for correction (see Exhibit 3.7). Consistent failure to maintain updated training records is noted in the performance review and effects the employees overall job rating.

A series of classes taught by in-house experts are offered throughout the year. Topics range from in depth technical aspects of the instrumentation to an overview of selected methods. Exhibit 3.8 contains a sample of internal courses that have been offered. The list of courses is subject to change on a yearly basis as a function of availability of instructors. Course attendance is mandatory for topics specifically related to an employee's job function. The QA department and management teams determine which courses are mandatory. Course attendees may be tested to ensure that they have achieved an acceptable understanding of the material presented. Completion of courses is documented in the employee's training record.

3.2.2 External Training

External training courses offered by software experts, instrument manufacturers, or other recognized experts in analytical instrumentation and/or analysis are attended by ATL employees. The course description, dates offered and record of attendance are kept in the employee's training records. The company maintains a budget for external training classes and higher education.

3.2.3 Quality Training

All new Air Toxics Limited employees are required to attend the Quality Assurance Orientation course. Completion of the course is documented in the employee's training record. The course outline includes:

- Introduction to QA and Laboratory Nomenclature
- How to Use CARs
- Definitions of SOPs and LQAP
- Training Documentation
- Ethics I (Overview)
- Ethics II (Annual)

3.2.4 Health and Safety Training

Laboratory staff may, on occasion, be exposed to the handling of flammable solvents, compressed gases or toxic calibration standards. There are four to six staff members comprising the Safety Committee. Some members are 40 hour OSHA trained and respirator fitted. Education in the safe handling and disposal of these materials is accomplished as follows:

- Each new employee is given a safety tour of the facility within the first two weeks of employment. Documentation of this orientation appears in the employee's training record.

- The safety committee meets quarterly (or more frequently if needed) to discuss safety concerns and ways of improving safety in the work place.

- The safety committee schedules on going safety training throughout the year.

- If special precautions must be taken to perform a method, a safety section is included in the method SOP which discusses protocols and other measures for risk reduction through exposure prevention.

- ATL maintains Material Safety Data Sheets (MSDS) for each chemical used on-site. The MSDS are accessible to all personnel in the library area.

- ATL has access to MSDSs on the Internet through its vendors.

The safety committee staff members are assigned to duties including hazardous waste disposal, incident or spill management, staff training, Chemical Hygiene Plan review, and leading the safety committee.

3.3 ASSESSING ADHERENCE AND COMMUNICATING FINDINGS

The QA team plays a key role in establishing quality policy and protocols. The QA Department ensures that the established guidelines are followed through various quality control programs, which are designed to detect non-compliance or departure from protocol. Each quality control program includes documentation of the assessment process and timely feedback to the management and staff involved.

3.3.1 Data Review

The QA team reviews Work Orders which the client has requested 100% QA review. Deficiencies noted during review are documented and communicated to the staff involved.

QA REVIEW CHECKLIST

- **Assessing accuracy and completeness of the laboratory narrative**
- **Assessing Analysis/Reporting vs. Project Profile/SOP requirements**
- **Documentation of any corrective actions**
- **Documentation of unusual circumstances**
- **Verification of the QC meeting criteria**
- **Verification of sample dilution factors**
- **Appropriate peak integration and documentation for manual integration**
- **Verification of appropriate data flags**
- **Verification of sample id's vs. COC**
- **Verification of reporting list, units and report header information**
- **Verification of sample holding time**
- **Verification of adherence to analytical sequence clock times**
- **Verification of the appropriate Initial Calibration**
- **Verification of sample reporting limits**
- **Manual verification of one sample result from raw area counts**
- **Assessing accuracy and completeness of the Client Lumen report (if applicable)**

The QA reviewer will look both for appropriate as well as inappropriate laboratory practices. Inappropriate practices are those which fall outside established laboratory SOPs. If inappropriate practices are suspected, the QA reviewer will verify the result with the QA Manager and the Department Manager and/or Team Leader, initiate a Corrective Action Request, and if necessary, form a committee consisting of but not limited to the Department Manager and/or Team Leader, Technical Director, and Laboratory Director. Most Corrective Action Requests may be traced to human error. Oversights of this nature are simply documented and feedback is given to the Analyst or Scientist involved.

On occasion, the committee may determine that the Corrective Action Request was not attributable to simple human error. The reasons for the non-conformance and appropriate action to be taken are discussed and implemented by this committee. Typical actions include retraining of the individual involved along with a remedial period of close monitoring by the Department Manager and/or Team Leader. The QA team or an approved peer reviews all data reported by the Analyst during the remedial period. The laboratory uses a three-strike rule with respect to non-compliance issues. New Analysts are rigorously trained to follow SOPs. This training lasts several months. Re-training is done if there is cause to suspect non-compliance. Secondary training typically lasts 30 days. Any further evidence of non-compliance may result in termination.

Client Services Representatives create Project Profiles that specify 100% QA review. When samples are received the Sample Receiving Team will automatically add a QA review to a workorder if 100% frequency has been requested as per the profile.

After QA review is complete the reviewer enters the review date in the sample tracking database. If a QA reviewer discovers an error, necessary corrections are made and the work order is reissued.

Another tool used for data review involves the use of proprietary in-house data validation software to review every data point generated

and to alert the reviewer when manual integrations occur. The software is also programmed to report when more than three attempts for a daily CCV or tune check standard to pass have been attempted. (Validation software currently reviews all method TO-14A/TO-15 results. Further software development is scheduled in 2007 to bring more methods on line).

3.3.2 Corrective Action Program

The QA team manages the Corrective Action Program and maintains the Corrective Action tracking database. A Corrective Action Request (CAR) is initiated any time sample results are adversely affected by system non-compliance with established SOPs or program requirements, any time an internal or external assessment results in a finding, any time there is a failed proficiency evaluation sample, any time there is a failure quality system such that data quality is affected, and lastly, any time there is a customer inquiry into the laboratory's data quality and laboratory error is found (see Exhibit 3.2). This request is documented using one of ATL's eCAR forms - see Exhibit 3.9. A database is used to track the date of resolution, the necessity for a follow-up, and the date the follow-up action is completed.

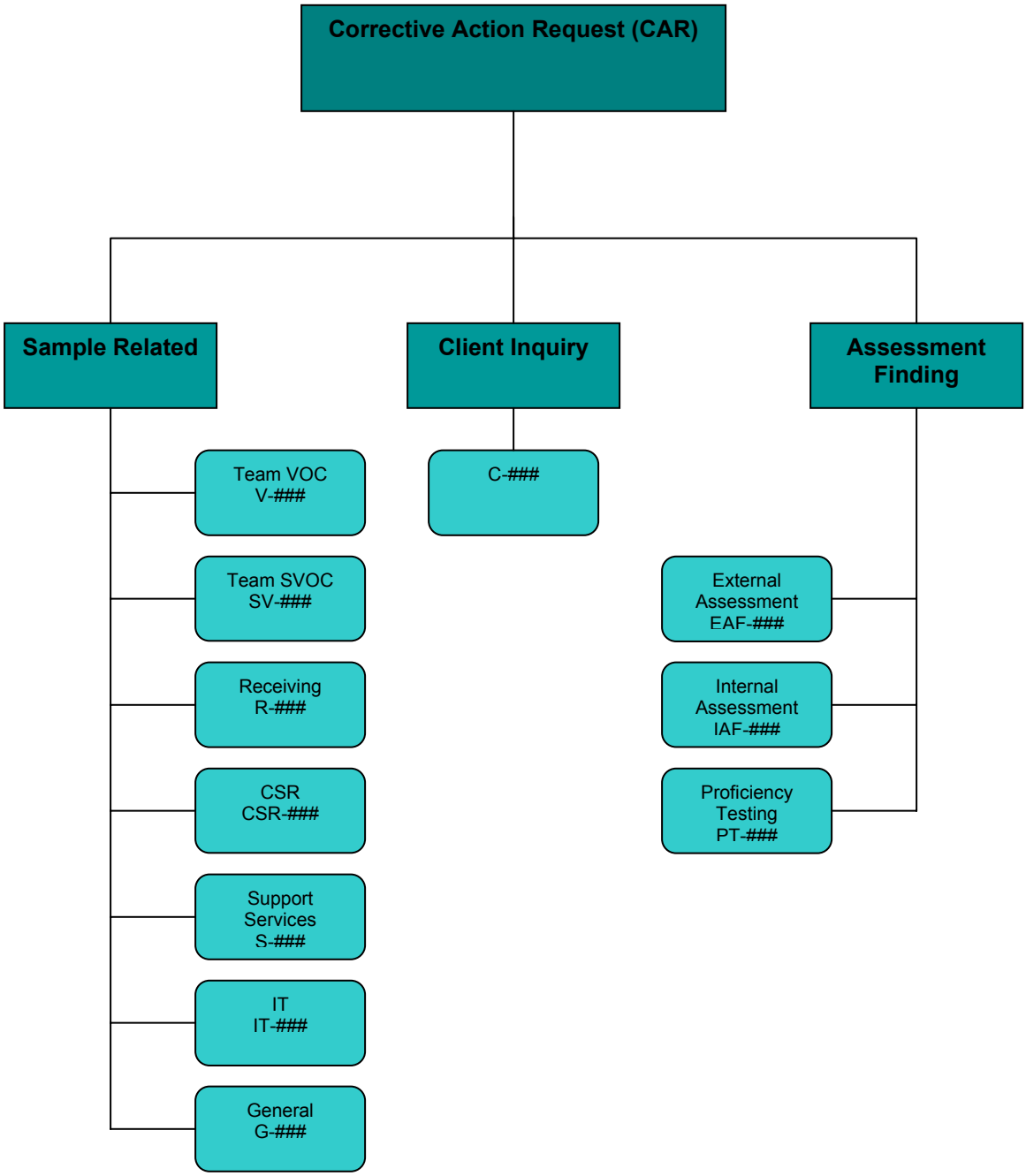
Corrective Action Requests which require immediate resolution must be completed and finalized within 2 business days. All other CARs must be resolved within 30 business days. The status of corrective actions that have not yet been completely resolved (including follow-up actions), are discussed during the weekly QA Meetings. Whenever a customer raises an issue relating to data quality, the inquiry is documented in the Atlas Contacts database. A representative of the QA team or a Technical Director reviews the data in question and investigates any systematic problem that may be evident. If results of the review and investigation merit corrective action a CAR will be initiated along with any necessary follow-up action.

Examples of when the client inquiry CAR may be initiated include:

- Blind field duplicates that do not agree
- Field blanks that had contamination present.
- Blind proficiency sample that did not meet accuracy objectives
- Sample splits that do not meet precision objectives
- Outlet sample results that were higher than inlet sample results
- Sample results that cannot be manually verified
- Sample results that do not meet program requirements

A portion of the CAR database is associated with sample receiving and analysis. Should a malfunction occur with a pending sample, the client is contacted prior to analysis to confirm if the analysis should continue. The CAR form documents the contact and resolution of the issue. Should the decision be made to proceed with analysis then any malfunction affecting data quality is detailed in the laboratory narrative. Instructions to proceed with analysis and narration of the affected results are documented in the CAR form. The Department Manager and/or Team/Task leader must review the CAR and determine if the error is isolated or systematic. After QA review, the CAR form is then filed with the Work Order as a permanent record of the nature of the problem and the resolution. A complete description of ATL's CAR system can be found in ATL's SOP #61.

Exhibit 3.2. Types of Corrective Action Request Forms



3.3.3 QA Management Meetings

Each week the QA Manager leads a meeting with the Department Managers, the analytical Team Leaders, the Client Services Team Leader, and the Support Services Team Leader. All other Managers and Directors are welcome to attend. These meetings are called to discuss the effectiveness of the quality systems, specific quality issues that may have surfaced during the week, and to monitor progress with respect to open Corrective Action items. Agenda items are added and removed at the discretion of the QA Manager or QA staff.

The meeting is used as an interactive forum in which non-compliance issues are discussed with respect to the overall suitability of the quality system involved. Non-compliances are screened to see if the quality system itself is in need of a review or modification. If it is determined that a particular quality system needs to be designed or revised then the committee takes responsibility for restructuring that system. The issue cannot be removed from the weekly agenda until the new system is in place. Minutes of each meeting are kept in a QA electronic form on the QA network drive.

3.3.4 Conducting Internal Assessments

The QA team conducts internal assessments of all major production areas of the lab on a yearly basis. The production areas are separated into assessment modules by referenced methodology. Whenever possible audits are scheduled to occur after the yearly update and revision of the relevant SOP. Audits are composed of three events:

- Laboratory assessment based on the current SOP by the QA Team.
- Circulation of the assessment report and issuing of any necessary corrective action forms.
- Satisfactory response to audit findings.

An assessment checklist is developed for each area by the QA Manager or designated staff. The checklist contains general, method specific, and SOP specific practices (Exhibit 3.10). The assessment process addresses whether or not quality systems (e.g., adherence to the current revision of the SOP, proper and complete documentation practices etc.) are in place and understood. Health and safety issues are also covered.

Results of the assessment are summarized in the checklist that serves as the basis of the report. Findings that are determined to be in need of Corrective Action are processed through the standard CAR program. If findings imply that there has been a significant impact on the data, the report will be corrected and reissued to the client. Copies of the internal assessment report are circulated to the Department Managers and Team Leaders and other members of ATL management team.

3.4 COMMUNICATING WITH MANAGEMENT

Results of the QA assessments are documented in a **Monthly QA Status Report** that summarizes the numbers and types of CARs produced, the status of any outstanding CARs, a summary of customer inquiries received, and the number and types of reissued sample reports. This report is distributed to all Directors, Managers, and Team Leaders.

Exhibit 3.3. Example ATL Project Profile

Project Profile

Project Name | **Project Number** | **P.O.#**

Big Landfill

Project Description

Project Requirement Table: O:\Variances\2003\0303-001QC

	Report to Address		**Bill to Address**
Name:	Mr. John Jones		Mr. John Jones
Company:	Average Engineering Firm		Average Engineering Firm
Address:	1234 Anystreet Avenue		1234 Anystreet Avenue
			Your Town IA 50841
City:	Your Town		
State/Zip:	IA 50841		
Phone/Fax:	641-987-6543 (Phone) 641-234-5678 (Fax)		
Email:	jj@aef.com		

Done:	Y	**QAPP on File?**	Y
CS Rep:	DD	**Penalties?**	N
ProjectID:	5273	**24 Hour Clock?**	Y
Variance:	Yes	**Charge For Shipping?**	N

Analysis(es):	**Reporting List:**	**Units**	**TAT**	**Price**	**Surcharge**
Modified TO-15	Modified TO-15	ppbv	10 Day	.00	None

QA/QC:

Reporting List	**Dups**	**CCV**	**LCS**
Modified TO-15	10%	10%	1/ANB

Media:	**Media Price:**
6 Liter Summa Canister	.00

Deliverables:	**Done:**	**Price:**	**Price Is:**	**Due:**	**Send VIA:**
Standard ATL Report	☐	**.00**	**Per WO**	**10 Working Days**	
Client Specific Disk Format	☐	**.00**	**Per WO**		**Mail**

Notes to Receiving:

Notes to Lab:

Notes to Reporting:

Miscellaneous Items: **Price:**

Exhibit 3.4. Example Laboratory Training Record

@ Air Toxics Ltd.

LABORATORY TRAINING RECORD

EMPLOYEE:_____ PROCEDURE:_____

The normal training program consists of three developmental stages, as explained below. Indicate the necessary dates completed for each stage. You should always progress from one stage to the next in sequential order. Training is complete when this form, along with associated precision data, is submitted to the Quality Assurance Department. Upon return this form should be retained in the employee training record.

STAGE I. Introduction

Initial instruction covers the basic elements of the method as well as a brief overview of the instrumentation and is provided by the Team Leader or an individual who has been previously qualified for training on the procedure. Activities include reading applicable SOP(s), reading the reference method, and loading samples. During this time, the trainee is an observer.

Date Initiated: _____ Trainer:_____

Date Completed:_____ Trainers Qualification Date:_____

STAGE II. Training

This is a period of close contact with and one-on-one training by the Team Leader or a qualified peer. Activities include performing Initial and Continuing Calibrations, routine maintenance, and data reporting. During this time the trainee performs tasks independently as assigned but with all aspects of his/her work reviewed by the Team Leader or qualified peer.

Date Initiated: _____ Trainer:_____

Date Completed:_____ Trainers Qualification Date:_____

Stage III. Advanced Operation

During this period the trainee operates completely independently with his/her work passed into the normal review cycle. Completion of this stage is accomplished when four LCS standards are analyzed and meet the method accuracy and precision objectives (attach quant sheet(s) and/or summary and copy of run logbook/extraction logbook page(s)).

Date Initiated: _____

Date Completed: _____

Employee Signature: _____

Training Approval

The three stages of training have been completed and the employee considered to be qualified to perform the procedure.

TEAM LEADER: _____ Date:_____

QUALITY ASSURANCE: _____ Date:_____

Revised 8/8/2007

Exhibit 3.5. Demonstration of Capability Form

@ Air Toxics Ltd.

Demonstration of Capability

Initial Method Proficiency Certification Statement

Date Certified:_____

Laboratory Name: Air Toxics Limited
Address: 180 Blue Ravine Road, # B
Folsom, CA 95630

Matrix: Air
Method Name:_____
SOP:_____
File Numbers:_____

We, the undersigned, CERTIFY that:

_____
Analyst/Scientist Signature Date

1. The analyst identified above, using the cited test method(s), which is in use at this facility for the analyses of samples under the National Environmental Laboratory Accreditation Program, have met the Demonstration of Capability.

2. The test method(s) was performed by the analyst identified on this certificate.

3. A copy of the test method(s) and the laboratory specific SOPs are available for all personnel on site.

4. The data associated with the Demonstration of Capability are true, accurate, complete and self-explanatory (1).

5. All raw data (including a copy of this certification form) necessary to reconstruct and validate these analyses have been retained at the facility, and that the associated information is well-organized and available for review by authorized assessors.

Heidi C. Hayes
_____
VP/Technical Director Signature Date

Melanie A. Levesque
_____
Quality Assurance Manager Signature Date

This certification form must be completed each time a capability study is completed.

(1) True: consistent with supporting data
Accurate: based on good laboratory practices consistent with sound scientific principles and practices.
Complete: includes the results of all supporting performance testing
Self-explanatory: data properly labeled and stored so that the results are clear and require no additional explanation

Revised 8/1/2007

Exhibit 3.6. Continued Method Proficiency Form

@ Air Toxics Ltd.

Demonstration of Capability

Continued Method Proficiency Certification Statement

Date Certified: _____

Laboratory Name: Air Toxics Limited
Address: 180 Blue Ravine Road, # B
Folsom, CA 95630

Matrix: Air
Method Name: _____
SOP: _____
File Numbers: _____

We, the undersigned, CERTIFY that:

Analyst/Scientist	Signature	Date

1. The analyst identified above, using the cited test method(s), which is in use at this facility for the analyses of samples under the National Environmental Laboratory Accreditation Program, have met the Continued Demonstration of Capability.
2. The test method(s) was performed by the analyst identified on this certificate.
3. A copy of the test method(s) and the laboratory specific SOPs are available for all personnel on site.
4. The data associated with the Continued Demonstration of Capability are true, accurate, complete and self-explanatory (1).
5. All raw data (including a copy of this certification form) necessary to reconstruct and validate these analyses have been retained at the facility, and that the associated information is well-organized and available for review by authorized assessors.

Heidi C. Hayes		
VP/Technical Director	Signature	Date
Melanie A. Levesque		
Quality Assurance Manager	Signature	Date

This certification form must be completed each time a capability study is completed.

(1) True: consistent with supporting data
Accurate: based on good laboratory practices consistent with sound scientific principles and practices.
Complete: includes the results of all supporting performance testing
Self-explanatory: data properly labeled and stored so that the results are clear and require no additional explanation

Revised 8/1/2007

Exhibit 3.7. Example Training Record Review Check Sheet

@ Air Toxics Ltd.

TRAINING RECORD CONTENT SHEET

Employee: _____ Review Date: _____

Department: _____ Position: _____

Required Documentation

- ☐ Resume
- ☐ QA Orientation Training
- ☐ Safety Orientation checklist
- ☐ Documentation of Reading current version of the LQAP
- ☐ Current Ethics Training
- ☐ Documentation of reading current version of applicable SOP(s)/Amendments

Documentation of Classes / Continuing Education Courses (completed since previous review)

- ☐ Quality Assurance Class Date: _____
- ☐ Manual Integration Protocol Date: _____
- ☐ Hazard Communication Training Date: _____
- ☐ Inappropriate Lab Practices Date: _____
- ☐ Other: _____ Date: _____
- ☐ Other: _____ Date: _____
- ☐ Other: _____ Date: _____
- ☐ Other: _____ Date: _____

Other Documentation / Comments

(notation of additional or missing items, incorrectly completed forms, organization, etc.)

☐ **Documentation of Training attached for Methods/Procedures** (please list)

_____

_____

_____

Review

Employee Signature: _____ **Date:** _____

Reviewed By: _____ **Date:** _____

Revised: 8/8/2007

Exhibit 3.7. Example Training Record Review Check Sheet *(Continued)*

@ Air Toxics Ltd.

ADDITIONAL TRAINING RECORD CONTENT

Employee: _____ Date: _____

Department: _____

Documentation of Training (Continued)

Procedure: _____

Laboratory, Data Write-up, or General Training Record

Completion Date: _____

- ☐ "Date Completed" and "Trainer" filled out for each stage
- ☐ Employee Signature
- ☐ Team Leader Signature
- ☐ Quality Assurance Signature

Initial Proficiency Data

Completion Date: _____

- ☐ NELAP *"Demonstration of Capability"* form completed
- ☐ Four replicate LCSs (analyzed on the same day or on separate days)
- ☐ Meets method criteria for Accuracy and Precision
- ☐ Date and initials of reviewer on Proficiency Data

Current Continued Proficiency Data

Completion Date: _____

- ☐ Current NELAP *"Demonstration of Capability"* form
- ☐ Four replicate LCSs (analyzed on the same day or on separate days), or Duplicate Analysis (%RPD ≤ 25% between two Analysts)
- ☐ Meets method criteria for Accuracy and Precision
- ☐ Date and initials of reviewer on Proficiency Data
- ☐ Performed within a year of review date

Procedure: _____

Laboratory, Data Write-up, or General Training Record

Completion Date: _____

- ☐ "Date Completed" and "Trainer" filled out for each stage
- ☐ Employee Signature
- ☐ Team Leader Signature
- ☐ Quality Assurance Signature

Initial Proficiency Data

Completion Date: _____

- ☐ NELAP *"Demonstration of Capability"* form completed
- ☐ Four replicate LCSs (analyzed on the same day or on separate days)
- ☐ Meets method criteria for Accuracy and Precision
- ☐ Date and initials of reviewer on Proficiency Data

Current Continued Proficiency Data

Completion Date: _____

- ☐ Current NELAP *"Demonstration of Capability"* form
- ☐ Four replicate LCSs (analyzed on the same day or on separate days), or Duplicate Analysis (%RPD ≤ 25% between two Analysts)
- ☐ Meets method criteria for Accuracy and Precision
- ☐ Date and initials of reviewer on Proficiency Data
- ☐ Performed within a year of review date

Exhibit 3.8. Examples of Internal Training Courses (Subject to Change)

Gas Chromatography
Column Selection, Care & Maintenance
Detectors – Overview of Team VOC & SVOC
The mass spec detector - specific training
GC Parameters
Injection Techniques
Proper Use of Fittings and Gas Traps
Quality Assurance
Introduction to QA and Lab Nomenclature (2 sessions)
Calibration and Analysis
Standards Preparation and Documentation
Syringe & Dilution Techniques
Proper Log Book Protocol
Canister Pressurization
Correct Operation of Manual Interface
NOAH – Overview
The ATL Way
Bidding through Invoicing, the Process
Training Records - How to set up & maintain
Health & Safety Training
Integrity Training – Ethical Laboratory Practices
Computer Systems and Security
On the Job Team Specific courses
Detectors – Specific Training (PID/FID, ECD)
Hydrocarbon Profiling and NMOC
NIOSH Overview – 2456 & 5515
EDD Production
Understanding Analysis of Atmospheric Gases
Understanding Analysis by TO-3
Understanding Analysis by TO-13/8270
Overview of Sulfur Analysis & the SCD
Overview of Headspace (RSK-175) analysis
Understanding Analysis by TO-14A/15
Understanding VOST Analysis
Power Point
Ethical and Defensible Manual Integration

Exhibit 3.9. Example eCAR Form

Corrective Action Report

No._____

Initiated By:	**Date:**
Team Leader:	**Date:**
CSR:	**Date:**
QA Dept:	**Date Closed:**

Team(s) affected:

Method(s) affected:

Work order(s) affected:

Project Profile ID(s):

Sample(s) affected:

CSR:

Describe the nonconformity and its cause:

Describe the Corrective Actions:

Client Notification:

Person Notified:	**By:**	**Date:**

Client Instructions:

Exhibit 3.9. Example eCAR Form *(Continued)*

Team Leader Notification:

Person Notified:	By:	Date:

Additional Corrective Actions:

Date Implemented:

Follow-up Action Necessary?

Describe Follow-up Action:

Date Follow-up Action Completed:

Completed By:

Exhibit 3.10. Example Internal Audit Checklist

Modified TO-17
Technical & Quality Audit Checklist

Date Audit Performed:_____
Auditor(s):_____
Participant(s): _____

Category	OK	Observ.	Finding (CAR #)	Comments
General				
Has it been documented in the analyst's Training Record that the current SOP for this procedure has been read and understood? (#5 Rev.7)				
Has the analyst demonstrated Proficiency for these methods within the last 12 months?				
Has it been documented that the analyst has read the current Laboratory QA Plan? (Rev. 19)				
Safety Procedures				
Does the analyst have documented Safety Training?				
What is the proper procedure to follow when working with solvents or standards?				
Sample Preservation, Handling, and Storage				
What are the holding times for TO-17 samples? At what temperature are the samples stored? How are these temperatures verified?				
How are tubes stored in order to prevent contamination?				
How is potential contamination monitored?				
How are samples logged into and out of the sample custody cage?				

Exhibit 3.10. Example Internal Audit Checklist *(Continued)*

Modified TO-17
Technical & Quality Audit Checklist

Category	OK	Observ.	Finding (CAR #)	Comments
Standard Preparation				
How are these standards stored? What are the expiration dates of these standards?				
Provide documentation of standard preparation for TO-17 samples. Perform a manual re-calculation of a standard concentration. Trace a standard back to its certificate of analysis.				
Calibration and Quality Control Procedures				
How often must a BFB tune be analyzed? What if it fails acceptance criteria?				
At what level is the CCV analyzed? Is this level ever varied?				
When is an LCS analyzed and what are the acceptance criteria? Does the LCS contain all target analytes?				
What is the acceptance criterion for the Lab Blank? When is a Lab Blank analyzed?				
Sample Analysis				
How does the analyst verify Project QC requirements prior to analysis?				

Exhibit 3.10. Example Internal Audit Checklist *(Continued)*

Modified TO-17
Technical & Quality Audit Checklist

Category	OK	Observ.	Finding (CAR #)	Comments
Verify the instrument operating parameters for TO-17 Methods. How are deviations from these parameters documented? Who is authorized to make these changes?				
What is the definition of an analytical batch?				
Review instrument Run Logbook. Has the logbook been reviewed on a monthly basis? Is documentation correct and complete?				
How are temperatures and flows used during analysis verified to be accurate?				
How are compounds qualitatively identified?				
How are compounds quantitatively identified? Re-calculate a sample result.				
What must be done when there is interference with the primary quantitation ion? What is the criterion for this to occur?				
Is it ever necessary to perform manual integrations? When is it acceptable or unacceptable to perform manual integrations? How must manual integrations be documented?				

4.0 QUALITY OBJECTIVES

The primary objective of the QA Program is to ensure that the laboratory is producing data that meet the laboratory's standard acceptance criteria for each method. Acceptance criteria from project-specific QAPPs are also used when required.

The laboratory's standard acceptance criteria and the sources of those criteria are specified in Sections 6.0-6.18 of this Quality Manual. Definitions of parameters used to assess the quality of the data are defined below.

4.1 PRECISION, ACCURACY, REPRESENTATIVENESS, COMPLETENESS, AND COMPARABILITY

4.1.1 Precision

Precision measures the reproducibility of measurements. Analytical precision is the agreement among duplicate (two) or replicate (more than two) analyses of the same sample. The acceptance for precision is determined using the relative percent difference (RPD) between the duplicate sample results. The %RSD (relative standard deviation) is used to document precision of linearity for the initial calibrations. The formula for the RPD and RSD calculations are provided in Exhibit 4.1.

Field duplicate samples represent *total* precision, the reproducibility associated with the entire sampling, and analysis process. However, the identification of field duplicate samples are typically not known to the laboratory, and therefore not specifically evaluated by the laboratory's QA department.

4.1.2 Accuracy

Accuracy measures correctness and includes components of random error (variability due to imprecision) and systemic error. Analytical accuracy is measured by comparing the percent recovery of analytes spiked (as compared to the expected value) to pre-established accuracy limits (i.e., acceptance criteria). Any type of spiked sample measures accuracy. The formula for calculation of accuracy is included in Exhibit 4.1 as percent recovery (%R) from pure and sample matrices.

4.1.3 Representativeness

Representativeness is achieved through use of the standard analytical procedures described in this Quality Manual.

4.1.4 Completeness

Completeness is the percentage of data, which meets the established acceptance criteria referenced in Sections 6.0-6.18. ATL's goal is to achieve at least 95% completeness for both normal turn-around-time (TAT) and rush TAT data. Meeting the method specification outlined in each SOP prior to analyzing project samples is our means of achieving this goal.

4.1.5 Comparability

Comparability is the confidence with which one data set may be compared to another. The objective for this QA/QC program is to produce data with the greatest possible degree of comparability. Comparability is achieved by using standard analytical methods, reporting data in standard units, and using standard and comprehensive reporting formats.

4.2 LIMIT OF DETECTION, LIMIT OF QUANTITATION, AND INSTRUMENT CALIBRATION REQUIREMENTS

4.2.1 Limit of Detection

The Limit of Detection (LOD) is a statistically determined value (by Method Detection Limit per 40CFR Part 136 Appendix B). The LOD

must be less than the Limit of Quantitation (LOQ). If the true concentration is below this value, the analyte may not be detected. Each LOD study is repeated at least once per twelve-month period, when a new instrument is installed, when there is a major change in the analytical configuration such as column, detector, sample concentrator, sample loop size, etc. or when there is a major change in the extraction method such as solvent, extraction apparatus, clean-up procedure, etc.

All analytical constituents noted by methods in Section 6.0 are to be reported with a valid and current LOD, but in the case of special request compounds LODs are performed only when a client specifies it to be a project requirement. Special request compounds are reviewed by the Department Managers to determine the cost to the laboratory for additional LOD analyses. The additional value added is then factored into the bid that is submitted to the prospective client.

4.2.2 Limit of Quantitation

ATL reports down to the Limit of Quantitation (formerly called the Practical Quantitation Limit or Reporting Limit) which is the lowest concentration contained in a linear calibration).

The LOQ represents a uniform value that can be accurately detected for any particular analyte on each instrument thereby providing consistency for samples analyzed on different instruments. The Reporting Limit is verified by the statistical and analytical LOD studies.

The acceptance criterion for the LOD study is a value of less than the LOQ. Corrective action including raising the LOQ may be performed if the statistically and analytically determined LOD does not meet the stated criterion.

4.2.3 Instrument Calibration

Analytical instruments are calibrated in accordance with the referenced analytical methods and internal SOPs. The acceptance criteria are summarized in Section 6.0. All specific target analytes are included in the initial and continuing calibrations.

If multi-point calibrations do not meet acceptance criteria stated in the relevant SOPs, an option to narrow the range of the curve either by eliminating the low point or the high point of the curve may be considered providing all project criteria are still met. Otherwise, the entire calibration curve is repeated. Reanalysis of any level of the multi-point calibration in order to meet QC acceptance criteria is not allowed unless there is evidence of an anomaly such as instrument malfunction or an improper load volume. Documentation of the anomaly must accompany the raw data for the Initial Calibration. Elimination of any of the inner levels of the multi-point calibration in order to meet QC acceptance criteria is not allowed.

Records of instrument calibration and records that unambiguously trace the preparation of standards and their use in instrument calibration are maintained for 5 years. Calibration standards are traceable to standard materials.

A second source (or different lot) standard that contains all target compounds, as noted in the Section 6.0 tables, is analyzed after each initial calibration curve to verify that the standards are correct and the calibration is accurate. The acceptance criteria for the independent source recoveries are presented in Section 6.0.

In the case of special request compounds, a second source analysis is performed only when a client specifies it to be a project requirement. Special request compounds are reviewed by the Department Managers to determine the cost to the laboratory for additional second source analyses. The

additional value added is then factored into the bid that is submitted to the prospective client.

Analyte concentrations are determined primarily using the average RF from the initial multi-point calibration.

4.2.4 Retention Time Windows

The techniques used to establish retention time windows for GC and HPLC analyses vary by method, based on the class of compounds targeted, as well as the instrument specifications (e.g., column type, etc.). Protocol for establishing retention time windows can be found in the method-specific SOPs.

4.3 ELEMENTS OF QUALITY CONTROL

The various types of QC samples are described below. The method specific laboratory QC sample frequency and acceptance criteria may be found in Section 6.0.

4.3.1 Analytical Batch Definition

For non-extractable methods, samples analyzed during a single 24-hour period along with associated matrix specific laboratory QC samples make up an analytical batch. At a minimum, any analytical batch will include a Laboratory Blank, CCV, LCS and an end check for non-GC/MS methods. Reporting of the batch QC samples varies according to project requirements. The number of field samples included in any one analytical batch is limited to 20.

In the case of samples that require extraction prior to analysis, the sample preparation process defines the batch. At a minimum, the sample preparation batch will include a Laboratory Blank and a Laboratory Control Sample (LCS). The maximum number of samples included within one preparation batch may not exceed 20 in one given day.

4.3.2 Continuing Calibration Verification (CCV)

A Continuing Calibration Verification (CCV) containing all analytes of concern is performed at the start of each day and, if required, at the start of every 12 or 24 hour clock for GC/MS analyses. GC and HPLC sample analyses are generally bracketed by opening and end check CCVs (TO-4A, TO-10A and PAMS methods excluded). Mid-batch CCVs are also analyzed as per individual SOP.

The concentration of the CCV is usually near the mid-level of the calibration. The CCV is analyzed at other concentrations within the working range at least once a quarter, or more frequently if specified in an SOP. If the CCV fails to meet the performance criteria then the test is repeated with the same standard (or optionally with a different preparation of the same calibration mix). If the second analysis fails criteria, maintenance should be performed and the test repeated a third time. If the system still fails the calibration verification, a new multi-point calibration curve is performed.

4.3.3 Laboratory Control Spike (LCS)

Each analytical or extraction batch contains at least one mid-level spike using a second source (or different lot) standard containing all (or in the case of extractable a subset of) the target analytes. In the case of non-extracted batches, the LCS is generally analyzed daily prior to sample analysis, but may also serve as an End Check standard. If the stated criteria are not met, the system is checked and the standard reanalyzed. In the event that the criteria cannot be met, the instrument is recalibrated. In the case of extracted LCS, out-of-control recoveries result in data flags since samples cannot be re-extracted.

4.3.4 Internal Standard (IS)

For all GC/MS methods an IS blend is introduced into each standard and blank to monitor the stability of the analytical system. The internal standard acceptance criteria vary by method, but for all applicable analyses at ATL, if the internal standards for the blank do not pass the acceptance criteria, the system is inspected and the blank reanalyzed. Analyses are discontinued until the blank meets the internal standard criteria.

4.3.5 Surrogates

For GC/MS methods and some GC methods, the recovery of the surrogate standard is used to monitor for unusual matrix effects, gross sample processing errors, and to provide a measure of recovery for every sample matrix. The surrogate recovery acceptance criteria vary by method, but for all applicable analyses at ATL, if the surrogate recoveries for the Laboratory Blank do not pass the acceptance criteria, the system is inspected and the blank is reanalyzed. Analyses are discontinued until the blank meets the surrogate recovery criteria.

In some extractable methods, surrogates are added prior to extraction to monitor the efficiency of the extraction process. If the surrogate recoveries are outside acceptance limits, reanalysis occurs. Re-extraction of samples is not possible.

If the surrogate recoveries for a sample are outside the limits, the sample is reanalyzed unless obvious matrix interference is documented. If the surrogate recoveries are within limits in the reanalysis, the second analysis will be reported. If the surrogate recoveries are out of limits a second time, the initial analysis is reported with a narrative indicating that the acceptance criteria for surrogate recoveries are exceeded. Upon request, the data from the matrix effect confirmation analysis is provided to the client.

4.3.6 Laboratory Blank

A Laboratory Blank is analyzed after any applicable standards and prior to the analysis of project samples. A blank is also analyzed in the event saturation-level concentrations are incurred to demonstrate that contamination does not exist. For methods that involve an extraction, a Laboratory Blank is prepared with each set of no more than 20 samples per method per matrix.

The acceptance criterion for the Laboratory Blank is a result less than the Limit of Quantitation (Reporting Limit). The Laboratory Blank is analyzed immediately after the LCS (non-extractable analysis) or the CCV (extractable analysis) to ensure that both the instrument and extraction process are free from contamination. When samples that are extracted together are analyzed on different analytical clocks, a solvent (instrument) blank is analyzed to demonstrate that the instrument is free from contamination.
For work that falls under the scope of the DoD, the acceptance criteria for the Method Blank is as follows:
No analytes detected at ≥ ½ the RL. For common laboratory contaminants, no analytes detected ≥ the RL. If an analyte in the laboratory blank fails these criteria the associated samples must be reprocessed in another analytical batch unless the analyte resulted in a non-detect. In no sample volume remains for re-analysis, the results will be reported with the appropriate data qualifying code (B flag).

4.3.7 Laboratory Duplicate

Project samples are analyzed in duplicate on a minimum of 10% of the samples received. For some projects the required frequency is one duplicate analysis per analytical batch. The acceptance criteria for analytical reproducibility generally apply to analytes present at ≥ 5 times the Reporting Limit. If the noted criterion is exceeded, the sample is re-

analyzed a third time. If acceptable reproducibility is still not obtained, the cause is investigated and the system is brought back to working order. If no problem is found on the system, the data is narrated to note the non-conforming event.

4.3.8 Matrix Spike

Matrix spiking permanently alters the native concentrations of whole air samples. Therefore, matrix spiking is performed only on samples, such as condensates, submitted as part of a sampling train or on waters submitted for Headspace analysis (RSK-175). When applicable, matrix and matrix duplicate spiking is performed using a subset of target analytes. Recoveries and demonstrated reproducibility values, which do not meet the acceptance criteria, are flagged and explained in the laboratory narrative.

4.3.9 Field QC Samples

Field blanks, field spikes, and field duplicates are generally treated as normal project samples by the laboratory. The exceptions include methods in which the laboratory at the direction of the client specifically prepares the sample media. To assure consistency it is recommended that certified summa canisters connected to a sampling tee be used for the collection of Field Duplicate samples.

4.4 QUALITY CONTROL PROCEDURES

4.4.1 Holding Times

All sample preparation and analysis are to be completed within the method-required holding times. The analytical holding time for a non-extractable method begins the day of sample collection. For extractable methods, the holding time is calculated from the day of sample collection for the extraction process and from the day the extraction process begins for the analytical process.

If holding times are exceeded, a CAR form (Section 3.3.2) is generated, the client is notified, and situation is narrated on the final report.

4.4.2 Confirmation

GC and HPLC methods do generally not perform quantitative confirmation for air sample analysis. The exception is for analysis of pesticides by SW-846 methodology, in which case, second column confirmation is completed within the method-required holding times.

4.4.3 Standard Materials

All purchased supplies, reagents, solvents and standards are verified as acceptable and meeting criteria for analysis prior to use. All neat and liquid standards used are traceable to the National Institute of Standards and Technology (NIST) and NIST traceable weights are used to verify balance calibration. Documentation from the manufacturers is maintained to verify each standard. Gaseous standards (which are by nature unable to be quantified on a balance) are verified by accuracy documentation supplied by the manufacturer.

A second source (or different lot) standard is used to confirm the accuracy of primary source calibration standards. Ideally the second source is obtained from a vendor other than that of the primary standard. In the case of TO-14A/TO-15 a reliable second source vendor may be difficult to find and therefore a different lot standard may be used for this purpose. These standards are used for the laboratory control samples as well. Non-standard and polar TO-14A/TO-15 compounds may be prepared from neat standards. Second source standards for these compounds are either derived from a different vendor or from a different lot if only one vendor exists.

4.4.3.1 Liquid Standards

Liquid Standards are prepared by dilution from commercial sources. Stock solutions are purchased and stored in a separate refrigerator/freezer. Dilutions to working ranges are prepared using high purity solvents. Solvents are logged into the receiving logbook and the date of arrival is documented. Open solvent containers are stored in a vented, flammables cabinet.

4.4.3.2 Gas Standards

Gas standards are purchased from a commercial supplier and stored in vendor recommended cylinders using high purity regulators. Standards that are not available in certified blends from commercial suppliers are purchased in neat form. Neat materials are purchased with a purity of at least 96% whenever possible.
Certified gas blends are purchased at parts per million volume (ppmv) levels and diluted into the working range by transfer into 1.0 L or 6.0 L certified evacuated summa canister. The canister is then pressurized to 5.0 psi or 15.0 psi depending on the volume. Alternatively, a high purity flow controller is used to fill a conditioned Tedlar bag with a controlled volume of N_2 or zero air. Neat liquid standards are transferred into the Tedlar bag by injection to achieve the desired concentration. The standard is given sufficient time for equilibration and then is transferred into a conditioned summa canister and pressurized appropriately to achieve the desired final concentration.

Concentration of the blend is determined using density based calculation:

$$\textbf{ppbv} = \frac{\textbf{ng/MW}}{\textbf{vol(L)/24.45*}}$$

* *24.45 is the molar volume of any gas at normalized pressure (1 atmosphere) and temperature (25°C), derived form the ideal gas law (PV = nRT), where R = the universal gas constant.*

Once blended, the standard is transferred into a Summa™ canister for long-term storage and stability.

The preparation of working standards, in gaseous or liquid states, is documented in bound standard preparation logbooks. Each standard is given a unique identification number. Additional information including the solvent or standard lot number and stock standard concentration is noted. Each page is signed and dated by the analyst.

4.4.3.3 Reagent Water

The laboratory uses water to prepare moist Laboratory Blank canister samples, VOST condensate water blanks and water impinger blanks. The volume of water required for these purposes is insignificant. As such, the laboratory relies on high purity HPLC grade bottle reagent water, which is subjected to a constant purge flow of Ultra High Purity Nitrogen. The water is purchase certified and then supported by certifying Laboratory Blank analyses.

4.4.4 Expiration Dates of Standards

4.4.4.1 Primary Standards

Primary standards expire according to the manufacturer's expiration date. If the manufacturer does not assign an expiration date, a period of one year from the date of opening is applied. Expiration dates are noted on standard labels. Expired standard materials are either revalidated by comparison with unexpired independently prepared standards, or are discarded. The acceptance criterion for standards revalidation is documented in ATL SOP #33. The newer of the two standards is always used as the primary source.

Expiration dates for laboratory-prepared stock and diluted standards are no later than the expiration date of the stock solution or material.
All efforts are made to obtain the highest purity possible when purchasing neat chemical standards. The vast majority of neat standards are ≥ 96% pure. The concentration of material purchased at less than 96% purity is corrected mathematically to assure that dilutions for working standards are accurate.

Neat liquid standards are used until analysis by GC/FID indicates a purity of less than 96% (or less than the stated purity for the exceptions). The date of the purity check is noted on the neat standard vial.

Purity analysis is performed once per year as needed.

4.4.4.2 Secondary Standards

Secondary Standards are assigned based on the expiration date of the primary source standard (i.e., no later than), the compounds present, and container type. Typical expiration dates are presented in Exhibit 4.2.

Exhibit 4.1. Statistical Calculations

Statistic	Symbol	Formula	Definition	Uses
Mean	$\overline{X}$	$\frac{\left(\sum_{i=1}^{n} X_i\right)}{n}$	Measure of central tendency	Used to determine average value of measurements
Standard Deviation	S	$\left(\frac{\Sigma(X_i-\overline{X})^2}{(n-1)}\right)^{1/2}$	Measure of relative scatter of the data	Used in calculating variation of measurements
Relative Standard Deviation	RSD	$(S/\overline{X}) \times 100$	Relative standard deviation, adjusts for magnitude of observations	Used to assess precision for replicate results
Percent Difference	%D	$\frac{X_1 - X_2}{X_1} \times 100$	Measure of the difference of 2 observations	Used to assess accuracy
Relative Percent Difference	RPD	$\left(\frac{(X_1 - X_2)}{(X_1 + X_2)/2}\right) \times 100$	Measure of variability that adjusts for the magnitude of observations	Used to assess total and analytical precision of duplicate measurements
Percent Recovery	%R	$\left(\frac{X_{meas}}{X_{true}}\right) \times 100$	Recovery of spiked compound in pure matrix	Used to assess accuracy
Percent Recovery	%R	$\frac{(\text{value of spiked sample} - \text{value of unspiked sample})}{\text{Value of added spike}} \times 100$	Recovery of spiked compound in sample matrix	Used to assess matrix effects and total precision
Correlation Coefficient	r	see SW8000B section 7.5.3		Evaluation of "goodness of fit" of a regression line

X = Observation (concentration)
n = Number of observations

Exhibit 4.2. Expiration Dates

Gas Standards Prepared from Certified Cylinders

Compounds	Tedlar Bag Standard	Summa™ Canister
TO-14A/15 List of 41 compounds	3 days	3 months
BTEX/TPH	3 days	3 months
Sulfur Compounds > 3000 ppbv	7 days	NA
Sulfur Compounds < 3000 ppbv*	1 day	NA

Gas Standards Prepared from Neat Materials

Compounds	Tedlar Bag Standard	Summa™ Canister
TO-14A/15 Extra Compounds	3 days	6 months
Other Compounds	3 days	6 months

Liquid Manufacturer's Certified Mix and Single Component Standards

The manufacturer's expiration date is used when indicated. If none is supplied, the following expiration dates are applied:

Compound	Expiration
Gases in Liquid	1 month after opening ampule
Other Volatile compounds	6 months after opening ampule
Semivolatile/Pesticides/PCBs	1 year after opening ampule

Liquid Stock Standards Prepared from Neat Materials

Compound	Expiration
Gases in Liquid	1 month
Other Volatile Compounds	6 months
Semivolatile/Pesticides/PCBs	1 year

* Used for Initial Calibration only

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5.0 SAMPLE HANDLING

5.1 SAMPLING MEDIA AND PRESERVATION REQUIREMENTS

General guidelines regarding sampling media, preservation, and holding time requirements are summarized in Exhibit 5.1. The laboratory first refers to project specific requirements. These requirements can be found in the individual Statement of Work (SOW) or Quality Assurance Program Plan (QAPP). If there are no project specific guidelines, the lab uses the criteria presented in Exhibit 5.1.

Disclaimer: *ATL assumes no real or implied responsibility or liability for client-related field sampling and shipping activities. It is the responsibility of the individual client to ensure that referenced methodologies are followed with respect to sample collection and shipment to the laboratory. Air sampling media and equipment should only be used by experienced field engineers. It is the ultimate responsibility of the client to be knowledgeable both in sample preservation requirements as well as relevant State, Federal, and International shipping requirements. Any time a chemical substance is collected using ATL media, the client bears sole responsibility to understand and abide by the laws involving shipment of potentially hazardous substances by common carrier.*

5.1.1 Sample Containers

Items provided by the laboratory include:

- Sampling media such as Tenax®, Anasorb®-747, charcoal traps, Carbon Molecular Sieve (CMS) tubes, Summa™ polished canisters, pack250s, Tedlar bags, PUF/XAD and DNPH impinger solution
- Chain-of-custody forms
- Sampling labels
- Chemical ice packs
- Shipping containers
- Custody Seals (per client request)
- Sample Acceptance Policy

Air sampling media prepared by the laboratory for field use must be certified for cleanliness. Tenax®, Anasorb®-747, charcoal traps, Carbon Molecular Sieve (CMS) tubes, PUF/XAD and DNPH impinger solutions are certified for each preparation batch. The canister cleaning process is certified on a 10% frequency basis. Individually certified canisters are also available per specific client request.

5.1.1.1 Summa™ Canisters

The Support Services Department has dedicated approximately 1400 ft^2 for canister cleaning and certification functions. Approximately 200 maximum canisters can be cleaned daily and up to 100 canisters individually certified daily. This area is also sufficient for storage of approximately 600 canisters and the entire in-house inventory of flow controllers (see Table 2.2).

Ten percent of all canisters that are cleaned per ATL SOP #7 are certified by GC/MS analysis for TO-14A/TO-15 target compounds. 6.0 L and 1.0 L canisters are certified to be clean to 0.2/0.5 ppbv for the standard product TO-14A/TO-15 target compound list (see Section 6.8 of this document).

If a canister fails certification, the cleaning process is repeated. The canister is not returned to the inventory until it has passed certification. More information on the preparation and certification of Summa™ canisters can be found in ATL SOP #7.

ATL recommends use of 100% certified canisters for projects that require Low Level or SIM TO-14A/TO-15 analysis and PAMS analysis. Project Managers document requests of this nature in the Project Profile to assure that all shipped media meet this requirement. Canisters and associated sampling train equipment intended for projects that are

defined as Low Level or SIM (see Section 6 Table 6.8.2) are certified at or below the Limit of Quantitation. Canisters used for PAMS analysis are certified below the Limit of Quantitation. An increase in the percent of canisters certified is also recommended for projects of a very sensitive nature.

Each ATL canister is barcoded, allowing the history of the canister to be maintained through a canister tracking system. The database keeps information, such as, date shipped, client name, date received, and the analytical work order number.

5.1.1.2 Sorbent Tubes

Each batch of sorbent tubes is certified using the prescribed analytical methodology which most commonly is either SW-846 5041A/8260B or Modified EPA TO-17. One set of tubes from each preparation batch are stored at 4°C ± 2°C and then certified by GC/MS analysis. Certification is performed before the media is shipped or used to collect samples. The background level of each target VOC must be less than the project reporting limits. The client may allow an exception to this criterion for common laboratory contaminents such as Methylene Chloride but must provide written documention to verify acceptance. The client will be notified in advance of sampling if the batch fails and a replacement shipment provided if necessary. Tube certification results are reported with the individual field sample reports. More information of the preparation and certification of sorbent tube media can be found in ATL SOP #4.

5.1.1.3 Polyurethane Foam (PUF/XAD) Cartridges

PUF and PUF/XAD cartridges are batch cleaned using a large soxhlet extraction apparatus per SOP #14. The weekly cleaning capacity is 400 PUF/XAD cartdriges and approximately 150 units are stored on-site and available for shipping at any point in time (see Table 2.2). For Method TO-13A, two PUFs from each batch are cleaned and extracted and analyzed by GC/MS. For Methods TO-4A and TO-10A, one PUF from each batch is extracted and analyzed by GC/ECD. For Method TO-13A XAD media, 20 mLs of the media is extracted and analyzed by GC/MS.

The background level of each target analyte must be less than the project reporting limits. Analysis of the extract is performed typically prior to shipping or at very least within 24 hours of shipping. The client is notified in advance of sampling if the batch fails and a replacement shipment is provided if necessary.

5.1.1.4 2,4-Dinitrophenylhydrazine (DNPH) Impinger Solution and Cartridges

The DNPH solution is prepared in bulk solution. An aliquot is removed, extracted and analyzed according to the particular method (CARB 430, Method 0011, Compendium Methods TO-5 and TO-11A). The DNPH reagent and the TO-11A media are certified as acceptable when the concentration of each analyte in the certification is below the reporting limit. In the case that contamination is present above the reporting limit; the source must be identified and eliminated prior to shipping of the reagent and the TO-11A media. If the contamination can not be eliminated, the presence of any aldehyde necessitates a call to the client. The data user, particularly in the case of source testing, may tolerate concentrations of target aldehydes near the reporting limit. Certification is completed before solution is shipped to the field. Results are shipped with the media, faxed to the site, or kept on file in the laboratory.
More information of the preparation and certification of DNPH media can be found in ATL SOP #62.

5.2 SAMPLE COLLECTION PROCEDURES – FIELD GUIDELINES

5.2.1 Information for Canister Sampling

Air Toxics Ltd. provides a technical "how to" guide on canister sampling. The guide includes the following information:

AIR TOXICS'

GUIDE TO AIR SAMPLING AND ANALYSIS

Fifth Edition

1.0 Introduction
- 1.1 Whole Air Sampling of VOCs
- 1.2 Choosing Between Canisters and Tedlar Bags

2.0 Canisters and Associated Media
- 2.1 Introduction to Canisters
- 2.2 Associated Canister Hardware

3.0 Sampling with Cansiters
- 3.1 Grab Samples
- 3.2 Integrated Samples

4.0 Sampling with Tedlar Bags
- 4.1 Introduction to Tedlar Bags
- 4.2 Tedlar Bag Sampling

5.0 Special Consideration Sampling
- 5.1 Special Sampling Configurations
- 5.2 Considerations for Sampling at Altitude
- 5.3 Considerations for Soil Gas/Landfill Gas Sampling

Tables

1.2	Comparison of Canisters to Tedlar Bags
2.2.3	Fill Times for Canisters
3.2.3	Flow rates For Selected Sampling Intervals
3.2.4	Relationship Between Final Canister Vacuum, Volume Sampled and Dilution Factor

5.2.2 Information for Sorbent Tube Sampling

Contents of the guide include:

AIR TOXICS'

GUIDE TO SORBENT-BASED SAMPLING VOLATILES AND SEMI-VOLATILES

First Edition

- **Introduction to Air Sampling**
- **Introduction to Sorbents**
  - **Advantages**
  - **Disadvantages**
  - **Calculating the sample volume**
  - **Effects of moisture on sorbent efficiency**
- **Sorbents for VOC's**

  Table 1. Sorbent Characteristics

- **Method Specific Guidelines for Sample Collection**
  - **VOST 0030/0031/5041A/8260B**
  - **TO-17**
  - **Common sorbent tube sampling trains**
  - **Returning the sorbent tube to the laboratory**
  - **What if the tubes are over-sampled?**
- **Sorbents for SVOC's**

  Table 2. SVOC Sorbent Based Methods

- **Method specific guidelines for sample collection**
  - **TO-4A**
  - **TO-10A**
  - **TO-13A**
  - **Modified sampling media for indoor air**

  Table 3. The effect of sample volume on RL's

  - **Returning the glass cartridge to the laboratory**
- **What if the Tubes are Over-Sampled?**

The information provided in ATL's Sampling Guide is meant to serve only as general guidelines. In all cases, field sampling personnel are ultimately responsible for having expertise and knowledge in air sampling methodology sufficient to ensure that the defensibility of the data will not be compromised due to deficiencies in field sampling, handling or transportation.

5.3 SAMPLE RECEIVING PROCEDURES

Upon arrival at the laboratory, samples are received and inspected following Air Toxics' sample acceptance criteria as outlined in SOP #50. The SOP establishes specific guidelines for sample acceptance, which are generally accepted practices under EPA, AFCEE, USACE, Navy, and NELAP protocols. When samples do not meet the established guidelines, discrepancies are documented and the client is notified. Samples are noted in the individual work order and discrepancies noted in the Laboratory Narrative portion of the sample report.

5.3.1 Sample Acceptance Policy

Samples received by Air Toxics Ltd. must be relinquished following standard EPA approved guidelines. These include full and complete Chain of Custody (COC) documentation indicating:

- Unique sample name
- Location, date, and time of collection
- Canister Number
- Collector's name
- Preservation type (if applicable)
- Matrix
- Any special remarks

The COC form must be filled out in ink and indicate proper preservation and use of sample container specified by the method. Each sample should be labeled with unique, durable, and indelible identification and must be of adequate volume for the tests requested. Never affix a label directly on a Summa™ canister. A tag is attached to each canister for this purpose.

Proper, full, and complete inspection and documentation will be performed upon laboratory receipt in the following areas:

- evidence of container's physical damage
- status of the container's custody seal
- presence or absence of a COC form
- incomplete or incorrect COC form
- number of samples
- name of each sample
- sample collection date/time
- name of the Project Manager
- canister ID (if applicable)
- preservation type (if applicable)
- sample type (canister, XAD, DNPH etc.)
- sample tag information complete
- temperature (if applicable)
- pressure (canisters)
- presence of unlabeled samples
- presence of mis-labeled samples
- presence of unused media
- method required trip blanks, field blanks, equipment blanks, field duplicates, or field spikes

Any sample discrepancies against the above criteria are documented on the Sample Discrepancy Form (Exhibit 5.3), and communicated to the client via Electronic Sample Receipt Confirmation within 1 day of sample receipt. The client is contacted by the project manager for discrepancies of a more serious nature, e.g.,

- Chain of Custody Record was not received with sample(s).
- Analysis method(s) is(are) not specified.
- Sample(s) received out of holding time.
- Sample container (Tube/VOA vial) was received broken.
- Canister sample received at >15"Hg (not identified as a Trip/Field Blank).
- Tedlar Bag received leaking.

- Tedlar Bag received flat.
- Tedlar bag / canister received emitting a strong odor (sample cannot be analyzed).

Documentation of client notification is included on the form along with any instructions from the client on how to proceed. Project managers complete this section and return the form to the receiving group to complete the login process. The form is archived in the Work Order folder. Whenever there is any uncertainty of how the laboratory is to proceed or when the desired method is unclear, the receiving staff places the Login process ON HOLD and delivers the Work Order file to a project manager for follow-up. The project manager contacts the client to clarify the situation. Phone calls between the project manager and the client are documented in the Client Services Software. The phone contact and client instructions to resolve the issue are logged into the database and a hardcopy report is placed in the Work Order folder. The folder is then returned to the Receiving team to complete the Login process. Air bills, packing lists, Chain of Custody records, and any other documentation that may accompany the samples are placed in the work order folder.

Laboratory malfunctions occurring during/after sample receipt are documented via the laboratory Corrective Action system. Examples of receiving problems, which would necessitate a Corrective Action Request, include:

- Hold time expired due to laboratory error.
- Canister sample pressurized with wrong type of gas.
- Sample placed On Hold was released in error.
- Sample logged in for incorrect analysis method.
- DANGER tag was not affixed to an odiferous canister sample before sending to the lab.
- Canister was released and cleaned before second analysis method was run.
- Receiving did not affix the multiple analysis tag.
- Canister valve was left open following pressurization. Sample vented to ambient.

5.3.2 The Sample Receipt Confirmation

When a workorder is completed, Sample Receipt Confirmation (SRC) is sent to the client to confirm receipt of samples. A fax is sent if no email address is available. The Sample Receipt Confirmation has six sections:

Section 1 Introduction Page (not available if faxed)
Section 2 Cover page with discrepancies noted
Section 3 Sample Recipt Summary (sample names, etc.)
Section 4 Copy of Chain of Custody
Section 5 Reporting template showing referenced method, target compound list, and reporting limits
Section 6 Media outstanding (if relevant)

Discrepancies are noted on the cover page using a template of pre-approved statements. The QA Department is responsible for maintaining the approved template. Receiving staff electronically copy relevant statements from the template and onto the SRC cover page. Typical statements include:

- NELAC Chapter 5 specifies that a legal Chain of Custody must accompany samples when they arrive at the laboratory. In this case a chain of custody was not received with the samples. The discrepancy was noted in the Login email.

- The Chain of Custody (COC) form was not relinquished properly. A <signature OR date> was not provided.

- Samples were received past the recommended hold time of _____ days. Analysis proceeded.

- The sample collection date was incomplete on the Chain of Custody (COC) for samples(s) <insert names>. The client was contacted and a date of <enter date> was provided.

- The Tedlar bag for sample _____ was received flat. The client was notified that analysis was not possible.

- A Temperature Blank was included with the shipment. Temperature was measured and was not within 4±2 °C. Coolant in the form of ice/blue ice was present. Analysis proceeded.

5.3.3 The Work Order Folder

A folder is created during the Login process to hold all relevant documents. The folder is labeled with the unique Work Order number, client name and analysis. One folder for each desired analysis is created so that laboratory analyses can be efficiently handled as separate processes. The folder contains the following receiving documents:

- Original COC record, airbill, and any other packing documents

- Sample Receipt Summary with individual field sample names, dates of collection and project reference

- Specific method cited, and a copy of the reporting target compound template for review

- Sample Receiving Checklist

- Original copy of the Sample Discrepancy Report

- Copy of the Project Management Project Profile with associated special analysis and reporting requirements

- The Receiving Report (for ATL media only)

- ATL Shipment Report (if shipping charges apply)

- Copy of any approved Project Requirement tables generated after the bid has been won

The folder is passed to the analytical teams after Login, and follows the same process stream as the samples. All original documents generated during the processing of the samples are filed in this folder. The unique Work Order file makes archival and retrieval of evidentiary and custodial documents easier. The majority of analytical documentation is archived electronically. Documentation that remains in hard copy form includes:

- COC
- Data Review Checklist
- Sample Discrepancy Reports
- Corrective Action Requests
- Scan Packets (run logs, spectral defenses, manual integrations etc.)
- Phone contacts and emails
- Bid Ships/Canister Certifications
- Fed-Ex/UPS air bill/freight bill
- GC/FID screening results

Alternatively, the Work Order folder is placed in a bar coded storage box for long-term storage. Work Order inventory of each box is taken prior to offsite storage and maintained along with the bar code address. A private storage company archives the boxes by barcode and provides one-day retrieval service upon request. Alternatively, work order folders may be scanned onto CD-ROM Media and stored on-site.

5.4 SAMPLE TRACKING PROCEDURES

After samples have been inspected, they are given a unique tracking number and logged into an electronic sample receiving database. The tracking number consists of the year and

month plus a sequential Work Order number. As an example, the first set of samples received in July, 2004 would have the format:

0407001

If this set of samples consisted of eight individual samples, then each sample is identified by a consecutive postscript such as:

0407001-01A through 08A

If more than one analysis is requested for the samples, an alphabetic designation is given to each analysis sample set:

0407001A-01A TO-15
0407001B-01A TO-3

Laboratory assigned duplicates are designated using a double postscript such as:

0407001-01AA

A more detailed discussion of the sample receiving function is given in ATL SOP #50. The laboratory processes thousands of samples each month divided into hundreds of individual work orders. An efficient user-friendly database is critical in keeping track of each individual sample, monitoring hold times, monitoring due dates, and scheduling analyses. In addition, most air projects have specific target compound lists, reporting limit requirements, quality assurance requirements, analysis requirements, and data submission requirements. Relevant project information is immediately available as each processing step occurs. The ultimate goal of the ATL sample-processing system is to deliver what the customer wants the first time. Report re-issues and sample re-analyses are monitored and kept to a minimum. In order to meet the quality objective (customer satisfaction), every team member has access to information describing what the customer has requested.

The sample tracking database consists of a variable number of data fields sufficient to store project and sample batch information. The users can then query any field in the database. Each department creates work lists from the database and inputs relevant information (e.g., completion dates, etc.) throughout the day.

The database resides on a secured network server equipped with a daily-automated back up system. Multiple PCs are available to each team in their respective work areas. Access privileges are defined and maintained by the IT team. The database is designed such that work order status can be determined at any point in time. The 'status' field is updated each time the work progresses to a new stage in its processing. Status data include:

- Client Services
- Extractions
- Log-in
- Lab Bins
- Individual Instrument Assignment
- Data Review
- QA
- FAX
- EDD Generation
- Final Report
- Financial Hold
- Filed

Complete documentation of sample processing is maintained in the database. Each team completes relevant portions of the database as work is finished. Selected information includes:

SAMPLE TRACKING FIELDS

Work Order number
Client Services contact
Date received
Client name
Project name
Project ID number
#Samples
Date sampled
#Lab dups
#Sample holds
Container type
Expiration date
Method specific analysis code
Date promised
Rush turn
24 hour clock
Screen done
Date receiving done
Receiving analyst initials
Log-in date
Log-in analyst initials
Date analysis done
Date reported
Bench analyst initials
Date of final report
CVP due date
Date CVP completed
Date CVP shipped
CVP analyst initials
EDD due date
EDD completed date
Date EDD shipped
EDD analyst initials
Reissue due date
Reissue reason
Time Due

The electronic database is used to document and ensure that analytical hold times, reporting requirements, and project specific QC requirements are met. The database is used by the user to provide project specific activity reports and status of incomplete work. Users may query the database and easily produce a printed report. The sample database is the key to efficient information transfer and, as such, is a critical tool to meet the quality objective.

5.5 INTERNAL SAMPLE CUSTODY AND STORAGE PROCEDURES

The chain-of-custody for samples is documented from time of receipt until time of disposal. Internal sample chain-of-custody documentation consists of:

- Storage area logbooks
- Instrument run logs
- Raw analytical data for samples, calibrations and QC checks

The samples are stored in the custody cage, in a secure refrigerator, or in the event of late delivery in the receiving section until the next morning. The receiving staff or pressurization personnel logs the samples into the Internal Sample or Extractable Sample Tracking Logbook in the storage area.

Samples are tracked in/out of the limited access area by initials, date, and time. All staff members have access to the storage areas and all members are trained on proper custody documentation in the logs. Logbook protocol training is mandatory for all staff. The training and documentation of training is handled by the QA team. The QA team checks the Logbook Review Checksheet monthly to ensure that the analysts have reviewed their logbooks on a timely basis.

5.6 SAMPLE DISPOSAL

Samples are released for disposal upon satisfactory completion of analysis unless prior contractual arrangements have been made. The release of samples is documented in the Internal Sample Tracking Log via a "Released" stamp that includes the date and initials of the person who releases the sample for disposal. Samples are released by the Laboratory Director, Technical Director, Analytical Department Managers and Team

Leaders, Laboratory Scientists or qualified Analysts.

Sample disposal varies based on the sampling media. Whole air samples are vented through a charcoal scrubber, while liquid (i.e., solvent and water) samples are disposed of according to the procedures noted in ATL's Chemical Hygiene Plan.

5.7 SUBCONTRACTING

Air Toxics Limited subcontracts samples on an infrequent basis. Subcontracting is generally performed for contractual reasons in fields of testing which the laboratory does not perform. In the event that subcontracting is necessary, the client, working with the Sales or Project Manager, selects a suitable subcontract laboratory that meets the project specified certification criteria. Work that falls under the scope of NELAC accreditation shall be placed with a laboratory accredited under NELAP for the tests to be performed or with a laboratory that meets applicable statutory and regulatory requirements for performing the tests and submitting the results of tests performed. The laboratory performing the subcontracted work shall be indicated in the final report and non-NELAP accredited work shall be clearly identified. If the project has no criteria, then the project manager selects a subcontract laboratory based on state certification in the desired field of testing. The laboratory shall advise the client of the arrangement in writing and, when possible, gain the approval of the client, preferably in writing.

Work that falls under the scope of the DoD shall be placed with a laboratory that meets the DoD QSM requirements for the tests to be performed. In addition, the subcontracted laboratory must have successfully completed an assessment by the specified DoD component (i.e. Navy).

More information for subcontracting samples can be found in ATL SOP #90.

Exhibit 5.1.

Requirements for Containers, Preservation Techniques, and Holding Times

Method	Parameter	Type	Container	Preservation	Extraction Holding Time	Analytical Holding Time
VOST 5041A/8260B	VOCs	GC/MS	Sorbent Tube	4°C	NA	14 days
TO-3 & CARB 410A	BTEX/TPH	GC/FID/PID	Summa Canister Tedlar Bag	NA NA	NA NA	30 days 3 days
TO-4A & TO-10A	Pesticides PCBs	GC/ECD	PUF	4°C	7 days	40 days
TO-5 & CARB 430	Aldehydes & Ketones	HPLC/UV	DNPH Impinger	4°C	7 days	30 days
NIOSH 2546	Phenols	GC/FID	XAD-7 Tube	4°C	2 days	30 days
TO-11A	Aldehydes & Ketones	HPLC/UV	Sep-PAK	4°C	14 days	30 days
TO-12	NMOC	GC/FID	Summa Canister Tedlar Bag	NA NA	NA NA	30 days 3 days
TO-13A/ 8270	PAHs/ Semivolatiles	GC/MS	XAD/PUF	4°C	7 days	40 days
TO-14A/15	VOCs	GC/MS	Summa Canister Tedlar Bag	NA NA	NA NA	30 days 3 days
TO-17	VOCs	GC/MS	Sorbent Tube	4°C	NA	30 days
ASTM D1946	Fixed Gases CH_4, C_2+	GC/TCD/FID	Summa Canister Tedlar Bag	NA NA	NA NA	30 days 3 days
ASTM D1945	Fixed & Natural Gases	GC/TCD/FID	Summa Canister Tedlar Bag	NA NA	NA NA	30 days 3 days
ASTM D5504	Sulfur Gases	GC/SCD	Tedlar Bag	NA	NA	24 hours
Method 0011	Aldehydes & Ketones	HPLC/UV	DNPH Impinger	4°C	7 days	30 days
Headspace Analysis	Dissolved Gases CO_2	GC/FID GC/TCD	40 ml VOA vials	4°C & 1:1 HCl, pH<2 4°C & No HCl	NA NA	14 days 7 days
PM10/TSP	Particulate Matter	Analytical Balance	Quartz Filter	59°F – 86°F RH< 45%	NA	14 days

Exhibit 5.2 Chain-of-Custody

@ AIR TOXICS LTD.
AN ENVIRONMENTAL ANALYTICAL LABORATORY

CHAIN-OF-CUSTODY RECORD

Sample Transportation Notice
Relinquishing signature on this document indicates that sample is being shipped in compliance with all applicable local, State, Federal, national, and international laws, regulations and ordinances of any kind. Air Toxics Limited assumes no liability with respect to the collection, handling or shipping of these samples. Relinquishing signature also indicates agreement to hold harmless, defend, and indemnify Air Toxics Limited against any claim, demand, or action, of any kind, related to the collection, handling, or shipping of samples. D.O.T. Hotline (800) 467-4922.

180 BLUE RAVINE ROAD, SUITE B
FOLSOM, CA 95630-4719
(916) 985-1000 FAX (916) 985-1020

Page ____ of ____

Contact Person _____
Company _____ Email _____
Address _____ City _____ State ____ Zip _____
Phone _____ Fax _____
Collected by: (Signature) _____

Project Info:
P.O. # _____
Project # _____
Project Name _____

Turn Around Time:
❑ Normal
❑ Rush
_____ specify

Lab Use Only
Pressurized by: _____
Date: _____
Pressurization Gas:
N_2 He

Lab I.D.	Field Sample I.D. (Location)	Can#	Date	Time	Analyses Requested	Canister Pressure/Vacuum Initial	Final	Receipt	Final (psi)

Relinquished by: (signature) Date/Time	Received by: (signature) Date/Time	**Notes:**
Relinquished by: (signature) Date/Time	Received by: (signature) Date/Time	
Relinquished by: (signature) Date/Time	Received by: (signature) Date/Time	

Lab Use Only	Shipper Name	Air Bill #	Temp (°C)	Condition	Customer Seals Intact?	Work Order #
					Yes No None	

Form 1293 rev.10

Exhibit 5.3 Sample Discrepancy Form

Sample Discrepancy Report

Identification

Initiated By:_____ **Date:** _____ **Discrepancy Type:** **I.** **II.** **III.**
(circle all that apply)

Workorder(s) affected: _____ **Sample(s) affected:**_____

I. Sample Receipt Discrepancies
Document on Cover Page of Sample Receipt Confirmation and in Receiving Notes of Lab Narrative

Narration not required:

- ☐ COC was not filled out in ink.
- ☐ Sample container (cartridge/tube/VOA vial) was received broken, however sample was intact.
- ☐ Flow controller used - canister samples received at ambient or under pressure.
- ☐ No brass cap on canister.
- ☐ VOA vial for RSK-175 analysis received with headspace bubble <5mm.
- ☐ Sample date error/missing on COC but noted on sample tag (circle one).

Narration Required:

- ☐ COC improperly relinquished / received.
- ☐ Sample tags / can numbers do not match the COC.
- ☐ Samples received at wrong temperature (up to 10°C); ice / blue ice (circle one) was present. A temp. blank was / was not present (circle one).
- ☐ Custody Seal on the outside of the container was broken / improperly placed (circle one).
- ☐ Other (describe below).

Describe the Discrepancy: _____

_____

II. Sample Receipt/Screening Discrepancies requiring CSR notification
Document on Cover Page of Sample Receipt Confirmation and in Receiving Notes of Lab Narrative

If Section II. is filled out CSR must be notified within 24 hrs of initiation

- ☐ COC was not received with samples.
- ☐ Analysis method(s) is not specified / incorrectly specified (circle one) on the COC.
- ☐ Number of samples on the COC does not match the number of samples that were received.
- ☐ Samples were received expired.
- ☐ Sampling date / time (sulfur only) is not documented for *some* / *any* samples (circle one).
- ☐ Sample received with significant (pooling) volume of H_2O in the Tedlar Bag.
- ☐ Sample container (cartridge/tube/VOA vial/DNPH Bottle, etc.) was received broken / leaking (circle one); sample can / cannot be analyzed (circle one).
- ☐ VOA vial for RSK-175 analysis received with headspace bubble >5mm.
- ☐ Samples for RSK-175 CO_2 analysis received preserved with HCl.
- ☐ Tedlar Bag received leaking / flat (circle one). Sample can / cannot (circle one) be analyzed.
- ☐ Canister was at ambient pressure at time of pressurization and (check all that apply): ☐ canister failed leak check on two manifolds, ☐ canister valve was open, ☐ brass nut was loose. Sample can / cannot be analyzed (circle one).
- ☐ Tedlar bag / canister received emitting a strong odor; sample can / cannot (circle one) be analyzed.
- ☐ Canister sample received with a vacuum difference >7.0"Hg between the receipt vac. and the final vac. reported on the COC, indicating loss of vacuum.
- ☐ Canister sample received at >15"Hg (*not* identified as a Trip/Field Blank).
- ☐ Trip Blank received at low vacuum (< 25"Hg).
- ☐ Tedlar Bag for Sulfur analysis has metal fitting.
- ☐ Incorrect sampling media / container for analysis requested.
- ☐ Sample was received at ≥ 10°C.
- ☐ Other (describe below)

Initials: _____ **Date:** _____ ☐ **CSR Notified**
(if not the original initiator) (see section below)

Describe the Discrepancy: _____

_____

Exhibit 5.3 Sample Discrepancy Form *(Continued)*

III. Lab Discrepancies requiring Team Leader/CSR notification
Document in Analytical Notes of Lab Narrative

If Section III. is filled out CSR must be notified within 24 hrs of initiation

- ☐ Tedlar Bag found to be leaking at the time of analysis; sample can / cannot (circle one) be analyzed.
- ☐ Tedlar Bag found to be flat at the time of analysis.
- ☐ Canister found to be leaking at the time of analysis.
- ☐ Tedlar Bag received at low volume; sample cannot be analyzed.
- ☐ Sulfur samples received with insufficient time to analyze prior to expiration.
- ☐ VOST tube saturated; bag dilution necessary.
- ☐ Sample loss due to instrument malfunction / broken glassware.
- ☐ Other (describe below).

Initials: _____ **Date:** _____ ☐ **CSR Notified**
(if not the original initiator) (see section below)

Team Lead Initials: _____ **Date:** _____

Describe the Discrepancy: _____

_____

Client Services Use Only

Client Services Notification

CSR notified: _____ Date: _____

Action:

☐ It is not necessary to notify the client. Narrate the discrepancy by documenting on cover page of Sample Receipt Confirmation and in Receiving Notes/Analytical Notes of Lab Narrative.

CSR Initials: _____ Date: _____

☐ Client notification required. See attached client contact / email, or comments below:

Client Notification:

Person notified: _____ Date: _____

Comments: _____

_____

☐ Lab notified Name: _____ Date: _____

Additional Notifications

CSR notified: _____ Date: _____

Action:

☐ It is not necessary to notify the client. Narrate the discrepancy by documenting on cover page of Sample Receipt Confirmation and in Receiving Notes/Analytical Notes of Lab Narrative.

CSR Initials: _____ Date: _____

☐ Client notification required. See attached client contact / email, or comments below:

Client Notification:

Person notified: _____ Date: _____

Comments: _____

_____

☐ Lab notified Name: _____ Date: _____

☐ **Additional notifications attached.**

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6.0 ANALYTICAL METHODS AND PROCEDURES

This section contains subsections for each analytical procedure. Each subsection contains the following information:

- A brief method description
- Laboratory variances to Compendium and SW-846 methodologies
- A table of LOQs and QC acceptance criteria
- A table of calibration procedures and QC procedures

This Quality Manual references methods in a general manner. The specific revisions used by the laboratory can be found in the method-specific SOPs.

6.1 VOST SW-846 5041A/8260B

This method involves GC/MS full scan analysis of volatile organic compounds in air samples collected on Tenax/Charcoal (VOST) cartridges. Samples are collected using SW-846 Method 0030/0031 Volatile Organic Sampling Train (VOST) protocols. The VOST cartridges are thermally desorbed by heating and purging with Ultra High Purity Helium. The resulting gaseous effluent is then bubbled through 5 ml of organic free reagent grade water and trapped on the sorbent trap of the purge and trap system. The trap is then thermally desorbed for GC/MS analysis. For condensate analysis, a 5 ml aliquot of condensate sample is placed directly in the sparge vessel of the purge and trap (P&T) system and analyzed in a similar manner.

Air Toxics Ltd. performs a modified version of this method. The method modifications, standard target analyte list, Limit of Quantitation, QC criteria, and QC summary can be found in the following tables.

Table 6-1.1. Summary of Method Modifications

Requirement	EPA Method 5041A/8260B	Air Toxics Ltd. Modifications
Method Blank	Cartridges from the same media batches as the samples.	Media batch is certified prior to use in the field. Method Blank is from a different batch unless requested by the client.
Connection between thermal desorption apparatus & purge vessel.	PTFE 1/16” Teflon tubing.	Heated, 1/16” silica lined stainless steel tubing.
Calibration Criteria for non-CCCs.	RSD ≤ 15 % for all non-CCCs.	RSD ≤ 30 % for Acetone, Bromoform, Vinyl Acetate, Bromomethane, Chloromethane, 1,1,2,2-Tetracholoroethane, & 1,2,3-Trichloropropane.

Table 6-1.2. SW-846 Modified Method 5041A Standard Analyte List

Analytes	RL (ng)	Acceptance Criteria		
		ICAL (%RSD)	LCS (% R)	CCV
1,1,1-Trichloroethane	10	15	70 – 130	-
1,1,1,2-Tetrachloroethane	10	15	70 – 130	-
1,1,2,2-Tetrachloroethane – SPCC	10	30	70 – 130	RF > 0.30
1,1,2-Trichloroethane	10	15	70 – 130	-
1,1-Dichloroethane – SPCC	10	15	70 – 130	RF > 0.10
1,1-Dichloroethene – CCC	10	30	70 – 130	%D ≤ 25% VOST tubes; ≤20% condensates
1,1-Dichloropropene	10	15	70 – 130	-
1,2,3-Trichlorobenzene	50	15	70 – 130	-
1,2,3-Trichloropropane	10	30	70 – 130	-
1,2,4-Trichlorobenzene	50	15	70 – 130	-
1,2,4-Trimethylbenzene	10	15	70 – 130	-
1,2-Dibromo-3-chloropropane	50	15	70 – 130	-
1,2-Dichlorobenzene	10	15	70 – 130	-
1,2-Dichloroethane	10	15	70 – 130	-
1,2-Dichloropropane – CCC	10	30	70 – 130	%D ≤ 25% VOST tubes; ≤20% condensates
1,3,5-Trimethylbenzene	10	15	70 – 130	-
1,3-Butadiene[1]	50	30	50 – 150	-
1,3-Dichlorobenzene	10	15	70 – 130	-
1,3-Dichloropropane	10	15	70 – 130	-
1,4-Dichlorobenzene	10	15	70 – 130	-
2,2-Dichloropropane	10	15	70 – 130	-
2-Butanone[2]	50	30	50 – 150	-
2-Chloropropane	10	15	70 – 130	-
2-Chlorotoluene	10	15	70 – 130	-
2-Hexanone[2]	50	30	50 – 150	-
3-Chloropropene	10	15	70 – 130	-
4-Chlorotoluene	10	15	70 – 130	-
4-Methyl-2-pentanone[2]	50	30	50 – 150	-
Acetone[2]	50	30	50 – 150	-
Acrylonitrile	10	15	70 – 130	-
Benzene	10	15	70 – 130	-
Bromobenzene	10	15	70 – 130	-
Bromochloromethane	10	15	70 – 130	-
Bromodichloromethane	10	15	70 – 130	-
Bromoform – SPCC	10	30	70 – 130	RF > 0.10
Bromomethane[2]	10	30	50 – 150	-
Butylbenzene	10	15	70 – 130	-
Carbon Disulfide	10	15	70 – 130	-
Carbon Tetrachloride	10	15	70 – 130	-

Analytes	RL (ng)	Acceptance Criteria		
		ICAL (%RSD)	LCS (% R)	CCV
Chlorobenzene – SPCC	10	15	70 – 130	RF > 0.30
Chloroethane	10	15	50 – 150	-
Chloroform – CCC	10	30	70 – 130	%D ≤ 25% VOST tubes; ≤20% condensates
Chloromethane – SPCC	10	30	50 – 150	RF > 0.10
cis-1,2-Dichloroethene	10	15	70 – 130	-
cis-1,3-Dichloropropene	10	15	70 – 130	-
cis-1,4-Dichloro-2-butene	50	15	70 – 130	-
Cumene	10	15	70 – 130	-
Dibromochloromethane	10	15	70 – 130	-
Dibromomethane	10	15	70 – 130	-
Ethylbenzene – CCC	10	30	70 – 130	%D ≤ 25% VOST tubes; ≤20% condensates
Ethylene Dibromide	10	15	70 – 130	-
Freon 11	10	15	70 – 130	-
Freon 12	10	15	50 – 150	-
Freon 113	10	15	70 – 130	-
Hexachlorobutadiene	50	15	70 – 130	-
Hexane	10	15	70 – 130	-
Iodomethane	50	15	70 – 130	-
Methylene Chloride	10	15	70 – 130	-
Methyl t-butyl ether (MTBE)	10	30	70 – 130	-
Naphthalene	50	15	70 – 130	-
m,p-Xylene	10	15	70 – 130	-
o-Xylene	10	15	70 – 130	-
p-Cymene	10	15	70 – 130	-
Propylbenzene	10	15	70 – 130	-
sec-Butylbenzene	10	15	70 – 130	-
Styrene	10	15	70 – 130	-
tert-Butylbenzene	10	15	70 – 130	-
Tetrachloroethene	10	15	70 – 130	-
Toluene – CCC	10	30	70 – 130	%D ≤ 25% VOST tubes; ≤20% condensates
trans-1,2-Dichloroethene	10	15	70 – 130	-
trans-1,3-Dichloropropene	10	15	70 – 130	-
trans-1,4-Dichloro-2-butene	50	15	70 – 130	-
Trichloroethene	10	15	70 – 130	-
Vinyl Acetate[1,2]	50	30	50 – 150	-
Vinyl Bromide[1] (Bromoethene)	50	30	50 – 150	-
Vinyl Chloride – CCC	10	30	50 – 150	%D ≤ 25% VOST tubes; ≤20% condensates

[1] *Independent source verification check not available for these compounds.*
[2] *Due to nature of these compounds, recoveries outside of noted limits do not result in re-calibration.*

Table 6-1.3. Matrix Spike/Matrix Spike Duplicate

Analyte	%R
1,1-Dichloroethene	60 – 140
Benzene	60 – 140
Trichloroethene	60 – 140
Toluene	60 – 140
Chlorobenzene	60 - 140

Table 6-1.4. Internal Standards

Analyte	CCV IS (%R)	Sample IS (%)R
1,4-Dichlorobenzene-d_4	50 – 200	60 – 140
Chlorobenzene-d_5	50 – 200	60 – 140
Fluorobenzene	50 – 200	60 – 140

Table 6-1.5. Surrogates

Analyte	%R
1,2-Dichloroethane-d_4	70 – 130
4-Bromofluorobenzene	70 – 130
Dibromofluoromethane	70 – 130
Toluene-d_8	70 – 130

Table 6-1.6. Summary of Calibration and QC Procedures for SW-846 Modified Method 5041A

Note: These criteria are used specifically for the standard list of analytes listed in Table 6-1.2.

QC Check	Minimum Frequency	Acceptance Criteria	Corrective Action
Tuning Criteria	Prior to calibration and at the start of every 12-hour clock.	Method 5041A tuning criteria.	Correct problem then repeat tune.
Initial 5-Point Calibration	Prior to sample analysis.	SPCC criteria in Table 6-1.2, CCC and non-CCC compound criteria in Table 6.1.2.	Correct problem then repeat initial calibration.
Laboratory Control Sample (LCS)	Once per initial calibration, and with each analytical batch (maximum of 20 samples).	See Table 6-1.2.	Investigate the problem and if warranted, analyze a new analytical curve for the out-of-limits compound. (except for compounds noted in Table 6-1.2.)
Continuing Calibration Verification (CCV)	At the start of every shift immediately after the BFB tune check.	**For SPCCs:** see "CCV criteria" column **For CCCs:** %D ≤ 25% for VOST tubes and ≤ 20% for condensates.	Investigate and correct the problem, up to and including recalibration if necessary.

QC Check	Minimum Frequency	Acceptance Criteria	Corrective Action
Internal Standards (IS)	As each standard, blank, and sample is being loaded.	**For CCVs:** area counts 50% - 200%, RT w/in 30 sec of mid-point in ICAL. **For blanks, samples and non-CCV QC Checks:** area counts 60 – 140%, RT w/in 20 sec. of RT in CCV.	**CCV:** inspect and correct system prior to sample analysis. **For blanks:** inspect the system and re-analyze the blank. **For condensates:** re-analyze; if out again, flag data. **For VOST:** flag the data, evaluate system and correct problem before proceeding.
Surrogates	With all samples and QC.	See Table 6-1.5.	Same as for Internal Standards.
Laboratory Blanks	Immediately after the calibration standard or after samples with high concentrations (≥ 5000 ng).	Results less than laboratory reporting limit	Inspect the system and re-analyze the blank.
(MS/MSD)	Once/batch of condensate samples.	See Table 6-1.3.	Q-flag and narrate.

6.2 TO-3 - BTEX AND TPH

This method involves GC analysis of whole air samples collected in Summa™ canisters or Tedlar bags. Samples are analyzed for Benzene, Toluene, Ethylbenzene, Xylenes, and Total Petroleum Hydrocarbons (TPH) using EPA Method TO-3 protocols. Samples are analyzed using a Photo Ionization Detector (PID) and a Flame Ionization Detector (FID). Depending on the client's request, TPH is analyzed and referenced to either gasoline or jet fuel.

Air Toxics Ltd. performs a modified version of this method. The method modifications, standard target analyte list, RL, QC criteria, and QC summary can be found in the following tables.

Table 6-2.1. Summary of Method Modifications

Requirement	EPA Method TO-3	Air Toxics Ltd. Modifications
Preparation of Standards	Levels achieved through dilution of gas mixture.	Levels achieved through loading various volumes of the gas mixture.
Initial Calibration Calculation	4-point calibration using a linear regression model.	5-point calibration using average Response Factor.
Initial Calibration Frequency	Weekly.	When daily calibration standard recovery is outside 75-125%, or upon significant changes to the procedure or instrumentation.
Daily Calibration Standard Frequency	Prior to sample analysis and every 4-6 hrs.	Prior to sample analysis and after the analytical batch ≤ 20 samples.
Minimum Detection Limit (MDL)	Calculated using the equation DL = A+3.3S, where A is intercept of calibration line and S is the standard deviation of at least 3 reps of low level standard.	40 CFR Pt. 136 App. B.
Moisture Control	Nafion system.	Sorbent system.

Table 6-2.2. Method TO-3 Standard Analyte List

Analyte	RL (ppmv)	Acceptance Criteria		
		ICAL (%RSD)	LCS & CCV (%R)	Precision (%RPD)
Benzene	0.001	≤ 30	± 25	≤ 25
Toluene	0.001	≤ 30	± 25	≤ 25
Ethyl Benzene	0.001	≤ 30	± 25	≤ 25
Total Xylenes	0.001	≤ 30	± 25	≤ 25
TPH* (Gasoline Range)	0.025	≤ 30	± 25	≤ 25
TPH** (JP 4 Range)	0.025	≤ 30	± 25	≤ 25

* *TPH referenced to Gasoline (MW = 100)*
** *TPH referenced to JP 4 (MW = 156)*

Table 6-2.3. Surrogate

Surrogate	PID Accuracy (%R)	FID Accuracy (%R)
Fluorobenzene	75-125%	75-150%

Table 6-2.4. Summary of Calibration and QC Procedures for Method TO-3 (BTEX & TPH)

QC Check	Minimum Frequency	Acceptance Criteria	Corrective Action
Five Point Calibration (ICAL)	Prior to sample Analysis.	%RSD ≤ 30.	Repeat the calibration.
Laboratory Control Sample (LCS)	With each initial calibration, and with each analytical batch.	±25% of the expected value.	Check the system and re-analyze the standard. Re-prepare the standard or re-calibrate the instrument if the criteria cannot be met.
Continuing Calibration Verification (CCV)	Daily prior to sample analysis.	±25% of the expected value.	For initial CCV: Check the system and re-analyze the standard. Re-calibrate the instrument if the criteria cannot be met.
Mid/End Check	At the end of the analytical batch, not to exceed 20 samples.	±25% of the expected value.	Check system and re-analyze the standard. If the 2nd analysis fails, identify and correct the problem, then re-analyze all samples since the last acceptable CCV.
Laboratory Blank	In between analysis of standards and project samples.	Results less than the laboratory Reporting Limit.	Repeat the Laboratory Blank. If the re-analysis of the Lab Blank contains compounds above but at less than 5 X the reporting limit, sample analysis may proceed and the associated sample results will be reported with a B flag.
Surrogate Spikes	As each standard, blank, and sample is being loaded.	75-125% recovery on the PID, 75-150% on the FID.	Low surrogate recovery results in re-analysis (at a higher dilution if high levels of moisture are present). If recovery is out and still low, report the analysis with the better recovery and flag. Because of TPH interference, high surrogate recoveries do not result in re-analysis. Data is flagged to note high recovery.
Laboratory Duplicates	10% of the samples.	RPD ≤ 25% for detections >5 X's RL.	Re-analyze the sample a third time. If the limit is exceeded again, investigate the cause and bring the system back to working order. If no problem is found on the system, narrate the data.

6.3 TO-4A/TO-10A – PESTICIDES AND PCBS

This method involves GC analysis of Pesticides and Aroclor Polychlorinated Biphenyls (PCBs) in ambient air samples collected on polyurethane foam (PUF) cartridges.

Adsorbent PUF cartridges are cleaned using solvents and vacuum dried. Cartridges are sent to the field wrapped tightly in aluminum foil to prevent degradation by ultraviolet (UV) light. The PUF cartridges are batch certified for cleanliness prior to shipping. In addition, the laboratory analyzes one clean PUF cartridge for each extraction set to serve as a Laboratory Blank.

A high volume sampler is used for TO-4A and a low volume sampler is used for method TO-10A. A glass fiber filter may also be included in the sampling scheme in order to collect particulate bound matter.

The filters and cartridges are prepared for analysis by either Soxhlet or Pressurized Fluid Extraction (PFE) by EPA Method 3545A. The extract is concentrated, exchanged into Hexane and concentrated again to final volume. Analysis is performed using a GC/ECD (Electron Capture Detector).

Air Toxics Ltd. performs a modified version of this method. The method modifications, standard target analyte list, Limit of Quantitation, QC criteria, and QC summary can be found in the following tables.

Table 6-3.1. Summary of Method Modifications for TO-4A/TO-10A

Requirement	**EPA Method TO-4A/TO-10A**	**Air Toxics Ltd. Modifications**
Extraction Solvent	10 % (5 % TO-10A) Diethyl Ether in Hexane.	DCM, exchanging to Hexane during the concentration step.
Reagent Blank	Set up extraction system without filter/PUF; reflux with solvent.	No Reagent Blank is extracted. Reagent lots are certified as acceptable prior to use.
Media certification (TO-10A only)	< 0.01 µg for single peak analytes, < 0.1 µg for PCBs.	< Reporting Limit for all analytes.
Frequency of Continuing Calibration Verification	Every 10 samples.	Every 20 samples with internal standard.
PCB Quantitation	Requires a minimum of 5 peaks.	Use 4 peaks for quantitation.

Table 6-3.2. Methods TO-4A/TO-10A Pesticides and PCBs Reporting and QC Limits

Analyte	RL (µg)	Acceptance Criteria				
		ICAL (%RSD)	ISCV (%R)	CCV (%D)	LCS② (%R)	Precision (%RPD)
4,4'-DDD	0.10	< 20	± 15	± 15		≤ 25%
4,4'-DDE	0.10	< 20	± 15	± 15		≤ 25%
4,4'-DDT	0.10	< 20	± 15	± 15	65-125	≤ 25%
4,4'-Methoxychlor	1.0	< 20	± 15	± 15		≤ 25%
Aldrin	0.10	< 20	± 15	± 15	65-125	≤ 25%
alpha-BHC	0.10	< 20	± 15	± 15		≤ 25%
alpha-Chlordane	0.10	< 20	± 15	± 15		≤ 25%
Aroclor 1016/1242	1.0	< 20	± 15	± 15	65-125	≤ 25%
Aroclor 1221①	1.0	< 20	± 15	± 15		≤ 25%
Aroclor 1232①	1.0	< 20	± 15	± 15		≤ 25%
Aroclor 1248①	1.0	< 20	± 15	± 15		≤ 25%
Aroclor 1254①	1.0	< 20	± 15	± 15		≤ 25%
Aroclor 1260	1.0	< 20	± 15	± 15	65-125	≤ 25%
beta-BHC	0.10	< 20	± 15	± 15		≤ 25%
delta-BHC	0.10	< 20	± 15	± 15		≤ 25%
Dieldrin	0.10	< 20	± 15	± 15	65-125	≤ 25%
Endosulfan I	0.10	< 20	± 15	± 15		≤ 25%
Endosulfan II	0.10	< 20	± 15	± 15		≤ 25%
Endosulfan Sulfate	0.10	< 20	± 15	± 15		≤ 25%
Endrin	0.10	< 20	± 15	± 15	65-125	≤ 25%
Endrin Aldehyde	0.10	< 20	± 15	± 15		≤ 25%
Endrin Ketone	0.10	< 20	± 15	± 15		≤ 25%
gamma-BHC (Lindane)	0.10	< 20	± 15	± 15	65-125	≤ 25%
gamma-Chlordane	0.10	< 20	± 15	± 15		≤ 25%
Heptachlor	0.10	< 20	± 15	± 15	65-125	≤ 25%
Heptachlor Epoxide	0.10	< 20	± 15	± 15		≤ 25%
Technical Chlordane①④	1.0	< 20	± 15	± 15		≤ 25%
Toxaphene①	1.0	< 20	± 15	± 15		≤ 25%

① The noted multi-component compounds use a one-point calibration.
② Recovery limits are derived from Compendium Method TO-10A January, 1999.
③ Recovery limits are for extracted samples only. Non-extracted samples use limits of 85 – 115 %R.
④ Not routinely reported, available at client request

Table 6-3.3. Surrogates③

Surrogate	%R
TCMX	60 – 120②
DCB	60 – 120②

Table 6-3.4. Summary of Calibration and QC Procedures for Methods TO-4A/TO-10A

QC Check	Minimum Frequency	Acceptance Criteria	Corrective Action
Five Point ICAL*	Prior to sample analysis.	%RSD ≤ 20 for each compound or average %RSD ≤ 20.	Use linear regression per SW-846 or re-calibrate.
Independent Source Calibration Verification (ISCV)	After each Initial Calibration.	Recovery of an individual component or the average of all the target components for a list of 5 or more target components within 85 to 115 % recovery. Not to exceed 75-125% for any individual compounds.	Investigate the source of discrepancy, including re-preparation and re-analysis of standard. Re-calibrate if needed.
Breakdown Check	Daily, CCV Pesticides only.	Degradation ≤ 15%.	Perform maintenance. Repeat breakdown check.
Continuing Calibration Verification (CCV)	Daily prior to sample analysis, every 20 samples, and at the end of the analysis sequence.	Recovery of an individual component or the average of all the Pesticide target components for a list of 5 or more target components, within 15% of the expected values. Not to exceed 75-125% for any individual compounds.	Analyze new ICAL and/or prepare fresh standards. If the standard analyzed is high and associated samples are ND, "Q" flag the high recoveries. If the standard analyzed is low, re-analyze all samples.
Laboratory Control Spike (LCS)	Extracted with each set of up to 20 samples.	As mentioned in Table 6-3.2.	Analyze another aliquot. If it still fails, "Q" flag the compounds outside the control limits.
Surrogates	All samples, QC, and blanks prior to extraction.	As mentioned in Table 6-3.3	Analyze another aliquot, if it still fails, "Q" flag the compounds outside the control limits.
Internal Standard	With all analyses.	CCV 50-200% compared to midpoint of ICAL; Samples 50-200% compared to first CCV of the daily analytical batch.	Analyze another 100 µL aliquot. If a CCV fails, correct problem before proceeding. If a sample fails, analyze a second time. If it still fails, dilute the sample until IS meet the criteria. Narrate the matrix interference.
Laboratory Blanks	With each set of up to 20 samples extracted.	Results less than the Laboratory reporting limit.	Analyze another aliquot. If it still fails, "B" flag the compounds that do not meet the acceptance criteria.
Laboratory Duplicates	10% of the samples.	RPD ≤ 25% for detections > 5 X's RL.	Analyze sample a 3rd time. If criteria are still not met, narrate the data.
Second-Column Confirmation	100% for all positive results, for both Pesticide /PCB analyses.	Same as for initial or primary column analysis.	Same as for initial or primary column analysis.

* *A single point calibration is performed for Technical Chlordane, Toxaphene, and certain Aroclors.*

6.4 TO-5/CARB 430, METHOD 0011, AND TO-11A– ALDEHYDES AND KETONES

These methods involve High-Pressure Liquid Chromatography (HPLC) analysis of Aldehydes and Ketones in stationary and ambient air samples. The sampling media consist either of various-sized impingers containing 2,4-Dinitrophenylhydrazine (DNPH) reagent, or a Sep-PAK (silica) cartridge coated in-situ with a solution of DNPH. Aldehydes and Ketones are readily converted to a stable Hydrazone derivative. The impinger contents are extracted with a 70:30 Methylene Chloride/Hexane solution or Methylene Chloride only, concentrated, solvent exchanged and analyzed on the HPLC. The Sep-PAK cartridges are eluted with Acetonitrile using gravity feed technique. Analysis is performed by reverse phase HPLC with UV detection at 360nm.

Air Toxics Ltd. performs a modified version of this method. The method modifications, standard target analyte list, Limit of Quantitation, QC criteria, and QC summary can be found in the following tables.

Table 6-4.1. Summary of TO-5/CARB 430 Method Modifications

Requirement	TO-5/CARB 430	Air Toxics Ltd. Modifications
Initial Calibration (ICAL)	**TO-5:** Linear regression, R ≥ 0.999.	Average Response Factor (RF), composite % RSD ≤ 10. Linear regression is performed when requested.
Sample Quantitation	Use daily RF.	Use ICAL RF.
Calibration Standard Precision	% RSD ±10%.	Recovery of all Continuing Cal. standards must be 90% - 110%.
Retention Time (RT) Precision	%RPD < 2% for daily calibration standards.	RT windows determined by bracketing standards.
Limit of Detection	**CARB 430:** The "limit of detection" is defined as the upper bound of the 95% confidence interval for the analysis of at least 4 reagent blanks.	Detection Limit is based on the current MDL study which is calculated from a minimum of 7 extracted spikes following 40 CFR Part 136 Appendix B.
Field Blank Subtraction	**CARB 430:** Subtract the average of the field blanks from the samples.	The samples and Field Blanks are not blank subtracted.
Laboratory Control Spike (LCS)	**CARB 430:** If the LCS is out it must be re-extracted until it is in or re-calibrate.	The LCS is only extracted once with out of control recoveries flagged.
UV Absorption Detector	**TO-5:** Operate at 370 nm.	Operate at 360 nm.
Mobile Phase	**TO-5:** Methanol/Water.	Acetonitrile/Water.

Table 6-4.2. Summary of Method TO-11A Modifications

Requirement	TO-11A	*Air Toxics Ltd. Modifications*
Initial Calibration Curve (ICAL)	Multi-point using linear regression performed every 6 months.	Multi-point using average Response Factor; re-calibration if daily cal. fails, major maintenance or column change. Linear regression is performed when requested.
ICAL Criteria	R2 for curve > 0.999	%RSD ≤ 10% unless Linear regression is requested.
Blank Subtraction	Average blank concentrations calculated. Blank value subtracted from sample result.	One Lab Blank is analyzed per batch; no blank subtraction performed on samples.

Table 6-4.3. Methods TO-5/CARB 430, TO-11A, and Method 0011 Standard Analyte List

Analyte	TO-5/ Method 0011/ CARB430 RL (µg)	TO-11A RL (µg)	Acceptance Criteria		
			ICAL (%RSD)	ISCV (%R)	CCV (%R)
Formaldehyde	0.5	0.05	≤ 10	± 15	± 10
Acetaldehyde	0.5	0.10	≤ 10	± 15	± 10
Acrolein [a]	0.5	0.25 [c]	≤ 10	± 15	± 10
Acetone*	NA	0.25	≤ 10	± 15	± 10
Propanal	0.5	0.25	≤ 10	± 15	± 10
Crotonaldehyde*	0.5	0.25	≤ 10	± 15	± 10
n- Butyraldehyde[b]	0.5	0.25	≤ 10	± 15	± 10
Isopentanal*	0.5	0.25	≤ 10	± 15	± 10
Pentanal	0.5	0.25	≤ 10	± 15	± 10
m,p-Tolualdehyde*	0.5	0.25	≤ 10	± 15	± 10
o-Tolualdehyde*	0.5	0.25	≤ 10	± 15	± 10
Hexanal	0.5	0.25	≤ 10	± 15	± 10
Dimethylbenzaldehye **	0.5	0.25	≤ 10	± 15	± 10

[a] *Because its derivative is not stable, when the target analyte list includes Acrolein, the sample will need to be extracted in field. A special order should be placed with the laboratory during the project set up stage.*

[b] *Methyl Ethyl Ketone, Iso-Butyraldehyde and the n-Butyraldehydes co-elute(report as n-Butyraldehyde)*

[c] *Not recommended for TO-11A*

* *Not included in the extracted LCS compound list for methods CARB 430/TO-5 and method 0011.*

** *Special request compound*

Table 6-4.4. Summary of Calibration and QC Procedures for Methods TO-5/CARB 430, TO-11A, and Method 0011

QC Check	Minimum Frequency	Acceptance Criteria	Corrective Action
Five Point Initial Calibration Curve (ICAL)	Analyzed in triplicate prior to sample analysis	%RSD ≤ 10.	Repeat calibration.
Instrument LCS	With each ICAL	%R = 85-115%.	Check the system and re-analyze the standard. Re-calibrate the instrument if the criteria cannot be met.
Continuing Calibration Verification (CCV)	Daily prior to sample analysis, after a maximum of every 10 injections, and at the end of the analytical batch.	Within ± 10% of the expected value.	Check the system and re-analyze the standard. If the criteria cannot be met, re-calibrate the instrument. If the standard is biased low, re-analyze all samples since last acceptable CCV. If biased high and samples are "ND", re-analysis is not required. Q-flag high recoveries.
Instrument (Solvent) Blank Analysis	Following analysis of Standards.	Results less than the laboratory RL.	Inspect the system and Re-analyze the blank.
Laboratory Duplicates	10% of samples.	RPD ≤ 25% for detections >5 Xs RL.	Re-analyze the sample a third time. If the limit is exceeded again, investigate the cause and bring the system back to working order. If no problem is found with the system, narrate the data.

6.5 NIOSH 2546 – CRESOLS AND PHENOLS

This method involves GC/FID (Flame Ionization Detector) analysis for Phenol and Methylphenols (Cresols) in ambient air samples. The sampling media consists of solid two section sorbent tubes containing 100mg/50mg XAD-7. A sample size of 5 to 24 Liters is collected. The sorbent media is sonicated and desorbed separately in 2.0 mL Methanol. A desorption efficiency study is necessary for each XAD-7 lot.

Air Toxics Ltd. performs a modified version of this method. The method modifications, standard target analyte list, Limit of Quantitation, QC criteria, and QC summary can be found in the following tables.

Table 6-5.1. Summary of Method Modifications

Requirement	NIOSH 2546	Air Toxics Ltd. Modifications
Desorption Study	Conducted once per year.	Conducted once per sorbent lot.
Sample Quantitation	Corrected for desorption efficiency.	Not corrected for desorption efficiency.
Calibration Standard	Calibrate daily with at least six working standards.	Initial calibration with at least six points (%RSD ≤ 20%). Continuing Calibration Verification at the start and at the end of each analytical batch (%D ≤ 25%).

Table 6-5.2. NIOSH 2546 Standard Analyte List

Analyte	RL (µg)	Low Point of the Curve (µg)	Acceptance Criteria			
			ICAL (% RSD)	LCS (% R)	CCV (% R)	Precision (% RPD)
2-Methylphenol (o-Cresol)	1.0	1.0	≤ 20	75 - 125	75 - 125	< 25%
m,p-Cresol	1.0	1.0	≤ 20	75 - 125	75 - 125	< 25%
Phenol	1.0	1.0	≤ 20	75 - 125	75 - 125	< 25%

Table 6-5.3. Summary of Calibration and QC Procedures for NIOSH 2546

QC Check	Minimum Frequency	Acceptance Criteria	Corrective Action
Six-point ICAL	Prior to sample analysis.	% RSD ≤ 20.	Correct problem then repeat Initial Calibration.
Independent Source Check Standard (LCS)	All analytes – once per Initial Calibration.	75 - 125 % of the expected value.	Investigate the problem and if warranted, analyze a new analytical curve for the out-of-limits compound.
Continuing Calibration Verification (CCV)	Daily, prior to sample analysis, every 20 samples, after last sample of the day, as an End Check.	75 - 125 % of the expected value.	Check the system and re-analyze the standard. If the criteria cannot be met, re-calibrate the instrument.
Laboratory Blanks	With each extraction batch.	Results less than laboratory RL.	Inspect the system and re-analyze the blank. If contamination still present, "B" flag associated sample detections.
Laboratory Control Spikes (LCS)	With each extraction batch.	% Recovery between 75-125 %.	"Q" flag the compounds outside the acceptance criteria.
Sample Duplicates	10 % of the samples.	RPD ≤ 25 % for detections > 5X the RL.	Re-analyze the sample a 3rd time. If the limit is exceeded again, investigate the cause and bring the system back to working order. If no problem is found with the system, narrate the data.
Desorption Study	For every sorbent tube lot.	Reported upon client request.	NA

6.6 TO-12 - NMOC

This method involves GC analysis of whole air samples collected in Summa™ canisters or Tedlar bags. Samples are analyzed for Non-Methane Organic Compounds (NMOC) using EPA Method TO-12 protocols. After concentration on a sorbent bed, samples are analyzed using a Flame Ionization Detector (FID). This method is used when speciation is not required.

Air Toxics Ltd. performs a modified version of this method. The method modifications, standard target analyte list, Reporting Limits, QC criteria, and QC summary can be found in the following tables.

Table 6-6.1. Summary of Method Modifications

Requirement	EPA Method TO-12	Air Toxics Ltd. Modifications
Reporting Limit	0.02 ppmc.	0.010 ppmv.
Reported Units	Ppmc.	Ppmv, or if ref to CH_4, multiply by 7. Units in ppmvc.
Initial Calibration	Five levels – each level three runs with %RSD < 3%; Linearity criterion not specified.	Minimum of three single levels; %RSD ≤ 30%.
Sample Analysis Frequency	Duplicate analysis with RPD <5%, report average result .	Single analysis. Duplicate 10% of samples with RPD ≤ 25% for detections > 5 X's the RL.
Sample Hold Time	None specified.	Canister 30 days, Tedlar bags 3 days.
Column	GC column not used.	GC column used for analysis.

Table 6-6.2. Method TO – 12 Standard Analyte List

Analyte	RL (ppmv)	ICAL (%RSD)	CCV %D	LCS %R	Duplicates %RPD
TNMOC ref. to Heptane	0.010	≤ 30	± 25	75-125	≤ 25

Heptane MW = 100

Table 6-6.3. Summary of Calibration and QC Procedures for Method TO-12

QC Check	Minimum Frequency	Acceptance Criteria	Corrective Action
Initial Calibration Curve (ICAL)	Prior to sample analysis.	% RSD ≤ 30.	Repeat the calibration.
Laboratory Control Sample (LCS)	With each initial calibration and analytical batch.	75-125% of the expected value.	Check the system and re-analyze the Standard. Re-calibrate the instrument if the criteria cannot be met.
Continuing Calibration Verification (CCV)	Daily prior to sample analysis and after every 20 samples or at the end of the analytical sequence.	% Difference ± 25.	Check the system and re-analyze the standard. Re-calibrate the instrument if the criteria cannot be met. Re-analyze all samples since the last acceptable CCV.
Laboratory Blank	In between analysis of standards and project samples.	Results less than laboratory reporting limit.	Repeat the Laboratory Blank. If the re-analysis of the Lab Blank contains compounds above but at less than 5 X the reporting limit, sample analysis may proceed and the associated sample results will be reported with a B flag.
Sample Duplicates	10% of the samples.	≤ 25% for detections > 5X's the RL.	Re-analyze the sample for a third time. If the limit is exceeded again, investigate the cause and bring the system back to working order. If no problem is found with the system, narrate the data.

6.7 TO-13A AND 8270C – SEMIVOLATILE COMPOUNDS

This method involves GC/MS full scan or SIM mode analysis of semi-volatile organic compounds in ambient air samples collected on PUF/XAD2 cartridges. In relation to the prescribed media, sampling and collection efficiency for compounds not listed in TO-13A has not been evaluated. Samples are prepared by either soxhlet or Pressurized Fluid Extraction (PFE) by EPA Method 3545A and analyzed for Polynuclear Aromatic Hydrocarbons (PAHs) using a quadrupole GC/MS in full scan or SIM mode by TO-13A protocol. In addition, the target compound list is often extended to include analysis of Method 8270 semi-volatile compounds. Air Toxics Ltd. performs a modified version of this method. The method modifications, standard target analyte list, Limit of Quantitation, QC criteria, and QC summary can be found in the following tables.

Air Toxics Ltd. also performs semi-volatile analysis by SW-846 Method 8270C. The extraction process of MM5 trains follows SW846 Method 3542, and the QC criteria differ from Method TO-13A analysis. The QC criteria and QC summary tables for Method 8270C analysis are in the section following the TO-13A tables.

Table 6-7.1. Summary of Method Modifications for TO-13A

Requirements	EPA Method TO-13A	Air Toxics Ltd. Modifications
Extraction Solvent	10% ether in hexane for PUF; DCM for XAD sorbent. Final extract in hexane.	DCM for PUF/XAD cartridge and XAD sorbent. Final extract in DCM.
Glassware Cleaning	Muffle furnace is utilized.	Solvent cleaning procedure is used.
Extraction Technique	Soxhlet extraction.	Soxhlet extraction or pressurized fluid extraction (PFE).
Reporting List	19 PAHs.	See Tables 6-7.2 & 6-7.3.
Calibration range:	0.1-2.5 µg/mL in Hexane	1.0-160 µg/mL in Methylene chloride for quad or 0.1-40 µg/mL for SIM.
Surrogate	Field surrogates: Fluoranthene-d10 and Benzo(a)pyrene-d12.	Field surrogates: provided upon request.
Solvent Process Blank	One each analytical batch.	Not performed: each solvent lot is certified.
Method Blank	< MDL.	<Reporting Limit.

Table 6-7.2. Modified Method TO-13A

Analyte	SIM RL (µg)	RL (µg)	Minimum ICAL RRF	ICAL (%RSD)	ISCV (%R)	CCV (%R)	Precision (%RPD)
2-Chloronaphthalene*	0.1	1.0	NA	≤ 30	± 30	± 30	≤ 25%
2-Methylnaphthalene*	0.1	1.0	NA	≤ 30	± 30	± 30	≤ 25%
Acenaphthylene	0.1	1.0	1.3	≤ 30	± 30	± 30	≤ 25%
Acenaphthene	0.1	1.0	0.8	≤ 30	± 30	± 30	≤ 25%
Anthracene	0.1	1.0	0.7	≤ 30	± 30	± 30	≤ 25%
Benzo(a)anthracene	0.1	1.0	0.8	≤ 30	± 30	± 30	≤ 25%
Benzo(e)pyrene*	0.1	1.0	NA	≤ 30	± 30	± 30	≤ 25%
Benzo(a)pyrene	0.1	1.0	0.7	≤ 30	± 30	± 30	≤ 25%
Benzo(b)fluoranthene	0.1	1.0	0.7	≤ 30	± 30	± 30	≤ 25%
Benzo(g,h,i)perylene	0.1	1.0	0.5	≤ 30	± 30	± 30	≤ 25%
Benzo(k)fluoranthene	0.1	1.0	0.7	≤ 30	± 30	± 30	≤ 25%
Chrysene	0.1	1.0	0.7	≤ 30	± 30	± 30	≤ 25%
Dibenz(a,h)anthracene	0.1	1.0	0.4	≤ 30	± 30	± 30	≤ 25%
Fluoranthene	0.1	1.0	0.6	≤ 30	± 30	± 30	≤ 25%
Fluorene	0.1	1.0	0.9	≤ 30	± 30	± 30	≤ 25%
Indeno(1,2,3-c,d)pyrene	0.1	1.0	0.5	≤ 30	± 30	± 30	≤ 25%
Naphthalene	0.1	1.0	0.7	≤ 30	± 30	± 30	≤ 25%
Phenanthrene	0.1	1.0	0.7	≤ 30	± 30	± 30	≤ 25%
Pyrene	0.1	1.0	0.6	≤ 30	± 30	± 30	≤ 25%

*** Not included in the TO-13A method.**

The following two compounds can be analyzed upon client's request.

Analyte	SIM RL (µg)	RL (µg)	Minimum ICAL RRF	ICAL (%RSD)	ISCV (%R)	CCV (%R)	Precision (%RPD)
Perylene	NA	1.0	0.5	≤ 30	± 30	± 30	≤ 25%
Coronene	NA	1.0	0.7	≤ 30	± 30	± 30	≤ 25%

Table 6-7.3. Modified Method TO-13A-Extended

Analyte	Minimum ICAL RRF	RL (µg)	ICAL (1) (%RSD)	ISCV (%R)	Precision %RPD
1,2,4-Trichlorobenzene	NA	1.0	≤ 30	± 30	≤ 25%
1,2-Dichlorobenzene	NA	1.0	≤ 30	± 30	≤ 25%
1,3-Dichlorobenzene	NA	1.0	≤ 30	± 30	≤ 25%
1,4-Dichlorobenzene - CCC	NA	1.0	≤ 30	± 30	≤ 25%
2,4,5-Trichlorophenol	NA	5.0	≤ 30	± 30	≤ 25%
2,4,6-Trichlorophenol - CCC	NA	5.0	≤ 30	± 30	≤ 25%
2,4-Dichlorophenol - CCC	NA	5.0	≤ 30	± 30	≤ 25%
2,4-Dimethylphenol	NA	5.0	≤ 30	± 30	≤ 25%

Analyte	Minimum ICAL RRF	RL (µg)	ICAL [1] (%RSD)	ISCV (%R)	Precision %RPD
2,4-Dinitrophenol - SPCC	0.05	20	≤ 30	± 30	≤ 25%
2,4-Dinitrotoluene	NA	5.0	≤ 30	± 30	≤ 25%
2,6-Dinitrotoluene	NA	5.0	≤ 30	± 30	≤ 25%
2-Chloronapthalene	NA	1.0	≤ 30	± 30	≤ 25%
2-Chlorophenol	NA	5.0	≤ 30	± 30	≤ 25%
2-Methylnapthalene	NA	1.0	≤ 30	± 30	≤ 25%
2-Methylphenol	NA	5.0	≤ 30	± 30	≤ 25%
2-Nitroaniline	NA	10	≤ 30	± 30	≤ 25%
2-Nitrophenol – CCC	NA	5.0	≤ 30	± 30	≤ 25%
3,3-Dichlorobenzidine	NA	20	≤ 30	± 30	≤ 25%
3-Nitroaniline	NA	10	≤ 30	± 30	≤ 25%
4,6-Dinitro-2-methylphenol	NA	10	≤ 30	± 30	≤ 25%
4-Bromophenyl-phenyl ether	NA	1.0	≤ 30	± 30	≤ 25%
4-Chloro-3-methylphenol - CCC	NA	5.0	≤ 30	± 30	≤ 25%
4-Chloroaniline	NA	10	≤ 30	± 30	≤ 25%
4-Chlorophenyl-phenyl ether	NA	1.0	≤ 30	± 30	≤ 25%
4-Methylphenol	NA	5.0	≤ 30	± 30	≤ 25%
4-Nitroaniline	NA	10	≤ 30	± 30	≤ 25%
4-Nitrophenol – SPCC	0.05	20	≤ 30	± 30	≤ 25%
Acenaphthylene	1.3	1.0	≤ 30	± 30	≤ 25%
Acenaphthene – CCC	0.8	1.0	≤ 30	± 30	≤ 25%
Anthracene	0.7	1.0	≤ 30	± 30	≤ 25%
Benzo(a)anthracene	NA	1.0	≤ 30	± 30	≤ 25%
Benzo(a)pyrene - CCC	0.7	1.0	≤ 30	± 30	≤ 25%
Benzo(e)pyrene	0.5	1.0	≤ 30	± 30	≤ 25%
Benzo(b)fluoranthene	0.7	1.0	≤ 30	± 30	≤ 25%
Benzo(g,h,i)perylene	NA	1.0	≤ 30	± 30	≤ 25%
Benzo(k)fluoranthene	NA	1.0	≤ 30	± 30	≤ 25%
Benzoic Acid	NA	30	≤ 30	± 30	≤ 25%
Bis(2-Chloroethoxy) Methane	NA	1.0	≤ 30	± 30	≤ 25%
Bis(2-Chloroispropyl) Ether	NA	1.0	≤ 30	± 30	≤ 25%
Bis(2-Chlroethyl) Ether	NA	1.0	≤ 30	± 30	≤ 25%
Bis(2-Ethylhexyl)phthalate	NA	5.0	≤ 30	± 30	≤ 25%
Butylbenzylphthalate	NA	5.0	≤ 30	± 30	≤ 25%
Chrysene	0.7	1.0	≤ 30	± 30	≤ 25%
di-n-Butylphthalate	NA	5.0	≤ 30	± 30	≤ 25%
di-n-Octylphthalate - CCC	NA	5.0	≤ 30	± 30	≤ 25%
Dibenz(a,h)anthracene	0.4	1.0	≤ 30	± 30	≤ 25%
Dibenzofuran	NA	1.0	≤ 30	± 30	≤ 25%
Diethylphthalate	NA	5.0	≤ 30	± 30	≤ 25%
Dimethylphthalate	NA	5.0	≤ 30	± 30	≤ 25%
Fluoranthene – CCC	0.6	1.0	≤ 30	± 30	≤ 25%
Fluorene	0.9	1.0	≤ 30	± 30	≤ 25%

Analyte	Minimum ICAL RRF	RL (µg)	ICAL [1] (%RSD)	ISCV (%R)	Precision %RPD
Hexachlorobenzene	NA	1.0	≤ 30	± 30	≤ 25%
Hexachlorobutadiene - CCC	NA	1.0	≤ 30	± 30	≤ 25%
Hexachlorocylcopentadiene-SPCC	0.05	20	≤ 30	± 30	≤ 25%
Hexachloroethane	NA	1.0	≤ 30	± 30	≤ 25%
Indeno(1,2,3-c,d)pyrene	0.5	1.0	≤ 30	± 30	≤ 25%
Isophorone	NA	1.0	≤ 30	± 30	≤ 25%
n-Nitroso-di-n-propylamine–SPCC	0.05	1.0	≤ 30	± 30	≤ 25%
n-Nitrosodiphenylamine – CCC	NA	10	≤ 30	± 30	≤ 25%
Naphthalene	0.7	1.0	≤ 30	± 30	≤ 25%
Nitrobenzene	NA	1.0	≤ 30	± 30	≤ 25%
Pentachlorophenol – CCC	NA	20	≤ 30	± 30	≤ 25%
Phenanthrene	0.7	1.0	≤ 30	± 30	≤ 25%
Phenol – CCC	NA	5.0	≤ 30	± 30	≤ 25%
Pyrene	0.6	1.0	≤ 30	± 30	≤ 25%

[1] With 10% exception not to exceed 40%

Table 6-7.4. Surrogates (Full Scan)

Analyte	(%R)
2,4,6-Tribromophenol	50 – 150
2-Fluorophenol	50 – 150
Nitrobenzene-d_5	50 – 150
Phenol-d_5	50 – 150
Fluorene-d10	60 – 120
Pyrene-d10	60 – 120

Table 6-7.5. Internal Standards

Analyte	(%)
Acenaphthene-d_{10}	50 – 200
Chrysene-d_{12}	50 – 200
1,4-Dichlorobenzene-d_4	50 – 200
Naphthalene-d_8	50 – 200
Perylene-d_{12}	50 – 200
Phenanthrene-d_{10}	50 – 200

Table 6-7.6. TO-13A-Surrogates (Standard and SIM)

Analyte	Accuracy (% R)*
Fluorene-d_{10}	60 - 120
Pyrene-d_{10}	60 - 120

Table 6-7.7. Extracted Laboratory Control Spikes for Modified TO-13A-Extended

Analyte	(%R)
1,2,4-Trichlorobenzene***	50 – 150
1,4-Dichlorobenzene***	50 – 150
2,4-Dinitrotoluene***	50 – 150
2-Chlorophenol***	50 – 150
4-Chloro-3-methylphenol***	50 – 150
4-Nitrophenol***	50 – 150
Acenaphthene*	60 – 120
N-Nitroso-di-n-propylamine***	50 – 150

Pentachlorophenol**	22 – 109
Phenol***	50 – 150
Pyrene*	60 – 120

* *The LCS and Surrogate limits are derived from Compendium Method TO-13A Sections 13.3.7.4 and 13.4.6.3 January, 1999. These limits only apply to samples that are extracted by Air Toxics Ltd. When sample extracts are sent to Air Toxics Ltd., limits of 50 – 150 % are applied.*

** *Pentachlorophenol is not included in Compendium Method TO-13A and has been shown to be erratically recovered from XAD media therefore historical Control Limits are used. Limits are updated periodically as needed.*

*** *Compounds outside of the TO-13A method*

Table 6-7.8. Extracted Laboratory Control Samples for TO-13A (PAHs) in Full Scan and SIM

Analyte	(%R)
Napthalene	60 – 120
Acenapthylene	60 – 120
Acenaphtene	60 – 120
Flourene	60 – 120
Phenanthrene	60 – 120
Anthracene	60 – 120
Fluoranthene	60 – 120
Pyrene	60 – 120
Benzo (a) anthracene	60 – 120
Chrysene	60 – 120
Benzo (b) flouranthene	60 – 120
Benzo (k) flouranthene	60 – 120
Benzo (a) pyrene	60 – 120
Indeno (1,2,3-cd) pyrene	60 – 120
Dibenzo (a,h) anthracene	60 – 120
Benoz (g,,h,i) perylene	60 – 120

Table 6-7.9. Summary of Calibration and QC Procedures for EPA Method TO-13A

QC Check	Minimum Frequency	Acceptance Criteria	Corrective Action
Tuning Criteria	Prior to calibration and at start of every 12 hrs.	SW-846 tuning criteria for semivolatiles analysis. DDT% Breakdown< 20%	Correct problem then repeat tune.
Initial 5-Point Calibration	Prior to sample analysis.	ICAL criteria in tables 6-7.2 and 6-7.3	Correct problem then repeat initial calibration.
ICAL LCS	All analytes – Once per initial calibration.	All target compound recoveries must be between 70 – 130%.	Determine the source of discrepancy between standards. Re-calibrate if needed.
Continuing Calibration Verification (CCV)	At the start of every clock immediately after the DFTPP tune check.	PAHs list: meet min. RRF requirement PAHs list/ short list %D ≤ 30% Semivol full list: SPCCs: RF ≥ 0.050 %D ≤ 30% with 10% exception not to exceed 40%. Flag all results outside of compliance with the exception of high bias associated with non-detects.	Investigate and correct the problem, up to and including re-calibration if necessary. High bias associated with non-detects in samples will not result in re-analysis.
Internal Standards (IS)	As each standard, blank, and sample is being aliquoted.	For CCV: Area count within 50 to 200% of the mid point of ICAL. For blanks, samples and non-CCV QC Checks: retention times within ± 0.33 minutes (20 seconds) and area counts within 50 to 200% of the CCV.	For CCVs: Investigate and correct the problem before proceeding with sample analysis. If interferences are present, a secondary ion may be selected. For blanks: inspect the system and re-analyze the blank. For samples and non-CCV QC: unless there is obvious matrix effect, re-analyze the samples and dilute the sample until the IS meet the criteria, narrate the data to indicate interference.

QC Check	Minimum Frequency	Acceptance Criteria	Corrective Action
Surrogates	With all samples and blanks prior to extraction.	See Table 6-7.4.	A new aliquot of the extract is analyzed. If Surrogate recoveries are out-of-control a second time, data is flagged and narrated. Re-analysis is not necessary for obvious matrix effects (data is flagged for out-of-control surrogate recoveries). Air samples cannot be re-extracted.
Extracted LCS	With each set of up to 20 extracted samples.	See LCS Criteria in tables 6-7.7 and 6-7.8.	Re-aliquot and re-analyze the extract. If within limits, report the re-analysis. Otherwise, narrate.
Laboratory Blank	With each set of up to 20 extracted samples.	Results less than laboratory reporting limit.	Flag the data.
Solvent Blanks	When samples that are extracted together are analyzed on different analytical shifts.	All target compounds below the reporting limit.	Flag the data.
Laboratory Duplicates	10% of the samples.	RPD ≤ 25% for all hits > 5X RLs.	Narrate the data.

Table 6-7.10. Summary of Method Modifications for EPA Methods 3510/3542 and 8270C

Requirements	EPA Method 8270C	Air Toxics Ltd. Modifications
Linearity of ICAL	Use mean RF for non-CCC compounds if %RSD≤ 15%. If %RSD>15%, use a) linear regression equation that does not pass through the origin. R >/= 0.99, or b) non-linear (i.e., 6 points for a quadratic model).	Use mean RF for non-CCC compounds when %RSD≤ 30%.
RT for CCV	Within +/- 30 seconds of the mid-point standard from the initial curve.	Frequent column maintenance results in RT shift; therefore this requirement is not practical.

Table 6-7.11. SW-846 Modified Method 8270C Standard Analyte List

Analyte	RL (µg)	Acceptance Criteria			
		ICAL (%RSD)①	ISCV (%R)②	CCV③	Precision\% RPF
1,2,4-Trichlorobenzene	1.0	≤ 15	± 30	%D ≤ 20%	≤ 25%
1,2-Dichlorobenzene	1.0	≤ 15	± 30	%D ≤ 20%	≤ 25%
1,3-Dichlorobenzene	1.0	≤ 15	± 30	%D ≤ 20%	≤ 25%
1,4-Dichlorobenzene - CCC	1.0	≤ 30	± 30	%D ≤ 20%	≤ 25%
2,4,5-Trichlorophenol	5.0	≤ 15	± 30	%D ≤ 20%	≤ 25%
2,4,6-Trichlorophenol - CCC	5.0	≤ 30	± 30	%D ≤ 20%	≤ 25%
2,4-Dichlorophenol - CCC	5.0	≤ 30	± 30	%D ≤ 20%	≤ 25%
2,4-Dimethylphenol	5.0	≤ 15	± 30	%D ≤ 20%	≤ 25%
2,4-Dinitrophenol - SPCC	20	≤ 15	± 30	**RF > 0.050**	≤ 25%
2,4-Dinitrotoluene	5.0	≤ 15	± 30	%D ≤ 20%	≤ 25%
2,6-Dinitrotoluene	5.0	≤ 15	± 30	%D ≤ 20%	≤ 25%
2-Chloronaphthalene	1.0	≤ 15	± 30	%D ≤ 20%	≤ 25%
2-Chlorophenol	5.0	≤ 15	± 30	%D ≤ 20%	≤ 25%
2-Methylnaphthalene	1.0	≤ 15	± 30	%D ≤ 20%	≤ 25%
2-Methylphenol	5.0	≤ 15	± 30	%D ≤ 20%	≤ 25%
2-Nitroaniline	10	≤ 30	± 30	%D ≤ 20%	≤ 25%
2-Nitrophenol – CCC	5.0	≤ 30	± 30	%D ≤ 20%	≤ 25%
3,3-Dichlorobenzidine	20	≤ 15	± 30	%D ≤ 20%	≤ 25%
3-Nitroaniline	10	≤ 30	± 30	%D ≤ 20%	≤ 25%
4,6-Dinitro-2-methylphenol	10	≤ 30	± 30	%D ≤ 20%	≤ 25%
4-Bromophenyl-phenyl ether	1.0	≤ 15	± 30	%D ≤ 20%	≤ 25%
4-Chloro-3-methylphenol - CCC	5.0	≤ 30	± 30	%D ≤ 20%	≤ 25%
4-Chloroaniline	10	≤ 30	± 30	%D ≤ 20%	≤ 25%
4-Chlorophenyl-phenyl ether	1.0	≤ 15	± 30	%D ≤ 20%	≤ 25%
4-Methylphenol	5.0	≤ 15	± 30	%D ≤ 20%	≤ 25%
4-Nitroaniline	10	≤ 30	± 30	%D ≤ 20%	≤ 25%
4-Nitrophenol – SPCC	20	≤ 15	± 30	**RF > 0.050**	≤ 25%
Acenaphthylene	1.0	≤ 15	± 30	%D ≤ 20%	≤ 25%
Acenaphthene – CCC	1.0	≤ 30	± 30	%D ≤ 20%	≤ 25%
Anthracene	1.0	≤ 15	± 30	%D ≤ 20%	≤ 25%
Benzo(a)anthracene	1.0	≤ 15	± 30	%D ≤ 20%	≤ 25%
Benzo(a)pyrene - CCC	1.0	≤ 30	± 30	%D ≤ 20%	≤ 25%
Benzo(b)fluoranthene	1.0	≤ 15	± 30	%D ≤ 20%	≤ 25%
Benzo(g,h,i)perylene	1.0	≤ 15	± 30	%D ≤ 20%	≤ 25%
Benzo(k)fluoranthene	1.0	≤ 15	± 30	%D ≤ 20%	≤ 25%
Benzoic Acid	30	≤ 30	± 30	%D ≤ 20%	≤ 25%
Bis(2-Chloroethoxy) Methane	1.0	≤ 15	± 30	%D ≤ 20%	≤ 25%
Bis(2-Chloroispropyl) Ether	1.0	≤ 15	± 30	%D ≤ 20%	≤ 25%
Bis(2-Chlroethyl) Ether	1.0	≤ 15	± 30	%D ≤ 20%	≤ 25%
Bis(2-Ethylhexyl)phthalate	5.0	≤ 15	± 30	%D ≤ 20%	≤ 25%

Analyte	RL (µg)	Acceptance Criteria			
		ICAL (%RSD)①	ISCV (%R)②	CCV③	Precision\% RPF
Butylbenzylphthalate	5.0	≤ 15	± 30	%D ≤ 20%	≤ 25%
Chrysene	1.0	≤ 15	± 30	%D ≤ 20%	≤ 25%
di-n-Butylphthalate	5.0	≤ 15	± 30	%D ≤ 20%	≤ 25%
di-n-Octylphthalate - CCC	5.0	≤ 30	± 30	%D ≤ 20%	≤ 25%
Dibenz(a,h)anthracene	1.0	≤ 15	± 30	%D ≤ 20%	≤ 25%
Dibenzofuran	1.0	≤ 15	± 30	%D ≤ 20%	≤ 25%
Diethylphthalate	5.0	≤ 15	± 30	%D ≤ 20%	≤ 25%
Dimethylphthalate	5.0	≤ 15	± 30	%D ≤ 20%	≤ 25%
Fluoranthene – CCC	1.0	≤ 30	± 30	%D ≤ 20%	≤ 25%
Fluorene	1.0	≤ 15	± 30	%D ≤ 20%	≤ 25%
Hexachlorobenzene	1.0	≤ 15	± 30	%D ≤ 20%	≤ 25%
Hexachlorobutadiene – CCC	1.0	≤ 30	± 30	%D ≤ 20%	≤ 25%
Hexachlorocylcopentadiene – SPCC	20	≤ 15	± 30	**RF > 0.050**	≤ 25%
Hexachloroethane	1.0	≤ 15	± 30	%D ≤ 20%	≤ 25%
Indeno(1,2,3-c,d)pyrene	1.0	≤ 15	± 30	%D ≤ 20%	≤ 25%
Isophorone	1.0	≤ 15	± 30	%D ≤ 20%	≤ 25%
n-Nitroso-di-n-propylamine – SPCC	1.0	≤ 15	± 30	**RF > 0.050**	≤ 25%
n-Nitrosodiphenylamine – CCC	10	≤ 30	± 30	%D ≤ 20%	≤ 25%
Naphthalene	1.0	≤ 15	± 30	%D ≤ 20%	≤ 25%
Nitrobenzene	1.0	≤ 15	± 30	%D ≤ 20%	≤ 25%
Pentachlorophenol – CCC	20	≤ 30	± 30	%D ≤ 20%	≤ 25%
Phenanthrene	1.0	≤ 15	± 30	%D ≤ 20%	≤ 25%
Phenol – CCC	5.0	≤ 30	± 30	%D ≤ 20%	≤ 25%
Pyrene	1.0	≤ 15	± 30	%D ≤ 20%	≤ 25%

① *Can use the mean RSD criterion of ≤ 15% as noted in par. 7.5.1.2.1 of SW-846, 8000B.*
② *No more than 10% of the target compounds are allowed to exceed the limit.*
③ *If %D for all CCC is less than or equal to 20%, then the CCV is assumed to be valid. If the CCCs are not included in the list of analytes for a project, then all analytes must meet the 20% D.*

Table 6-7.12. Surrogates

Analyte	Accuracy ④ (% R)
2,4,6-Tribromophenol	10 – 123
2-Fluorobiphenyl	43 – 116
2-Fluorophenol	21 – 110
Nitrobenzene-d_5	35 – 114
Phenol-d_5	10 – 110
p-Terphenyl-d_{14}	33 – 141

Table 6-7.13. Internal Standards

Analyte	Accuracy (% R)
Acenaphthene-d_{10}	-50 to +100
Chrysene-d_{12}	-50 to +100
1,4-Dichlorobenzene-d_4	-50 to +100
Naphthalene-d_8	-50 to +100
Perylene-d_{12}	-50 to +100
Phenanthrene-d_{10}	-50 to +100

④ *The Surrogate limits are derived from USEPA CLP OLM 03.0 and OLM04.2. Air Toxics Ltd. receives a numerically insufficient number of liquid samples for SW 8270C analysis to allow semi-annual updating of in-house Control Limits.*

Table 6-7.14. Extracted Laboratory Control Spikes

Analyte	Accuracy ① (% R)
1,2,4-Trichlorobenzene	39 – 98
1,4-Dichlorobenzene	36 – 97
2,4-Dinitrotoluene	24 – 96
2-Chlorophenol	27 – 123
4-Chloro-3-methylphenol	23 – 97
4-Nitrophenol	10 – 80
Acenaphthene	46 – 118
N-Nitroso-di-n-propylamine	41 – 116
Pentachlorophenol	9 – 103
Phenol	12 – 110
Pyrene	26 – 127

Table 6-7.15. Pre-Spike Surrogates

Analyte	Accuracy ② (%R)
Benzo(a)Pyrene-d_{12}	50 – 150
Fluoranthene- d_{10}	50 – 150

① *The LCS limits are derived from USEPA CLP OLM03.0 and OLM04.2. Air Toxics Ltd. receives a numerically insufficient number of samples for SW 8270C analysis to allow semi-annual updating of in-house Control Limits. These limits only apply to samples that are extracted by Air Toxics Ltd. When sample extracts are sent to Air Toxics Ltd., limits of 50 - 150% are applied.*

② *The pre-spike Surrogates limits are arbitrary. Air Toxics Ltd. received a numerically insufficient number of samples for SW 8270C analysis to allow semi-annual updating of in-house control limits.*

Table 6-7.16. Summary of Calibration and QC Procedures SW-846 Modified Method 8270C

QC Check	Minimum Frequency	Acceptance Criteria	Corrective Action
Tuning Criteria	Prior to calibration and at start of every 12 hrs.	SW-846 tuning criteria for Semi-volatiles analysis.	Correct problem then repeat tune.
Initial 5-Point Calibration	Prior to sample analysis.	ICAL criteria in Table 6-7.11.	Correct problem then repeat Initial Calibration.
Independent Source Calib. Ver. (ISCV)	All analytes – once per Initial Calibration.	At least 90% of the target compounds recoveries must be between 70 – 130%.	Determine the source of discrepancy between standards. Re-calibrate if needed.
Continuing Calibration Verification (CCV)	At the start of every clock, immediately after the DFTPP tune check.	**SPCCs:** RF≥0.050 **CCCs:** %D ≤20%; Non-CCC's when CCC compounds are not requested %D ≤20%.	Investigate and correct the problem, up to and including re-calibration if necessary. High bias for one or more compounds associated with non-detects in the samples will not result in re-analysis.
Internal Standards (IS)	As each standard, blank, and sample is being aliquoted.	**For CCVs:** area counts within -50% to +100% from the most recent ICAL. **For blanks, samples and non-CCV QC Checks:** Retention Times within ± 0.33 minutes (20 seconds) and area counts within -50% to +100% of the CCV.	**For CCVs:** Investigate and correct the problem before proceeding with sample analysis. **For blanks:** Inspect the system and re-analyze the blank. **For samples and non-CCV QC:** Re-analyze the samples. If the criteria are not met a second time, dilute sample until IS meet criteria.
Surrogates	With all samples and blanks prior to extraction.	See Table 6-7.12.	Re-aliquot and re-analyze the extract. If within limits, report the re-analysis. Otherwise narrate.
Extracted LCS	With each set of up to 20 extracted samples.	See LCS Criteria in Table 6-7.14.	Re-aliquot and re-analyze the extract. If within limits, report the re-analysis. Otherwise narrate.
Laboratory Blank	With each set of up to 20 extracted samples.	Results less than laboratory RL.	Re-aliquot and re-analyze the extract to confirm the presence of the target compound. If it doesn't confirm, investigate and correct the problem before re-analyzing all the affected samples.

QC Check	Minimum Frequency	Acceptance Criteria	Corrective Action
Solvent Blanks	When samples that are extracted together are analyzed on different analytical shifts.	All target compounds below the RL.	Investigate and correct the problem before re-analyzing all the affected samples.
Laboratory Duplicates	10% of the samples.	RPD ≤ 25% for all detections > 5 X's RLs.	Analyze a third time. Report the closest two results and narrate and report the data if the criteria is still not met.

6.8 TO-14A/TO-15 – VOLATILE ORGANIC COMPOUNDS

This method involves full scan GC/MS analysis of whole air samples collected in evacuated stainless steel canisters. Samples are analyzed for volatile organic compounds using EPA Method TO-14A/15 protocols. An aliquot of the sample is withdrawn from the canister through a mass flow controller and is either concentrated using a cryogenic trap and/or concentrated using a hydrophobic multisorbent bed. The hydrophobic multisorbent bed functions as a drying system which removes water from the sample stream prior to analysis by full scan GC/MS. For low level analysis, the sample is focused onto a cryogenic cooled column for analysis by full scan GC/MS.

Air Toxics Ltd. performs a modified version of this method. The method modifications, standard target analyte list, Limit of Quantitation, QC criteria, and QC summary can be found in the following tables.

Table 6-8.1. Summary of Method Modifications

Requirement	TO-14A	TO-15	Air Toxics Ltd. Modifications
Sample Drying System	Nafion Drier.	Multisorbent.	Multisorbent.
Blank acceptance criteria	< 0.2 ppbv.	< RL.	< RL.
Blanks and standards **(applies to Low Level analysis only)**	Zero Air.	Zero air.	Nitrogen.
BFB absolute abundance criteria	Within 10% of that from the previous day.	Not mandated.	CCV internal standard area counts are compared to ICAL, corrective action for > 40 %D.
Daily CCV	≤ 30% D.	≤ 30% D.	≤ 30% D with two allowed out to 40% for **QUAD** analysis and four allowed out to 40% for **Low Level** analysis; flag and narrate outliers.
Initial Calibration	≤ 30 % RSD.	≤ 30 % RSD with 2 compounds allowed out to ≤ 40 % RSD.	≤ 30 % RSD with 2 compounds allowed out to ≤ 40 % for **QUAD** analysis and 4 compounds allowed out to ≤ 40 % for **Low Level** analysis.

Requirement	TO-14A	TO-15	Air Toxics Ltd. Modifications
Method Detection Limit	Not Specified.	Follow 40CFR Pt.136 App. B.	The MDL met all relevant requirements in Method TO-15 (statistical MDL less than the LOQ). The concentration of the spiked replicate may have exceeded 10X the calculated MDL in some cases.
Sample collection media.	Summa canister.	Summa canister.	Air Toxics Ltd. recommends use of summa canisters to insure data defensibility, but will report results from Tedlar bags at client request.

Table 6-8.2. Method TO-14A/TO-15 Analyte List (Standard Compounds)

Analyte	RL (ppbv) TO-15/LL	%RSD TO-15/LL	Acceptance Criteria	
			LCS (%R)	Precision Limits (Max. RPD)
1,1,2,2-Tetrachloroethane	0.5/0.1	30%/30%	70 - 130	≤ 25
1,1,2-Trichloroethane	0.5/0.1	30%/30%	70 - 130	≤ 25
1,1-Dichloroethane	0.5/0.1	30%/30%	70 - 130	≤ 25
1,1-Dichloroethene	0.5/0.1	30%/30%	70 - 130	≤ 25
1,2,4-Trichlorobenzene	2.0/0.5	30%/30%	70 - 130	≤ 25
1,2,4-Trimethylbenzene	0.5/0.1	30%/30%	70 - 130	≤ 25
1,2-Dibromoethane (EDB)	0.5/0.1	30%/30%	70 - 130	≤ 25
1,2-Dichlorobenzene	0.5/0.1	30%/30%	70 - 130	≤ 25
1,2-Dichloroethane	0.5/0.1	30%/30%	70 - 130	≤ 25
1,2-Dichloropropane	0.5/0.1	30%/30%	70 - 130	≤ 25
1,3,5-Trimethylbenzene	0.5/0.1	30%/30%	70 - 130	≤ 25
1,3-Dichlorobenzene	0.5/0.1	30%/30%	70 - 130	≤ 25
1,4-Dichlorobenzene	0.5/0.1	30%/30%	70 - 130	≤ 25
Benzene	0.5/0.1	30%/30%	70 - 130	≤ 25
Bromomethane	0.5/0.1	30%/30%	70 - 130	≤ 25
Carbon Tetrachloride	0.5/0.1	30%/30%	70 - 130	≤ 25
Chlorobenzene	0.5/0.1	30%/30%	70 - 130	≤ 25
Chloroethane	0.5/0.1	30%/30%	70 - 130	≤ 25
Chloroform	0.5/0.1	30%/30%	70 - 130	≤ 25
Chloromethane	2.0/0.1	30%/30%	70 - 130	≤ 25
Chlorotoluene (Benzyl Chloride)	0.5/0.1	30%/30%	70 - 130	≤ 25
cis-1,2-Dichloroethene	0.5/0.1	30%/30%	70 - 130	≤ 25
cis-1,3-Dichloropropene	0.5/0.1	30%/30%	70 - 130	≤ 25
Dichloromethane	0.5/0.2	30%/30%	70 - 130	≤ 25
Ethylbenzene	0.5/0.1	30%/30%	70 - 130	≤ 25
Freon 11 (Trichlorofluoromethane)	0.5/0.1	30%/30%	70 - 130	≤ 25
Freon 113 (Trichlorotrifluoroethane)	0.5/0.1	30%/30%	70 - 130	≤ 25

Analyte	RL (ppbv) TO-15/LL	%RSD TO-15/LL	Acceptance Criteria	
			LCS (%R)	Precision Limits (Max. RPD)
Freon 114	0.5/0.1	30%/30%	70 - 130	≤ 25
Freon 12 (Dichlorodifluoromethane)	0.5/0.1	30%/30%	70 - 130	≤ 25
Hexachlorobutadiene	2.0/0.5	30%/30%	70 - 130	≤ 25
m,p-Xylene	0.5/0.1	30%/30%	70 - 130	≤ 25
Methyl Chloroform	0.5/0.1	30%/30%	70 - 130	≤ 25
o-Xylene	0.5/0.1	30%/30%	70 - 130	≤ 25
Styrene	0.5/0.1	30%/30%	70 - 130	≤ 25
Tetrachloroethene	0.5/0.1	30%/30%	70 - 130	≤ 25
Toluene	0.5/0.1	30%/30%	70 - 130	≤ 25
trans-1,3-Dichloropropene	0.5/0.1	30%/30%	70 - 130	≤ 25
Trichloroethene	0.5/0.1	30%/30%	70 - 130	≤ 25
Vinyl Chloride	0.5/0.1	30%/30%	70 - 130	≤ 25

Table 6-8.3. Method TO-14A/TO-15 Analyte List (Non-Standard and Polar Compounds)

Analyte	RL (ppbv) TO-15/LL	%RSD TO-15/LL	Acceptance Criteria	
			LCS (%R)	Precision Limits
1,3-Butadiene	0.5/0.1	30%/30%	60 – 140	≤ 25
1,4-Dioxane	2.0/0.1	30%/30%	60 – 140	≤ 25
2-Butanone (Methyl Ethyl Ketone)	0.5/0.1	30%/30%	60 – 140	≤ 25
2-Hexanone	2.0/0.5	30%/30%	60 – 140	≤ 25
4-Ethyltoluene	0.5/0.1	30%/30%	60 – 140	≤ 25
4-Methyl-2-Pentanone (MIBK)	0.5/0.1	30%/30%	60 – 140	≤ 25
Acetone	2.0/0.5	30%/30%	60 – 140	≤ 25
Bromodichloromethane	0.5/0.1	30%/30%	60 – 140	≤ 25
Bromoform	0.5/0.1	30%/30%	60 – 140	≤ 25
Carbon Disulfide	0.5/0.5	30%/30%	60 – 140	≤ 25
Cyclohexane	0.5/0.1	30%/30%	60 – 140	≤ 25
Dibromochloromethane	0.5/0.1	30%/30%	60 – 140	≤ 25
Ethanol	2.0/0.5	30%/30%	60 – 140	≤ 25
Heptane	0.5/0.1	30%/30%	60 – 140	≤ 25
Hexane	0.5/0.1	30%/30%	60 – 140	≤ 25
Isopropanol	2.0/0.5	30%/30%	60 – 140	≤ 25
Methyl t-Butyl Ether (MTBE)	0.5/0.1	30%/30%	60 – 140	≤ 25
Propylene	2.0/0.5	30%/30%	60 – 140	≤ 25
Tetrahydrofuran	0.5/0.5	30%/30%	60 – 140	≤ 25
trans-1,2-Dichloroethene	0.5/0.1	30%/30%	60 – 140	≤ 25
2,2,4-Trimethylpentane	0.5/0.5	30%/30%	60 – 140	≤ 25
Cumene	0.5/0.1	30%/30%	60 – 140	≤ 25
Propylbenzene	0.5/0.1	30%/30%	60 – 140	≤ 25

Analyte	RL (ppbv) TO-15/LL	%RSD TO-15/LL	Acceptance Criteria	
			LCS (%R)	Precision Limits
3-Chloroprene	2.0/0.5	30%/30%	60 – 140	≤ 25
TPH (Gasoline) or NMOC (Hexane/Heptane)	10	One Point Calibration	NA	≤ 25

Table 6-8.4. Internal Standards

Analyte	Accuracy (% R)
Bromochloromethane	60 - 140
1,4-Difluorobenzene	60 - 140
Chlorobenzene-d_5	60 - 140

Table 6-8.5. Surrogates

Analyte	Accuracy (% R)
1,2-Dichloroethane-d_4	70 – 130
Toluene-d_8	70 – 130
4-Bromofluorobenzene	70 – 130

Table 6-8.6. Summary of Calibration and QC Procedures for Methods TO-14A/TO-15

QC Check	Minimum Frequency	Acceptance Criteria	Corrective Action
Tuning Criteria	Every 24 hours, or every 12 hours if project requires.	SW – 846 tune criteria.	Correct problem then repeat tune.
5-Point Calibration	Prior to sample analysis.	% RSD ≤ 30 with two compounds allowed out to ≤ 40% RSD (4 allowed out for LL).	Correct problem then repeat Initial Calibration Curve.
LCS	After each initial calibration curve, and daily, prior to sample analysis.	Recoveries for 90% of "Standard" compounds must be 70-130%; for 80% of "Non-standard" compounds, recoveries must be 60-140%. No recovery may be <50%.	Check the system and reanalyze the standard. Reprepare the standard if necessary. Re-calibrate the instrument if the criteria cannot be met.
Continuing Calibration Verification (CCV)	At the start of each day and, if required by a specific project, every 12 hours.	%D ≤30% for all compounds with two exceptions not to exceed 40% (four allowed out for LL). Narrate all results outside of compliance. Flag all results outside of compliance with the exception of high bias associated with non-detects.	Perform maintenance and repeat test. If the system still fails the CCV, perform a new 5 point calibration curve.
Laboratory Blank	After the CCV/LCS.	Results less than the laboratory reporting limit.	Inspect the system and Re-analyze the blank.
Internal Standard (IS)	As each standard, blank, and sample is being loaded.	Retention time (RT) for blanks and samples must be within ±0.33 min of the RT	**For blanks:** inspect the system and reanalyze the blank. **For samples:** re-analyze the

QC Check	Minimum Frequency	Acceptance Criteria	Corrective Action
		in the CCV and within ±40% of the area counts of the daily CCV internal standards.	sample. If the ISs are within limits in the re-analysis, report the second analysis. If ISs are out-of-limits a second time, dilute the sample until ISs are within acceptance limits and narrate.
Surrogates	As each standard, blank, and sample is being loaded.	70 - 130%.	**For blanks:** inspect the system and reanalyze the blank. **For samples:** re-analyze the sample unless obvious matrix interference is documented. If the %R is within limits in the re-analysis, report the second analysis. If %R is out-of-limits a second time, then narrate results.
Laboratory Duplicates	10% of the samples.	RPD ≤25% for detections >5 X's the RL.	Re-analyze the sample a third time. If the limit is exceeded again, investigate the cause and bring the system back to working order. If no problem is found on the system, narrate results.

6.9 TO-14A/TO-15 VOLATILE ORGANIC COMPOUNDS BY SIM

This method involves Selective Ion Monitoring (SIM) GC/MS analysis of whole air samples collected in evacuated stainless steel canisters. Samples are analyzed for volatile organic compounds using EPA Method TO-14A/15 protocols. An aliquot of the sample is withdrawn from the canister through a mass flow controller and concentrated using a cryogenic trap. The focused air sample is then flash heated through a hydrophobic drying system that removes water from the sample stream. The sample is then focused onto a cryogenic cooled column prior to analysis by GC/MS in the (SIM) mode.

Air Toxics Ltd. performs a modified version of this method. The target analyte list and Limit of Quantitation reflect relevant risk driving compounds and are available upon request. The method modifications, QC criteria, and QC summary may be found in the following tables.

Table 6-9.1. Summary of Method Modifications

Requirement	TO-14A	TO-15	Air Toxics Ltd. Modifications
Sampling/concen-trator system	Nafion Drier.	Multi-sorbent concentrator.	Multi-sorbent concentrator
Blank acceptance criteria	< 0.2 ppbv.	< RL.	< RL.
Blank and standards	Zero air.	Zero air.	Nitrogen.
BFB absolute abundance criteria	Within 10% of that from previous day.	Not mandated.	CCV internal standard area counts are compared to ICAL, corrective action for > 40% D.
ICAL %RSD acceptance criteria	< 30% RSD.	≤ 30%, with two compounds allowed to ≤ 40%.	Project specific; default criteria is ≤30% RSD with 10% of compounds allowed out to ≤ 40% RSD.
Daily CCV	≤30% D.	≤30% D.	Project specific; default criteria is ≤ 30% Difference with 10% of compounds allowed out up to ≤ 40%.; flag and narrate outliers.
Method Detection Limit	Not Specified.	Follow 40CFR Pt.136 App. B.	The MDL met all relevant requirements in Method TO-15 (statistical MDL less than the LOQ). The concentration of the spiked replicate may have exceeded 10X the calculated MDL in some cases.

Table 6-9.2. Internal Standards

Analyte	**Accuracy (% R)**
Bromochloromethane	60 - 140
1,4-Difluorobenzene	60 - 140
Chlorobenzene-d_5	60 - 140

Table 6-9.3. Surrogates

Analyte	**Accuracy (% R)**
1,2-Dichloroethane-d_4	70 – 130
Toluene-d_8	70 – 130
4-Bromofluorobenzene	70 – 130

Table 6-9.4 Summary of Calibration and QC Procedures for Methods TO-14A/TO-15 by SIM

QC Check	Minimum Frequency	Acceptance Criteria	Corrective Action
Tuning Criteria	Every 24 hours, or every 12 hours if project requires.	SW – 846 tune criteria.	Correct problem then repeat tune.
5-6-Point Calibration	Prior to sample analysis	≤ 30% for standard compounds with 10% of the compound list allowed out to ≤ 40% RSD.	Correct problem then repeat Initial Calibration Curve.
Laboratory Control Standard (LCS)	After each initial calibration curve, and daily prior to sample analysis.	Recoveries for 90% of "Standard" compounds must be ±30%; for 80% of "Non-standard" compounds, recoveries must be ±40%. No recovery may be <50%.	Check the system and re-analyze the standard. Re-prepare the standard if necessary. Re-calibrate the instrument if the criteria cannot be met.
Continuing Calibration Verification (CCV)	At the start of each day and, if required by a specific project, every 12 hours.	Standard compounds ≤ 30% D with 10% of the compound list not to exceed 40% D. Flag all results outside of compliance with the exception of high bias associated with non-detects.	Perform maintenance and repeat test. If the system still fails the CCV, perform a new calibration curve.
Laboratory Blank	After the LCS.	Results less than the laboratory reporting limit.	Inspect the system and re-analyze the blank.
Internal Standard (IS)	As each standard, blank, and sample is being loaded.	Retention time (RT) for blanks and samples must be within ±0.33 min of the RT in the CCV and within ±40% of the area counts of the daily CCV internal standards.	**For blanks:** inspect the system and re-analyze the blank. **For samples:** re-analyze the sample. If the ISs are within limits in the re-analysis, report the second analysis. If ISs are out-of-limits a second time, dilute the sample until ISs are within acceptance limits and narrate.

QC Check	Minimum Frequency	Acceptance Criteria	Corrective Action
Surrogates	As each standard, blank, and sample is being loaded.	70 - 130%.	**For blanks:** inspect the system and re-analyze the blank. **For samples:** re-analyze the sample unless obvious matrix interference is documented. If the %R is within limits in the re-analysis, report the second analysis. If %R is out-of-limits a second time, report data from first analysis and narrate.
Laboratory Duplicates	10% of the samples.	RPD ≤ 25% for detections >5 X's the RL.	Re-analyze the sample a third time. If the limit is exceeded again, investigate the cause and bring the system back to working order. If no problem is found with the system, narrate the data.

6.10 TO-14A/TO-15 GC/MS DIRECT INJECT

This method involves full scan analysis of whole air samples collected in evacuated stainless steel canisters and Tedlar bags. Samples are analyzed for volatile organic compounds using EPA Method TO-14A/15 protocols. An aliquot of the sample is withdrawn from the canister through a gas tight syringe and is injected directly onto a sorbent-based focusing interface. The focused air sample is then flash heated through a hydrophobic drying system which removes water from the sample stream prior to analysis by full scan GC/MS.

Air Toxics Ltd. performs a modified version of this method. The method modifications, standard target analyte list, Limit of Quantitation, QC criteria, and QC summary can be found in the following tables.

Table 6-10.1. Summary of Method Modifications

Requirement	TO-14A	TO-15	Air Toxics Ltd. Modifications
Sampling Drying System	Nafion Drier.	Multi-sorbent concentrator.	Multi-sorbent concentrator.
Blank acceptance criteria	< 0.2 ppbv.	< RL.	< RL.
BFB Tune absolute abundance criteria	Within 10% of that from the previous day.	Not mandated.	CCV internal standard area counts are compared to ICAL, corrective action for > 40 %D.
Initial Calibration	≤ 30 % RSD.	≤ 30 % RSD with 2 compounds allowed out to ≤ 40 % RSD.	≤ 30 % RSD with 2 compounds allowed out to ≤ 40 % RSD.
Daily CCV	≤ 30% D.	≤ 30% D.	≤ 30% D with two allowed out to 40%; flag and narrate outliers.
Method Detection Limit	Not Specified.	Follow 40CFR Pt.136 App. B.	The MDL met all relevant requirements in Method TO-15 (statistical MDL less than the LOQ). The concentration of the spiked replicate may have exceeded 10X the calculated MDL in some cases.

Requirement	TO-14A	TO-15	Air Toxics Ltd. Modifications
Sample collection media	Summa canister.	Summa canister.	Air Toxics Ltd. recommends use of summa canisters to insure data defensibility, but will report results from Tedlar bags at client's request.

Table 6-10.2. Method TO-14A/TO-15 GC/MS Direct Inject Analyte List

Analyte	RL (ppbv)	Acceptance Criteria			
		LCS ③ (%R)	Precision %RPD	ICAL ① %RSD	CCV ② %R
1,1,1-Trichloroethane	5.0	70 - 130	≤ 25%	≤ 30%	≤ 30%
1,1-Dichloroethane	5.0	70 - 130	≤ 25%	≤ 30%	≤ 30%
1,1-Dichloroethene	5.0	70 - 130	≤ 25%	≤ 30%	≤ 30%
Benzene	5.0	70 - 130	≤ 25%	≤ 30%	≤ 30%
Carbon Tetrachloride	5.0	70 - 130	≤ 25%	≤ 30%	≤ 30%
Chlorobenzene	5.0	70 - 130	≤ 25%	≤ 30%	≤ 30%
Chloroform	5.0	70 - 130	≤ 25%	≤ 30%	≤ 30%
cis-1,2-Dichloroethene	5.0	70 - 130	≤ 25%	≤ 30%	≤ 30%
Ethyl Benzene	5.0	70 - 130	≤ 25%	≤ 30%	≤ 30%
Freon 11 (Trichlorofluoromethane)	5.0	70 - 130	≤ 25%	≤ 30%	≤ 30%
Freon 113 (Trichlorotrifluoroethane)	5.0	70 - 130	≤ 25%	≤ 30%	≤ 30%
Freon 114	5.0	70 - 130	≤ 25%	≤ 30%	≤ 30%
Freon 12 (Dichlorodifluoromethane)	5.0	70 - 130	≤ 25%	≤ 30%	≤ 30%
m,p-Xylene	5.0	70 - 130	≤ 25%	≤ 30%	≤ 30%
Methylene Chloride	5.0	70 - 130	≤ 25%	≤ 30%	≤ 30%
o-Xylene	5.0	70 - 130	≤ 25%	≤ 30%	≤ 30%
Tetrachloroethene	5.0	70 - 130	≤ 25%	≤ 30%	≤ 30%
Toluene	5.0	70 - 130	≤ 25%	≤ 30%	≤ 30%
trans-1,2-Dichloroethene	5.0	70 - 130	≤ 25%	≤ 30%	≤ 30%
Trichloroethene	5.0	70 - 130	≤ 25%	≤ 30%	≤ 30%
Vinyl Chloride	5.0	70 - 130	≤ 25%	≤ 30%	≤ 30%
Chloromethane	5.0	70 - 130	≤ 25%	≤ 30%	≤ 30%
2-Propanol	5.0	70 - 130	≤ 25%	≤ 30%	≤ 30%
Methyl tert-Butyl Ether	5.0	70 - 130	≤ 25%	≤ 30%	≤ 30%
Bromomethane	5.0	70 - 130	≤ 25%	≤ 30%	≤ 30%
Chloroethane	5.0	70 - 130	≤ 25%	≤ 30%	≤ 30%
1,2-Dichloroethane	5.0	70 - 130	≤ 25%	≤ 30%	≤ 30%
1,2-Dichloropropane	5.0	70 - 130	≤ 25%	≤ 30%	≤ 30%
1,1,2-Trichloroethane	5.0	70 - 130	≤ 25%	≤ 30%	≤ 30%
1,1,2,2-Tetrachloroethane	5.0	70 - 130	≤ 25%	≤ 30%	≤ 30%
1,3,5-Trimethylbenzene	5.0	70 - 130	≤ 25%	≤ 30%	≤ 30%

Analyte	RL (ppbv)	Acceptance Criteria			
		LCS ③ (%R)	Precision %RPD	ICAL ① %RSD	CCV ② %R
1,2,4-Trimethylbenzene	5.0	70 - 130	≤ 25%	≤ 30%	≤ 30%
1,2-Dichlorobenzene	5.0	70 - 130	≤ 25%	≤ 30%	≤ 30%
1,3-Dichlorobenzene	5.0	70 - 130	≤ 25%	≤ 30%	≤ 30%
1,4-Dichlorobenzene	5.0	70 - 130	≤ 25%	≤ 30%	≤ 30%
1,2-Dibromoethane	5.0	70 - 130	≤ 25%	≤ 30%	≤ 30%
TPH ref. to Gasoline (MW = 100)	100	NA	≤ 25%	≤ 30%	≤ 30%
NMOC ref. to Heptane (MW = 100)	100	NA	≤ 25%	≤ 30%	≤ 30%

Table 6-10.3. Internal Standard

Analyte	Accuracy Limits (%R)
Fluorobenzene	60 - 140

Table 6-10.4. Surrogate

Analyte	Accuracy Limits (%R)
Toluene-d8	70 - 130

① %RSD ≤ 30% for all compounds except two compounds not to exceed 40% RSD.
② %R ≤ 30% for all compounds except two compounds not to exceed 40% R.
③ 10% of compounds are allowed to be out but not to exceed ±50%.

Table 6-10.5. Summary of Calibration and QC Procedures GC/MS Direct Inject TO-14A/TO-15

QC Check	Minimum Frequency	Acceptance Criteria	Corrective Action
Tuning Criteria	Every 24 hours, or every 12 hours if project requires.	SW - 846 tune criteria.	Correct problem then repeat tune.
5 Point Calibration	Prior to sample analysis.	%RSD ≤ 30% for all compounds with up to two exceptions ≤ 40%.	Correct problem then repeat Initial Calibration.
Laboratory Control Standard (LCS)	With each Initial Calibration Curve, prior to sample analysis for each clock.	Recoveries must be within ± 30%D for 90% of the analytes. Outliers must be within 50 – 150%R.	Investigate the problem and if warranted, analyze a new analytical curve.
Continuing Calibration Verification (CCV)	At the start of each analytical batch.	%D ≤ 30% with two exceptions up to 40%.	Perform maintenance and repeat tests, or re-calibrate instrument.
Laboratory Blank	After the standards and before samples.	Results less than the laboratory reporting limit.	Inspect the system and re-analyze the blank.
Internal Standard (IS)	As each standard, blank, and sample is being loaded.	Retention time (RT) for the blanks and samples must be within ± 0.33 minutes of the RT in the daily Method Spike. The IS area must be within ± 40% of the CCV's IS area, for the blanks and samples.	**Blanks:** Inspect the system and re-analyze the blank. **Samples:** Re-analyze the sample. If the IS is within limits in the re-analysis, report the second analysis. If IS is out of limits a second time, dilute the sample until IS is within limits and narrate.
Surrogate	As each standard, blank, and sample is being loaded.	70 - 130%R.	**For blanks:** Inspect the system and re-analyze the blank. **For samples:** Re-analyze sample unless obvious matrix interference is documented. If the %R is within limits in the re-analysis, report the second analysis. If %R is out-of-limits a second time, report data from first analysis and narrate.
Laboratory Duplicates	10% of the samples.	RPD ≤ 25% for compounds detected at >5X reporting limit.	Re-analyze the sample for a third time. If it fails again, investigate the cause and correct problem. Otherwise, narrate the non - conforming event.

6.11 ASTM D-1945 - FIXED GASES

This method involves GC analysis of landfill gas, ambient air, or stack gas collected in Summa™ canisters, Tedlar bags, or any vessel that has been demonstrated to be clean and leak free. Samples are analyzed for Methane and fixed gases and can be used to speciate individual light hydrocarbons up to C6. This method is also used to determine caloric content of the gas. Because the sample is withdrawn from the vessel by positive pressure, rigid containers are first filled to positive pressure using UHP Helium or Nitrogen. Samples are then analyzed using a GC equipped with a FID and a Thermal Conductivity Detector (TCD).

Air Toxics Ltd. performs a modified version of this method. The method modifications, standard target analyte list, Limit of Quantitation, QC criteria, and QC summary can be found in the following tables.

Table 6-11.1. Summary of Method Modifications

Requirement	ASTM D-1945	Air Toxics Ltd. Modifications
Sample Injection Volume	0.50 mL to achieve Methane linearity.	1.0 mL.
Reference Standard	Concentration should not be < half of nor differ by more than 2X the concentration of the sample. Run 2 consecutive checks; must agree within 1%.	A minimum 3-point linear calibration. The acceptance criterion is RSD ≤15%. All target analytes must be within the linear range of calibration (with the exception of O_2, N_2, and C6+ Hydrocarbons).
Sample Analysis	Equilibrate samples to 20-50° F. above source temperature at field sampling.	Heating of samples is not performed.
Sample Calculation	Response factor is calculated using peak height for C5 and lighter compounds.	Peak areas are used for all target analytes to quantitate concentrations.
Normalization	Sum of original values Should not differ from 100.0% by more than 1.0%.	Sum of original values may range between 85-115%; normalization of data not performed, unless requested by client.

Table 6-11.2. ASTM Modified Method D-1945 Standard Analyte List

Analyte	RL (%)	Acceptance Criteria		
		Initial Calibration (%RSD)	CCV/LCS (%R)	Precision (%RPD)
Carbon Dioxide	0.01	≤ 15%	85 – 115	≤ 25%
Carbon Monoxide	0.01	≤ 15%	85 – 115	≤ 25%
Ethene	0.001	≤ 15%	85 – 115	≤ 25%
Ethane	0.001	≤ 15%	85 – 115	≤ 25%
Acetylene	0.001	≤ 15%	85 – 115	≤ 25%
Isobutane	0.001	≤ 15%	85 – 115	≤ 25%
Methane	0.0001	≤ 15%	85 – 115	≤ 25%
n-Butane	0.001	≤ 15%	85 – 115	≤ 25%
Neopentane	0.001	≤ 15%	85 – 115	≤ 25%
Isopentane	0.001	≤ 15%	85 – 115	≤ 25%
n-Pentane	0.001	≤ 15%	85 – 115	≤ 25%
Nitrogen*	0.10	≤ 15%	85 – 115	≤ 25%
NMOC (C6+)	0.01	≤ 15%	85 – 115	≤ 25%
Oxygen	0.10	≤ 15%	85 – 115	≤ 25%
Propane	0.001	≤ 15%	85 – 115	≤ 25%
Hydrogen	0.01***	≤ 15%	85 – 115	≤ 25%
Helium	0.01**	≤ 15%	85 – 115	≤ 25%

* *For samples that have been pressurized with N_2, the amount of N_2 in the sample is determined by subtraction.*

** *Included by special request only.*

*** *RL is 1.0% when sample is pressurized with Helium.*

Table 6-11.3. Summary of Calibration and QC Procedures ASTM Modified Method D-1945

QC Check	Minimum Frequency	Acceptance Criteria	Corrective Action
Initial Calibration Curve (ICAL)	Prior to Sample Analysis.	ICAL criteria in Table 6-11.2.	Correct problem, then repeat Initial Calibration.
Independent Source Check Verification (LCS)	Once per analytical batch.	LCS criteria in Table 6-11.2.	Check the system and re-analyze the standard. Re-calibrate the instrument if the criteria cannot be met.

QC Check	Minimum Frequency	Acceptance Criteria	Corrective Action
Continuing Calibration Verification (CCV)	Daily prior to sample analysis and after every 20 samples or at the end of the analytical batch.	CCV criteria in Table 6-11.2.	Check the system and re-analyze the standard. Re-calibrate the instrument if the criteria cannot be met. If the closing CCV fails, the system is checked and the standard is re-analyzed. If the second analysis fails, identify and correct the problem, then re-analyze all samples since the last acceptable CCV.
Laboratory Blank	Daily.	Results less than the laboratory RL.	Inspect the system and troubleshoot until the system is free of contamination.
Sample Duplicates	10%.	RPD ≤25% for detections >5 times the RL.	Re-analyze the sample a third time. If the limit is exceeded again, investigate the cause and bring the system back to working order. If no problem is found with the system, narrate the data.

6.12 ASTM D-1946 - ATMOSPHERIC GASES

This method involves GC analysis of landfill gas, ambient air, or stack gas collected in Summa™ canisters, Tedlar bags, or any vessel that has been demonstrated to be clean and leak free. Samples are analyzed for Methane, fixed gases, and Non-Methane Organic Carbon (NMOC) using ASTM D-1946 protocols. Because the sample is withdrawn from the vessel by positive pressure, rigid containers are first filled to positive pressure using UHP Helium or Nitrogen. Samples are then analyzed using a GC equipped with a FID and a TCD.

Air Toxics Ltd. performs a modified version of this method. The method modifications, standard target analyte list, Limit of Quantitation, QC criteria, and QC summary can be found in the following tables.

Table 6-12.1. Summary of Method Modifications

Requirement	ASTM D-1946	Air Toxics Ltd. Modifications
Calibration	A single point calibration is performed using a reference standard closely matching the composition of the unknown.	A minimum 3-point calibration curve is performed. Quantitation is based on a daily calibration standard, which may or may not resemble the composition of the associated samples.
Reference Standard	The composition of any reference standard must be known to within 0.01 mol % for any component.	The standards used by Air Toxics Ltd. are blended to a ≥ 95% accuracy.
Sample Injection Volume	Components whose concentrations are in excess of 5 % should not be analyzed by using sample volumes greater than 0.5 mL.	The sample container is connected directly to a fixed volume sample loop of 1.0 mL. Linear range is defined by the calibration curve. Bags may be loaded by vacuum or by positive pressure.
Normalization	Normalize the mole percent values by multiplying each value by 100 and dividing by the sum of the original values. The sum of the original values should not differ from 100% by more than 1.0%.	Results are not normalized. The sum of the reported values can differ from 100% by as much as 15%, either due to analytical variability or an unusual sample matrix.
Precision	Precision requirements established at each concentration level.	Duplicates should agree within 25 % RPD for detections >5 X's the RL.

Table 6-12.2. ASTM Modified Method D-1946 Standard Analyte List

Compound	RL (%)	ICAL Criteria (%RSD)	LCS Criteria (%R)	CCV Criteria (%D)	Precision Limits (RPD)
Carbon Dioxide***	0.010	≤ 15%	85 – 115	±15	≤ 25%
Carbon Monoxide***	0.010	≤ 15%	85 – 115	±15	≤ 25%
Methane	0.00010	≤ 15%	85 – 115	±15	≤ 25%
Ethene*	0.0010	≤ 15%	85 – 115	±15	≤ 25%
Ethane*	0.0010	≤ 15%	85 – 115	±15	≤ 25%
Nitrogen	0.10	≤ 15%	85 – 115	±15	≤ 25%
NMOC (C2+)	0.010	≤ 15%	85 – 115	±15	≤ 25%
Oxygen	0.10	≤ 15%	85 – 115	±15	≤ 25%
Hydrogen*	0.010**	≤ 15%	85 – 115	±15	≤ 25%

* *Ethene, Ethane and Hydrogen are included by special request only.*
** *RL is 1.0 % when sample is pressurized with He.*
*** *RL can be lowered to 0.001% using a Nickel catalyst and reporting from the FID by special request.*

Table 6-12.3. Summary of Calibration and QC Procedures ASTM Modified Method D-1946

QC Check	Minimum Frequency	Acceptance Criteria	Corrective Action
Initial Calibration Curve (ICAL)	Prior to Sample analysis.	RSD ≤ 15 %.	Correct problem then repeat Initial Calibration.
Second Source Verification (LCS)	All analytes - once per Initial Calibration, and with each analytical batch.	%R 85 – 115 %.	Check the system and re-analyze the standard. Re-calibrate the instrument if the criteria cannot be met.
Continuing Calibration Verification (CCV)	Daily prior to sample analysis and after every 20 samples.	%R 85 – 115 %.	Check the system and re-analyze the standard. Re-calibrate the instrument if the criteria cannot be met.
Laboratory Blank (He) (N_2 for He and H_2 analysis)	Immediately after each daily check standard and prior to sample analysis, or when contamination is present.	Results < RL.	Inspect the system and re-analyze the Blank.
End Check	At the end of analytical sequence. It can be primary (CCV) or second source (LCS).	%R 85 – 115 %.	Check system and re-analyze the standard. If the 2nd analysis fails, correct the problem. Reanalyze all samples since the last acceptable CCV.
Sample Duplicates	10% of the samples.	RPD ≤ 25 % for detections > 5 X's the RL.	Re-analyze the sample a third time. Correct the problem. If no problem is found, narrate.

QC Check	Minimum Frequency	Acceptance Criteria	Corrective Action
Chromatographic Resolution of CH_4 from CO (FID)	As needed.	< 50 % valley.	Re-condition the molecular sieve column at similar levels.
Response of CO And CO_2 (FID)	As needed.	< 30 %.	Re-pack the tube with fresh catalyst and allow to stabilize.

6.13 ASTM D-5504 - SULFUR COMPOUNDS

This method involves GC analysis of whole air samples collected in Tedlar bags. Samples are analyzed for reduced sulfur compounds using ASTM D-5504 protocols using a Sulfur Chemiluminescence Detector (SCD).

ASTM D-5504 is not a prescriptive method therefore modification documentation is not necessary.

Table 6-13.1. ASTM Modified Method D-5504 (Sulfur Compounds) Standard Analyte List

Analyte	RL (ppbv)	Acceptance Criteria		
		ICAL ① (% RSD)	LCS/ CCV ② (% R)	Precision (% RPD)
2,5-Dimethylthiophene	4.0	≤ 30	70 -130	≤ 25
2-Ethylthiophene	4.0	≤ 30	70 -130	≤ 25
3-Methylthiophene**	4.0	≤ 30	70 -130	≤ 25
Carbon Disulfide	4.0	≤ 30	70 -130	≤ 25
Carbonyl Sulfide	4.0	≤ 30	70 -130	≤ 25
Diethyl Disulfide	4.0	≤ 30	70 -130	≤ 25
Diethyl Sulfide	4.0	≤ 30	70 -130	≤ 25
Dimethyl Disulfide	4.0	≤ 30	70 -130	≤ 25
Dimethyl Sulfide	4.0	≤ 30	70 -130	≤ 25
Ethyl Mercaptan	4.0	≤ 30	70 -130	≤ 25
Ethyl Methyl Sulfide**	4.0	≤ 30	70 -130	≤ 25
Hydrogen Sulfide	4.0	≤ 30	70 -130	≤ 25
Isobutyl Mercaptan	4.0	≤ 30	70 -130	≤ 25
Isopropyl Mercaptan	4.0	≤ 30	70 -130	≤ 25
Methyl Mercaptan	4.0	≤ 30	70 -130	≤ 25
n-Butyl Mercaptan**	4.0	≤ 30	70 -130	≤ 25
n-Propyl Mercaptan	4.0	≤ 30	70 -130	≤ 25
tert-Butyl Mercaptan	4.0	≤ 30	70 -130	≤ 25
Tetrahydrothiophene	4.0	≤ 30	70 -130	≤ 25
Thiophene	4.0	≤ 30	70 -130	≤ 25

① *Average %RSD ≤ 30%, not to exceed 40% for any individual compounds. H_2S %RSD must be ≤ 30%.*

② *Up to 10% allowed to exceed %R criterion (not to exceed ±50%); end check may have 20% exceed criterion. All compounds must be within %R limit for short list (five compounds or less)*

** *Compounds co-elute*

Table 6-13.2. Summary of Calibration and QC Procedures for Modified ASTM Method D 5504

QC Check	Minimum Frequency	Acceptance Criteria	Corrective Action
Min of 3 or more points Calibration (ICAL)	Prior to sample analysis.	RSD ≤ 30% (average). H_2S must be ≤ 30%. All others must be ≤ 40%.	Repeat calibration.
Second Source Verification (LCS)	With each Initial Calibration; with each analytical batch.	70 - 130 % of the expected values for at least 18 of the 20 target compounds. H_2S must be within ±30%. Recovery < 50% or > 150% will require corrective action. If less than five compounds, all compounds must meet criteria.	Check the system, re-prepare and/or re-analyze standard. Re-calibrate instrument if criteria cannot be met.
Continuing Calibration Verification (CCV)	Daily prior to sample analysis.	**Full list:** % R for at least 18 out of the 20 compounds within 70 – 130 %. H_2S must meet limits. **Short list:** 5 compounds or less, % R for all compounds within 70 – 130 %. 5 – 19 compounds, %R for 1 compound or 10% of the compounds allowed out. H_2S must meet limits.	Check the system and re-analyze the standard. If the 2nd analysis fails, identify and correct the problem. Corrective action may include re-analysis of affected samples out of Hold Time per client request.
Laboratory Blank	In between analysis of standards and project samples.	Results less than the laboratory Limit of Quantitation.	Inspect the system and re-analyze the blank. If the third blank still has contamination, consult a Scientist or Team Leader.
End Check	At the end of the analytical sequence.	Recoveries within 70 - 130% with 20% (4 target analytes) allowed out.	Check system and re-analyze the standard. If the 2nd analysis fails, identify and correct the problem. Corrective action may include re-analysis of affected samples out of Hold Time per client request.
Laboratory	10% of the samples.	RPD ≤ 25 % for	Re-analyze the sample a third

QC Check	Minimum Frequency	Acceptance Criteria	Corrective Action
Duplicates		detections > 5X LOQ.	time. If the limit is exceeded again, investigate the cause and bring the system back to working order. If no problem is found with the system, narrate the data.

6.14 RSK-175 - GC HEADSPACE EQUILIBRATION TECHNIQUE

This method involves GC analysis of the dissolved gases in water samples collected in 40 mL VOA vials. In the laboratory, an aliquot of the sample is injected into a Nitrogen-purged vial and placed into a headspace autosampler where each sample is shaken and heated prior to injection. The autosampler then injects an aliquot of headspace onto a gas chromatographic column where the gaseous components are separated and detected by a FID or TCD. Analysis is conducted for analytes listed in Table 6-14.2.

Air Toxics Ltd. performs a modified version of this method. The method modifications, standard target analyte list, Limit of Quantitation, QC criteria, and QC summary can be found in the following tables.

Table 6-14.1. Summary of Method Modifications

Variance	EPA SOP RSK-175	Air Toxics Ltd. SOP
Sample Collection	Collect sample in 60 mL crimp-top vial.	Collect sample in 40 mL VOA vial. Or pressurized sample cylinder.
Headspace Generation	Headspace is generated in 60 mL sample vial by displacing volume of liquid with Helium. The amount of liquid should be 10% of sample volume in bottle, up to 10 mL.	5.0 mL of sample is displaced with 5.0 mL Nitrogen and transferred to a Nitrogen purged and capped autosampler vial. Headspace is then generated in the auto-sampler vial.
Headspace Injection	Syringe injection of 300 µL headspace into GC.	Autosampler pressurizes sample to fill 1.0 mL loop with headspace sample.
Calibration and Quantitation	Direct injections of gas phase standards are used to obtain a Calibration Curve. Henry's Law is used to calculate mg of gas per Liter of water. Calculation requires recording total volume of serum bottle and headspace, and sample temperature.	Calibration is obtained by spiking headspace samples with gas phase analyte and analyzing using the same procedure as the samples. Quantitation of samples is directly obtained using the Calibration Curve that relates µg analyte/mL water sample to peak area.
Initial Calibration Curve (ICAL)	Linear regression.	Average Response Factor.
Lab Blanks	Blank subtraction is performed.	No blank subtraction; Lab Blank must be less than the Reporting Limit.

Table 6-14.2. RSK-175 Headspace by GC Standard Analyte List

Analyte	RL (µg/mL)	Acceptance Criteria		
		ICAL (% RSD)	LCS/ CCV (% R)	Precision (% RPD)
Methane	0.005	≤ 30	70 - 130	≤ 25
Ethane	0.01	≤ 30	70 - 130	≤ 25
Ethene	0.01	≤ 30	70 - 130	≤ 25
Propane	0.001	≤ 30	70 - 130	≤ 25
Propene	0.001	≤ 30	70 - 130	≤ 25
Carbon Dioxide	1.0	≤ 30	70 - 130	≤ 25

Table 6-14.3. Summary of Calibration and QC Procedures for RSK-175 Headspace by GC

QC Check	Minimum Frequency	Acceptance Criteria	Corrective Action
Five Point Calibration (ICAL)	Prior to sample analysis.	% RSD ≤ 30.	Repeat the calibration.
Second Source Verification (LCS)	With each Initial Calibration; and analytical batch.	70 – 130 % of the expected value.	Check the system and re-analyze the standard. Re-calibrate if necessary.
Continuing Calibration Verification (CCV)	Daily prior to sample analysis, and after every 20 samples.	70 – 130 % of the expected value.	Check the system and re-analyze the standard. Re-calibrate if necessary.
Laboratory Blank	In between analysis of standards and project samples.	Results less than the laboratory Report Limit.	Inspect the system and re-analyze the Laboratory Blank.
Matrix Spike (MS)	By client request.	Recoveries within 50 – 150 %.	If unopened sample vial remains, re-prepare MS. If none available, flag result and narrate.
Matrix Spike Duplicate (MSD)	By client request.	RPD ≤ 25%.	If unopened sample vial remains, re-prepare MSD. If none available, narrate.
End Check	At the end of analytical sequence.	70 - 130 % of the expected value.	Check system and re-analyze the standard. If the 2nd analysis fails, identify and correct the problem. All suspect samples are re-prepared from the available hold vials and analyzed.
Laboratory Duplicates	10% of the samples.	RPD ≤ 25% for Detections > 5X RL.	Re-analyze the sample a third time. If the limit is exceeded again, investigate the cause and bring the system back to working order. If no problem is found with the system,

QC Check	Minimum Frequency	Acceptance Criteria	Corrective Action
			narrate the data.
Preparation LCS	With each batch up to 20 samples.	70 – 130% of the expected value.	Re-prepare and analyze the LCS along with associated samples if hold vials are available. If not, flag and narrate the data.

6.15 TO-17 VOLATILE ORGANIC COMPOUNDS

This method is an alternative to the canister based sampling and analysis methods that are presented in EPA Compendium Methods TO-14 and TO-15. Samples are collected by drawing a volume of air through a sorbent packed tube. The sample cartridges are thermally desorbed by heating and purging with organic-free Helium. The resulting gaseous effluent is then trapped on the secondary trap. The secondary trap is then thermally desorbed for GC/MS analysis.

The procedures in this method outline the use of EPA Method TO-17 protocols to determine the concentrations of volatile organic compounds in air samples collected on sorbent tubes.

Air Toxics Ltd. performs a modified version of this method. The method modifications, standard target analyte list, Limit of Quantitation, QC criteria, and QC summary can be found in the following tables.

Table 6-15.1. Summary of Method Modifications

Requirements	EPA Method TO-17	Air Toxics Ltd. Modifications
Lab Blank	At least 2 tubes from the same cleaning batch as the samples are analyzed at the beginning and end of the analytical sequence. Do not dry purge Lab Blanks.	Tubes used for daily lab blank may or may not be from the same batch or sampling media. Only 1 lab blank is analyzed prior to sample analysis. Lab blanks are dry purged to eliminate the possibility of sample anomaly attributed to Dry purge process.
*Tune Check	BFB.	Modification applies only to semivolatile lists such as PAHs in which a DFTPP tune check is more appropriate to demonstrate accurate spectral performance.
*Sample desorption	Method involves primary and secondary desorption.	Modification applies only when using a Tekmar P&T system. After primary desorption, the stream of effluent gas is passed through 5ml of clean purged D.I. water before the secondary desorption. D.I. water acts as a filter for excessive acidic moisture in the samples.

*Modifications are dependent on application.

Table 6-15.2. Summary of Sorbent Applications

Sorbent	Typical Analyte Range	Water management	Primary Applications
Carbotrap 300	C3 – C12	High levels of moisture may interfere with analysis.	Indoor air and outdoor air.
Tenax TA	C7 – C26	Hydrophobic.	All vapors including soil gas.
Tenax GR	C7 – C30	Hydrophobic.	All vapors including soil gas.

Table 6-15.3. TO-17 Carbotrap 300 Analyte List

Analytes	RL (ng)	Acceptance Criteria		
		ICAL (%RSD)	LCS (% R)	CCV (%D)
1,1,1-Trichloroethane	10	30	70 – 130	30
1,1,1,2-Tetrachloroethane	10	30	70 – 130	30
1,1,2,2-Tetrachloroethane	10	30	70 – 130	30
1,1,2-Trichloroethane	10	30	70 – 130	30
1,1-Dichloroethane	10	30	70 – 130	30
1,1-Dichloroethene	10	30	70 – 130	30
1,1-Dichloropropene	10	30	70 – 130	30
1,2,3-Trichlorobenzene	50	30	70 – 130	30
1,2,3-Trichloropropane	10	30	70 – 130	30
1,2,4-Trichlorobenzene	50	30	70 – 130	30
1,2,4-Trimethylbenzene	10	30	70 – 130	30
1,2-Dibromo-3-chloropropane	50	30	70 – 130	30
1,2-Dichlorobenzene	10	30	70 – 130	30
1,2-Dichloroethane	10	30	70 – 130	30
1,2-Dichloropropane	10	30	70 – 130	30
1,3,5-Trimethylbenzene	10	30	70 – 130	30
1,3-Butadiene	50	30	50 – 150	30
1,3-Dichlorobenzene	10	30	70 – 130	30
1,3-Dichloropropane	10	30	70 – 130	30
1,4-Dichlorobenzene	10	30	70 – 130	30
2,2-Dichloropropane	10	30	70 – 130	30
2-Chloropropane	10	30	70 – 130	30
2-Chlorotoluene	10	30	70 – 130	30
Allyl chloride	10	30	70 – 130	30
4-Chlorotoluene	10	30	70 – 130	30
Acrylonitrile	10	30	70 – 130	30
Benzene	10	30	70 – 130	30
Bromobenzene	10	30	70 – 130	30
Bromochloromethane	10	30	70 – 130	30
Bromodichloromethane	10	30	70 – 130	30
Bromoform	10	30	70 – 130	30
Bromomethane	10	30	50 – 150	30
Butylbenzene	10	30	70 – 130	30
Carbon Disulfide	10	30	70 – 130	30
Carbon Tetrachloride	10	30	70 – 130	30
Chlorobenzene	10	30	70 – 130	30
Chloroethane	10	30	50 – 150	30
Chloroform	10	30	70 – 130	30
Chloromethane	10	30	50 – 150	30
cis-1,2-Dichloroethene	10	30	70 – 130	30

Analytes	RL (ng)	Acceptance Criteria		
		ICAL (%RSD)	LCS (% R)	CCV (%D)
cis-1,3-Dichloropropene	10	30	70 – 130	30
cis-1,4-Dichloro-2-butene	50	30	70 – 130	30
Cumene	10	30	70 – 130	30
Dibromochloromethane	10	30	70 – 130	30
Dibromomethane	10	30	70 – 130	30
Dichlorodifluoromethane	10	30	50 – 150	30
Ethylbenzene	10	30	70 – 130	30
Ethylene Dibromide	10	30	70 – 130	30
Freon 11	10	30	70 – 130	30
Freon 113	10	30	70 – 130	30
Hexachlorobutadiene	50	30	70 – 130	30
Hexane	10	30	70 – 130	30
Iodomethane	10	30	70 – 130	30
Methylene Chloride	10	30	70 – 130	30
Methyl t-butyl ether (MTBE)	10	30	70 – 130	30
Naphthalene	50	30	70 – 130	30
m,p-Xylene	10	30	70 – 130	30
o-Xylene	10	30	70 – 130	30
p-Cymene	10	30	70 – 130	30
Propylbenzene	10	30	70 – 130	30
sec-Butylbenzene	10	30	70 – 130	30
Styrene	10	30	70 – 130	30
tert-Butylbenzene	10	30	70 – 130	30
Tetrachloroethene	10	30	70 – 130	30
Toluene	10	30	70 – 130	30
trans-1,2-Dichloroethene	10	30	70 – 130	30
trans-1,3-Dichloropropene	10	30	70 – 130	30
trans-1,4-Dichloro-2-butene	50	30	70 – 130	30
Trichloroethene	10	30	70 – 130	30
Vinyl Bromide *	50	30	50 – 150	30
Vinyl Chloride	10	30	50 – 150	30

* *Independent Source Verification Check not available for this compounds.*

Table 6-15.4. Internal Standard Recovery Limits Limits (Carbotrap 300)

Analyte	CCV IS (%R)	Sample IS (%R)
1,4-Dichlorobenzene-d_4	50 – 200	60 – 140
Chlorobenzene-d_5	50 – 200	60 – 140
Fluorobenzene	50 – 200	60 – 140

Table 6-15.5. Surrogate Recovery (Carbotrap 300)

Analyte	Accuracy (%R)
1,2-Dichloroethane-d_4	70 – 130
4-Bromofluorobenzene	70 – 130
Dibromofluoromethane	70 – 130
Toluene-d_8	70 – 130

Table 6-15-6. TO-17 (Tenax GR/TA)

Analytes	Reporting Limit (ng)	Acceptance Criteria		
		ICAL (%RSD)	LCS (% R)	CCV
1,1,1-Trichloroethane	5.0	30	70 – 130	30
1,1,1,2-Tetrachloroethane	5.0	30	70 – 130	30
1,1,2,2-Tetrachloroethane	5.0	30	70 – 130	30
1,1,2-Trichloroethane	5.0	30	70 – 130	30
1,1-Dichloropropene	5.0	30	70 – 130	30
1,2,3-Trichlorobenzene	5.0	30	70 – 130	30
1,2,3-Trichloropropane	5.0	30	70 – 130	30
1,2,4-Trichlorobenzene	5.0	30	70 – 130	30
1,2,4-Trimethylbenzene	5.0	30	70 – 130	30
1,2-Dibromo-3-chloropropane	5.0	30	70 – 130	30
1,2-Dichlorobenzene	5.0	30	70 – 130	30
1,2-Dichloroethane	5.0	30	70 – 130	30
1,2-Dichloropropane	5.0	30	70 – 130	30
1,3,5-Trimethylbenzene	5.0	30	70 – 130	30
1,3-Dichlorobenzene	5.0	30	70 – 130	30
1,3-Dichloropropane	5.0	30	70 – 130	30
1,4-Dichlorobenzene	5.0	30	70 – 130	30
2-Chlorotoluene	5.0	30	70 – 130	30
4-Chlorotoluene	5.0	30	70 – 130	30
Benzene	5.0	30	70 – 130	30
Bromobenzene	5.0	30	70 – 130	30
Bromodichloromethane	5.0	30	70 – 130	30
Bromoform	5.0	30	70 – 130	30
Butylbenzene	5.0	30	70 – 130	30
Carbon Tetrachloride	5.0	30	70 – 130	30
Chlorobenzene	5.0	30	70 – 130	30
Chloroform	5.0	30	70 – 130	30
cis-1,3-Dichloropropene	5.0	30	70 – 130	30
cis-1,4-Dichloro-2-butene	5.0	30	70 – 130	30
Cumene	5.0	30	70 – 130	30
Dibromochloromethane	5.0	30	70 – 130	30
Dibromomethane	5.0	30	70 – 130	30
Ethylbenzene	5.0	30	70 – 130	30
Ethylene Dibromide	5.0	30	70 – 130	30
Hexachlorbutadiene	5.0	30	70 – 130	30
Naphthalene	5.0	30	70 – 130	30
m,p-Xylene	10	30	70 – 130	30
o-Xylene	5.0	30	70 – 130	30
p-Cymene	5.0	30	70 – 130	30
Propylbenzene	5.0	30	70 – 130	30
sec-Butylbenzene	5.0	30	70 – 130	30

Styrene	5.0	30	70 – 130	30
tert-Butylbenzene	5.0	30	70 – 130	30
Tetrachloroethene	5.0	30	70 – 130	30
Toluene	5.0	30	70 – 130	30
trans-1,3-Dichloropropene	5.0	30	70 – 130	30
trans-1,4-Dichloro-2-butene	5.0	30	70 – 130	30
Trichloroethene	5.0	30	70 – 130	30

Table 6-15.7. Internal Standard Recovery Limits Limits (Tenax GR/TA)

Analyte	CCV IS (%R)	Sample IS (%R)
1,4-Dichlorobenzene-d_4	50 – 200	60 – 140
Chlorobenzene-d_5	50 – 200	60 – 140
Fluorobenzene	50 – 200	60 – 140

Table 6-15.8. Surrogate Recovery (Tenax GR/TA)

Analyte	Accuracy (%R)
1,2-Dichloroethane-d_4	70 – 130
4-Bromofluorobenzene	70 – 130
Dibromofluoromethane	70 – 130
Naphthalene-d8 (optional)	70 – 130

Table 6-15.9. TO-17 TPH External Calibration (Tenax GR/TA)

Analytes	**Reporting Limit (ng)**	**Acceptance Criteria**		
		ICAL (%RSD)	**LCS (% R)**	**CCV**
Mineral Spirits (C9 – C12 range)	500	30	70 – 130	30
Surrogates	**% Recovery**			
Chlorobenzene-d5 Naphthalene – d8	70 – 140 70 - 140			
Analytes	**Reporting Limit (ng)**	**Acceptance Criteria**		
		ICAL (%RSD)	**LCS (% R)**	**CCV**
Diesel	1000	30	70 – 130	30
Surrogates	**% Recovery**			
Toluene-d8 4-Bromofluorobenzene Naphthalene – d8	70 – 140 70 - 140 70 - 140			

Table 6-15.10. TO-17 (Tenax TA - Passive)

Analytes	**Reporting Limit (ng)**	**Acceptance Criteria**		
		ICAL (%RSD)	**LCS (% R)**	**CCV**
Benzene	5.0	30	70 – 130	30
Toluene	5.0	30	70 – 130	30
Ethyl benzene	1.0	30	70 – 130	30
M,p-xylene	2.0	30	70 – 130	30

o-Xylene	1.0	30	70 – 130	30
Trichloroethene	1.0	30	70 – 130	30
Tetrachloroethene	1.0	30	70 – 130	30
Cis-1,2-Dichloroethene	1.0	30	70 – 130	30
Trans-1,2-Dichloroethene	1.0	30	70 – 130	30
1,1-Dichloroethene	1.0	30	70-130	30
Internal Standards				
Analyte	**CCV IS % Recovery**		**Sample IS % Recovery**	
1,4-Dichlorobenzene-d_4	50 – 200		60 – 140	
Chlorobenzene-d_5	50 – 200		60 – 140	
Fluorobenzene	50 – 200		60 – 140	
Surrogates				
Analyte	**% Recovery**			
1,2-Dichloroethane-d_4	70 – 130			
4-Bromofluorobenzene	70 – 130			
Dibromofluoromethane	70 – 130			

Table 6-15-11. TO-17 (Tenax GR-SVOC)

Analytes	Reporting Limit (ng)	Acceptance Criteria		
		ICAL (%RSD)	LCS (% R)	CCV
Naphthalene	5.0	30	70 – 130	30
2-Methylnaphthalene	5.0	30	70 – 130	30
Acenaphthylene	5.0	30	70 – 130	30
Acenaphthene	5.0	30	70 – 130	30
Fluorene	5.0	30	70 – 130	30
Phenanthrene	5.0	30	70 – 130	30
Anthracene	5.0	30	70 – 130	30
Fluoranthene	5.0	30	70 – 130	30
Pyrene	10	30	70 – 130	30
Internal Standards				
Analyte	**CCV IS % Recovery**		**Sample IS % Recovery**	
Naphthalene-d8	50 – 200		60 – 140	
Acenaphthene-d10	50 – 200		60 – 140	
Phenanthrene-d10	50 – 200		60 – 140	
Surrogates				
Analyte	**% Recovery**			
Fluorene-d10	70 – 130			
Pyrene-d10	70 – 130			

Table 6-15.12. Summary of Calibration and QC Procedures for Method TO-17 (Volatile Organic Compounds)

QC Check	Minimum Frequency	Acceptance Criteria	Corrective Action
Tuning Criteria	Every 24 hours, or every 12 hours if project requires.	SW - 846 tune criteria.	Correct problem then repeat tune.
5-Point Calibration	Prior to sample Analysis.	%RSD ≤ 30%, 2 allowed out up to 40%	Correct problem then repeat Initial Calibration Curve.
LCS	After each initial Calibration Curve and daily prior to analysis.	Recovery 70- 130% or 50- 150% as noted in Table 6-15.3.	Check the system and reanalyze the standard. Re-prepare the standard if necessary. Re-calibrate the instrument if the criteria cannot be met.
Continuing Calibration Verification (CCV)	At the start of each day and, if required by a specific project, every 12 hours.	70 - 130 %	If project specified risk drivers exceed this criteria, more than 5% of the compounds exceed this criteria, or any VOC exceeds 50-150% recovery, maintenance is performed and the CCV test repeated. If the system still fails the CCV, perform a new 5-point Calibration Curve.
Laboratory Blank	After the CCV.	Results less than the RL.	Inspect the system and re-analyze the Blank.
Internal Standard (IS)	As each standard, Blank, and sample is being loaded.	**CCVs:** area counts 50% - 200%, RT w/in 30 sec of mid-point in ICAL. **Blanks and samples**: Retention time (RT) must be within ±0.33 minutes of the RT in the CCV. The IS area must be within ±40% of the CCV's IS area for the Blanks and samples.	**CCV:** inspect and correct system prior to sample analysis. **Blanks:** inspect the system and re-analyze the Blank. **Samples:** samples cannot be re-analyzed due to the nature of the sorbent cartridges. However investigate the problem by reviewing the data. If necessary, run a Lab Blank to check the instrument performance. Report the data and narrate.
Surrogates	As each standard, Blank, and sample is being loaded.	70 – 130%.	**For blanks:** inspect the system and re-analyze the Blank. **For samples:** samples cannot be re-analyzed due to the nature of sorbent cartridges. However investigate the problem by reviewing the data. If necessary, run a Lab Blank to check the instrument performance. Report the data and narrate the problem.

6.16 ANALYSIS OF C2-C5 HYDROCARBONS BY GC/FID

This section describes the use of modified EPA Method TO-14A to determine the concentration of Highly Reactive Volatile Organic Compounds (HRVOC) in air using an evacuated Silonite or Summa canister, or a Tedlar bag.
Up to 40 mL of sample is withdrawn from a canister or Tedlar bag using a gas-tight syringe, and is injected directly into a sorbent based focusing interface. The sample is then flash-heated through a de-humidification system that removes background moisture from the sample stream.

The sample stream is then split into two directions: (1) Analysis of Volatile Organic Compounds by full scan GC/MS mode, (2) Analysis of C2-C5 hydrocarbons by GC/FID. In one analytical run, this configuration is capable of analyzing individual volatile organic compounds as well as C2-C5 hydrocarbons. Since each application is independently calibrated, procedures, QC requirements, and method modifications are referenced in Section 6.10 for TO-14A/TO-15 full scan analysis by GC/MS direct inject. The procedures described in this section are specific for the analysis of C2-C5 hydrocarbons by GC/FID.

Air Toxics Ltd. performs a modified version of this method. The method modifications, standard target analyte list, Limit of Quantitation, QC criteria, and QC summary can be found in the following tables.

Table 6.16-1. Summary of Method Modifications

Requirement	TO-14A	Air Toxics Ltd. Modifications
Sample Drying System	Nafion Drier.	Multi-sorbent.
Sample load volume	400 mL.	Up to 40 mL.
Blank acceptance criteria	< 0.2 ppbv.	< RL.
Dilutions for initial calibration	Dynamic dilutions or static using canisters.	Syringe dilutions, bag dilutions.
Sample collection media	Summa canister.	Air Toxics Ltd. recommends use of summa canisters to insure data defensibility, but will report results from Tedlar bags at client request.
RT window study	Mean +/- 3 X STD within 72 hours.	+/- 0.08 mins (Mean+/-3X STD <0.08).

Table 6.16-2. Modified TO-14A HRVOC by GC/FID Direct Injection (Standard List of Analytes)

Analyte	RL (ppbv)	QA Acceptance Criteria	
		Accuracy Limits (%R)	Precision Limits (Max. RPD)
Ethane	5.0	70 - 130	≤ 25
Ethene	5.0	70 - 130	≤ 25
Propane	5.0	70 - 130	≤ 25
Propene	5.0	70 - 130	≤ 25
Acetylene	5.0	70 - 130	≤ 25
Isobutane	2.0	70 - 130	≤ 25
Butane	2.0	70 - 130	≤ 25
trans-2-Butene	2.0	70 - 130	≤ 25
1-Butene	2.0	70 - 130	≤ 25
Isobutylene	2.0	70 - 130	≤ 25
cis-2-Butene	2.0	70 - 130	≤ 25
Isopentane	2.0	70 - 130	≤ 25
Pentane	2.0	70 - 130	≤ 25
1,3-Butadiene	2.0	70 - 130	≤ 25
NMOC	25	70 - 130	≤ 25

Table 6.16-3. Summary of Calibration and QC procedures

QC Check	Minimum Frequency	Acceptance Criteria	Corrective Action
3 Point (min) Calibration	Prior to sample analysis.	%RSD ≤ 30%.	Correct problem then repeat Initial Calibration.
Lab Control Standard (LCS)	With each ICAL and each analytical batch.	± 30%R.	Investigate the problem and, if warranted, analyze a new analytical curve.
Continuing Calibration Verification (CCV)	At the start and end of each analytical batch, or every twenty samples.	%D ≤ 30%.	Perform maintenance and repeat tests, or re-calibrate instrument.
Laboratory Blank	After the standards and before samples.	Results less than the laboratory RL.	Inspect the system and re-analyze the blank. Perform maintenance or report with a B flag.
Laboratory Duplicates	10% of the samples.	RPD ≤ 25% for compounds detected at >5X RL.	Investigate and correct problem. Otherwise, narrate the non-conforming event.

6.17 SULFURHEXAFLUORIDE (SF6) BY SINGLE OR DUAL COLUMN GC

This method is generally applied to the analysis of landfill gas, soil gas and industrial and other sources and is typically designed for sub ppbv to ppmv level concentrations. The method involves the use of either an Electron Capture Detector (ECD) or Sulfur Chemiluminescence Detector (SCD) depending on the expected analyte concentration in the matrix.

Analysis using the ECD will provide a Limit of Quantitation of 0.2 ppbv. It involves direct injection of a 2 mL sample onto dual GC columns configured in series. This assures separation of SF6 from associated hydrocarbons or other interfering material that may be present in the matrix. The SCD method has a Limit of Quantitation of 10 ppbv and involves direct injection of a 1 mL sample onto a single GC column.

Table 6.17-1. Sulfurhexafluoride LOQ and QC

Analyte	RL (ppbv)	Low Point Of the Curve (ppbv)	Acceptance Criteria		
			ICAL (% RSD)	LCS/ CCV/End Check (% R)	Precision (% RPD)
Sulfurhexafluoride (ECD)	0.2	0.2	≤ 30	70 - 130	≤ 25
Sulfurhexafluoride (SCD)	10	10	≤ 30	70 - 130	≤ 25

Table 6.17-2. Summary of Calibration and QC Procedures for Sulfurhexafluoride by GC

QC Check	Minimum Frequency	Acceptance Criteria	Corrective Action
Min. Five Point Calibration	Prior to sample analysis.	% RSD ≤ 30.	Repeat the calibration.
Second Source Verification (LCS)	With each Initial Calibration; with each analytical batch.	70 – 130 % of the expected value.	Check the system and re-analyze the standard. Re-calibrate the instrument if the criteria cannot be met.
Continuing Calibration Verification	Daily prior to sample analysis, and after every 20 samples.	70 – 130 % of the expected value.	Check the system and re-analyze the standard. Re-calibrate the instrument if the criteria cannot be met.
Laboratory Blank	Daily.	Results less than the laboratory RL.	Inspect the system and re-analyze the Laboratory Blank.
End Check	At the end of analytical sequence.	70 - 130 % of the expected value.	Check system and re-analyze the standard. If the 2nd analysis fails, identify and correct the problem. All suspect samples are re-analyzed.

6.18 ANALYSIS OF C2-C12 HYDROCARBONS USING PAMS METHOD GC/FID/FID

The method is developed and based on EPA Method 600-R-98/161 (Technical Assistance Document for Sampling and Analysis of Ozone Precursors). This method identifies and quantifies volatile organic compounds (VOCs) that play a critical role in the photochemical formation of ozone in the atmosphere. These non-polar VOCs range in volatility from C_2 to C_{12} and are comprised of aromatics, olefins, and paraffins. Up to 50 mL of sample is introduced into a GC system from a SUMMA canister or a Tedlar bag using a Mass Flow Controller and a vacuum system. A digital meter readout provides a visual indication of the sample flow during sampling. The sample is focused onto an Air Toxics Ltd. designed sorbent-based interface. The concentrated sample is then flash heated through a de-humidification system that removes background moisture from the sample stream. The sample stream is then split into two directions and analyzed by a dual-column and dual-FID detector GC system.

Table 6.18-1 Standard List of Controlled Compounds

Analyte	Accuracy Limits (%R)
Ethane	80-120
Propane	80-120
Propene	80-120
Isobutane	80-120
Butane	80-120
Isobutene or 1-butene	80-120
Isopentane	80-120
n-Pentane	80-120
1-Pentene	80-120
n-Hexane	80-120
Benzene	80-120
n-Octane	80-120
Toluene	80-120
o-Xylene	80-120
n-Decane	80-120

Table 6.18-2. Standard List of Analytes (AL-2O3/KCL Column)

Analyte		QA Acceptance Criteria	
	RL PpbC (LOQ)	Accuracy Limits (%R)	Precision Limits (Max. RPD)
Ethane *	10	80-120	≤ 25
Ethene	10	NA	≤ 25
Propane*	10	80-120	≤ 25
Propene*	10	80-120	≤ 25
Isobutane*	10	80-120	≤ 25
Acetylene	10	NA	≤ 25
Butane*	10	80-120	≤ 25
Trans-2-butene	10	NA	≤ 25
1-Butene*	10	80-120	≤ 25
Cis-2-Butene	10	NA	≤ 25
Cyclopentane	10	NA	≤ 25
Isopentane*	10	80-120	≤ 25
Pentane*	10	80-120	≤ 25
1,3-Butadiene	10	NA	≤ 25
Trans-2-Pentene	10	NA	≤ 25
1-Pentene*	10	80-120	≤ 25
Cis-2-Pentene	10	NA	≤ 25
2,2-Dimethylbutane	10	NA	≤ 25
2,3-Dimethylbutane	10	NA	≤ 25
Isoprene	10	NA	≤ 25
2-Methylpentane	10	NA	≤ 25
3-Methylpentane	10	NA	≤ 25

* *controlled analytes*

Table 6.18-3. Standard List of Analytes (RTX-1 Column)

Analyte	RL PpbC (LOQ)	QA Acceptance Criteria	
		Accuracy Limits (%R)	Precision Limits (Max. RPD)
1-Hexene	10	NA	≤ 25
Hexane*	10	80-120	≤ 25
Methylcyclopentane/2,4-Dimethylpentane	10	NA	≤ 25
Benzene*	10	80-120	≤ 25
Cyclohexane	10	NA	≤ 25
2-Methylhexane/2,3-Dimethylpentane	10	NA	≤ 25
3-Methylhexane	10	NA	≤ 25
2,2,4-Trimethylpentane	10	NA	≤ 25
Heptane	10	NA	≤ 25
Methylcyclohexane	10	NA	≤ 25
2,3,4-Trimethylpentane	10	NA	≤ 25
Toluene*	10	80-120	≤ 25
2-Methylheptane	10	NA	≤ 25
3-Methylheptane	10	NA	≤ 25
Octane*	10	80-120	≤ 25
Ethylbenzene	10	NA	≤ 25
m,p-Xylene	10	NA	≤ 25
Styrene	10	NA	≤ 25
o-Xylene*	10	80-120	≤ 25
Nonane	10	NA	≤ 25
Cumene	10	NA	≤ 25
n-Propylbenzene	10	NA	≤ 25
m,p-Ethyltoluene	10	NA	≤ 25
1,3,5-Trimethylbenzene	10	NA	≤ 25
o-Ethyltoluene	10	NA	≤ 25
1,2,4-Trimethylbenzene	10	NA	≤ 25
Decane*	10	80-120	≤ 25
1,2,3-Trimethylbenzene	10	NA	≤ 25
m-Diethylbenzene	10	NA	≤ 25
p-Diethylbenzene	10	NA	≤ 25
Undecane	10	NA	≤ 25

** controlled analytes*

Analyte	RL PpbC (LOQ)	QA Acceptance Criteria	
		Accuracy Limits (%R)	Precision Limits (Max. RPD)
NMOC	**20**	**NA**	**< 25%**

Table 6.18-4. Summary of Calibration and QC Procedures for PAMS Hydrocarbons

QC Check	Minimum Frequency	Acceptance Criteria	Corrective Action
Pre-measurement Chromatographic system Verification	During initial setup, a minimum of 3 Retention Time standards containing all target VOCs, analyzed over a period of days to establish retention time windows for each components.	RT drift must be less than 0.1 minutes.	Correct the problem, re-calibrate the analytical system.
Method Detection Limits	Annually, using 40CFR, Part 136, Appendix B.	Must meet the DQO limit.	Re-evaluate and improve the system. Repeat the study.
ICAL	Prior to sample analysis, and when major system maintenance is performed. Use primary calibration standard, containing propane and benzene. Analyze a minimum of three points to bracket the calibration range. Generate per Carbon response factor for each column.	Correlation coefficient 0.995.	Repeat individual standard analysis. Correct system problem if any. Re-prepare standards and repeat Initial Calibration.
LCS	Contain analytes listed as controlled in Tables 6.18-2 and 6.18-3 Analyzed after each calibration curve.	Recoveries must be within ± 20%D.	Repeat sample analysis. Investigate the problem and if warranted, analyze a new analytical curve.
Continuing Calibration Verification (CCV)	Daily mid-point standard before sample analysis.	RF within 10% RPD of calibration curve average RF.	Repeat sample analysis. Perform maintenance and or re-calibrate instrument.
Retention time standard containing all target VOCs	Daily before sample analysis.	Retention time is used for daily RT calibration. Recovery of Table 18-1. analytes must be 80-120%.	Repeat sample analysis. Perform maintenance and or re-calibrate instrument.
System Background and Carry-over check (Humid zero air)	Daily. After the standards and before samples, and whenever a sample exceeds the established carryover limit.	Less than 20 ppbC total or less than 10 ppbC per column.	Repeat analysis, check system for leaks, clean system with humid air, condition sample trap. Re-analyze system blank.
Canister cleaning certification	All canisters prior to use.	Less than 10ppbC total.	Re-clean canister and re-certify.
Field Duplicate	10% of field sample.	RPD $\leq$ 25% for compounds detected at >5X RL or per DQO.	None in the Lab.
Laboratory Duplicates	10 % of samples.	RPD $\leq$ 25% for compounds detected at >5X RL or per DQO.	Re-analyze the sample for a third time. If it fails again, investigate the cause and correct problem. Otherwise, narrate the non-conforming event.

7.0 DATA COLLECTION, REVIEW, REPORTING, AND RECORDS

7.1 DATA COLLECTION

All analytical results are generated from the instrument software. Data is acquired using a PC/Windows based platform. Data processing occurs on a UNIX based network system. Desktop PCs configured with HP Chemstation software acquire the sample analysis results. Once the acquisition is complete, a post-run macro automatically transfers the raw data files from the hard drive of the acquisition PC to the UNIX server. The UNIX server is a HP D390 server with a full RAID system. This fault tolerant server is configured to manage hot-swappable hard drives and memory cards to avoid any serious downtime. This server is configured with HP-UX 10.2, Thermo Lab Systems Target Software, and Omniback software.

All sample data is stored and processed on the UNIX server. Access to this server is limited based on the privileges associated with the users' passwords. Only the Systems Administrator and the IT Manager maintain full access to the system (which includes exclusive privilege for the adjustment of acquisition station clock times). The system servers are physically located in a secured office, which is locked during off-hours. The data stored on the UNIX server is backed up nightly, weekly, and monthly using a modified grandfather-father-son (GFS) backup rotation. All permanent backup tapes are stored in a secure fireproof safe.

Data reduction of analytical files is accomplished using Thermo Lab Systems' Target software, which allows for complete traceability of the data results. Additionally, multiple permanent records of the data reduction files are maintained through the data back up procedures, minimizing the threat of any lost data trail evidence. Chemists must login to the data reduction software using a unique password in order to access and work with the sample data files. Once the chemists have successfully logged-in to the working environment, all of their activities are tracked and logged by the Target software's electronic assessment trail. The assessment trail file is a tamper proof record of each event that occurred with the data file. The assessment history for a data file contains:

- Date of Change
- Time of Change
- Name of User who made the Change
- Parameter Changed
- Old Value
- New Value
- Reason for Change (if applicable)

The assessment trail file is completely secure within the Target software and cannot be modified or deleted by any user. A hardcopy of the sample assessment trail can be provided upon request for specialized data validation packages. Whenever an electronic raw data assessment is requested, the assessment trail file is automatically included.

Once data reduction is complete, the Scientist or Analyst transfers a copy of the sample results file along with all associated batch QC results into the laboratory's SQL database from which reports are ultimately generated.

7.2 DATA REVIEW

Following analysis, the bench chemist verifies that the computer generated data reduction is correct using the Data Review Checklist (Exhibit 7.2). There are five categories of data review performed in the laboratory.

These categories include:

I. <u>Analytical review performed by the bench reporting chemist.</u> This review includes a review of raw data, verification of all method and project specific QC requirements, the addition of data qualifier

flags when needed, and documentation of any unusual circumstances.

II. Technical review performed by team leader or QA-approved peer e.g., analysts who have demonstrated proficiency. This is the same type of review performed in Category I, however, it may be performed either by the same person that performed the analysis or by a second individual if specified by the project profile.

III. QA review performed by a quality assurance specialist. This review is similar to that performed in Categories I and II, however is done with an emphasis on overall quality of the data and verification that standard quality assurance systems are functioning. Data integrity surveillance checks are performed at this level.

IV. Management review by a Director, Department Manager, Team Leader or approved peer. This is a review to ensure the accuracy of the final hardcopy or electronic report. Data integrity surveillance checks are performed at this level.

V. Electronic deliverable review. This review is performed when electronic data deliverables are requested. This review ensures the accuracy of the final electronic report.

Regardless of the TAT, categories I, II, and IV (or I, II, and V if only electronic reporting is requested) are performed on every data package. As noted earlier analysts who have demonstrated proficiency may perform a category II review. Clients requesting 100% QA review of their data packages receive category III review. Some clients request that 100% of their final data packages undergo an additional review. The review in this case is performed by the team leader, QA-approved peer, or QA personnel. Technical peer review (Category II), must be performed by a different individual than the original analyst, even when that person has the classification of scientist or higher. A request for Technical peer review shall be documented in the project profile.

7.3 FINAL REPORT PRODUCTION

7.3.1 Automatic Data Transfer (ADT) System

Most data reports are created using ADT from the analytical instrument to a custom-reporting module. Approved bench analysts on each team review the raw data at the instrument and then transfer a copy of the sample results file electronically through a network server to the main database. Once in the database, the data results are automatically formatted into pre-designed method templates using the reporting module. The method templates are designed at sample login and a review copy is faxed for client approval prior to reporting. Analysts/Scientists on each analytical team, batch samples results with QA results and any additional information such as any sample duplicates or re-analysis.

7.3.2 Manual Data Entry System

Results that cannot be reported using the ADT system are manually entered into a validated, pre-programmed EXCEL spreadsheet. The final report is thoroughly reviewed by an approved team member.

7.3.3 Report Compilation

Data reports are designed to include all necessary information which would be required for traceability including:

- Analytical laboratory name, address, and phone number
- Name and address of the client
- Project name or number (title)
- Total number of pages
- Sample field I.D. number

- Laboratory I.D. number
- Receipt pressure
- Dates of collection and receipt
- Date of extraction (if applicable)
- Date and time of analysis
- Applicable method reference
- Instrument number
- Analytical run file name
- Analyte list
- Dilution factor
- Reporting Limit
- Amount detected in units specified
- Surrogate percent recovery
- Laboratory Director signature
- Chain-of-Custody Record

Each report contains a comprehensive Laboratory Narrative which describes the number of samples received in that batch, any abnormal receipt conditions, any deviations from method specific hold times, the analytical method used, any modifications taken by the lab to the referenced method, and any deviations from standard protocol experienced during sample receiving and analysis. Expected and unexpected deviations that may occur during the analysis of the samples are contained in template format. The Narrative is unambiguous and clearly defines both the nature and substance of the variation.

The QA Manager is responsible for creating, and publishing the templates on a secured and shared network drive. The laboratory staff copies appropriate portions of the template into the Laboratory Narrative document. This approach standardizes the language used in the narratives. The narrative is reviewed using the check sheet in Exhibit 7.2.

The final report is compiled in such a fashion that each subsection is unambiguous and inseparable from the body of the report. A unique page number appears on every page of the report. The estimated uncertainty of the test results may be included on the report at client request (see Section 8.4).

After all QC results have been reviewed and any deviations from the acceptance criteria are noted in the Laboratory Narrative section of the report, the Laboratory Director, Department Managers, Team/Task Leaders or Scientists who are approved by the QA Department for relevant analytical procedures may apply an electronic signature to the final reports. The electronic signature on the report cover page means that the signatory accepts responsibility for the accuracy and completeness of the data generated. The approved signatory corresponds to the Chief Executive Officer. The QA manager keeps a log of the approved applicators of electronic signature to final reports, and ensures that each applicator has the necessary education and experience.

Application of the electronic signature will automatically lock the workorder thus preventing changes to the original report. If amendments are required due to omissions, errors or additional requests a workorder reissue is initiated. All reissues receive a unique workorder number to distinguish them from the original issue. Reissued reports require a reason for the reissue and date of the reissue in the Laboratory Narrative. The laboratory maintains all supporting documentation for the revision including corrections, additions, or deletions relative to the original report.

7.4 ELECTRONIC REPORTING AND REVIEW

The ATLAS Electronic Diskette Deliverable (EDD) software allows the user to create EDDs in the ATL standard format and more complex custom/client-specific formats. The ATLAS EDD software uses the data from the SQL database for these deliverables, while allowing the users to add custom fields when necessary. The laboratory can produce ERPIMS, JEMS, IRDMIS, and COELT deliverables. The ATL standard EDD format

is delivered in Excel (.xls) format. Other client-specific formats can also be generated.

7.5 eCVP/EDD and Reporting in Adobe Format or Diskette

eCVP refers to the electronic conversion of laboratory data compiled as a Comprehensive Validation Package in Adobe Acrobat Portable Document Format (.pdf) and archival onto CD-ROM. The eCVP simultaneously meets the requirements of a Level III or IV data validation package. Adobe Corporation's .pdf documents are an exact replica of the original document, but are smaller in file size than the original document format, thereby reducing the amount of storage space required. Adobe Acrobat .pdf provides a convenient way to view and print images at high resolution. The .pdf document is then recorded onto read-only compact discs (CD). The digital information on this type of disc is injection-molded into the substrate against an aluminum reflective coating. The CDs are then archived.

In addition, Electronic Data Deliverables (EDD) can be generated on diskette or as a compressed WinZip file according to client specifications. An EDD is a flat file (i.e., a spreadsheet with data in fields and records) that can be imported easily by most database management system (DBMS) software. Air Toxics' standard EDD fields are summarized in Table 1. The EDD is created in Microsoft Excel® and converted to a comma delimited (.csv) format.

Table 1. ATL DISKETTE DELIVERABLE STANDARD FORMAT

FIELD NAMES	FORMAT	WIDTH
LABSAMPLEID	CHAR	15
LABCODE	CHAR	3
MATRIX	CHAR	3
METHOD	CHAR	10
CLIENTSAMPID	CHAR	15
SAMPDATE	DATE	8
ANALDATE	DATE	8
ANALTIME	TIME	4
LABCTLID	CHAR	8
DILUTION	NUMBER	5
REPLMT	NUMBER	5
UNITS	CHAR	4
RESULTS	NUMBER	5
DATAFLAGS	CHAR	2
COMPOUND NAME	CHAR	40
CAS#	CHAR	12
COMMENTS	CHAR	50

LABSAMPLEID: Sample identifier assigned by ATL.
LABCODE: Laboratory identifier (ATL).
MATRIX: Sample Matrix.
METHOD: Analytical method of analysis.
CLIENTSAMPID: Sample identifier from Chain of Custody.
SAMPDATE: The date the sample was collected.
ANALDATE: The date the sample was analyzed.
ANALTIME: The time the sample was analyzed.
LABCTLID: Laboratory batch number.
DILUTION: Dilution factor.
REPLMT: Detection limit for sample.
UNITS: Reporting units of measure.
RESULTS: Parameter value or result.
DATAFLAGS: Data qualifiers.
COMPOUND NAME: The name of each compound analyzed.
CAS#: The CAS registry number for each compound.
COMMENTS: General comments field.

Exhibit 7.1. Example eCVP Cover Page

AIR TOXICS LTD.

AN ENVIRONMENTAL ANALYTICAL LABORATORY

COMPREHENSIVE VALIDATION PACKAGE

Modified TO-15

INVENTORY SHEET

Work Order #: 0605678

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g. Variance Table	--	--
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Comments:

Completed by:

Theresa Laflesh	Theresa Laflesh / Document Control	6/15/06
(Signature)	(Print Name & Title)	(Date)

7.6 RECORDS OF METHOD CAPABILITY

Prior to sample analysis, the laboratory must demonstrate the ability to meet method accuracy and precision objectives. This is accomplished through an initial multi-point calibration, analysis of four consecutive second source check standards, and completion of a Limit of Detection (MDL) study. The mean recovery for each target analyte must be within current laboratory generated control limits with regard to test and compound. Following this initial set-up, there is a continuing requirement for the demonstration of method capability any time the equipment undergoes significant change, such as different column phase and different concentrator design. Records of these tests are kept for a period of at least 5 years.

There is also a requirement for personnel involved with sample analysis to demonstrate both initial capability and on-going proficiency in the specific test method. Staff proficiency is accomplished by analyzing any of the following:

- Analysis of four replicate second source check standards either on the same day or on four separate days.

- Successful completion of an independent PT sample (can be used for both initial and on-going proficiency).

The demonstration of capability is considered acceptable if the accuracy and precision objectives of the test method are met. Demonstration of proficiency must occur at least once per year to be considered current. Personnel may not proceed with sample analysis unless the demonstration of proficiency is current. Documentation of method proficiency is kept in each analyst's training record. Documentation must be kept for a period of 5 years. The 'Demonstration of Capability Certification Statement' is completed each time a demonstration of proficiency study is completed and appears in the analyst's training record along with the relevant raw data summary.

As mentioned previously, the Continuing Demonstration of Proficiency is required on a yearly basis. The scientist/analyst is required to perform 4 consecutive LCS analyses, or if this is not possible due to the nature of the work assignment schedule, such as working second shift, a duplicate analysis paired with another analyst's or scientist's results that demonstrate acceptable %RPD will be acceptable. Successful completion of an independent PT sample is also acceptable.

7.7 RECORD STORAGE

The laboratory has a system for record storage such that historical reconstruction of all activities can be made. Raw data includes:

- Instrument run logs
- Instrument calibrations
- Data acquisition files
- Assessment trails
- Manual and spreadsheet calculations
- Date of analysis
- Instrument used
- Sample chain of custody
- Analyst initials and date
- Data review checklists
- Corrective action reports

The laboratory also maintains files dealing with client correspondence. The Client Contact database stores the date and time of the contact along with a brief summary of the conversation and any decisions made affecting sample status. When a decision is made to proceed with analysis of compromised samples, the contact is logged into the database and a note is made on the Sample Discrepancy Log. Both the electronic and hardcopy files are maintained for a period of at least 5 years. Additional project management information stored includes:

- The Project Profile
- Client contact database
- Correspondence relating to sample disposition
- Contracts
- SOWs and/or QAPPs

The laboratory maintains electronic and hardcopy reports, as well as supporting information including calibrations, Limit of Detection (MDL) studies, logbooks, and SOPs for a minimum of 5 years. Records stored on electronic media are supported by both hardware and software necessary for retrieval. If the laboratory changes ownership, then responsibility for file storage transfers to the new entity. If the laboratory were to close its doors entirely, then allowance would be made to return files to those clients who contact the laboratory within 30 days of when notice is given. Under either scenario, the transfer of ownership notice would be provided to clients through the NELAP national database and on the ATL web page.

The record keeping system allows for historical reconstruction of all laboratory activities from sample receipt to reporting. The record system includes:

- The identity of personnel involved in sample receiving, preparation, calibration, and analysis.

- A log of names, initials, and signatures for individuals who are responsible for signing or initialing any laboratory record.

- A unique identifier for each piece of equipment used.

- Initials and date for responsible staff at each step in the analytical process.

- Direct, prompt, and legible manual recording in bound logs using permanent black ink.

- Entries in logs that are not obliterated by erasures, over-writing, or markings. All corrections are made by single line strike out of the error. Each strike out is initialed and dated by the person making the correction. Any items, such as computer generated logs or spreadsheets that are pasted into the bound logbook, have initials and date appearing across the item boundary in such a fashion that removal is apparent.

- Records generated by a computer have either hardcopy or write protected back-up copy.

- The QA Department creates and tracks all logbooks throughout their lifetime. Each logbook contains a new logbook request form which is filled out by laboratory personnel and submitted to the QA Department. QA personnel create the logbook by first entering the new logbook into the Inventory Database. This database contains information such as the Book #, its Title, the person's initials and date that created the logbook, the start date, the date it was finished being used and the Location of the logbook. Once the necessary information is entered into the database, the logbook is created and given to either the team/task leader or the person that submitted the request. When the logbook is completed or no longer in use, it is submitted to the QA Department. QA personnel update the Inventory Database with the finished date, the location and the logbook is archived.

7.8 CONFIDENTIALITY OF DATA

The data generated by analyzing a sample is considered to be the property of the entity appearing in the **"BILL TO:"** field of the work order request unless other contractual arrangements have been made. Accordingly, that data is treated as confidential information and released only to that client, as identified

by associated contractual agreements unless written permission is given to proceed otherwise. All data generated under NELAP related fields of testing shall be made available to recognized agents of any laboratory accrediting authority for purposes of inspection and verification during an onsite visit. Clients will not be notified when the accrediting authority reviews data during the normal course of the onsite assessment. Clients will be notified any time a request is made by the accrediting authority to remove copies of sample files, either electronic or hardcopy, from the laboratory. Client written approval must be arranged prior to removal of the files from the laboratory unless the request is accompanied by appropriate court order. Both e-mail and facsimile data are treated as confidential by noting on the cover page:

"The information contained in this communication is confidential and intended only for the use of the individual or entity named above. Any other use, dissemination, distribution, or copying of this communication is prohibited. If you have received this communication in error, please notify us by telephone and return the original message to us via US mail."

Client confidentiality is observed in accordance with guidelines described in NELAC Chapter 5.5.10.6 (2003):

"The laboratory shall ensure that, where clients require transmission of test results by telephone, telex, facsimile or other electronic or electromagnetic means, staff will follow documented procedures that ensure the requirements of this Standard are met and that confidentiality is preserved."

Exhibit 7.2.

DATA REVIEW CHECKLIST Work Order #:

A	R	T	M	Q	
☐	☐	☐	☐	☐	Analysis/Reporting vs. Project Profile/SOP requirements checked (i.e. 100% Dups, J-Flag to MDL, etc)
	☐	☐	☐	☐	The final report has the correct reporting list, special units, and header info.
	☐	☐	☐	☐	Lab Narrative is correct (proper method & description/Receiving & Analytical notes correct)
☐	☐	☐	☐	☐	Corrective Action issued - #_____
☐	☐	☐	☐	☐	Unusual circumstances have been documented in the notes section below

LUMEN *validation report present and initialed* ***CIRCLE (YES / NO)***

☐	☐	☐	☐	☐	Lab Blank, CCV, LCS and DUP met QC criteria
☐	☐	☐	☐	☐	Hold time is met for all samples
	☐	☐	☐	☐	Appropriate data qualifier flags are applied
	☐	☐	☐	☐	Manual integrations for samples and QC are properly documented
☐	☐	☐		☐	Samples analyzed within the project or method specific clock
	☐	☐			Retention times have been verified
☐	☐	☐		☐	Appropriate ICAL(s) included
	☐	☐	☐	☐	At least one result per sample is verified against the target quant sheets/raw data
☐	☐	☐		☐	Dilution factor correctly calculated (sample load volume, syringe and bag dilutions, can pressurization(s))
☐	☐	☐			Correct amount of sample analyzed (i.e. sample not over-diluted)
	☐	☐			Spectra verified - documentation of spectral defense included (Section 5A of eCVP pkg)
	☐	☐			TICs resemble reference spectra
	☐	☐			TICs between duplicate samples are consistent
☐	☐	☐	☐		Checked samples for trends (i.e. Influent>Effluent, Landfill or Ambient etc)
	☐		☐		Special units for all samples in the final report are correctly calculated
	☐	☐	☐		Manually entered results checked (i.e. special CCV compounds)
	☐	☐	☐		TPH/NMOC (verify calculations and correct reference compound used)
	☐				Chain of Custody scanned correctly
				☐	Verify sample id's vs. chain of custody
☐	☐				Samples pressurized w/ appropriate gas (N_2 or He) ☐ Tedlar Bag only
☐	☐				Final pressure consistent with canister size (6L vs. 1L)
☐	☐				Verify receipt pressures against logbook and Target
☐	☐				Verify canister ID #'s
	☐		☐		Extra printed copies are provided per client profile
	☐		☐		Final invoice amount correct (adjusted for TAT, Penalties, Re-issue Charges etc.)
	☐	☐	☐	☐	Client LUMEN report reviewed for accuracy and completeness

Notes: *(to include: noting samples with QA/QC problems, Blanks with positive hits, narratives, etc.)*

A/R: _____

M/Q: _____

A (Analytical Review/Date)	R/T (Reporting Review/Date)	M (Management Review/Date)	Q (QA Review/Date)
_____	R: _____	_____	_____
	T: _____		

8.0 ESTABLISHING ACCEPTANCE CRITERIA

8.1 CONTROL CHART PROGRAM

Air Toxics Ltd. complies with guidance from ISO/IEC 17025:1999(E), Section 5.9, to determine quality control limits. This regulation suggests that statistical techniques may be used to detect trends, but does not mandate acceptance or rejection of analytical results based on use of historically derived control limits. Additionally, NELAP does not address the issue of control charting. Therefore, in accordance with ISO/IEC 17025:1999(E), Section 5.9, quality controls are in place to monitor validity of tests and calibrations only.

Historically derived control limits are generated twice annually by the QA Department, or whenever a procedure has been changed significantly. Control Limits may be updated less often (or not at all) for methods which are performed so infrequently that it is difficult or impossible to gather at least 20 data points. These limits, however, are not used to validate data unless required by specific client request.

8.2 ESTABLISHING CONTROL LIMITS

Control limits are generated from a minimum of 20 randomly chosen data points. The calculations used to establish and update these investigative limits include:

Upper Control Limit	= M	+3S
Lower Control Limit	= M	-3S
Upper Warning Limit	= M	+2S
Lower Warning Limit	= M	-2S

Where:

M: The population mean recovery of at least 20 points, and
S: The standard deviation of the population.

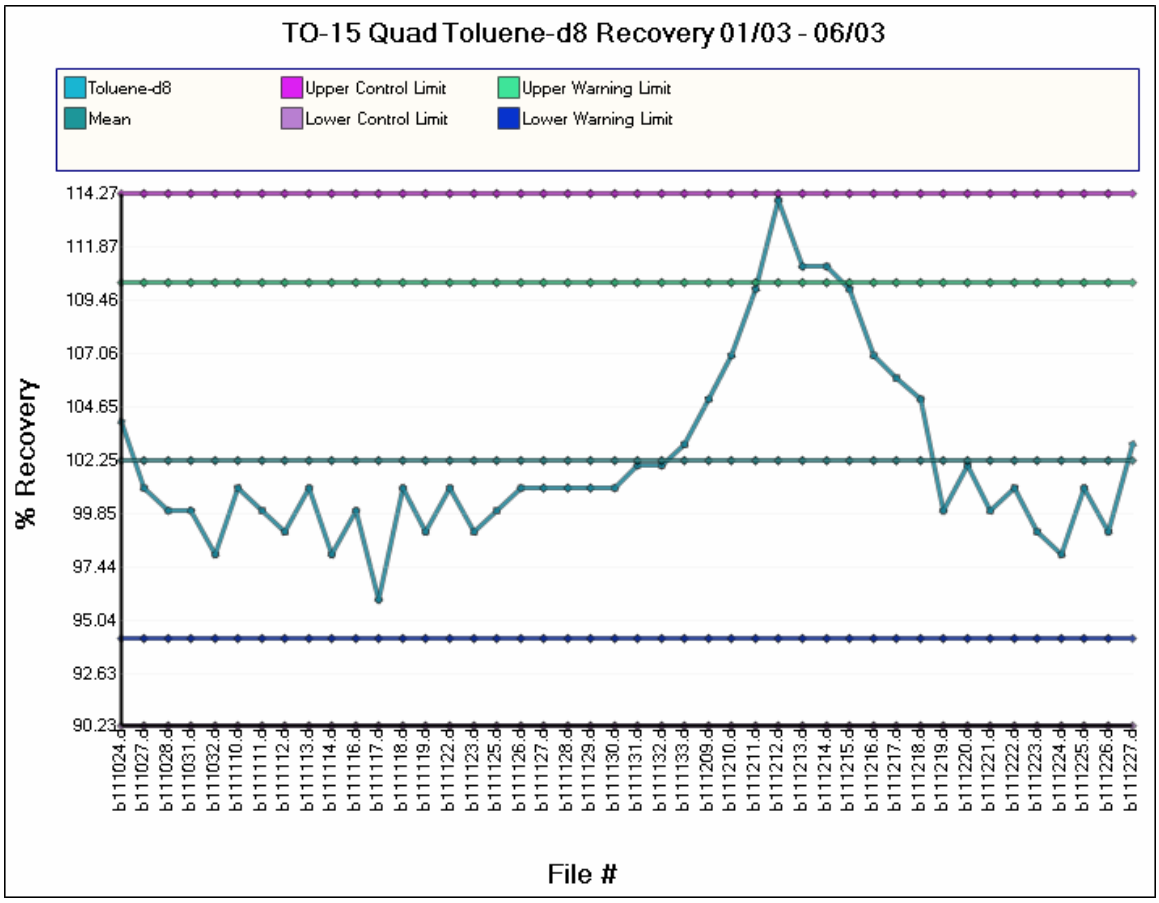
8.3 INTERPRETING CONTROL LIMITS

Calculated control limits based on historical data for surrogate and LCS recoveries are used to demonstrate statistical control and display method variability, and are not used to qualify actual sample recoveries. Additionally, control limits may not be representative of the analytical process if less than 20 points are generated for a given method. As a result, Air Toxics Ltd. uses the default limits prescribed for each method in the corresponding SOP and Section 6.0 of this document. Historically derived control limits are used to evaluate LCS or surrogate results only when requested by clients or certifying agencies.

8.4 MEASUREMENT UNCERTAINTY

Upon request from a client, Air Toxics Limited will report measurement uncertainty for a given analyte reported by a specific method. Measurement uncertainty is calculated as a function of historical LCS Control Limits (suggested by the American Association For Laboratory Accreditation Interim Policy on Measurement Uncertainty for Testing Laboratories, August 2000). This policy is valid for environmental test methods in which measurement uncertainty is not defined. Uncertainty is estimated using standard deviation of laboratory control samples of more than 20 points. Measurement uncertainty is estimated to the 95% confidence interval and expressed as ± 2X the standard deviation of the mean percent recovery of each given analyte. If 20 points do not exist from the current control limit calculation, the collection period may be expanded.

Exhibit 8.1. Control Chart



9.0 PREVENTIVE MAINTENANCE

The best form of preventive maintenance is to have good, new stuff and a lot of it. If the customer expectations for quality, turn around time, and price are to be met, then the instrumentation must be maintained in a fashion that supports the quality objective. The program is designed to adequately protect the laboratory from unexpected instrument failure and minimize scheduled instrument down time. Preventive maintenance consists of an on-going program of routine maintenance, service contracts, and a comprehensive inventory of spare parts.

The likelihood of unscheduled down time tends to increase as instrumentation ages. A three year lease term provides nearly optimum instrument life cycles. At the end of the lease term, the equipment will be exchanged for new models.

9.1 ROUTINE MAINTENANCE

The bench analyst monitors instruments for potential failure on a daily basis. The analysis of blanks and control standards at the start of the day and as analysis continues helps to provide real time feedback to the analyst on the condition of the instruments. Routine maintenance, specific to the various types of instruments, is covered in the method SOPs.

Any routine or major maintenance is documented in the bound maintenance logbook assigned to each instrument. The date of the maintenance, work performed, and analyst's initials are included.

If a malfunction occurs and control of the analytical system cannot be demonstrated using the QC parameters, discussed in section 4.3, the instrument is removed from production until analytical control can again be demonstrated.

9.2 SERVICE CONTRACTS

Some analytical systems are covered under manufacturer service agreements. These agreements cover all forms of hardware failure and include regular hardware upgrades as needed. The response time is guaranteed to be within 48 hours under the agreement and includes parts and labor.

Some contracts cover regularly scheduled routine maintenance. Leased instrumentation is similarly covered by service agreements either through the leasing agency or directly with the manufacturer.

In addition, the Technical Services group performs biannual (every six months) preventative maintenance on the mass spectrometers. These records are kept in the individual instrument's maintenance logbooks.

9.3 SPARE PARTS INVENTORY

A normal inventory of analytical consumable parts most frequently required is maintained in the laboratory. These parts are typically not covered by the service agreements and may take several weeks to acquire on an as needed basis. An inventory is required to minimize instrument down time and facilitate routine maintenance. An inventory of design parts is also maintained including:

- Stainless steel valves
- Tubing
- Various connecting nuts and ferrules
- Tools
- Flow controllers
- Flow sensors
- Electrical connectors
- Sheet metal
- Abundance of miscellaneous items
- Multipliers and other MS source parts

The laboratory invests a significant amount of money every year in lab/computer and research supplies.

9.4 CONTROL OF MISCELLANEOUS MONITORING, MEASURING, TESTING, AND DATA COLLECTION EQUIPMENT

In addition to the equipment used directly in the analysis of samples, ATL uses various other monitoring, measuring, testing, and data collection equipment. This equipment includes: analytical balances and weight sets, pressure gauges, flow meters, fume hood testing devices, thermometers, temperature and humidity recorders, mechanical volumetric devices, oven vacuum gauges, and sampling interface flow controllers. The procedures for ensuring the accuracy of the test equipment are summarized in the following sections. Additional information can be found in ATL Certification of Test Equipment SOP, #34, and Refrigerator and Freezer Temperature Monitoring SOP #19.

9.4.1 Analytical Balances and Weight Sets

The analytical balances are certified and serviced once a year by an independent balance maintenance company. A sticker is put on the side of the balance to indicate the date of certification and the company performing the certification. The certificates are maintained in the Quality Assurance (QA) Department. The certificate must indicate that the reference standards are traceable to NIST standards and indicate the tolerances of the balance.

In addition, each time a balance is used; it is first checked with Class 1 weights. The weights used must bracket the final amount being weighed. The result must be within acceptance criteria. If the acceptance criteria are not met, a Corrective Action Request (CAR) form is initiated and given to the QA Department. The balance and/or weight set may require servicing to correct the problem.

Annually, all Class 1 weight sets are serviced and calibrated on-site against NIST-certified standards by an independent calibration company. The certificate of calibration is maintained in the QA Department. The weights are kept in the manufacturer package that indicates the certification expiration date for the weight set. A sticker is put on the outside of the box to indicate the date of certification and the company performing the certification.

9.4.2 Pressure Gauges

Pressure gauges are used to verify sample receipt pressures and for gaseous standard preparation. The measurement of pressure on the gauges used to pressurize canisters is relative. The readings are used to assess the initial canister receipt vacuum/pressure and then pressurize the canister to a known pressure. The receiving personnel compare the final vacuum/pressure recorded on the Chain-of-Custody Record and/or sample tags by the field personnel with the receipt vacuum/pressure. If there is a discrepancy of more than 7"Hg/7psi a Sample Discrepancy Report is initiated and the client is notified.

In addition, the pressure gauges installed on the pressurization manifolds are re-calibrated and NIST certified on-site by an idependent calibration company annually or as-needed. The certificates are kept on file in the QA Department.

9.4.3 Fume Hood Testing Device

Quarterly, the Velocicheck Portable Air Velocity Meter is used by a member of the Safety Committee to check fume hood velocities. Velocities are checked in various quadrants of the hood at both full open and half-open sash levels. Results of this check must be within specified limits and are recorded in the Fume Hood Evaluation Logbook. If results are outside of these limits, the fume hood must be taken out of service until the problem is corrected.

Annually, the Velocicheck Portable Air Velocity Meter is calibrated on-site by an

independent calibration company against NIST-traceable standards. The Certificates of Calibration are maintained in the QA Department.

9.4.4 Thermometers

9.4.4.1 Reference Thermometers

ATL has NIST-traceable digital thermometers, which are used by the QA Department as reference devices. The thermometers are re-calibrated and certified annually by an independent calibration company. A label indicating the date of calibration, the due date for the next calibration, and the name of the company performing the certification is placed on the back of the thermometer itself. The reference thermometers are kept, along with certificates of calibration, in the QA Department.

9.4.4.2 Working Liquid-Filled (Ref/Freezer and Receiving) Thermometers

Thermometers used to record the temperature of refrigerator/freezers as well as of Temperature Blanks (received with samples shipped on ice), are re-certified every year by the QA Department using the NIST-traceable digital thermometer as reference. The certification test is performed by comparison to the NIST-traceable digital thermometer. Both thermometers (working and reference) are placed in a Dual Well Dry Block Calibrator (Model 9009 Hart Scientific). This instrument allows accuracy checks at both low and high temperatures. Alternatively, the certification test may be performed by placing the thermometers in a medium to large-sized beaker filled with water (or Methanol for freezer thermometers). The beakers are placed into a refrigerator (or freezer) for approximately one hour. The beakers are then removed from the refrigerator/freezer and the thermometer readings are compared to the NIST-traceable digital thermometer which is also submersed in the liquid.

The temperature range tested must correspond to the temperature range that the thermometer is used to measure (i.e. approximately 4 ± 2°C for Refrigerator and Receiving thermometers and ≤ –10° C ± 5°C for Freezer thermometers). The results of this test are recorded in the Thermometer Calibration Verification logbook. The difference between the temperatures of the working thermometers and the reference thermometer should be within the specified accuracy limits. Any thermometer that fails this certification test is discarded and new replacements are purchased as needed.

The manufacturer provides the newly purchased thermometers with a calibration certificate. The QA Department checks the new thermometers for defects (i.e., air bubbles present in red liquid column) before placing the new thermometers into use. A table containing the exact location, serial numbers, calibration and re-calibration due dates of each thermometer is kept in the Thermometer Calibration Verification Logbook.

9.4.4.3 Oven and IS Station Thermometers

Temperature controllers used in the Canister Cleaning and Tube Preparation areas are verified on a yearly basis by the QA Department to ensure that the proper temperature range is being achieved. The test is performed using the NIST-traceable digital thermometer as a reference. The test consists of comparing the temperatures displayed by the ovens temperature controllers versus the temperature measured by the reference thermometer.

The temperature range tested must correspond to the temperature range the thermometer is used to measure (i.e. approximately 65 - 125 °C for Can Cleaning ovens). The temperature readings are recorded in the Thermometer Calibration Verification logbook, which is kept in the QA Department. The accuracy

limits used to compare the two readings are ± 5°C.

If the readings are outside of acceptance limits, a correction factor may be applied to the temperature readings and maintenance or replacement of the controller may be necessary.

Temperature control used for desorption at the Internal Standard (IS) Loading Station in the main lab (used for VOST and TO-17 analysis) is verified for accuracy on prior to analysis using a NIST-traceable digital thermometer as a reference.

The temperature range tested must correspond to the temperature range the thermometer is used to measure (i.e. approximately 180 °C for the IS station). The temperature readings are recorded in the instrument logbook. The acceptance limits are ± 10°C.

If the readings are outside of acceptance limits, a correction factor may be applied to the temperature readings and maintenance or replacement of the thermometer may be necessary.

9.4.4.4 Non-Contact Thermometers

Non-contact thermometers are used to verify the temperature of the Desorption plate used in the analysis of VOST and TO-17 samples as well as to take the temperature of chilled samples which arrive without a Temperature Blank. These thermometers are certified against NIST-traceable standards on-site by an independent calibration company on a yearly basis. Certificates of calibration are maintained in the QA Department.

9.4.5 Temperature/Humidity Recorders

A Temperature/Humidity Recorder is used to verify that conditions required for PM10/TSP analyses of filters have been met in the Desicator unit. The required conditions are a temperature of 59 to 86°F + 5 °F and humidity at 20 to 45 %RH ± 5% RH (≤ 50% RH ± 5% RH for TSP) over a 24 hour period. These conditions are graphed, and every 7 days a replacement graph card is placed into the recorder by designated personnel. The date range recorded, along with the analyst's initials, is noted on the back of the graph and filed in a folder next to the instrument. The recorder is re-calibrated and certified annually by an independent calibration company. The Certificates of calibration are kept on file in the QA Department.

The Refrigerator used for the storage of VOST samples (Refrigerator #4) uses a Temperature Recorder in order to verify required temperature has been maintained over holidays when the regular temperature checks are not performed (see ATL SOP #19 Refrigerator/Freezer Temperature Monitoring and Documentation). The temperature is graphed, and every 7 days a replacement graph card is placed into the recorder by designated personnel. The date range recorded, along with the analyst's initials, is noted on the back of the graph and filed in a folder next to the instrument. The recorder is re-calibrated and certified annually by an independent calibration company. The Certificates of calibration are kept on file in the QA Department.

9.4.6 Flow Meters

Flow meters are used in the Laboratory to check the flow rates for VOST/TO-17 and other analyses, and in connection with sorbent tube preparation. Canister Cleaning also uses flow meters to calibrate flow controllers. These instruments are re-certified annually on-site by an independent calibration company against NIST-traceable standards. The certificates of calibration are kept in the QA Department.

9.4.7 Mass Flow Controllers

The Mass Flow Controllers on the sampling interfaces are used as part of the Initial Calibration. Therefore, measurements made using them are relative in nature. The samples are introduced through the very same process, therefore any potential bias is self-correcting. In addition, the accuracy of the Mass Flow Controllers is verified in four ways:

1) Each time the daily CCV is analyzed, the recoveries document the accuracy of the Mass Flow Controller with respect to the most recent instrument Calibration.

2) The linearity of the Calibration Curve demonstrates the accuracy of the Mass Flow Controller because the curve is developed using a mixture of syringe and Flow Controller standard loadings.

3) The accuracy of the Mass Flow Controller is verified through comparison of the new Calibration Curve with the previous Curve

4) In addition, the Mass Flow Controllers on the sampling interfaces are calibrated in house using a NIST certified flow meter before each Initial Calibration. They are calibrated by trained Analysts and/or Scientists. This action is documented in the instrument logbook the day of the calibration which includes flow controller serial number, NIST flow meter expiration date, nominal value, actual value, verified/set by initials and date. The Laboratory staff oversees the Mass Flow Controller certification program. The certificate of calibration for the NIST flow meter is kept in the QA Department.

9.4.8 Mechanical Volumetric Devices

Mechanical volumetric devices such as solvent dispensers are verified for accuracy against a known volume approximately once per month and never less than four times per year.

9.4.9 Oven Vacuum Gauges

Each oven used by the Support Services Department to clean stainless steel canisters is equipped with a CONVECTRON vacuum gauge and controller. The accuracy of these gauges is checked approximately every 6 months or as needed.

A NIST certified CONVECTRON gauge and controller is mounted onto an empty port on the evacuation manifold by a member of the Support Services Department. The controller readings are compared to the oven vacuum gauges and recorded into to the comment line of the oven logbook. The NIST gauge and the oven gauge should match within ± 6 % (± 1.2 mTorr for a 20 mTorr reading) based on the manufacturer's accuracy limits. If the 2 gauges do not match, then the oven vacuum gauge controller is adjusted until the readings are the same, or the oven gauge is replaced/repaired.

Documentation of changes or repair is noted in the Canister Cleaning Maintenance Logbook. The NIST gauge is re-certificied annually on-site by an independent calibration company.

10.0 PROFICIENCY TESTING PROGRAM

10.1 NELAP PT SAMPLE PROGRAM

Proficiency testing (PT) samples are used to measure analytical accuracy, precision, and report completeness. To be accredited under NELAP, the laboratory contracts with an outside approved PT sample provider in each field of testing. Testing is limited by availability of samples that meet NELAP criteria (noted below). The provider must be a NIST accredited PT provider. It may be necessary to participate in more than one proficiency testing program to be evaluated for multiple interdependent analyte groups. Performance samples are processed through the laboratory in the same manner as project samples. In each calendar year, the certified lab will complete at least two separate proficiency testing samples for each analyte or interdependent analyte group. The following policies apply to laboratory PT sample analysis and reporting:

- The samples shall be analyzed and reported to the PT provider within 45 calendar days of receipt or the specific deadline specified by the PT provider.
- The laboratory must follow the PT provider's instructions for preparing the PT sample.
- The laboratory management and bench chemist ensure that the PT samples are analyzed and reported in the same fashion as field samples using the same staff, equipment, and methods.
- The PT sample cannot undergo duplicate or replicate analyses that would not ordinarily be performed on field samples. The PT sample result cannot be derived from averaging the results of multiple analyses unless specifically called for in the reference method.
- The PT sample can only be analyzed on equipment leased or owned by the company and handled only by bona fide employees of the company.
- The analysis of PT samples by temporary or contract employees is explicitly forbidden.
- The laboratory shall not subcontract any PT sample or portion.
- The laboratory shall not knowingly receive any PT sample or portion from another lab.
- The laboratory shall not communicate in any fashion with another laboratory concerning the PT sample or results.
- The laboratory shall not attempt to obtain the PT sample result prior to reporting.
- The PT sample reporting forms provided by the sample provider will be maintained in the laboratory's record system.
- The laboratory shall maintain copies of all written, printed and electronic records relating the analysis or reporting of the PT sample for a period of 5 years.
- A CAR form will be generated any time an analyte result fails the proficiency testing assessment. A copy of the PT results is sent to the NELAP accrediting agency and associated corrective action summary will be sent upon request.
- The lab authorizes provider to release any PT assessment information to the accrediting agency.
- The QA Manager must sign the PT results form and by so doing, attests that the sample was analyzed and reported in the same fashion as a field sample and

followed the PT provider instructions for preparation.

- The lab must notify its primary accrediting agency and any other agencies under reciprocity that it has enrolled with a particular PT provider.

- The lab must notify its primary accrediting agency and any other agencies under reciprocity in the event it wishes to change PT providers.

- For each analyte or interdependent analyte group for which proficiency is not available, the certified lab will establish, maintain and document the accuracy and reliability of its procedures through a system of internal quality management.

10.2 EXTERNAL (NON-NELAP) PT SAMPLES

Occasionally proficiency testing samples are submitted along with field samples by private clients. The lab processes and reports the samples in the same fashion as field samples. When the client notifies the laboratory that one or more analytes appear to have failed, the report is processed through the normal Client Inquiry Corrective Action Process. The QA Manager will carry out an assessment and investigation into the circumstances surrounding the proficiency results including aspects relating to how the client prepared the sample for submission. The outcome of the assessment will be documented as per (Section 3.3.2) and maintained on file for a period of 5 years.

11.0 MANAGEMENT OF COMPUTER AND SOFTWARE SYSTEMS

Data are electronically captured from virtually all analytical instruments used by Air Toxics Limited. A network of computers and servers is used for the acquisition, processing, manipulation, recording, storage, and retrieval of test data. The laboratory uses a variety of both commercial as well as proprietary software applications to acquire, process, and report sample results. This network of computers is also used to receive and process customer information regarding field activities, sample disposition, and quality assurance objectives. Quality systems relating to the management of the computers and software are designed to incorporate the standards established in the *EPA Document "2185-Good Automated Laboratory Practices (1995)"* wherever possible given the size and resources available in the laboratory and IT groups.

11.1 SECURITY

The systems of Air Toxics Ltd. are protected from unauthorized access through the use of both physical and programmatic security measures. All of the laboratory servers are housed in a locked office, which maintains favorable environmental conditions to allow for optimal server performance. Access to the laboratory's networks is granted by the Systems Administrator or IT Manager. Network access is tightly controlled for the entire company. Users maintain individual network accounts and are allowed to access specific areas of the network based on the privileges assigned to them. A user is granted access to only those areas needed to fulfill his/her job function. All software used to reduce sample data or generate sample reports is password protected; users are granted rights to these systems based on a read/write/none privilege system.

11.2 BACK UP AND STORAGE OF DATA

All data systems are backed up on a daily, weekly, and monthly basis using a modified grandfather-father-son (GFS) rotation protocol. Specifically, these back ups are conducted on the servers responsible for all laboratory production data files and databases (i.e., Client Services files, analytical data, audit trails, quality assurance documents, etc.). A daily incremental back up is scheduled to run each night Monday through Saturday. The daily incremental back up is limited to files modified the same day. On Sunday, a weekly full back up of all files on each server is completed. At the end of each month, a full back up of each data system is conducted. This monthly back up tape is then placed in permanent storage. The permanent historical back-up tapes are stored in a fireproof safe in the secured server office. Data is not removed from the server until at least three permanent monthly back-up tapes have been created. This ensures that no archived data will be lost due to corruption of the magnetic tape. A more comprehensive description of the electronic data archiving system can be found in ATL SOP #55, *Electronic Archival of GC/MS Analytical Instrument Data*.

11.3 SOFTWARE AND ELECTRONIC DATA VALIDATION

The IT department is responsible for the testing and verification of all internally developed software applications. This includes testing during the software development, testing of the first pre-release version (alpha testing), and testing the release version in a closely monitored production environment. Findings discovered during the alpha and beta tests are documented and software fixes are applied as warranted. All custom software applications are tested prior to their release to the production laboratory.

There are three stages of testing and implementation of custom software modules by the IT department.

11.3.1 Stage I – Alpha Testing

Stage I testing is conducted for all ATLAS modules developed at Air Toxics Ltd. The Stage I testing is performed by two members of the ATLAS development team, typically the lead programmer and a representative end-user. The lead programmer is responsible for preliminary testing of the application and fixing errors, "bugs," within the program. The other evaluator acts as the user, testing the functions and features of the ATLAS module. The alpha test performed by the representative end user is conducted at a production workstation, which maintains the typical ATL configuration and connects with the ATLAS database through the laboratory network. This Stage I testing is conducted off-line, as the module is not used to perform any real-time production work. During the testing, the alpha tester identifies errors within the program and reports them to the lead programmer via the ATLAS Bug Report form. Examples include: finding areas where the module does not perform the task as per the specifications or an error message is displayed on the screen when working with the module.

The lead programmer evaluates the errors that are reported on the Bug Report form and fixes all identified problems within the ATLAS module, documenting the status of the repair on the Bug Report form (Exhibit 11.1).

Once all main functions have been tested and the alpha tester can no longer identify significant bugs within the program, the alpha testing is concluded. The alpha test results are documented in the completed ATLAS Bug Report forms, which are maintained as a permanent record in the IT Manager's office.

11.3.2 Stage II – Beta Testing

The Stage II testing is conducted after completion of the alpha test. This testing is performed by select on-line end-users. End-user participants in the beta test are chosen by their department manager, in an effort to have an accurate representation of the end-users that will be using the ATLAS module. The beta test participants perform their job duties using the ATLAS module. Both the lead programmer and the IT manager are available during the beta test.

The beta testers are trained how to use the ATLAS module on-line. The lead programmer, IT Manager, and the department supervisors all participate in the training of the beta testers. The beta testers perform their production duties on the ATLAS module and check all output from the module for accuracy. A summary of the beta test may be documented (Exhibit 11.2).

The beta testers identify any errors or deficiencies within the application and notify the lead programmer immediately upon finding a bug. In addition, the beta testers submit an ATLAS Bug Report form to the programmer.

The lead programmer evaluates the errors that are reported on the Bug Report form and fixes all identified problems within the ATLAS module, documenting the status of the repair on the Bug Report form.

The new version of the ATLAS module is uploaded onto the computer for the beta tester. The testing is resumed at the beginning of the task from which errors were identified in the software application. The tester verifies the fixes for reported bugs and documents this verification on the Bug Report form.

After the occurrence of bugs has been mitigated, the beta testing is concluded. The beta test results are documented in the completed ATLAS Bug Report forms, which are maintained as a permanent record in the IT Manager's office.

11.3.3 Stage III - Implementation

Stage III implementation is initiated after completion of the beta test. All end-users are

given access to on-line module. Training for end-users is conducted by the members of the ATLAS development team and the department supervisors. Users are trained individually by the department supervisors and/or a member of the ATLAS development team.

If any bug occurs on-line, a member of the IT team is contacted and the problem assessed to determine if it is a bug or a training issue. A confirmed bug is documented on an ATLAS Bug Report form. Any problem that affects data integrity is documented separately. This type of problem is typically documented by the IT Manager, however other members of the development team can assume this responsibility. This documentation is kept as a permanent record in the ATLAS project documentation binder in the IT Manager's office.

The lead programmer evaluates any error reported on the Bug Report form and fixes the program within the ATLAS module, documenting the status of the repair on the Bug Report form. The new version of the ATLAS module is uploaded to all PCs running the application. In most cases, an automatic update program loads the new version of the application for all users when they re-enter the program. Production work continues with the new version of the module.

11.3.4 Commercial Software Data Validation

Any commercial software application used for data reduction is verified for adequate performance before release to the production laboratory. Reports created by the laboratory's LIMS are reviewed for accuracy by the analyst responsible for creating the deliverables and a team scientist. Hand entered results are checked for accuracy by the analyst responsible for this data entry. Peer review is also conducted on these reports. Deliverables created using the LIMS are spot-checked for accuracy. Documentation of these reviews is maintained as a permanent record in the Work Order folder. The various testing stages and process for implementation of internally developed software are described in ATL SOP # 47, *Implementation and Testing of Atlas Modules,* and ATL SOP #41, *Preparation Of Hardcopy Analytical Reports Using Automated Data Transfer*.

Exhibit 11.1. ATLAS Bug Report

Module:
- ☐ Accounting
- ☐ Quote Methods
- ☐ Quotes
- ☐ Project Profiles
- ☐ Contacts
- ☐ Other: _____
- ☐ Shipments
- ☐ System Administration
- ☐ Work Order Editor (ATLAS98)
- ☐ Method Editor (ATLAS98)
- ☐ Compound Editor (ATLAS98)
- ☐ SuperCATS
- ☐ Accounts

Description of Problem:

_____
_____
_____
_____
_____
_____
_____
_____

Reported By:_____ Date:_____

Status: ☐ Fixed ☐ Pending ☐ Could not duplicate
☐ Other:

_____
_____
_____
_____
_____
_____

Verified as Fixed ☐ By:_____ Date:_____

Exhibit 11.2. ATLAS Beta Testing Summary Form

Name of Tester:_____ Date:_____

Module Tested:_____

Summary of Beta Test (include brief description of criteria used, etc.):

_____
_____
_____
_____
_____
_____
_____
_____
_____

Did the module pass all tests conducted? ☐ Yes ☐ No

If no, please provide comments below:

_____
_____
_____
_____

Signature of Tester: _____

Module approved for release to production group? ☐ Yes ☐ No

Signature of IT Manager: _____ Date: _____

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12.0 CONTROL OF PURCHASED ITEMS AND EXTERNAL SERVICES

The primary materials procured by the laboratory are computer hardware, analytical software, standard office software, analytical instrumentation, certified standards, carrier gases and cryogens, miscellaneous laboratory supplies, NIST-traceable re-certifications, disposable sampling media (e.g., Tedlar bags), and service contracts.

Control of the purchase of these items and services is maintained using a standard purchase order system that includes the following:

- A purchase request that is approved by a director or manager.
- An assigned purchase order (PO) number that is logged along with the date, vendor, and requester.
- A requirement that upon receipt or delivery of services, the product is inspected by the purchasing agent, and compared to the packing slip and/or request for services.
- Each PO is matched with invoices prior to payment to insure that purchased items or services were delivered as expected.

Critical vendors (those for whom a failure or lack of supply would cause irreparable damage to the laboratory operations) are selected on the basis of either being the sole supplier of an item or as a result of reliable service over a several year period. A table of current critical suppliers is presented in Exhibit 12.1.

When reagents are purchased in bulk volume for laboratory use, each lot is certified for cleanliness prior to use. A laboratory blank is prepared using the analytical reference method. The concentration of target species present must be less than the laboratory reporting limit for the lot to be certified clean and approved for use. Once a lot is approved, the vendor will set aside stock sufficient for several months for ATL use. The certificates of analysis are kept on file in the main analytical laboratory and each incoming shipment is monitored by the extractions area staff to verify that only certified lot numbers are used in the processes.

Solvent	Certification Method
Methylene Chloride	SW8270C
Hexane	TO-4A
Water	SW8260B/SW8270C

Each reagent is labeled with the date of receipt, date opened, and date of expiration. In the case of Methylene Chloride and Hexane, a 100 mL aliquot of the solvent is evaporated to 1 mL and analyzed via method SW8270C or TO-4A. In the case of reagent water, a reagent blank is prepared and analyzed via methods SW8260B (5 mL) and SW8270C (1 L). Only reagent grade water is used in the laboratory and is purchased in bulk lots as HPLC grade.

Cylinder gasses used as diluent gas for sample analyses are also certified for cleanliness. Each tank of UHP Helium or Nitrogen is tested by filling a clean lab blank canister followed by analysis via EPA method TO-14A. All target species must be present at less than the reporting limit in order for the cylinder to be certified clean. Results of the analysis are posted on each cylinder and stored in designated logbooks.

NIST traceable standards are re-certified upon receipt. The standard is analyzed under the appropriate method and compared to the existing inventory of standards. If the response of any target species is not within acceptance limits for a second source standard, the standard is considered to have failed. The vendor is then contacted to discuss the discrepancy and arrangements made to replace the standard.

Exhibit 12.1 Critical Suppliers

VENDOR	JUSTIFICATION
Scott Specialty Gases	Sole supplier/Reliable service over several years
Airgas	Reliable service over several years
Spectra Gases Inc.	Reliable service
SKC West Inc.	Sole supplier
Chromatography Research Supplies, Inc.	Sole supplier
Scientific Instrument Services	Reliable service over several years
Hamilton	Reliable service over several years
Quantum Analytics, Inc.	Reliable service over several years
R & D Glassware	Reliable service over several years
Aldrich Chemical Company	NIST Certified
Supelco	Reliable service over several years
Valco	Sole Supplier
VWR	Reliable service over several years
Control Company	Reliable service
Agilent Technologies	Reliable service
Millipore/Mykrolis	Reliable service over several years
Leco Corporation	Sole Supplier
Oakland Valve & Fitting CO.	Sole Supplier/Reliable Service

13.0 PROJECT MANAGEMENT SYSTEM

Any quality system, no matter how elaborate, and no matter how well documented, will fail unless the customer expectation is effectively communicated. The ATL Project Management System describes the critical pathways necessary to adequately ensure that the customer expectation is reviewed, committed to by top management, documented and communicated to the laboratory prior to sample delivery. System elements include:

- Review of project specific documents
- Negotiations and variance requests
- Documentation of project requirements
- Documenting client discussions
- Project briefings
- Scheduling sampling media
- Tracking sample analysis and reporting
- Project follow-up

The Project Management System is defined in the ATL SOP #1. Following are brief descriptions of the elements comprising project management systems.

13.1 REVIEW OF PROJECT SPECIFIC DOCUMENTS

Clients document project requirements in requests for proposals, work plans, SOWs, or QAPPs. No matter how the details are documented, the project requirements must be reviewed to ensure that the laboratory has sufficient staff, equipment, and capacity to meet project needs. Any document received from a client containing either contractual language, description of work, QA/QC criteria, and/or deliverable requirements different from our Standard Terms and Conditions will be processed as a proposal. When a proposal is received, an electronic Proposal File is started and routed through the Proposal Tracking System. The Account Managers are provided with technical support by the designated project chemist who reviews all relevant sections of the proposals. Each department's team leader is consulted for further information when needed.

Items to be reviewed include:

- Requested methods
- Adequate and documented training of appropriate personnel including Demonstration of Capability
- Adequate instrumentation
- Target compound lists and reporting limits
- Quantity of samples
- Requested media and degree of preparation
- Media preservation requirements
- Holding time requirements
- Project specific QC
- Deliverable requirements
- TAT requirements
- Insurance requirements
- Special billing and payment terms
- Data storage requirements
- Client financial status

The following flow chart (Exhibit 13.1) depicts how the proposal is distributed through the review process. Project requirements are received and logged into a database. Each proposal is given a unique identifier at that time. The Project Chemist reviews the document to determine whether or not the proposal contains methods, target compounds, or production demands requiring additional review. The Project Chemist reviews the document for special project requirements in the areas of:

- Quality assurance criteria
- Reporting criteria

- Electronic deliverable criteria
- Unusual TATs
- Unusual volume of samples
- Unusual compounds

If the Project Chemist has any questions, which may affect production, then the Account Manager is notified and the proposal is sent to the Operations Director to determine the implications to the laboratory production throughput. With Operations approval, the proposal may be sent to the Technical Director or designee for review and comment. If the proposal does not require method development, and has unusual deliverables then it is sent to the IT Director or designee to verify ATL is able to meet client deliverable demands. The reviewer may suggest pricing adjustments according to the client specific format difficulties. If the proposal does not require review by the IT Manager, it is returned to the Project Chemist. A variance table to be included with the proposal may be created by the Project Chemist. The variance table may undergo revision as per the result of discussion with the client.

The Contract specifications are reviewed by the Contract Administrator to evaluate the terms and conditions of the proposal, including the following areas:

- Retention;
- Penalties;
- Sales and Use Tax Requirements;
- Insurance Requirements;
- Data Storage Requirements; and
- Payments Terms.

The Contract Administrator then reviews the proposal to determine the amount of credit to be established for the client. The amount will be based upon credit status (Dunn & Bradstreet) report, the amount of the contract and past payment history with ATL.

Each of these steps is documented on the Bid/Proposal/Contract Review sheet (Exhibit 13.2). The review and comment activity is documented by signature and date on the Bid/Proposal/Contract Review sheet.

Following review and comments, the proposal is returned to the Account Manager for final review and pricing. The Client Service Representative is consulted and the proposal is generated. Then the proposal is entered into the ATLAS Quotes module for reference. If the bidding process is successful, the proposal documents continue on through the Client Services Representative to be set up as an active project. Before samples are received and the analyses are performed, a signed copy of the variance table must be scanned to the network. The Project Chemist is brought back as an active team member at this time if negotiations are necessary. The Client Services Representative will complete the project profile, while the Project Chemist creates a project requirement table that includes the approved variance table in the laboratory sample tracking database. An example of project profile appears in Section 3, Exhibit 3.1.

Before the final report is released a contract must be signed and filed. Once a contract is received, it is documented in the contract log. The contract is then reviewed to compare the pricing and language to the proposal. If there are exceptions made to the contract, these are noted and negotiated with the client. Once pricing and terms have been agreed upon, the contract is then executed and copies sent back to the client.

Exhibit 13.1 Proposal Review Flow Chart

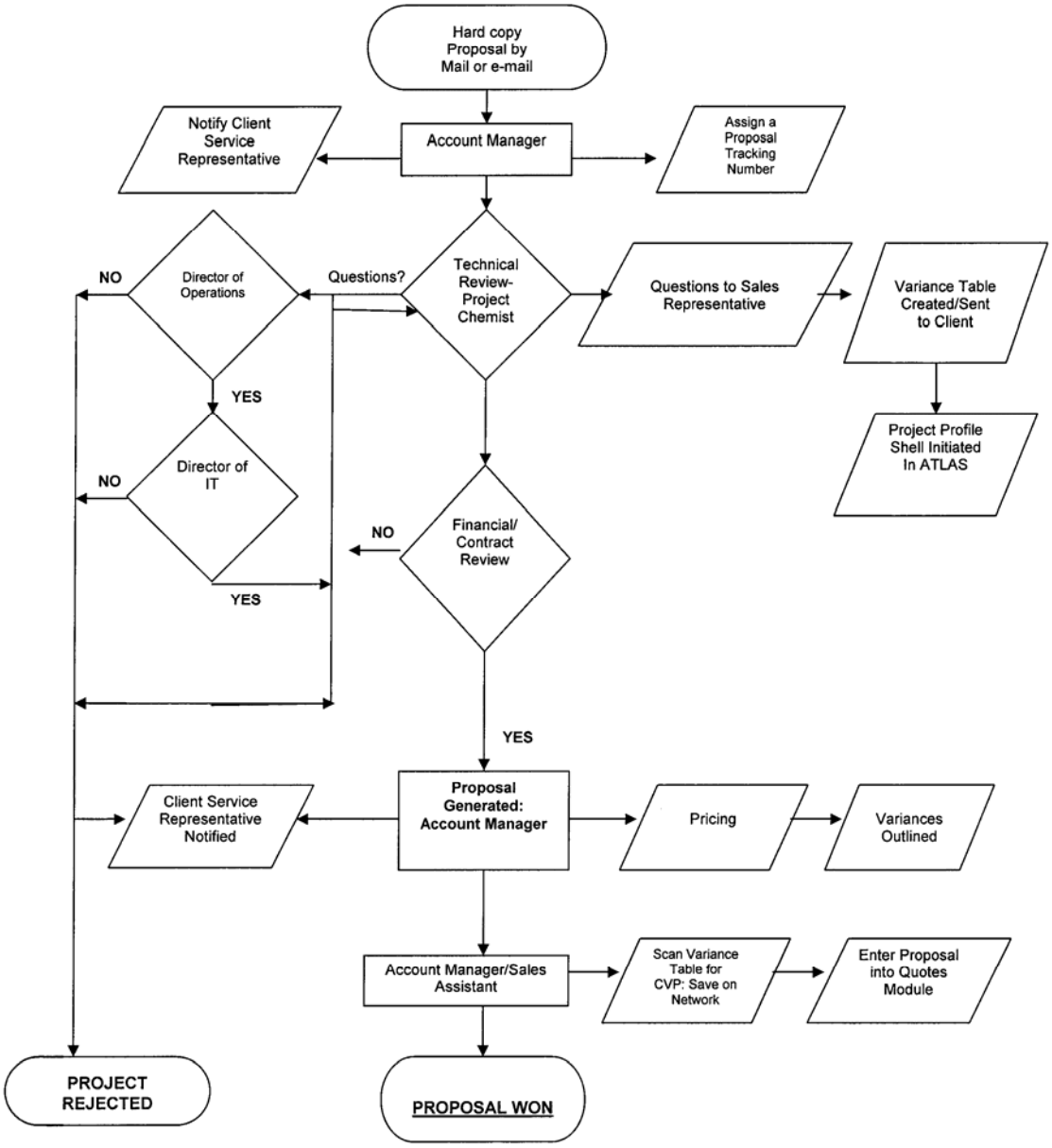

Exhibit 13.1 Proposal Review Flow Chart (*Continued)*

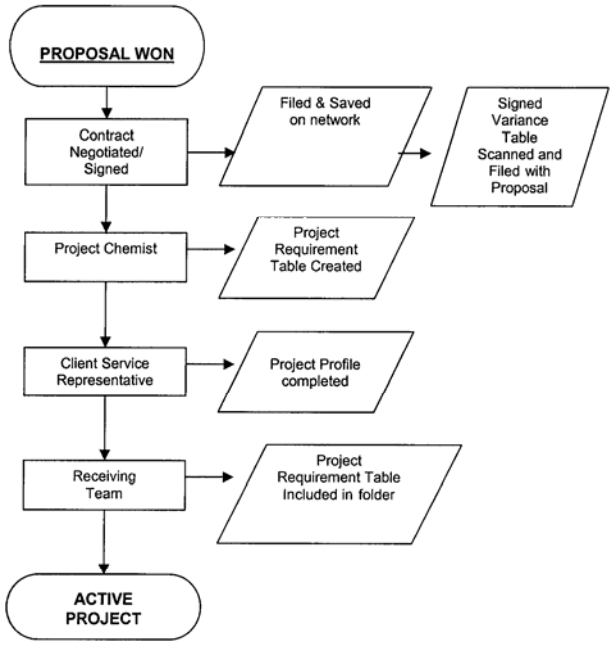

Exhibit 13.2 BID/Proposal/Contract Review Form

CLIENT_____ **DUE DATE:** _____

PROFILE# _____ **DATE RECD:**_____

PROPOSAL TRACKING#:_____ **AM:** _____

☐ **BID** ☐ **PROPOSAL (REVIEW)** ☐ **CONTRACT**

PROJECT NAME:_____ **RFP#:**_____

1. ACCOUNT MANAGER REVIEW – FEASIBILITY **DATE DUE:** _____

QAPP? ☐ Yes ☐ No
SOW? ☐ Yes ☐ No
All documents referenced above provided? ☐ Yes ☐ No
Potential Sample Volume:_____
Methods Required:_____
Comments:

Reviewed by: _____ Date: _____

2. TECHNICAL REVIEW **DATE DUE:** _____

A. REVIEWER #1

Variance Table? ☐ Yes ☐ No
Notes Page? ☐ Yes ☐ No
Special Compounds? ☐ Yes ☐ No *(If yes, a special compound request form is required)*
Sample Storage Terms Exceptions?: ☐ Yes ☐ No
Comments:

Reviewed by: _____ Date: _____

Exhibit 13.2 BID/Proposal/Contract Review Form *(Continued)*

B. REVIEWER #2

Variance Table? ☐ Yes ☐ No
Notes Page? ☐ Yes ☐ No
Special Compounds? ☐ Yes ☐ No (*If yes, a special compound request form is required)*
Comments:

Reviewed by: _____ Date: _____

C. LAB MANAGER (Optional)

Special Technical Requirements ☐ Yes ☐ No
Comments:

Reviewed by:_____ Date: _____

Exhibit 13.2 BID/Proposal/Contract Review Form *(Continued)*

3. DELIVERABLES – IT MANAGER /TEAM E **DATE DUE:**_____

Client Specific Format: ☐ Yes ☐ No Format?_____
eCVP ☐ Yes ☐ No
Comments:

Reviewed by: _____ Date: _____

4. FINANCIAL REVIEW **DATE DUE:** _____

A. CONTRACT REVIEW – FINANCE

Contract Provided?	☐ Yes	☐ No
Exceptions Taken?	☐ Yes	☐ No
Retention Exceptions?	☐ Yes	☐ No
Penalty Exceptions?	☐ Yes	☐ No
Insurance Exceptions?	☐ Yes	☐ No
Data Storage Exceptions:	☐ Yes	☐ No
Payment Terms Exceptions:	☐ Yes	☐ No

Comments:

Reviewed by: _____ Date: _____

Exhibit 13.2 BID/Proposal/Contract Review Form *(Continued)*

B. FINANCIAL BACKING REVIEW

Credit information on file? ☐ Yes ☐ No
Terms & Conditions on file? ☐ Yes ☐ No
Dunn & Bradstreet #: _____Rating: _____
Comments:

Reviewed by:_____ Date: _____

5. CSR REVIEW **DATE DUE:** _____

Variance Table Required? ☐ Yes ☐ No *(If yes, ensure a project profile has been started)*
Comments:

Reviewed by: _____ Date: _____

6. RETURN TO AM TO FINALIZE PROPOSAL **DATE DUE:** _____

Reviewed by: _____ Date: _____

7. SIGNATURE **DATE DUE:** _____

Reviewed by: _____ Date: _____

8. RETURN TO AM TO FILE **DATE COMPLETED:**_____

Variance Table Signed? ☐ Yes ☐ No
Proposal saved to Network? ☐ Yes ☐ No
Additional Information:

13.2 NEGOTIATIONS AND VARIANCE REQUESTS

When the Project Chemist notes differences between the project request and laboratory standard protocol, the laboratory may request a variance from the requirements. Ideally, variance requests occur during the proposal stage, but sufficient details regarding project requirements are sometimes not known until sampling is about to begin. With the assistance of the QA team the Project Chemist notes all discrepancies in a variance table that is submitted to the Account Manager. The assigned Account Manager communicates the discrepancies to the client by faxing the variance table. Variance requests are most often handled directly between these parties. On occasion, a conference call may be held with agency representative or additional project and laboratory staff present. It is the responsibility of the Account Manager to coordinate the meeting.

Once an agreement has been reached, the Project Chemist and the QA team will finalize the understandings concerning the discrepancies in a final variance table, which is used for sample login and analysis. The variance table is given a unique identifier that ties it to the unique identifier assigned to the proposal. The table is stored on a network-shared drive in read-only format until sample log in occurs.

13.3 DOCUMENTATION OF PROJECT REQUIREMENTS

The Client Services Representative becomes the primary client contact following the project award. The Client Services representative will verify at that time that the client has been provided most recent version of the project plans. Any outstanding issues are discussed by phone and documented in the customer contact database. At this time the project profile is updated to include:

- Shipping information
- Report To and Bill To information
- Pricing
- Reference method
- Requested media and degree of preparation
- Target compound list
- Special QA requirements
- Calibration criteria (if different from SOP)
- Deliverable requirements
- Variance table by reference
- Any special instructions
- Subcontracting (when relevant)

The project profiles are secured with read only privileges for all staff except the Client Services Representatives, Account Managers, the Project Chemist and members of the QA team.

13.4 DOCUMENTING CLIENT DISCUSSIONS

Once a project has been awarded, the majorities of contacts occur via phone and are documented in the Client Services software. The software can track contacts by client name, project name, or date. Client Services team members may sort the database for summaries of calls made on the basis of specific clients or sub-contracting entities.

13.5 PROJECT BRIEFINGS

Client Services Representatives hold frequent briefings to discuss the recent client calls. The entire team is kept informed of the status of in-house projects. Potential scheduling problems or other matters affecting sample analysis and reporting are discussed.

13.6 SCHEDULING SAMPLING MEDIA

The ATL Client Services Representatives work closely with clients to ensure that media is delivered according to project schedule. Shipments for on-going projects are scheduled well in advance. The Client Services

Representatives are responsible for processing shipping requests through the Client Services database. This is the same database used to log phone contacts. Each shipping request is given a unique identifier. Both laboratory staff and shipping staff monitor the database throughout the day for posted shipping requests.

Some media types (e.g., DNPH solutions, PUF/XAD cartridges, etc.) take time to prepare. Careful planning and scheduling on the part of both the project managers and the clients is necessary. Clients are encouraged to provide as much lead-time as possible.

13.7 TRACKING SAMPLE ANALYSIS AND REPORTING

Client Services Representatives monitor the progress of samples from the time they arrive at the laboratory until the final report has been delivered. The sample tracking database is reviewed daily and provides the Client Services Representatives with up-to-date information on sample status. Daily contact with the laboratory team and task leaders is necessary when the rate of the production is less than desirable in any area. It is the responsibility of the Client Services Representative to inform the client in the event that delays in analysis and reporting are anticipated.

13.8 PROJECT FOLLOW-UP

All contact with the client following reporting is handled by the Client Services Representatives. This includes requests for re-issues, perceived problems with data, or further clarification. All discussions are documented in the Client Services database. When a client desires a modification to a completed report, the Client Services Representative reviews the request. Commonly the laboratory team or task leader responsible for the work or the QA Manager may be consulted. If the request is considered to be legitimate, the Client Services Representative initiates a request for report re-issue (per ATL SOP #68) in the Sample Tracking database. The database tracks the re-issue status to make sure that the report is fixed and sent to the client. The reason for the re-issue is documented on the report cover along with report re-issue date. It is the responsibility of the Client Services Representative to ensure that the correct reason and supporting documentation is provided in the report folder.

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14.0 DATA INTEGRITY PROCEDURES

14.1 TRAINING

Data integrity is the cornerstone of Air Toxics Limited. Our Mission Statement and Value Statement define the goals and values which produce data of known and defensible quality. Everything from data reporting programs, employee retention programs to customer service programs evolve around maintaining our core values above all else.

ATL Mission Statement

- To deliver high quality cost effective environmental analytical services
- That are profitable, on time and meet/exceed the expectations of our customers

How we go about accomplishing this mission is governed by our standards of conduct; the ability to discern right from wrong and proper from improper and the commitment to always do what is right, good and proper.

"*We seek success in what we do, but not at the expense of integrity. Integrity is essential to establishing and maintaining the trust that allows us to work as a team and to foster confidence in our customers and co-workers. Without integrity there can be no trust.*"

Without integrity, our customers would not trust us to get the job done and would not hire us. Employees would not trust management to set realistic goals and provide adequate resources. Without integrity, management would not trust employees with the ultimate form of empowerment…. direct responsibility for customer satisfaction.

All new employees are provided with introductory training which consists of:

Ethics Training I
The ATL Value Statement
The ATL Mission Statement
Definition of Standards of Conduct and Ethics
ATL Strategic Goals
Importance of Trust
Definition of Integrity
Four basic enemies of integrity with workplace examples
Criminal ramifications for misconduct
Benefits of Integrity Training
Role of the Employee (reporting systems)
Role of Management (promote core values)
Where to find ATL Codes of Conduct
- Employee Handbook (employment standards)
- Quality Manual (quality standards)
- SOP's (technical standards)
- Chemical Hygiene Plan (safety standards)

A yearly refresher course is provided which reviews the basic information of Ethics Training I but then goes on to define the critical steps in making ethical decisions:

Ethics Training II
1. Review relevant values and standards, devise a plan
2. Question the plan, your motives and any consequences
3. Resolve to address any ethical dilemmas by making touch choices.

Case studies are used in Ethics Training II to encourage work group participation in actual decision making scenarios. Following each training session, the employee is provided with a certificate for training and asked to sign the certificate indicating they have been informed of their obligations in the ATL integrity program and understand that legal ramifications may be imposed upon them for failure to comply.

14.2 PERIODIC MONITORING

There are three parts to the ongoing periodic monitoring for inappropriate data manipulations following initial training. First, the IT Department has removed access to adjustment of data acquisition and reporting computer clocks. Second, each new employee undergoes a training period in which all of their data is reviewed by a Scientist or Team Leader until such time as basic knowledge and comprehension of method as well as data integrity procedures is demonstrated. A development plan is provided to each new employee by their Department Manager or Team Leader, which outlines goals, timelines and demonstration of understanding. The measurement of success may include proficiency with a task as well as a verbal or written test demonstrating concept comprehension.

When the Department Manager and/or Team Leader determine the new employee is ready to produce data of defensible quality, he/she is asked to provide several representative data packages to the Quality Assurance Manager for thorough review. If the QA Manager agrees that defensible data was produced, the employee is released from the 100% review program.

The third and final part of the periodic monitoring program involves the use of proprietary in-house data validation software to review every data point generated and to alert the reviewer when manual integrations occur. The software is also programmed to report when more than three attempts for a daily CCV or tune check standard to pass have been attempted. (Validation software currently reviews all method TO-14A/TO-15 results. Further software development is scheduled in 2007 to bring more methods on line).

14.3 MECHANISMS FOR REPORTING INFRACTIONS

During Ethics Training I, the new employee is informed how to go about communicating any real or perceived infractions of the data integrity system. Open dialogue is encouraged between the employee and any member of management or senior scientists they feel most comfortable with. It is management's responsibility to relay the information to the Technical Director(s) and follow-up with an inquiry or corrective action. The employee who desires to remain anonymous is encouraged to report to the teams senior scientist as ombudsman. The scientist will meet separately with management and the employee involved in order to ensure anonymity. An immediate inquiry by one of the Technical Directors will follow each and every reported incident. Documentation of the inquiry and subsequent disciplinary actions will be maintained by both the Technical Director and the Human Resource Manager.

Appendix A

DEFINITIONS AND TERMS

Accuracy: The degree of agreement between an observed value and an accepted reference value.

Analyte: The substance or thing for which a sample is analyzed to determine its presence or quantity.

Approved: The determination by any state for federal accrediting agency that a certified laboratory may analyze for an analyte under the specified method.

Assessment: The process of inspecting, testing and documenting findings for purposes of certification or to determine compliance.

Batch: A group of analytical samples (≤ 20) of the same matrix processed together including extraction, concentration and analysis using the same process, staff and reagents.

Bag: Means an inert air-sampling container consisting of inert polymeric material.

Canister: A stainless steel spherical air-sampling device consisting of summa polished or glass lined internal walls and a leak tight on/off valve.

Contamination: The effect caused by the introduction of the target analyte from an outside source into the test system.

Continuing Calibration Verification (CCV): A CCV is analyzed to verify instrument linearity with respect to the Initial Calibration. The CCV concentration may be identical to any given point contained within the initial calibration. A CCV is analyzed at the beginning of every analytical sequence (all methods) and then once every ten or twenty samples depending on the method (GC and LC, GC/MS excluded). GC and LC methods also include a CCV in every analytical sequence as an End Check.

Control Charts: These are statistical tools for monitoring the performance of a particular task on a continuing basis. The control chart is prepared for each test parameter after 20 determinations have been performed. The mean is plotted with the warning limits being ±2s and the control limits being ±3s. (s – standard deviation)

Corrective Action: An action taken to eliminate the causes of an existing nonconformity, defect, or other undesirable situation in order to prevent recurrence.

Data Reduction: A qualitative and quantitative evaluation of the documentation and procedures associated with environmental measurements to verify that the resulting data are of acceptable quality.

Duplicate Samples: Samples collected for checking the preciseness of the sampling process. These samples are collected at the same time and from the same source as the study samples.

Equipment Blank: A sample that is known not to contain the target analyte that is used to check the cleanliness of sampling devices, collected in a sampling container from a clean sample collection device and retuned to the laboratory as a sample.

Appendix A

DEFINITIONS AND TERMS

Field Blank: A sample that is known not to contain the target analyte and is used to check for analytical artifacts or contamination introduced by sampling and analytical procedures, carried to the sampling site, exposed to sampling conditions and returned to the laboratory and treated as an environmental sample.

Field Duplicate: Samples collected at the same time from the same source, but submitted and analyzed as separate samples.

Holding Time: The maximum time that a sample may be held prior to preparation or analysis.

Impinger: The glass vessel used to contain collection solution through which a stream of air is bubbled for sampling purposes.

Initial Calibration: Demonstration of a linear response to different concentrations of calibration standards within a defined range.

Initial Demonstration of Analytical Capability: The procedure described in the method 40 CFR Appendix A, used to determine a laboratory's accuracy and precision in applying an analytical method.

Instrument Blank: A sample that is known not to contain the target analyte, processed through the instrumental steps of the measurement process used to determine the absence of instrument contamination prior to analysis of field samples.

Instrument Detection Limit (IDL): It is the concentration of the analyte that produces a signal greater than five times the signal-to-ratio of the instrument.

Interference: The effect on the final result caused by the sample matrix.

Internal Standards (ISs): These are the measured amounts of certain compounds added after preparation or extraction of a sample.

Key Personnel: The laboratory director, technical director, quality assurance manager, and team leader, all of whom meet the requirements of the NELAP rule.

Laboratory Control Sample: An independent second source reference standard which goes through he same pretreatment and preparation procedures as the samples. It validates the accuracy of the initial calibration.

Laboratory Duplicates: Aliquots of the same sample that are prepared and analyzed at the same time.

Limit of Detection (LOD): an estimate of the minimum amount of a substance that an analytical process can reliable detect. An LOD is analyte and matrix-specific and may be laboratory dependent. The LOD may be determined by a Method Detection Limit study.

Limits of Quantitation (LOQ): the minimum levels, concentrations, or quantities of a target variable (e.g., target analyte) that can be reported with a specified degree of confidence. Generally, the LOQ is equal to the concentration of analyte(s) in the lowest point of a calibration (see Reporting Limit).

Appendix A

DEFINITIONS AND TERMS

Matrix: The component or substrate (e.g., surface water, drinking water, air, liquid waste) which contains the analyte of interest.

Matrix Spike: A sample prepared to determine the effect of the matrix on a method's recovery efficiency by adding a known amount of the target analyte to a specified amount of matrix sample for which an independent estimate of the target analyte concentration is available.

Matrix Spike Duplicate (MSD): Duplicates of the matrix spike sample.

Measurement Uncertainty: Measurement uncertainty is the estimation of potential errors in a measurement process and is expressed as ± 2X (*s*) of the historical mean of LCS recoveries.

Method Detection Limit: The minimum concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is greater than zero as determined from analysis of a sample containing the analyte in a given matrix (40 CFR Part 136, Appendix B, July 1995).

Practical Quantitation Limit (PQL): A synonym for the standard of lowest concentration contained in the Initial Calibration. It is the smallest concentration of the analyte that can be reported with a specific degree of confidence.

Precision: The degree to which a set of observations or measurements of the same property, obtained under similar conditions, conform to themselves. Precision is usually expressed as standard deviation, variance or arrange, in either absolute or relative terms.

Preservation: The temperature control or the addition of a substance to maintain the chemical or biological integrity of the target analyte.

Proficiency Testing (PT) Assessment: The event including receiving, analyzing, and reporting of results from a set of samples that a proficiency testing provider sends to a laboratory for the laboratory to demonstrate compliance with the proficiency testing requirements.

Proficiency Test (PT) Sample: A sample, the composition of which is unknown to the analyst and is provided to test whether the analyst/laboratory can produce analytical results within specified acceptance criteria.

Quality Assurance: An integrated system of activities involving planning, quality control, reporting, and quality assessment and improvement to ensure that the product meets defined standards of quality with a stated level of confidence.

Quality Assurance Project Plan (QAPP): An orderly assemblage of detailed procedures designed to produce data of sufficient quality to meet the data quality objectives for a specific data collection activity.

Reporting Limit: The smallest concentration of an analyte that can be measured with a stated probability of significance. All Initial Calibrations contain a standard at the Reporting Limit. The Reporting Limit is never less than the PQL.

Appendix A

DEFINITIONS AND TERMS

Reporting Limit Verification: A re-quantification of the lowest concentration data point of an initial calibration to test the percent recovery of each component. Analyte recovery should be between 50-150% to verify detection limit accuracy.

Selectivity: The capability of a method or instrument to respond to the target analyte in the presence of other substances or things.

Sensitivity: The capability of a method or instrument to discriminate between measurement responses representing different levels of a target analyte.

Standard Operating Procedures (SOP): A written document which details the steps of an operation, analysis or action whose techniques and procedures are thoroughly prescribed, and is accepted as the procedure for performing certain routine or repetitive tasks.

Surrogate: A substance which is unlikely to be found in the environment and which has properties that mimic the target analyte and that is added to a sample to check for analytical efficiency.

Target Analyte: The analyte that a test is designed to detect or quantify.

Technical Employee: A designated individual who performs the analytical method and associated techniques.

Trip Blank: A sample known not to contain the target analyte that is carried to the sampling site and transported to the laboratory for analysis without having been exposed to the sampling procedures.

Appendix B

STANDARD OPERATING PROCEDURES

#1	**Customer Support System**
#2	**Analysis of Volatile Organic Compounds in VOST Cartridges and Condensates by Modified EPA SW-846 Method 5041A/8260B**
#3	**Analysis of Semi-Volatile Organic Compounds by Modified EPA SW-846 Method 8270C**
#4	**Preparation and Conditioning of VOST and CMS Tubes**
#5	**Analysis of Volatile Organic Compounds in Ambient Air Using Modified EPA Method TO-17 with Modified EPA SW-846**
#6	**Analysis of Volatile Organic Compounds in SUMMA™ Polished Canisters by Modified EPA Methods TO-14A/TO-15**
#7	**Preparation of Silonite™, Silcosteel™, and Summa™ Canisters for Sampling**
#8	**Analysis of Oxygen, Nitrogen, Methane, Ethane, Ethene, Carbon Monoxide, Carbon Dioxide, Hydrogen and NMOC by Modified ASTM Method D-1946**
#10	**Analysis of Semi-Volatile Organic Compounds Collected on PUF Cartridges by GC/MS Full Scan Modified EPA Method TO-13A**
#11	**Analysis of Aldehydes and Ketones by Modified EPA Methods TO-5 (Impingers), TO-11A (Sep-Pak Cartridges), Modified SW-846 Method 0011/8315A (Impingers) and Modified CARB 430 (Impingers)**
#12	**Extraction of Aldehydes and Ketones by Modified EPA Method TO-5 and Modified CARB 430**
#13	**Analysis of Sulfur Compounds by ASTM Method D-5504**
#14	**Preparation of PUF and PUF/XAD-2 Media for Ambient Air Sampling and XAD-2 Media for MM5 Sampling**
#15	**Extraction of Ambient Air & MM-5 Samples for Semivolatile Analysis and Pesticides/PCB Analysis by Modified EPA SW-846 Method 3542**
#17	**Safe Lifting Procedures**
#19	**Refrigerator/Freezer Temperature Monitoring and Documentation**
#20	**ATL GC Applications for Analysis of Organic Compounds in Air**
#24	**Storage and Disposal of Hazardous Wastes**
#25	**Extraction of Aldehydes by Modified Methods 0011 and 8315A**
#26	**Analysis of Pesticides and PCBs Collected on PUF Cartridges using Modified EPA Methods TO-4A/TO-10A**
#27	**Internal Audit Procedures**
#30	**Laboratory Security**

Appendix B

STANDARD OPERATING PROCEDURES

#33	**Standard Preparation, Validation, and Documentation**
#34	**Certification of Test Equipment**
#36	**Analysis of Non-Methane Organic Compounds (NMOC) Using Modified EPA Method TO-12**
#37	**Analysis of Volatile Compounds in Air by Modified EPA Method TO-14A/TO-15 by GC/MS Direct Inject**
#38	**Analysis of Volatile Organic Compounds in Summa™ Polished Canisters by GC/MS Selective Ion Monitoring Modified EPA Methods TO-14A/TO-15**
#39	**Procedures to Perform an MDL Study**
#43	**Analysis of Benzene, Toluene, Ethylbenzene, Xylene and Total Petroleum Hydrocarbons in Ambient Air Using Modified EPA Method TO-3**
#44	**Certification of SUMMA™ Polished or Glass-Lined Canisters used in the Analysis of Volatile Organic Compounds**
#45	**Preparation and Review of Laboratory Narratives**
#46	**Writing and Updating Standard Operating Procedures**
#47	**Implementation and Testing of Atlas Modules**
#48	**Preparation and Review of Control Charts**
#50	**Receipt and Tracking of Samples**
#52	**Manual Peak Integration for GC/MS Analyses**
#53	**Tune Check Spectrum Generation**
#54	**Analysis of Natural Gases by Modified ASTM Method D-1945**
#55	**Electronic Archival of Analytical Instrument Data**
#57	**Manual Peak Integration - Gas Chromatography**
#58	**Dissolved Gas Analysis in Water Samples Using GC Headspace Equilibration Technique Modified EPA SOP RSK-175**
#59	**Screening Samples Using GC/FID**
#60	**Canister Pressurization**
#61	**Corrective Action Procedure**
#62	**Preparation of 2,4-Dinitrophenylhydrazine (DNPH) Reagent for Use in Modified EPA Methods 0011, TO-5, TO-11A, and CARB 430 Sampling Media**
#63	**Sample Custody Cage Logbook Documentation**
#65	**Extraction of Aldehydes by Modified EPA Method TO-11A**

Appendix B

STANDARD OPERATING PROCEDURES

#66	**Determination of Suspended Particulate Matter in the Atmosphere as Total Suspended Particulates from Quartz Fiber Filters by 40 CFR Part 50 Appendix B; Determination of Particulate Matter as PM10 from Quartz Fiber Filters by 40 CFR Part 50 Appendix J**
#67	**NOAH Auto-Sampler and NOAH 3 Software**
#68	**Procedure to Reissue Finalized Data Reports**
#69	**Transfer of Sample Collected in a Tedlar Bag to a SummaTM Canister**
#70	**Preparation and Procedures for Flow Controller Assemblies**
#71	**Siloxanes in Air by GC/MS Direct Inject Analysis**
#72	**Analysis Of Cresol Isomers and Phenol By Modified NIOSH Method 2546**
#74	**Analysis Of Polycyclic Aromatic Hydrocarbons by GC/MS Selective Ion Monitoring (SIM) Modified EPA Method TO-13A**
#78	**Generation of Air Toxics Ltd. Data Deliverables, Electronic Conversion, and Archival**
#79	**Analysis of Volatile Organic Compounds in SMVOC Cartridges (Tenax®-GC and Anasorb® 747) and Condensates by Modified EPA SW-846 Method 5041A/8260B /0031**
#82	**Analysis of Volatile Organic Compounds in Air By Modified TO-14A GC/FID**
#83	**Analysis Of Volatile Organic Compounds In SummaTM Polished Canisters by GC/MS Low Level Modified EPA Methods TO-14A/TO-15**
#84	**Analysis Of Volatile Hydrocarbons and Ozone Precursors In Summa™ Polished Canisters**
#85	**Analysis Of Volatile Organic Compounds In Summa™ Polished Canisters by GC/MS Modified EPA Method TO-15 To Comply With NJDEP**
#86	**Analysis of Ozone Precursors in Ambient Air by EPA 600-R-98/161 using Dual GC/FID**
#87	**Demonstration of Capability Procedure**
#88	**NCASI Method IM/CAN/WP-99.02**
#89	**Media Management**
#90	**Subcontract Analysis**

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AN ENVIRONMENTAL ANALYTICAL LABORATORY

COMPREHENSIVE VALIDATION PACKAGE

Modified TO-15

INVENTORY SHEET

Work Order #: 0711101

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Comments:

Completed by:

Kara McKiernan	Kara McKiernan / Document Control	11/9/07
(Signature)	(Print Name & Title)	(Date)

AN ENVIRONMENTAL ANALYTICAL LABORATORY

WORK ORDER #: 0711101

Work Order Summary

CLIENT:	Mr. Keith Greene Los Alamos National Laboratories Mail Stop 240 P.O. Box 1663 Los Alamos, NM 87545	**BILL TO:**	Accounts Payable Los Alamos National Laboratories P.O. Box 1663 Mail Stop P240 Los Alamos, NM 87545
PHONE:	505-665-9966	**P.O. #**	47247-001-07
FAX:	505-665-8855	**PROJECT #**	08-124
DATE RECEIVED:	11/06/2007	**CONTACT:**	Brandon Dunmore
DATE COMPLETED:	11/08/2007		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.
01A	MD21-07-6800	Modified TO-15	6.0 "Hg
01AA	MD21-07-6800 Lab Duplicate	Modified TO-15	6.0 "Hg
02A	MD21-07-6801	Modified TO-15	6.5 "Hg
03A	MD21-07-6802	Modified TO-15	6.0 "Hg
04A	MD21-07-6803	Modified TO-15	7.5 "Hg
05A	MD21-07-6804	Modified TO-15	7.0 "Hg
06A	MD21-07-6806	Modified TO-15	5.0 "Hg
06AA	MD21-07-6806 Lab Duplicate	Modified TO-15	5.0 "Hg
07A	MD21-07-6818	Modified TO-15	5.0 "Hg
08A	MD21-08-8445	Modified TO-15	5.5 "Hg
09A	Lab Blank	Modified TO-15	NA
10A	CCV	Modified TO-15	NA
11A	LCS	Modified TO-15	NA

CERTIFIED BY: Linda L. Freeman DATE: 11/08/07

Laboratory Director

Certfication numbers: CA NELAP - 02110CA, LA NELAP/LELAP- AI 30763, NJ NELAP - CA004
NY NELAP - 11291, UT NELAP - 9166389892
Name of Accrediting Agency: NELAP/Florida Department of Health, Scope of Application: Clean Air Act,
Accreditation number: E87680, Effective date: 07/01/07, Expiration date: 06/30/08
Air Toxics Ltd. certifies that the test results contained in this report meet all requirements of the NELAC standards

This report shall not be reproduced, except in full, without the written approval of Air Toxics Ltd.

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(916) 985-1000 . (800) 985-5955 . FAX (916) 985-1020

AN ENVIRONMENTAL ANALYTICAL LABORATORY

LABORATORY NARRATIVE
Modified TO-15
Los Alamos National Laboratories
Workorder# 0711101

Eight 6 Liter Summa Canister samples were received on November 06, 2007. The laboratory performed analysis via modified EPA Method TO-15 using GC/MS in the full scan mode. The method involves concentrating up to 0.2 liters of air. The concentrated aliquot is then flash vaporized and swept through a water management system to remove water vapor. Following dehumidification, the sample passes directly into the GC/MS for analysis.

This workorder was independently validated prior to submittal using 'USEPA National Functional Guidelines' as generally applied to the analysis of volatile organic compounds in air. A rules-based, logic driven, independent validation engine was employed to assess completeness, evaluate pass/fail of relevant project quality control requirements and verification of all quantified amounts.

Method modifications taken to run these samples are summarized in the table below. Specific project requirements may over-ride the ATL modifications.

Requirement	***TO-15***	***ATL Modifications***
Daily CCV	+- 30% Difference	</= 30% Difference with two allowed out up to </=40%.; flag and narrate outliers
Sample collection media	Summa canister	ATL recommends use of summa canisters to insure data defensibility, but will report results from Tedlar bags at client request
Method Detection Limit	Follow 40CFR Pt.136 App. B	The MDL met all relevant requirements in Method TO-15 (statistical MDL less than the LOQ). The concentration of the spiked replicate may have exceeded 10X the calculated MDL in some cases

Receiving Notes

There were no receiving discrepancies.

Analytical Notes

The reported CCV for each daily batch may be derived from more than one analytical file due to the client's request for non-standard compounds.

Non-standard compounds may have different acceptance criteria than the standard TO-14A/TO-15 compound list as per contract or verbal agreement.

Definition of Data Qualifying Flags

Eight qualifiers may have been used on the data analysis sheets and indicates as follows:

B - Compound present in laboratory blank greater than reporting limit (background subtraction no performed).

J - Estimated value.

E - Exceeds instrument calibration range.
S - Saturated peak.
Q - Exceeds quality control limits.
U - Compound analyzed for but not detected above the reporting limit.
UJ- Non-detected compound associated with low bias in the CCV
N - The identification is based on presumptive evidence.

File extensions may have been used on the data analysis sheets and indicates as follows:
a-File was requantified
b-File was quantified by a second column and detector
r1-File was requantified for the purpose of reissue

Table 1

Client Sample ID	Lab Sample ID	Date Collected	Date Received	Date Extracted	Sample Holding Time (Days)	Sample Extract Date Analyzed	Sample Extract Holding Time (Days)	Sample Condition
MD21-07-6800	0711101-01A	11/ 3/2007	11/ 6/2007	NA	5	11/ 8/2007	NA	Good
MD21-07-6800 Lab Dupli	0711101-01AA	11/ 3/2007	11/ 6/2007	NA	4	11/ 7/2007	NA	Good
MD21-07-6801	0711101-02A	11/ 3/2007	11/ 6/2007	NA	5	11/ 8/2007	NA	Good
MD21-07-6802	0711101-03A	11/ 3/2007	11/ 6/2007	NA	4	11/ 7/2007	NA	Good
MD21-07-6803	0711101-04A	11/ 3/2007	11/ 6/2007	NA	5	11/ 8/2007	NA	Good
MD21-07-6804	0711101-05A	11/ 4/2007	11/ 6/2007	NA	4	11/ 8/2007	NA	Good
MD21-07-6806	0711101-06A	11/ 3/2007	11/ 6/2007	NA	5	11/ 8/2007	NA	Good
MD21-07-6806 Lab Dupli	0711101-06AA	11/ 3/2007	11/ 6/2007	NA	5	11/ 8/2007	NA	Good
MD21-07-6818	0711101-07A	10/30/2007	11/ 6/2007	NA	9	11/ 8/2007	NA	Good
MD21-08-8445	0711101-08A	11/ 3/2007	11/ 6/2007	NA	5	11/ 8/2007	NA	Good
Lab Blank	0711101-09A	NA	NA	NA	NA	11/ 7/2007	NA	Good
CCV	0711101-10A	NA	NA	NA	NA	11/ 7/2007	NA	Good
LCS	0711101-11A	NA	NA	NA	NA	11/ 7/2007	NA	Good

Sample Results and Raw Data

AN ENVIRONMENTAL ANALYTICAL LABORATORY

Summary of Detected Compounds
MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

Client Sample ID: MD21-07-6800

Lab ID#: 0711101-01A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
1,3-Butadiene	0.84	0.96	1.8	2.1
Freon 113	0.84	2.1	6.4	16
1,1-Dichloroethene	0.84	8.3	3.3	33
Acetone	3.4	55	8.0	130
Carbon Disulfide	0.84	0.91	2.6	2.8
Methylene Chloride	0.84	210	2.9	720
2-Butanone (Methyl Ethyl Ketone)	0.84	1.2	2.5	3.7
Chloroform	0.84	110	4.1	540
1,1,1-Trichloroethane	0.84	1.5	4.6	8.2
Carbon Tetrachloride	0.84	56	5.3	350
Benzene	0.84	1.0	2.7	3.3
1,2-Dichloroethane	0.84	2.7	3.4	11
Trichloroethene	0.84	150	4.5	800
Bromodichloromethane	0.84	1.1	5.6	7.3
Toluene	0.84	1.3	3.2	5.1
1,1,2-Trichloroethane	0.84	15	4.6	81
Tetrachloroethene	0.84	11	5.7	78
Propylene	3.4	23	5.8	40

AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: MD21-07-6800

Lab ID#: 0711101-01A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**7110719**	**Date of Collection:**	**11/3/07**
Dil. Factor:	**1.68**	**Date of Analysis:**	**11/8/07 12:00 AM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Freon 12	0.84	Not Detected	4.2	Not Detected
Freon 114	0.84	Not Detected	5.9	Not Detected
Chloromethane	3.4	Not Detected	6.9	Not Detected
Vinyl Chloride	0.84	Not Detected	2.1	Not Detected
1,3-Butadiene	0.84	0.96	1.8	2.1
Bromomethane	0.84	Not Detected	3.3	Not Detected
Chloroethane	0.84	Not Detected	2.2	Not Detected
Freon 11	0.84	Not Detected	4.7	Not Detected
Ethanol	3.4	Not Detected	6.3	Not Detected
Freon 113	0.84	2.1	6.4	16
1,1-Dichloroethene	0.84	8.3	3.3	33
Acetone	3.4	55	8.0	130
2-Propanol	3.4	Not Detected	8.2	Not Detected
Carbon Disulfide	0.84	0.91	2.6	2.8
Methylene Chloride	0.84	210	2.9	720
Methyl tert-butyl ether	0.84	Not Detected	3.0	Not Detected
trans-1,2-Dichloroethene	0.84	Not Detected	3.3	Not Detected
Hexane	0.84	Not Detected	3.0	Not Detected
1,1-Dichloroethane	0.84	Not Detected	3.4	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.84	1.2	2.5	3.7
cis-1,2-Dichloroethene	0.84	Not Detected	3.3	Not Detected
Tetrahydrofuran	0.84	Not Detected	2.5	Not Detected
Chloroform	0.84	110	4.1	540
1,1,1-Trichloroethane	0.84	1.5	4.6	8.2
Cyclohexane	0.84	Not Detected	2.9	Not Detected
Carbon Tetrachloride	0.84	56	5.3	350
Benzene	0.84	1.0	2.7	3.3
1,2-Dichloroethane	0.84	2.7	3.4	11
Heptane	0.84	Not Detected	3.4	Not Detected
Trichloroethene	0.84	150	4.5	800
1,2-Dichloropropane	0.84	Not Detected	3.9	Not Detected
1,4-Dioxane	3.4	Not Detected	12	Not Detected
Bromodichloromethane	0.84	1.1	5.6	7.3
cis-1,3-Dichloropropene	0.84	Not Detected	3.8	Not Detected
4-Methyl-2-pentanone	0.84	Not Detected	3.4	Not Detected
Toluene	0.84	1.3	3.2	5.1
trans-1,3-Dichloropropene	0.84	Not Detected	3.8	Not Detected
1,1,2-Trichloroethane	0.84	15	4.6	81
Tetrachloroethene	0.84	11	5.7	78

AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: MD21-07-6800

Lab ID#: 0711101-01A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**7110719**	**Date of Collection:**	**11/3/07**
Dil. Factor:	**1.68**	**Date of Analysis:**	**11/8/07 12:00 AM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
2-Hexanone	3.4	Not Detected	14	Not Detected
Dibromochloromethane	0.84	Not Detected	7.2	Not Detected
1,2-Dibromoethane (EDB)	0.84	Not Detected	6.4	Not Detected
Chlorobenzene	0.84	Not Detected	3.9	Not Detected
Ethyl Benzene	0.84	Not Detected	3.6	Not Detected
m,p-Xylene	0.84	Not Detected	3.6	Not Detected
o-Xylene	0.84	Not Detected	3.6	Not Detected
Styrene	0.84	Not Detected	3.6	Not Detected
Bromoform	0.84	Not Detected	8.7	Not Detected
1,1,2,2-Tetrachloroethane	0.84	Not Detected	5.8	Not Detected
4-Ethyltoluene	0.84	Not Detected	4.1	Not Detected
1,3,5-Trimethylbenzene	0.84	Not Detected	4.1	Not Detected
1,2,4-Trimethylbenzene	0.84	Not Detected	4.1	Not Detected
1,3-Dichlorobenzene	0.84	Not Detected	5.0	Not Detected
1,4-Dichlorobenzene	0.84	Not Detected	5.0	Not Detected
alpha-Chlorotoluene	0.84	Not Detected	4.3	Not Detected
1,2-Dichlorobenzene	0.84	Not Detected	5.0	Not Detected
1,2,4-Trichlorobenzene	3.4	Not Detected	25	Not Detected
Hexachlorobutadiene	3.4	Not Detected	36	Not Detected
Chlorodifluoromethane	3.4	Not Detected	12	Not Detected
Methanol	84	Not Detected	110	Not Detected
n-Butanol	3.4	Not Detected	10	Not Detected
Propylene	3.4	23	5.8	40

Container Type: 6 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	91	70-130
1,2-Dichloroethane-d4	99	70-130
4-Bromofluorobenzene	95	70-130

Air Toxics Ltd.

AMBIENT AIR METHOD TO14

Data file : /chem/msd7.i/7-07nov.b/7110719.d
Lab Smp Id: 0711101-01A
Inj Date : 08-NOV-2007 00:00
Operator : ab Inst ID: msd7.i
Smp Info : 200mL #34447
Misc Info : 6.0"Hg ->5psi
Comment :
Method : /chem/msd7.i/7-07nov.b/t14qO18d.m
Meth Date : 07-Nov-2007 11:47 sruth Quant Type: ISTD
Cal Date : 05-NOV-2007 14:29 Cal File: 7110507.d
Als bottle: 1
Dil Factor: 1.68000
Integrator: HP RTE Compound Sublist: Los2153.sub
Target Version: 3.50 Sample Matrix: AIR
Processing Host: eeyore

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

RT	EXP RT (REL RT)	MASS	RESPONSE	CONCENTRATIONS ON-COL (PPBV)	FINAL (PPBV)	TARGET RANGE	RATIO
* 81 Bromochloromethane					CAS #: 74-97-5		
14.416	14.416 (1.000)	130	606983	25.0000		80.00- 120.00	100.00
14.416	14.416 (1.000)	128	460931			28.66- 128.66	75.94
14.416	14.416 (1.000)	49	1223948			133.49- 233.49	201.64
* 97 1,4-Difluorobenzene					CAS #: 540-36-3		
16.185	16.158 (1.000)	114	2034114	25.0000		80.00- 120.00	100.00
16.185	16.158 (1.000)	88	312130			0.00- 65.23	15.34
* 126 Chlorobenzene-d5					CAS #: 3114-55-4		
21.356	21.356 (1.000)	117	1365466	25.0000		80.00- 120.00	100.00
21.356	21.356 (1.000)	82	736629			4.70- 104.70	53.95
$ 90 1,2-Dichloroethane-d4					CAS #: 17060-07-0		
15.494	15.494 (1.075)	65	809098	24.8127	24.813	80.00- 120.00	100.00
15.494	15.494 (1.075)	67	405877			2.91- 102.91	50.16
$ 113 Toluene-d8					CAS #: 2037-26-5		
18.757	18.757 (1.159)	98	1638151	22.6865	22.686	80.00- 120.00	100.00
18.757	18.757 (1.159)	70	177406			0.00- 61.46	10.83

RT	EXP RT (REL RT)	MASS	RESPONSE	CONCENTRATIONS ON-COL (PPBV)	FINAL (PPBV)	TARGET RANGE	RATIO
$ 113 Toluene-d8 (continued)							
18.757	18.757 (1.159)	100	1132748			19.18- 119.18	69.15
$ 137 Bromofluorobenzene					CAS #: 460-00-4		
23.347	23.347 (1.093)	174	772656	23.7796	23.780	80.00- 120.00	100.00
23.319	23.347 (1.092)	95	950480			73.89- 173.89	123.01
23.347	23.347 (1.093)	176	748091			48.20- 148.20	96.82
11 Propylene					CAS #: 115-07-1		
5.645	5.617 (0.392)	41	359276	13.7332	23.072	80.00- 120.00	100.00
5.645	5.617 (0.392)	42	215282			21.19- 121.19	59.92
5.645	5.617 (0.392)	39	327998			24.83- 124.83	91.29
22 1,3-Butadiene					CAS #: 106-99-0		
6.968	6.940 (0.483)	54	16200	0.57428	0.9648	80.00- 120.00	100.00
6.771	6.940 (0.470)	39	138973			55.97- 155.97	857.86
42 Freon 113					CAS #: 76-13-1		
10.213	10.186 (0.708)	151	63425	1.27438	2.141	80.00- 120.00	100.00
10.213	10.186 (0.708)	153	41322			13.12- 113.12	65.15
10.213	10.186 (0.708)	101	75353			67.28- 167.28	118.81
43 1,1-Dichloroethene					CAS #: 75-35-4		
10.351	10.324 (0.718)	61	262279	4.95248	8.320	80.00- 120.00	100.00
10.351	10.324 (0.718)	96	159305			9.78- 109.78	60.74
10.351	10.324 (0.718)	98	99163			0.00- 88.25	37.81
45 Acetone					CAS #: 67-64-1		
10.517	10.490 (0.730)	58	540260	33.0042	55.447	80.00- 120.00	100.00
10.517	10.490 (0.730)	43	1823873			247.10- 347.10	337.59
47 Carbon Disulfide					CAS #: 75-15-0		
10.904	10.877 (0.756)	76	54849	0.54284	0.9120	80.00- 120.00	100.00
54 Methylene Chloride					CAS #: 75-09-2		
11.485	11.457 (0.797)	49	4828969	124.023	208.36	80.00- 120.00	100.00
11.485	11.457 (0.797)	84	3317234			19.98- 119.98	68.69
11.485	11.457 (0.797)	51	1458066			0.00- 80.85	30.19
75 2-Butanone					CAS #: 78-93-3		
13.891	13.891 (0.964)	72	9840	0.74850	1.257	80.00- 120.00	100.00
13.891	13.891 (0.964)	43	57940			412.48- 512.48	588.82
13.891	13.891 (0.964)	57	2914			0.00- 86.57	29.61
82 Chloroform					CAS #: 67-66-3		
14.471	14.471 (1.004)	83	4041250	66.1263	111.09	80.00- 120.00	100.00

RT	EXP RT (REL RT)	MASS	RESPONSE	CONCENTRATIONS ON-COL (PPBV)	FINAL (PPBV)	TARGET RANGE	RATIO
82 Chloroform (continued)							
14.471	14.471 (1.004)	85	2626009			15.69- 115.69	64.98
83 1,1,1-Trichloroethane					CAS #: 71-55-6		
14.831	14.831 (1.029)	97	55243	0.89763	1.508	80.00- 120.00	100.00
14.831	14.831 (1.029)	99	35802			14.03- 114.03	64.81
87 Carbon Tetrachloride					CAS #: 56-23-5		
15.107	15.107 (1.048)	119	1932034	33.4901	56.263	80.00- 120.00	100.00
15.107	15.107 (1.048)	117	1982413			53.14- 153.14	102.61
91 Benzene					CAS #: 71-43-2		
15.522	15.522 (0.959)	78	49533	0.61287	1.030	80.00- 120.00	100.00
15.522	15.522 (0.959)	77	11123			0.00- 71.87	22.46
93 1,2-Dichloroethane					CAS #: 107-06-2		
15.632	15.633 (0.966)	62	69622	1.62132	2.724	80.00- 120.00	100.00
15.632	15.633 (0.966)	64	22344			0.00- 82.89	32.09
101 Trichloroethene					CAS #: 79-01-6		
16.655	16.628 (1.029)	95	3179891	88.5733	148.80	80.00- 120.00	100.00
16.655	16.628 (1.029)	130	3191320			51.11- 151.11	100.36
16.655	16.628 (1.029)	97	2052846			15.04- 115.04	64.56
107 Bromodichloromethane					CAS #: 75-27-4		
17.568	17.540 (1.085)	83	40604	0.65144	1.094	80.00- 120.00	100.00
17.568	17.540 (1.085)	85	26205			14.03- 114.03	64.54
114 Toluene					CAS #: 108-88-3		
18.895	18.895 (1.167)	91	71101	0.80319	1.349	80.00- 120.00	100.00
18.895	18.895 (1.167)	92	44640			12.90- 112.90	62.78
117 1,1,2-Trichloroethane					CAS #: 79-00-5		
19.669	19.669 (0.921)	97	249496	8.82159	14.820	80.00- 120.00	100.00
19.669	19.669 (0.921)	99	155401			12.40- 112.40	62.29
19.669	19.669 (0.921)	83	204906			32.55- 132.55	82.13
120 Tetrachloroethene					CAS #: 127-18-4		
19.835	19.835 (0.929)	166	251012	6.84306	11.496	80.00- 120.00	100.00
19.835	19.835 (0.929)	129	170477			21.07- 121.07	67.92
19.835	19.835 (0.929)	131	169767			18.33- 118.33	67.63

Air Toxics Ltd.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd7.i
Lab File ID: 7110719.d
Lab Smp Id: 0711101-01A
Analysis Type: VOA
Quant Type: ISTD
Operator: ab
Method File: /chem/msd7.i/7-07nov.b/t14qO18d.m
Misc Info: 6.0"Hg ->5psi

Calibration Date: 07-NOV-2007
Calibration Time: 08:52

Level: LOW
Sample Type: AIR

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
81 Bromochloromethan	695461	417277	973645	606983	-12.72
97 1,4-Difluorobenze	2265681	1359409	3171953	2034114	-10.22
126 Chlorobenzene-d5	1765821	1059493	2472149	1365466	-22.67

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
81 Bromochloromethan	14.42	14.09	14.75	14.42	0.00
97 1,4-Difluorobenze	16.16	15.83	16.49	16.19	0.17
126 Chlorobenzene-d5	21.36	21.03	21.69	21.36	0.00

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Air Toxics Ltd.

RECOVERY REPORT

Client Name: Client SDG: 7-07nov
Sample Matrix: GAS Fraction: VOA
Lab Smp Id: 0711101-01A
Level: LOW Operator: ab
Data Type: MS DATA SampleType: SAMPLE
SpikeList File: 2926spectra.spk Quant Type: ISTD
Sublist File: Los2153.sub
Method File: /chem/msd7.i/7-07nov.b/t14qO18d.m
Misc Info: 6.0"Hg ->5psi

SURROGATE COMPOUND	CONC ADDED PPBV	CONC RECOVERED PPBV	% RECOVERED	LIMITS
$ 90 1,2-Dichloroethane	25.000	24.813	99.25	70-130
$ 113 Toluene-d8	25.000	22.686	90.75	70-130
$ 137 Bromofluorobenzene	25.000	23.780	95.12	70-130

Data File: /chem/msd7.i/7-07nov.b/7110719.d

Date : 08-NOV-2007 00:00

Client ID:

Sample Info: 200mL #34447

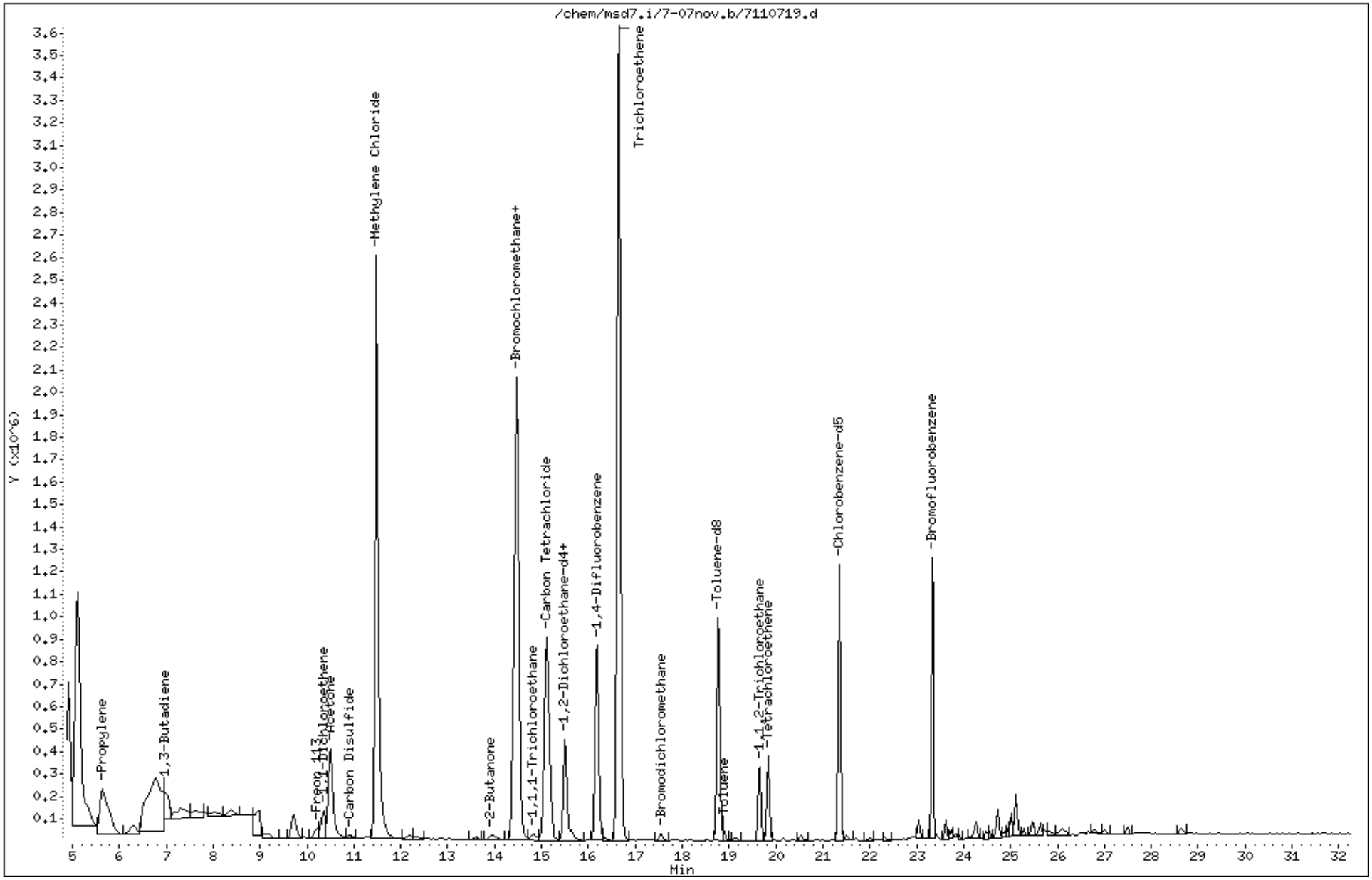
Column phase: RTx-624

Instrument: msd7.i

Operator: ab

Column diameter: 0.53

0014



Data File: /chem/msd7.i/7-07nov.b/7110719.d

Date : 08-NOV-2007 00:00

Client ID:

Instrument: msd7.i

Sample Info: 200mL #34447

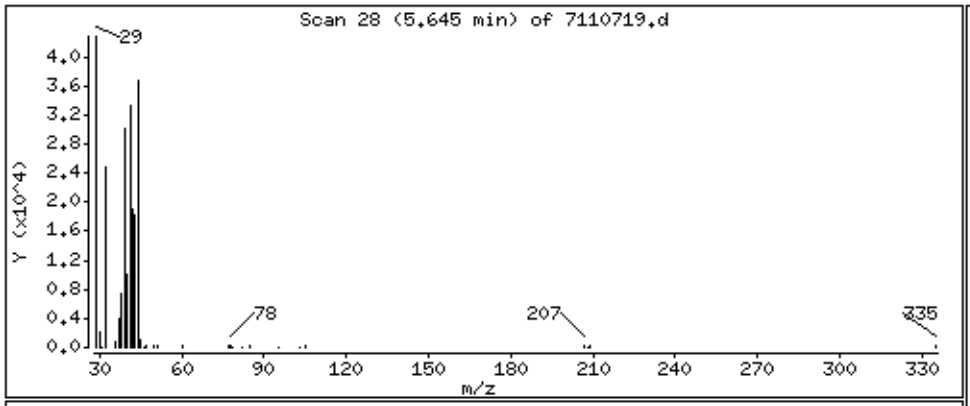
Operator: ab

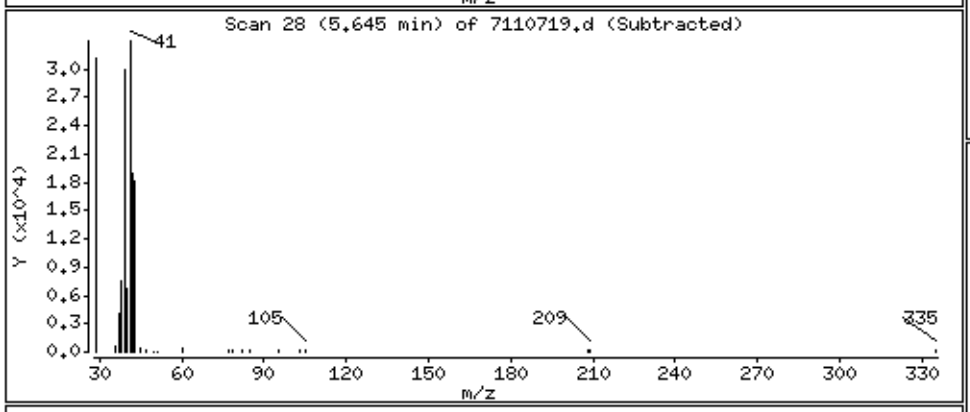
Column phase: RTx-624

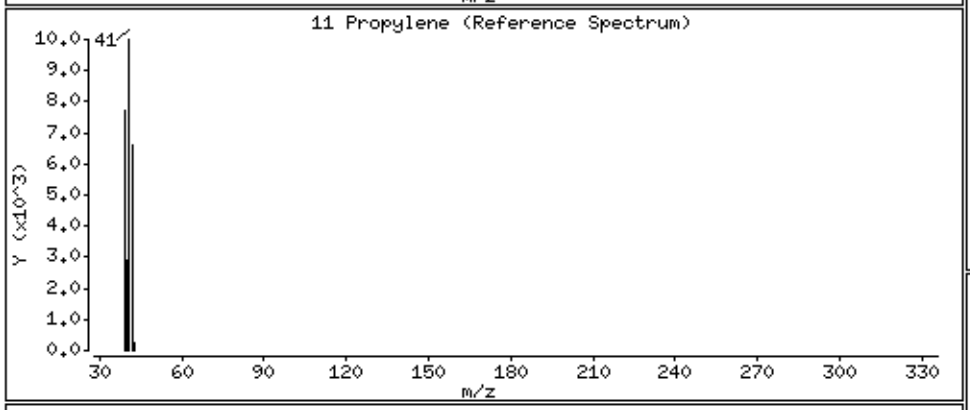
Column diameter: 0.53

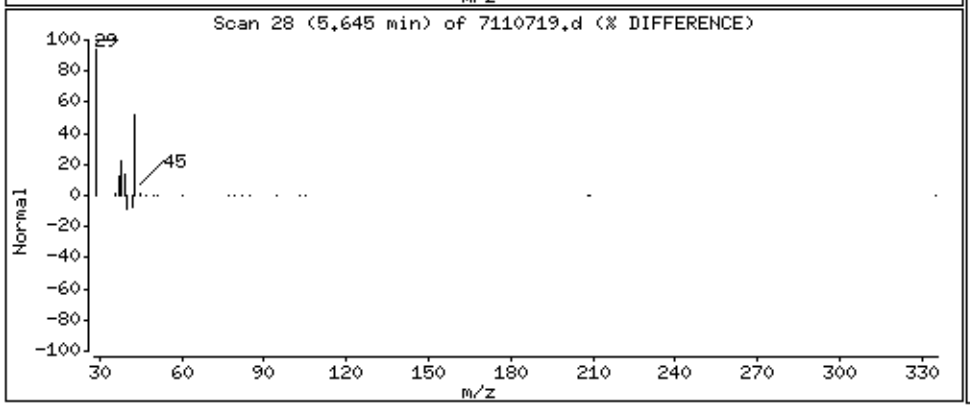
11 Propylene

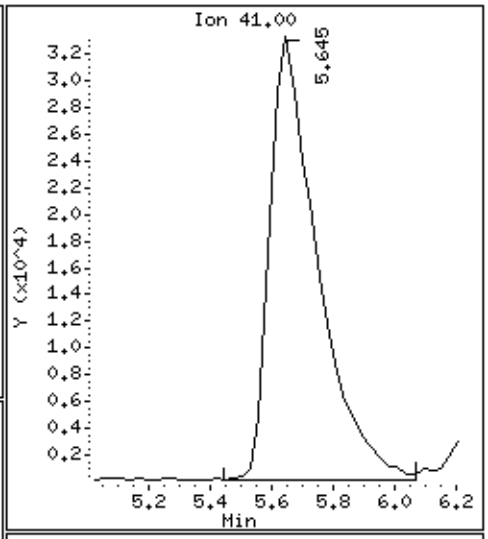
Concentration: 23.072 PPBV

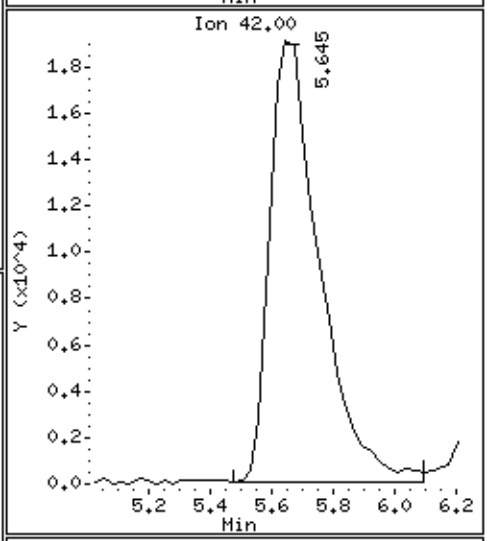


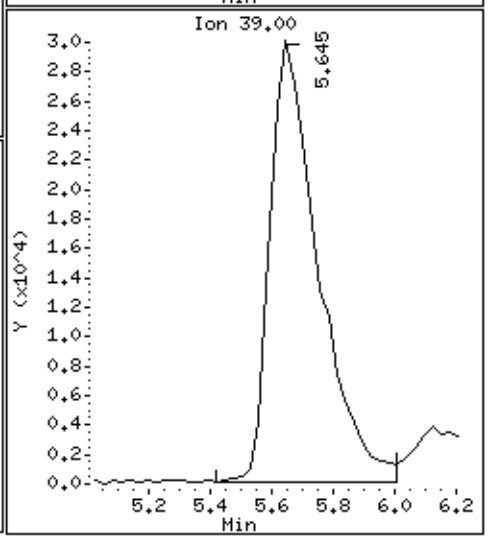












Data File: /chem/msd7.i/7-07nov.b/7110719.d

Date : 08-NOV-2007 00:00

Client ID:

Instrument: msd7.i

Sample Info: 200mL #34447

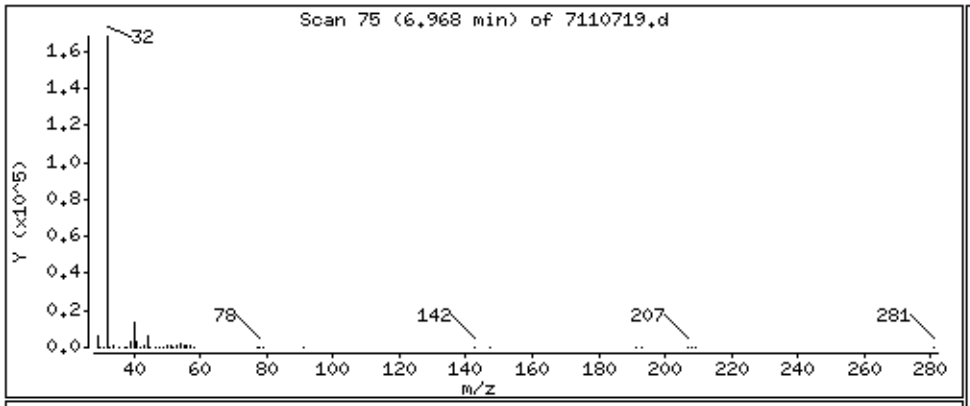
Operator: ab

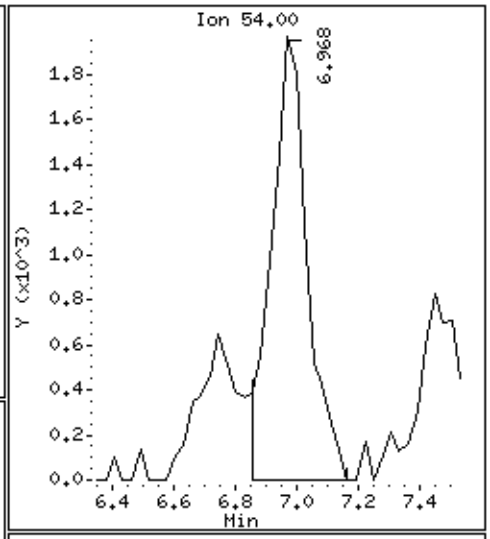
Column phase: RTx-624

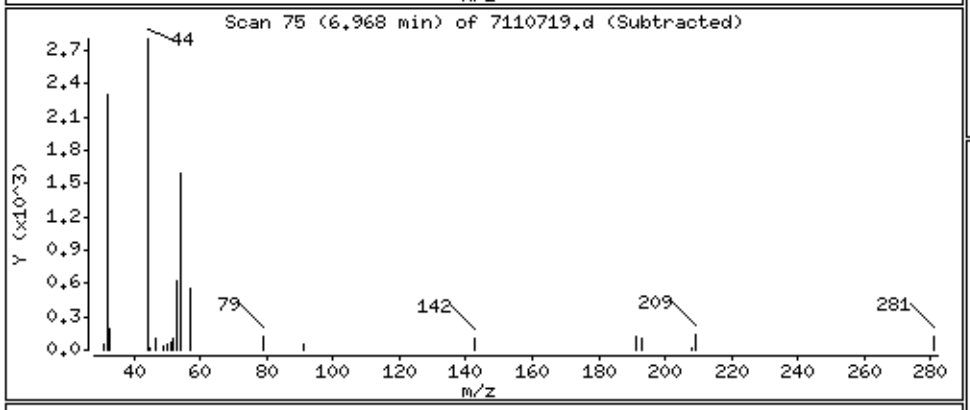
Column diameter: 0.53

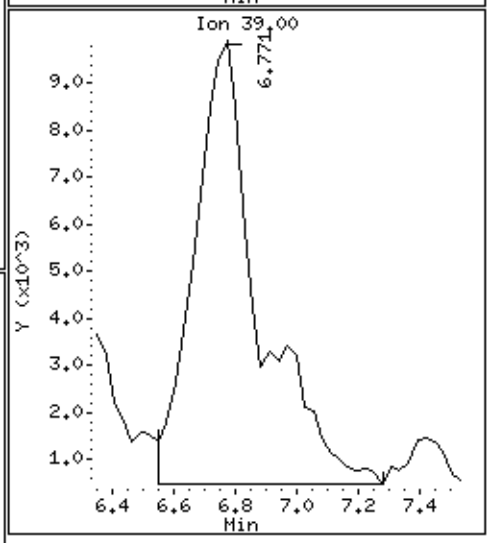
22 1,3-Butadiene

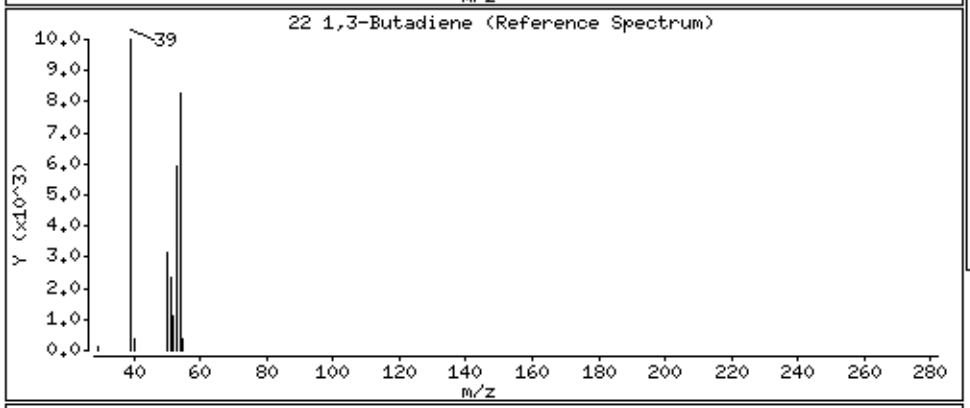
Concentration: 0.9648 PPBV

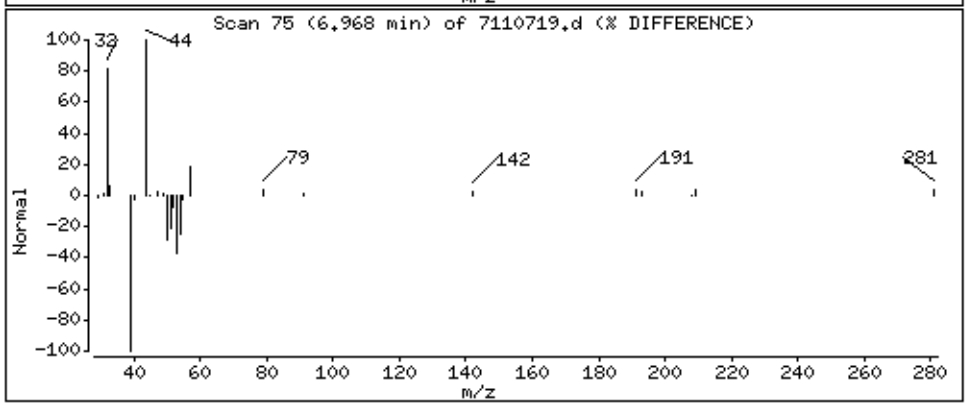












Data File: /chem/msd7.i/7-07nov.b/7110719.d

Date : 08-NOV-2007 00:00

Client ID:

Instrument: msd7.i

Sample Info: 200mL #34447

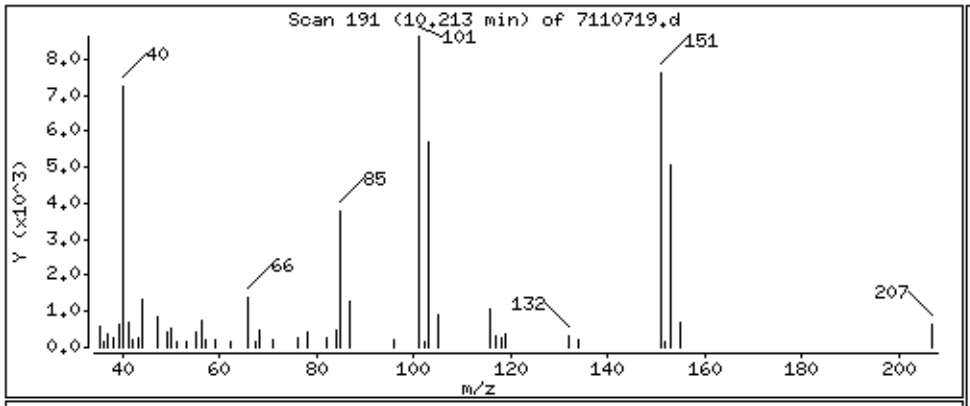
Operator: ab

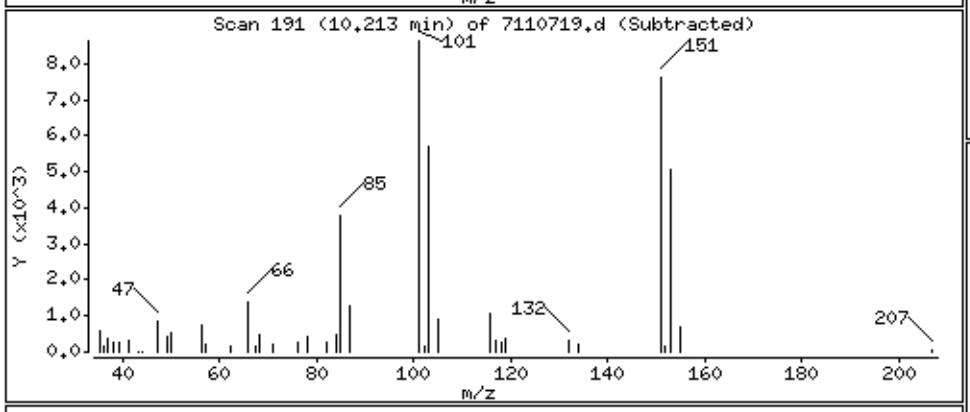
Column phase: RTx-624

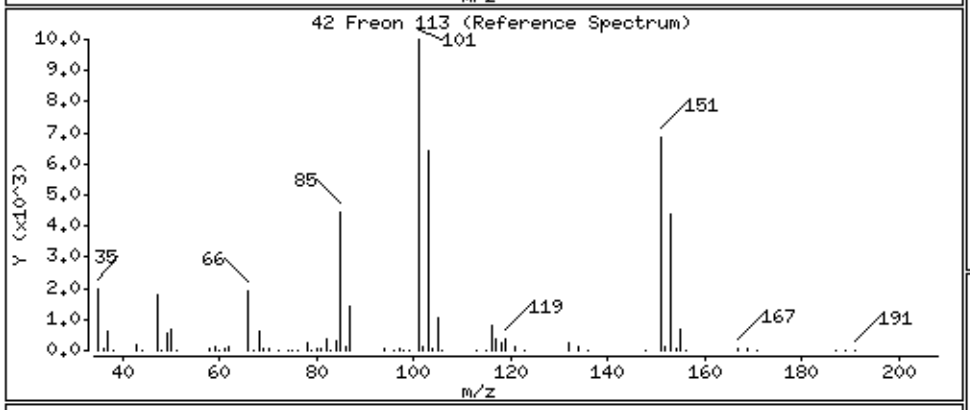
Column diameter: 0.53

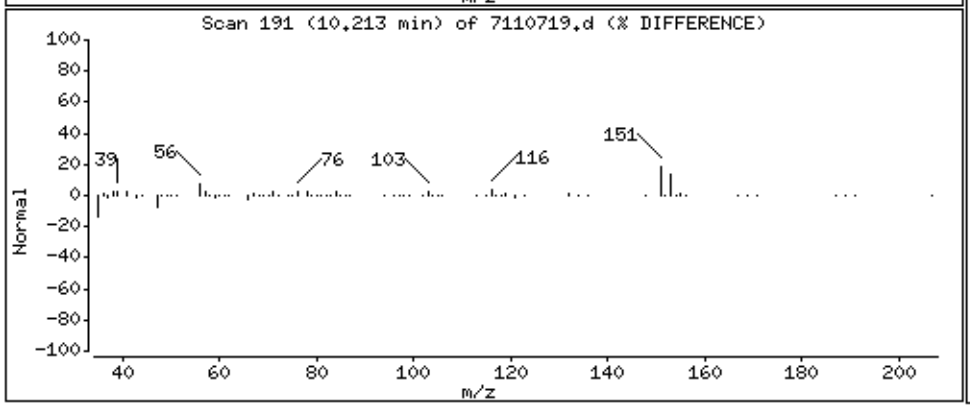
42 Freon 113

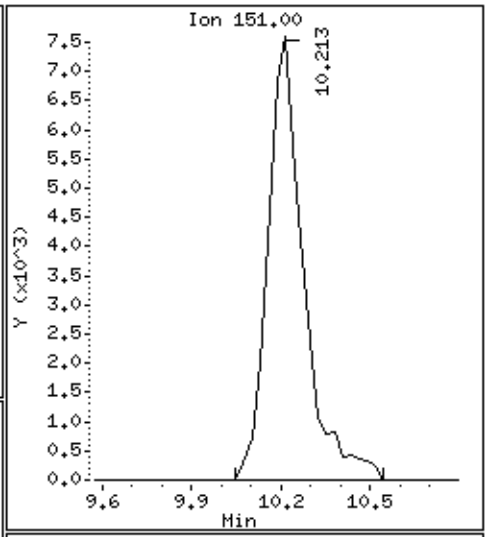
Concentration: 2.141 PPBV

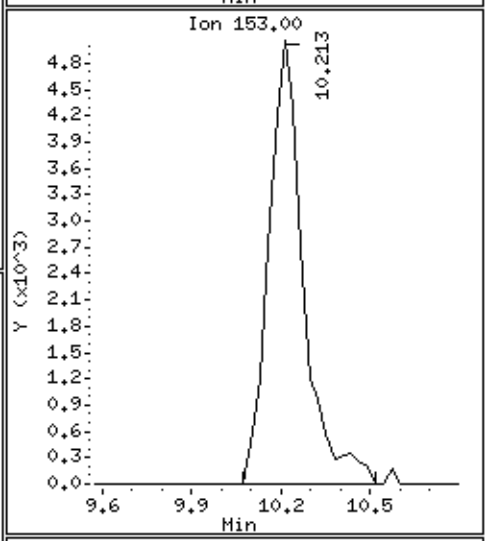


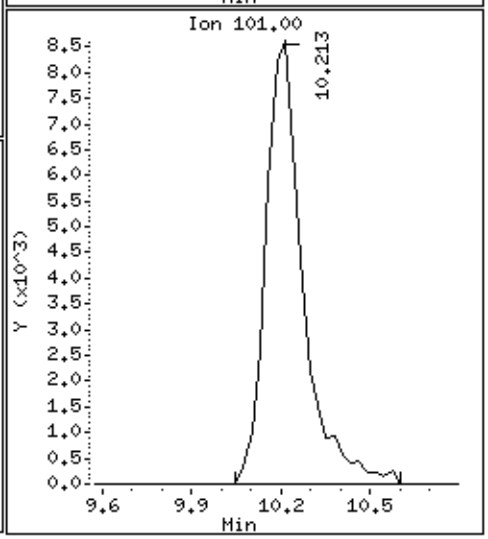












Data File: /chem/msd7.i/7-07nov.b/7110719.d

Date : 08-NOV-2007 00:00

Client ID:

Instrument: msd7.i

Sample Info: 200mL #34447

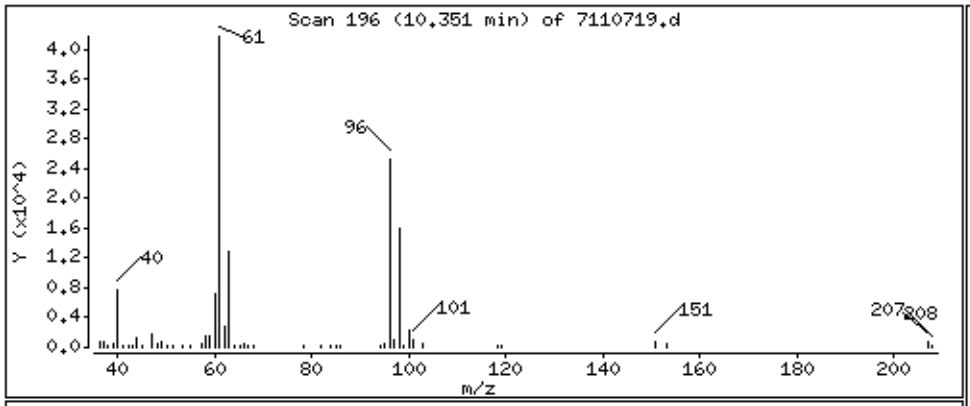
Operator: ab

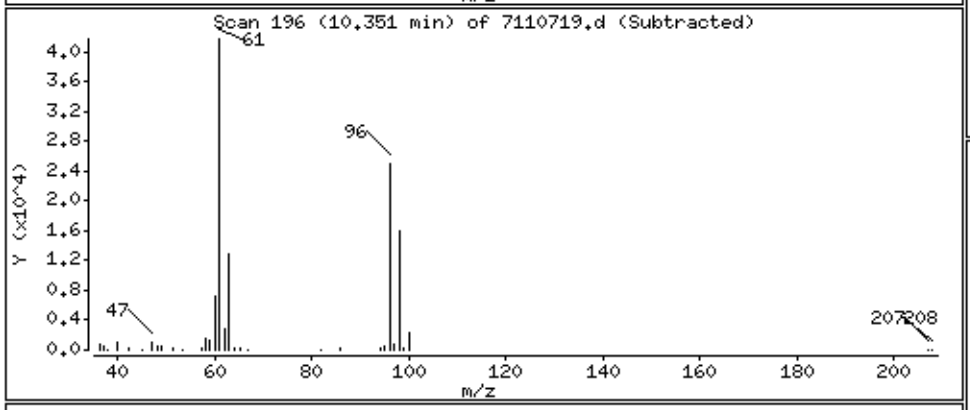
Column phase: RTx-624

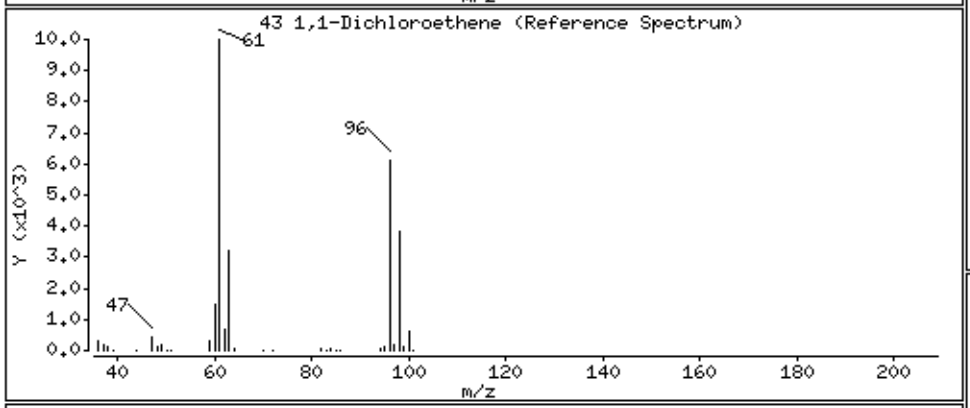
Column diameter: 0.53

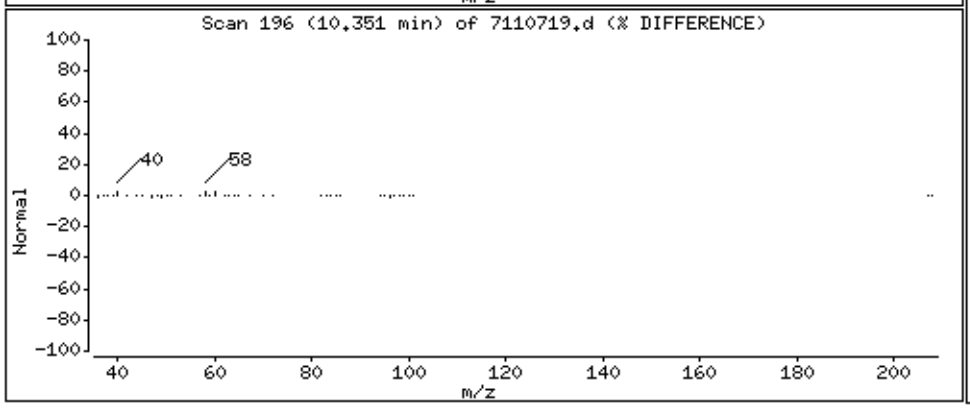
43 1,1-Dichloroethene

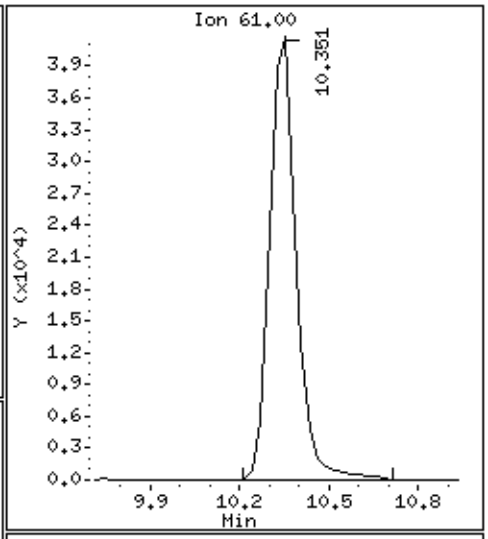
Concentration: 8.320 PPBV

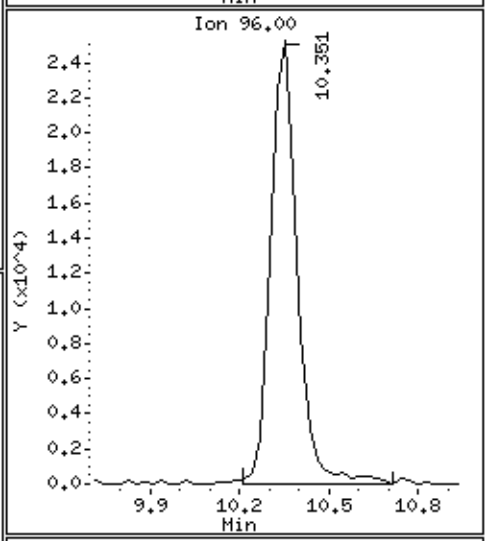


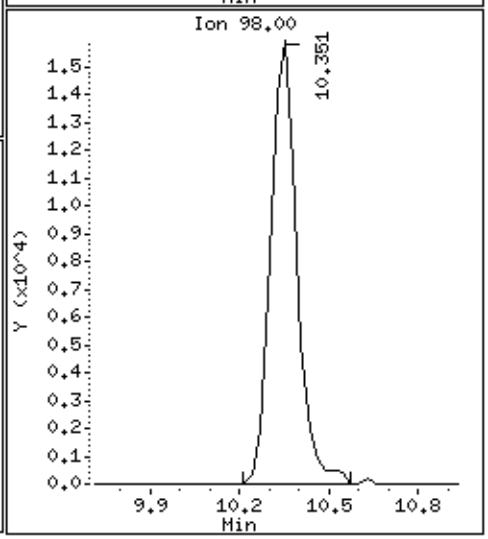












Data File: /chem/msd7.i/7-07nov.b/7110719.d

Date : 08-NOV-2007 00:00

Client ID:

Instrument: msd7.i

Sample Info: 200mL #34447

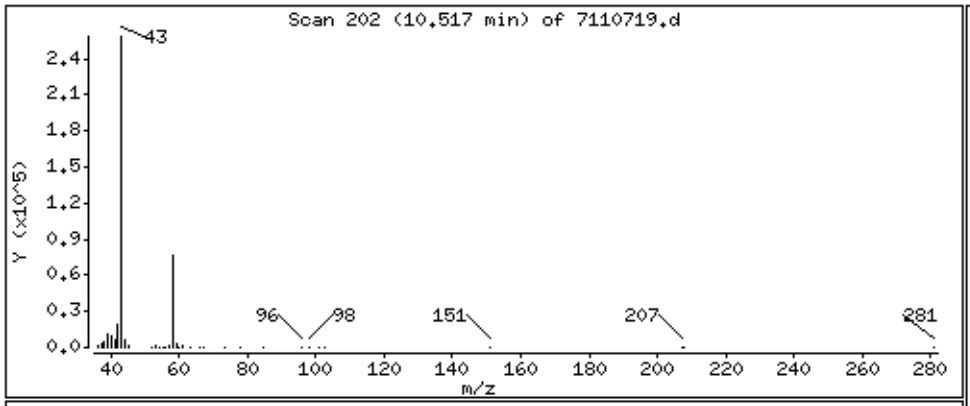
Operator: ab

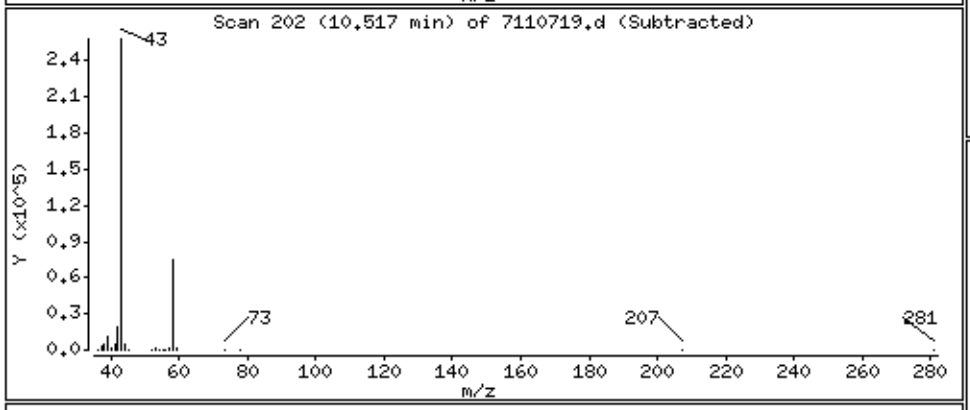
Column phase: RTx-624

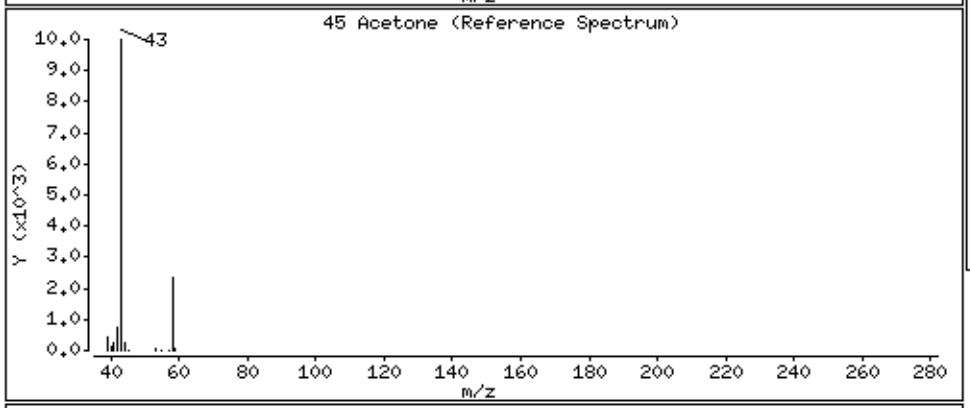
Column diameter: 0.53

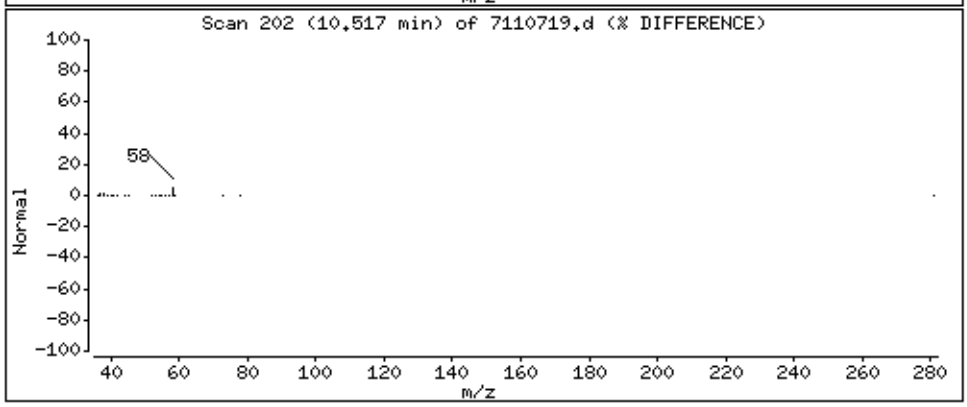
45 Acetone

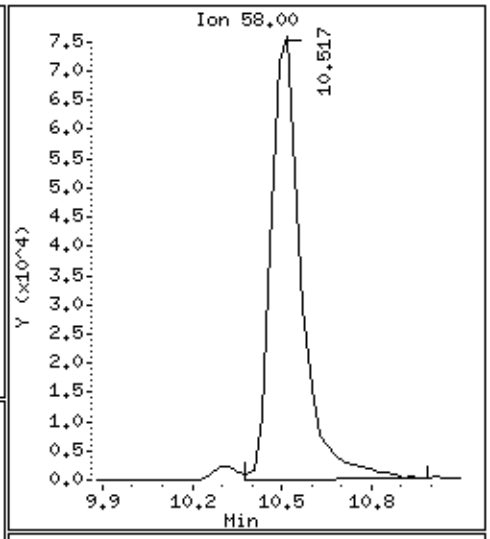
Concentration: 55.447 PPBV

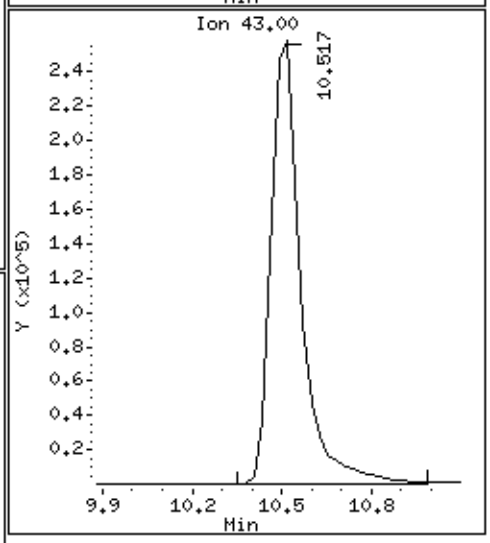












Data File: /chem/msd7.i/7-07nov.b/7110719.d

Date : 08-NOV-2007 00:00

Client ID:

Instrument: msd7.i

Sample Info: 200mL #34447

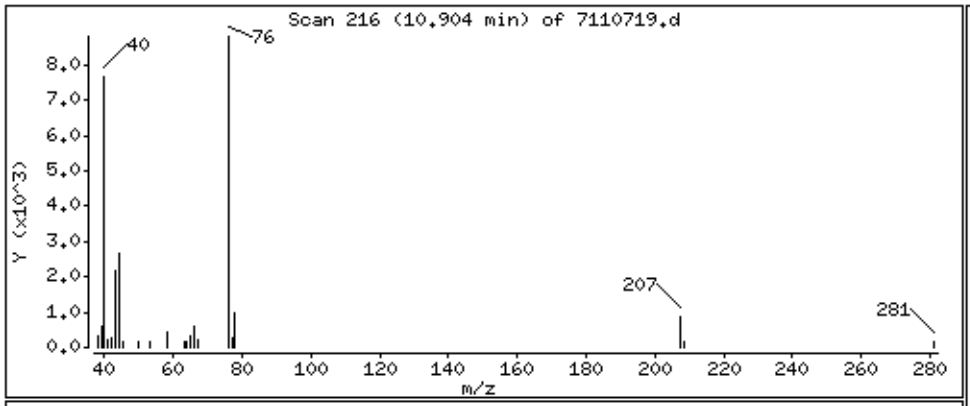
Operator: ab

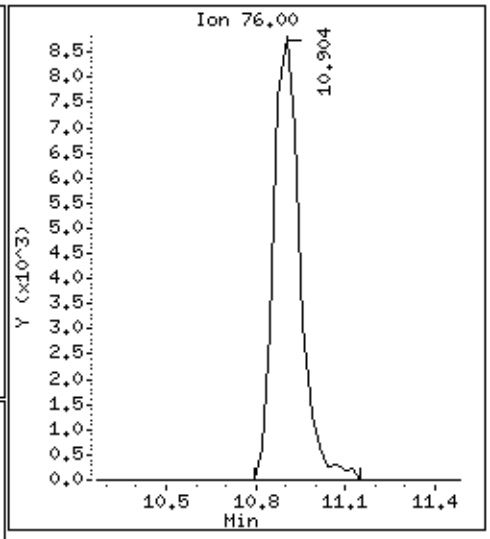
Column phase: RTx-624

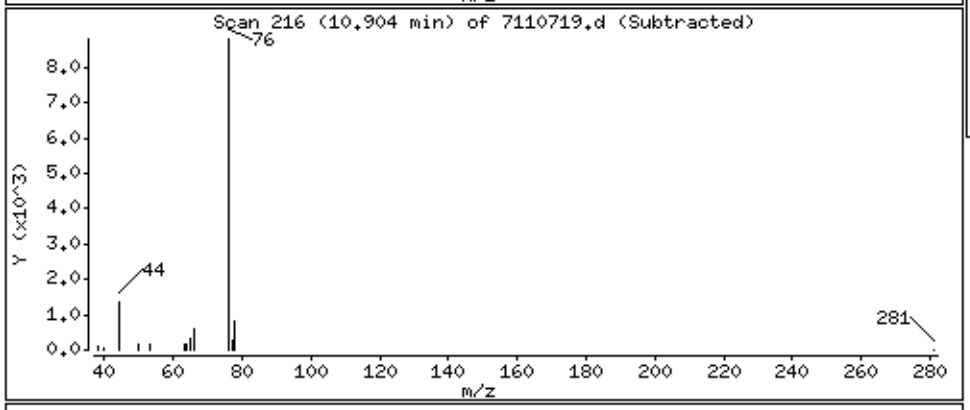
Column diameter: 0.53

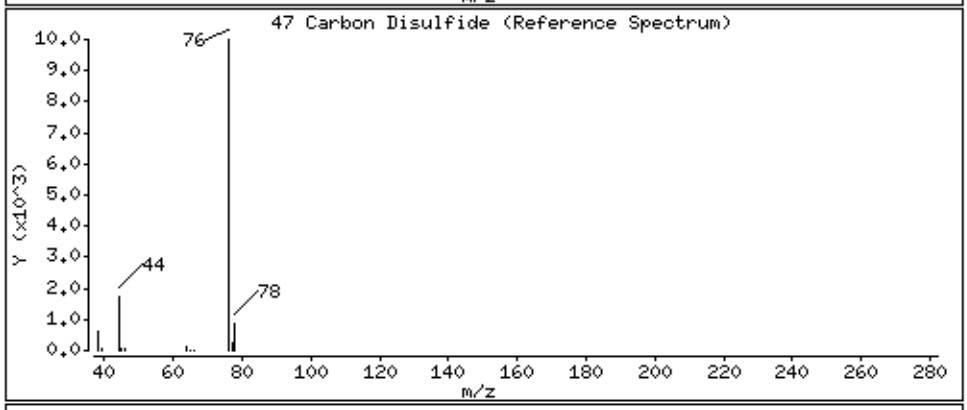
47 Carbon Disulfide

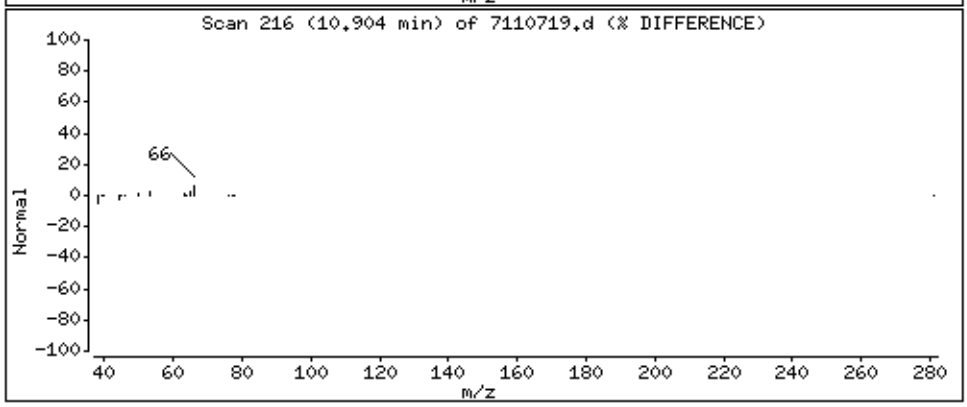
Concentration: 0.9120 PPBV











Data File: /chem/msd7.i/7-07nov.b/7110719.d

Date : 08-NOV-2007 00:00

Client ID:

Instrument: msd7.i

Sample Info: 200mL #34447

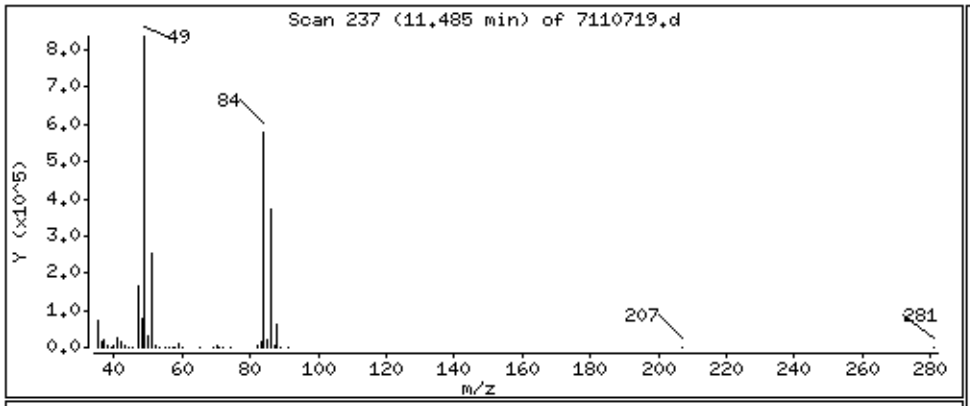
Operator: ab

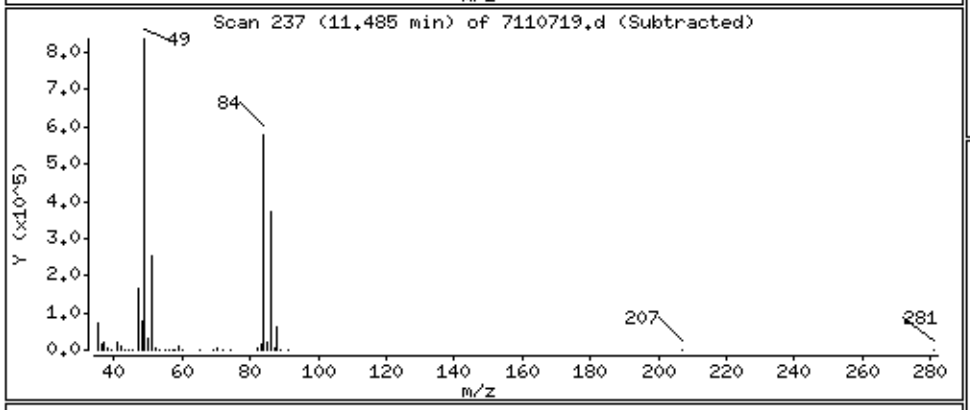
Column phase: RTx-624

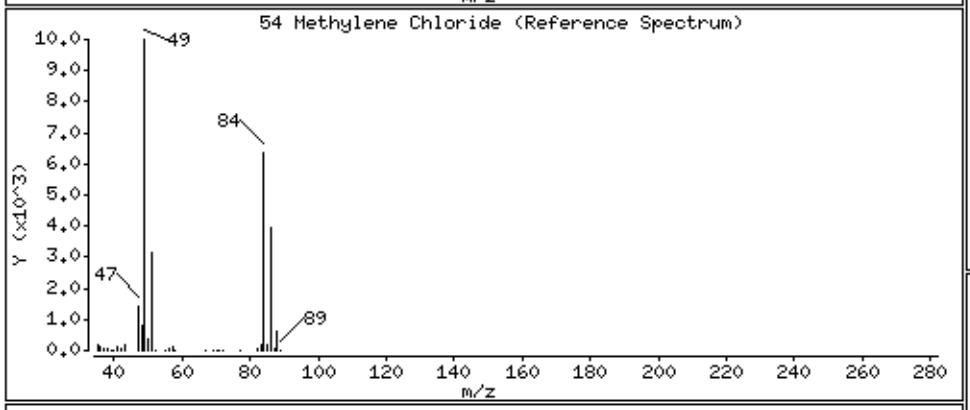
Column diameter: 0.53

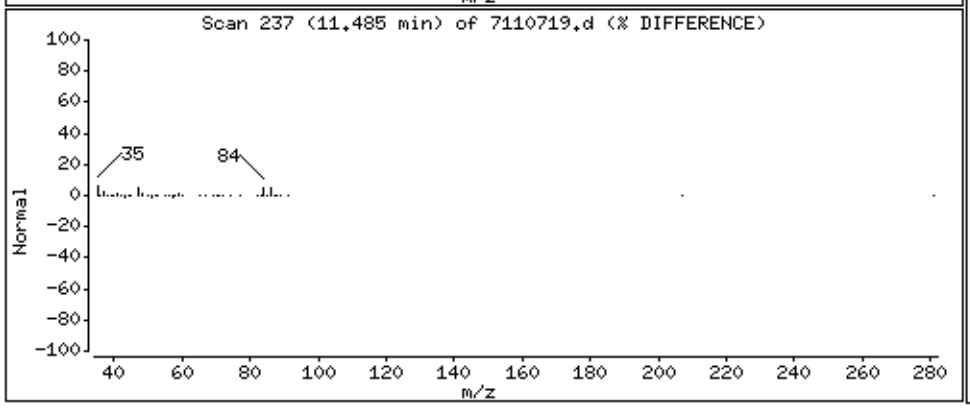
54 Methylene Chloride

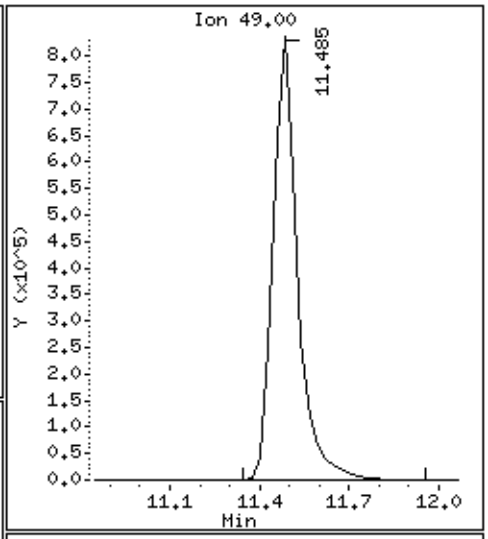
Concentration: 208.36 PPBV

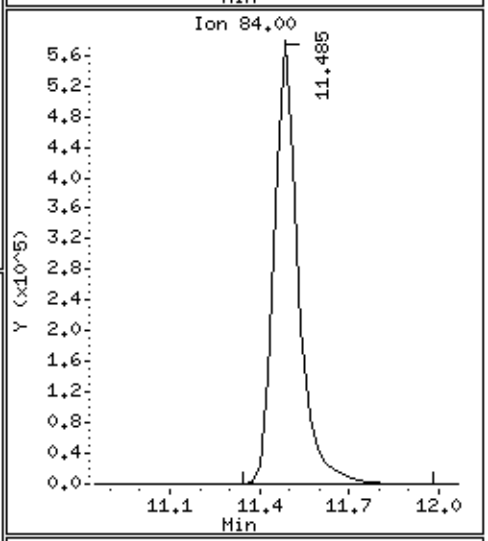


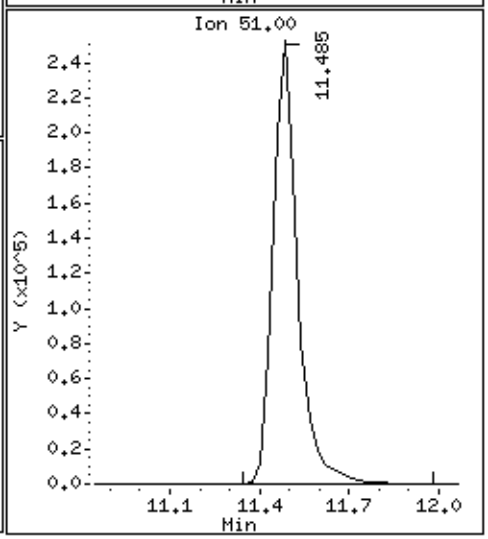












Data File: /chem/msd7.i/7-07nov.b/7110719.d

Date : 08-NOV-2007 00:00

Client ID:

Instrument: msd7.i

Sample Info: 200mL #34447

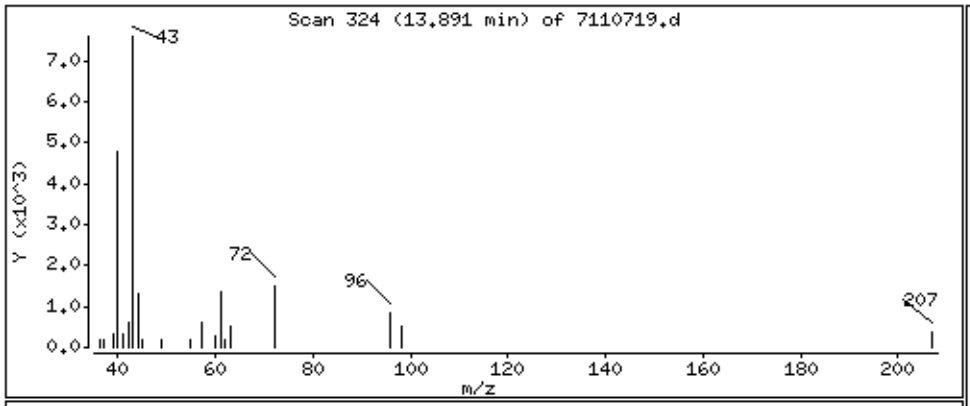
Operator: ab

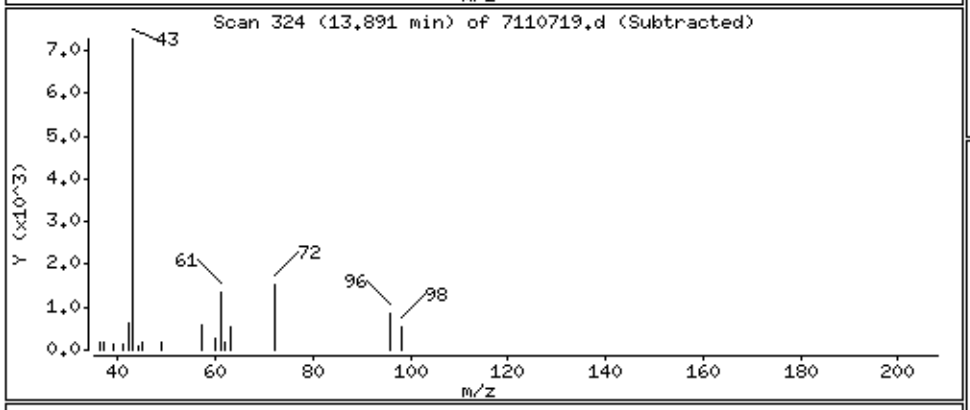
Column phase: RTx-624

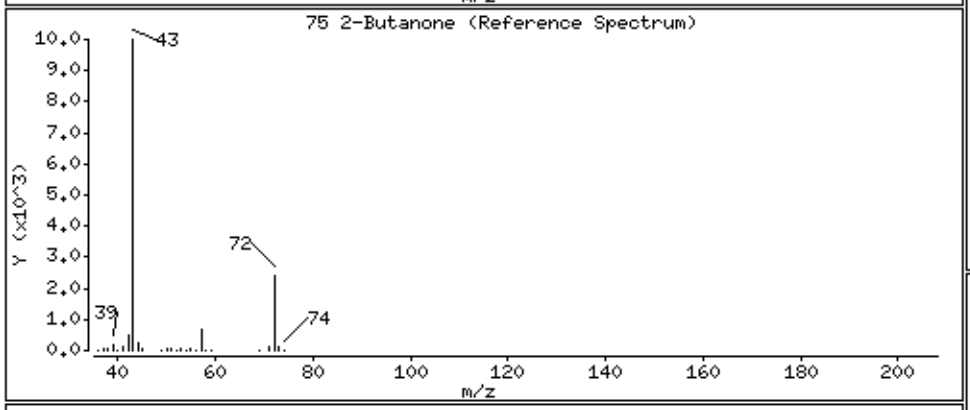
Column diameter: 0.53

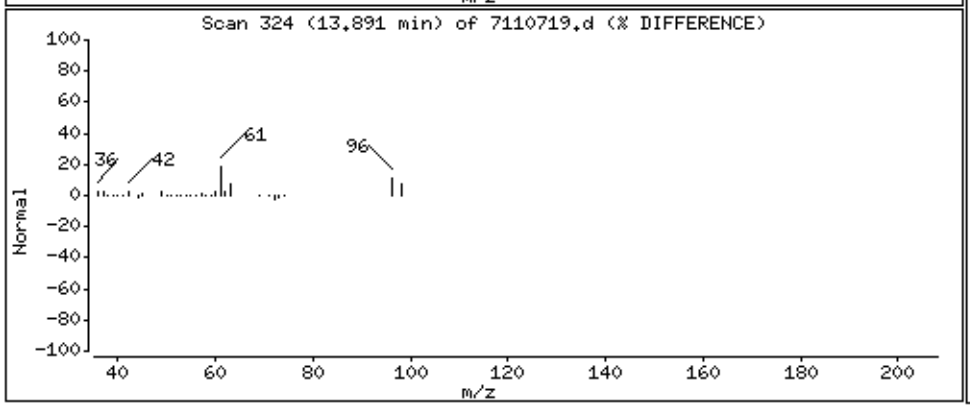
75 2-Butanone

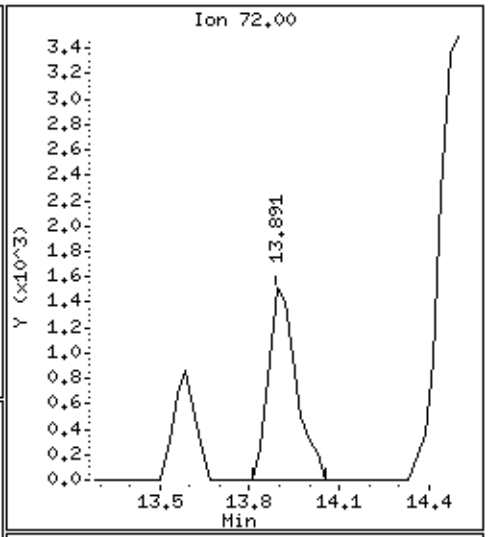
Concentration: 1.257 PPBV

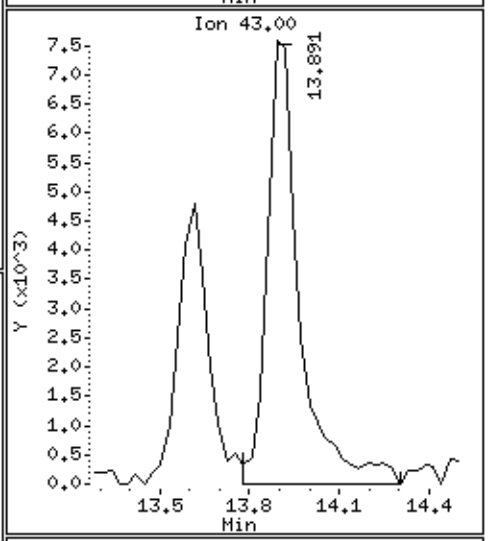


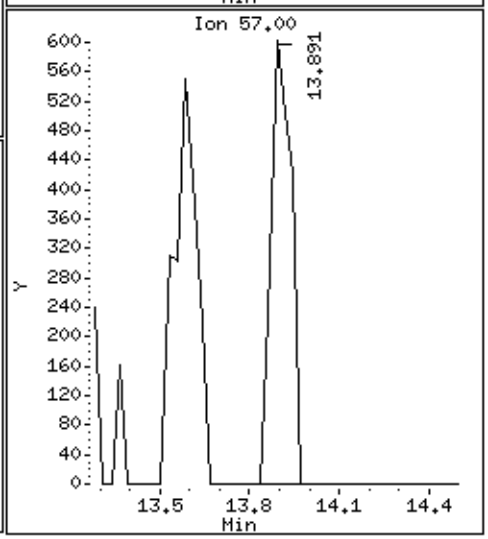












Data File: /chem/msd7.i/7-07nov.b/7110719.d

Date : 08-NOV-2007 00:00

Client ID:

Instrument: msd7.i

Sample Info: 200mL #34447

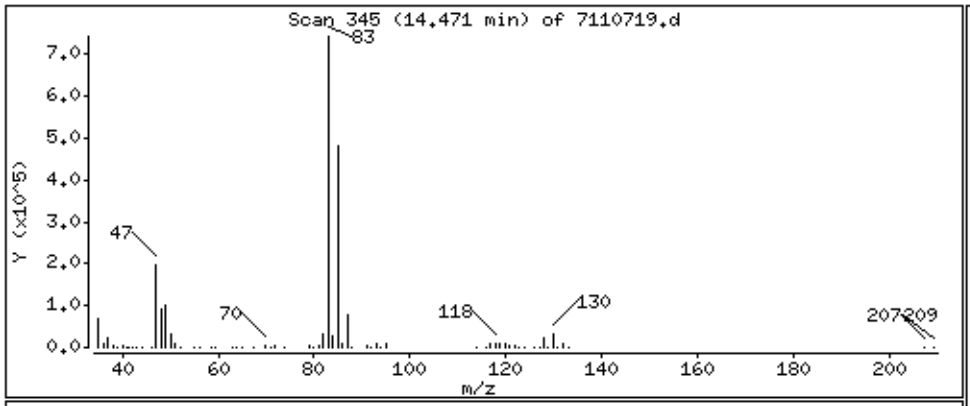
Operator: ab

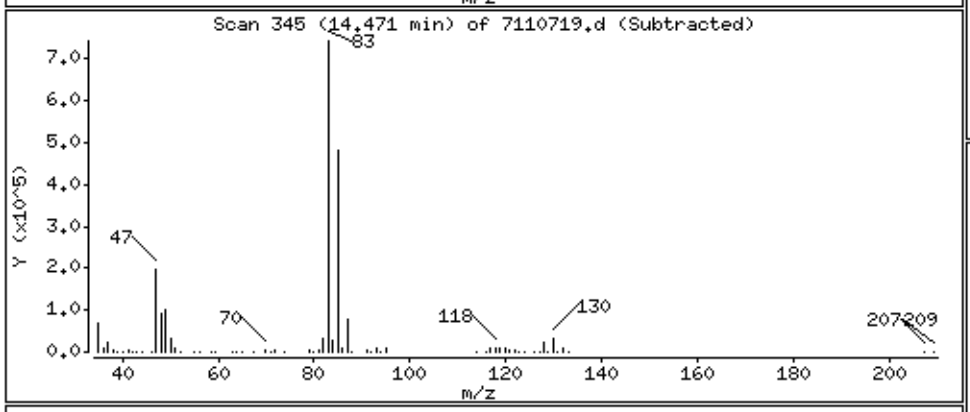
Column phase: RTx-624

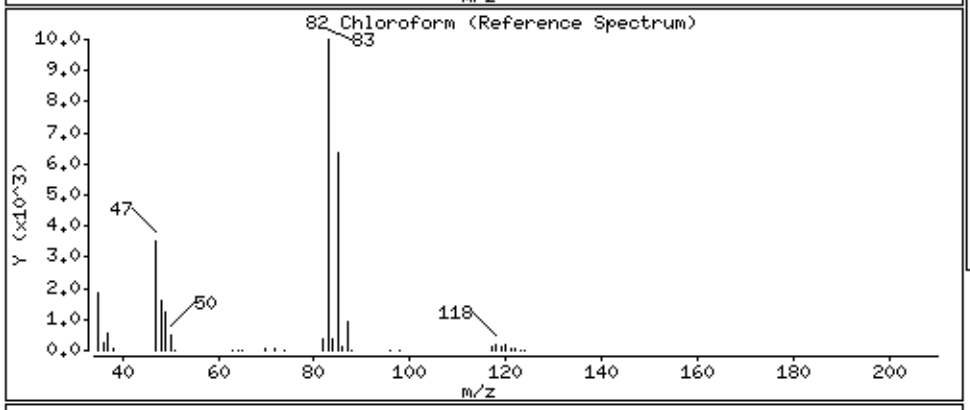
Column diameter: 0.53

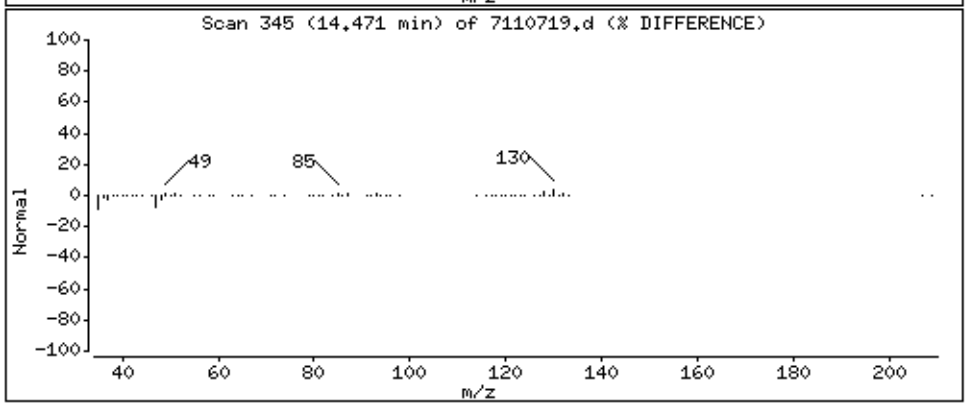
82 Chloroform

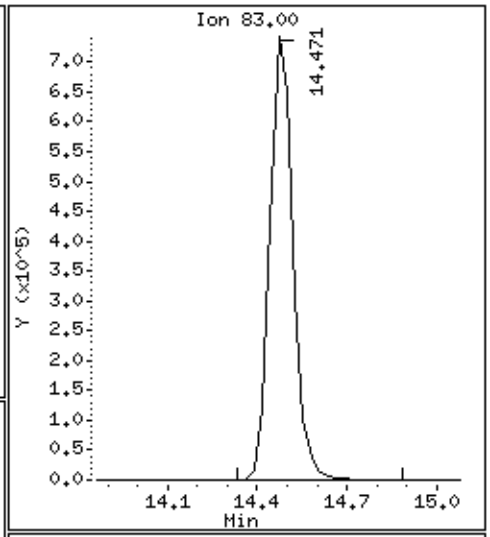
Concentration: 111.09 PPBV

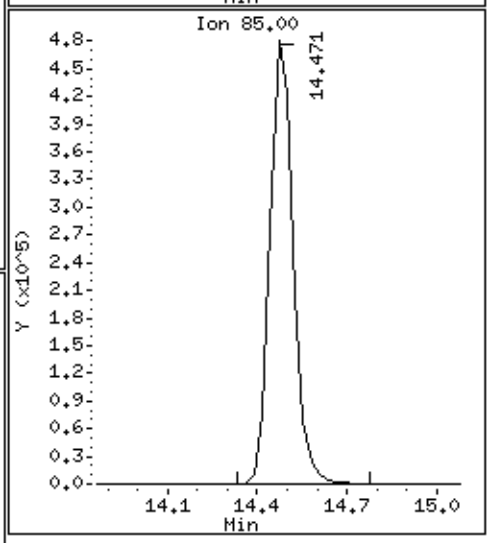












Data File: /chem/msd7.i/7-07nov.b/7110719.d

Date : 08-NOV-2007 00:00

Client ID:

Instrument: msd7.i

Sample Info: 200mL #34447

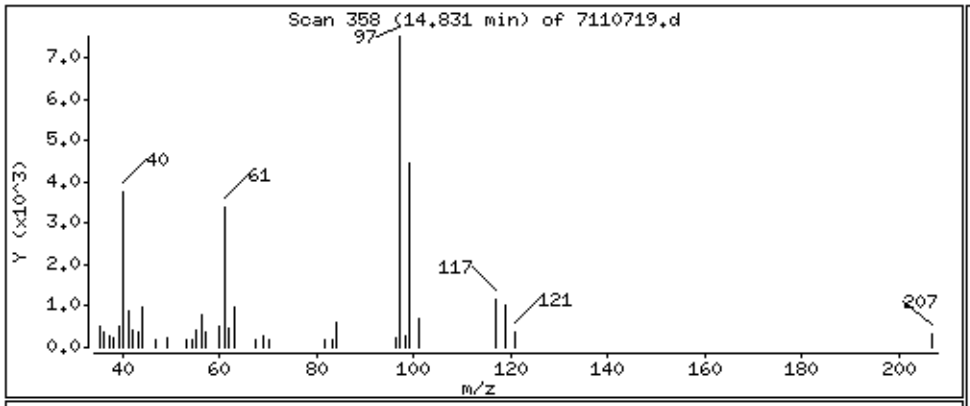
Operator: ab

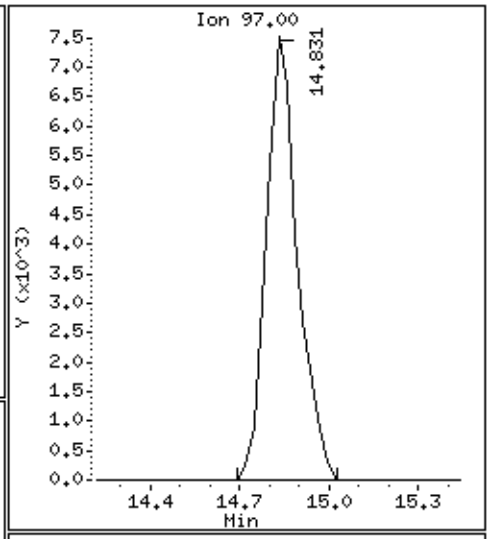
Column phase: RTx-624

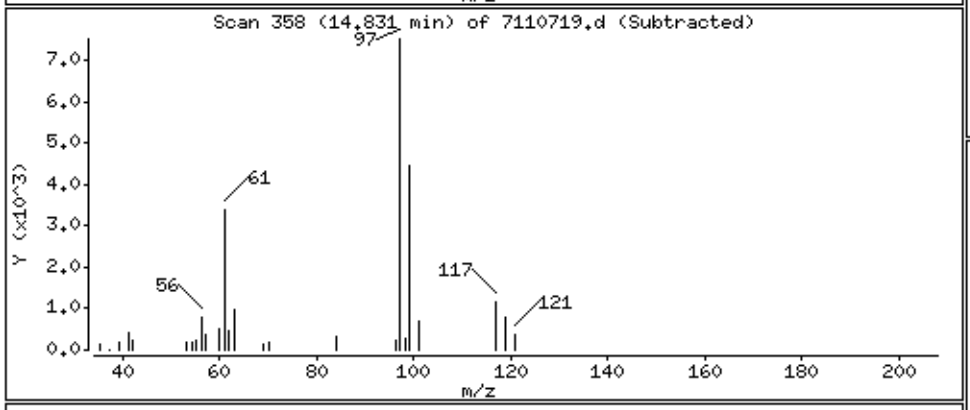
Column diameter: 0.53

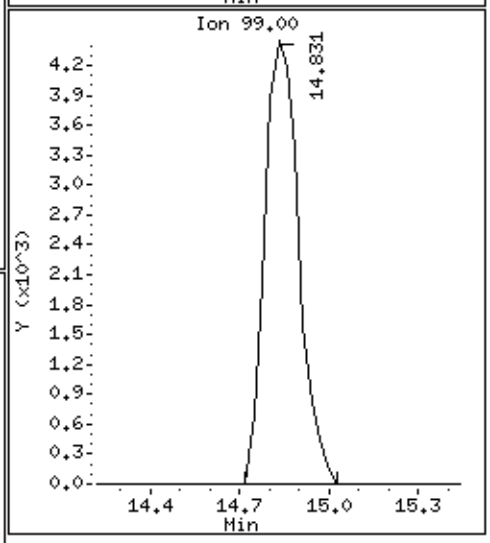
83 1,1,1-Trichloroethane

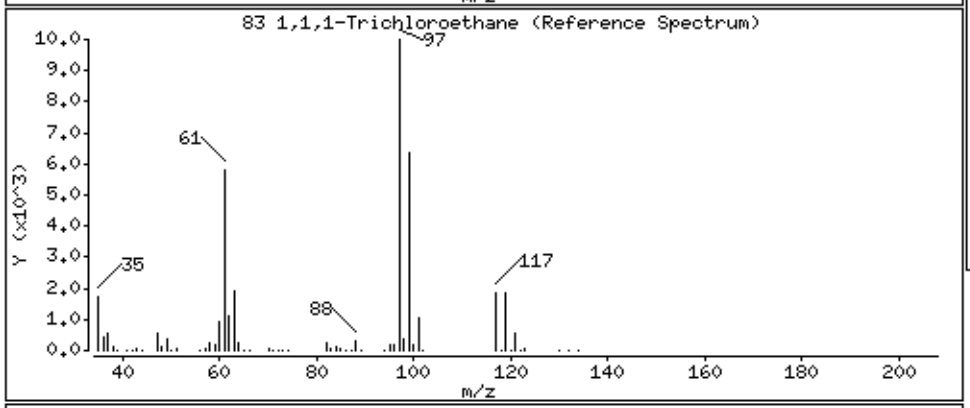
Concentration: 1.508 PPBV

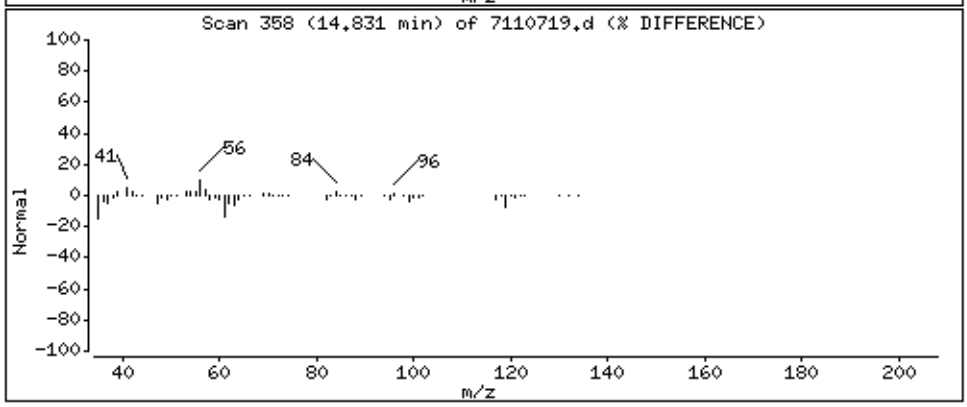












Data File: /chem/msd7.i/7-07nov.b/7110719.d

Date : 08-NOV-2007 00:00

Client ID:

Instrument: msd7.i

Sample Info: 200mL #34447

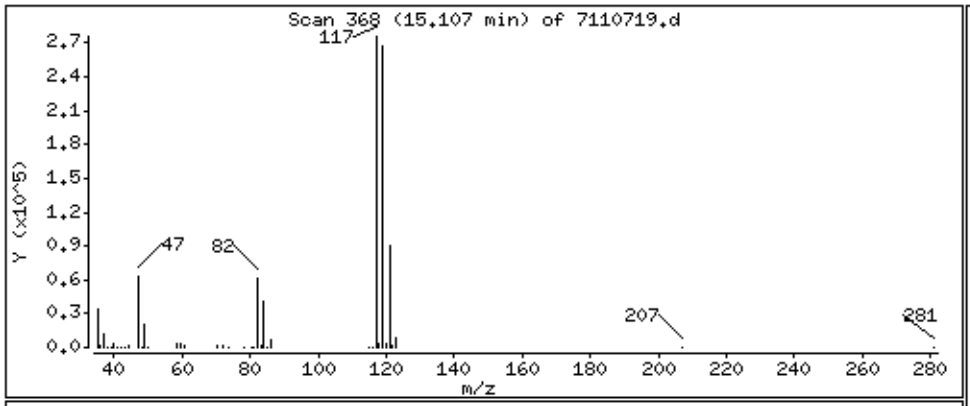
Operator: ab

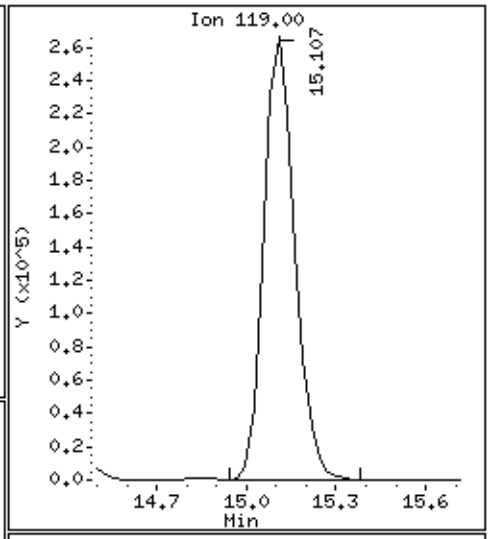
Column phase: RTx-624

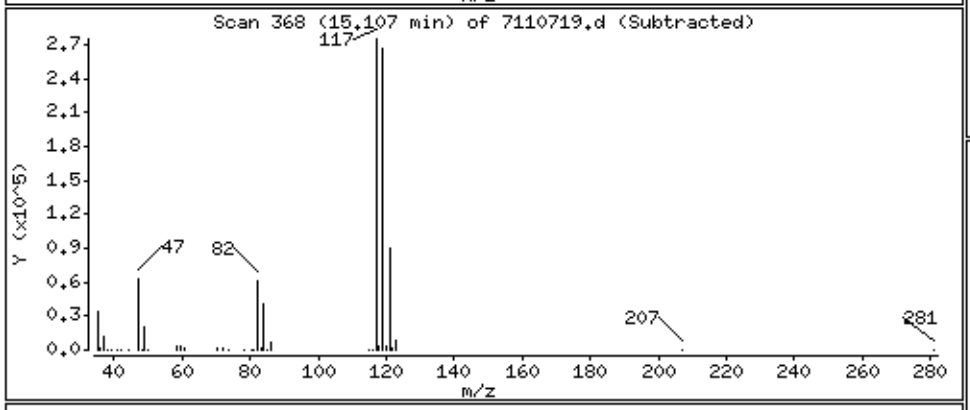
Column diameter: 0.53

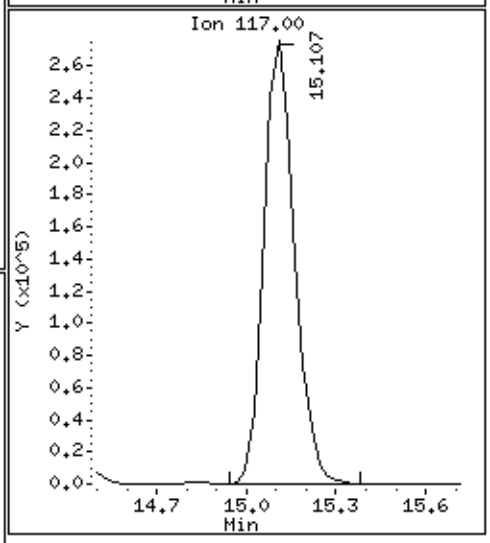
87 Carbon Tetrachloride

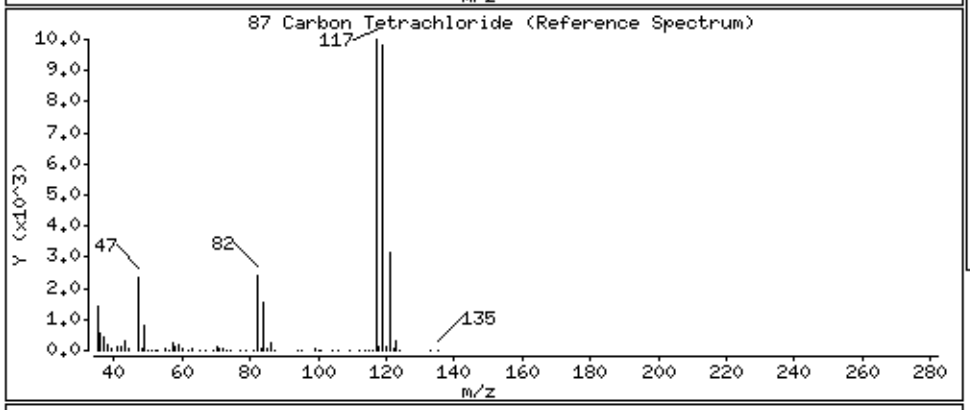
Concentration: 56.263 PPBV

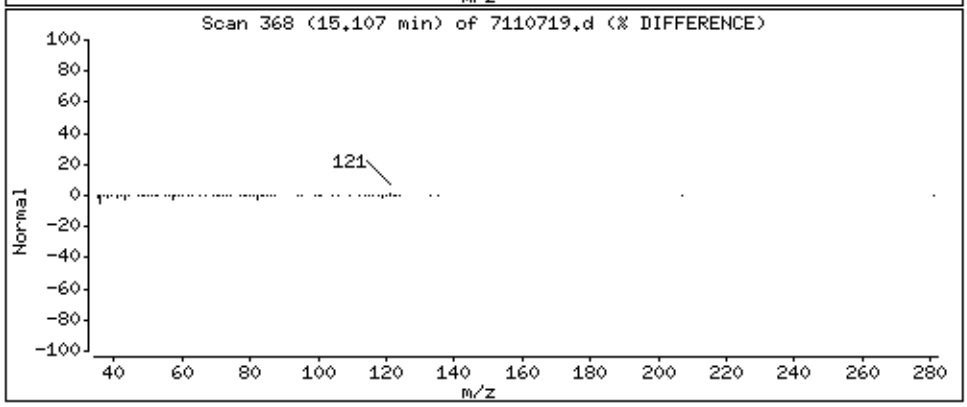












Data File: /chem/msd7.i/7-07nov.b/7110719.d

Date : 08-NOV-2007 00:00

Client ID:

Instrument: msd7.i

Sample Info: 200mL #34447

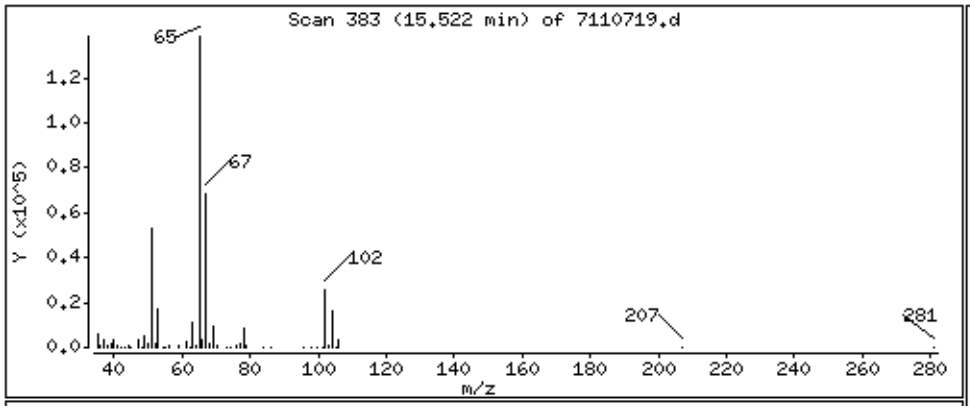
Operator: ab

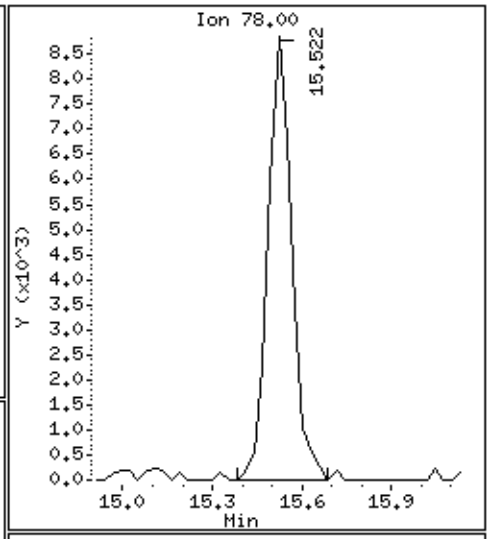
Column phase: RTx-624

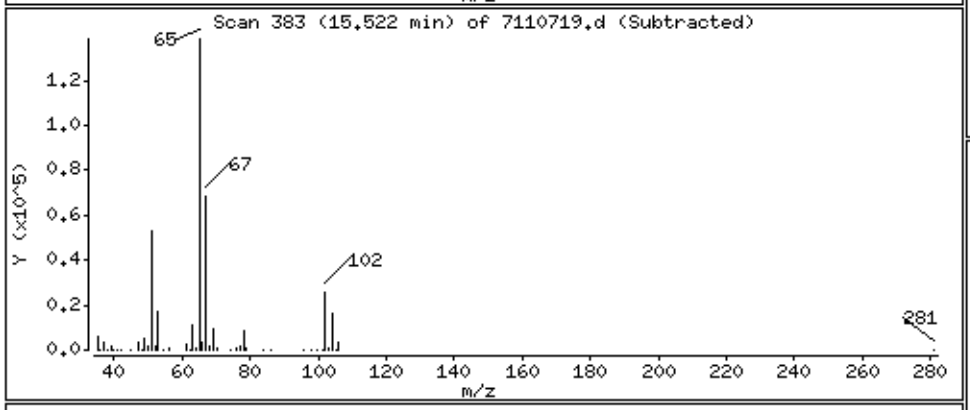
Column diameter: 0.53

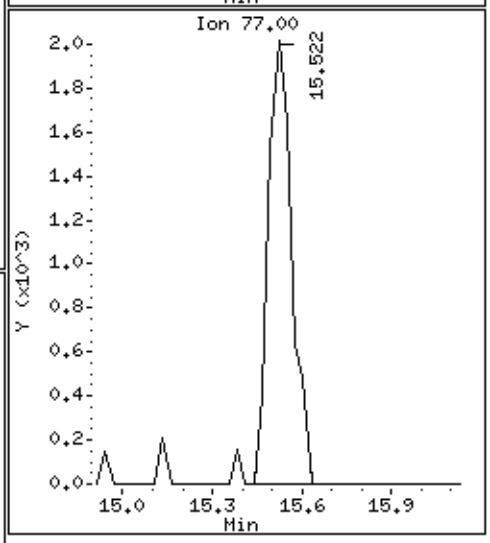
91 Benzene

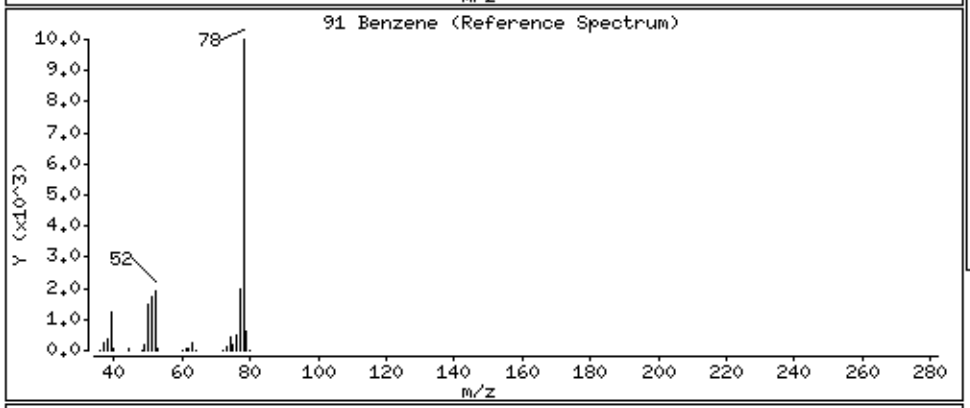
Concentration: 1.030 PPBV

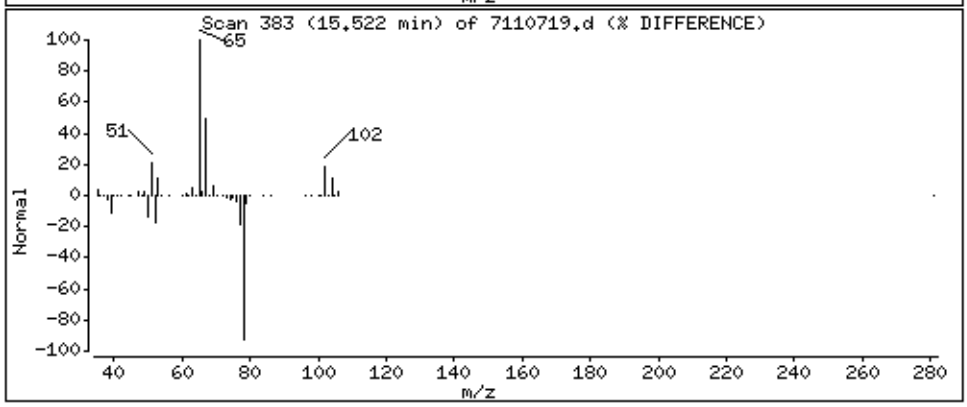












Data File: /chem/msd7.i/7-07nov.b/7110719.d

Date : 08-NOV-2007 00:00

Client ID:

Instrument: msd7.i

Sample Info: 200mL #34447

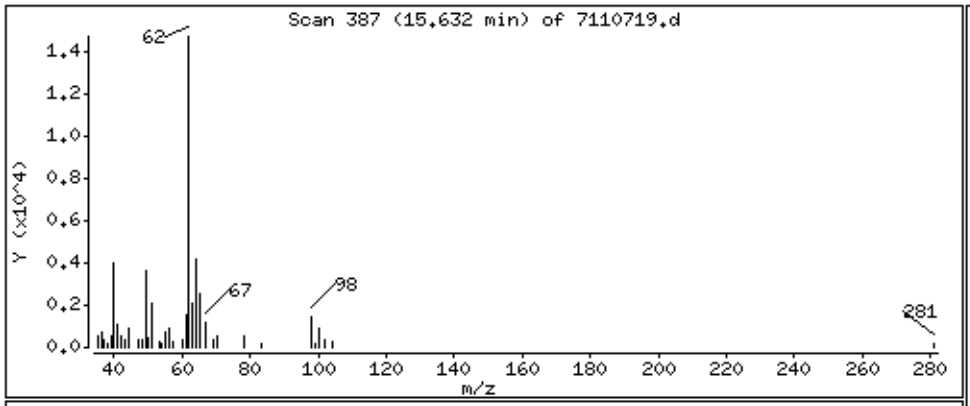
Operator: ab

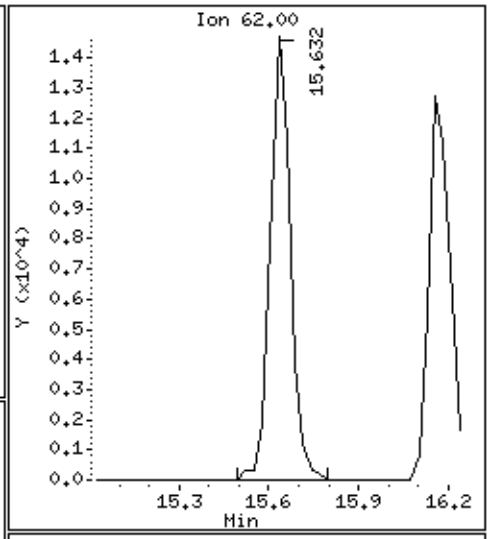
Column phase: RTx-624

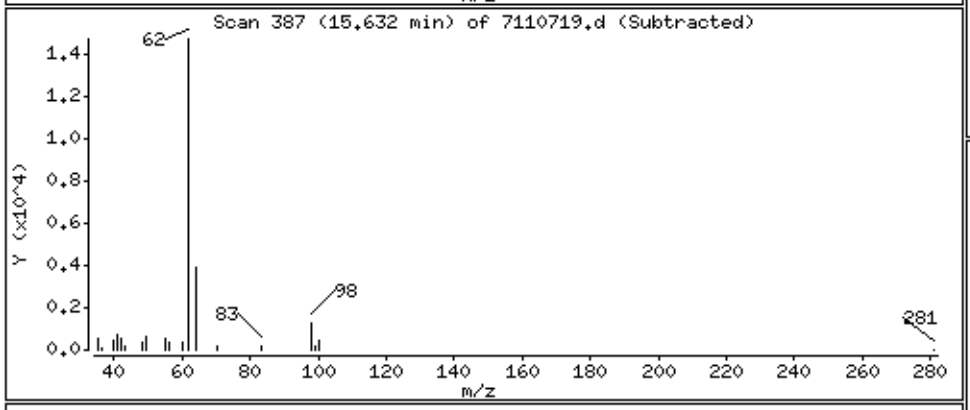
Column diameter: 0.53

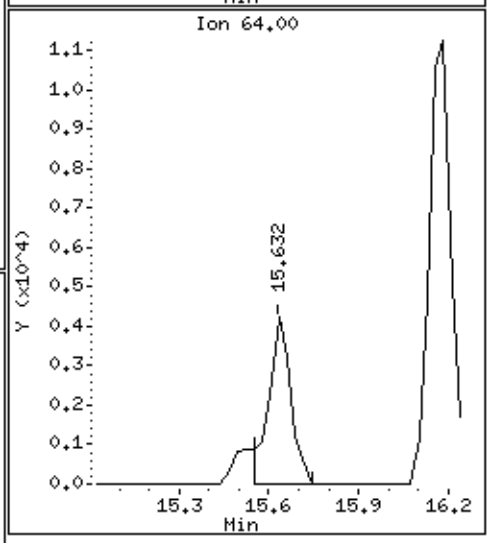
93 1,2-Dichloroethane

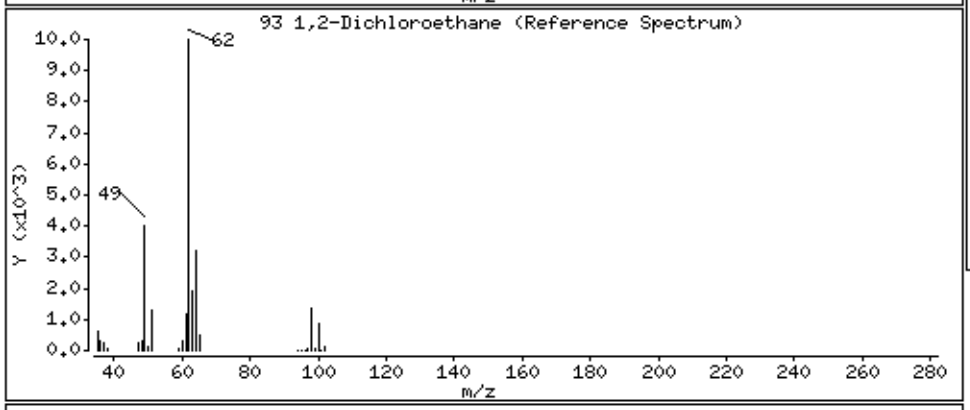
Concentration: 2.724 PPBV

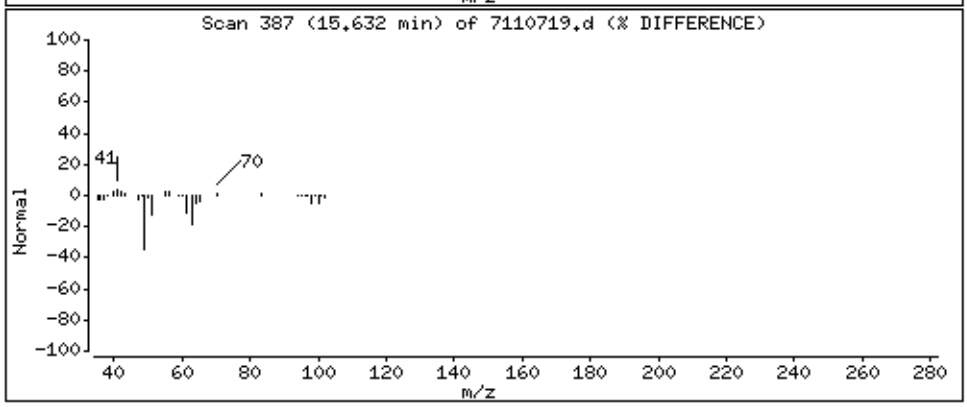












Data File: /chem/msd7.i/7-07nov.b/7110719.d

Date : 08-NOV-2007 00:00

Client ID:

Instrument: msd7.i

Sample Info: 200mL #34447

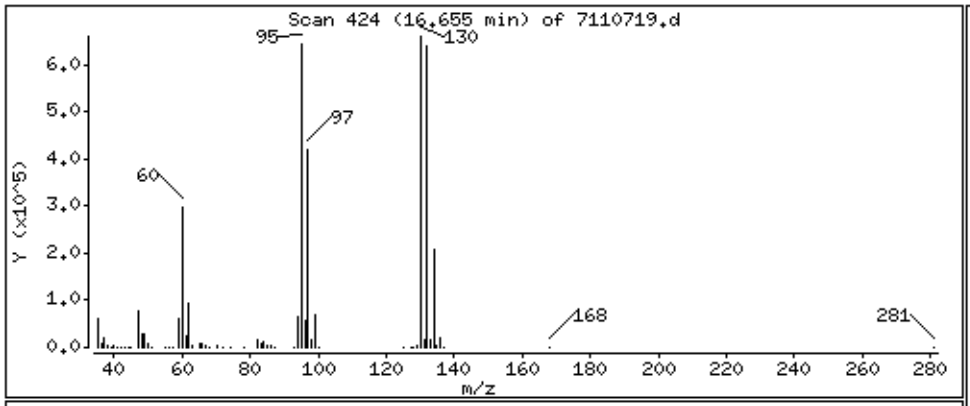
Operator: ab

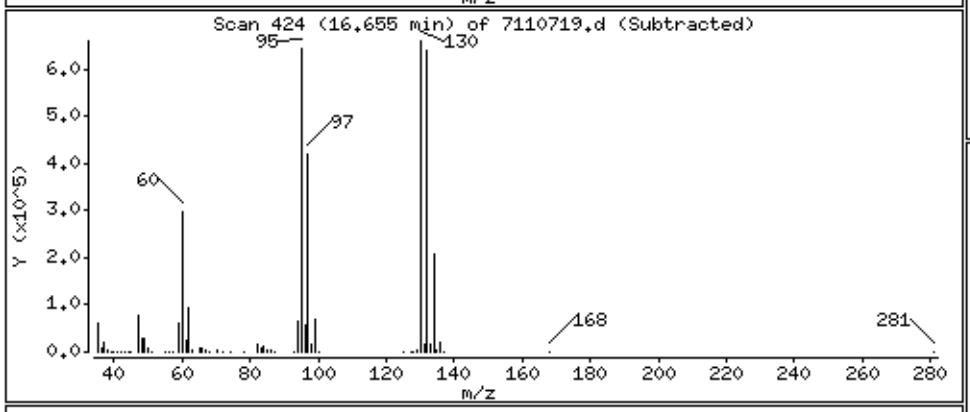
Column phase: RTx-624

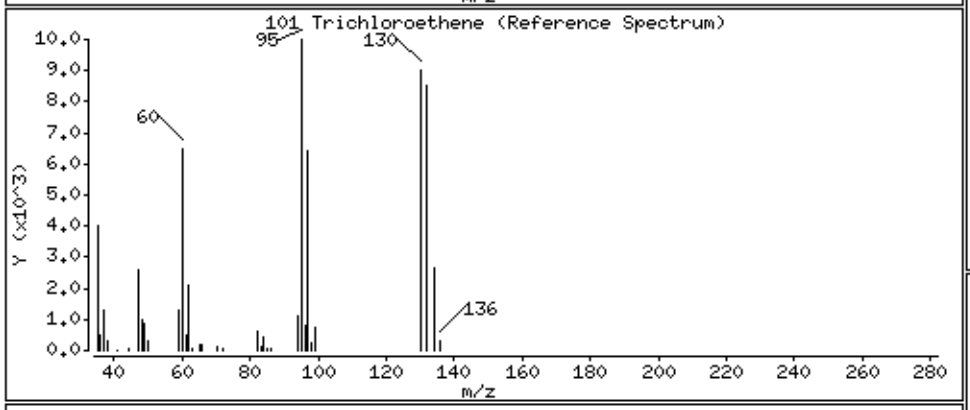
Column diameter: 0.53

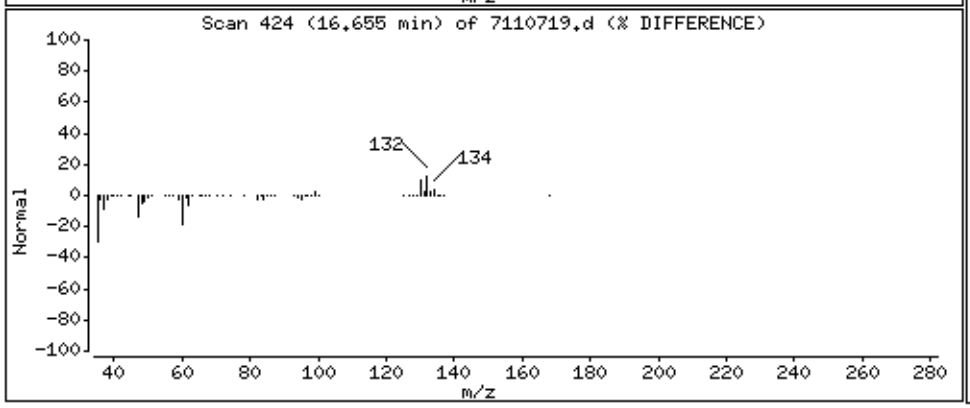
101 Trichloroethene

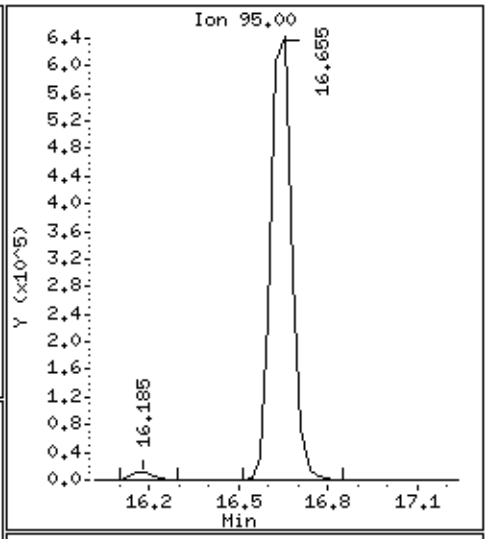
Concentration: 148.80 PPBV

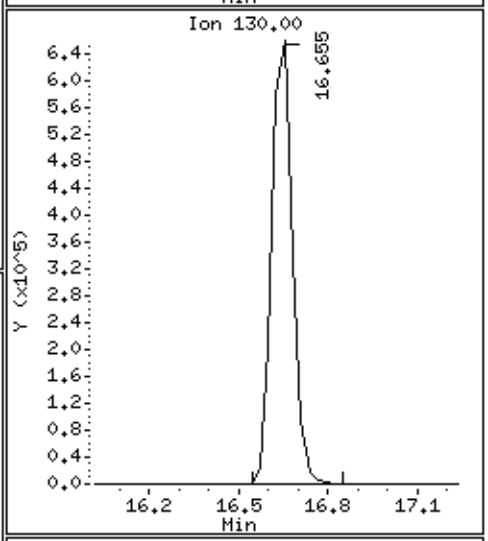


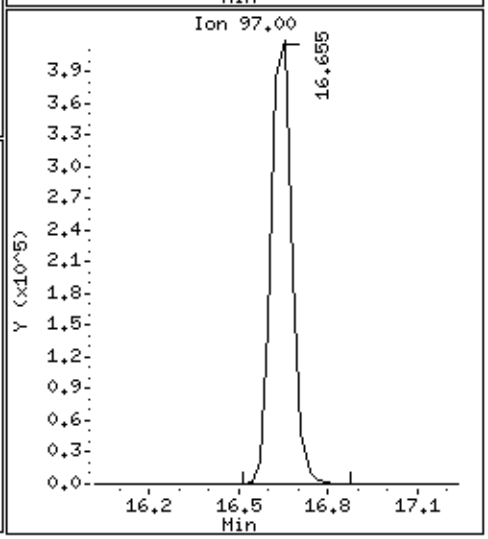












Data File: /chem/msd7.i/7-07nov.b/7110719.d

Date : 08-NOV-2007 00:00

Client ID:

Instrument: msd7.i

Sample Info: 200mL #34447

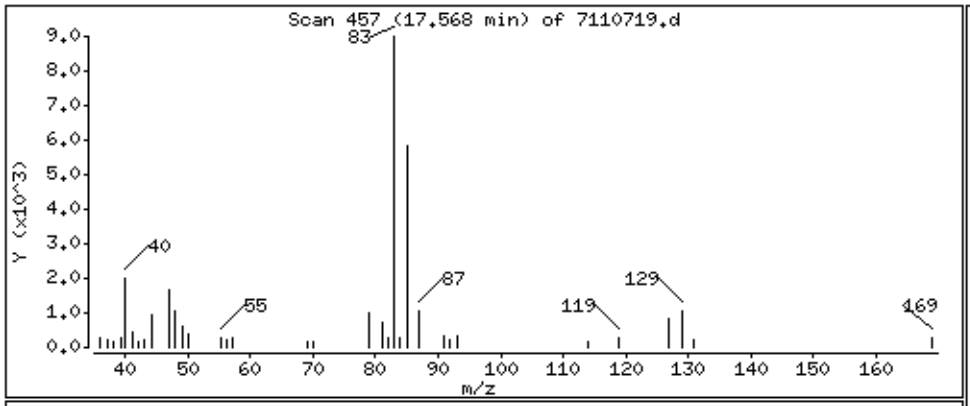
Operator: ab

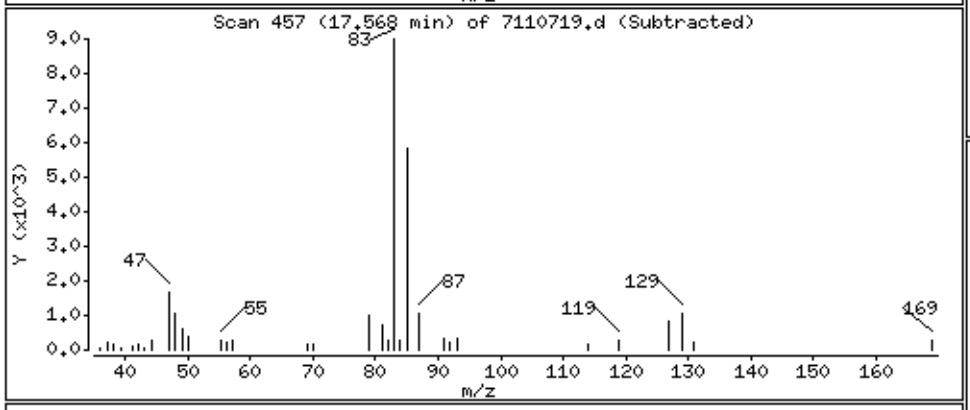
Column phase: RTx-624

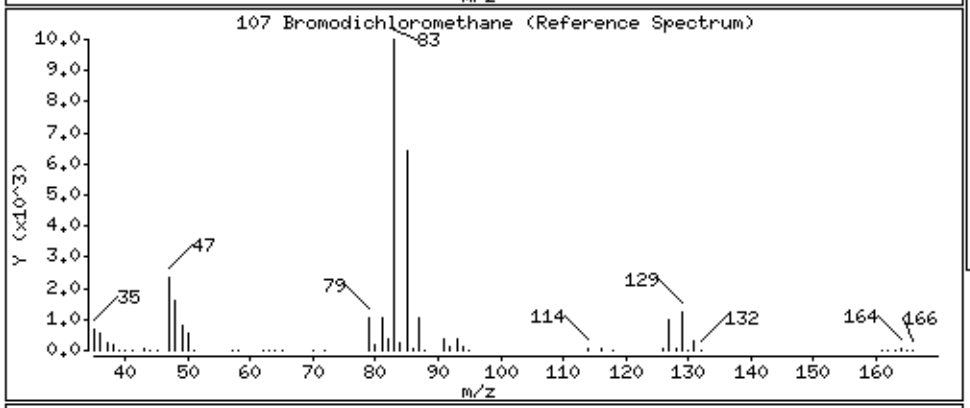
Column diameter: 0.53

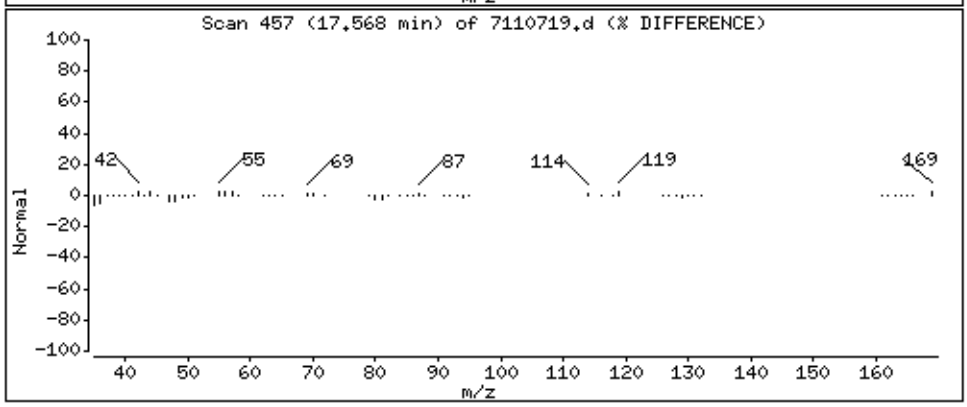
107 Bromodichloromethane

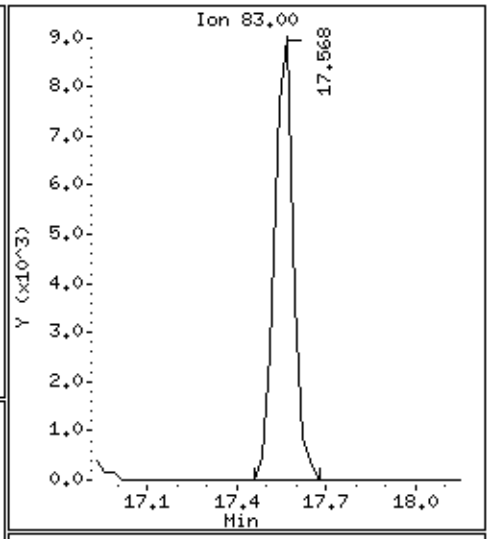
Concentration: 1.094 PPBV

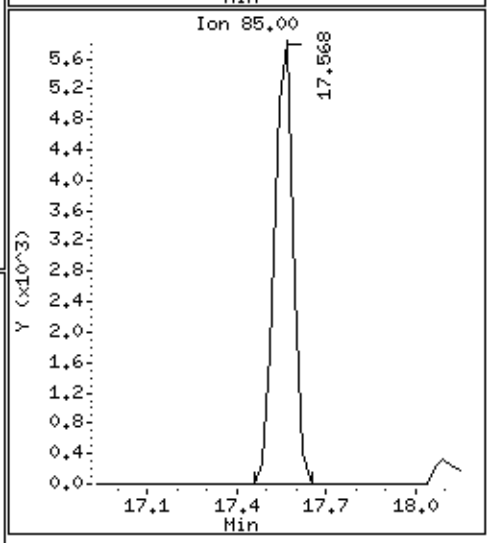












Data File: /chem/msd7.i/7-07nov.b/7110719.d

Date : 08-NOV-2007 00:00

Client ID:

Instrument: msd7.i

Sample Info: 200mL #34447

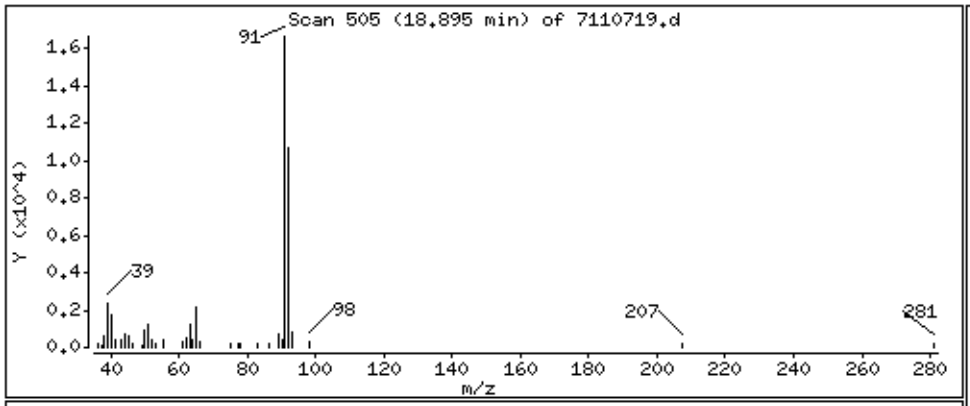
Operator: ab

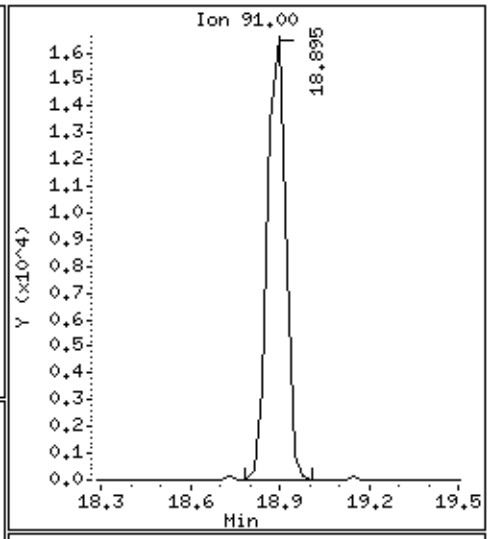
Column phase: RTx-624

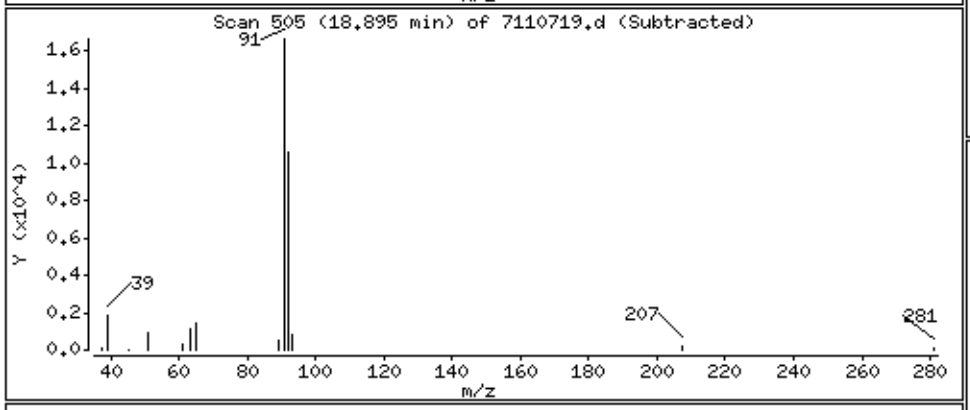
Column diameter: 0.53

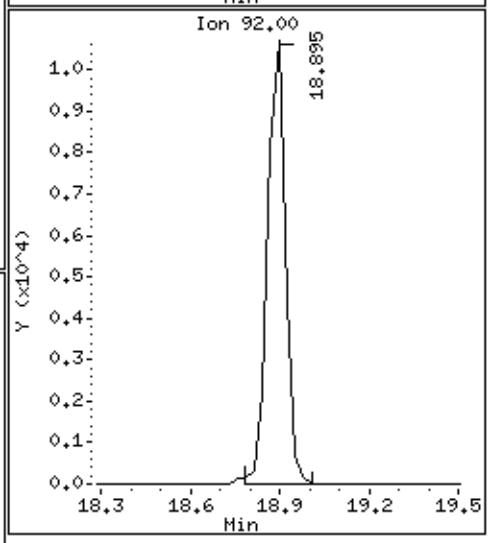
114 Toluene

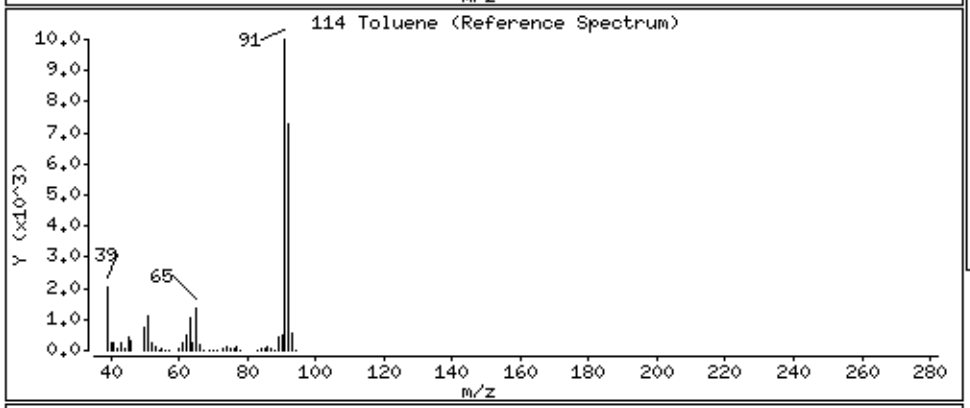
Concentration: 1.349 PPBV

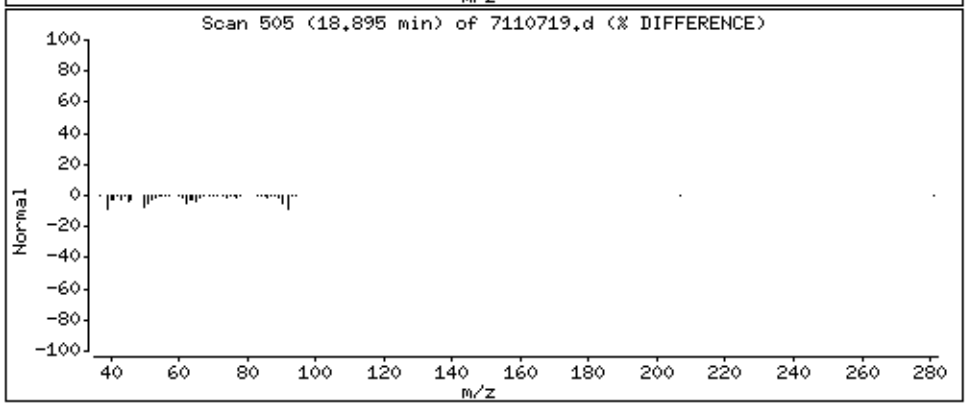












Data File: /chem/msd7.i/7-07nov.b/7110719.d

Date : 08-NOV-2007 00:00

Client ID:

Instrument: msd7.i

Sample Info: 200mL #34447

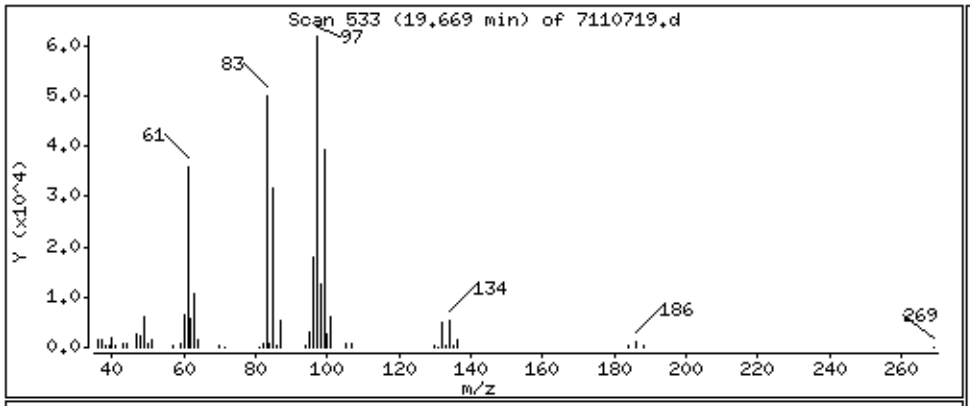
Operator: ab

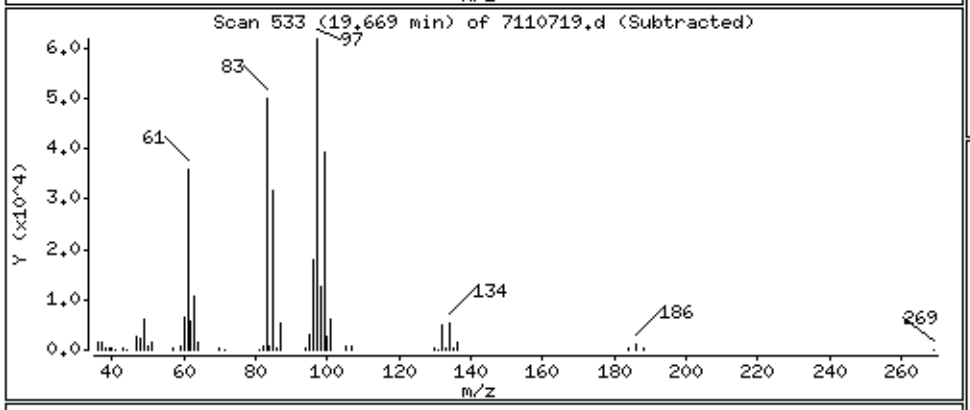
Column phase: RTx-624

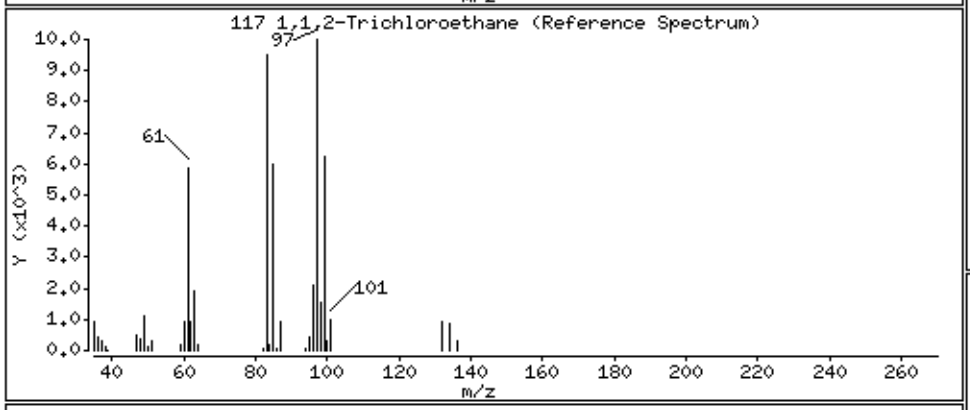
Column diameter: 0.53

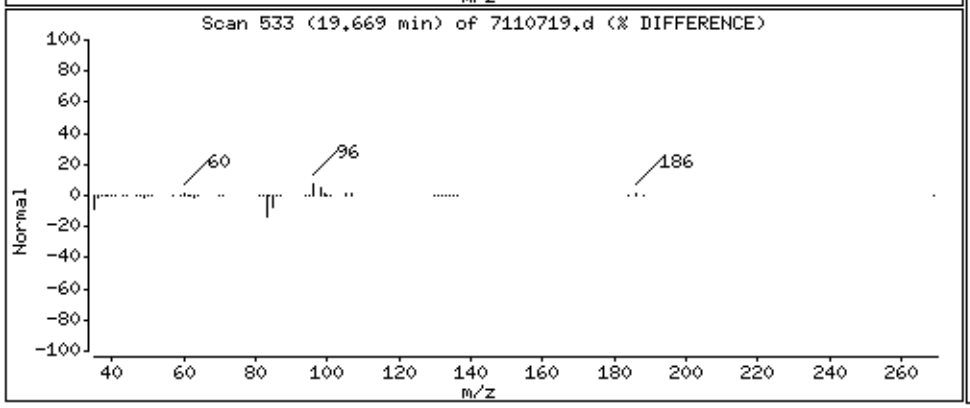
117 1,1,2-Trichloroethane

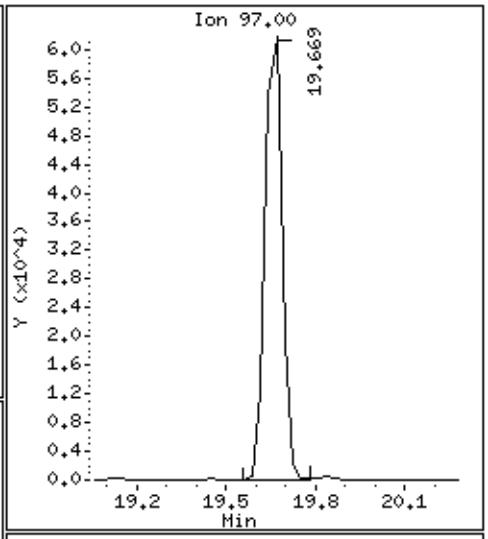
Concentration: 14.820 PPBV

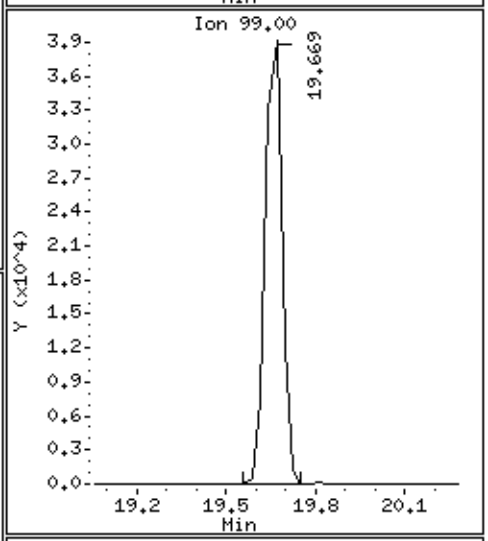


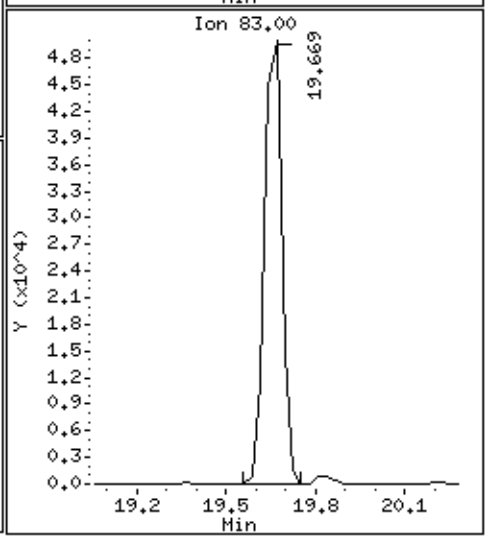












Data File: /chem/msd7.i/7-07nov.b/7110719.d

Date : 08-NOV-2007 00:00

Client ID:

Instrument: msd7.i

Sample Info: 200mL #34447

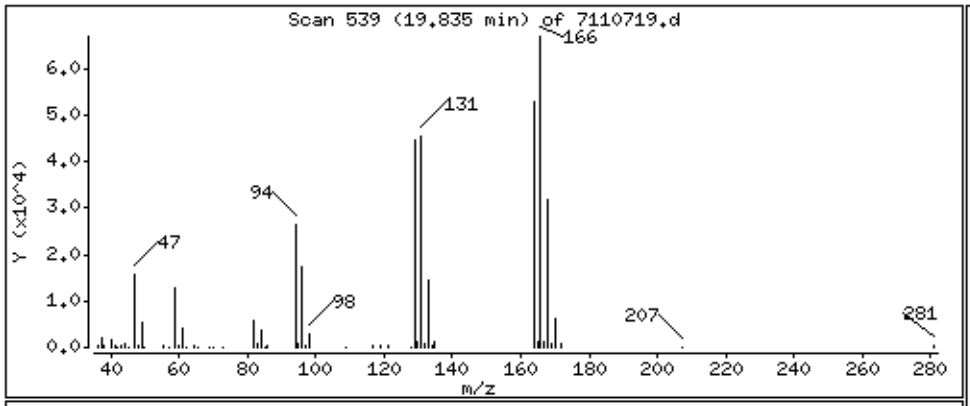
Operator: ab

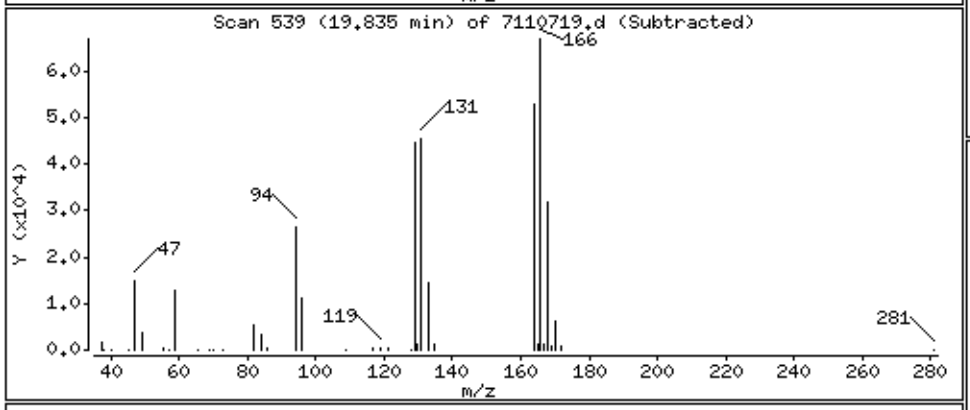
Column phase: RTx-624

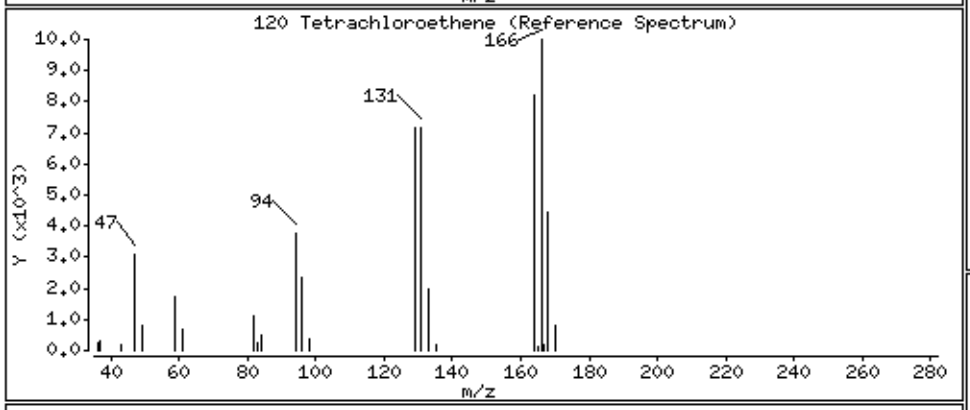
Column diameter: 0.53

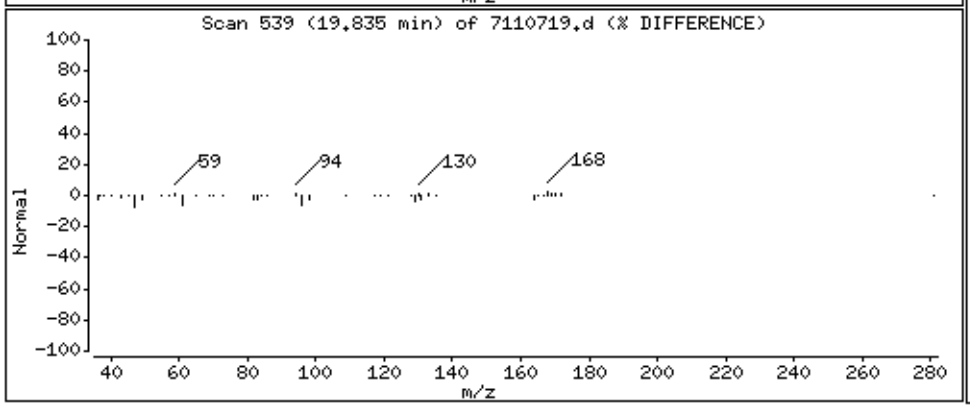
120 Tetrachloroethene

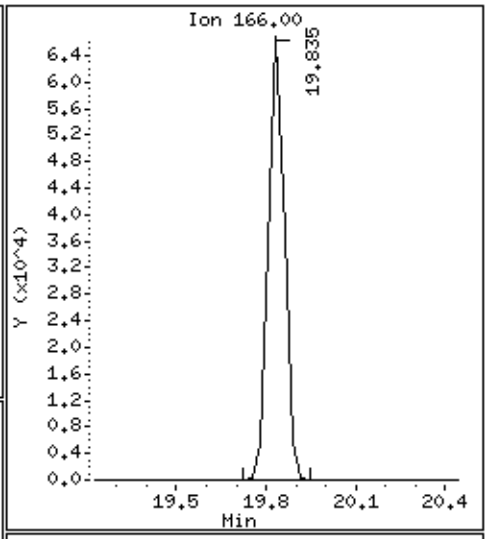
Concentration: 11.496 PPBV

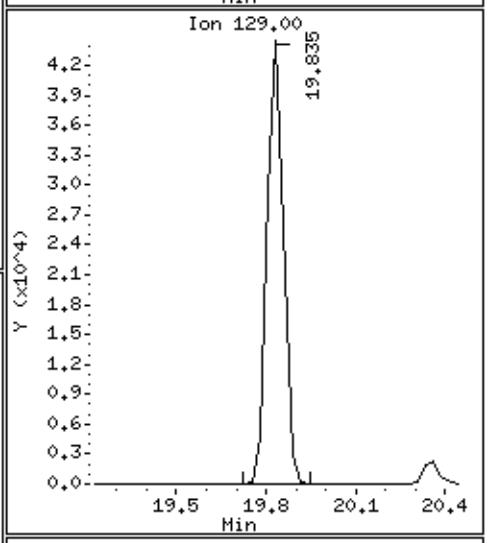


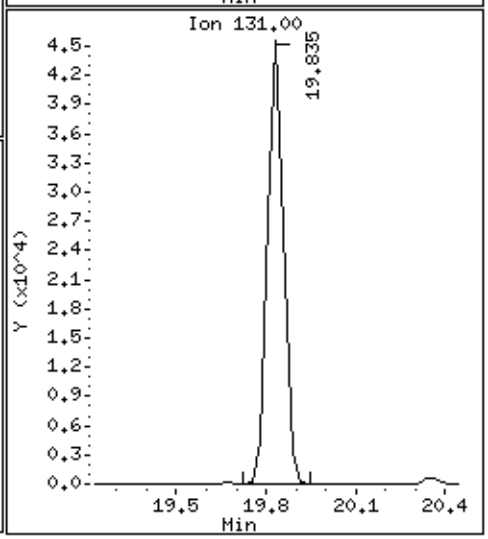












AN ENVIRONMENTAL ANALYTICAL LABORATORY

Summary of Detected Compounds
MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

Client Sample ID: MD21-07-6800 Lab Duplicate

Lab ID#: 0711101-01AA

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Freon 113	1.7	2.2	13	16
1,1-Dichloroethene	1.7	8.7	6.7	35
Acetone	6.7	58	16	140
Methylene Chloride	1.7	210	5.8	740
Chloroform	1.7	110	8.2	550
Carbon Tetrachloride	1.7	55	10	350
1,2-Dichloroethane	1.7	2.5	6.8	10
Trichloroethene	1.7	150	9.0	810
1,1,2-Trichloroethane	1.7	14	9.2	76
Tetrachloroethene	1.7	11	11	75
Propylene	6.7	24	12	42

AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: MD21-07-6800 Lab Duplicate

Lab ID#: 0711101-01AA

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**7110718**	**Date of Collection:**	**11/3/07**
Dil. Factor:	**3.36**	**Date of Analysis:**	**11/7/07 11:08 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Freon 12	1.7	Not Detected	8.3	Not Detected
Freon 114	1.7	Not Detected	12	Not Detected
Chloromethane	6.7	Not Detected	14	Not Detected
Vinyl Chloride	1.7	Not Detected	4.3	Not Detected
1,3-Butadiene	1.7	Not Detected	3.7	Not Detected
Bromomethane	1.7	Not Detected	6.5	Not Detected
Chloroethane	1.7	Not Detected	4.4	Not Detected
Freon 11	1.7	Not Detected	9.4	Not Detected
Ethanol	6.7	Not Detected	13	Not Detected
Freon 113	1.7	2.2	13	16
1,1-Dichloroethene	1.7	8.7	6.7	35
Acetone	6.7	58	16	140
2-Propanol	6.7	Not Detected	16	Not Detected
Carbon Disulfide	1.7	Not Detected	5.2	Not Detected
Methylene Chloride	1.7	210	5.8	740
Methyl tert-butyl ether	1.7	Not Detected	6.0	Not Detected
trans-1,2-Dichloroethene	1.7	Not Detected	6.7	Not Detected
Hexane	1.7	Not Detected	5.9	Not Detected
1,1-Dichloroethane	1.7	Not Detected	6.8	Not Detected
2-Butanone (Methyl Ethyl Ketone)	1.7	Not Detected	5.0	Not Detected
cis-1,2-Dichloroethene	1.7	Not Detected	6.7	Not Detected
Tetrahydrofuran	1.7	Not Detected	5.0	Not Detected
Chloroform	1.7	110	8.2	550
1,1,1-Trichloroethane	1.7	Not Detected	9.2	Not Detected
Cyclohexane	1.7	Not Detected	5.8	Not Detected
Carbon Tetrachloride	1.7	55	10	350
Benzene	1.7	Not Detected	5.4	Not Detected
1,2-Dichloroethane	1.7	2.5	6.8	10
Heptane	1.7	Not Detected	6.9	Not Detected
Trichloroethene	1.7	150	9.0	810
1,2-Dichloropropane	1.7	Not Detected	7.8	Not Detected
1,4-Dioxane	6.7	Not Detected	24	Not Detected
Bromodichloromethane	1.7	Not Detected	11	Not Detected
cis-1,3-Dichloropropene	1.7	Not Detected	7.6	Not Detected
4-Methyl-2-pentanone	1.7	Not Detected	6.9	Not Detected
Toluene	1.7	Not Detected	6.3	Not Detected
trans-1,3-Dichloropropene	1.7	Not Detected	7.6	Not Detected
1,1,2-Trichloroethane	1.7	14	9.2	76
Tetrachloroethene	1.7	11	11	75

AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: MD21-07-6800 Lab Duplicate

Lab ID#: 0711101-01AA

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**7110718**	**Date of Collection:**	**11/3/07**
Dil. Factor:	**3.36**	**Date of Analysis:**	**11/7/07 11:08 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
2-Hexanone	6.7	Not Detected	28	Not Detected
Dibromochloromethane	1.7	Not Detected	14	Not Detected
1,2-Dibromoethane (EDB)	1.7	Not Detected	13	Not Detected
Chlorobenzene	1.7	Not Detected	7.7	Not Detected
Ethyl Benzene	1.7	Not Detected	7.3	Not Detected
m,p-Xylene	1.7	Not Detected	7.3	Not Detected
o-Xylene	1.7	Not Detected	7.3	Not Detected
Styrene	1.7	Not Detected	7.2	Not Detected
Bromoform	1.7	Not Detected	17	Not Detected
1,1,2,2-Tetrachloroethane	1.7	Not Detected	12	Not Detected
4-Ethyltoluene	1.7	Not Detected	8.2	Not Detected
1,3,5-Trimethylbenzene	1.7	Not Detected	8.2	Not Detected
1,2,4-Trimethylbenzene	1.7	Not Detected	8.2	Not Detected
1,3-Dichlorobenzene	1.7	Not Detected	10	Not Detected
1,4-Dichlorobenzene	1.7	Not Detected	10	Not Detected
alpha-Chlorotoluene	1.7	Not Detected	8.7	Not Detected
1,2-Dichlorobenzene	1.7	Not Detected	10	Not Detected
1,2,4-Trichlorobenzene	6.7	Not Detected	50	Not Detected
Hexachlorobutadiene	6.7	Not Detected	72	Not Detected
Chlorodifluoromethane	6.7	Not Detected	24	Not Detected
Methanol	170	Not Detected	220	Not Detected
n-Butanol	6.7	Not Detected	20	Not Detected
Propylene	6.7	24	12	42

Container Type: 6 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	92	70-130
1,2-Dichloroethane-d4	96	70-130
4-Bromofluorobenzene	96	70-130

Air Toxics Ltd.

AMBIENT AIR METHOD TO14

Data file : /chem/msd7.i/7-07nov.b/7110718.d
Lab Smp Id: 0711101-01AA
Inj Date : 07-NOV-2007 23:08
Operator : ab Inst ID: msd7.i
Smp Info : 100mL #34447
Misc Info : 6.0"Hg ->5psi
Comment :
Method : /chem/msd7.i/7-07nov.b/t14qO18d.m
Meth Date : 07-Nov-2007 11:47 sruth Quant Type: ISTD
Cal Date : 05-NOV-2007 14:29 Cal File: 7110507.d
Als bottle: 1
Dil Factor: 3.36000
Integrator: HP RTE Compound Sublist: Los2153.sub
Target Version: 3.50 Sample Matrix: AIR
Processing Host: eeyore

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

RT	EXP RT (REL RT)	MASS	RESPONSE	CONCENTRATIONS ON-COL (PPBV)	FINAL (PPBV)	TARGET RANGE	RATIO
* 81 Bromochloromethane					CAS #: 74-97-5		
14.416	14.416 (1.000)	130	577711	25.0000		80.00- 120.00	100.00
14.416	14.416 (1.000)	128	453650			28.66- 128.66	78.53
14.416	14.416 (1.000)	49	1004778			133.49- 233.49	173.92
* 97 1,4-Difluorobenzene					CAS #: 540-36-3		
16.158	16.158 (1.000)	114	1945218	25.0000		80.00- 120.00	100.00
16.158	16.158 (1.000)	88	292402			0.00- 65.23	15.03
* 126 Chlorobenzene-d5					CAS #: 3114-55-4		
21.356	21.356 (1.000)	117	1378856	25.0000		80.00- 120.00	100.00
21.356	21.356 (1.000)	82	730558			4.70- 104.70	52.98
$ 90 1,2-Dichloroethane-d4					CAS #: 17060-07-0		
15.494	15.494 (1.075)	65	745437	24.0188	24.019	80.00- 120.00	100.00
15.494	15.494 (1.075)	67	379352			2.91- 102.91	50.89
$ 113 Toluene-d8					CAS #: 2037-26-5		
18.757	18.757 (1.161)	98	1596623	23.1219	23.122	80.00- 120.00	100.00
18.757	18.757 (1.161)	70	174894			0.00- 61.46	10.95

RT	EXP RT (REL RT)	MASS	RESPONSE	CONCENTRATIONS ON-COL (PPBV)	FINAL (PPBV)	TARGET RANGE	RATIO
$ 113 Toluene-d8 (continued)							
18.757	18.757 (1.161)	100	1117194			19.18- 119.18	69.97
$ 137 Bromofluorobenzene					CAS #: 460-00-4		
23.347	23.347 (1.093)	174	788499	24.0316	24.032	80.00- 120.00	100.00
23.319	23.347 (1.092)	95	970720			73.89- 173.89	123.11
23.347	23.347 (1.093)	176	768063			48.20- 148.20	97.41
11 Propylene					CAS #: 115-07-1		
5.645	5.617 (0.392)	41	182057	7.31169	24.567	80.00- 120.00	100.00
5.617	5.617 (0.390)	42	108395			21.19- 121.19	59.54
5.617	5.617 (0.390)	39	176429			24.83- 124.83	96.91
42 Freon 113					CAS #: 76-13-1		
10.213	10.186 (0.708)	151	30510	0.64409	2.164	80.00- 120.00	100.00
10.186	10.186 (0.707)	153	18303			13.12- 113.12	59.99
10.186	10.186 (0.707)	101	38589			67.28- 167.28	126.48
43 1,1-Dichloroethene					CAS #: 75-35-4		
10.324	10.324 (0.716)	61	130923	2.59741	8.727	80.00- 120.00	100.00
10.324	10.324 (0.716)	96	75720			9.78- 109.78	57.84
10.324	10.324 (0.716)	98	51213			0.00- 88.25	39.12
45 Acetone					CAS #: 67-64-1		
10.490	10.490 (0.728)	58	270699	17.3748	58.379	80.00- 120.00	100.00
10.490	10.490 (0.728)	43	899960			247.10- 347.10	332.46
54 Methylene Chloride					CAS #: 75-09-2		
11.457	11.457 (0.795)	49	2338677	63.1080	212.04	80.00- 120.00	100.00
11.457	11.457 (0.795)	84	1659800			19.98- 119.98	70.97
11.457	11.457 (0.795)	51	719283			0.00- 80.85	30.76
82 Chloroform					CAS #: 67-66-3		
14.471	14.471 (1.004)	83	1951401	33.5483	112.72	80.00- 120.00	100.00
14.471	14.471 (1.004)	85	1277405			15.69- 115.69	65.46
87 Carbon Tetrachloride					CAS #: 56-23-5		
15.107	15.107 (1.048)	119	902807	16.4423	55.246	80.00- 120.00	100.00
15.107	15.107 (1.048)	117	944178			53.14- 153.14	104.58
93 1,2-Dichloroethane					CAS #: 107-06-2		
15.633	15.633 (0.967)	62	30647	0.74630	2.508	80.00- 120.00	100.00
15.633	15.633 (0.967)	64	10898			0.00- 82.89	35.56
101 Trichloroethene					CAS #: 79-01-6		
16.628	16.628 (1.029)	95	1547417	45.0718	151.44	80.00- 120.00	100.00

RT	EXP RT (REL RT)	MASS	RESPONSE	CONCENTRATIONS ON-COL (PPBV)	FINAL (PPBV)	TARGET RANGE	RATIO
101 Trichloroethene (continued)							
16.656	16.628 (1.031)	130	1565840			51.11- 151.11	101.19
16.628	16.628 (1.029)	97	1001644			15.04- 115.04	64.73
117 1,1,2-Trichloroethane					CAS #: 79-00-5		
19.669	19.669 (0.921)	97	118132	4.13631	13.898	80.00- 120.00	100.00
19.669	19.669 (0.921)	99	73122			12.40- 112.40	61.90
19.669	19.669 (0.921)	83	97802			32.55- 132.55	82.79
120 Tetrachloroethene					CAS #: 127-18-4		
19.835	19.835 (0.929)	166	121949	3.29228	11.062	80.00- 120.00	100.00
19.835	19.835 (0.929)	129	84146			21.07- 121.07	69.00
19.835	19.835 (0.929)	131	80957			18.33- 118.33	66.39

Air Toxics Ltd.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd7.i
Lab File ID: 7110718.d
Lab Smp Id: 0711101-01AA
Analysis Type: VOA
Quant Type: ISTD
Operator: ab
Method File: /chem/msd7.i/7-07nov.b/t14qO18d.m
Misc Info: 6.0"Hg ->5psi

Calibration Date: 07-NOV-2007
Calibration Time: 08:52

Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
81 Bromochloromethan	695461	417277	973645	577711	-16.93
97 1,4-Difluorobenze	2265681	1359409	3171953	1945218	-14.14
126 Chlorobenzene-d5	1765821	1059493	2472149	1378856	-21.91

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
81 Bromochloromethan	14.42	14.09	14.75	14.42	0.00
97 1,4-Difluorobenze	16.16	15.83	16.49	16.16	0.00
126 Chlorobenzene-d5	21.36	21.03	21.69	21.36	0.00

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Air Toxics Ltd.

RECOVERY REPORT

Client Name: Client SDG: 7-07nov
Sample Matrix: GAS Fraction: VOA
Lab Smp Id: 0711101-01AA
Level: LOW Operator: ab
Data Type: MS DATA SampleType: SAMPLE
SpikeList File: 2926spectra.spk Quant Type: ISTD
Sublist File: Los2153.sub
Method File: /chem/msd7.i/7-07nov.b/t14qO18d.m
Misc Info: 6.0"Hg ->5psi

SURROGATE COMPOUND	CONC ADDED PPBV	CONC RECOVERED PPBV	% RECOVERED	LIMITS
$ 90 1,2-Dichloroethane	25.000	24.019	96.08	70-130
$ 113 Toluene-d8	25.000	23.122	92.49	70-130
$ 137 Bromofluorobenzene	25.000	24.032	96.13	70-130

Data File: /chem/msd7.i/7-07nov.b/7110718.d

Date : 07-NOV-2007 23:08

Client ID:

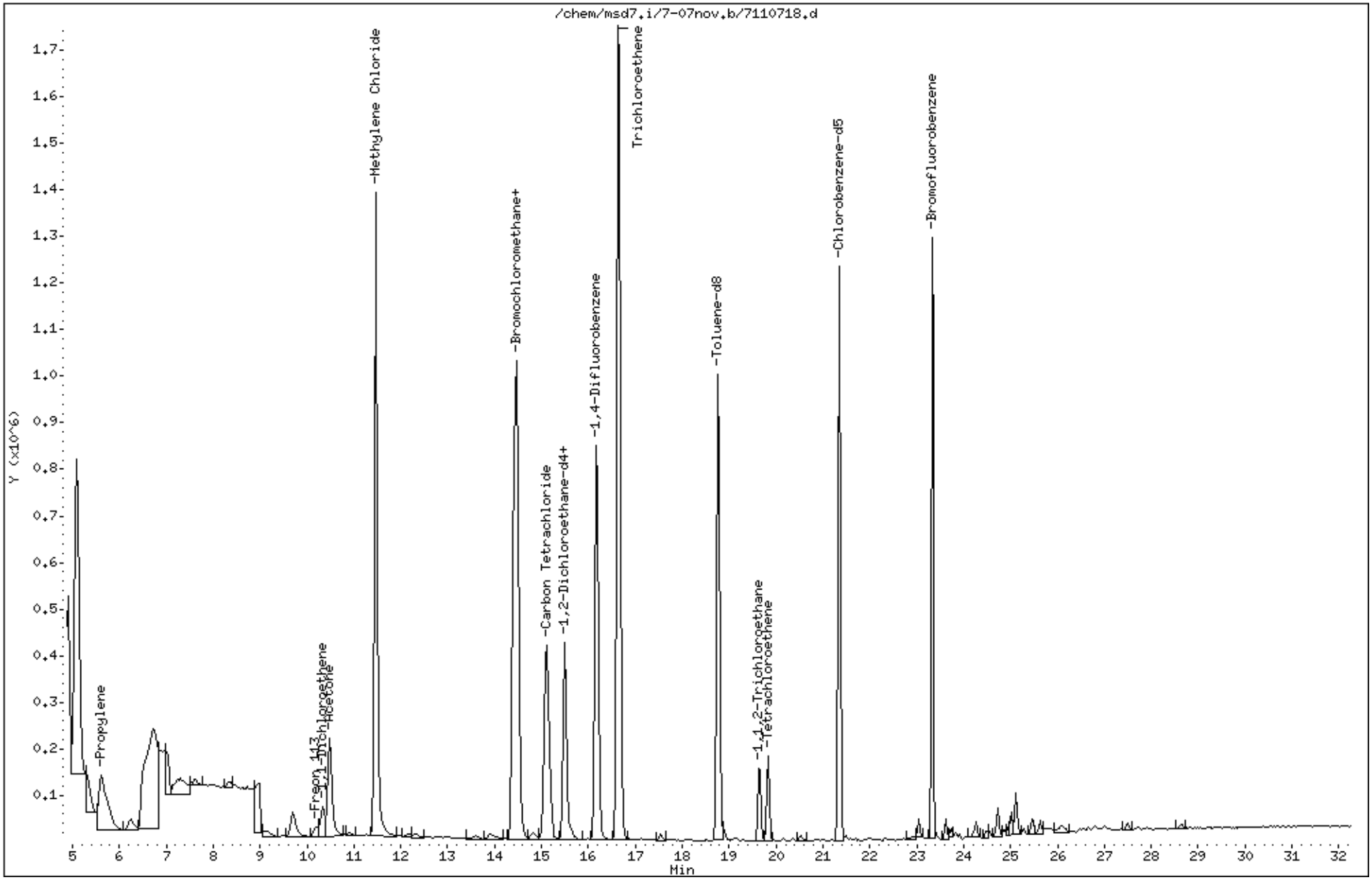
Sample Info: 100mL #34447

Column phase: RTx-624

Instrument: msd7.i

Operator: ab

Column diameter: 0.53



Data File: /chem/msd7.i/7-07nov.b/7110718.d

Date : 07-NOV-2007 23:08

Client ID:

Instrument: msd7.i

Sample Info: 100mL #34447

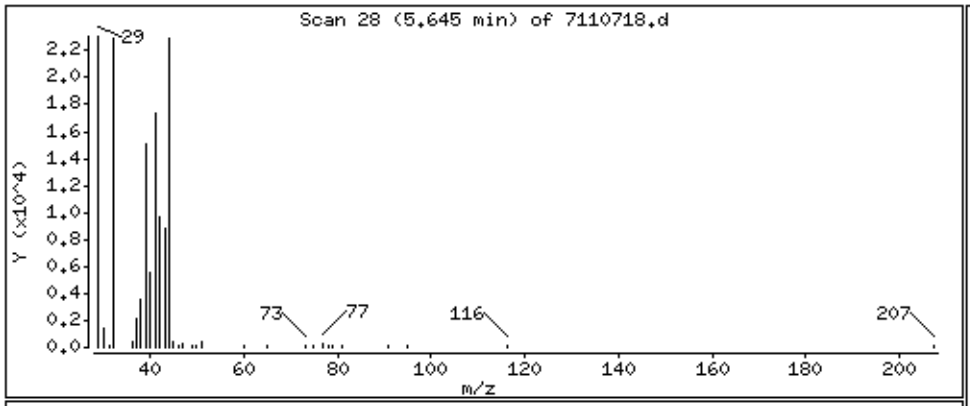
Operator: ab

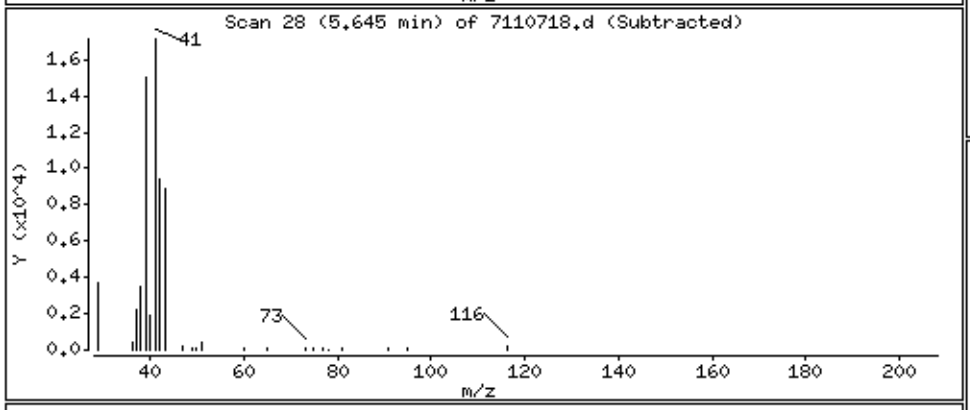
Column phase: RTx-624

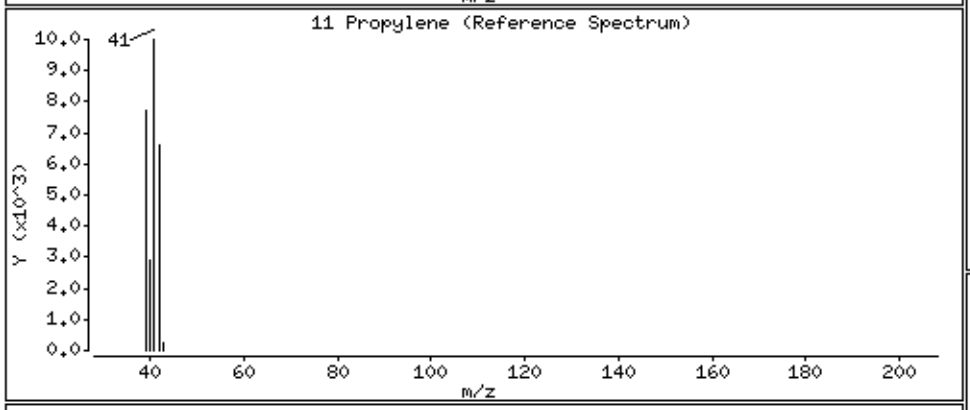
Column diameter: 0.53

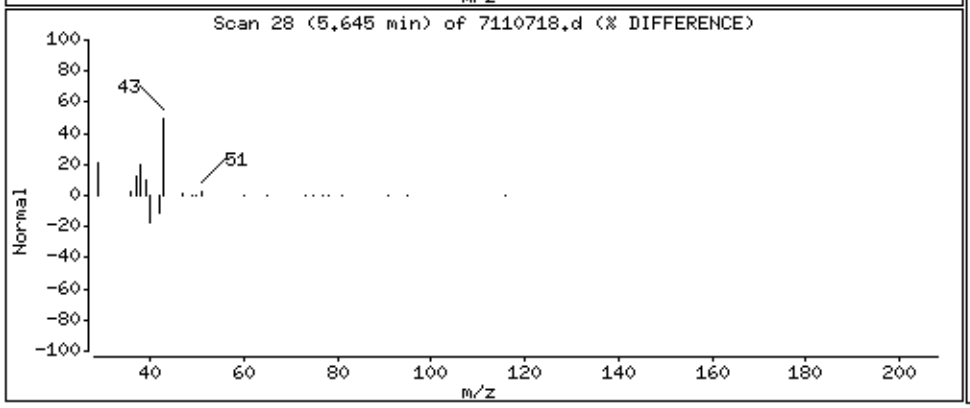
11 Propylene

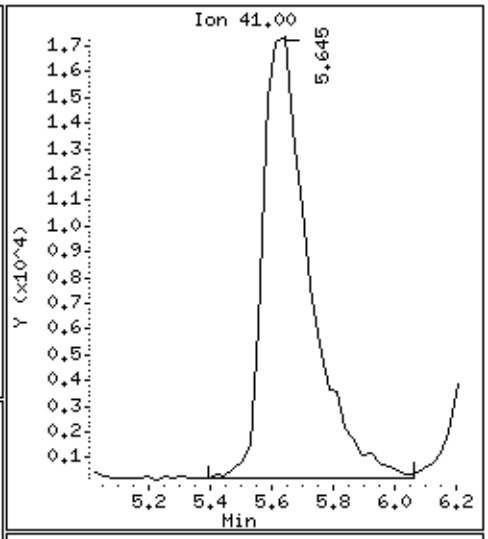
Concentration: 24.567 PPBV

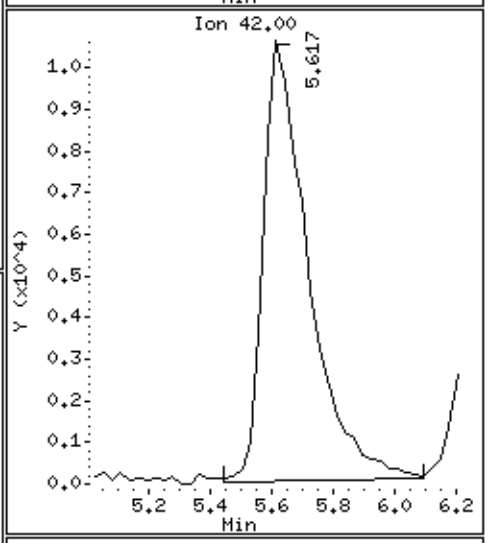


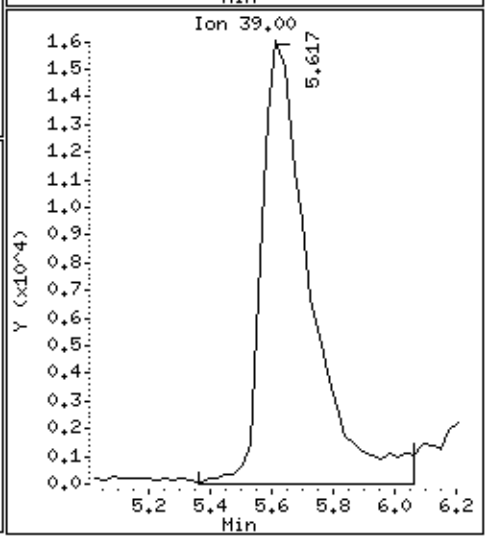












Data File: /chem/msd7.i/7-07nov.b/7110718.d

Date : 07-NOV-2007 23:08

Client ID:

Instrument: msd7.i

Sample Info: 100mL #34447

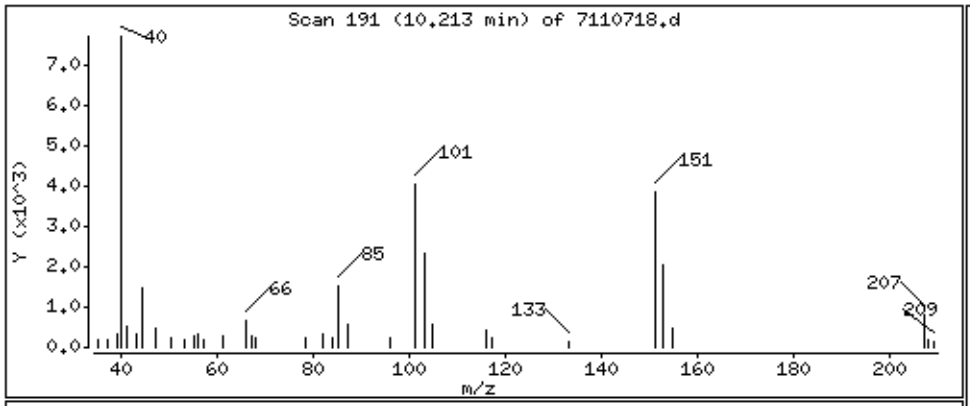
Operator: ab

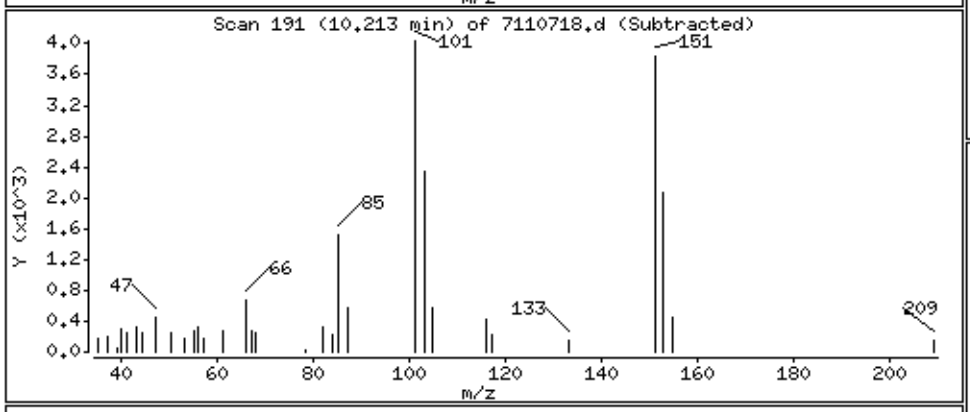
Column phase: RTx-624

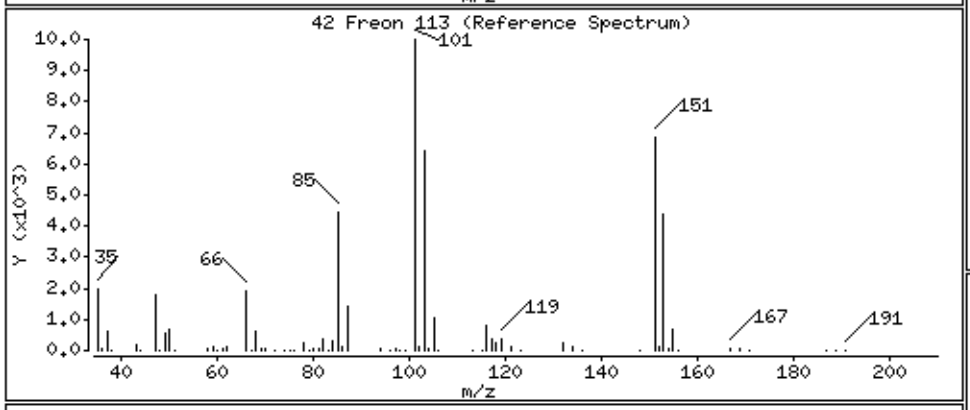
Column diameter: 0.53

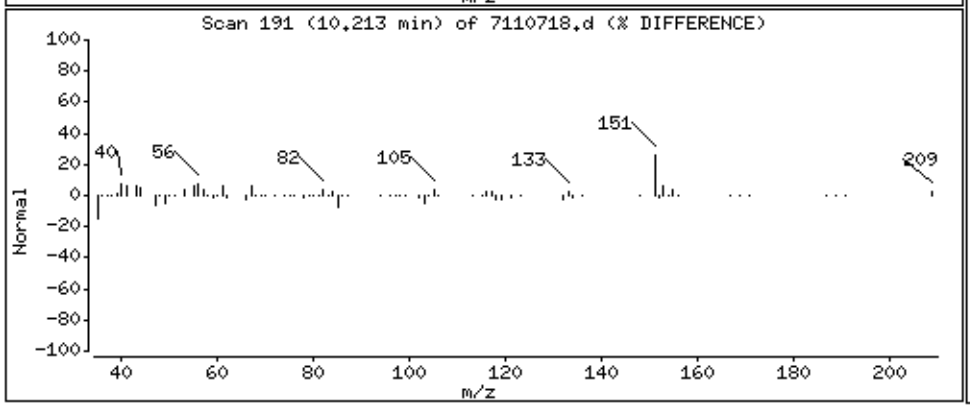
42 Freon 113

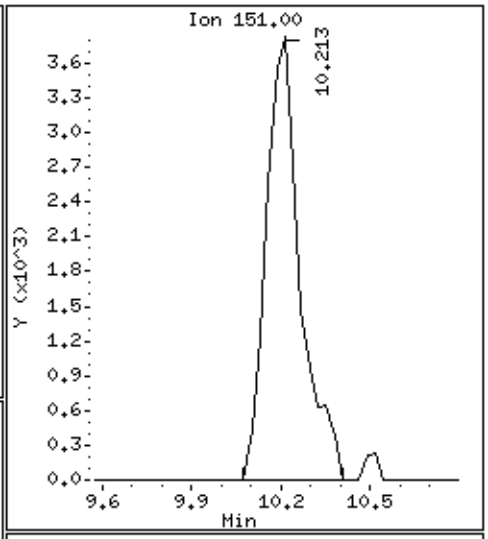
Concentration: 2.164 PPBV

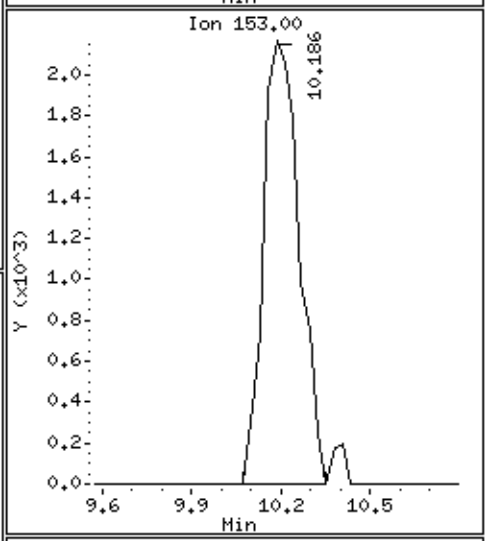


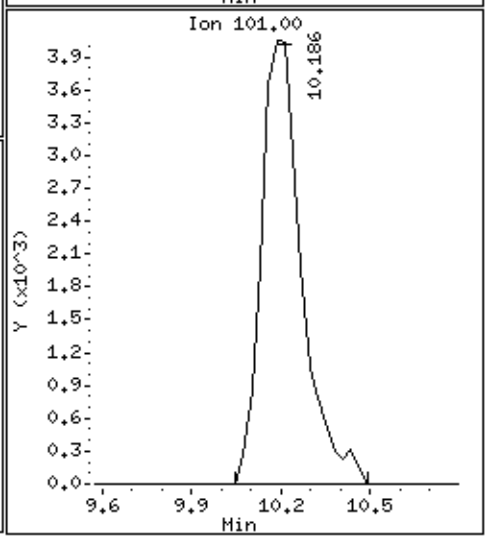












Data File: /chem/msd7.i/7-07nov.b/7110718.d

Date : 07-NOV-2007 23:08

Client ID:

Instrument: msd7.i

Sample Info: 100mL #34447

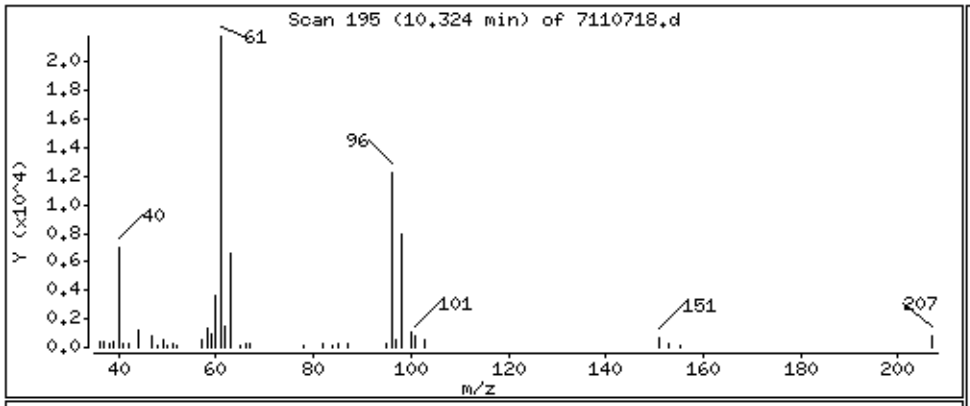
Operator: ab

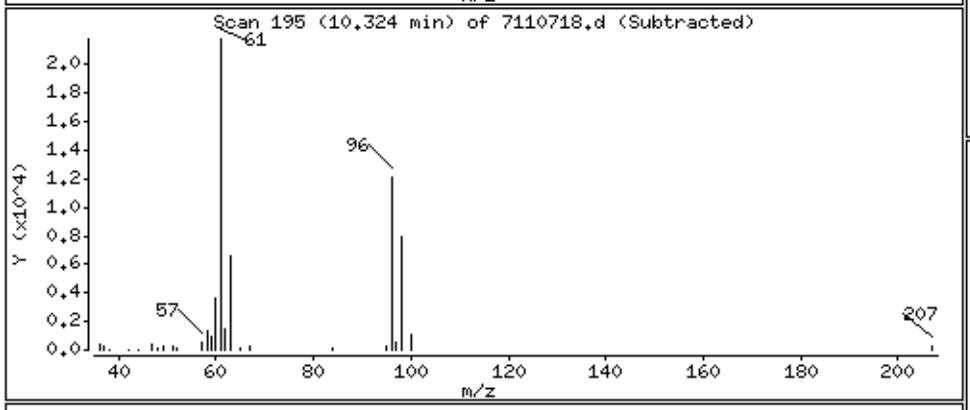
Column phase: RTx-624

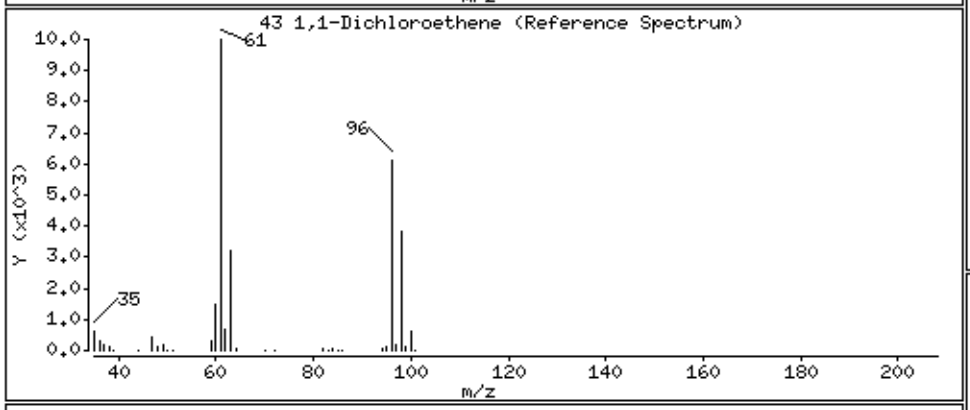
Column diameter: 0.53

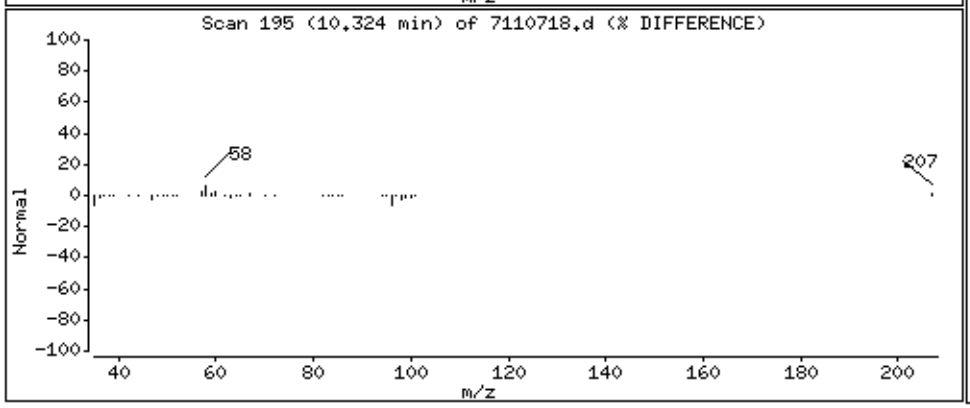
43 1,1-Dichloroethene

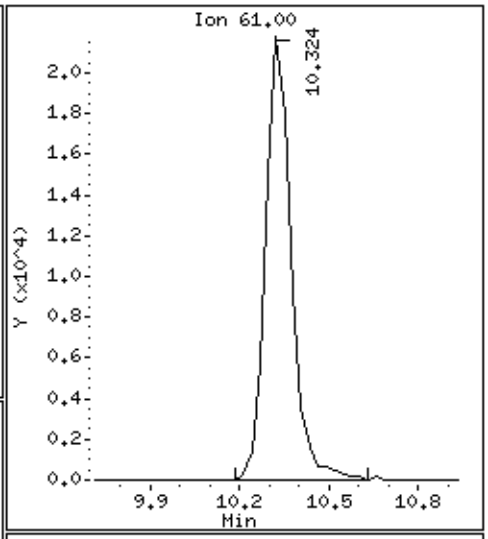
Concentration: 8.727 PPBV

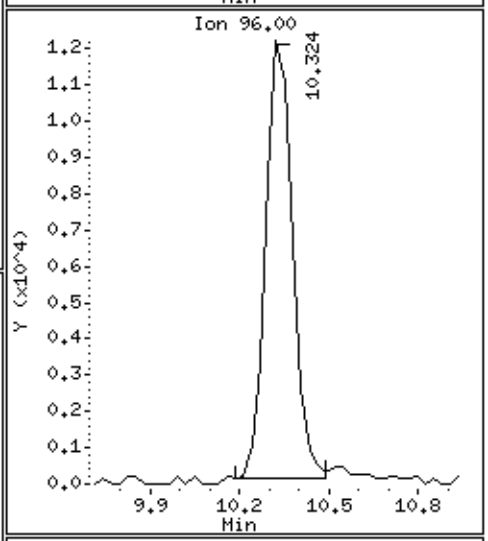


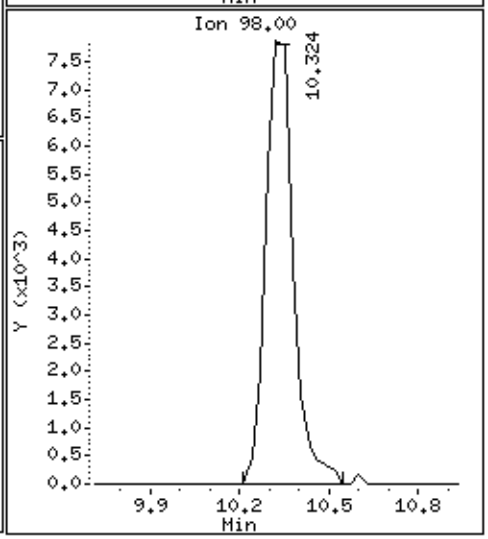












Data File: /chem/msd7.i/7-07nov.b/7110718.d

Date : 07-NOV-2007 23:08

Client ID:

Instrument: msd7.i

Sample Info: 100mL #34447

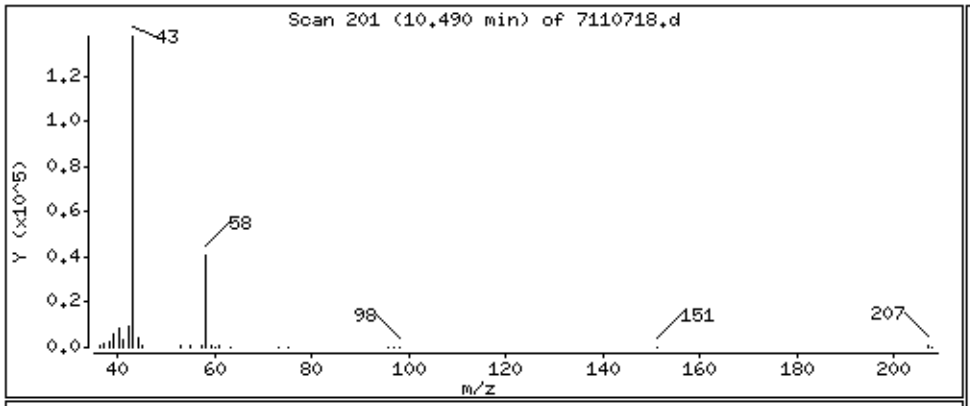
Operator: ab

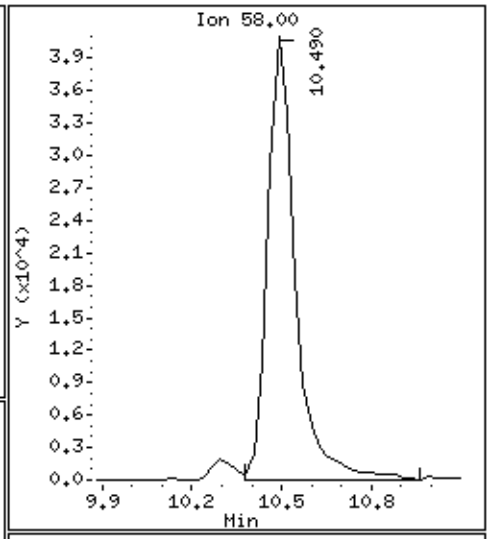
Column phase: RTx-624

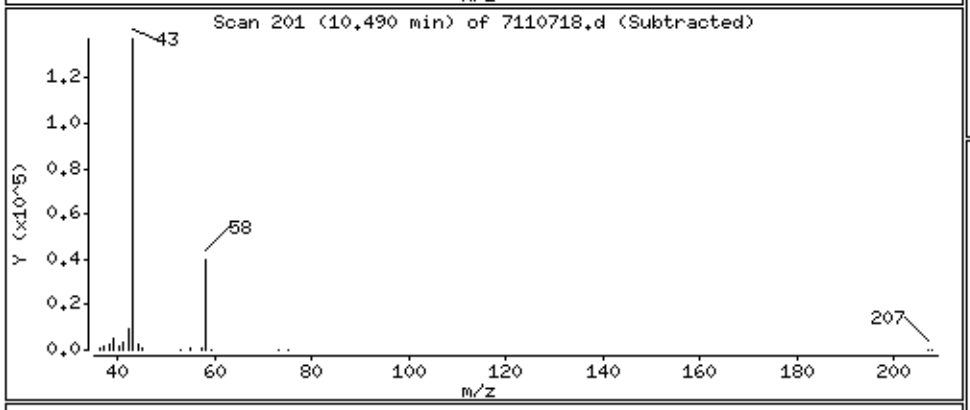
Column diameter: 0.53

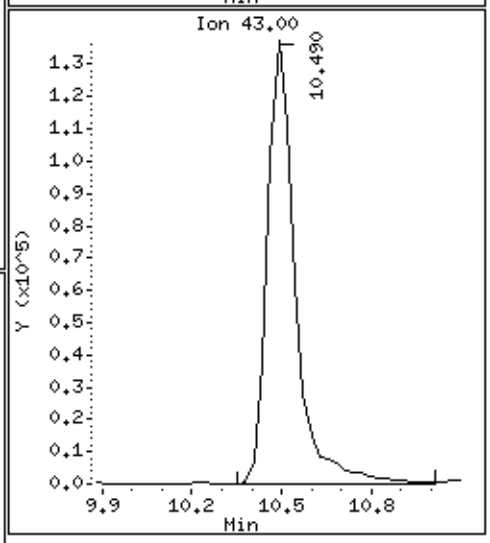
45 Acetone

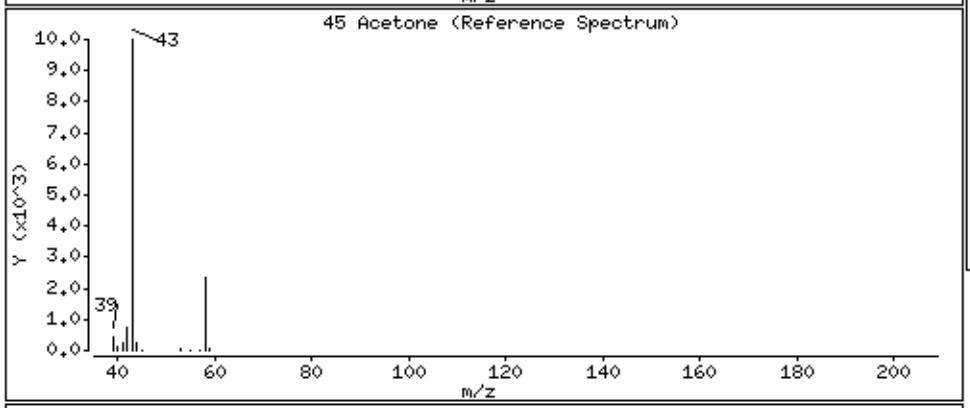
Concentration: 58.379 PPBV

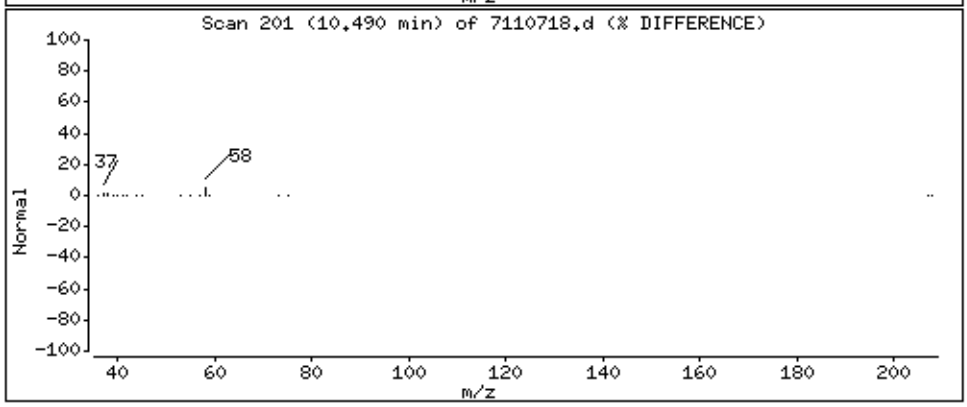












Data File: /chem/msd7.i/7-07nov.b/7110718.d

Date : 07-NOV-2007 23:08

Client ID:

Instrument: msd7.i

Sample Info: 100mL #34447

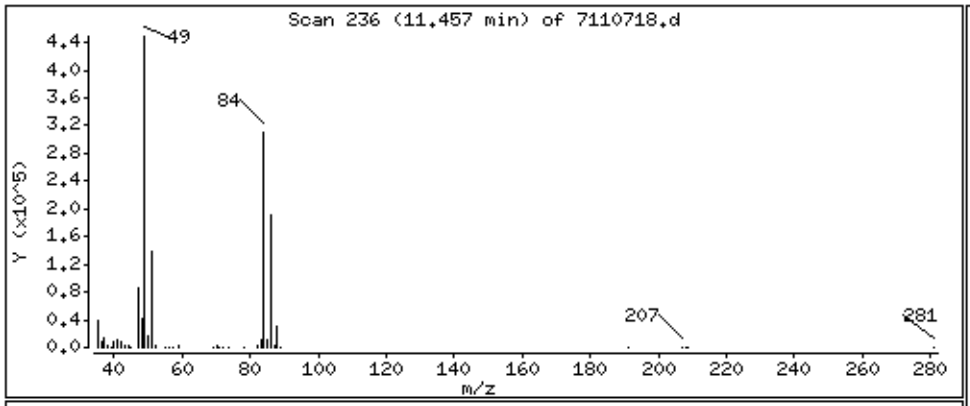
Operator: ab

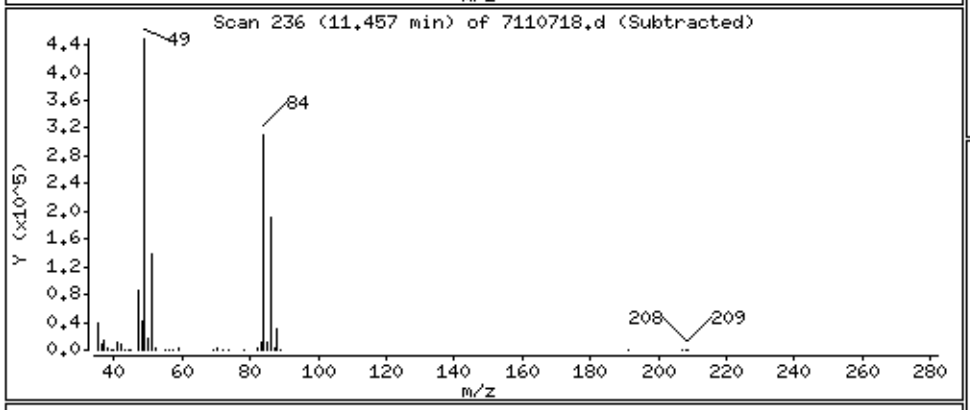
Column phase: RTx-624

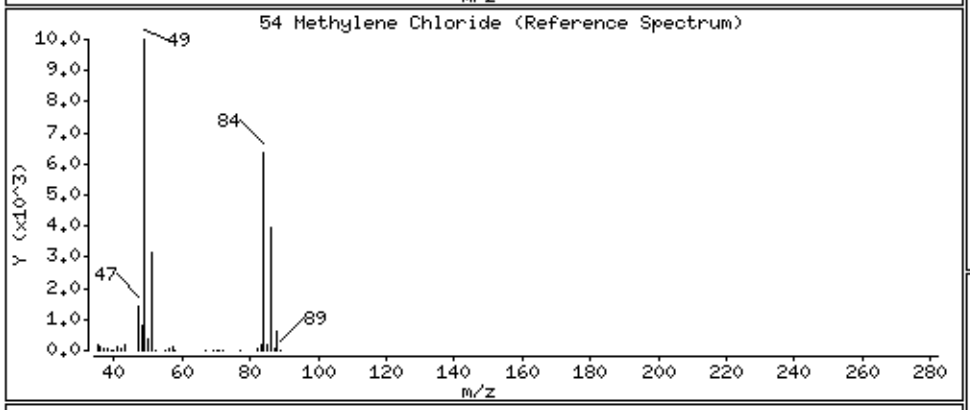
Column diameter: 0.53

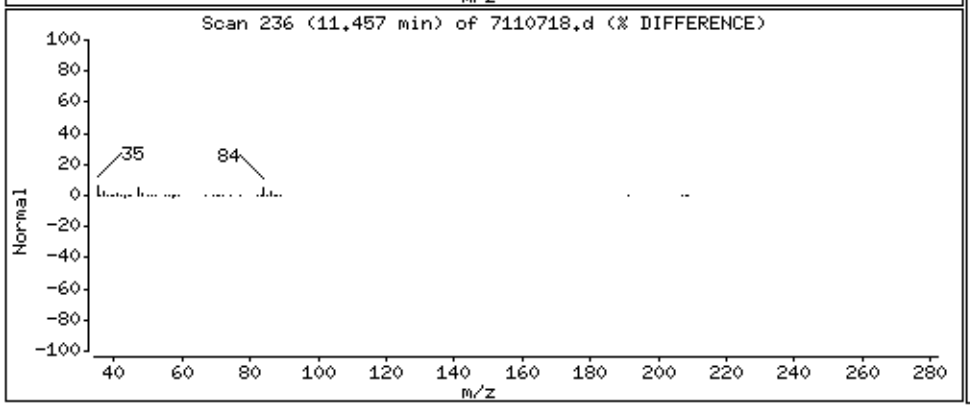
54 Methylene Chloride

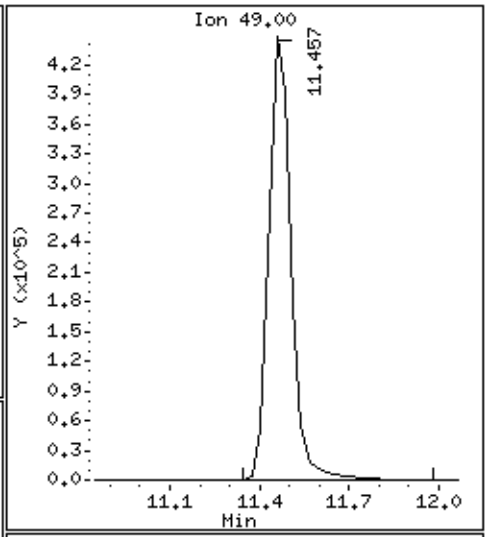
Concentration: 212.04 PPBV

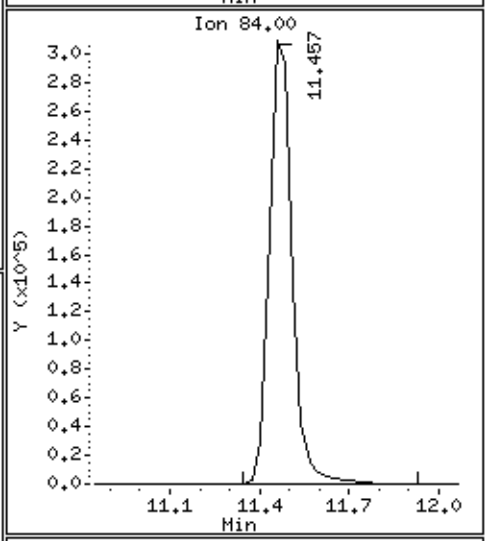


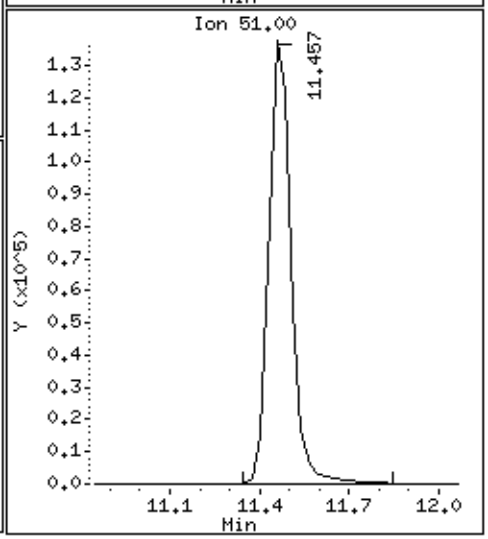












Data File: /chem/msd7.i/7-07nov.b/7110718.d

Date : 07-NOV-2007 23:08

Client ID:

Instrument: msd7.i

Sample Info: 100mL #34447

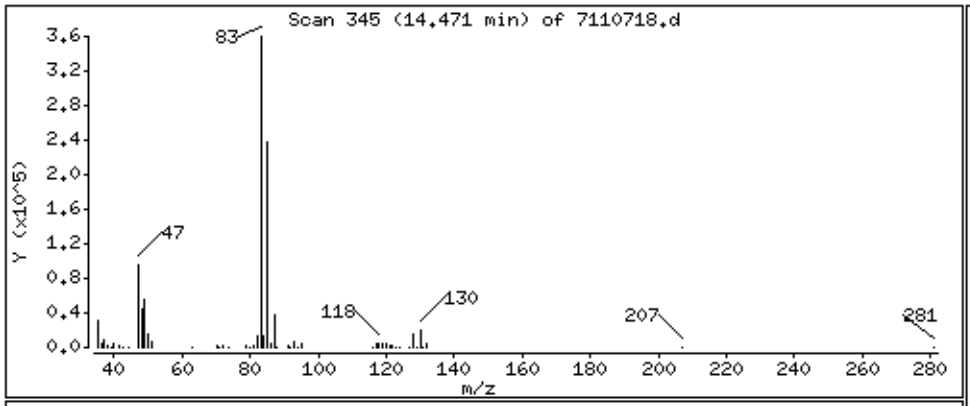
Operator: ab

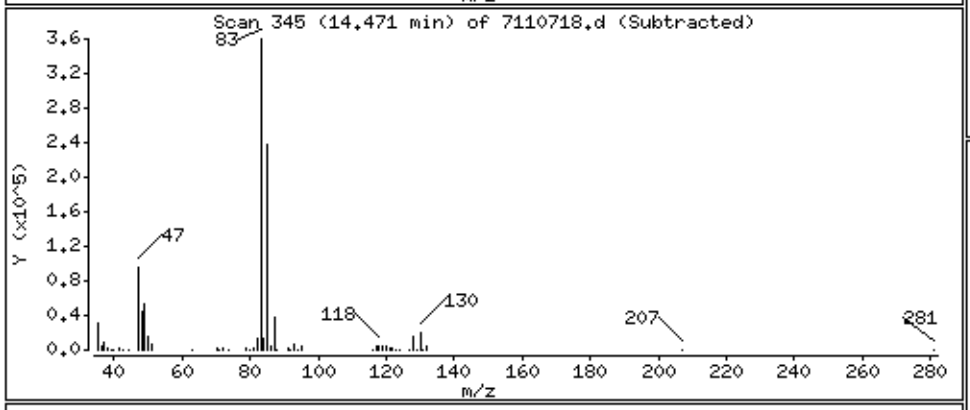
Column phase: RTx-624

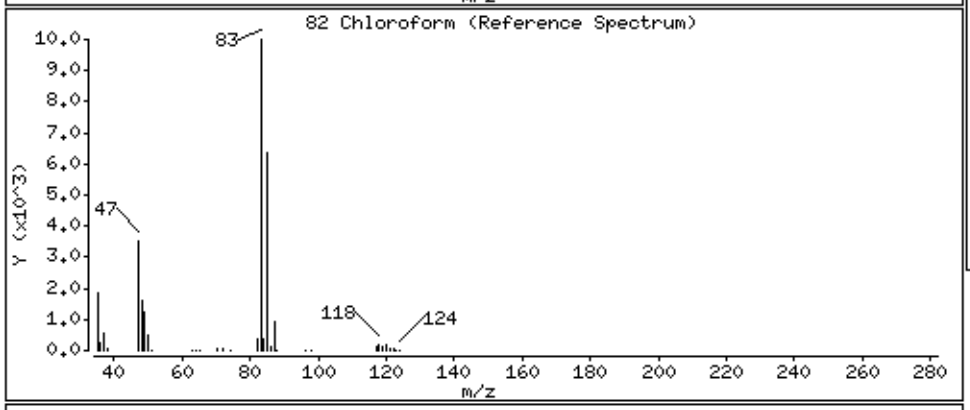
Column diameter: 0.53

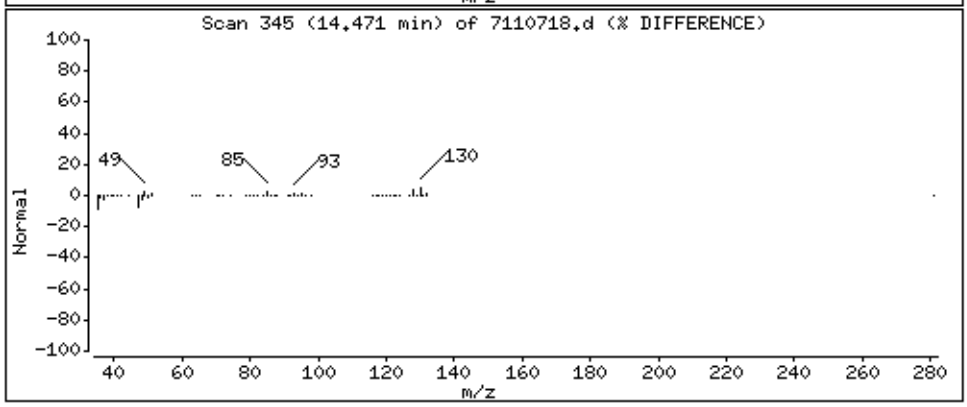
82 Chloroform

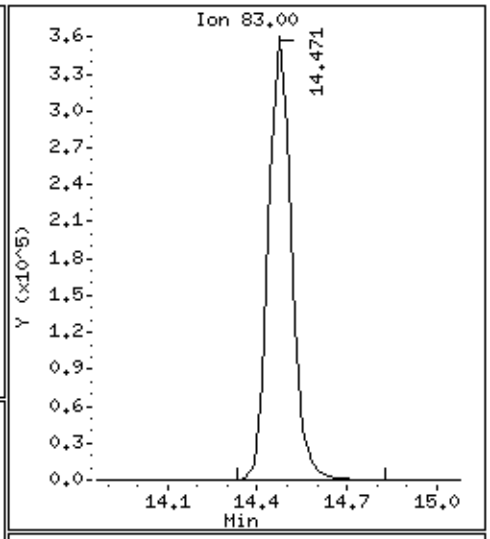
Concentration: 112.72 PPBV

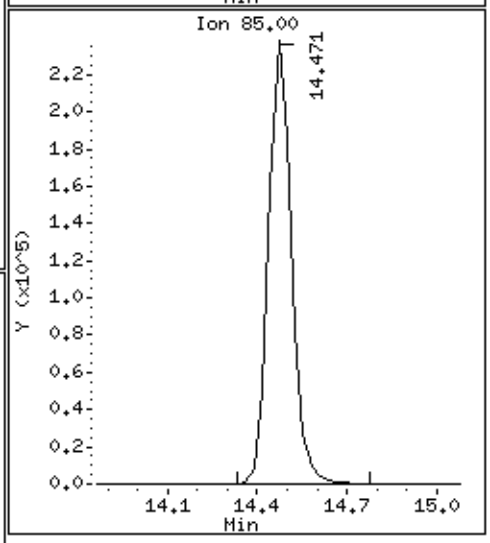












Data File: /chem/msd7.i/7-07nov.b/7110718.d

Date : 07-NOV-2007 23:08

Client ID:

Instrument: msd7.i

Sample Info: 100mL #34447

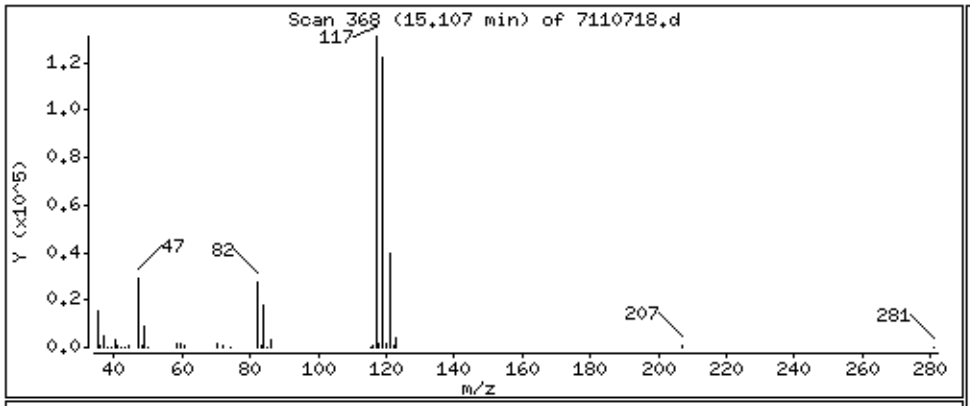
Operator: ab

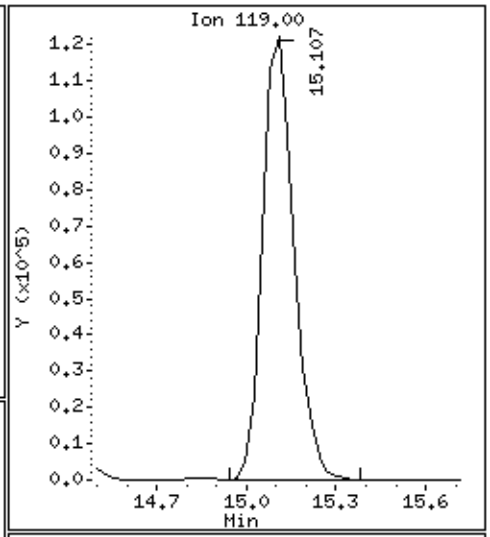
Column phase: RTx-624

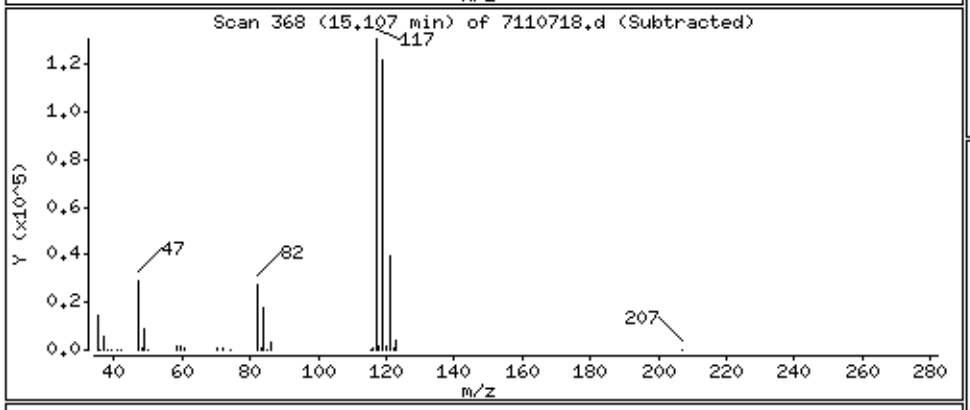
Column diameter: 0.53

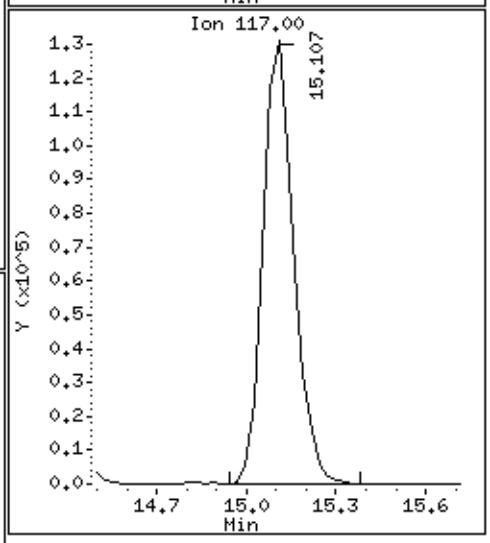
87 Carbon Tetrachloride

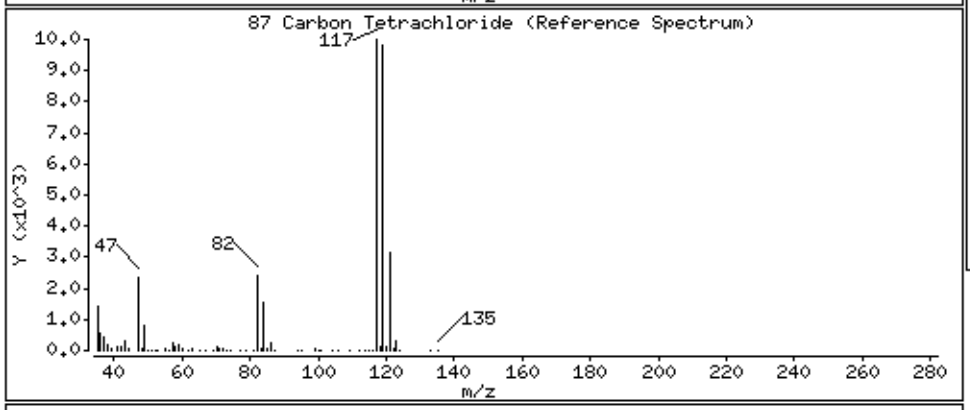
Concentration: 55.246 PPBV

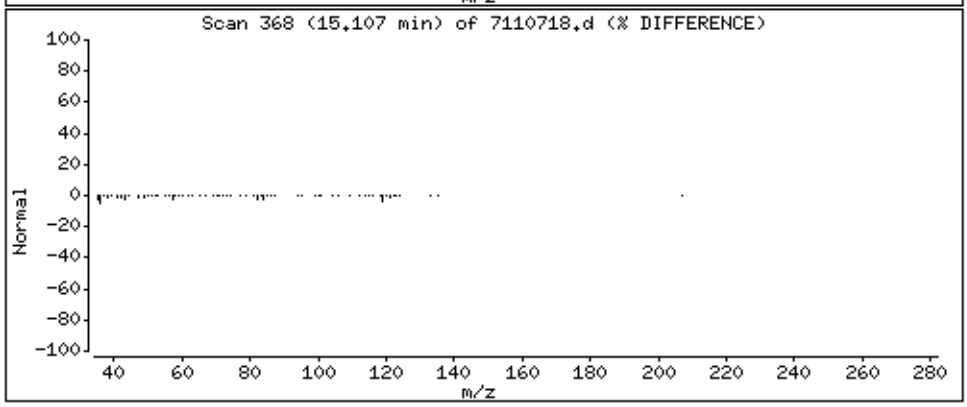












Data File: /chem/msd7.i/7-07nov.b/7110718.d

Date : 07-NOV-2007 23:08

Client ID:

Instrument: msd7.i

Sample Info: 100mL #34447

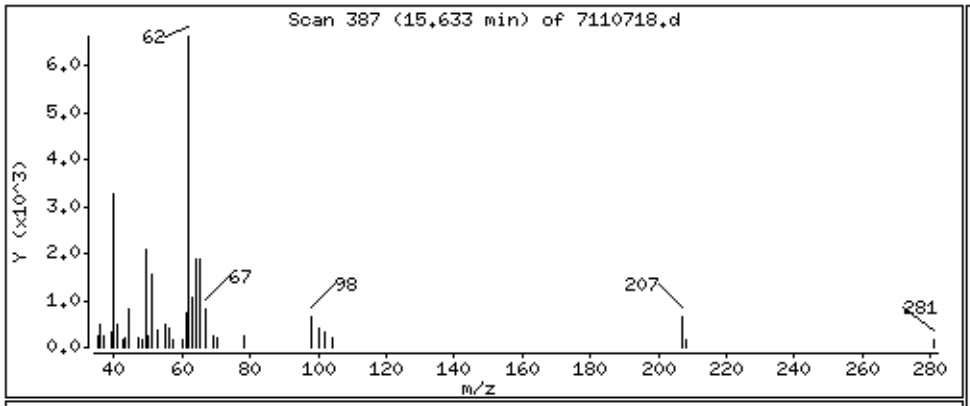
Operator: ab

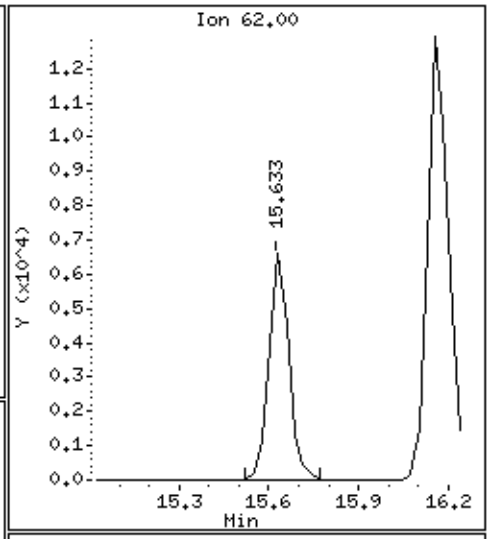
Column phase: RTx-624

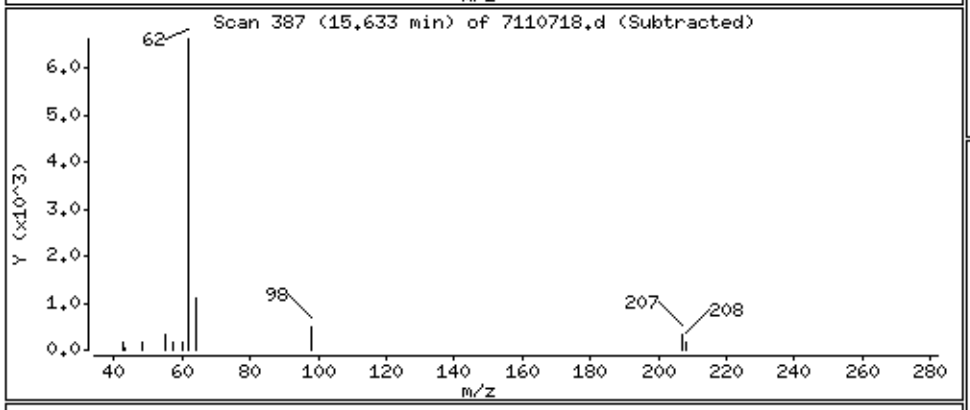
Column diameter: 0.53

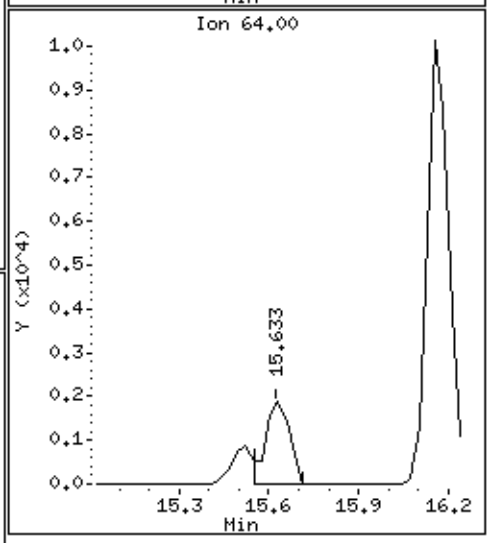
93 1,2-Dichloroethane

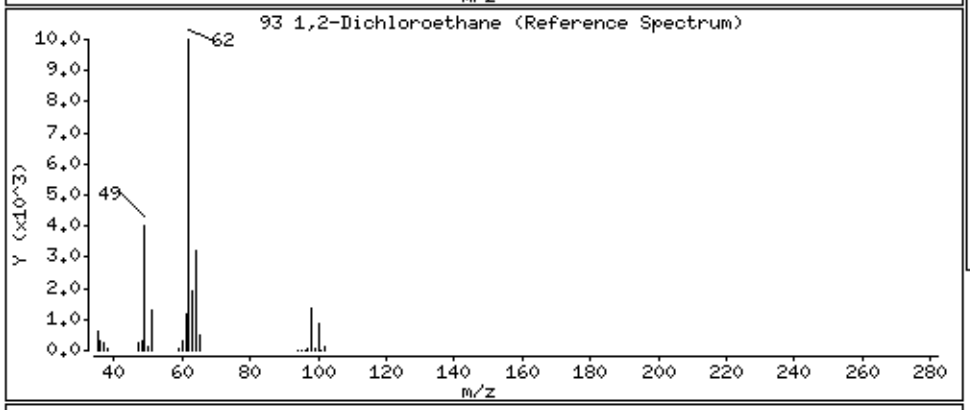
Concentration: 2.508 PPBV

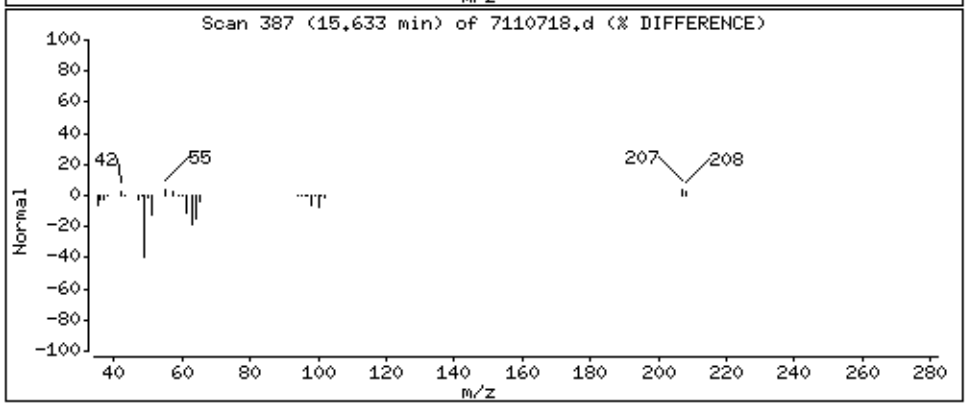












Data File: /chem/msd7.i/7-07nov.b/7110718.d

Date : 07-NOV-2007 23:08

Client ID:

Instrument: msd7.i

Sample Info: 100mL #34447

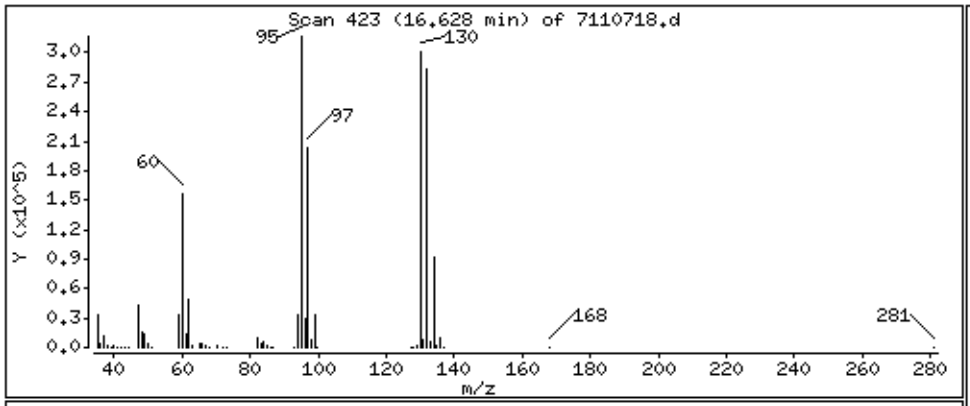
Operator: ab

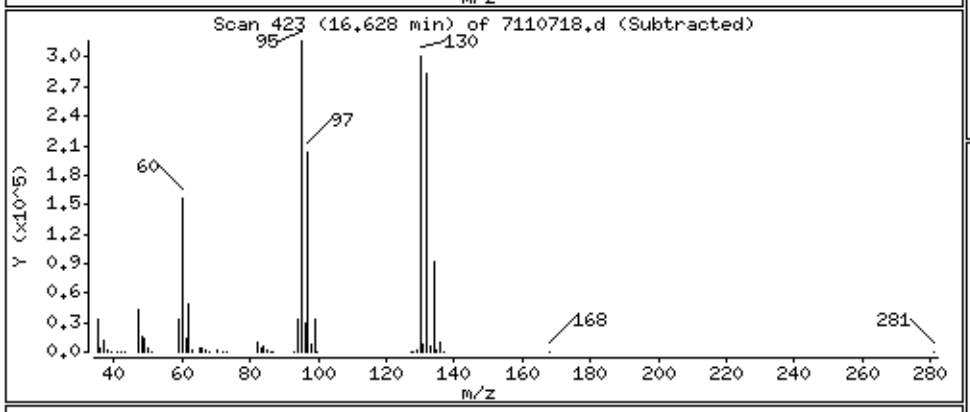
Column phase: RTx-624

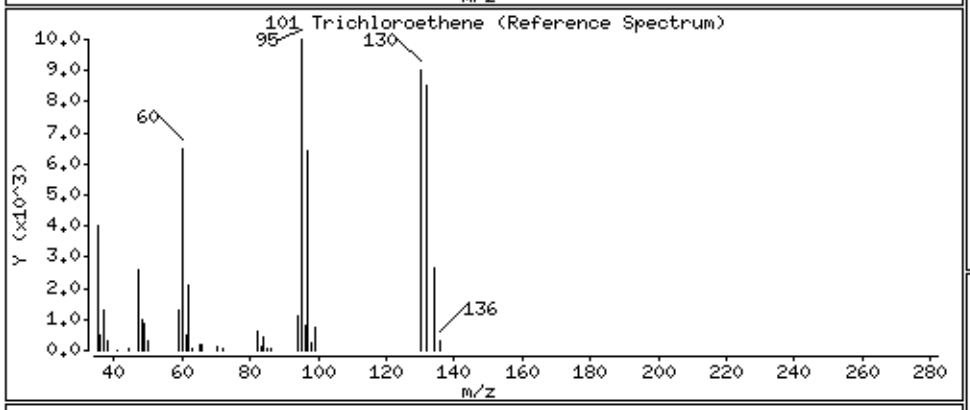
Column diameter: 0.53

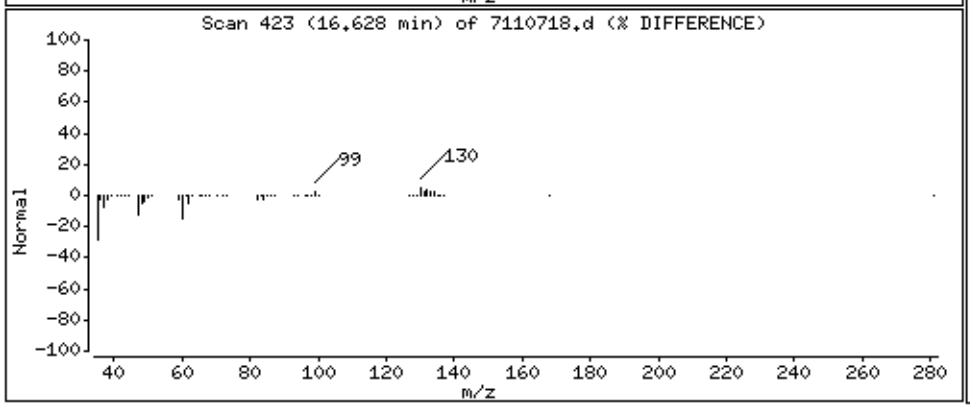
101 Trichloroethene

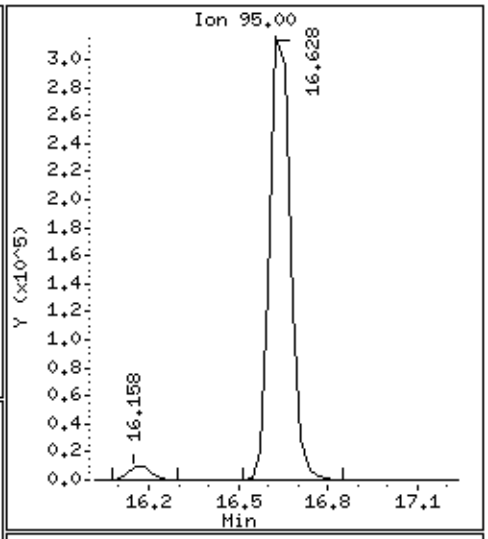
Concentration: 151.44 PPBV

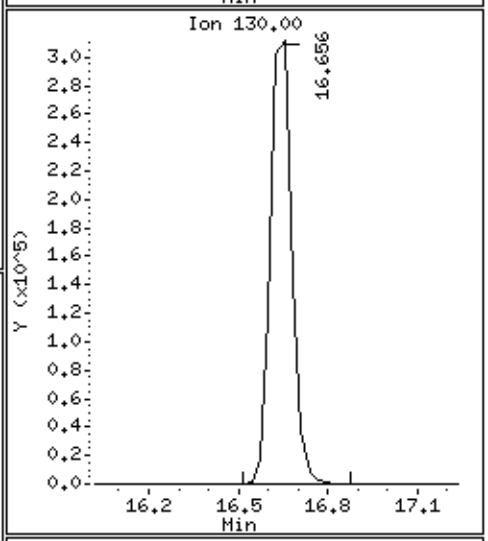


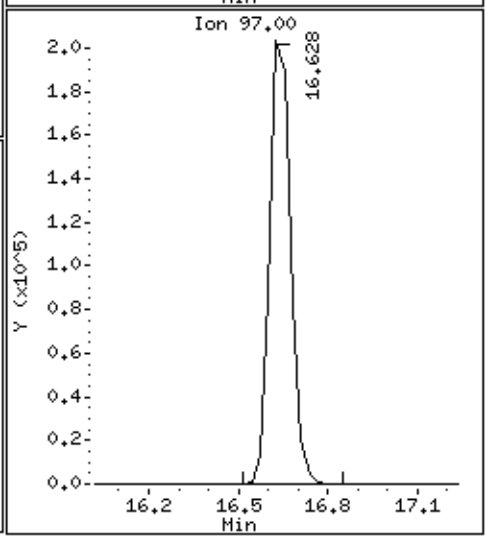












Data File: /chem/msd7.i/7-07nov.b/7110718.d

Date : 07-NOV-2007 23:08

Client ID:

Instrument: msd7.i

Sample Info: 100mL #34447

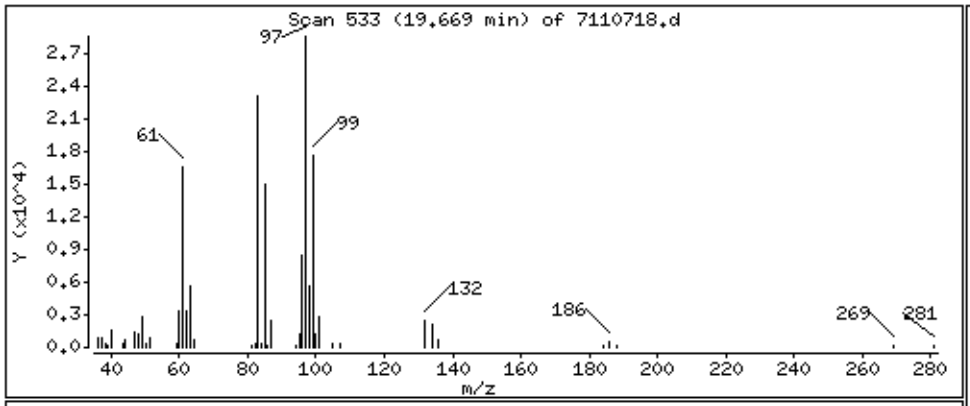
Operator: ab

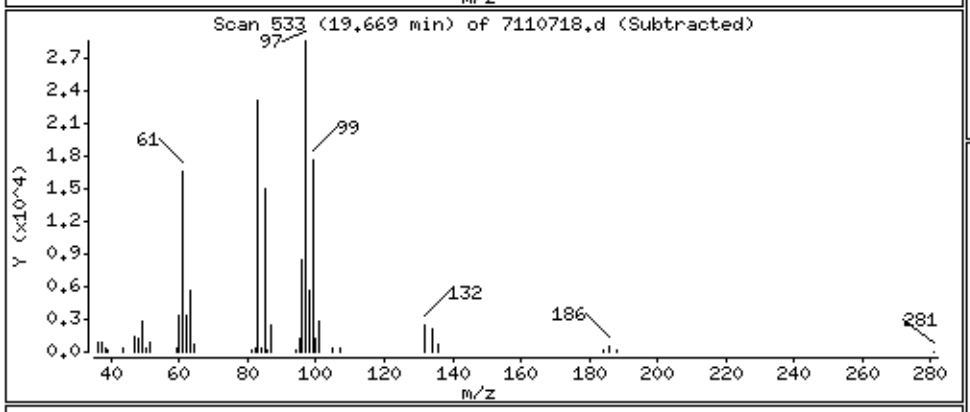
Column phase: RTx-624

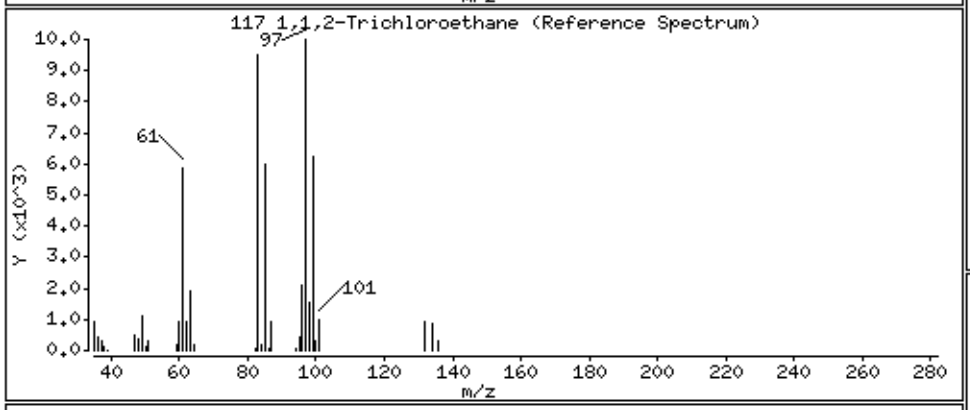
Column diameter: 0.53

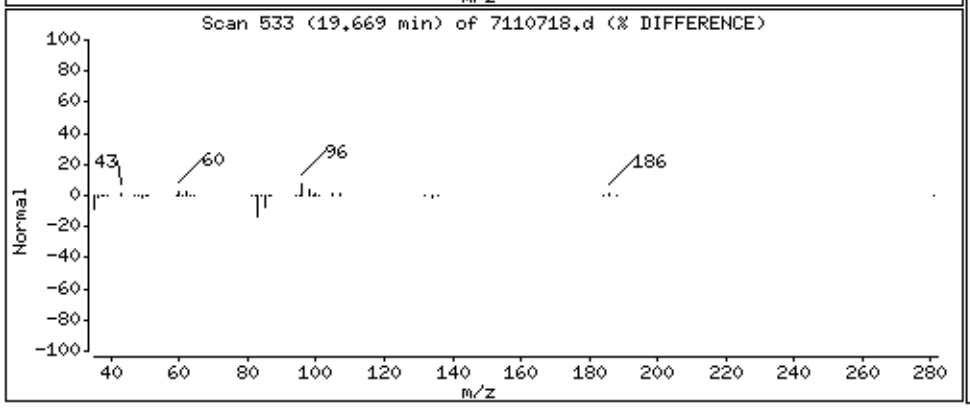
117 1,1,2-Trichloroethane

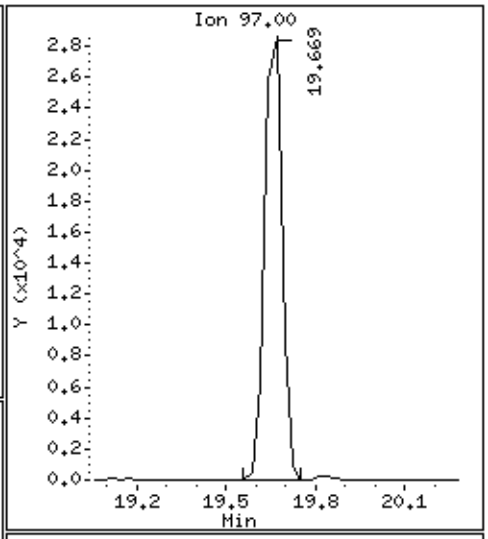
Concentration: 13.898 PPBV

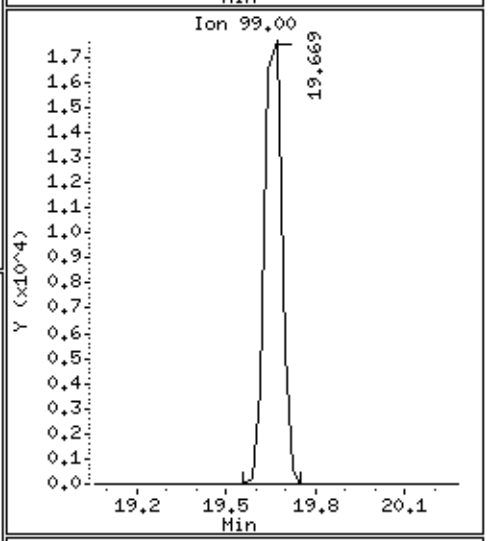


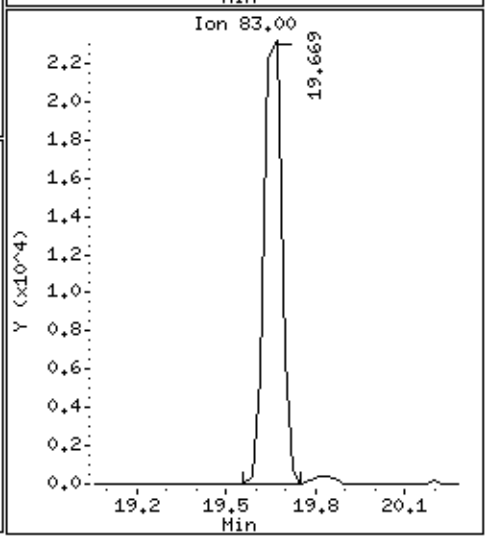












Data File: /chem/msd7.i/7-07nov.b/7110718.d

Date : 07-NOV-2007 23:08

Client ID:

Instrument: msd7.i

Sample Info: 100mL #34447

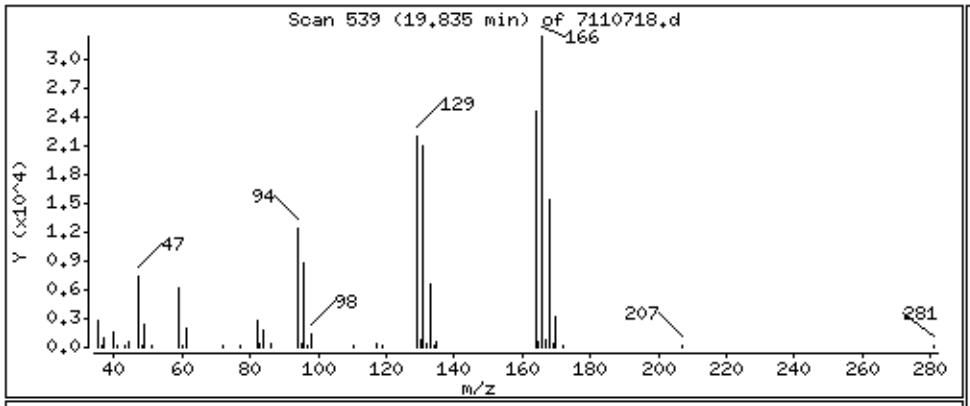
Operator: ab

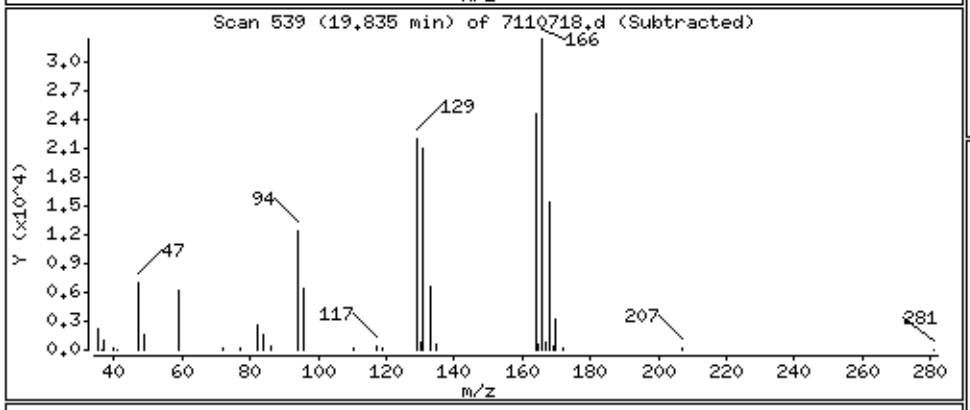
Column phase: RTx-624

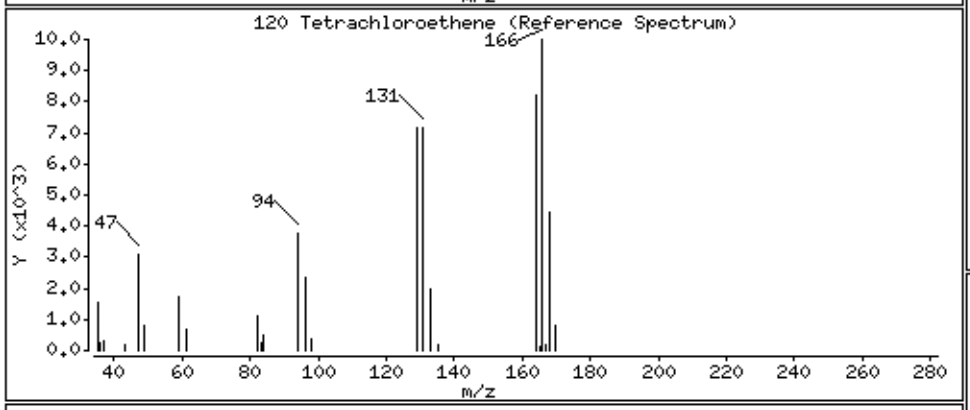
Column diameter: 0.53

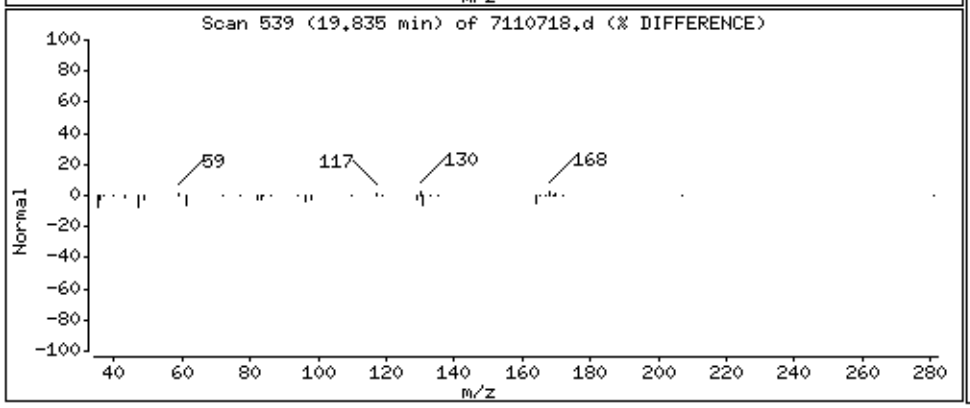
120 Tetrachloroethene

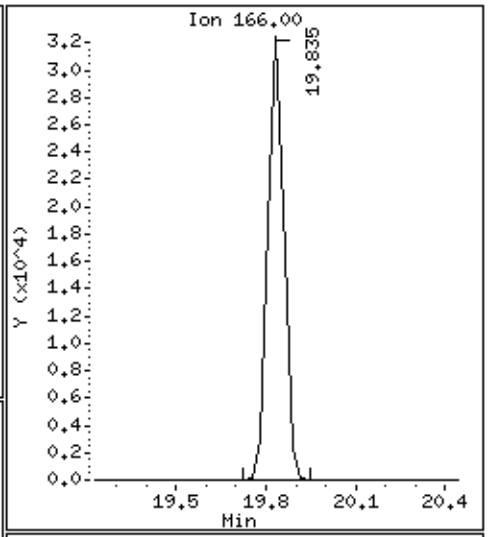
Concentration: 11.062 PPBV

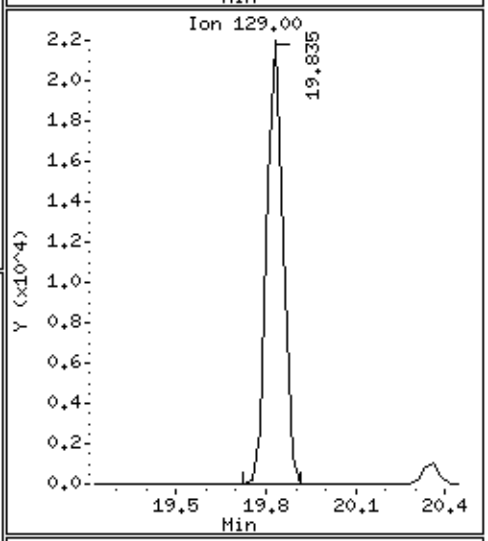


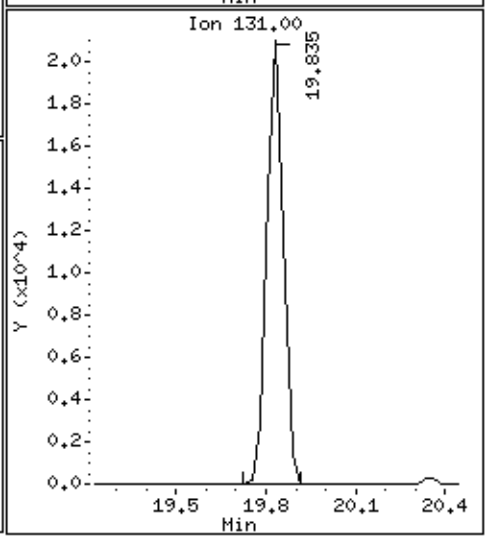












AN ENVIRONMENTAL ANALYTICAL LABORATORY

Summary of Detected Compounds
MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

Client Sample ID: MD21-07-6801

Lab ID#: 0711101-02A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Freon 12	0.86	1.5	4.2	7.4
1,3-Butadiene	0.86	7.4	1.9	16
Freon 113	0.86	3.9	6.6	30
1,1-Dichloroethene	0.86	3.1	3.4	12
Acetone	3.4	240	8.1	560
2-Propanol	3.4	3.6	8.4	9.0
Carbon Disulfide	0.86	4.9	2.7	15
Methylene Chloride	0.86	20	3.0	68
Hexane	0.86	2.2	3.0	7.7
2-Butanone (Methyl Ethyl Ketone)	0.86	58	2.5	170
cis-1,2-Dichloroethene	0.86	0.92	3.4	3.6
Tetrahydrofuran	0.86	1.2	2.5	3.7
Chloroform	0.86	130	4.2	630
1,1,1-Trichloroethane	0.86	5.7	4.7	31
Cyclohexane	0.86	0.99	2.9	3.4
Carbon Tetrachloride	0.86	46	5.4	290
Benzene	0.86	2.6	2.7	8.2
Heptane	0.86	2.8	3.5	12
Trichloroethene	0.86	110	4.6	580
Bromodichloromethane	0.86	1.2	5.7	7.8
4-Methyl-2-pentanone	0.86	5.0	3.5	21
Toluene	0.86	6.6	3.2	25
Tetrachloroethene	0.86	36	5.8	250
2-Hexanone	3.4	21	14	86
Ethyl Benzene	0.86	2.6	3.7	11
m,p-Xylene	0.86	8.0	3.7	35
o-Xylene	0.86	3.6	3.7	16
4-Ethyltoluene	0.86	5.0	4.2	24
1,3,5-Trimethylbenzene	0.86	2.3	4.2	11
1,2,4-Trimethylbenzene	0.86	11	4.2	53
n-Butanol	3.4	7.0	10	21
Propylene	3.4	120	5.9	210

AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: MD21-07-6801

Lab ID#: 0711101-02A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**7110720**	**Date of Collection:**	**11/3/07**
Dil. Factor:	**1.71**	**Date of Analysis:**	**11/8/07 12:50 AM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Freon 12	0.86	1.5	4.2	7.4
Freon 114	0.86	Not Detected	6.0	Not Detected
Chloromethane	3.4	Not Detected	7.1	Not Detected
Vinyl Chloride	0.86	Not Detected	2.2	Not Detected
1,3-Butadiene	0.86	7.4	1.9	16
Bromomethane	0.86	Not Detected	3.3	Not Detected
Chloroethane	0.86	Not Detected	2.2	Not Detected
Freon 11	0.86	Not Detected	4.8	Not Detected
Ethanol	3.4	Not Detected	6.4	Not Detected
Freon 113	0.86	3.9	6.6	30
1,1-Dichloroethene	0.86	3.1	3.4	12
Acetone	3.4	240	8.1	560
2-Propanol	3.4	3.6	8.4	9.0
Carbon Disulfide	0.86	4.9	2.7	15
Methylene Chloride	0.86	20	3.0	68
Methyl tert-butyl ether	0.86	Not Detected	3.1	Not Detected
trans-1,2-Dichloroethene	0.86	Not Detected	3.4	Not Detected
Hexane	0.86	2.2	3.0	7.7
1,1-Dichloroethane	0.86	Not Detected	3.5	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.86	58	2.5	170
cis-1,2-Dichloroethene	0.86	0.92	3.4	3.6
Tetrahydrofuran	0.86	1.2	2.5	3.7
Chloroform	0.86	130	4.2	630
1,1,1-Trichloroethane	0.86	5.7	4.7	31
Cyclohexane	0.86	0.99	2.9	3.4
Carbon Tetrachloride	0.86	46	5.4	290
Benzene	0.86	2.6	2.7	8.2
1,2-Dichloroethane	0.86	Not Detected	3.5	Not Detected
Heptane	0.86	2.8	3.5	12
Trichloroethene	0.86	110	4.6	580
1,2-Dichloropropane	0.86	Not Detected	4.0	Not Detected
1,4-Dioxane	3.4	Not Detected	12	Not Detected
Bromodichloromethane	0.86	1.2	5.7	7.8
cis-1,3-Dichloropropene	0.86	Not Detected	3.9	Not Detected
4-Methyl-2-pentanone	0.86	5.0	3.5	21
Toluene	0.86	6.6	3.2	25
trans-1,3-Dichloropropene	0.86	Not Detected	3.9	Not Detected
1,1,2-Trichloroethane	0.86	Not Detected	4.7	Not Detected
Tetrachloroethene	0.86	36	5.8	250

AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: MD21-07-6801

Lab ID#: 0711101-02A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**7110720**	**Date of Collection: 11/3/07**	
Dil. Factor:	**1.71**	**Date of Analysis: 11/8/07 12:50 AM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
2-Hexanone	3.4	21	14	86
Dibromochloromethane	0.86	Not Detected	7.3	Not Detected
1,2-Dibromoethane (EDB)	0.86	Not Detected	6.6	Not Detected
Chlorobenzene	0.86	Not Detected	3.9	Not Detected
Ethyl Benzene	0.86	2.6	3.7	11
m,p-Xylene	0.86	8.0	3.7	35
o-Xylene	0.86	3.6	3.7	16
Styrene	0.86	Not Detected	3.6	Not Detected
Bromoform	0.86	Not Detected	8.8	Not Detected
1,1,2,2-Tetrachloroethane	0.86	Not Detected	5.9	Not Detected
4-Ethyltoluene	0.86	5.0	4.2	24
1,3,5-Trimethylbenzene	0.86	2.3	4.2	11
1,2,4-Trimethylbenzene	0.86	11	4.2	53
1,3-Dichlorobenzene	0.86	Not Detected	5.1	Not Detected
1,4-Dichlorobenzene	0.86	Not Detected	5.1	Not Detected
alpha-Chlorotoluene	0.86	Not Detected	4.4	Not Detected
1,2-Dichlorobenzene	0.86	Not Detected	5.1	Not Detected
1,2,4-Trichlorobenzene	3.4	Not Detected	25	Not Detected
Hexachlorobutadiene	3.4	Not Detected	36	Not Detected
Chlorodifluoromethane	3.4	Not Detected	12	Not Detected
Methanol	86	Not Detected	110	Not Detected
n-Butanol	3.4	7.0	10	21
Propylene	3.4	120	5.9	210

Container Type: 6 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	94	70-130
1,2-Dichloroethane-d4	96	70-130
4-Bromofluorobenzene	104	70-130

Air Toxics Ltd.

AMBIENT AIR METHOD TO14

Data file : /chem/msd7.i/7-07nov.b/7110720.d
Lab Smp Id: 0711101-02A
Inj Date : 08-NOV-2007 00:50
Operator : ab Inst ID: msd7.i
Smp Info : 200mL #34749
Misc Info : 6.5"Hg ->5psi
Comment :
Method : /chem/msd7.i/7-07nov.b/t14qO18d.m
Meth Date : 07-Nov-2007 11:47 sruth Quant Type: ISTD
Cal Date : 05-NOV-2007 14:29 Cal File: 7110507.d
Als bottle: 1
Dil Factor: 1.71000
Integrator: HP RTE Compound Sublist: Los2153.sub
Target Version: 3.50 Sample Matrix: AIR
Processing Host: eeyore

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

RT	EXP RT (REL RT)	MASS	RESPONSE	CONCENTRATIONS ON-COL (PPBV)	FINAL (PPBV)	TARGET RANGE	RATIO
* 81 Bromochloromethane					CAS #: 74-97-5		
14.416	14.416 (1.000)	130	641418	25.0000		80.00- 120.00	100.00
14.416	14.416 (1.000)	128	501362			28.66- 128.66	78.16
14.416	14.416 (1.000)	49	1340875			133.49- 233.49	209.05
* 97 1,4-Difluorobenzene					CAS #: 540-36-3		
16.158	16.158 (1.000)	114	2157343	25.0000		80.00- 120.00	100.00
16.158	16.158 (1.000)	88	328986			0.00- 65.23	15.25
* 126 Chlorobenzene-d5					CAS #: 3114-55-4		
21.356	21.356 (1.000)	117	1630873	25.0000		80.00- 120.00	100.00
21.356	21.356 (1.000)	82	886295			4.70- 104.70	54.34
$ 90 1,2-Dichloroethane-d4					CAS #: 17060-07-0		
15.494	15.494 (1.075)	65	826016	23.9716	23.972	80.00- 120.00	100.00
15.494	15.494 (1.075)	67	433984			2.91- 102.91	52.54
$ 113 Toluene-d8					CAS #: 2037-26-5		
18.757	18.757 (1.161)	98	1793232	23.4157	23.416	80.00- 120.00	100.00
18.757	18.757 (1.161)	70	233843			0.00- 61.46	13.04

RT	EXP RT (REL RT)	MASS	RESPONSE	CONCENTRATIONS ON-COL (PPBV)	FINAL (PPBV)	TARGET RANGE	RATIO
$ 113 Toluene-d8 (continued)							
18.757	18.757 (1.161)	100	1256299			19.18- 119.18	70.06
$ 137 Bromofluorobenzene					CAS #: 460-00-4		
23.347	23.347 (1.093)	174	1014782	26.1488	26.149	80.00- 120.00	100.00
23.319	23.347 (1.092)	95	1304108			73.89- 173.89	128.51
23.347	23.347 (1.093)	176	980865			48.20- 148.20	96.66
11 Propylene					CAS #: 115-07-1		
5.617	5.617 (0.390)	41	2010638	72.7300	124.37	80.00- 120.00	100.00
5.617	5.617 (0.390)	42	1322855			21.19- 121.19	65.79
5.617	5.617 (0.390)	39	1633165			24.83- 124.83	81.23
12 Dichlorodifluoromethane/Fr12					CAS #: 75-71-8		
5.757	5.758 (0.399)	85	88345	0.87159	1.490	80.00- 120.00	100.00
5.757	5.758 (0.399)	87	26719			0.00- 83.07	30.24
22 1,3-Butadiene					CAS #: 106-99-0		
6.940	6.940 (0.481)	54	128531	4.31176	7.373	80.00- 120.00	100.00
6.743	6.940 (0.468)	39	963269			55.97- 155.97	749.44
42 Freon 113					CAS #: 76-13-1		
10.185	10.186 (0.707)	151	120348	2.28829	3.913	80.00- 120.00	100.00
10.185	10.186 (0.707)	153	76472			13.12- 113.12	63.54
10.185	10.186 (0.707)	101	141783			67.28- 167.28	117.81
43 1,1-Dichloroethene					CAS #: 75-35-4		
10.324	10.324 (0.716)	61	102081	1.82406	3.119	80.00- 120.00	100.00
10.324	10.324 (0.716)	96	57691			9.78- 109.78	56.51
10.324	10.324 (0.716)	98	37813			0.00- 88.25	37.04
45 Acetone					CAS #: 67-64-1		
10.490	10.490 (0.728)	58	2397256	138.585	236.98	80.00- 120.00	100.00
10.490	10.490 (0.728)	43	7916235			247.10- 347.10	330.22
46 2-Propanol					CAS #: 67-63-0		
10.683	10.683 (0.741)	45	130934	2.13347	3.648	80.00- 120.00	100.00
10.490	10.683 (0.728)	43	7916235			0.00- 75.54	6045.97
10.656	10.683 (0.739)	59	10131			0.00- 53.72	7.74
47 Carbon Disulfide					CAS #: 75-15-0		
10.904	10.877 (0.756)	76	306084	2.86666	4.902	80.00- 120.00	100.00
54 Methylene Chloride					CAS #: 75-09-2		
11.457	11.457 (0.795)	49	472237	11.4774	19.626	80.00- 120.00	100.00
11.485	11.457 (0.797)	84	349727			19.98- 119.98	74.06

RT	EXP RT (REL RT)	MASS	RESPONSE	CONCENTRATIONS ON-COL (PPBV)	FINAL (PPBV)	TARGET RANGE	RATIO
54 Methylene Chloride (continued)							
11.457	11.457 (0.795)	51	146700			0.00- 80.85	31.06
65 Hexane					CAS #: 110-54-3		
12.314	12.287 (0.854)	57	68969	1.27106	2.174	80.00- 120.00	100.00
12.314	12.287 (0.854)	43	83400			17.84- 117.84	120.92
12.314	12.287 (0.854)	86	8724			0.00- 65.07	12.65
75 2-Butanone					CAS #: 78-93-3		
13.890	13.891 (0.964)	72	474276	34.1399	58.379	80.00- 120.00	100.00
13.890	13.891 (0.964)	43	2293241			412.48- 512.48	483.52
13.890	13.891 (0.964)	57	167466			0.00- 86.57	35.31
76 cis-1,2-Dichloroethene					CAS #: 156-59-2		
13.918	13.918 (0.965)	61	24463	0.53773	0.9195	80.00- 120.00	100.00
13.946	13.918 (0.967)	96	8316			26.41- 126.41	33.99
13.918	13.918 (0.965)	98	3759			0.00- 98.54	15.37
80 Tetrahydrofuran					CAS #: 109-99-9		
14.388	14.388 (0.998)	42	26391	0.72861	1.246	80.00- 120.00	100.00
14.388	14.388 (0.998)	71	13565			0.00- 86.36	51.40
14.471	14.388 (1.004)	72	32041			0.00- 87.82	121.41
82 Chloroform					CAS #: 67-66-3		
14.471	14.471 (1.004)	83	4843064	74.9918	128.24	80.00- 120.00	100.00
14.471	14.471 (1.004)	85	3143138			15.69- 115.69	64.90
83 1,1,1-Trichloroethane					CAS #: 71-55-6		
14.831	14.831 (1.029)	97	216026	3.32172	5.680	80.00- 120.00	100.00
14.831	14.831 (1.029)	99	142393			14.03- 114.03	65.91
85 Cyclohexane					CAS #: 110-82-7		
14.831	14.831 (1.029)	84	21523	0.57781	0.9880	80.00- 120.00	100.00
14.803	14.831 (1.027)	56	51875			76.16- 176.16	241.02
14.803	14.831 (1.027)	41	111834			19.79- 119.79	519.60
87 Carbon Tetrachloride					CAS #: 56-23-5		
15.107	15.107 (1.048)	119	1659687	27.2247	46.554	80.00- 120.00	100.00
15.107	15.107 (1.048)	117	1727181			53.14- 153.14	104.07
91 Benzene					CAS #: 71-43-2		
15.522	15.522 (0.961)	78	128731	1.50181	2.568	80.00- 120.00	100.00
15.522	15.522 (0.961)	77	31256			0.00- 71.87	24.28
94 Heptane					CAS #: 142-82-5		
15.743	15.715 (0.974)	71	43364	1.64494	2.813	80.00- 120.00	100.00

RT	EXP RT (REL RT)	MASS	RESPONSE	CONCENTRATIONS ON-COL (PPBV)	FINAL (PPBV)	TARGET RANGE	RATIO
94 Heptane (continued)							
15.743	15.715 (0.974)	43	82154			158.53- 258.53	189.45
15.743	15.715 (0.974)	57	33316			59.34- 159.34	76.83
101 Trichloroethene					CAS #: 79-01-6		
16.628	16.628 (1.029)	95	2386924	62.6881	107.20	80.00- 120.00	100.00
16.655	16.628 (1.031)	130	2407988			51.11- 151.11	100.88
16.628	16.628 (1.029)	97	1557142			15.04- 115.04	65.24
107 Bromodichloromethane					CAS #: 75-27-4		
17.568	17.540 (1.087)	83	44998	0.68070	1.164	80.00- 120.00	100.00
17.568	17.540 (1.087)	85	27774			14.03- 114.03	61.72
111 4-Methyl-2-pentanone					CAS #: 108-10-1		
18.508	18.508 (1.145)	58	75718	2.95180	5.048	80.00- 120.00	100.00
18.508	18.508 (1.145)	43	210069			222.97- 322.97	277.44
18.508	18.508 (1.145)	85	30354			0.00- 90.48	40.09
114 Toluene					CAS #: 108-88-3		
18.895	18.895 (1.169)	91	365184	3.88963	6.651	80.00- 120.00	100.00
18.895	18.895 (1.169)	92	229393			12.90- 112.90	62.82
120 Tetrachloroethene					CAS #: 127-18-4		
19.835	19.835 (0.929)	166	931397	21.2594	36.354	80.00- 120.00	100.00
19.835	19.835 (0.929)	129	662199			21.07- 121.07	71.10
19.835	19.835 (0.929)	131	637097			18.33- 118.33	68.40
121 2-Hexanone					CAS #: 591-78-6		
19.973	19.973 (0.935)	58	445862	12.3160	21.060	80.00- 120.00	100.00
19.973	19.973 (0.935)	43	857531			134.78- 234.78	192.33
19.973	19.973 (0.935)	100	76015			0.00- 67.05	17.05
128 Ethyl Benzene					CAS #: 100-41-4		
21.494	21.494 (1.006)	106	56940	1.51190	2.585	80.00- 120.00	100.00
21.494	21.494 (1.006)	91	178213			261.69- 361.69	312.98
129 m,p-Xylene					CAS #: 108-38-3		
21.688	21.688 (1.016)	106	221823	4.70567	8.047	80.00- 120.00	100.00
21.688	21.688 (1.016)	91	429483			145.05- 245.05	193.62
130 o-Xylene					CAS #: 95-47-6		
22.379	22.379 (1.048)	106	86365	2.11415	3.615	80.00- 120.00	100.00
22.379	22.379 (1.048)	91	173279			150.43- 250.43	200.64
145 4-Ethyltoluene					CAS #: 622-96-8		
23.789	23.817 (1.114)	105	355923	2.91318	4.982	80.00- 120.00	100.00

RT	EXP RT (REL RT)	MASS	RESPONSE	CONCENTRATIONS ON-COL (PPBV)	FINAL (PPBV)	TARGET RANGE	RATIO
145 4-Ethyltoluene (continued)							
23.789	23.817 (1.114)	120	114807			0.00- 81.87	32.26
147 1,3,5-Trimethylbenzene					CAS #: 108-67-8		
23.927	23.927 (1.120)	105	129851	1.35306	2.314	80.00- 120.00	100.00
23.927	23.927 (1.120)	120	70620			3.80- 103.80	54.39
150 1,2,4-Trimethylbenzene					CAS #: 95-63-6		
24.563	24.563 (1.150)	105	552848	6.33878	10.839	80.00- 120.00	100.00
24.563	24.563 (1.150)	120	224087			0.00- 98.95	40.53
98 1-Butanol					CAS #: 71-36-3		
16.324	16.324 (1.010)	56	86782	4.11499	7.037	80.00- 120.00	100.00
16.351	16.324 (1.012)	41	98144			21.86- 121.86	113.09
16.324	16.324 (1.010)	43	50290			9.15- 109.15	57.95

Air Toxics Ltd.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd7.i
Lab File ID: 7110720.d
Lab Smp Id: 0711101-02A
Analysis Type: VOA
Quant Type: ISTD
Operator: ab
Method File: /chem/msd7.i/7-07nov.b/t14qO18d.m
Misc Info: 6.5"Hg ->5psi

Calibration Date: 07-NOV-2007
Calibration Time: 08:52

Level: LOW
Sample Type: AIR

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
81 Bromochloromethan	695461	417277	973645	641418	-7.77
97 1,4-Difluorobenze	2265681	1359409	3171953	2157343	-4.78
126 Chlorobenzene-d5	1765821	1059493	2472149	1630873	-7.64

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
81 Bromochloromethan	14.42	14.09	14.75	14.42	0.00
97 1,4-Difluorobenze	16.16	15.83	16.49	16.16	0.00
126 Chlorobenzene-d5	21.36	21.03	21.69	21.36	0.00

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Air Toxics Ltd.

RECOVERY REPORT

Client Name: Client SDG: 7-07nov
Sample Matrix: GAS Fraction: VOA
Lab Smp Id: 0711101-02A
Level: LOW Operator: ab
Data Type: MS DATA SampleType: SAMPLE
SpikeList File: 2926spectra.spk Quant Type: ISTD
Sublist File: Los2153.sub
Method File: /chem/msd7.i/7-07nov.b/t14qO18d.m
Misc Info: 6.5"Hg ->5psi

SURROGATE COMPOUND	CONC ADDED PPBV	CONC RECOVERED PPBV	% RECOVERED	LIMITS
$ 90 1,2-Dichloroethane	25.000	23.972	95.89	70-130
$ 113 Toluene-d8	25.000	23.416	93.66	70-130
$ 137 Bromofluorobenzene	25.000	26.149	104.60	70-130

Data File: /chem/msd7.i/7-07nov.b/7110720.d

Date : 08-NOV-2007 00:50

Client ID:

Sample Info: 200mL #34749

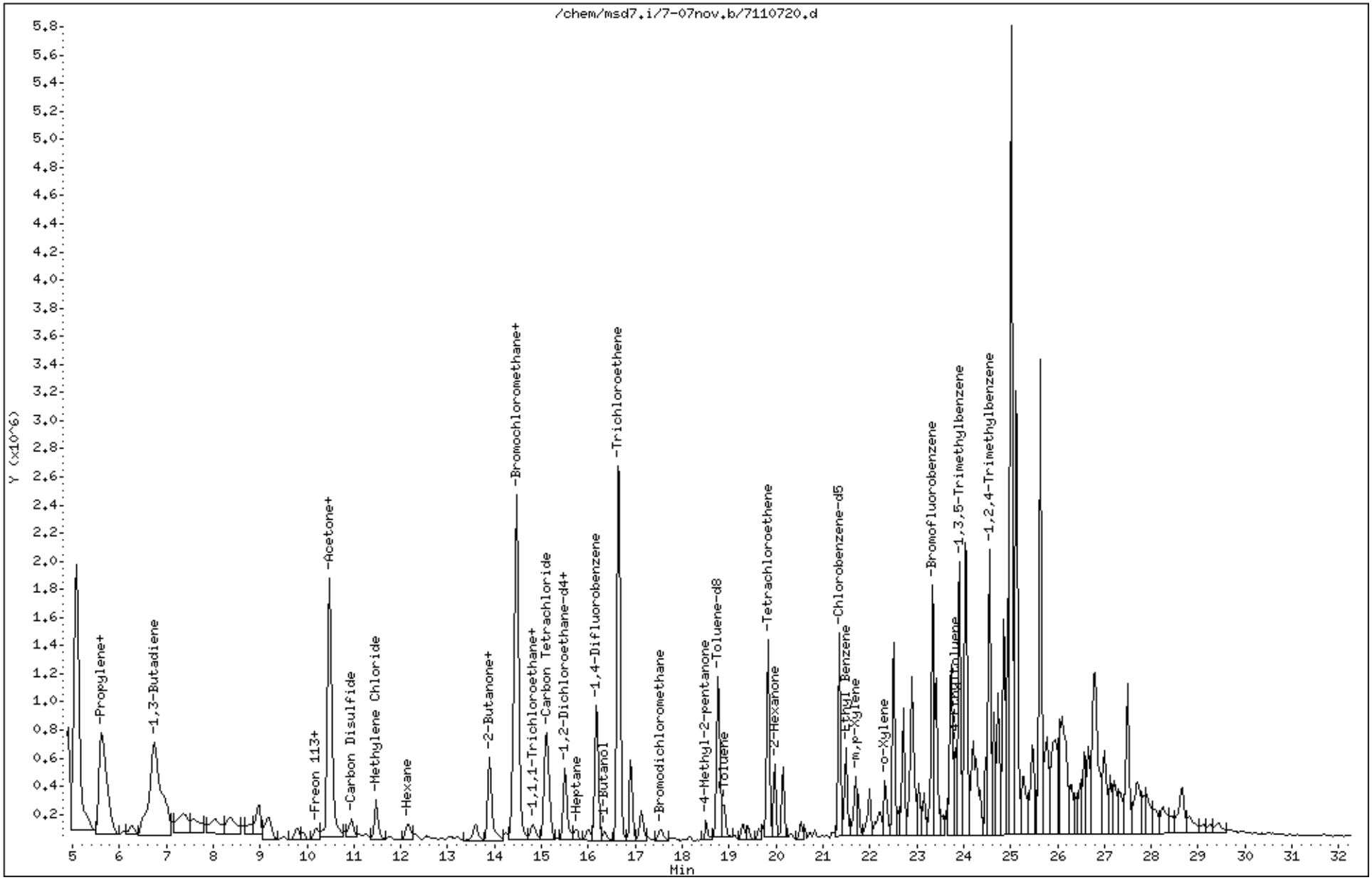
Column phase: RTx-624

Instrument: msd7.i

Operator: ab

Column diameter: 0.53

0063



Data File: /chem/msd7.i/7-07nov.b/7110720.d

Date : 08-NOV-2007 00:50

Client ID:

Instrument: msd7.i

Sample Info: 200mL #34749

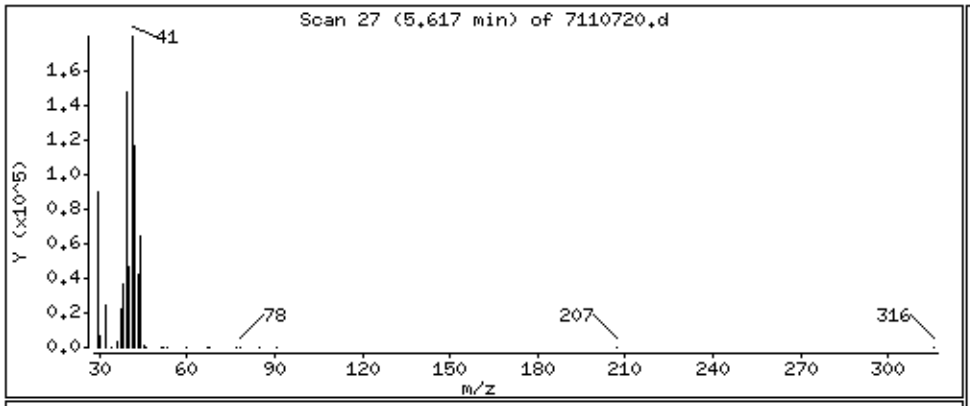
Operator: ab

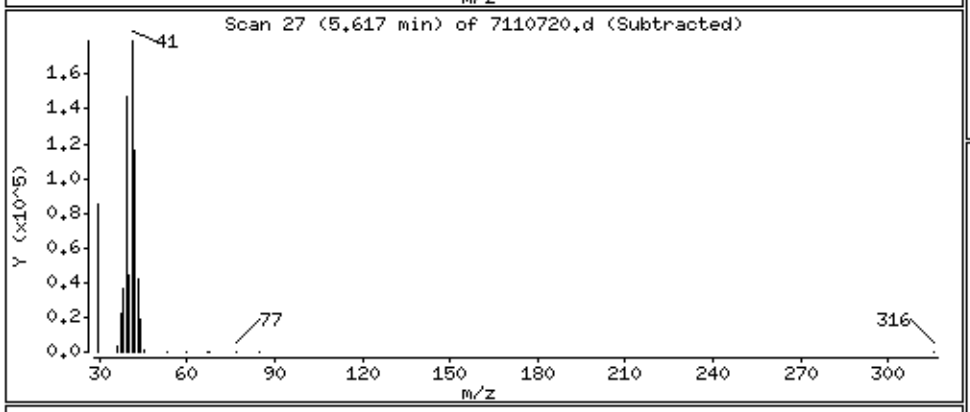
Column phase: RTx-624

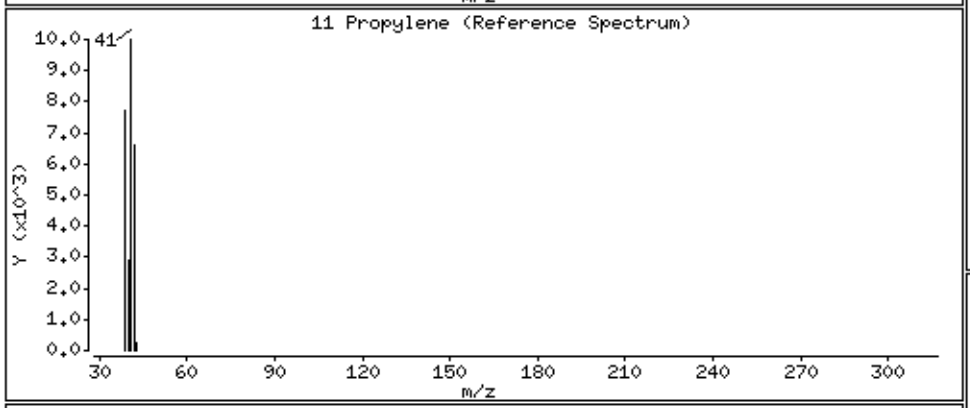
Column diameter: 0.53

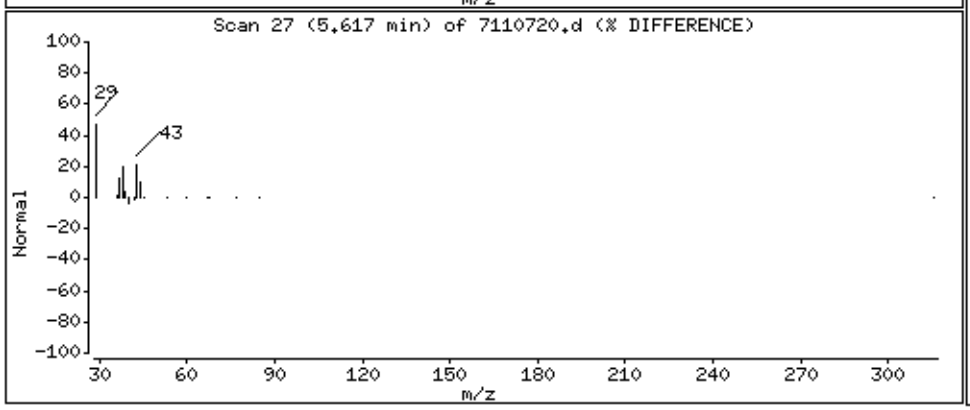
11 Propylene

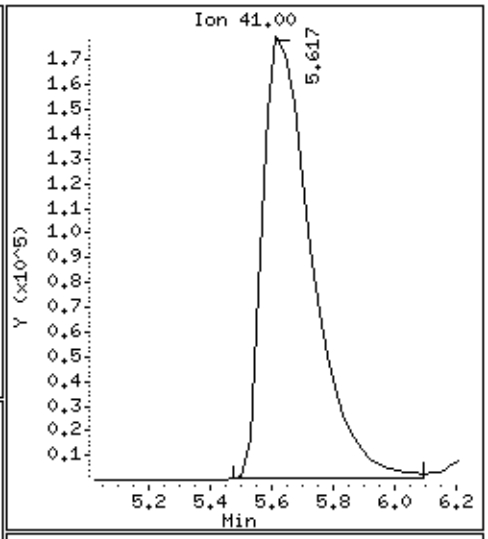
Concentration: 124.37 PPBV

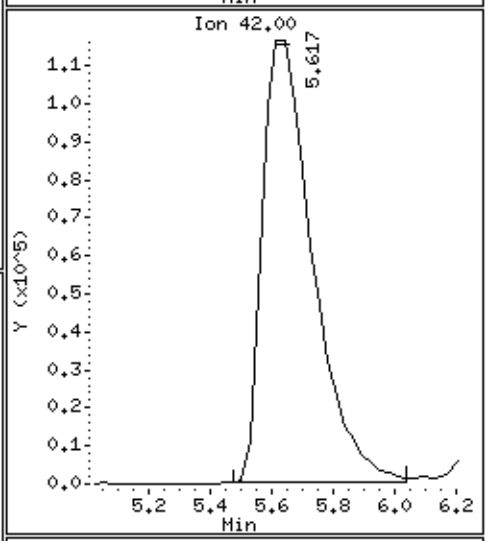


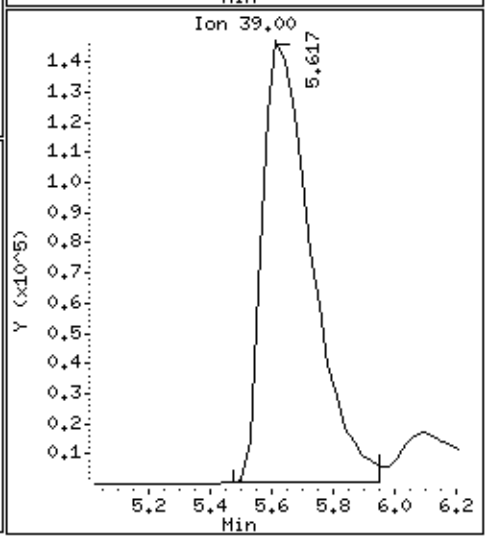












Data File: /chem/msd7.i/7-07nov.b/7110720.d

Date : 08-NOV-2007 00:50

Client ID:

Instrument: msd7.i

Sample Info: 200mL #34749

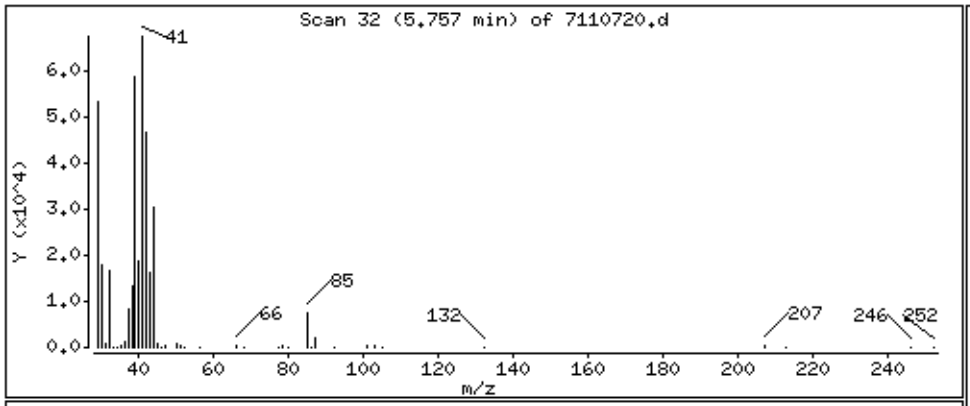
Operator: ab

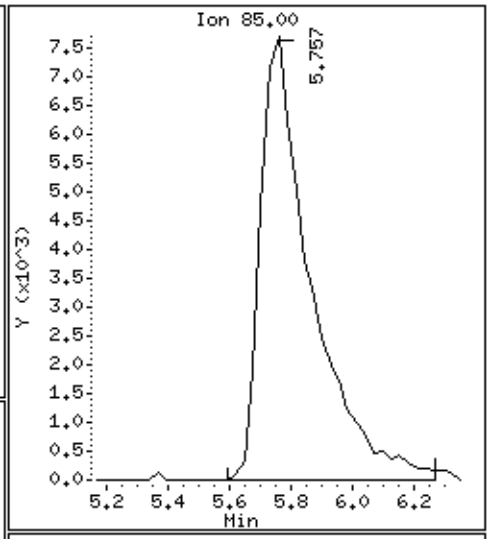
Column phase: RTx-624

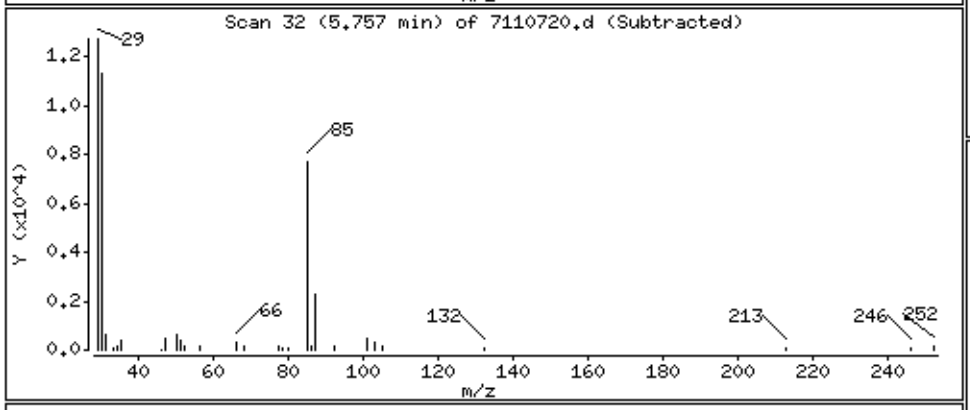
Column diameter: 0.53

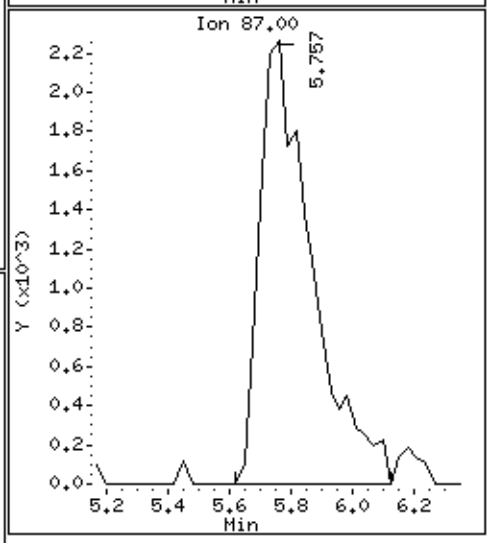
12 Dichlorodifluoromethane/Fr12

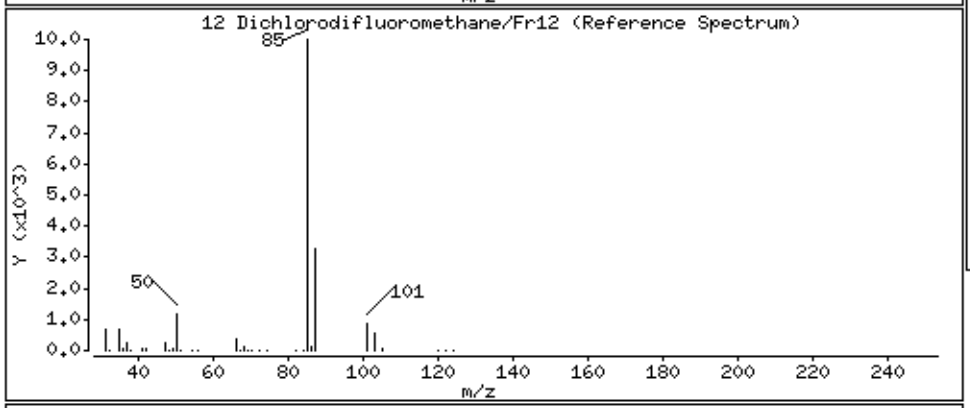
Concentration: 1.490 PPBV

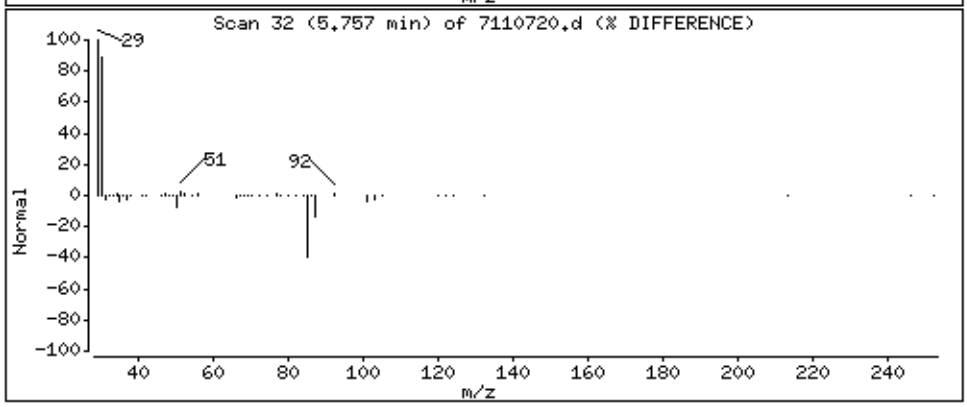












Data File: /chem/msd7.i/7-07nov.b/7110720.d

Date : 08-NOV-2007 00:50

Client ID:

Instrument: msd7.i

Sample Info: 200mL #34749

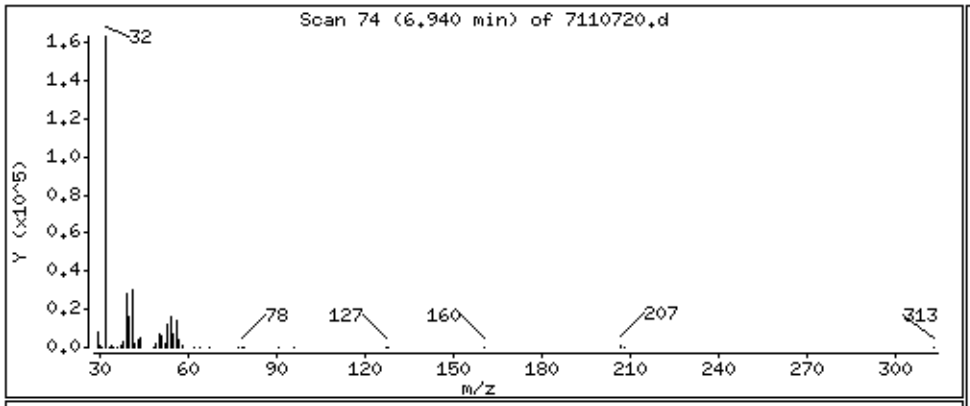
Operator: ab

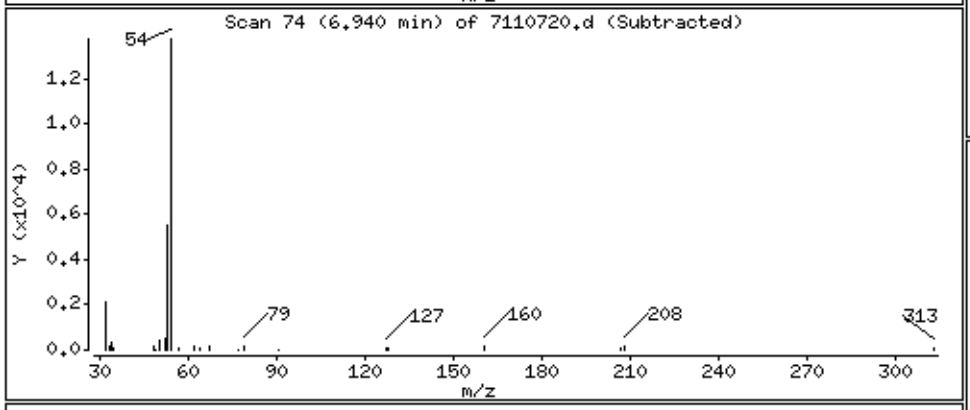
Column phase: RTx-624

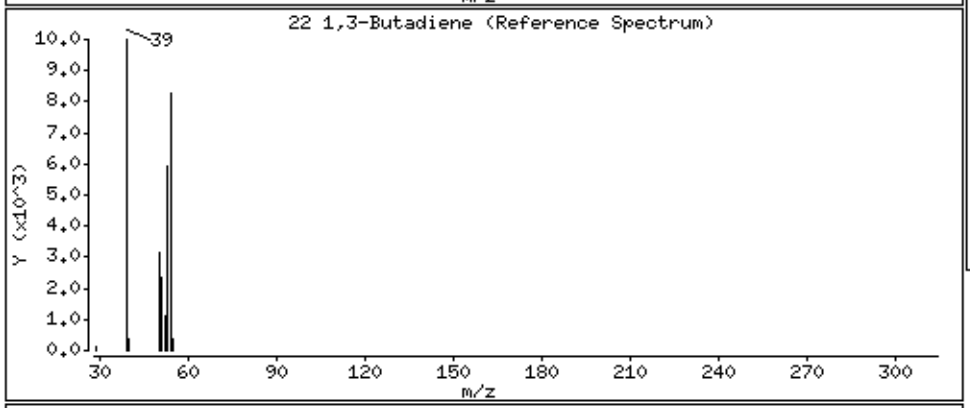
Column diameter: 0.53

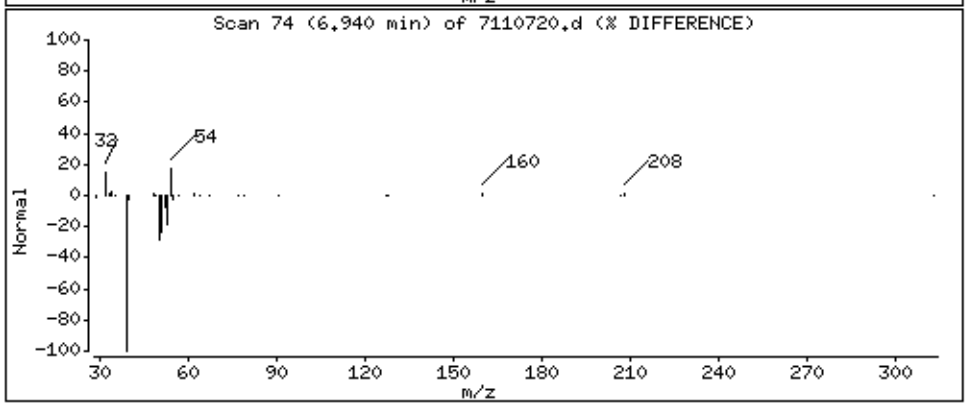
22 1,3-Butadiene

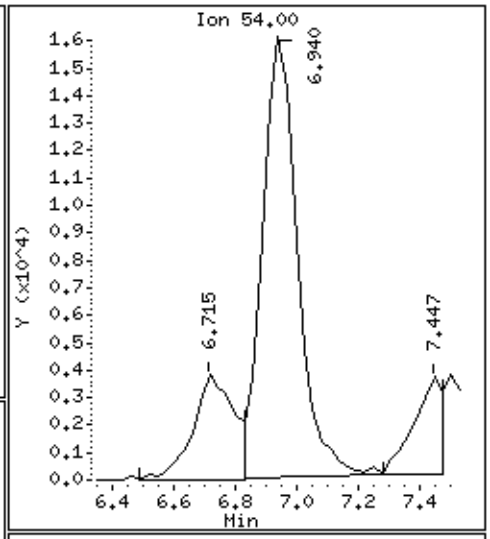
Concentration: 7.373 PPBV

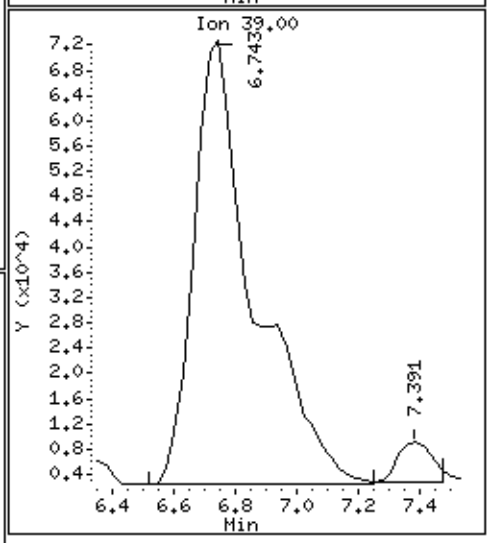












Data File: /chem/msd7.i/7-07nov.b/7110720.d

Date : 08-NOV-2007 00:50

Client ID:

Instrument: msd7.i

Sample Info: 200mL #34749

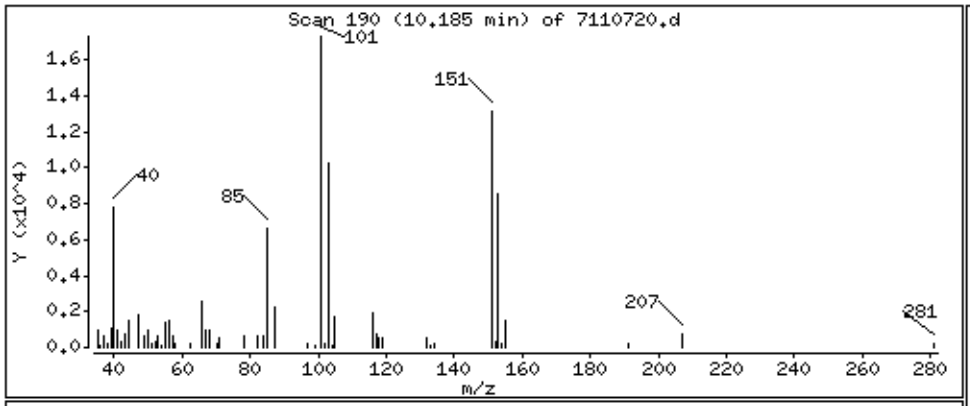
Operator: ab

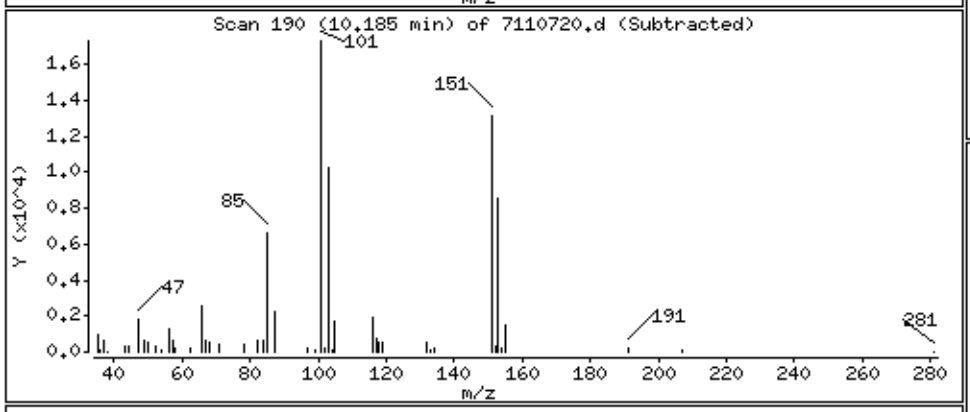
Column phase: RTx-624

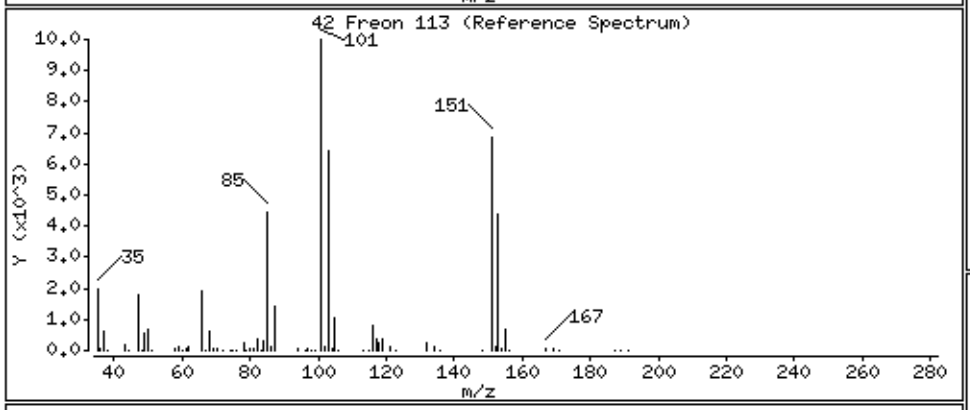
Column diameter: 0.53

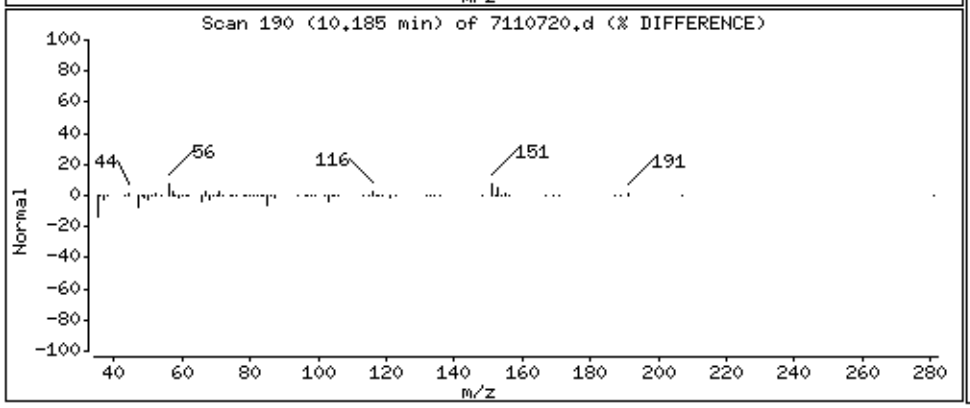
42 Freon 113

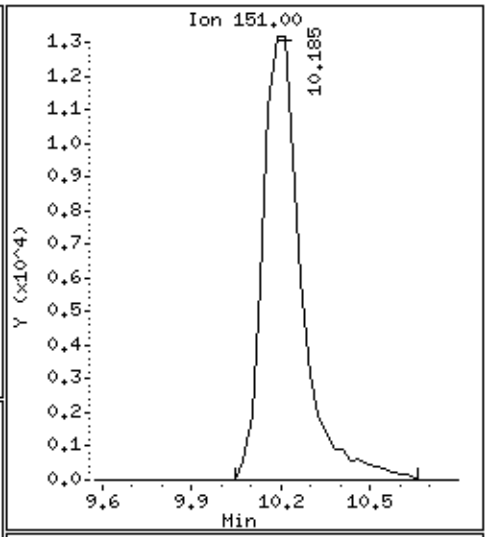
Concentration: 3.913 PPBV

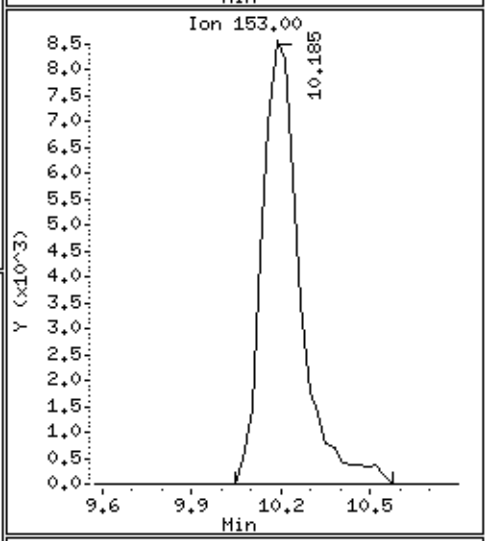


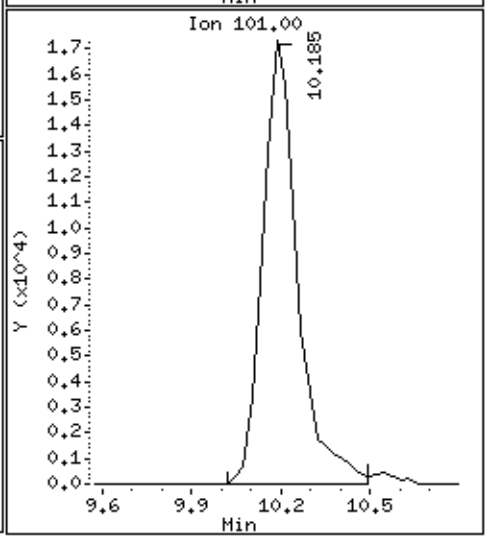












Data File: /chem/msd7.i/7-07nov.b/7110720.d

Date : 08-NOV-2007 00:50

Client ID:

Instrument: msd7.i

Sample Info: 200mL #34749

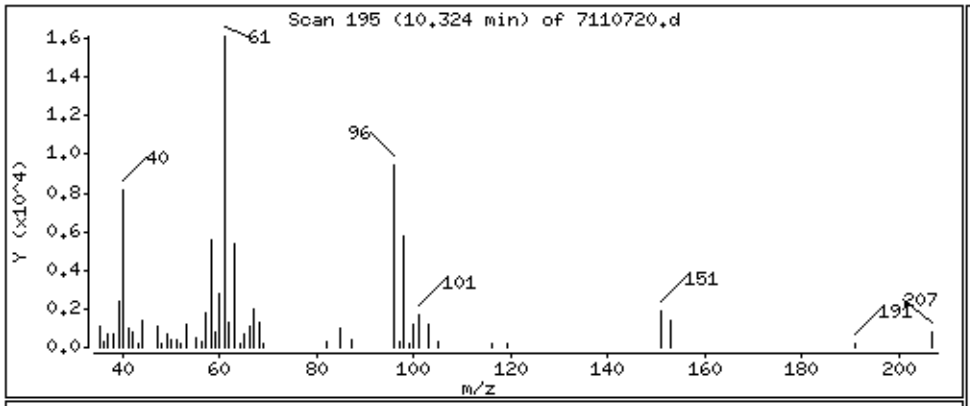
Operator: ab

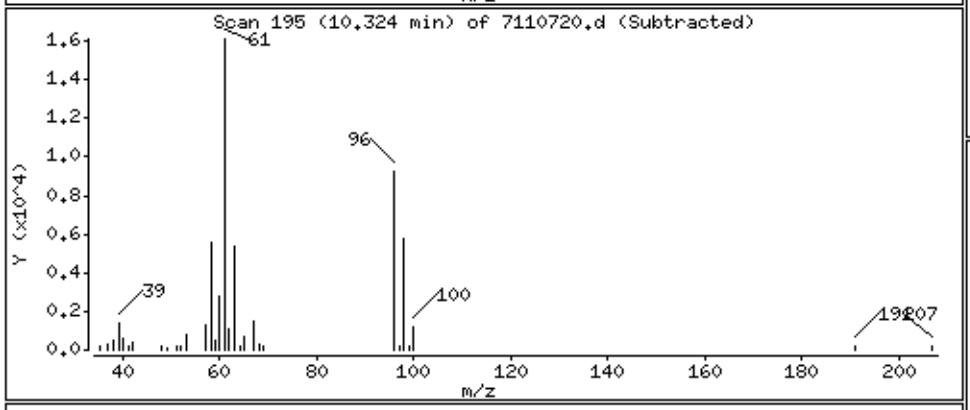
Column phase: RTx-624

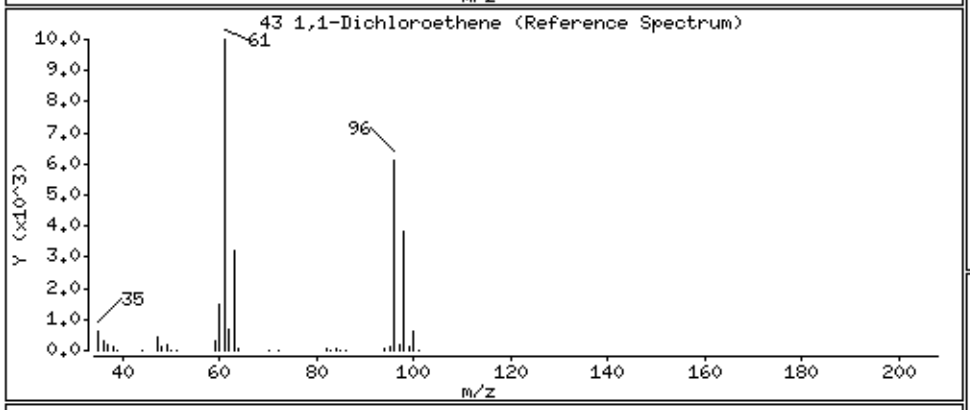
Column diameter: 0.53

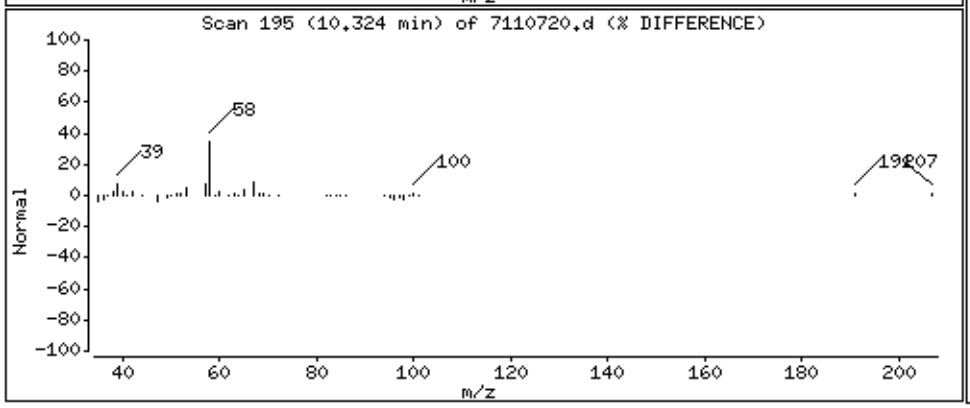
43 1,1-Dichloroethene

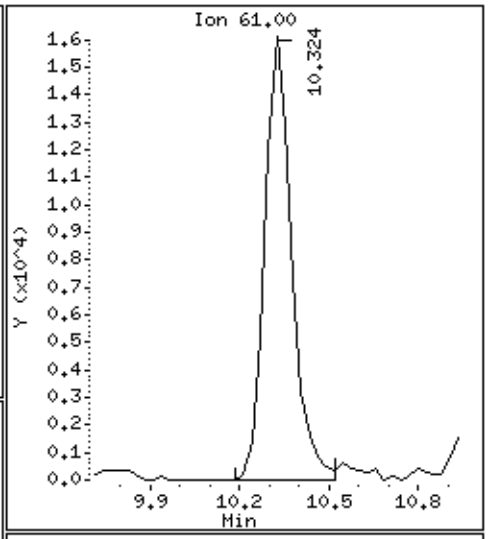
Concentration: 3.119 PPBV

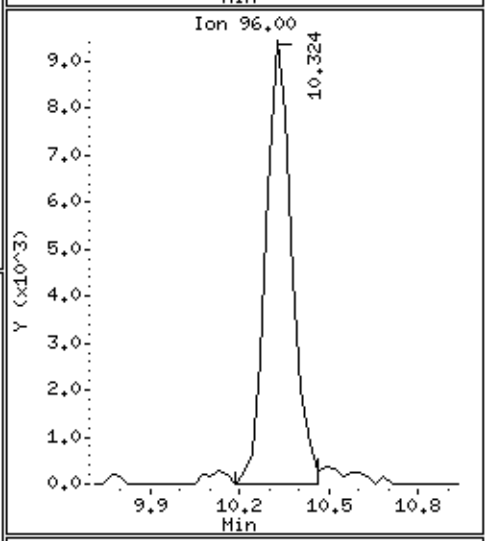


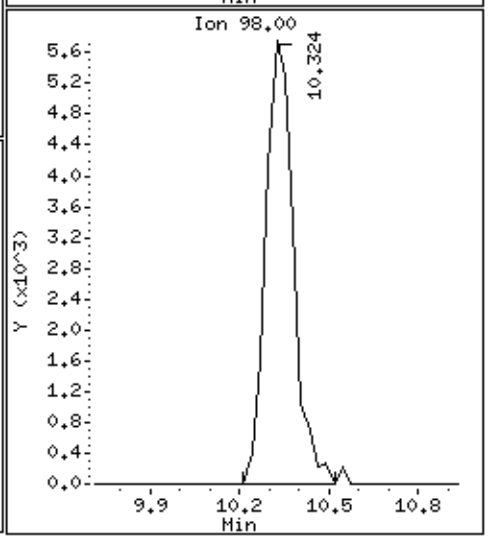












Data File: /chem/msd7.i/7-07nov.b/7110720.d

Date : 08-NOV-2007 00:50

Client ID:

Instrument: msd7.i

Sample Info: 200mL #34749

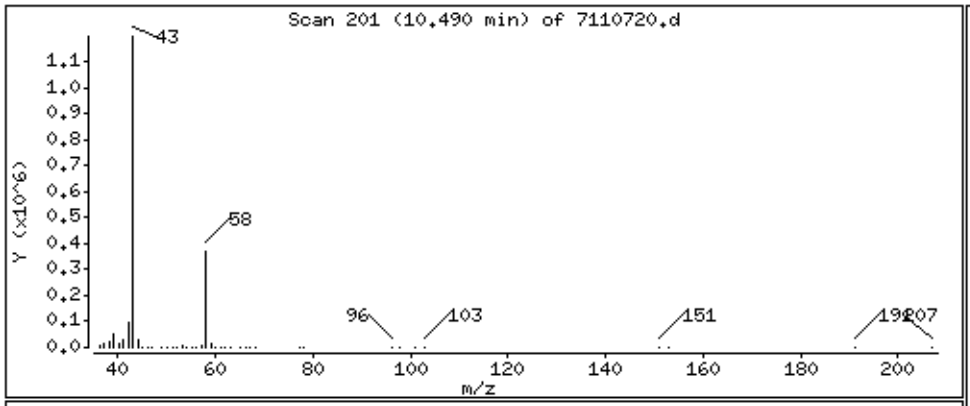
Operator: ab

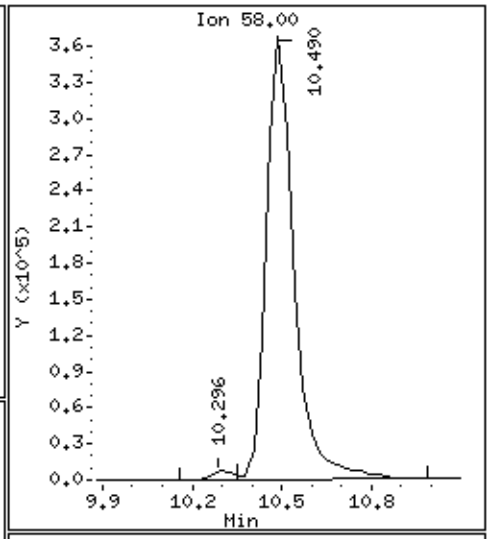
Column phase: RTx-624

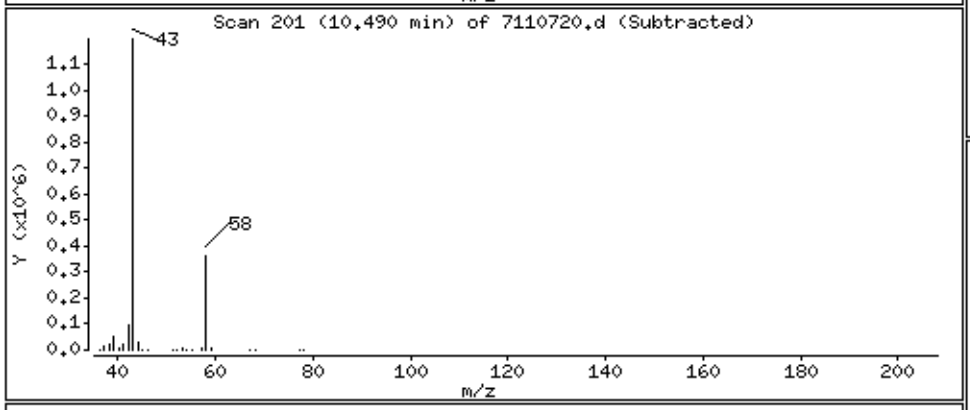
Column diameter: 0.53

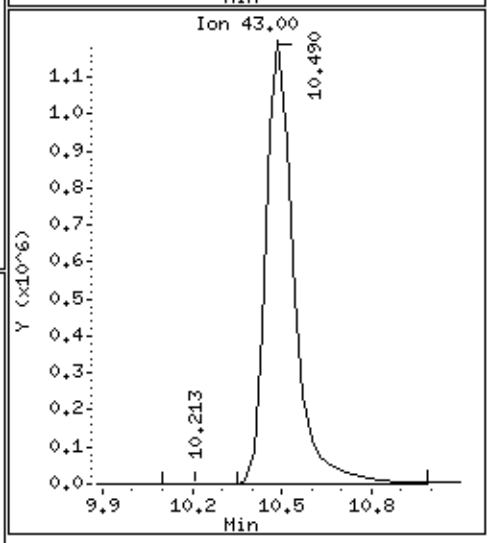
45 Acetone

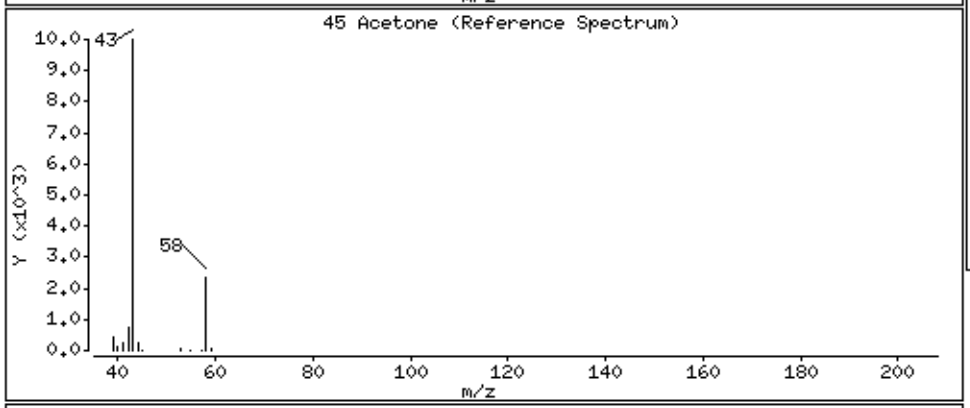
Concentration: 236.98 PPBV

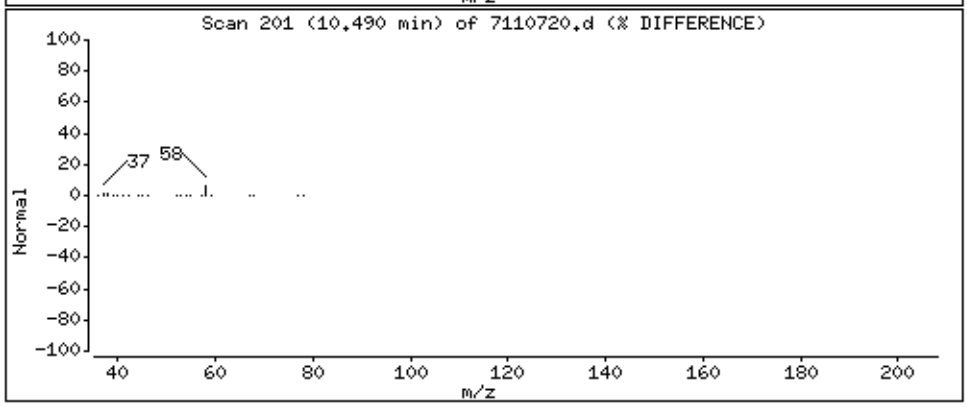












Data File: /chem/msd7.i/7-07nov.b/7110720.d

Date : 08-NOV-2007 00:50

Client ID:

Instrument: msd7.i

Sample Info: 200mL #34749

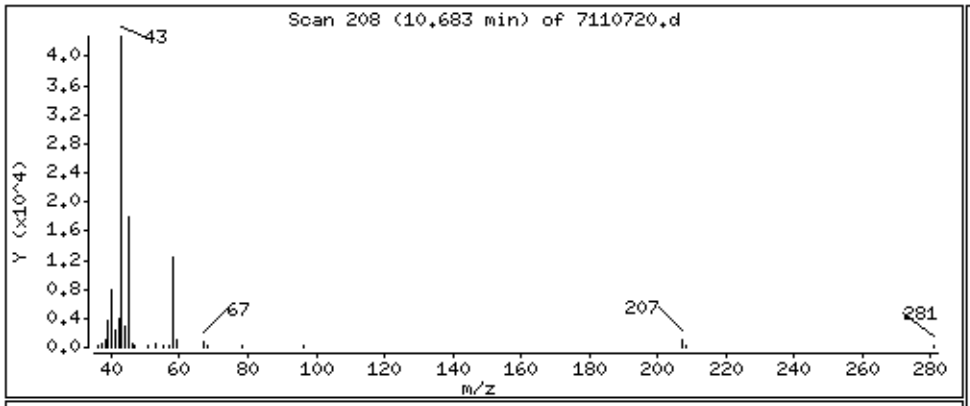
Operator: ab

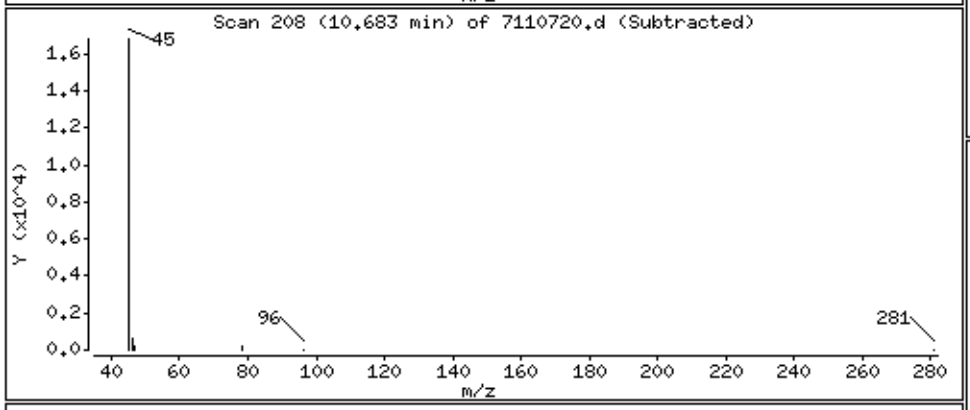
Column phase: RTx-624

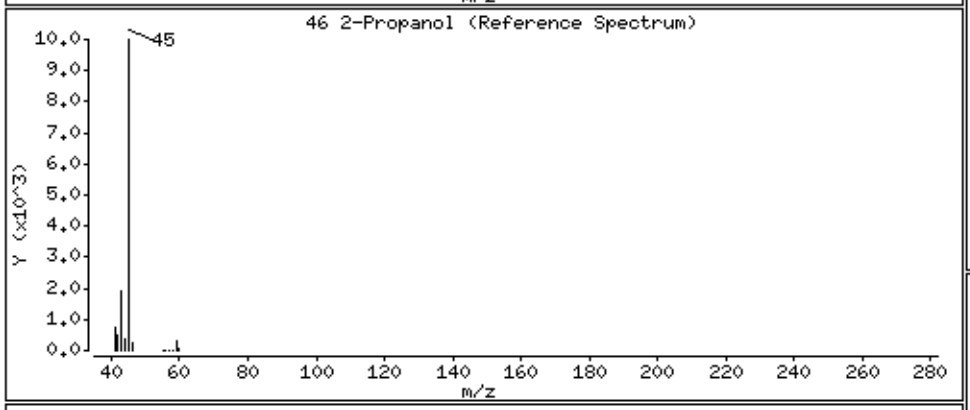
Column diameter: 0.53

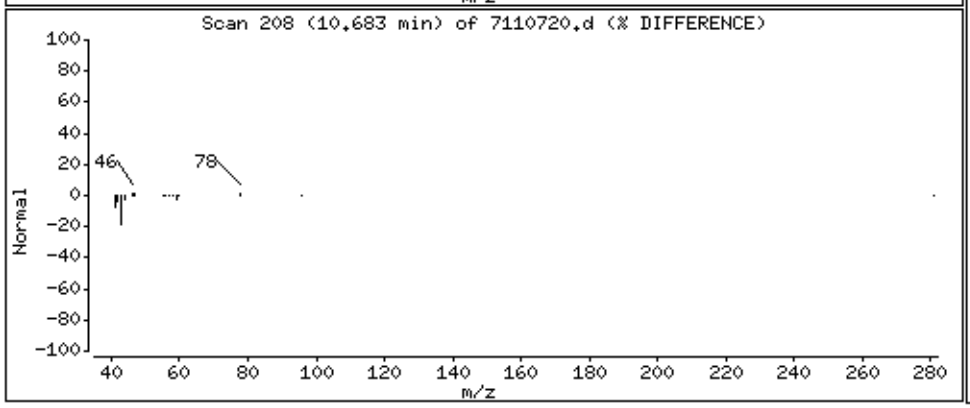
46 2-Propanol

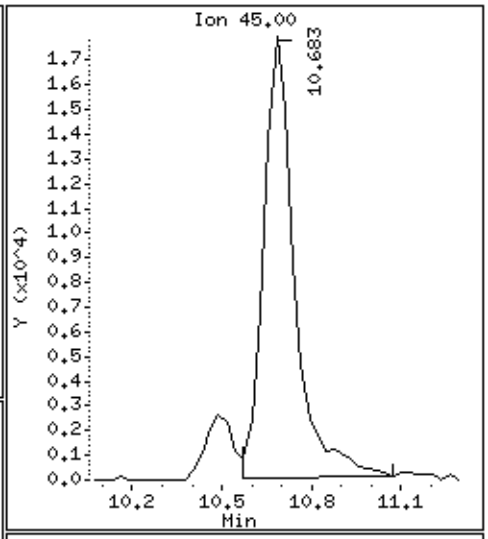
Concentration: 3.648 PPBV

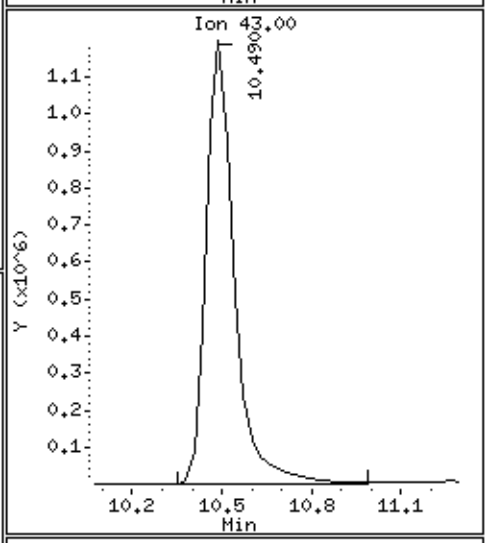


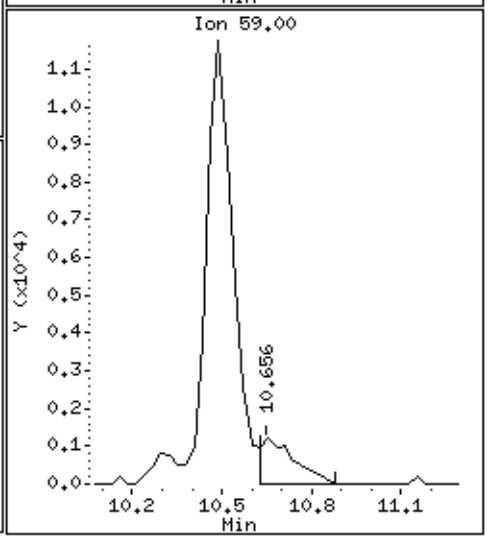












Data File: /chem/msd7.i/7-07nov.b/7110720.d

Date : 08-NOV-2007 00:50

Client ID:

Instrument: msd7.i

Sample Info: 200mL #34749

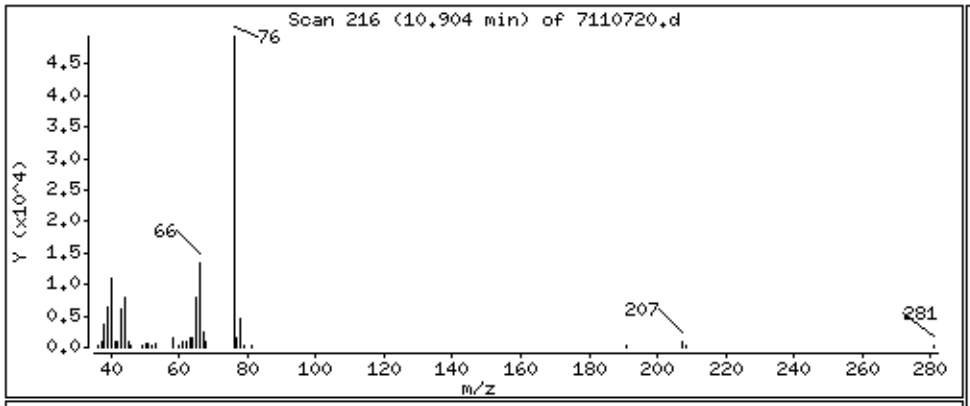
Operator: ab

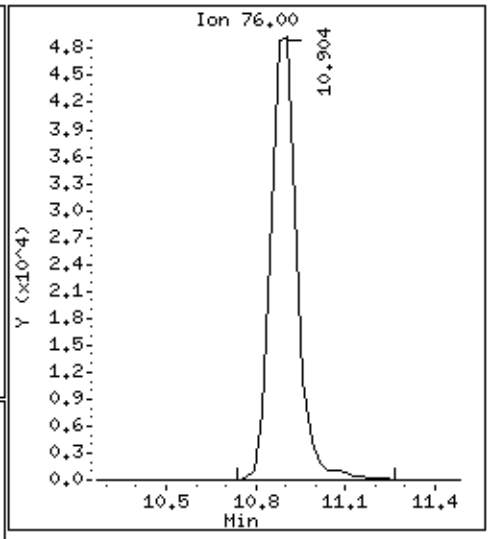
Column phase: RTx-624

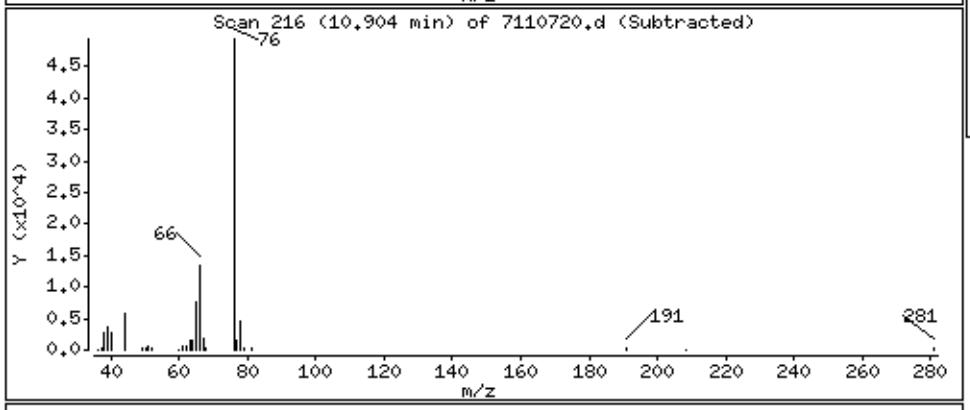
Column diameter: 0.53

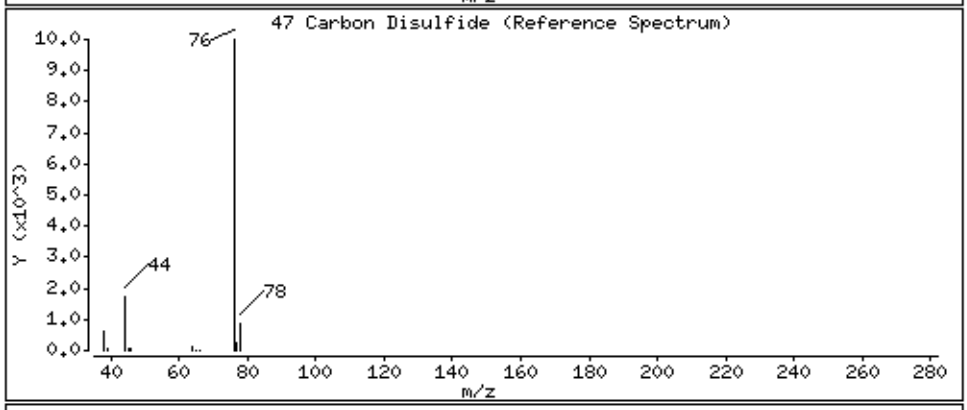
47 Carbon Disulfide

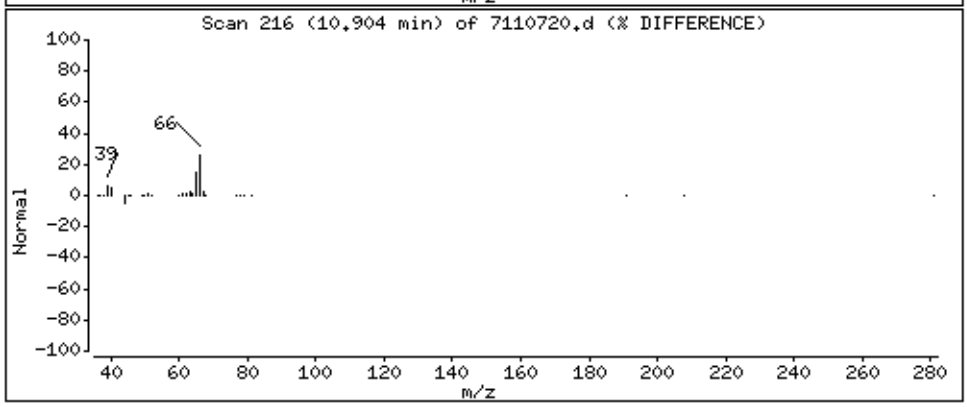
Concentration: 4.902 PPBV











Data File: /chem/msd7.i/7-07nov.b/7110720.d

Date : 08-NOV-2007 00:50

Client ID:

Instrument: msd7.i

Sample Info: 200mL #34749

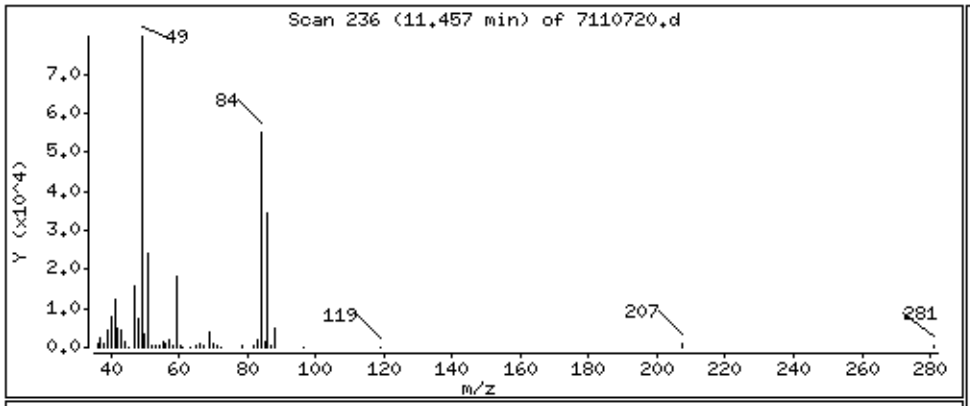
Operator: ab

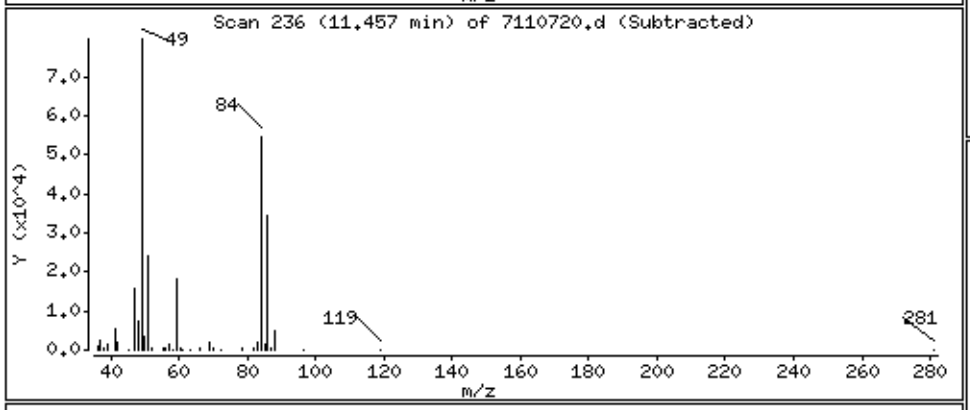
Column phase: RTx-624

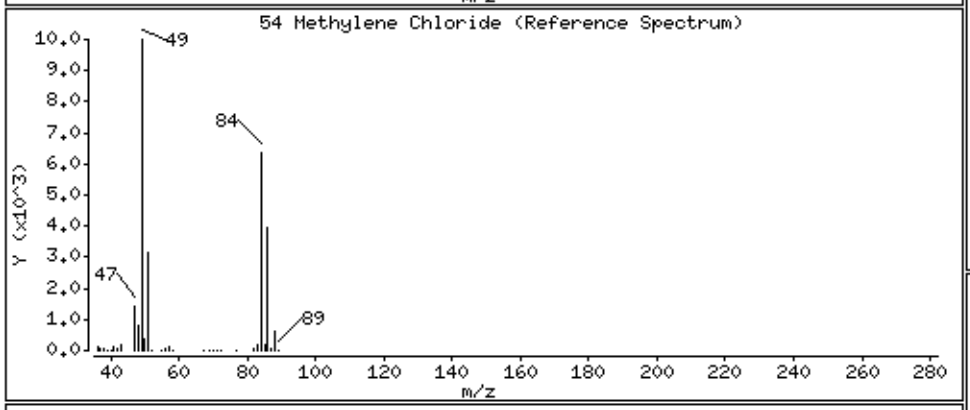
Column diameter: 0.53

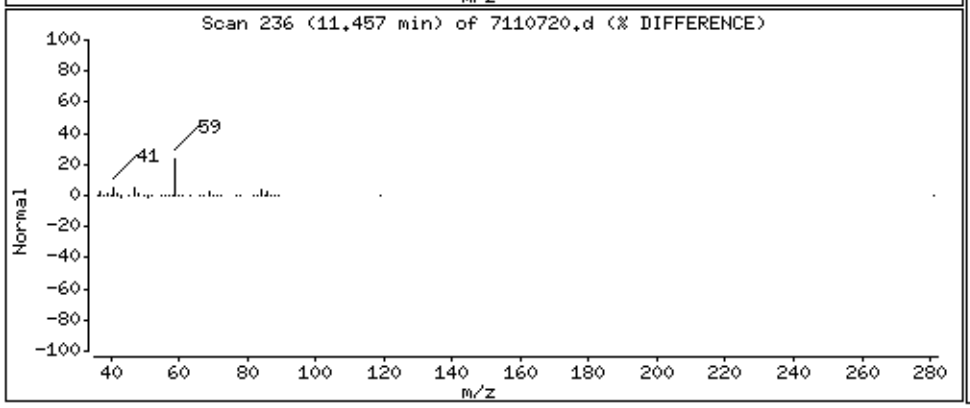
54 Methylene Chloride

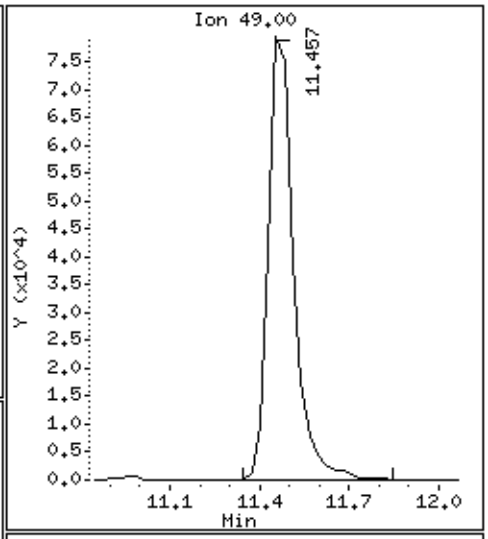
Concentration: 19.626 PPBV

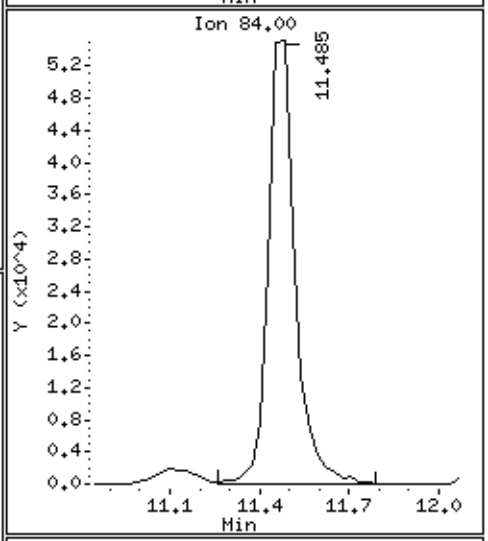


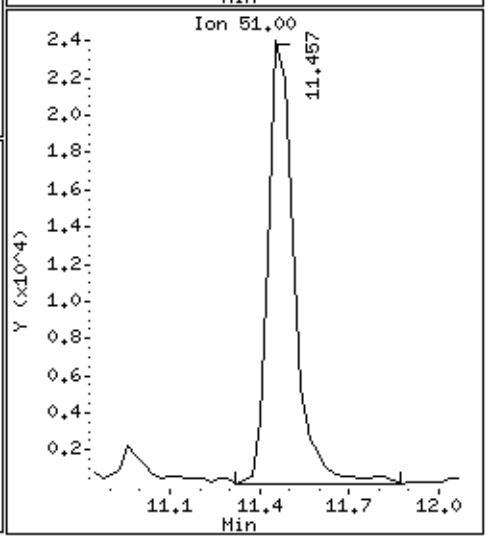












Data File: /chem/msd7.i/7-07nov.b/7110720.d

Date : 08-NOV-2007 00:50

Client ID:

Instrument: msd7.i

Sample Info: 200mL #34749

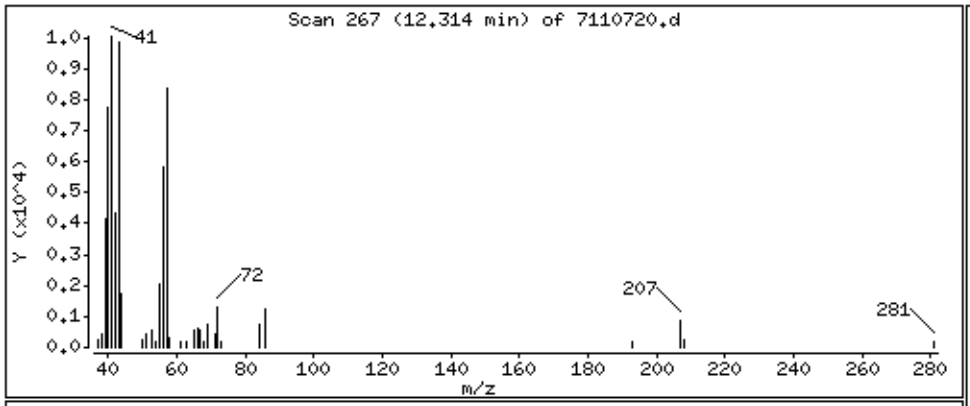
Operator: ab

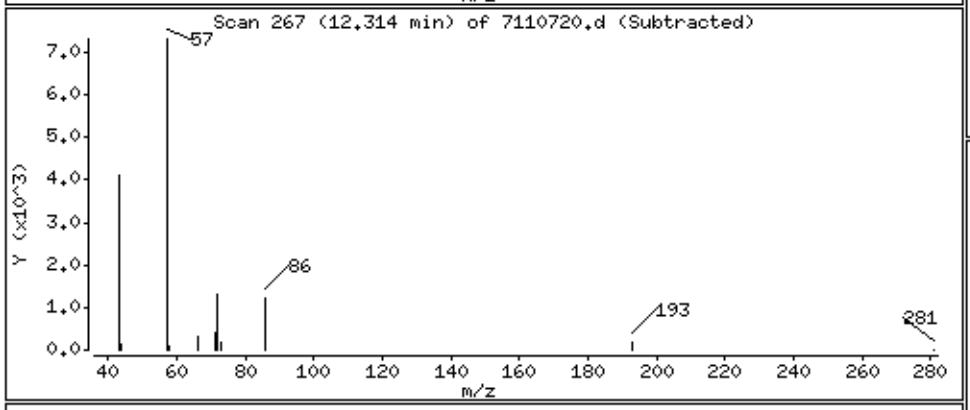
Column phase: RTx-624

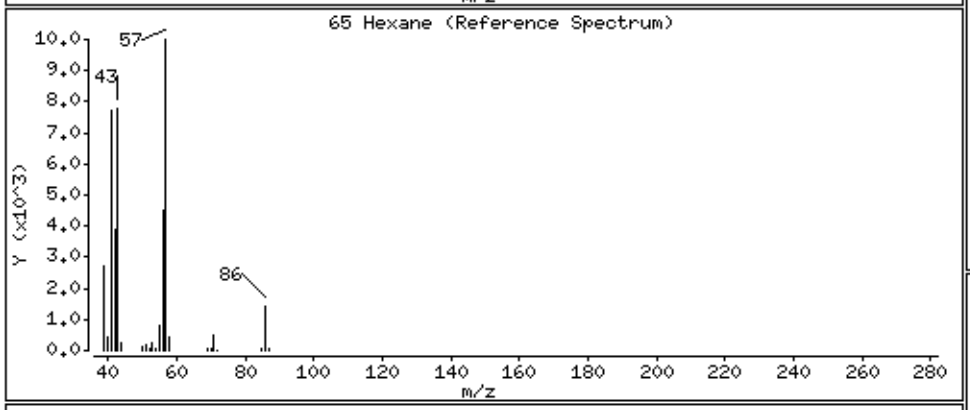
Column diameter: 0.53

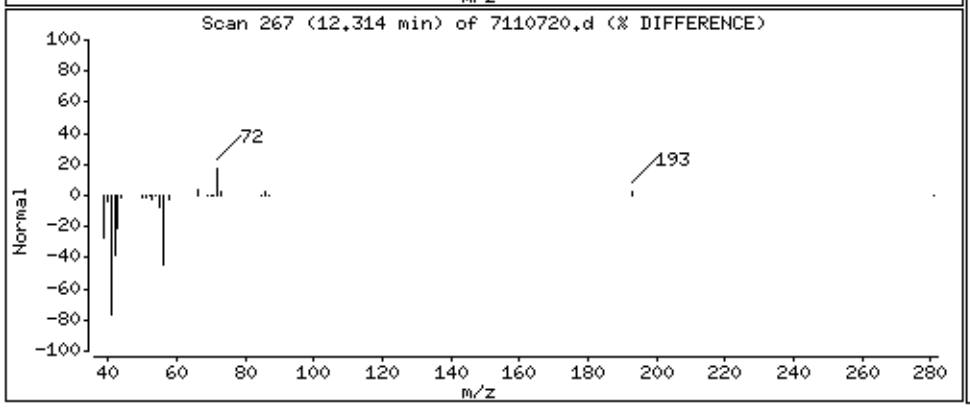
65 Hexane

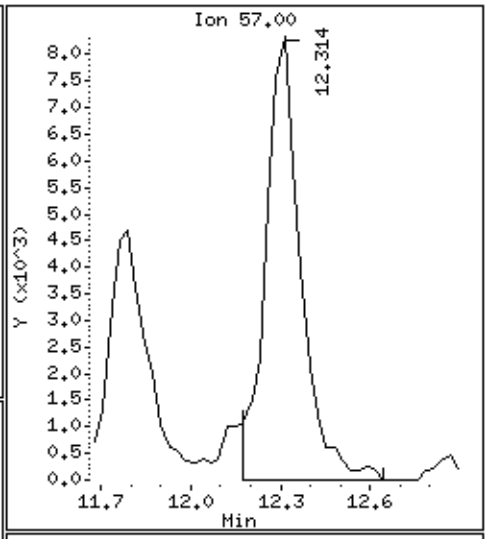
Concentration: 2.174 PPBV

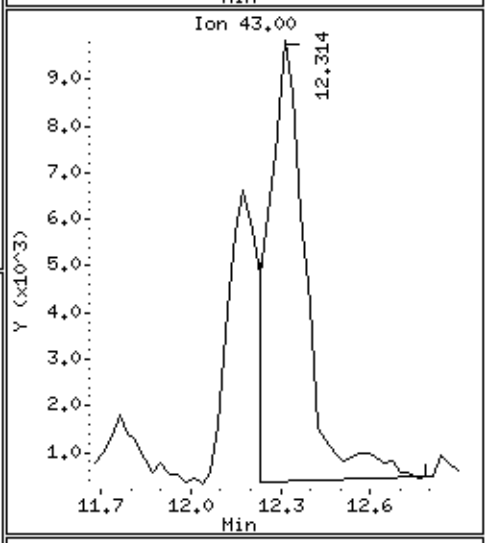


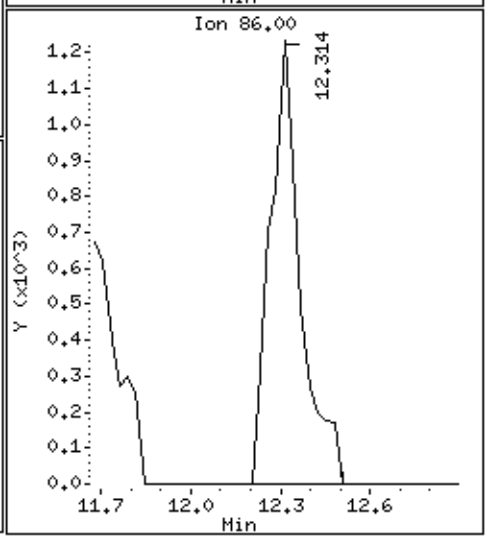












Data File: /chem/msd7.i/7-07nov.b/7110720.d

Date : 08-NOV-2007 00:50

Client ID:

Instrument: msd7.i

Sample Info: 200mL #34749

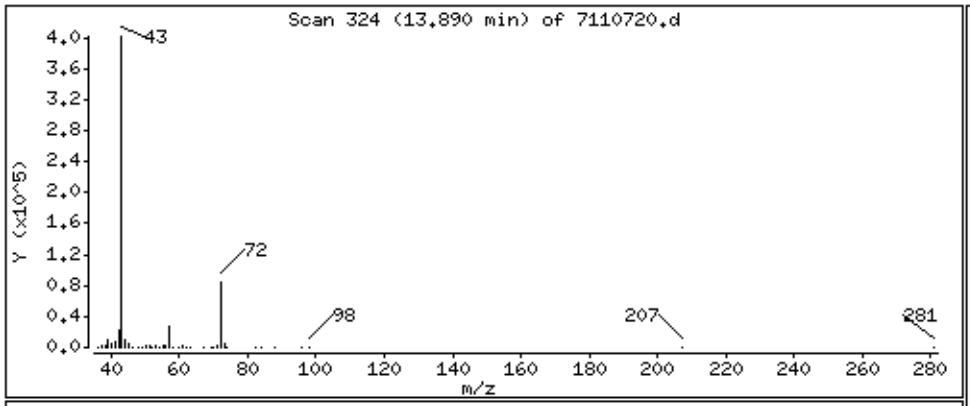
Operator: ab

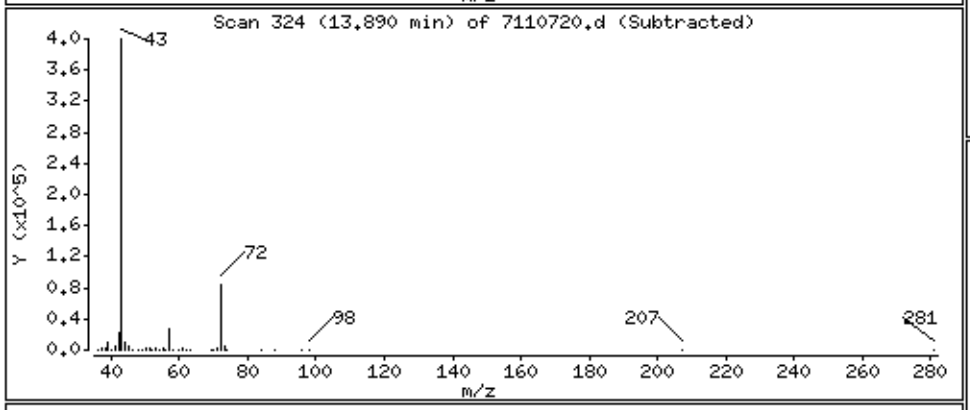
Column phase: RTx-624

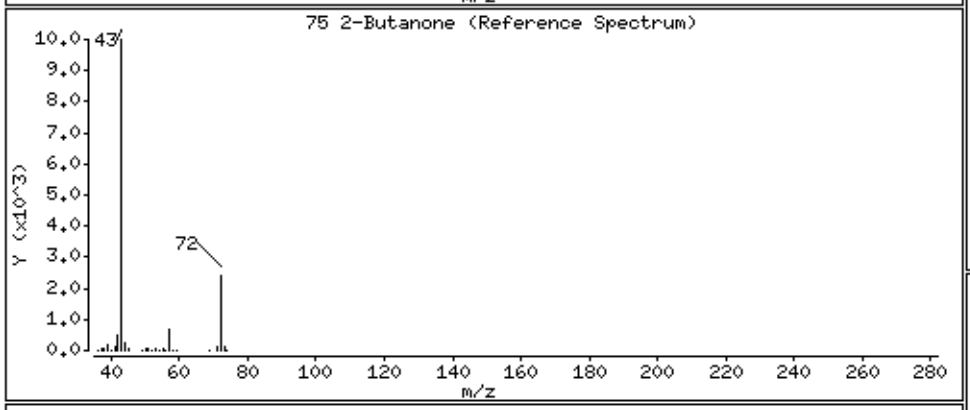
Column diameter: 0.53

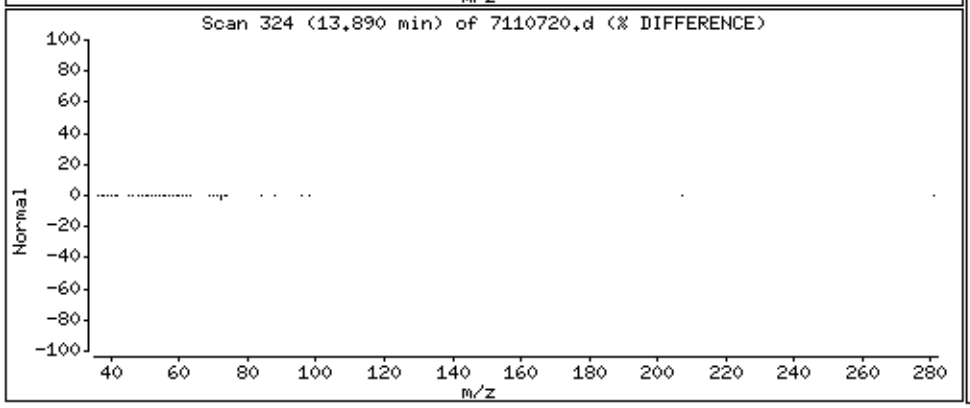
75 2-Butanone

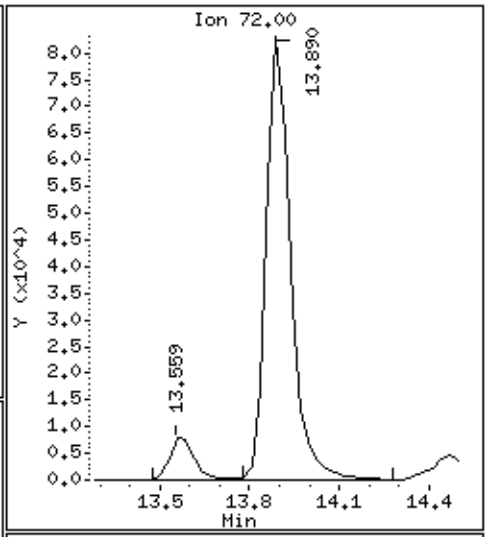
Concentration: 58.379 PPBV

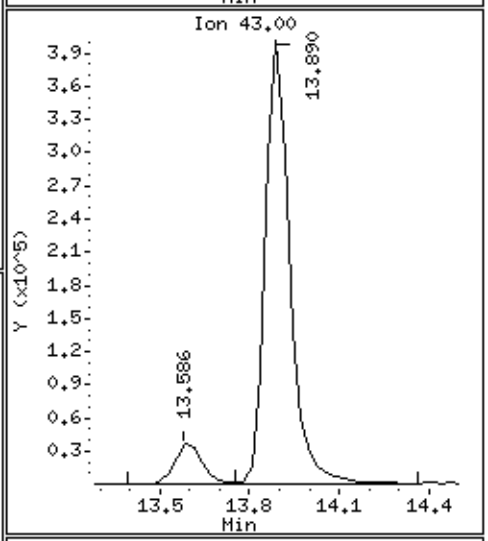


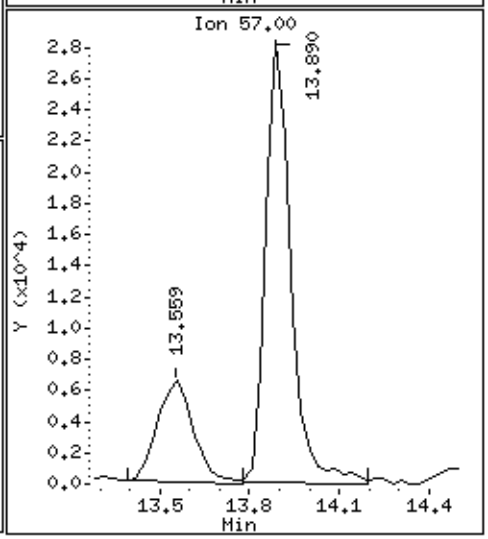












Data File: /chem/msd7.i/7-07nov.b/7110720.d

Date : 08-NOV-2007 00:50

Client ID:

Instrument: msd7.i

Sample Info: 200mL #34749

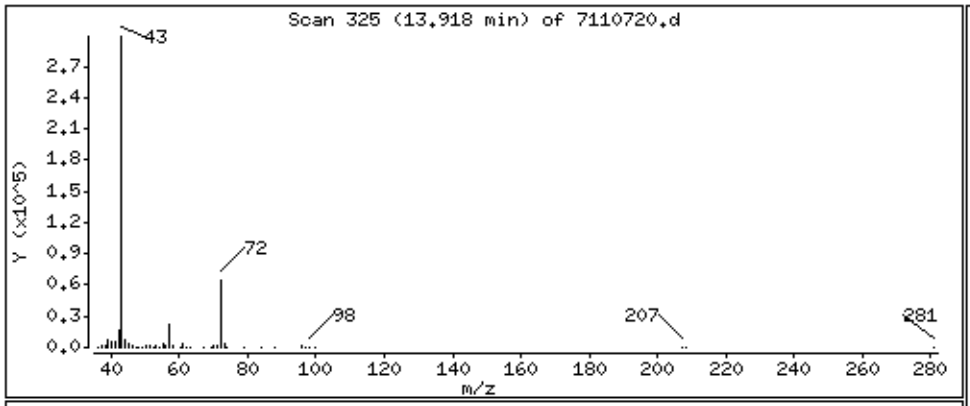
Operator: ab

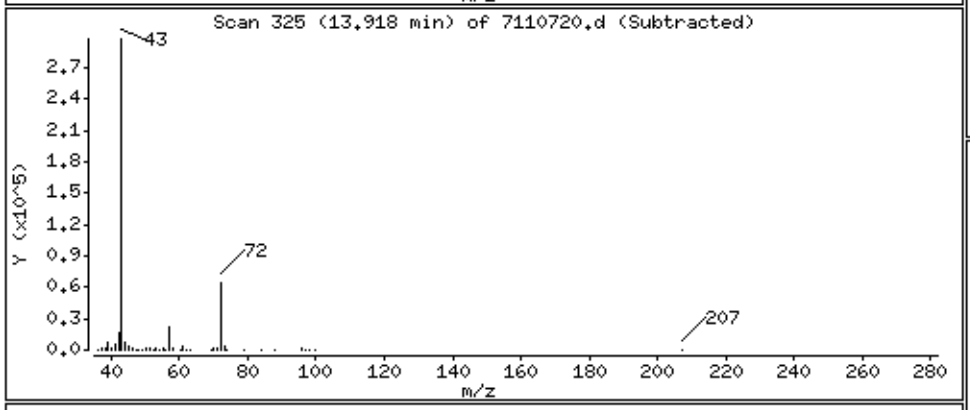
Column phase: RTx-624

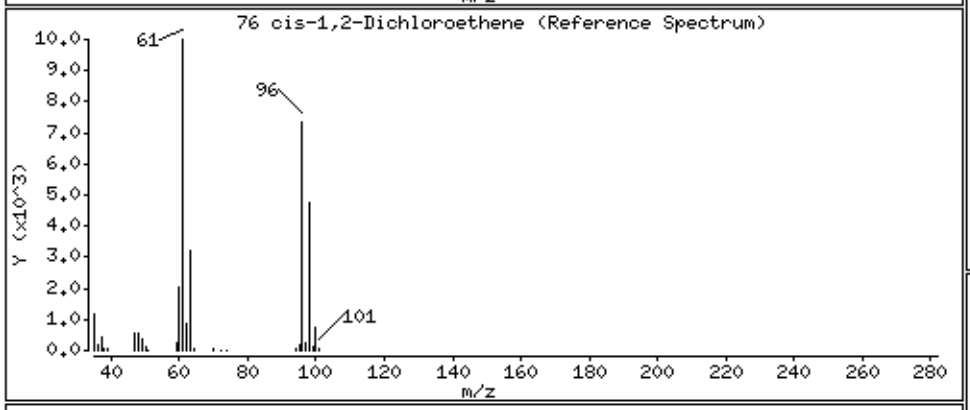
Column diameter: 0.53

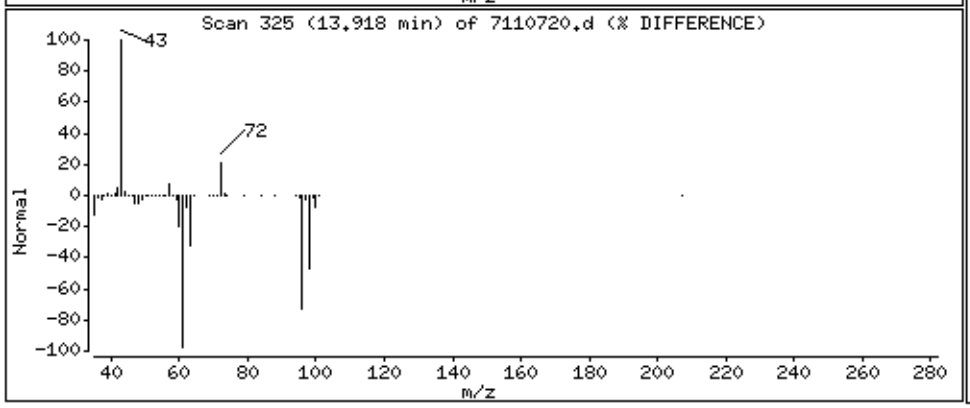
76 cis-1,2-Dichloroethene

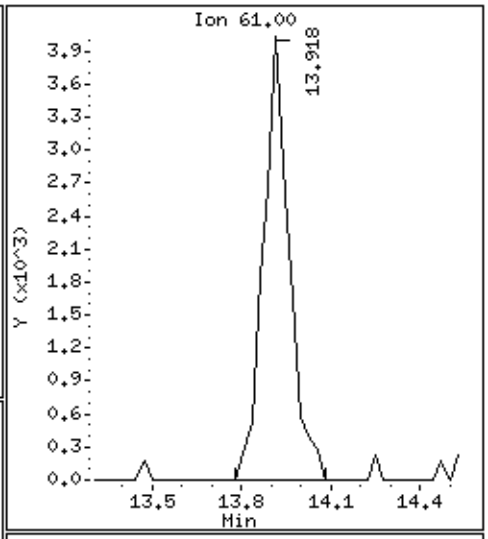
Concentration: 0.9195 PPBV

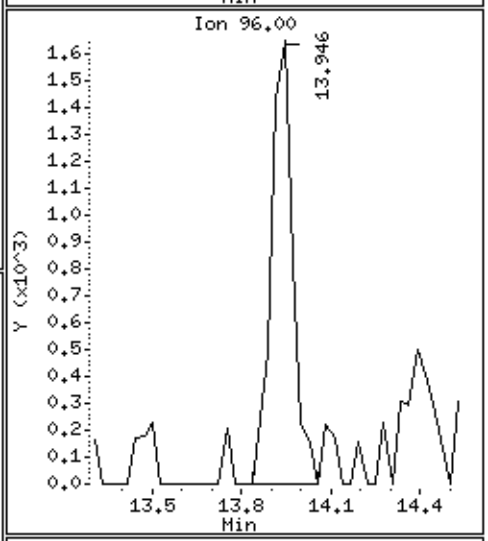


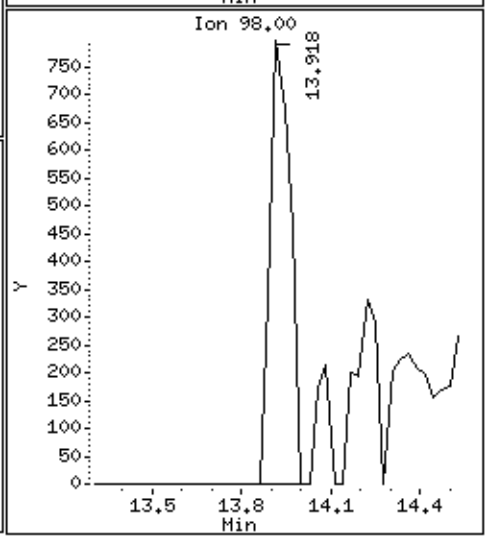












Data File: /chem/msd7.i/7-07nov.b/7110720.d

Date : 08-NOV-2007 00:50

Client ID:

Instrument: msd7.i

Sample Info: 200mL #34749

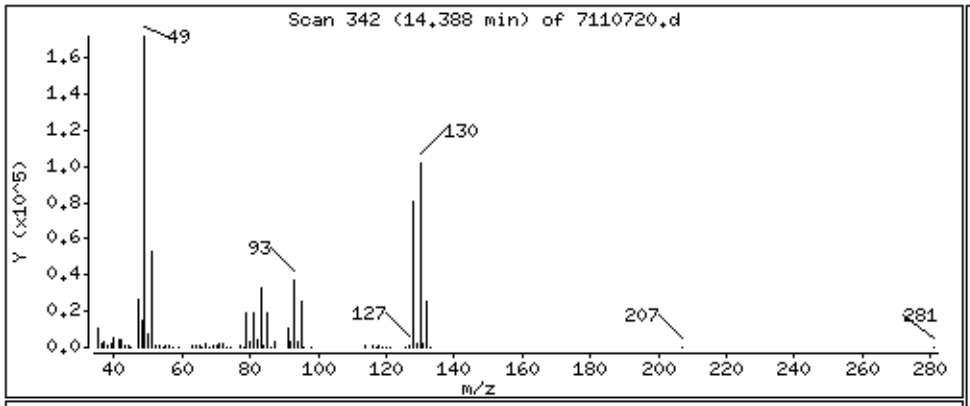
Operator: ab

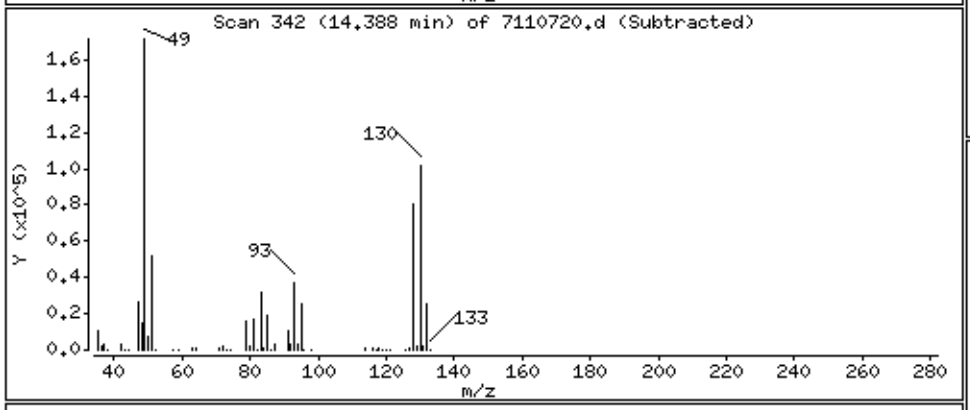
Column phase: RTx-624

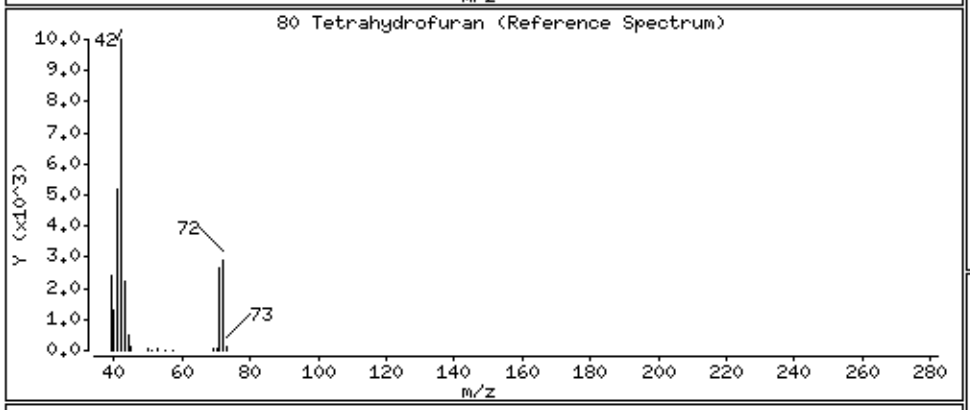
Column diameter: 0.53

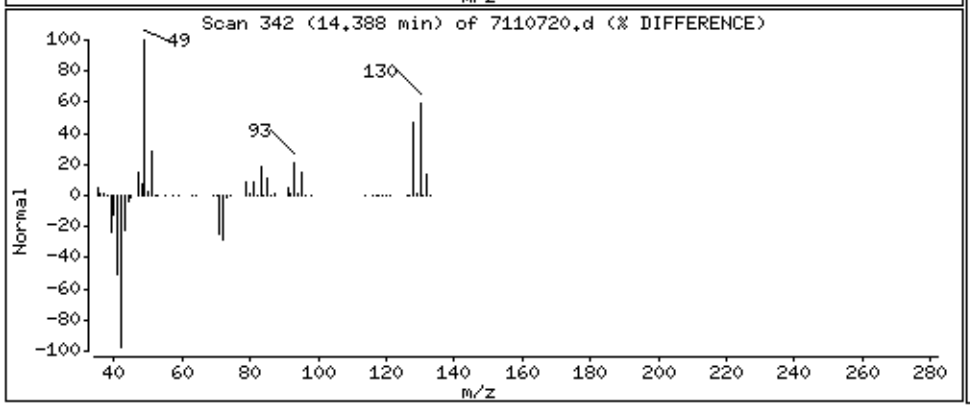
80 Tetrahydrofuran

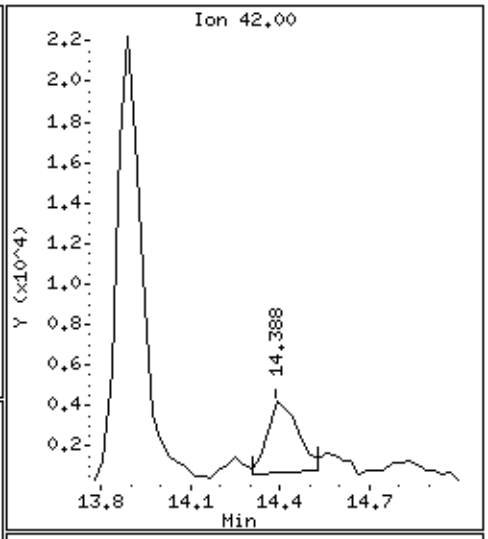
Concentration: 1.246 PPBV

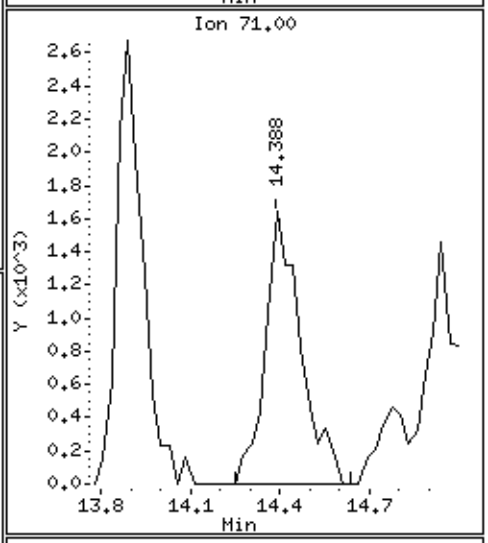


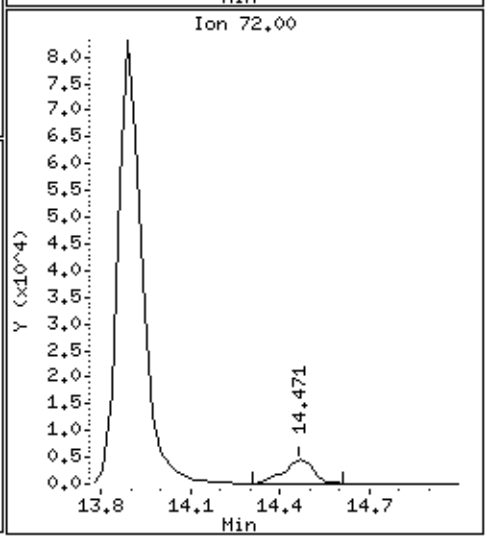












Data File: /chem/msd7.i/7-07nov.b/7110720.d

Date : 08-NOV-2007 00:50

Client ID:

Instrument: msd7.i

Sample Info: 200mL #34749

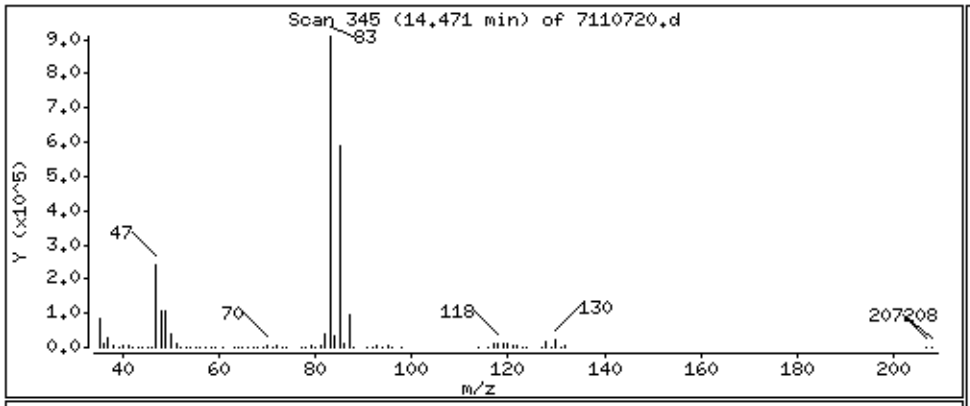
Operator: ab

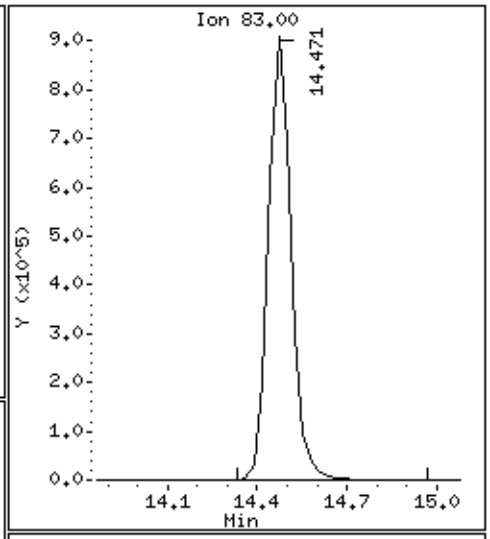
Column phase: RTx-624

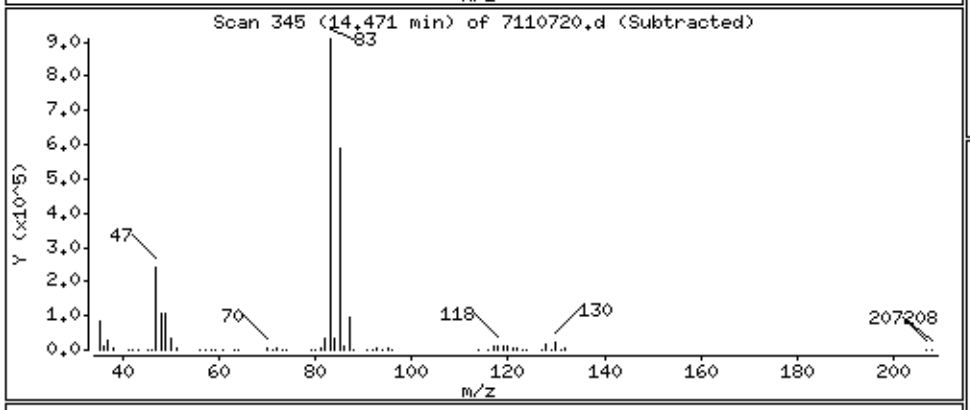
Column diameter: 0.53

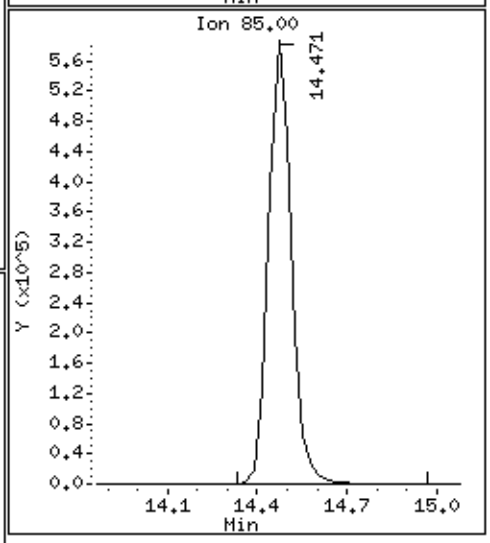
82 Chloroform

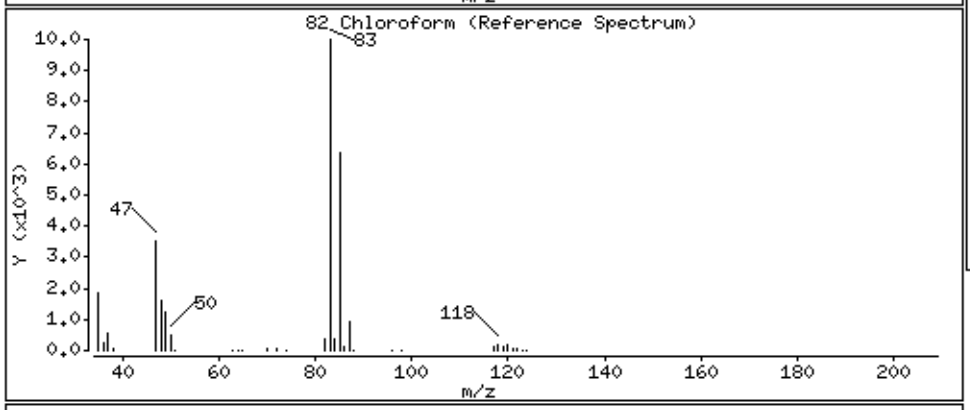
Concentration: 128.24 PPBV

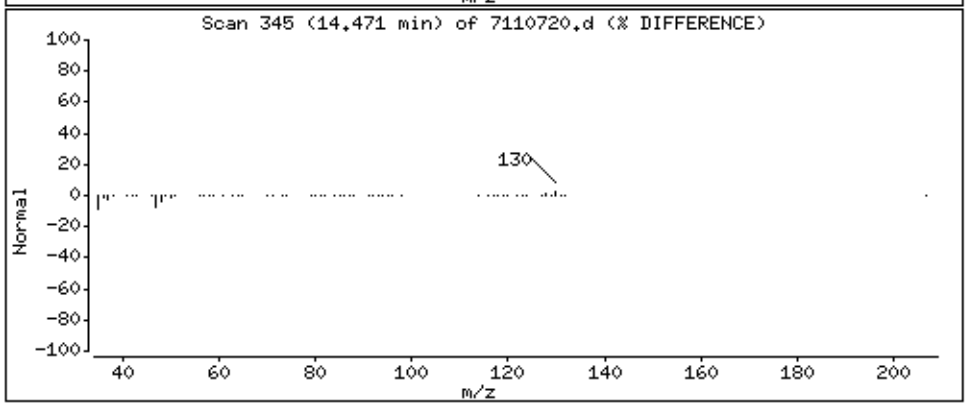












Data File: /chem/msd7.i/7-07nov.b/7110720.d

Date : 08-NOV-2007 00:50

Client ID:

Instrument: msd7.i

Sample Info: 200mL #34749

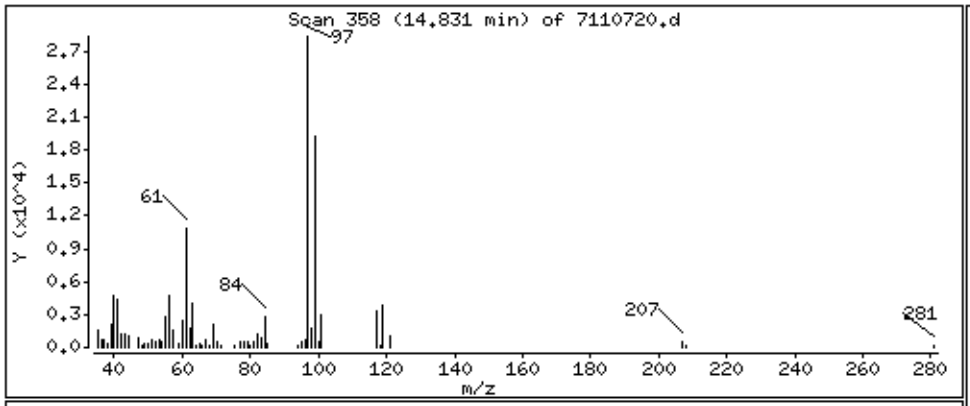
Operator: ab

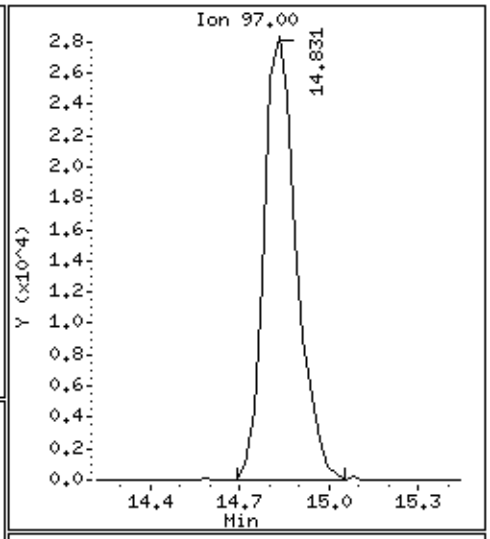
Column phase: RTx-624

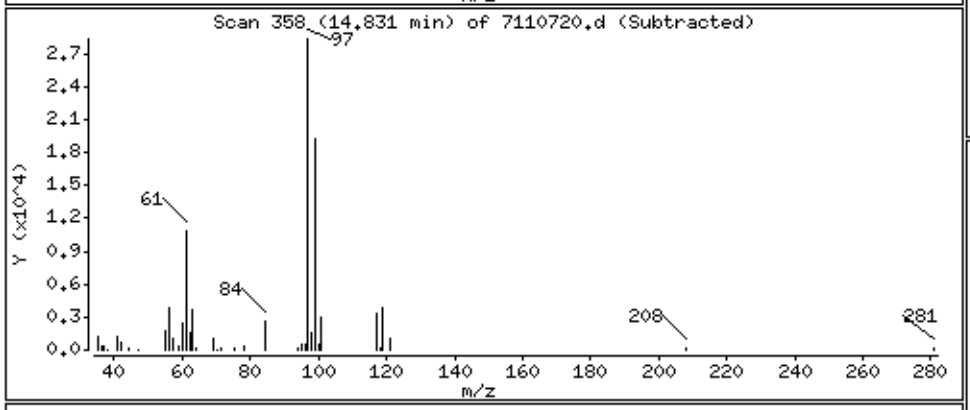
Column diameter: 0.53

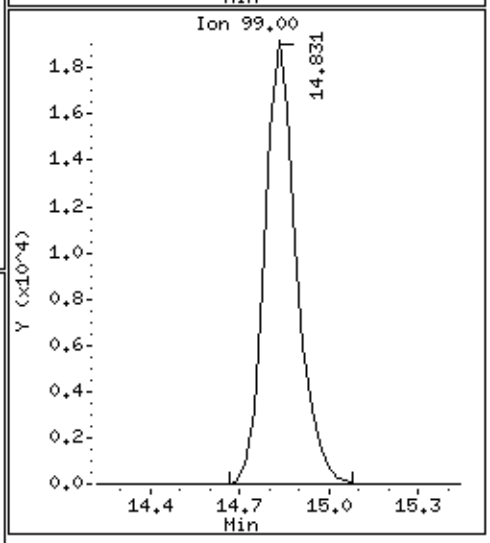
83 1,1,1-Trichloroethane

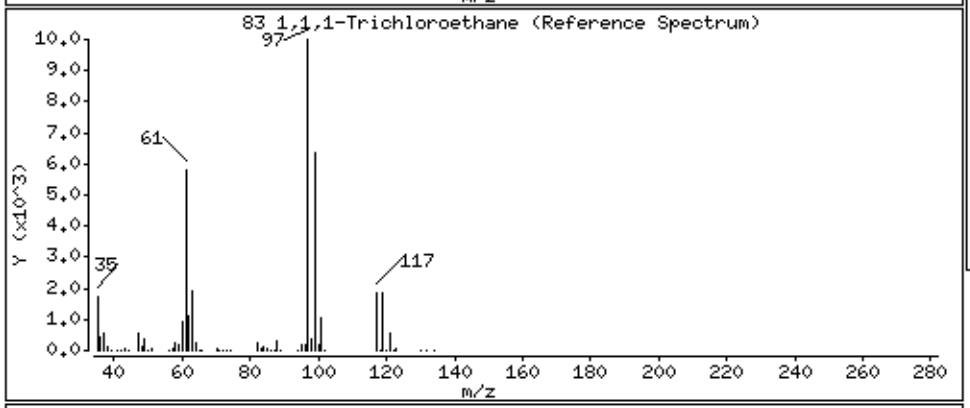
Concentration: 5.680 PPBV

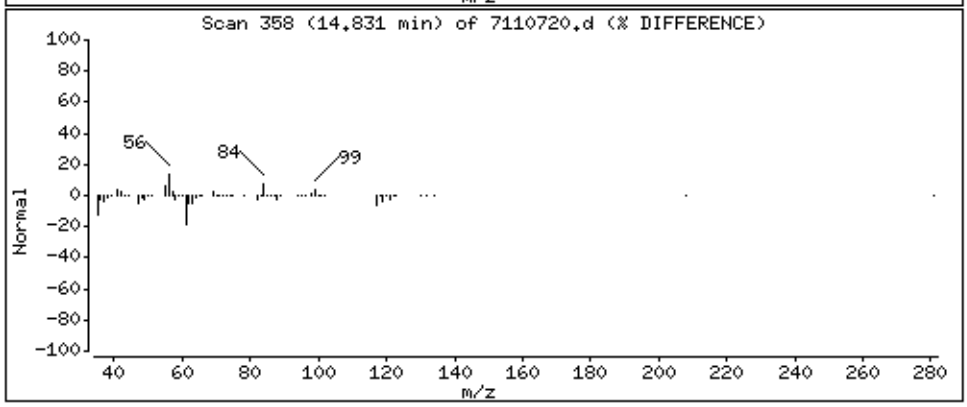












Data File: /chem/msd7.i/7-07nov.b/7110720.d

Date : 08-NOV-2007 00:50

Client ID:

Instrument: msd7.i

Sample Info: 200mL #34749

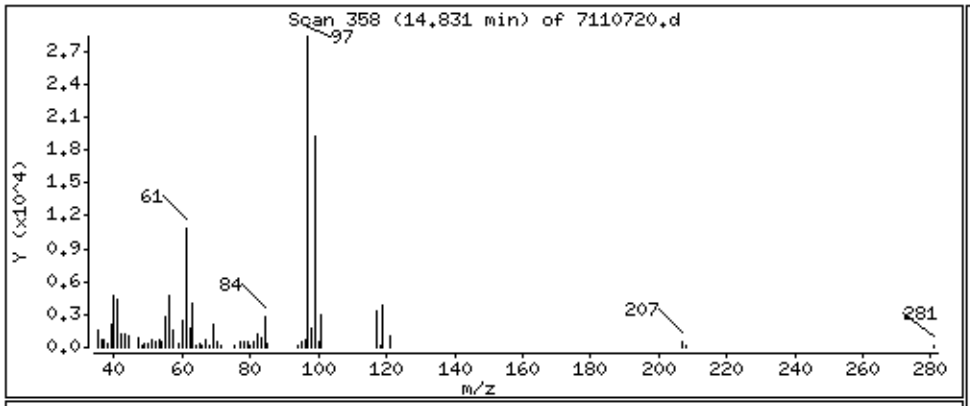
Operator: ab

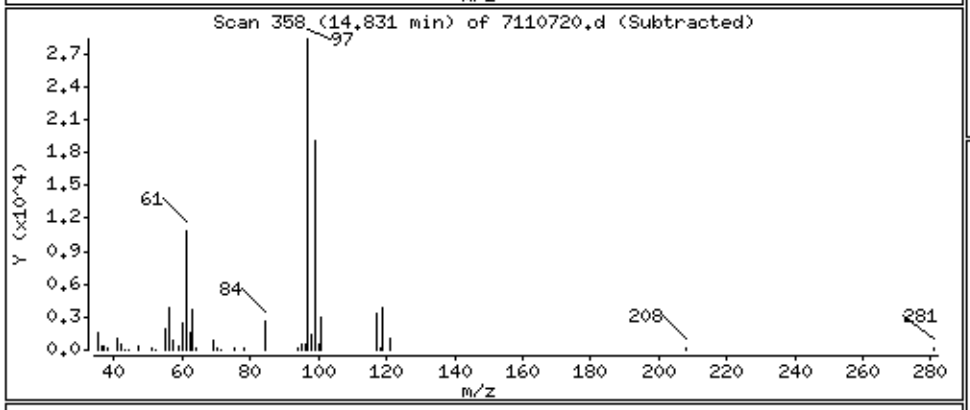
Column phase: RTx-624

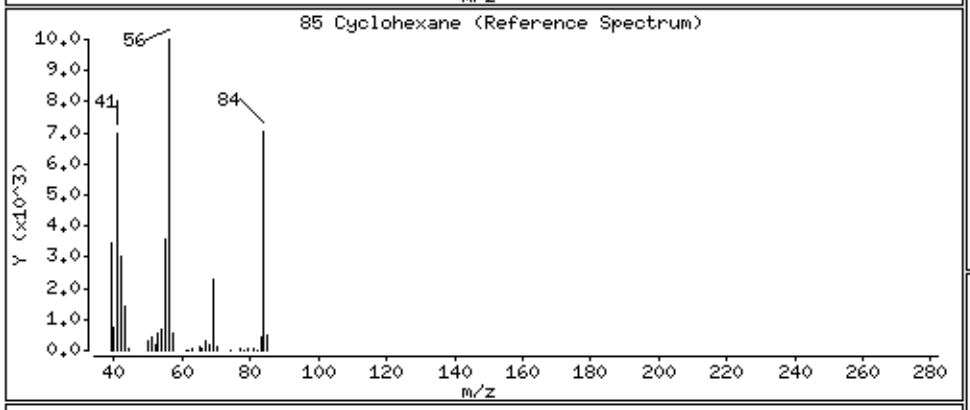
Column diameter: 0.53

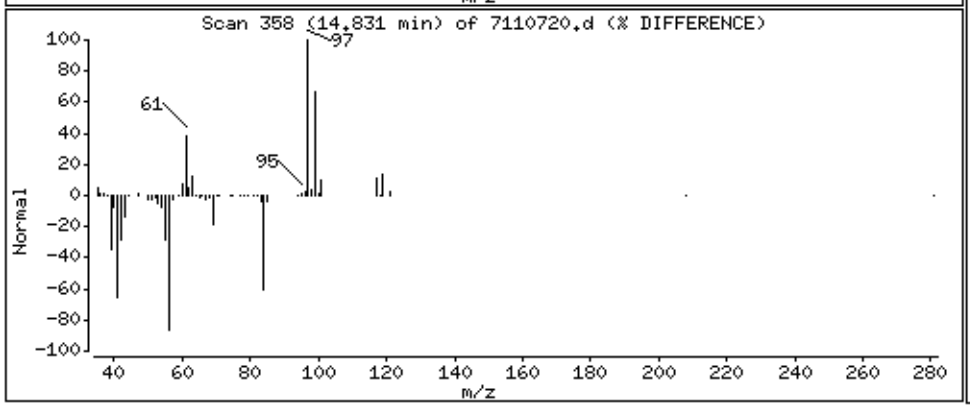
85 Cyclohexane

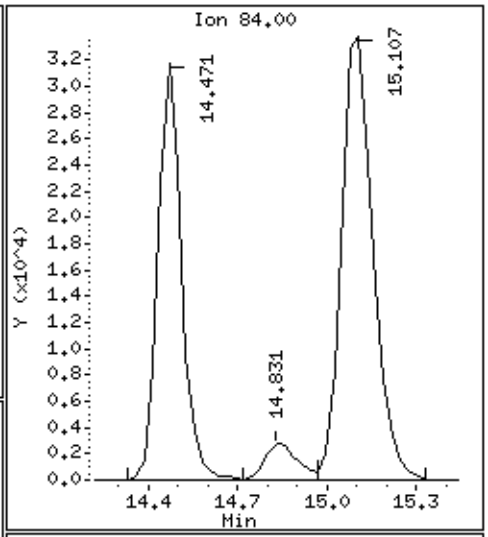
Concentration: 0.9880 PPBV

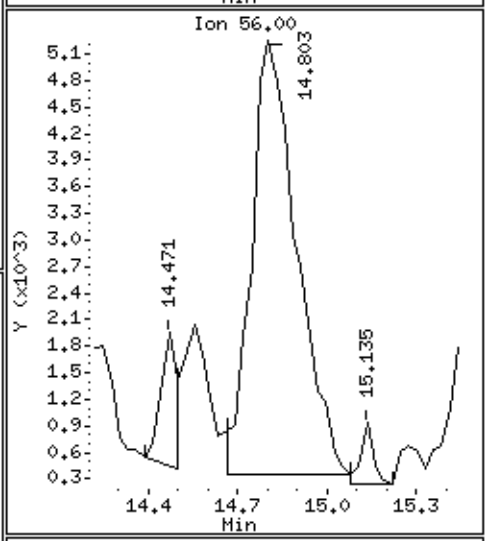


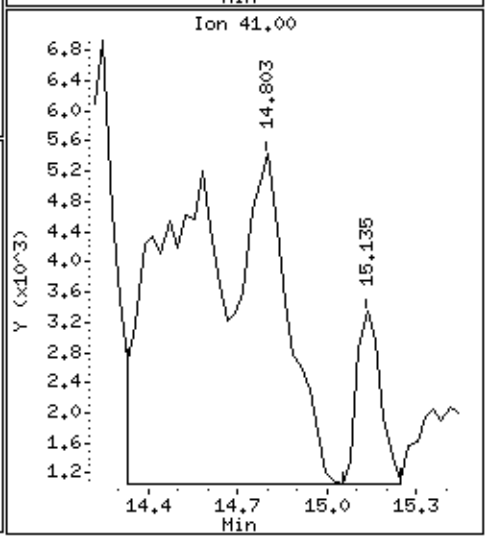












Data File: /chem/msd7.i/7-07nov.b/7110720.d

Date : 08-NOV-2007 00:50

Client ID:

Instrument: msd7.i

Sample Info: 200mL #34749

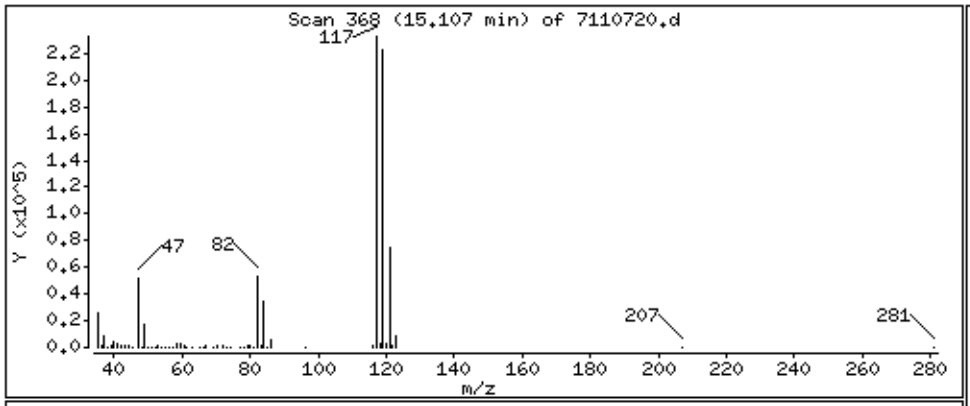
Operator: ab

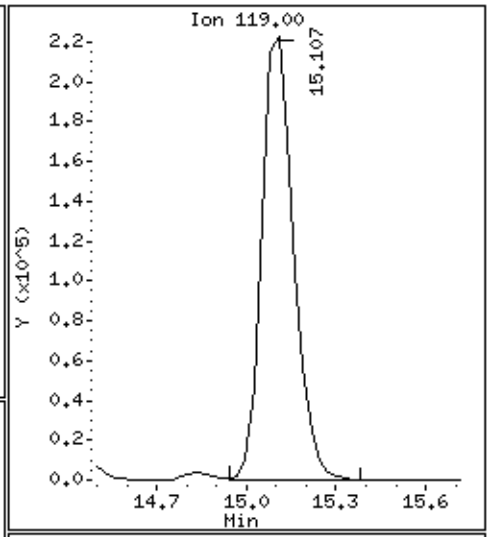
Column phase: RTx-624

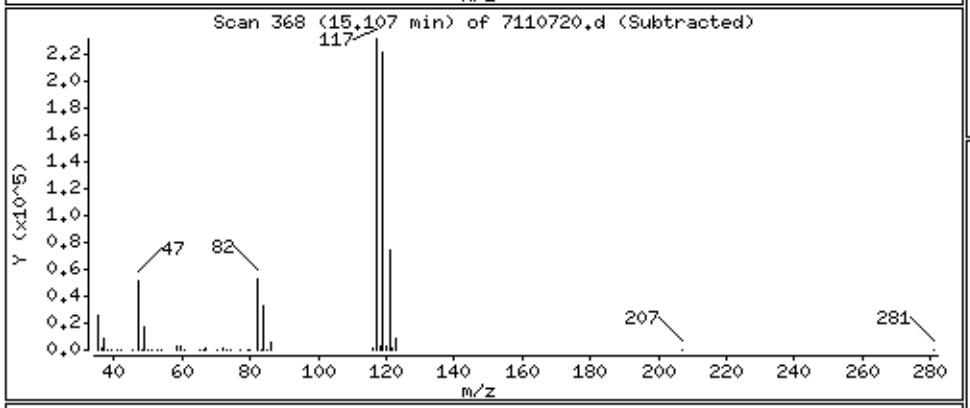
Column diameter: 0.53

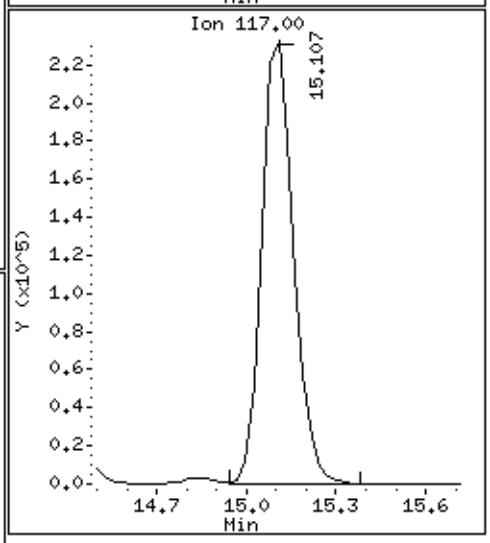
87 Carbon Tetrachloride

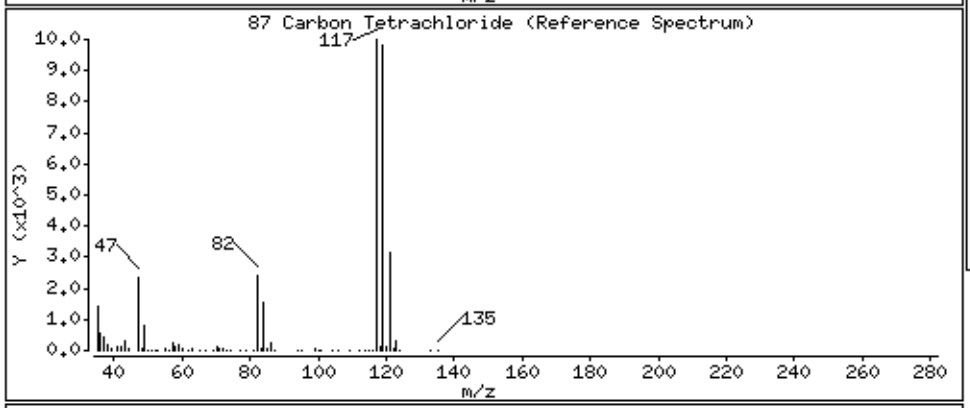
Concentration: 46.554 PPBV

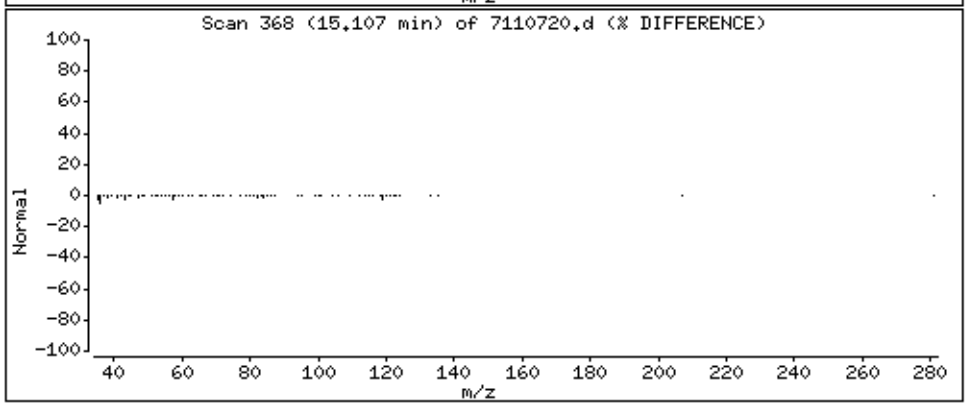












Data File: /chem/msd7.i/7-07nov.b/7110720.d

Date : 08-NOV-2007 00:50

Client ID:

Instrument: msd7.i

Sample Info: 200mL #34749

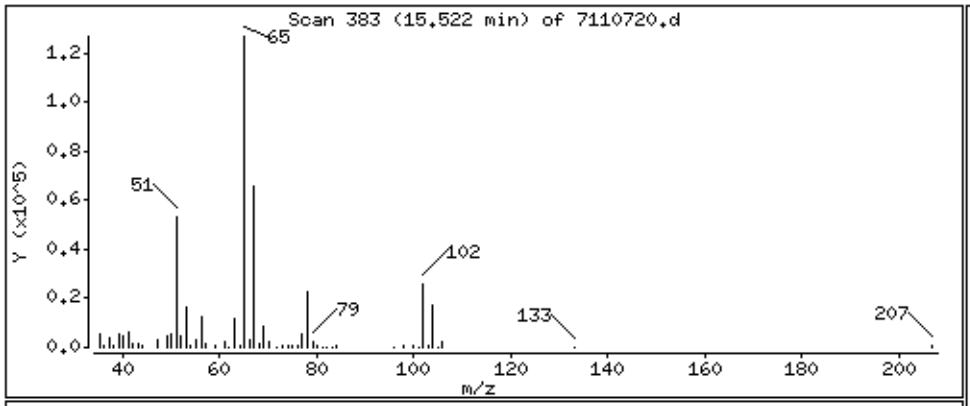
Operator: ab

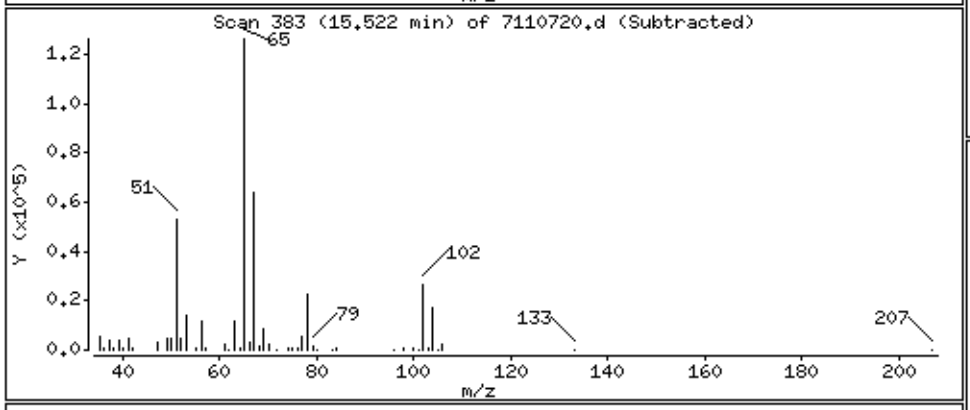
Column phase: RTx-624

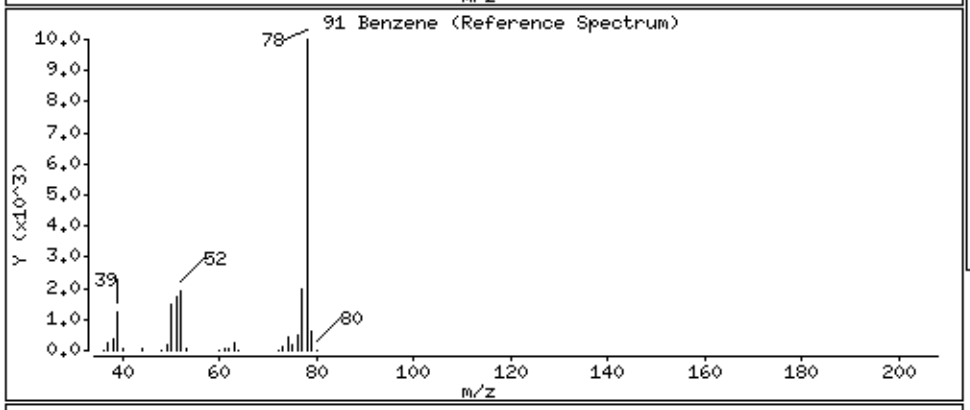
Column diameter: 0.53

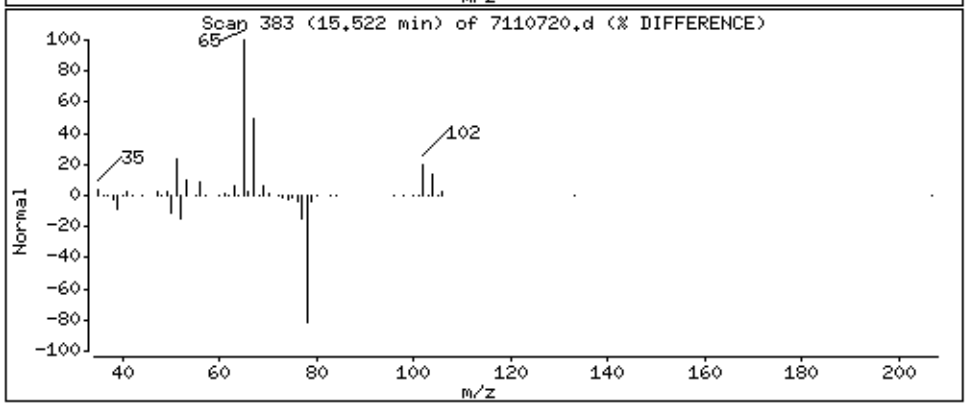
91 Benzene

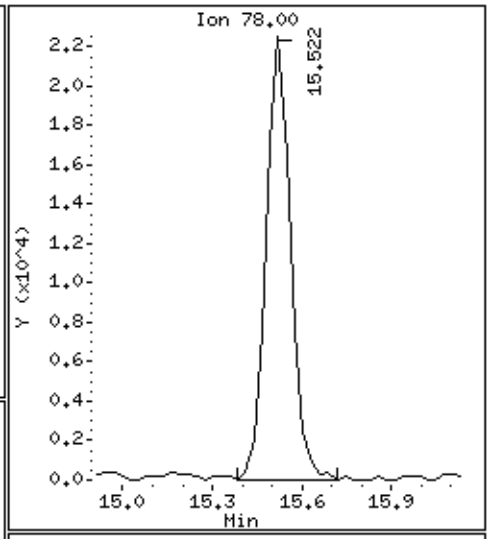
Concentration: 2.568 PPBV

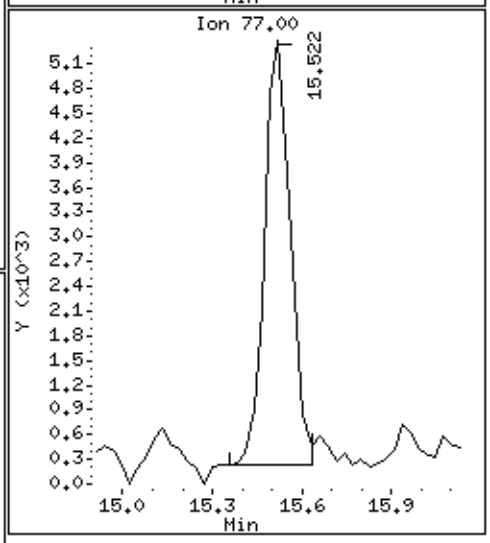












Data File: /chem/msd7.i/7-07nov.b/7110720.d

Date : 08-NOV-2007 00:50

Client ID:

Instrument: msd7.i

Sample Info: 200mL #34749

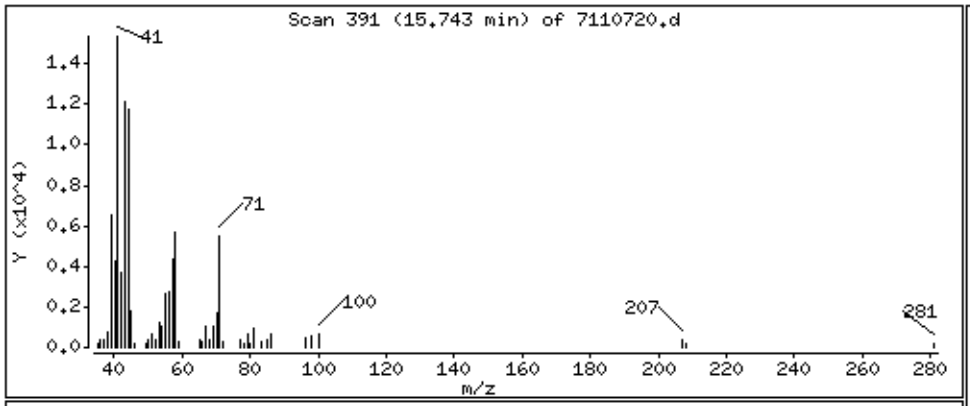
Operator: ab

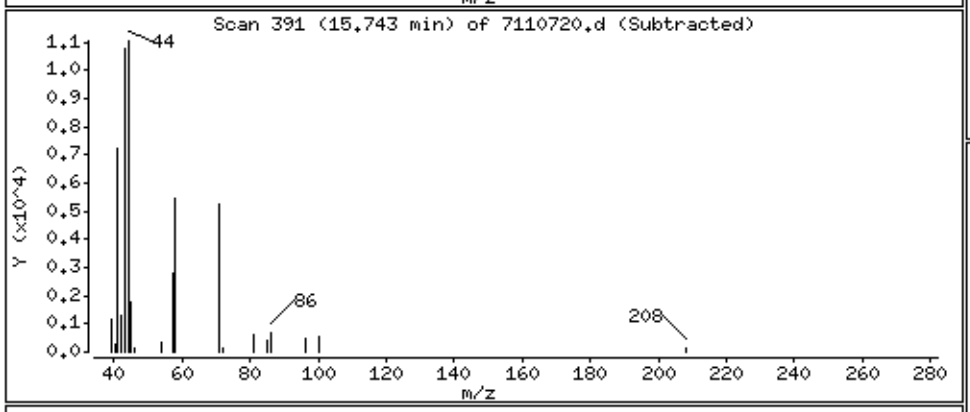
Column phase: RTx-624

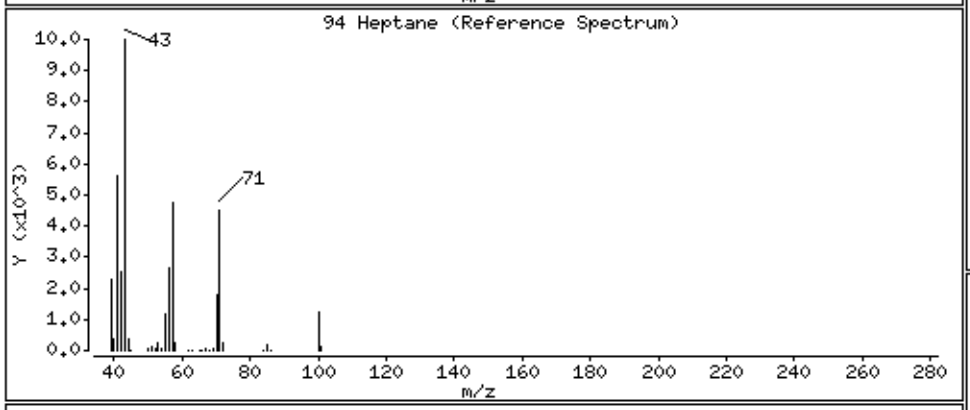
Column diameter: 0.53

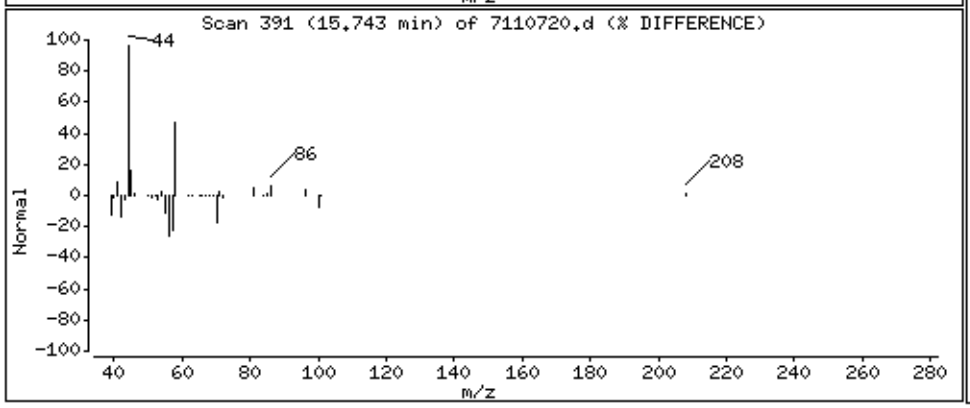
94 Heptane

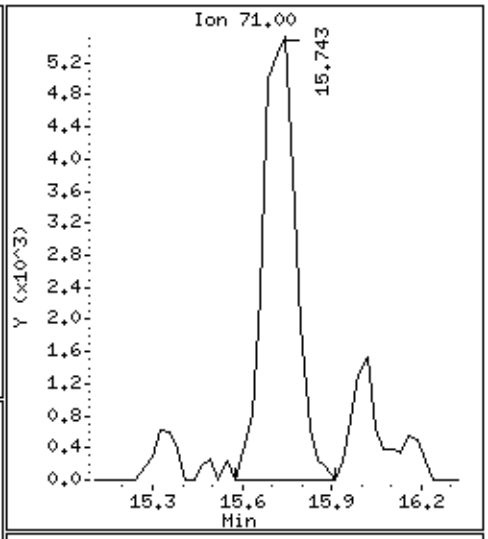
Concentration: 2.813 PPBV

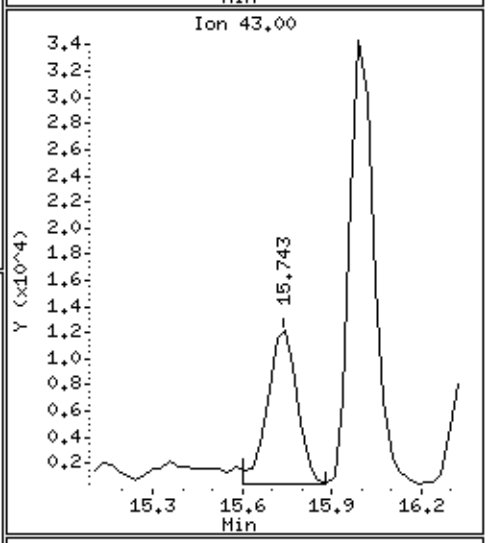


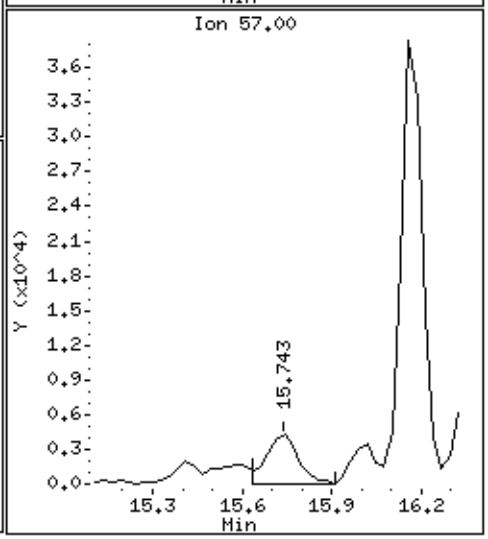












Data File: /chem/msd7.i/7-07nov.b/7110720.d

Date : 08-NOV-2007 00:50

Client ID:

Instrument: msd7.i

Sample Info: 200mL #34749

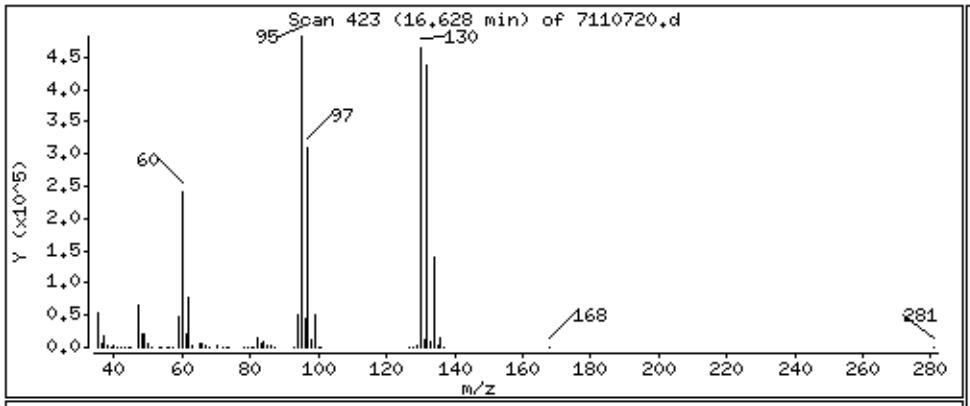
Operator: ab

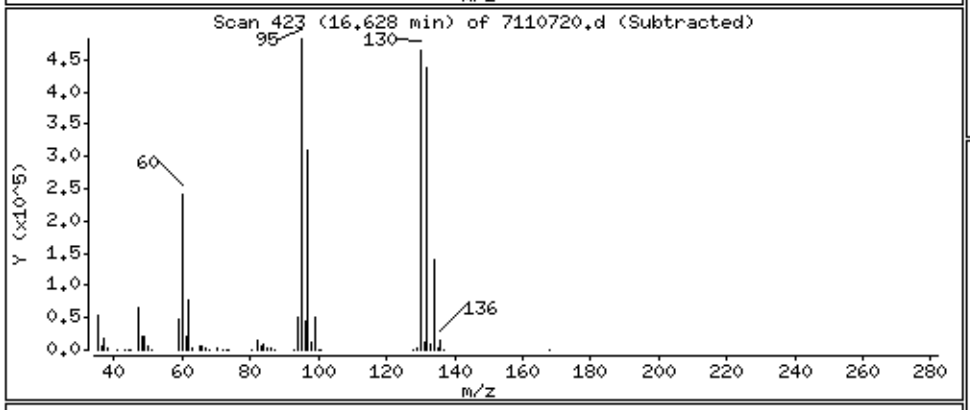
Column phase: RTx-624

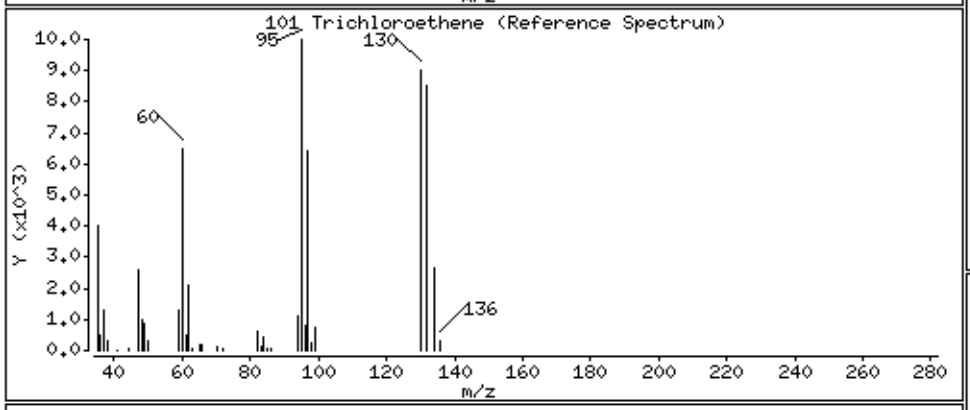
Column diameter: 0.53

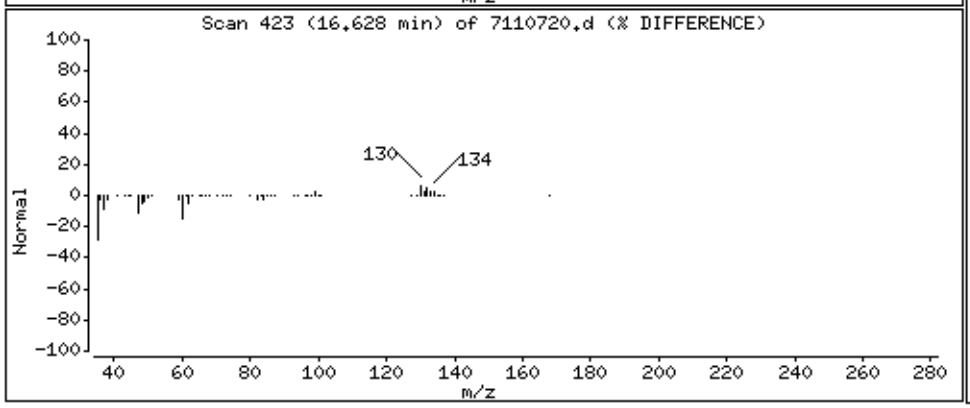
101 Trichloroethene

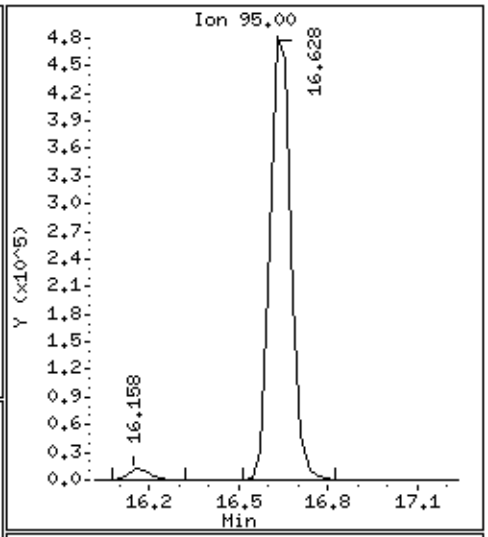
Concentration: 107.20 PPBV

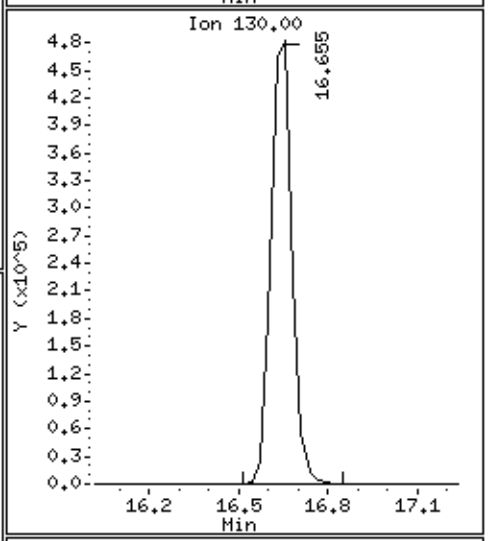


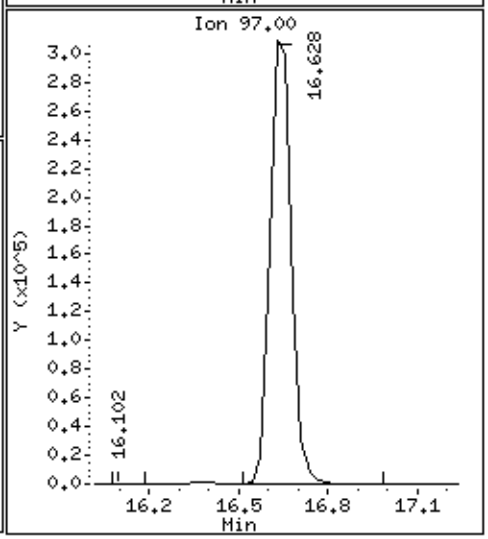












Data File: /chem/msd7.i/7-07nov.b/7110720.d

Date : 08-NOV-2007 00:50

Client ID:

Instrument: msd7.i

Sample Info: 200mL #34749

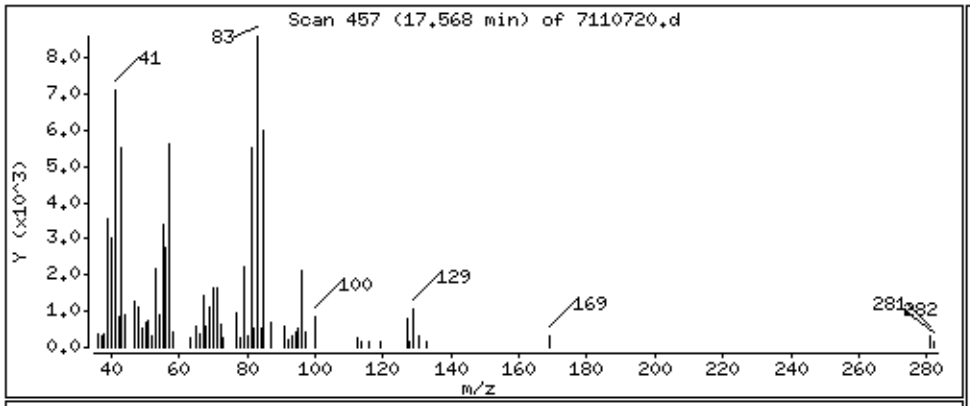
Operator: ab

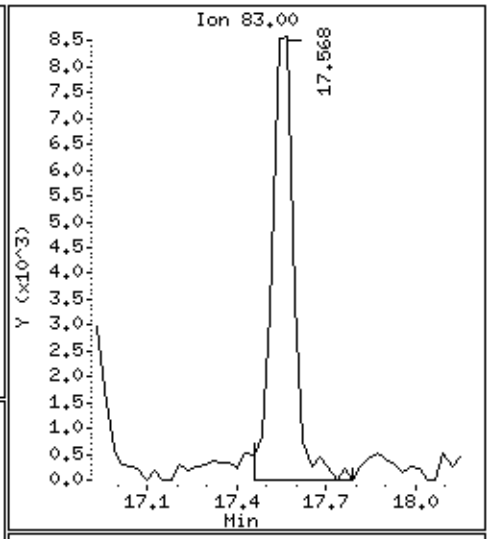
Column phase: RTx-624

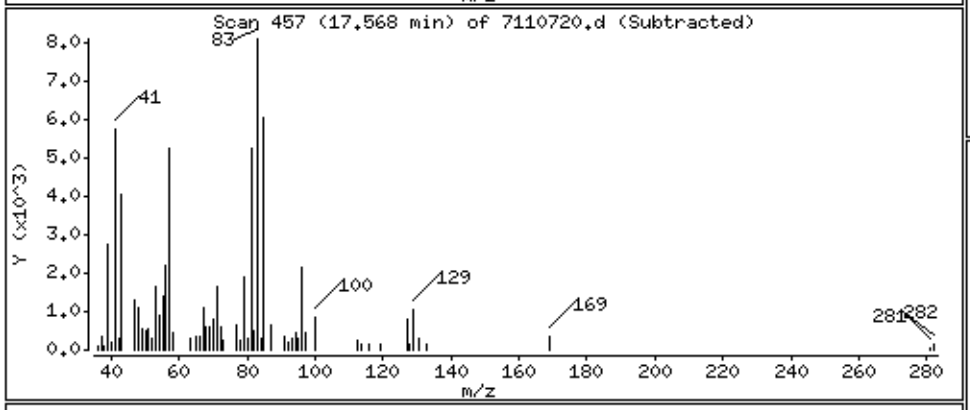
Column diameter: 0.53

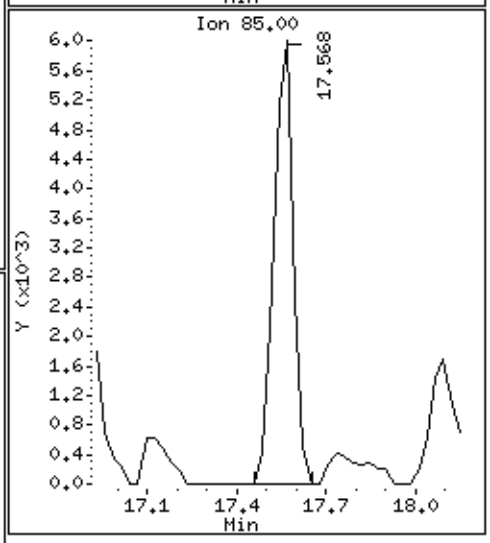
107 Bromodichloromethane

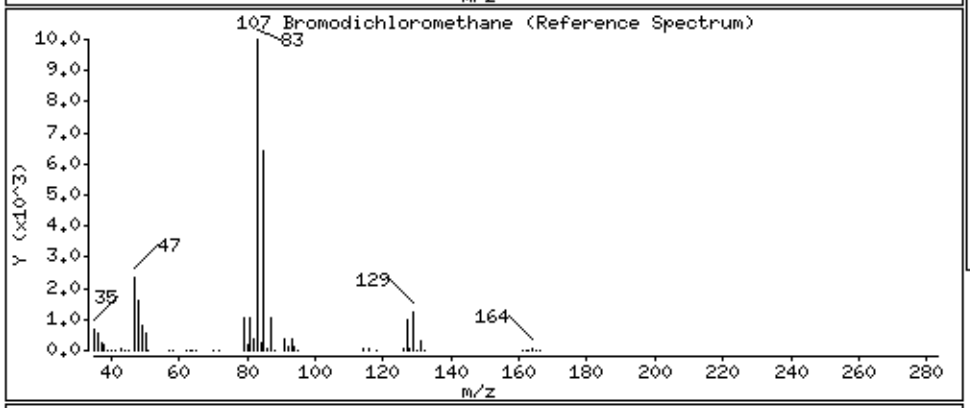
Concentration: 1.164 PPBV

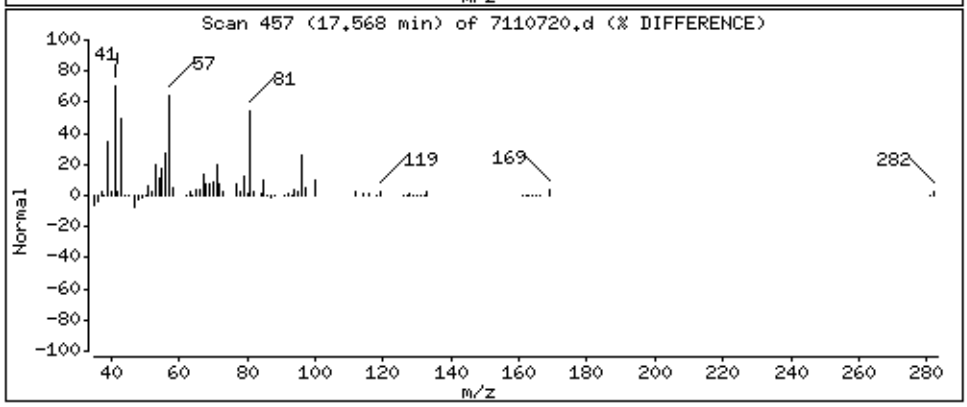












Data File: /chem/msd7.i/7-07nov.b/7110720.d

Date : 08-NOV-2007 00:50

Client ID:

Instrument: msd7.i

Sample Info: 200mL #34749

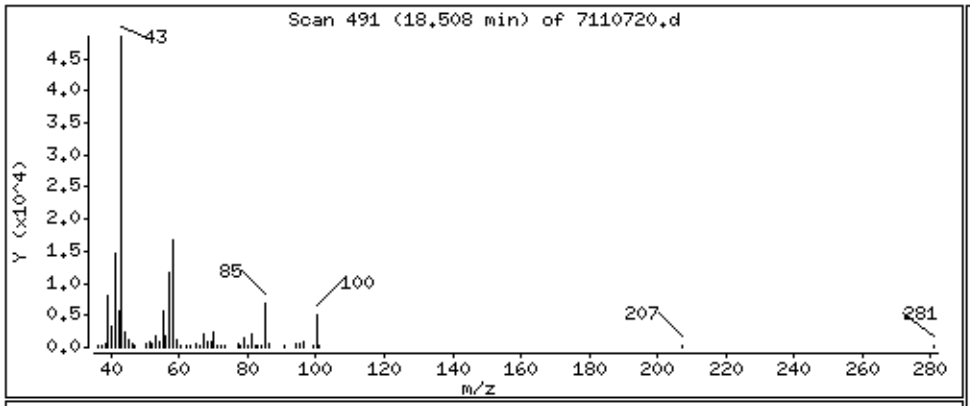
Operator: ab

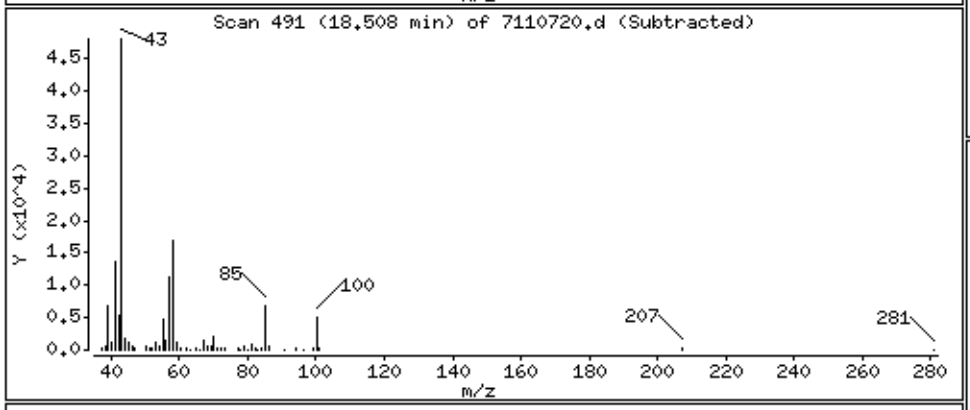
Column phase: RTx-624

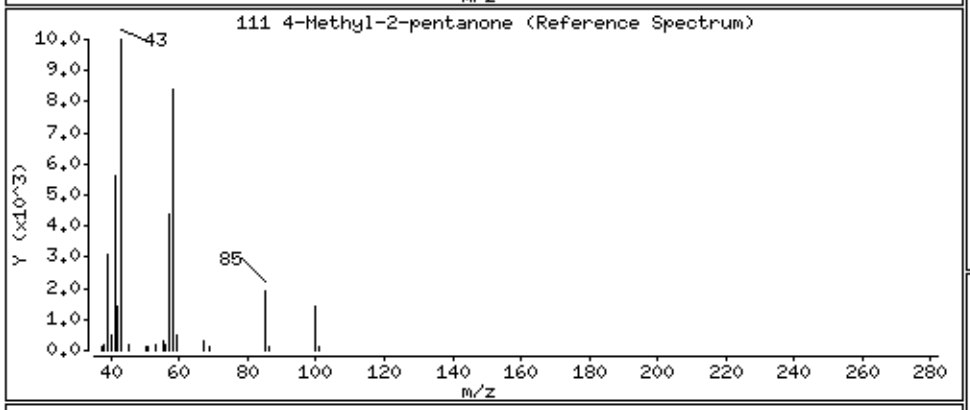
Column diameter: 0.53

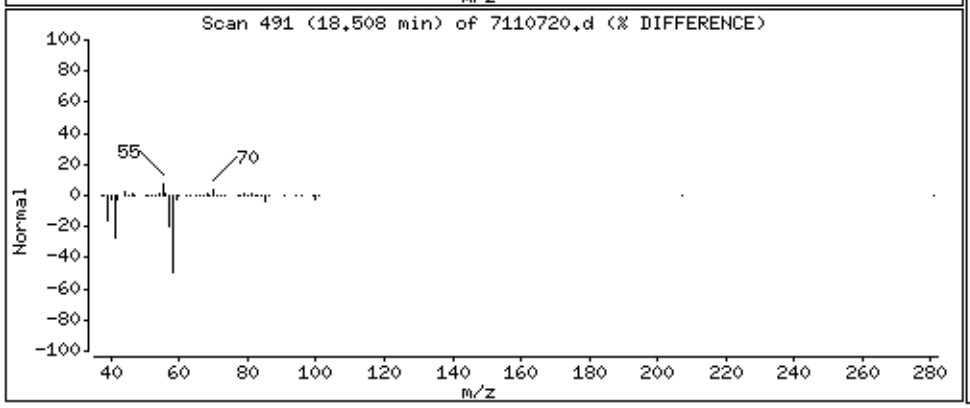
111 4-Methyl-2-pentanone

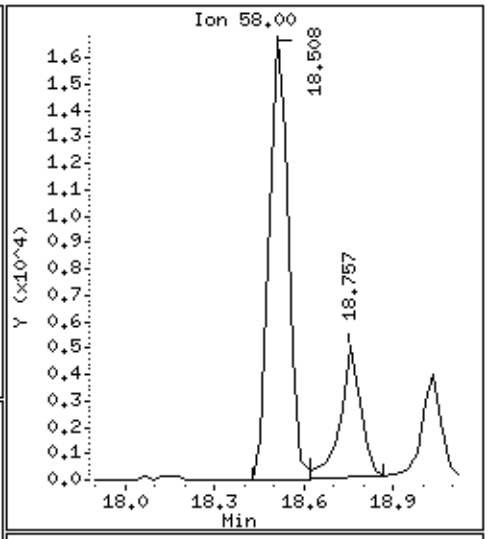
Concentration: 5.048 PPBV

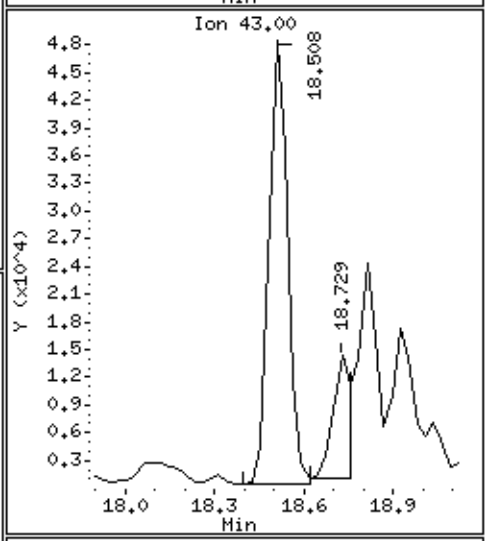


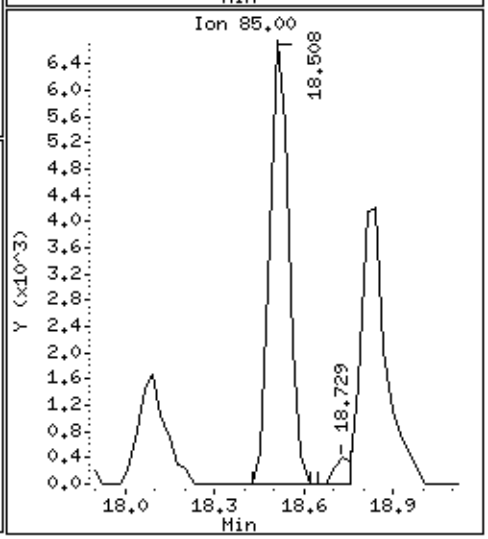












Data File: /chem/msd7.i/7-07nov.b/7110720.d

Date : 08-NOV-2007 00:50

Client ID:

Instrument: msd7.i

Sample Info: 200mL #34749

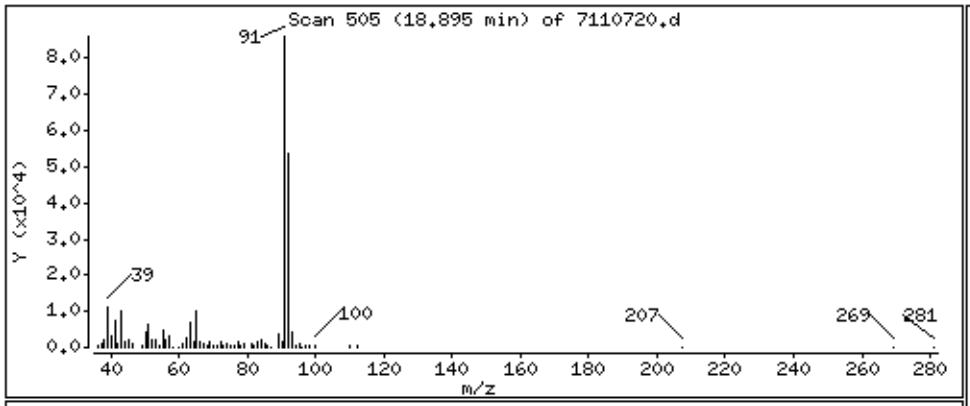
Operator: ab

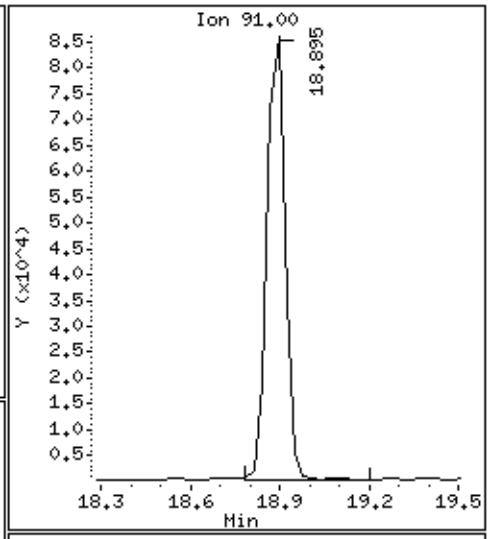
Column phase: RTx-624

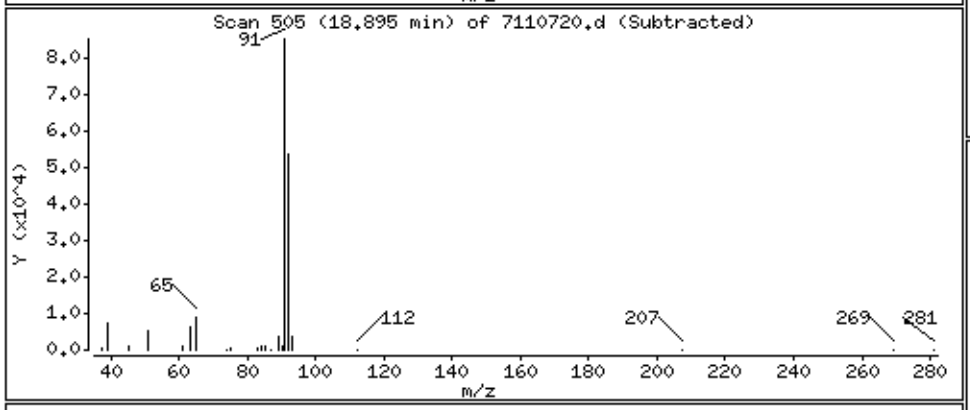
Column diameter: 0.53

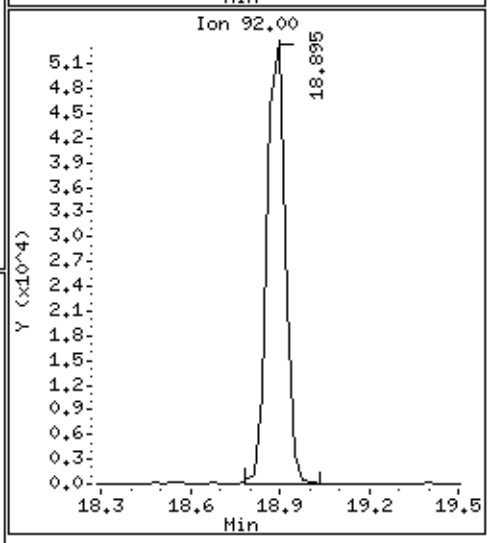
114 Toluene

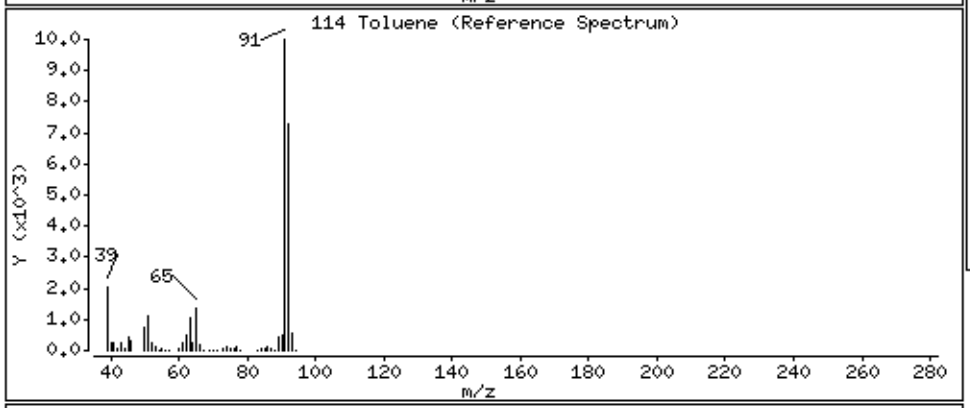
Concentration: 6.651 PPBV

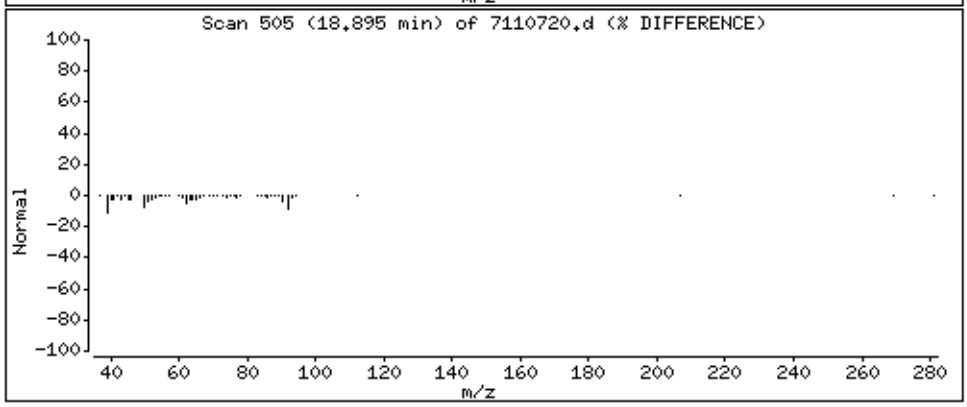












Data File: /chem/msd7.i/7-07nov.b/7110720.d

Date : 08-NOV-2007 00:50

Client ID:

Instrument: msd7.i

Sample Info: 200mL #34749

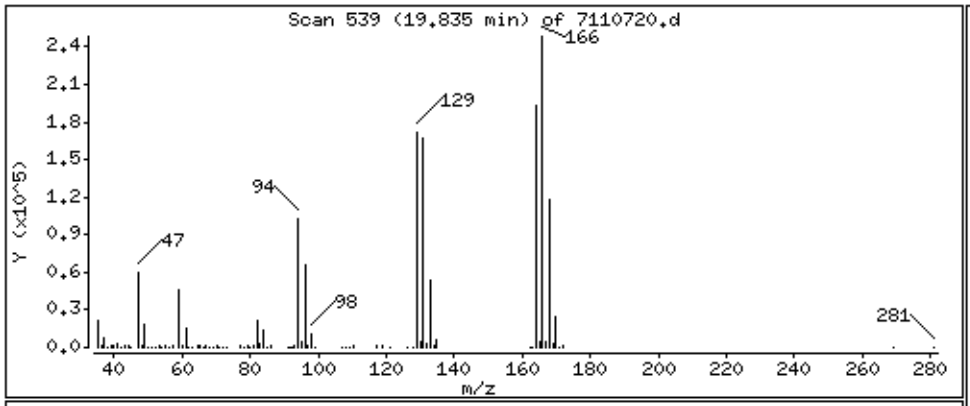
Operator: ab

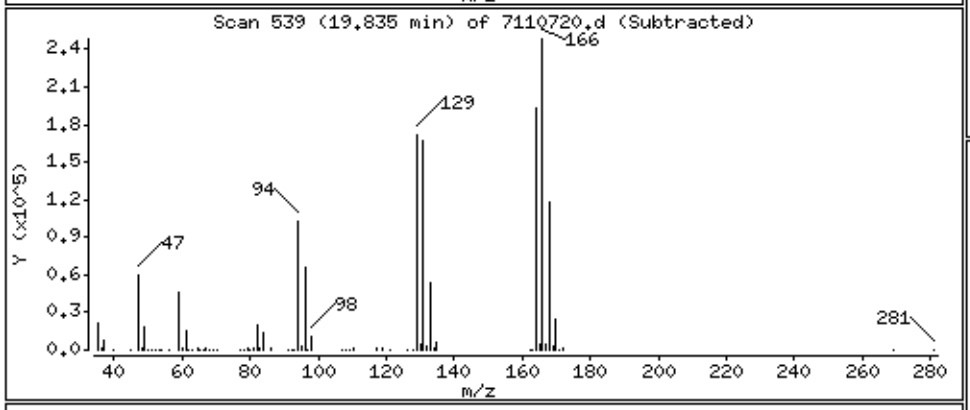
Column phase: RTx-624

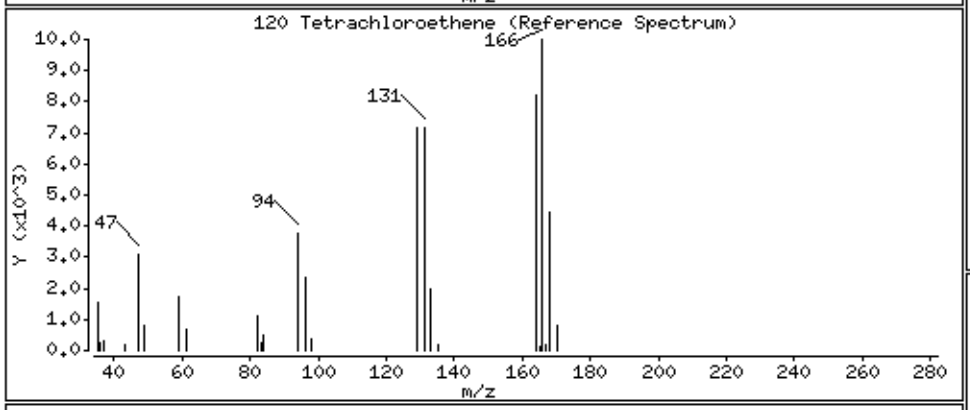
Column diameter: 0.53

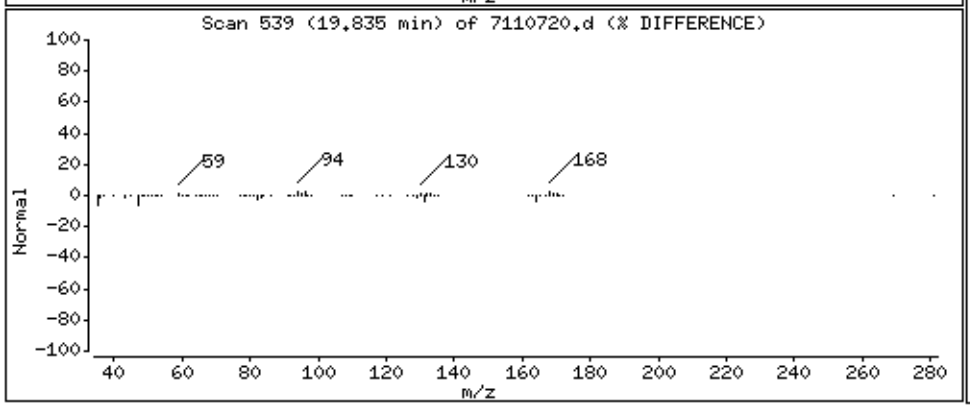
120 Tetrachloroethene

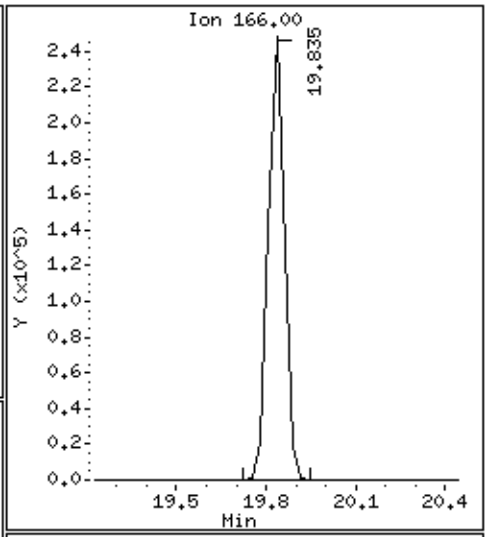
Concentration: 36.354 PPBV

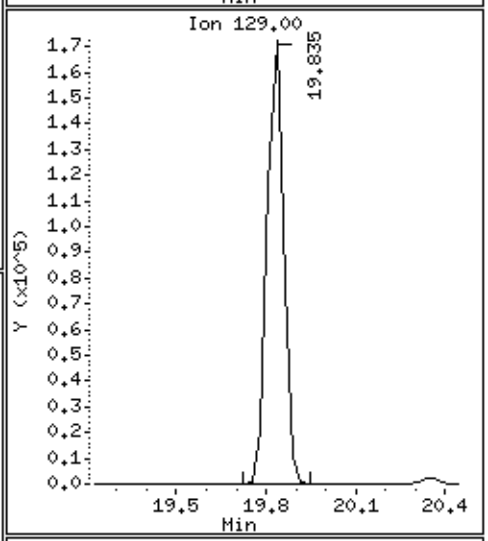


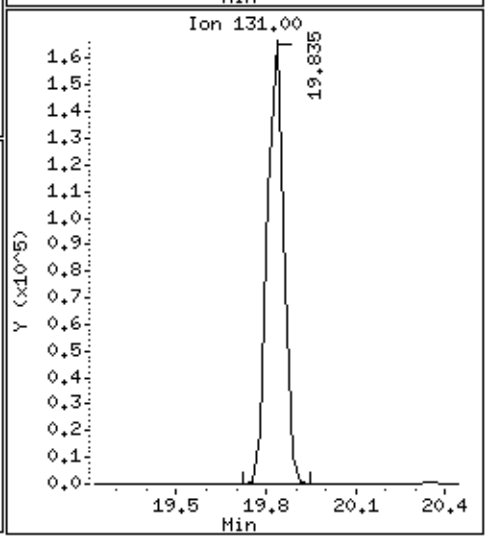












Data File: /chem/msd7.i/7-07nov.b/7110720.d

Date : 08-NOV-2007 00:50

Client ID:

Instrument: msd7.i

Sample Info: 200mL #34749

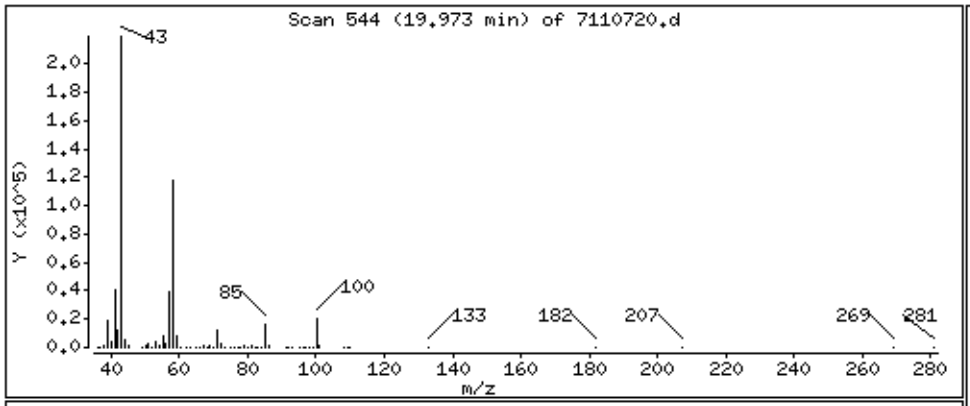
Operator: ab

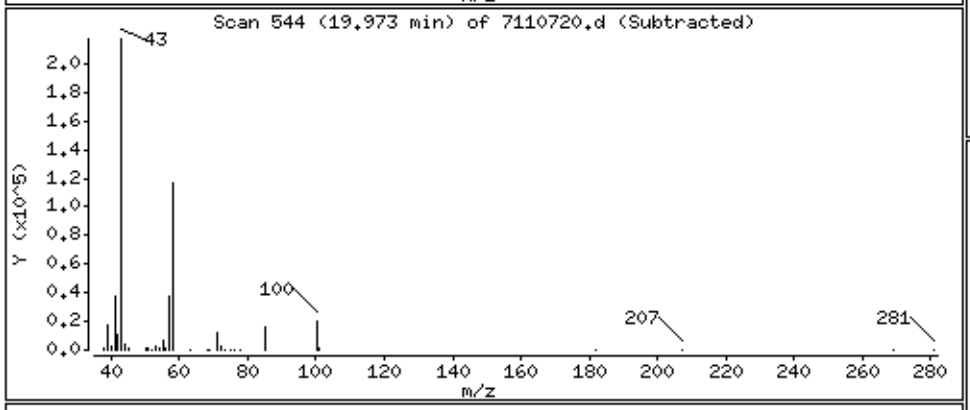
Column phase: RTx-624

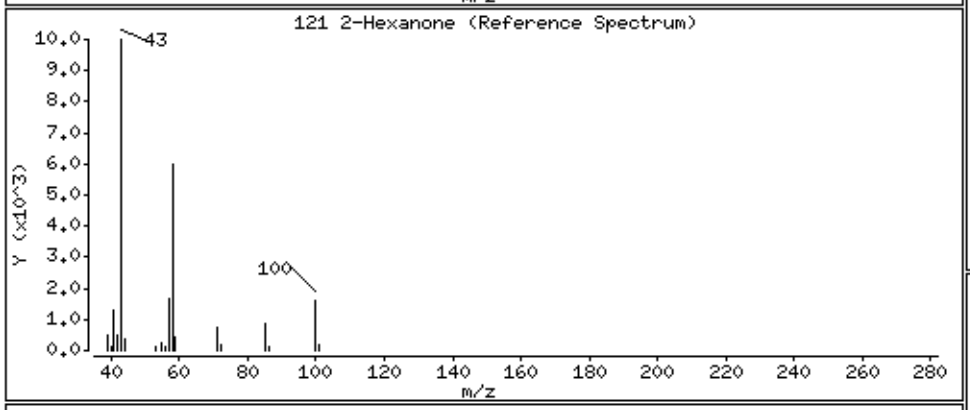
Column diameter: 0.53

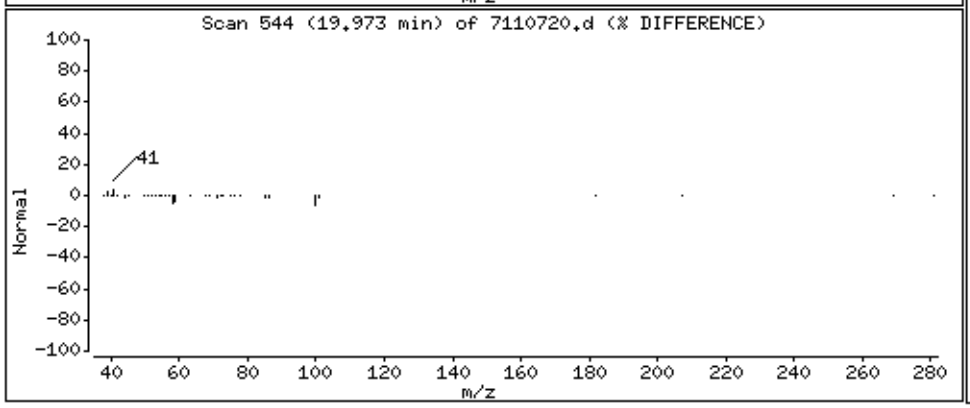
121 2-Hexanone

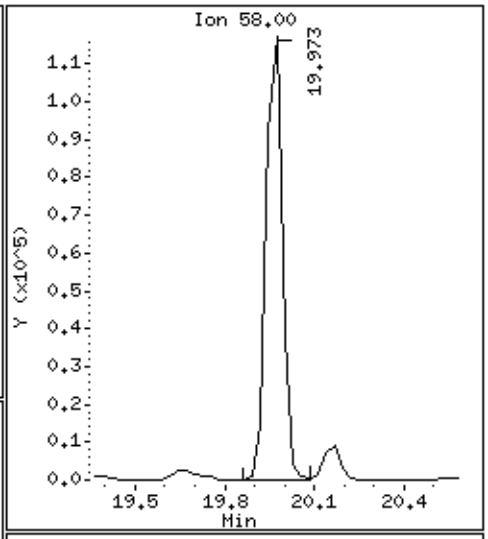
Concentration: 21.060 PPBV

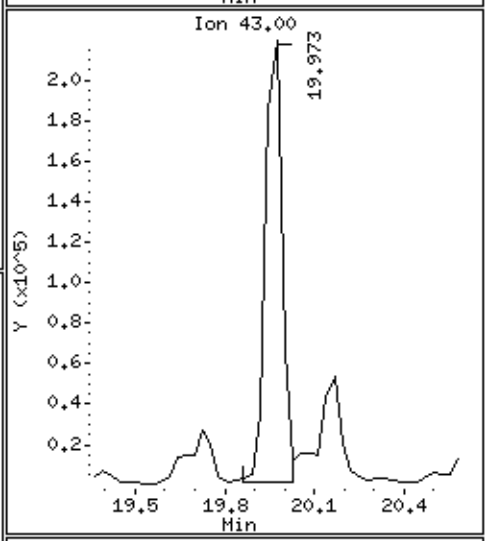


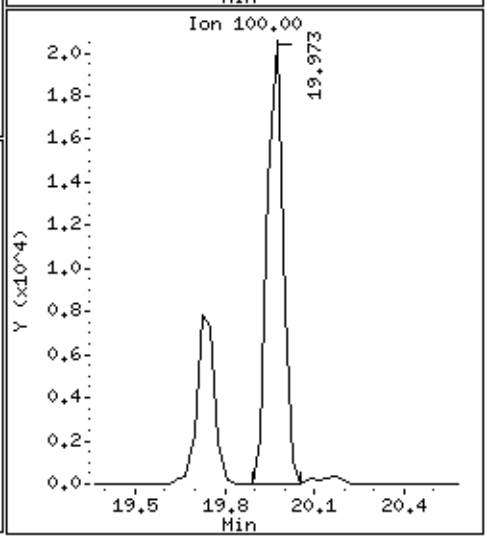












Data File: /chem/msd7.i/7-07nov.b/7110720.d

Date : 08-NOV-2007 00:50

Client ID:

Instrument: msd7.i

Sample Info: 200mL #34749

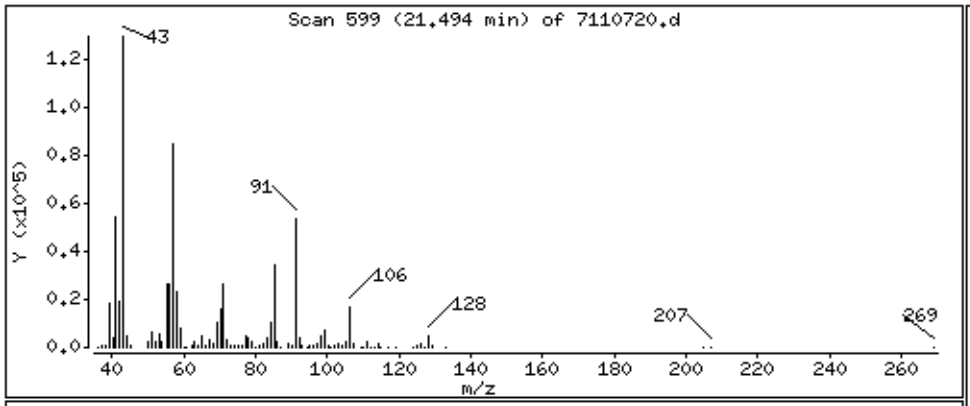
Operator: ab

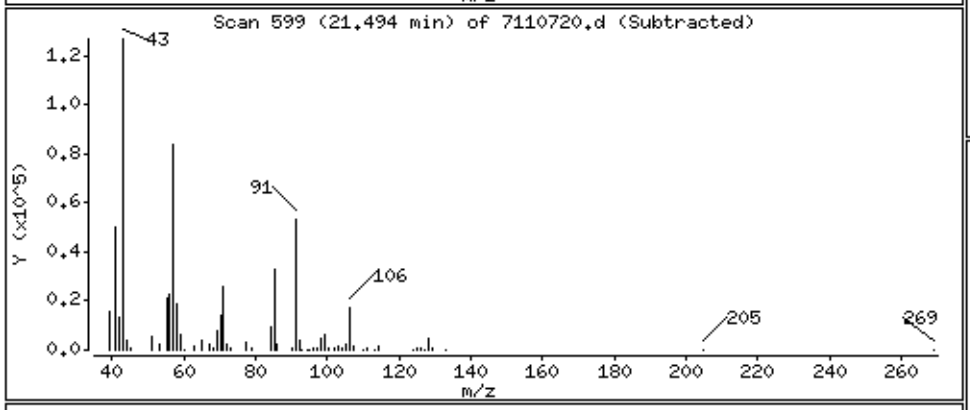
Column phase: RTx-624

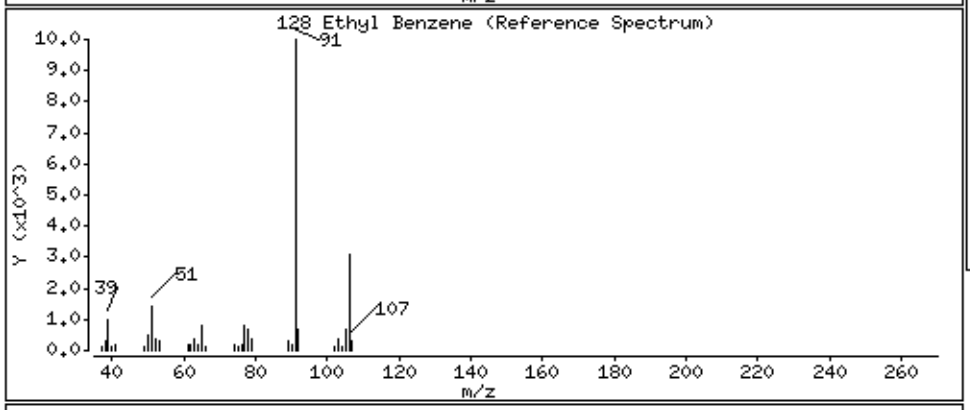
Column diameter: 0.53

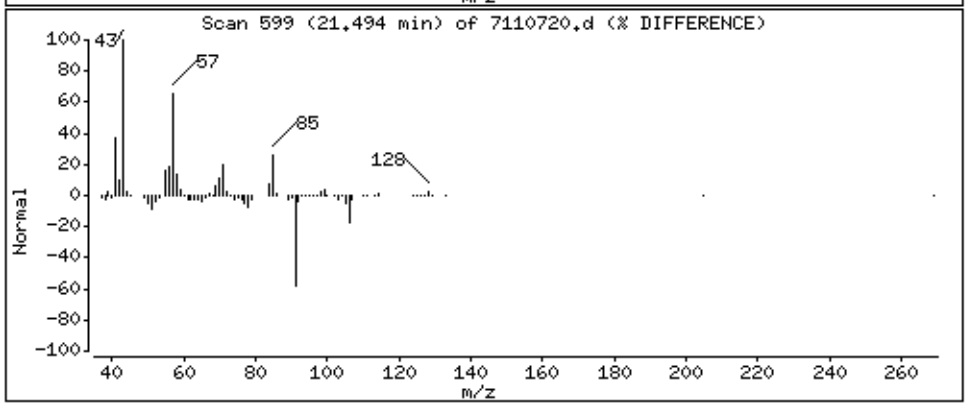
128 Ethyl Benzene

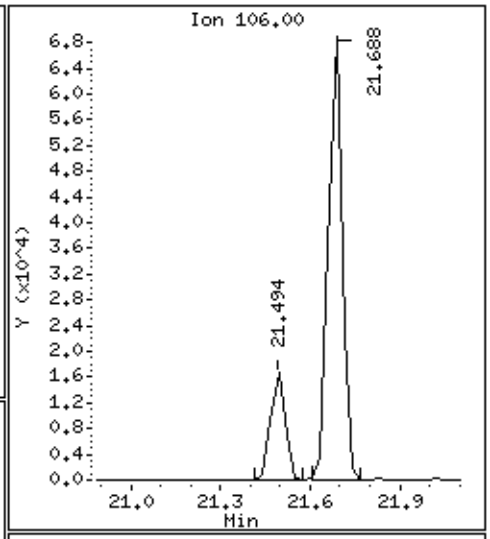
Concentration: 2.585 PPBV

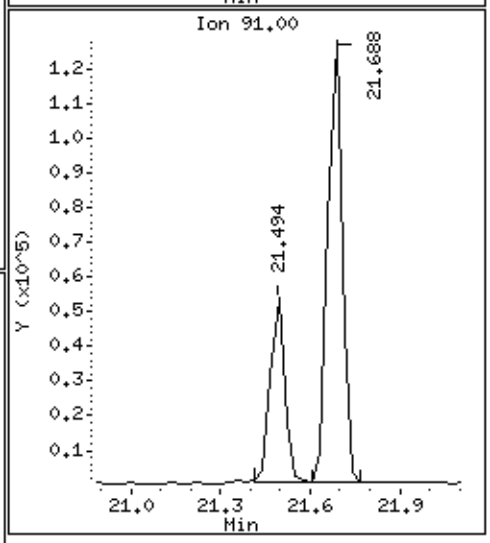












Data File: /chem/msd7.i/7-07nov.b/7110720.d

Date : 08-NOV-2007 00:50

Client ID:

Instrument: msd7.i

Sample Info: 200mL #34749

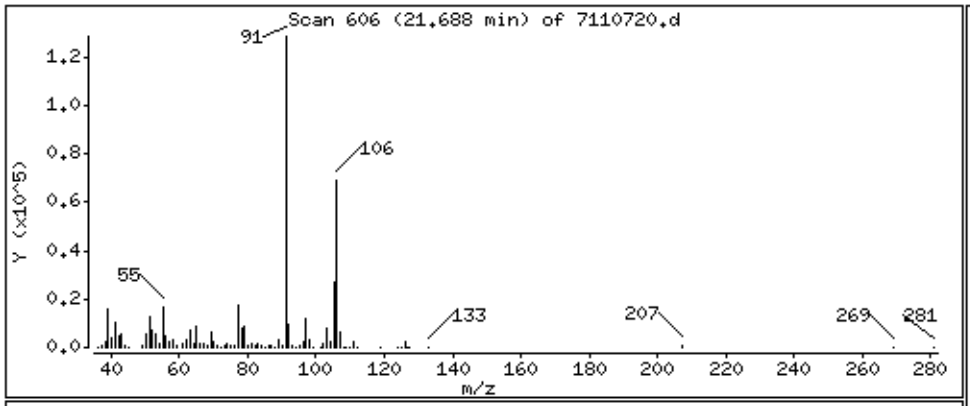
Operator: ab

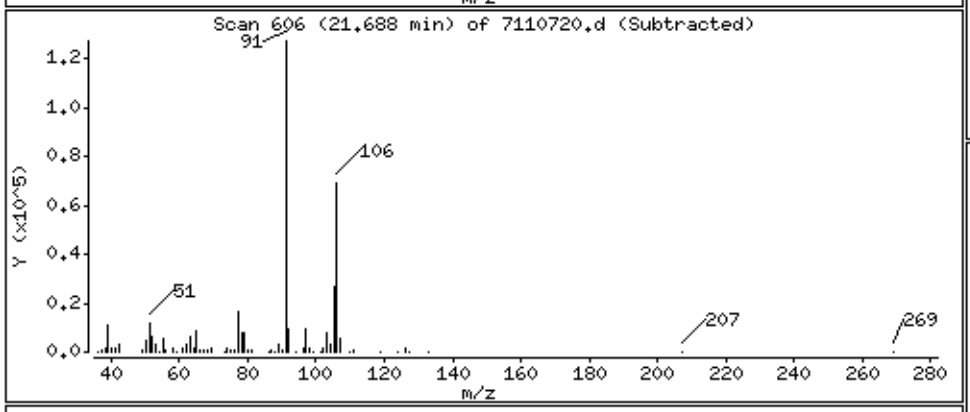
Column phase: RTx-624

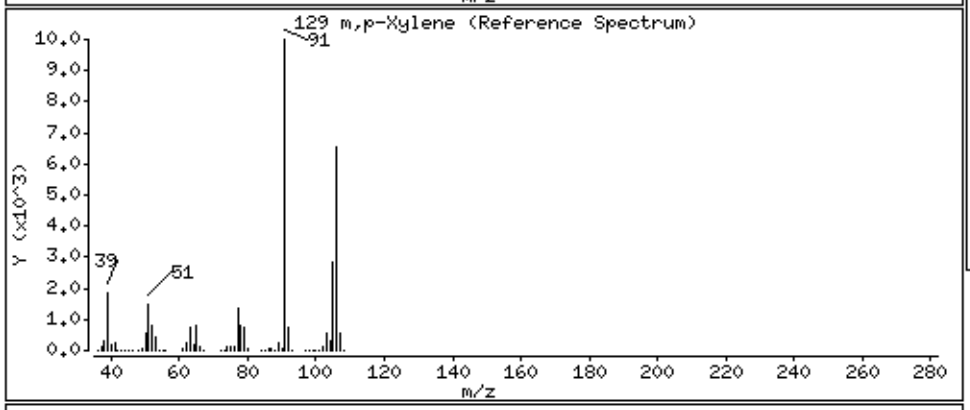
Column diameter: 0.53

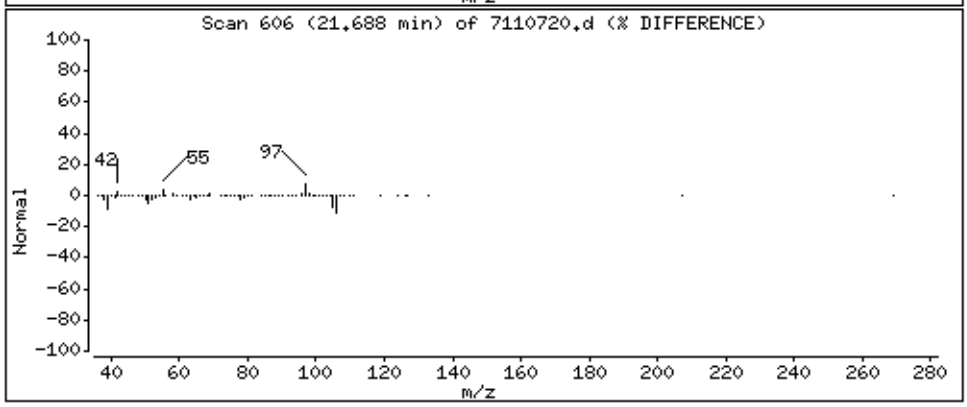
129 m,p-Xylene

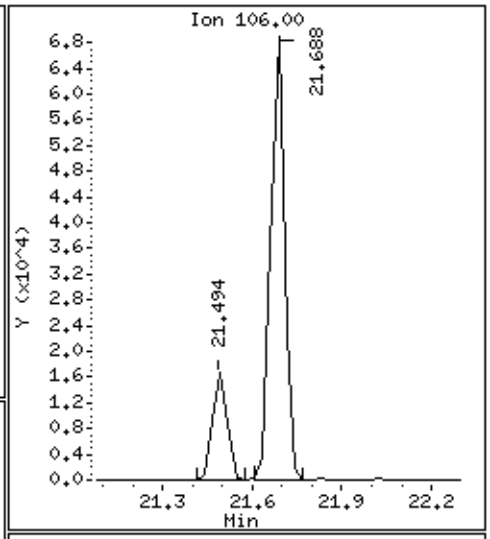
Concentration: 8.047 PPBV

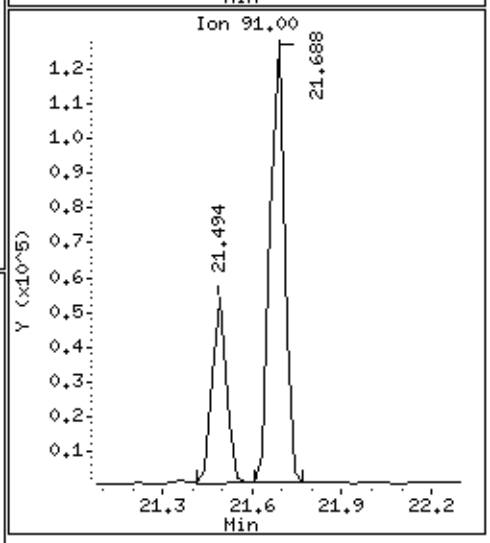












Data File: /chem/msd7.i/7-07nov.b/7110720.d

Date : 08-NOV-2007 00:50

Client ID:

Instrument: msd7.i

Sample Info: 200mL #34749

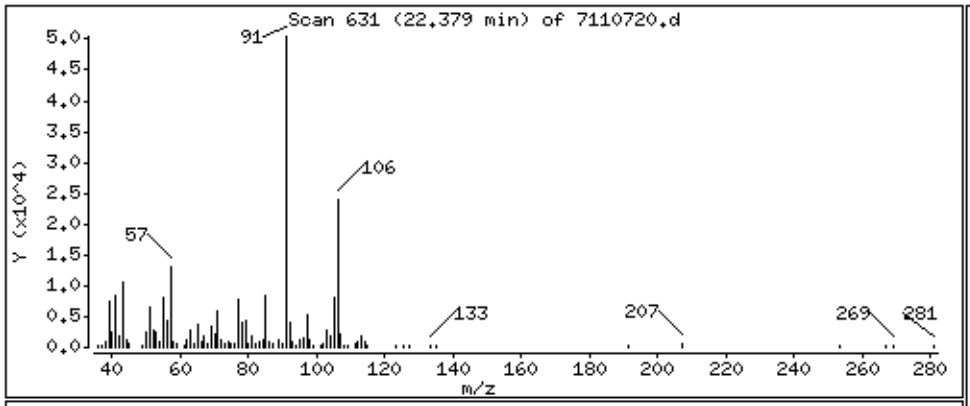
Operator: ab

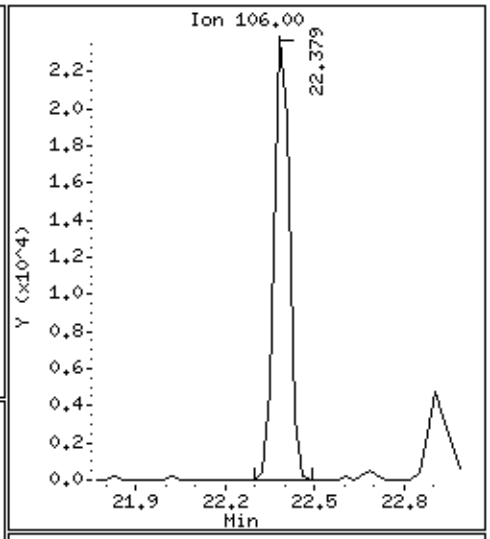
Column phase: RTx-624

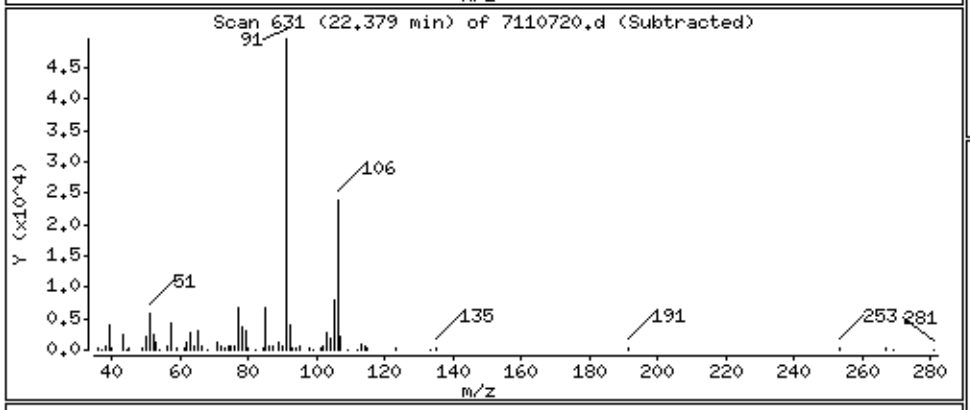
Column diameter: 0.53

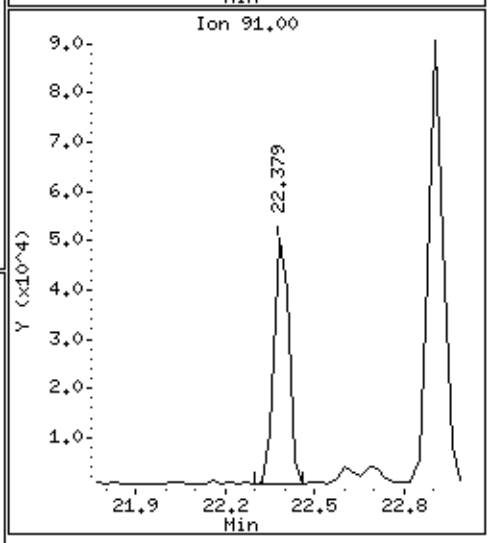
130 o-Xylene

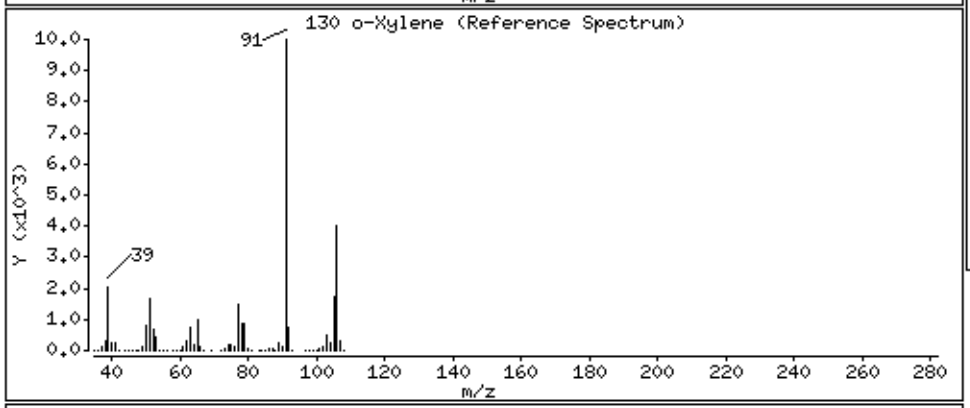
Concentration: 3.615 PPBV

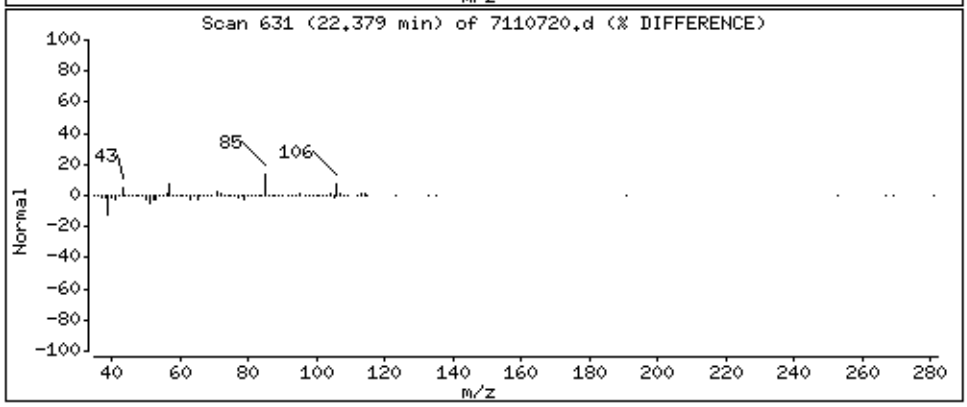












Data File: /chem/msd7.i/7-07nov.b/7110720.d

Date : 08-NOV-2007 00:50

Client ID:

Instrument: msd7.i

Sample Info: 200mL #34749

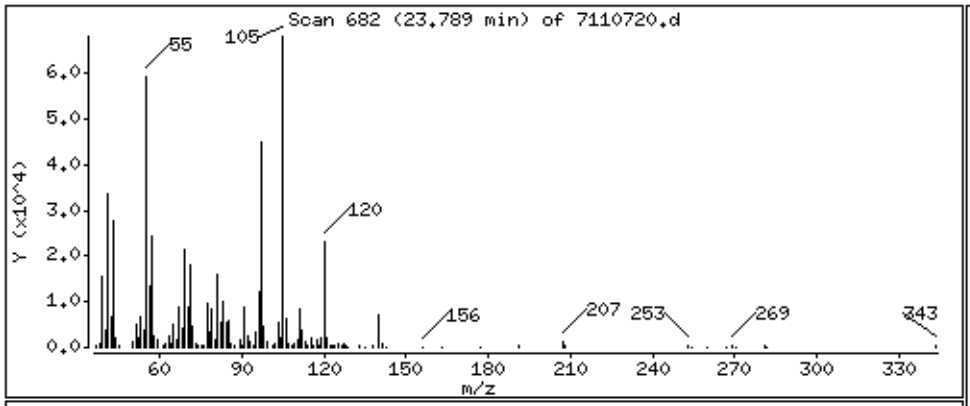
Operator: ab

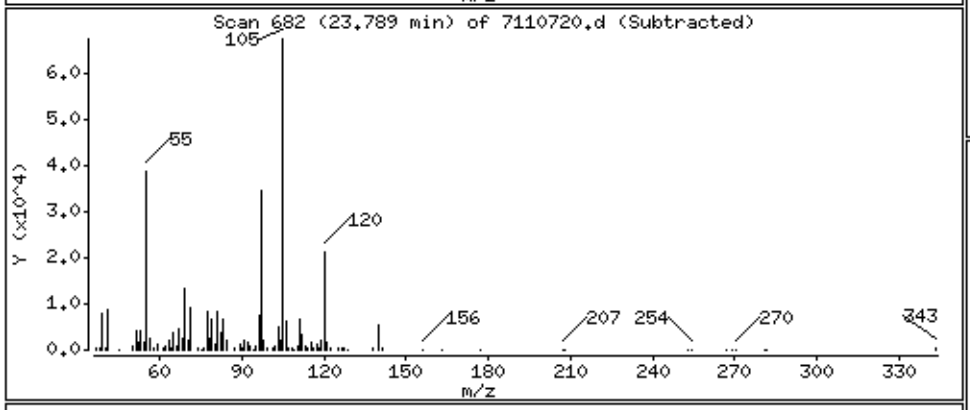
Column phase: RTx-624

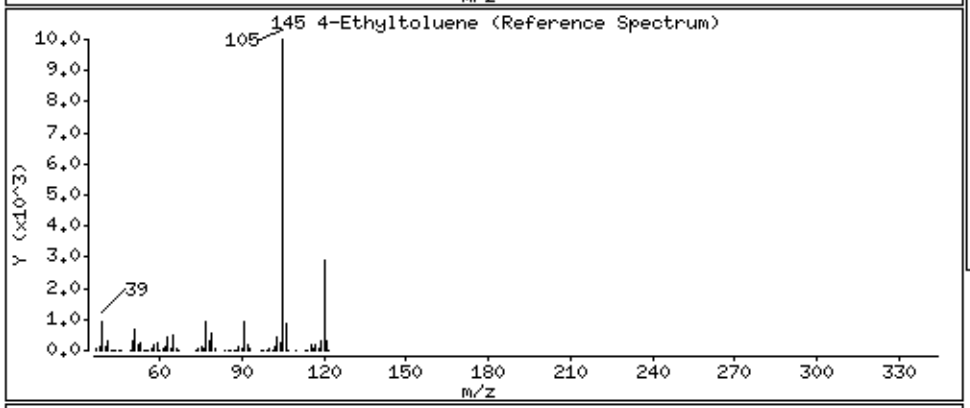
Column diameter: 0.53

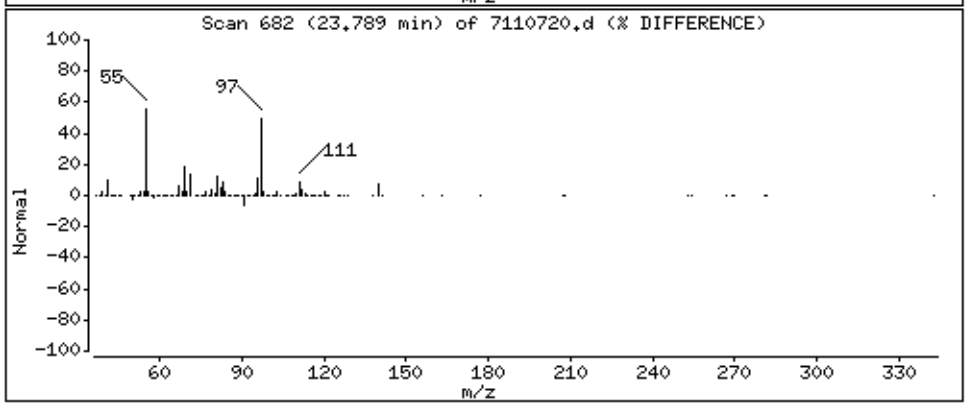
145 4-Ethyltoluene

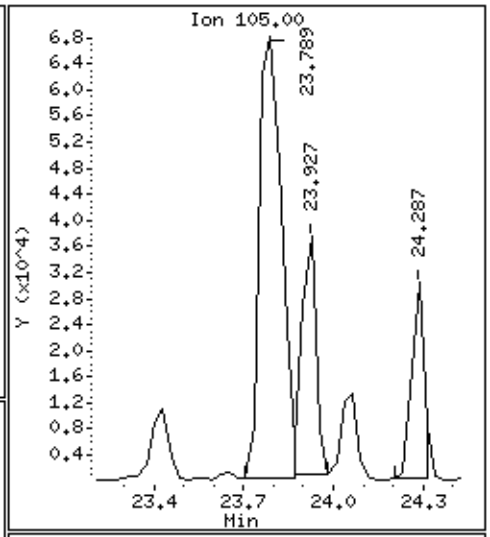
Concentration: 4.982 PPBV

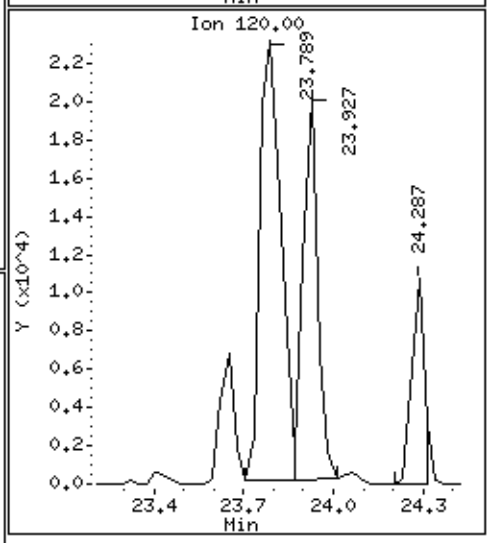












Data File: /chem/msd7.i/7-07nov.b/7110720.d

Date : 08-NOV-2007 00:50

Client ID:

Instrument: msd7.i

Sample Info: 200mL #34749

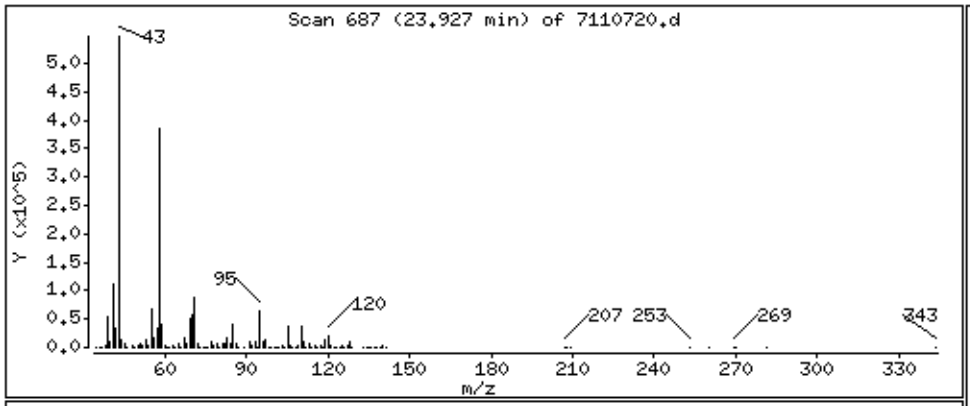
Operator: ab

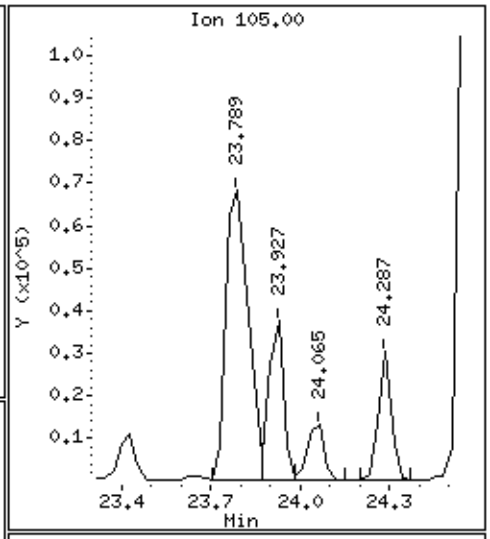
Column phase: RTx-624

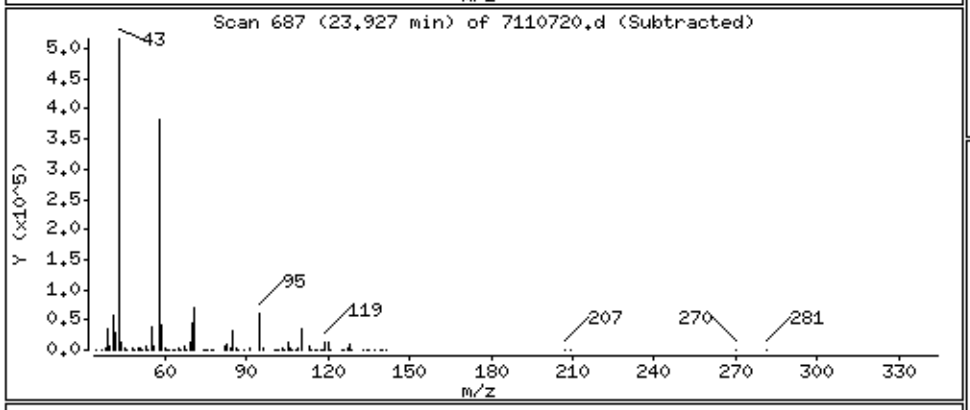
Column diameter: 0.53

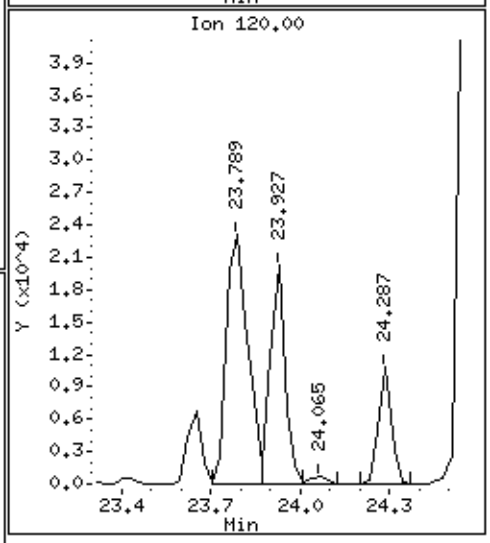
147 1,3,5-Trimethylbenzene

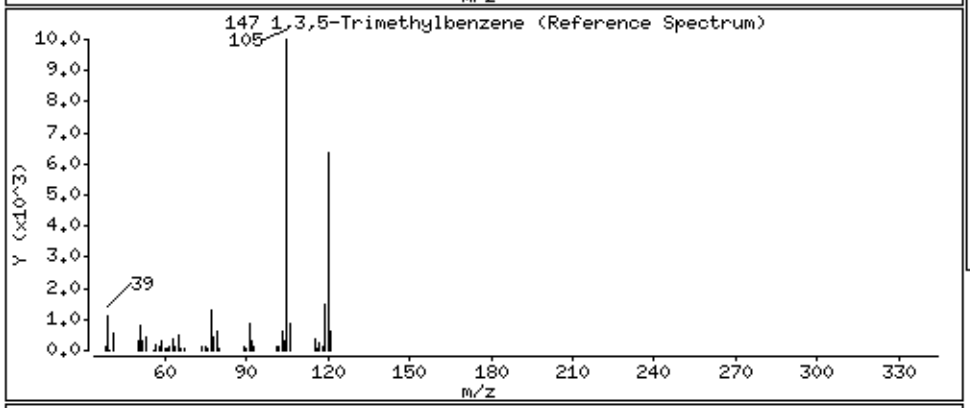
Concentration: 2.314 PPBV

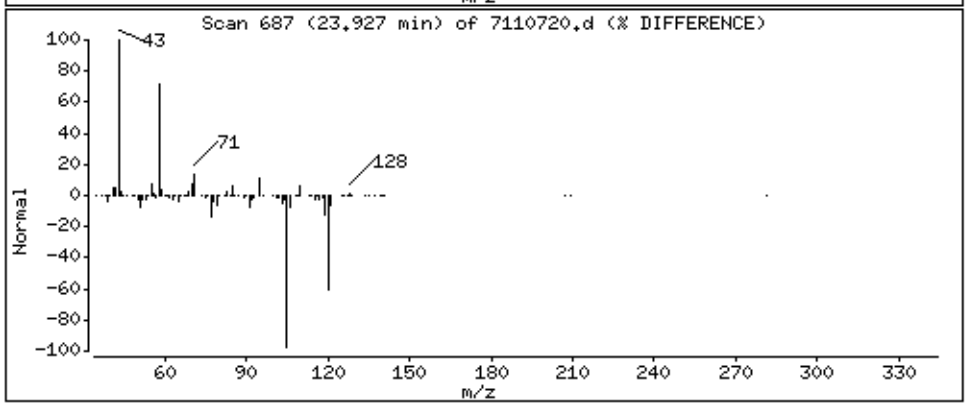












Data File: /chem/msd7.i/7-07nov.b/7110720.d

Date : 08-NOV-2007 00:50

Client ID:

Instrument: msd7.i

Sample Info: 200mL #34749

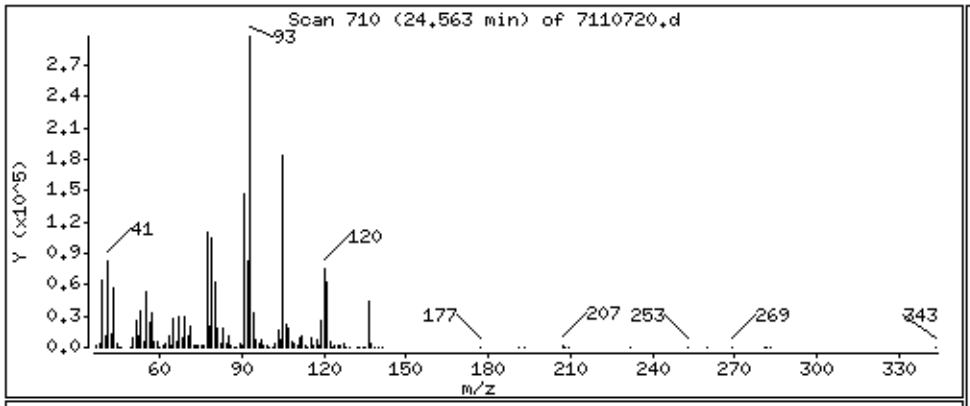
Operator: ab

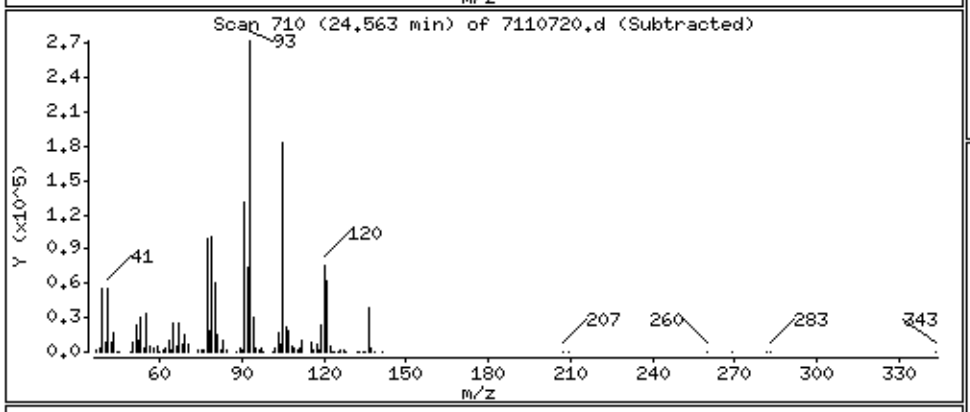
Column phase: RTx-624

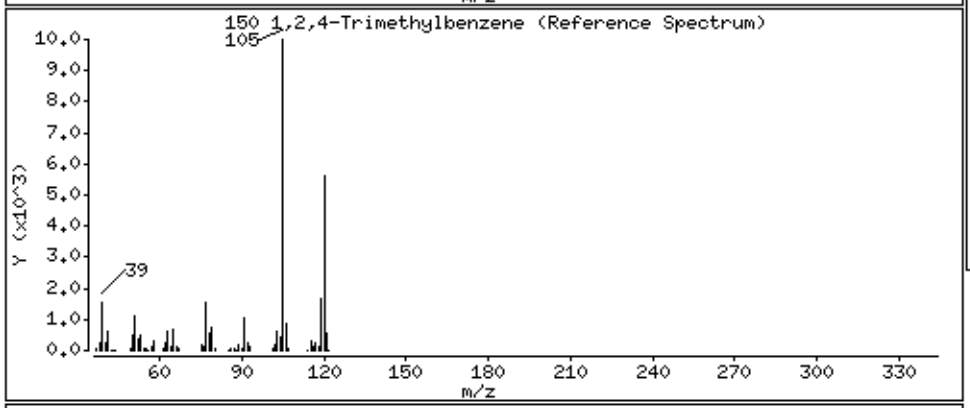
Column diameter: 0.53

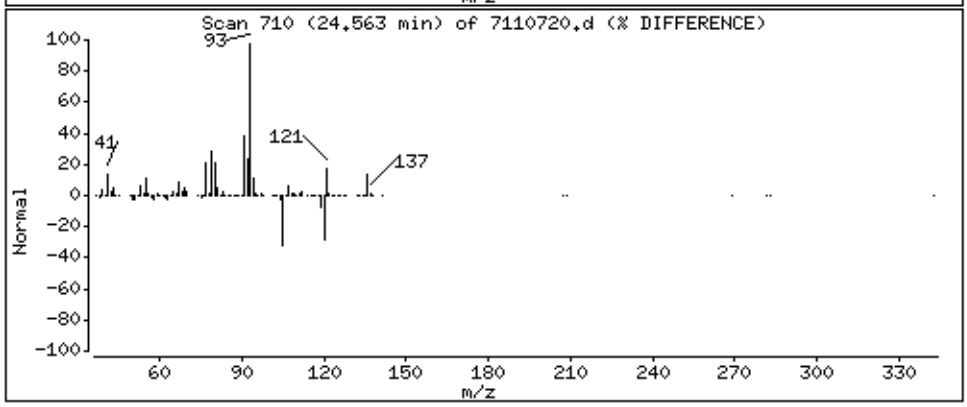
150 1,2,4-Trimethylbenzene

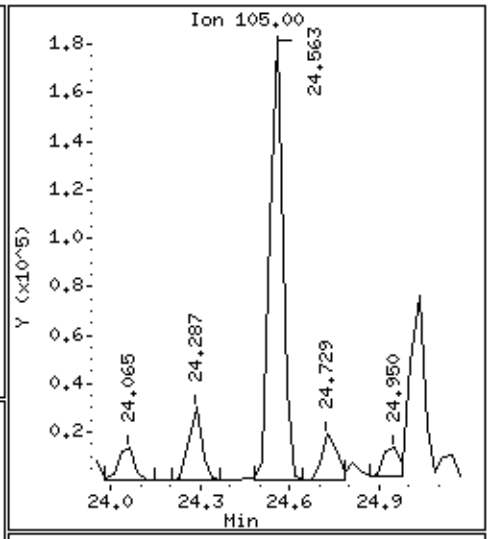
Concentration: 10.839 PPBV

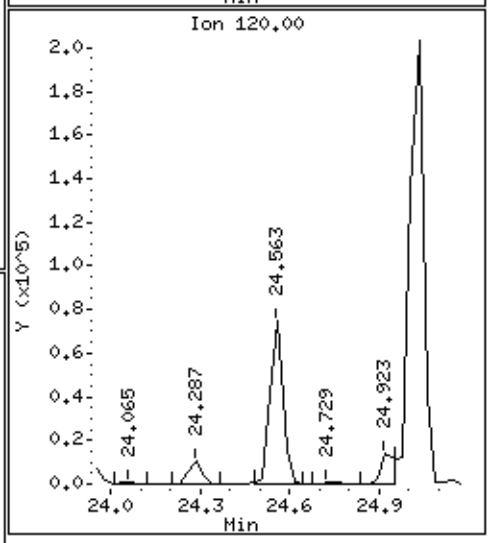












Data File: /chem/msd7.i/7-07nov.b/7110720.d

Date : 08-NOV-2007 00:50

Client ID:

Instrument: msd7.i

Sample Info: 200mL #34749

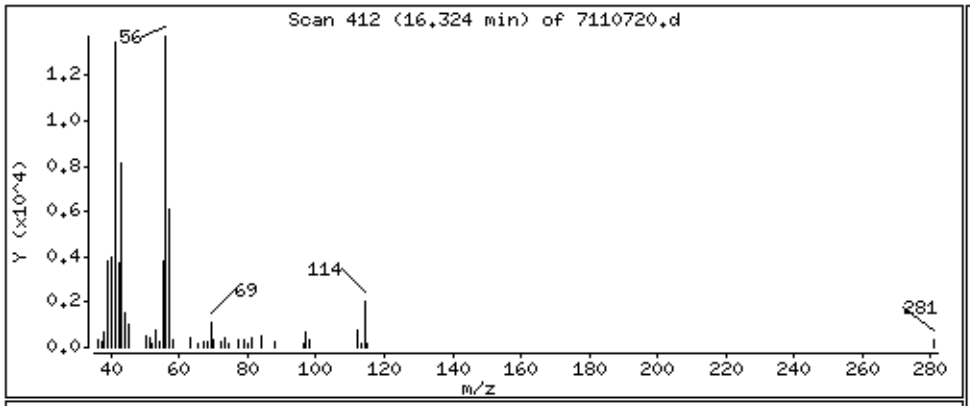
Operator: ab

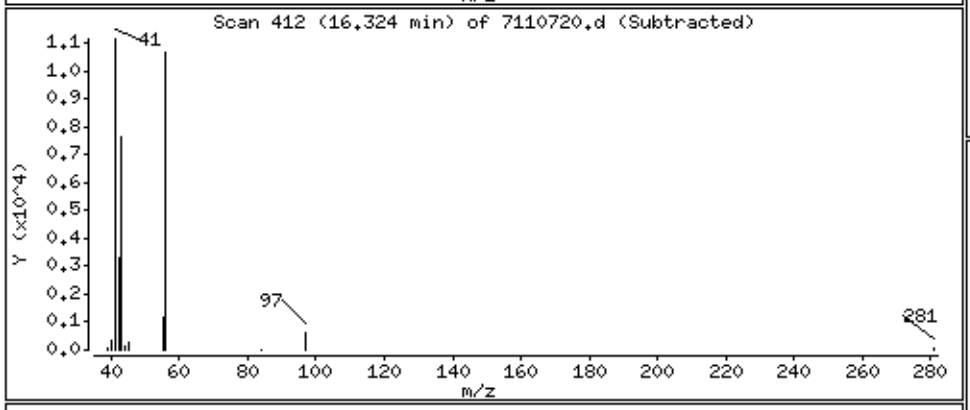
Column phase: RTx-624

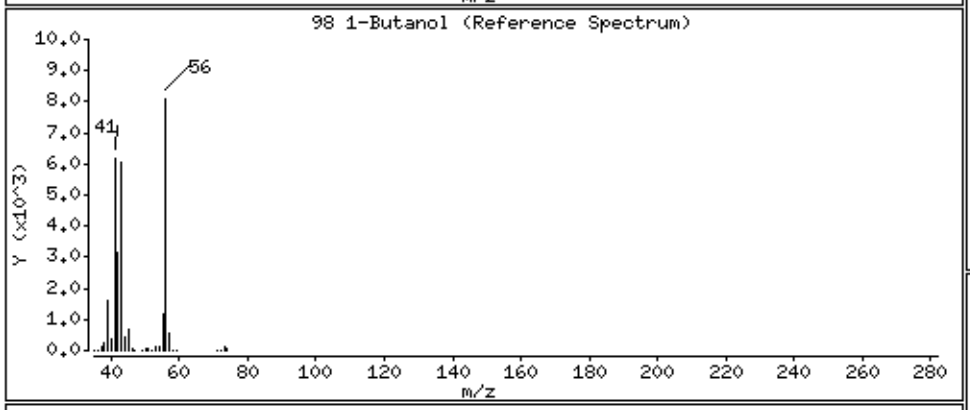
Column diameter: 0.53

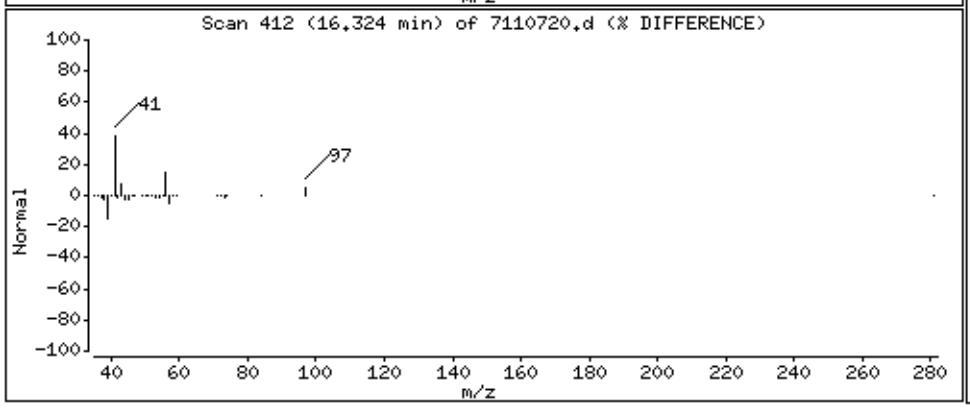
98 1-Butanol

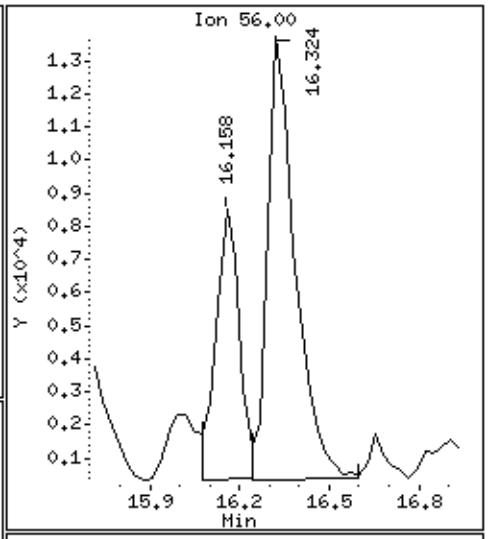
Concentration: 7.037 PPBV

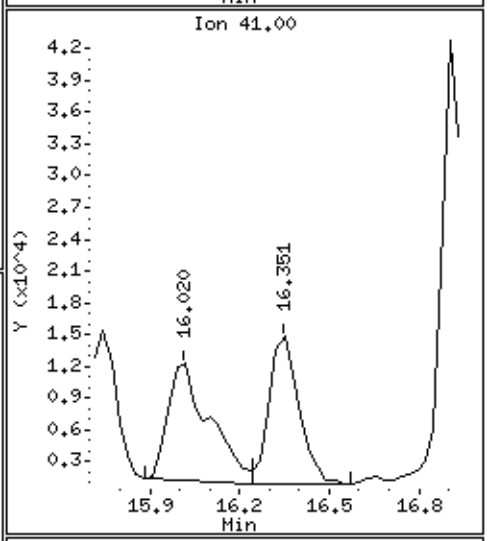


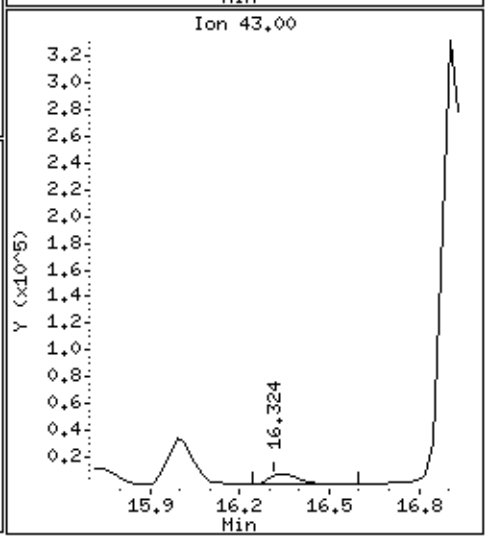












AN ENVIRONMENTAL ANALYTICAL LABORATORY

Summary of Detected Compounds
MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

Client Sample ID: MD21-07-6802

Lab ID#: 0711101-03A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Freon 12	0.84	1.8	4.2	9.2
Freon 113	0.84	7.1	6.4	55
1,1-Dichloroethene	0.84	6.7	3.3	27
Acetone	3.4	62	8.0	150
Carbon Disulfide	0.84	1.6	2.6	5.1
Methylene Chloride	0.84	110	2.9	380
2-Butanone (Methyl Ethyl Ketone)	0.84	2.8	2.5	8.4
cis-1,2-Dichloroethene	0.84	1.3	3.3	5.0
Tetrahydrofuran	0.84	0.91	2.5	2.7
Chloroform	0.84	140	4.1	680
1,1,1-Trichloroethane	0.84	4.7	4.6	26
Carbon Tetrachloride	0.84	99	5.3	620
Benzene	0.84	1.0	2.7	3.2
1,2-Dichloroethane	0.84	1.3	3.4	5.2
Trichloroethene	0.84	200	4.5	1100
Bromodichloromethane	0.84	1.4	5.6	9.2
Toluene	0.84	1.6	3.2	6.0
1,1,2-Trichloroethane	0.84	5.0	4.6	27
Tetrachloroethene	0.84	29	5.7	200
1,2,4-Trimethylbenzene	0.84	0.90	4.1	4.4

AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: MD21-07-6802

Lab ID#: 0711101-03A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**7110717**	**Date of Collection:**	**11/3/07**
Dil. Factor:	**1.68**	**Date of Analysis:**	**11/7/07 10:25 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Freon 12	0.84	1.8	4.2	9.2
Freon 114	0.84	Not Detected	5.9	Not Detected
Chloromethane	3.4	Not Detected	6.9	Not Detected
Vinyl Chloride	0.84	Not Detected	2.1	Not Detected
1,3-Butadiene	0.84	Not Detected	1.8	Not Detected
Bromomethane	0.84	Not Detected	3.3	Not Detected
Chloroethane	0.84	Not Detected	2.2	Not Detected
Freon 11	0.84	Not Detected	4.7	Not Detected
Ethanol	3.4	Not Detected	6.3	Not Detected
Freon 113	0.84	7.1	6.4	55
1,1-Dichloroethene	0.84	6.7	3.3	27
Acetone	3.4	62	8.0	150
2-Propanol	3.4	Not Detected	8.2	Not Detected
Carbon Disulfide	0.84	1.6	2.6	5.1
Methylene Chloride	0.84	110	2.9	380
Methyl tert-butyl ether	0.84	Not Detected	3.0	Not Detected
trans-1,2-Dichloroethene	0.84	Not Detected	3.3	Not Detected
Hexane	0.84	Not Detected	3.0	Not Detected
1,1-Dichloroethane	0.84	Not Detected	3.4	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.84	2.8	2.5	8.4
cis-1,2-Dichloroethene	0.84	1.3	3.3	5.0
Tetrahydrofuran	0.84	0.91	2.5	2.7
Chloroform	0.84	140	4.1	680
1,1,1-Trichloroethane	0.84	4.7	4.6	26
Cyclohexane	0.84	Not Detected	2.9	Not Detected
Carbon Tetrachloride	0.84	99	5.3	620
Benzene	0.84	1.0	2.7	3.2
1,2-Dichloroethane	0.84	1.3	3.4	5.2
Heptane	0.84	Not Detected	3.4	Not Detected
Trichloroethene	0.84	200	4.5	1100
1,2-Dichloropropane	0.84	Not Detected	3.9	Not Detected
1,4-Dioxane	3.4	Not Detected	12	Not Detected
Bromodichloromethane	0.84	1.4	5.6	9.2
cis-1,3-Dichloropropene	0.84	Not Detected	3.8	Not Detected
4-Methyl-2-pentanone	0.84	Not Detected	3.4	Not Detected
Toluene	0.84	1.6	3.2	6.0
trans-1,3-Dichloropropene	0.84	Not Detected	3.8	Not Detected
1,1,2-Trichloroethane	0.84	5.0	4.6	27
Tetrachloroethene	0.84	29	5.7	200

AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: MD21-07-6802

Lab ID#: 0711101-03A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**7110717**	**Date of Collection:**	**11/3/07**
Dil. Factor:	**1.68**	**Date of Analysis:**	**11/7/07 10:25 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
2-Hexanone	3.4	Not Detected	14	Not Detected
Dibromochloromethane	0.84	Not Detected	7.2	Not Detected
1,2-Dibromoethane (EDB)	0.84	Not Detected	6.4	Not Detected
Chlorobenzene	0.84	Not Detected	3.9	Not Detected
Ethyl Benzene	0.84	Not Detected	3.6	Not Detected
m,p-Xylene	0.84	Not Detected	3.6	Not Detected
o-Xylene	0.84	Not Detected	3.6	Not Detected
Styrene	0.84	Not Detected	3.6	Not Detected
Bromoform	0.84	Not Detected	8.7	Not Detected
1,1,2,2-Tetrachloroethane	0.84	Not Detected	5.8	Not Detected
4-Ethyltoluene	0.84	Not Detected	4.1	Not Detected
1,3,5-Trimethylbenzene	0.84	Not Detected	4.1	Not Detected
1,2,4-Trimethylbenzene	0.84	0.90	4.1	4.4
1,3-Dichlorobenzene	0.84	Not Detected	5.0	Not Detected
1,4-Dichlorobenzene	0.84	Not Detected	5.0	Not Detected
alpha-Chlorotoluene	0.84	Not Detected	4.3	Not Detected
1,2-Dichlorobenzene	0.84	Not Detected	5.0	Not Detected
1,2,4-Trichlorobenzene	3.4	Not Detected	25	Not Detected
Hexachlorobutadiene	3.4	Not Detected	36	Not Detected
Chlorodifluoromethane	3.4	Not Detected	12	Not Detected
Methanol	84	Not Detected	110	Not Detected
n-Butanol	3.4	Not Detected	10	Not Detected
Propylene	3.4	Not Detected	5.8	Not Detected

Container Type: 6 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	89	70-130
1,2-Dichloroethane-d4	97	70-130
4-Bromofluorobenzene	99	70-130

Air Toxics Ltd.

AMBIENT AIR METHOD TO14

Data file : /chem/msd7.i/7-07nov.b/7110717.d
Lab Smp Id: 0711101-03A
Inj Date : 07-NOV-2007 22:25
Operator : dm Inst ID: msd7.i
Smp Info : 200mL #35154
Misc Info : 6.0"Hg ->5psi
Comment :
Method : /chem/msd7.i/7-07nov.b/t14qO18d.m
Meth Date : 07-Nov-2007 11:47 sruth Quant Type: ISTD
Cal Date : 05-NOV-2007 14:29 Cal File: 7110507.d
Als bottle: 1
Dil Factor: 1.68000
Integrator: HP RTE Compound Sublist: Los2153.sub
Target Version: 3.50 Sample Matrix: AIR
Processing Host: eeyore

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

RT	EXP RT (REL RT)	MASS	RESPONSE	CONCENTRATIONS ON-COL (PPBV)	FINAL (PPBV)	TARGET RANGE	RATIO
* 81 Bromochloromethane						CAS #: 74-97-5	
14.416	14.416 (1.000)	130	632631	25.0000		80.00- 120.00	100.00
14.416	14.416 (1.000)	128	489353			28.66- 128.66	77.35
14.416	14.416 (1.000)	49	1360622			133.49- 233.49	215.07
* 97 1,4-Difluorobenzene						CAS #: 540-36-3	
16.186	16.158 (1.000)	114	2127784	25.0000		80.00- 120.00	100.00
16.186	16.158 (1.000)	88	324755			0.00- 65.23	15.26
* 126 Chlorobenzene-d5						CAS #: 3114-55-4	
21.356	21.356 (1.000)	117	1408613	25.0000		80.00- 120.00	100.00
21.356	21.356 (1.000)	82	770153			4.70- 104.70	54.67
$ 90 1,2-Dichloroethane-d4						CAS #: 17060-07-0	
15.494	15.494 (1.075)	65	826556	24.3205	24.320	80.00- 120.00	100.00
15.494	15.494 (1.075)	67	413924			2.91- 102.91	50.08
$ 113 Toluene-d8						CAS #: 2037-26-5	
18.757	18.757 (1.159)	98	1689827	22.3720	22.372	80.00- 120.00	100.00
18.757	18.757 (1.159)	70	191618			0.00- 61.46	11.34

RT	EXP RT (REL RT)	MASS	RESPONSE	CONCENTRATIONS ON-COL (PPBV)	FINAL (PPBV)	TARGET RANGE	RATIO
$ 113 Toluene-d8 (continued)							
18.757	18.757 (1.159)	100	1156373			19.18- 119.18	68.43
$ 137 Bromofluorobenzene					CAS #: 460-00-4		
23.347	23.347 (1.093)	174	828914	24.7296	24.730	80.00- 120.00	100.00
23.319	23.347 (1.092)	95	1018506			73.89- 173.89	122.87
23.347	23.347 (1.093)	176	799273			48.20- 148.20	96.42
12 Dichlorodifluoromethane/Fr12					CAS #: 75-71-8		
5.758	5.758 (0.399)	85	110376	1.10406	1.855	80.00- 120.00	100.00
5.786	5.758 (0.401)	87	36171			0.00- 83.07	32.77
42 Freon 113					CAS #: 76-13-1		
10.213	10.186 (0.708)	151	220249	4.24597	7.133	80.00- 120.00	100.00
10.213	10.186 (0.708)	153	140922			13.12- 113.12	63.98
10.213	10.186 (0.708)	101	261507			67.28- 167.28	118.73
43 1,1-Dichloroethene					CAS #: 75-35-4		
10.324	10.324 (0.716)	61	220517	3.99509	6.712	80.00- 120.00	100.00
10.352	10.324 (0.718)	96	134132			9.78- 109.78	60.83
10.352	10.324 (0.718)	98	83741			0.00- 88.25	37.97
45 Acetone					CAS #: 67-64-1		
10.490	10.490 (0.728)	58	633714	37.1438	62.402	80.00- 120.00	100.00
10.490	10.490 (0.728)	43	2102733			247.10- 347.10	331.81
47 Carbon Disulfide					CAS #: 75-15-0		
10.905	10.877 (0.756)	76	102587	0.97413	1.636	80.00- 120.00	100.00
54 Methylene Chloride					CAS #: 75-09-2		
11.485	11.457 (0.797)	49	2622528	64.6241	108.57	80.00- 120.00	100.00
11.485	11.457 (0.797)	84	1832930			19.98- 119.98	69.89
11.485	11.457 (0.797)	51	794825			0.00- 80.85	30.31
75 2-Butanone					CAS #: 78-93-3		
13.891	13.891 (0.964)	72	23296	1.70021	2.856	80.00- 120.00	100.00
13.891	13.891 (0.964)	43	110491			412.48- 512.48	474.29
13.891	13.891 (0.964)	57	8226			0.00- 86.57	35.31
76 cis-1,2-Dichloroethene					CAS #: 156-59-2		
13.918	13.918 (0.965)	61	33791	0.75309	1.265	80.00- 120.00	100.00
13.946	13.918 (0.967)	96	21590			26.41- 126.41	63.89
13.946	13.918 (0.967)	98	14465			0.00- 98.54	42.81
80 Tetrahydrofuran					CAS #: 109-99-9		
14.416	14.388 (1.000)	42	19282	0.53974	0.9068	80.00- 120.00	100.00

RT	EXP RT (REL RT)	MASS	RESPONSE	CONCENTRATIONS ON-COL (PPBV)	FINAL (PPBV)	TARGET RANGE	RATIO
80 Tetrahydrofuran (continued)							
14.416	14.388 (1.000)	71	5975			0.00- 86.36	30.99
14.471	14.388 (1.004)	72	28280			0.00- 87.82	146.67
82 Chloroform					CAS #: 67-66-3		
14.471	14.471 (1.004)	83	5295248	83.1325	139.66	80.00- 120.00	100.00
14.471	14.471 (1.004)	85	3411302			15.69- 115.69	64.42
83 1,1,1-Trichloroethane					CAS #: 71-55-6		
14.831	14.831 (1.029)	97	180649	2.81633	4.731	80.00- 120.00	100.00
14.831	14.831 (1.029)	99	117825			14.03- 114.03	65.22
87 Carbon Tetrachloride					CAS #: 56-23-5		
15.107	15.107 (1.048)	119	3556811	59.1546	99.380	80.00- 120.00	100.00
15.107	15.107 (1.048)	117	3659272			53.14- 153.14	102.88
91 Benzene					CAS #: 71-43-2		
15.522	15.522 (0.959)	78	50120	0.59283	0.9960	80.00- 120.00	100.00
15.522	15.522 (0.959)	77	12547			0.00- 71.87	25.03
93 1,2-Dichloroethane					CAS #: 107-06-2		
15.633	15.633 (0.966)	62	34511	0.76829	1.291	80.00- 120.00	100.00
15.633	15.633 (0.966)	64	11820			0.00- 82.89	34.25
101 Trichloroethene					CAS #: 79-01-6		
16.656	16.628 (1.029)	95	4565173	121.561	204.22	80.00- 120.00	100.00
16.656	16.628 (1.029)	130	4579832			51.11- 151.11	100.32
16.656	16.628 (1.029)	97	2957247			15.04- 115.04	64.78
107 Bromodichloromethane					CAS #: 75-27-4		
17.568	17.540 (1.085)	83	53091	0.81428	1.368	80.00- 120.00	100.00
17.568	17.540 (1.085)	85	35714			14.03- 114.03	67.27
114 Toluene					CAS #: 108-88-3		
18.895	18.895 (1.167)	91	88609	0.95690	1.608	80.00- 120.00	100.00
18.895	18.895 (1.167)	92	54802			12.90- 112.90	61.85
117 1,1,2-Trichloroethane					CAS #: 79-00-5		
19.669	19.669 (0.921)	97	86414	2.96181	4.976	80.00- 120.00	100.00
19.669	19.669 (0.921)	99	53914			12.40- 112.40	62.39
19.669	19.669 (0.921)	83	69756			32.55- 132.55	80.72
120 Tetrachloroethene					CAS #: 127-18-4		
19.835	19.835 (0.929)	166	650276	17.1847	28.870	80.00- 120.00	100.00
19.835	19.835 (0.929)	129	461163			21.07- 121.07	70.92
19.835	19.835 (0.929)	131	447364			18.33- 118.33	68.80

RT	EXP RT	(REL RT)	MASS	RESPONSE	CONCENTRATIONS ON-COL (PPBV)	FINAL (PPBV)	TARGET RANGE	RATIO
150 1,2,4-Trimethylbenzene						CAS #: 95-63-6		
24.563	24.563	(1.150)	105	40563	0.53847	0.9046	80.00- 120.00	100.00
24.563	24.563	(1.150)	120	15126			0.00- 98.95	37.29

Air Toxics Ltd.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd7.i
Lab File ID: 7110717.d
Lab Smp Id: 0711101-03A
Analysis Type: VOA
Quant Type: ISTD
Operator: dm
Method File: /chem/msd7.i/7-07nov.b/t14qO18d.m
Misc Info: 6.0"Hg ->5psi

Calibration Date: 07-NOV-2007
Calibration Time: 08:52

Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
81 Bromochloromethan	695461	417277	973645	632631	-9.03
97 1,4-Difluorobenze	2265681	1359409	3171953	2127784	-6.09
126 Chlorobenzene-d5	1765821	1059493	2472149	1408613	-20.23

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
81 Bromochloromethan	14.42	14.09	14.75	14.42	0.00
97 1,4-Difluorobenze	16.16	15.83	16.49	16.19	0.17
126 Chlorobenzene-d5	21.36	21.03	21.69	21.36	0.00

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Air Toxics Ltd.

RECOVERY REPORT

Client Name: Client SDG: 7-07nov
Sample Matrix: GAS Fraction: VOA
Lab Smp Id: 0711101-03A
Level: LOW Operator: dm
Data Type: MS DATA SampleType: SAMPLE
SpikeList File: 2926spectra.spk Quant Type: ISTD
Sublist File: Los2153.sub
Method File: /chem/msd7.i/7-07nov.b/t14qO18d.m
Misc Info: 6.0"Hg ->5psi

SURROGATE COMPOUND	CONC ADDED PPBV	CONC RECOVERED PPBV	% RECOVERED	LIMITS
$ 90 1,2-Dichloroethane	25.000	24.320	97.28	70-130
$ 113 Toluene-d8	25.000	22.372	89.49	70-130
$ 137 Bromofluorobenzene	25.000	24.730	98.92	70-130

Data File: /chem/msd7.i/7-07nov.b/7110717.d

Date : 07-NOV-2007 22:25

Client ID:

Sample Info: 200mL #35154

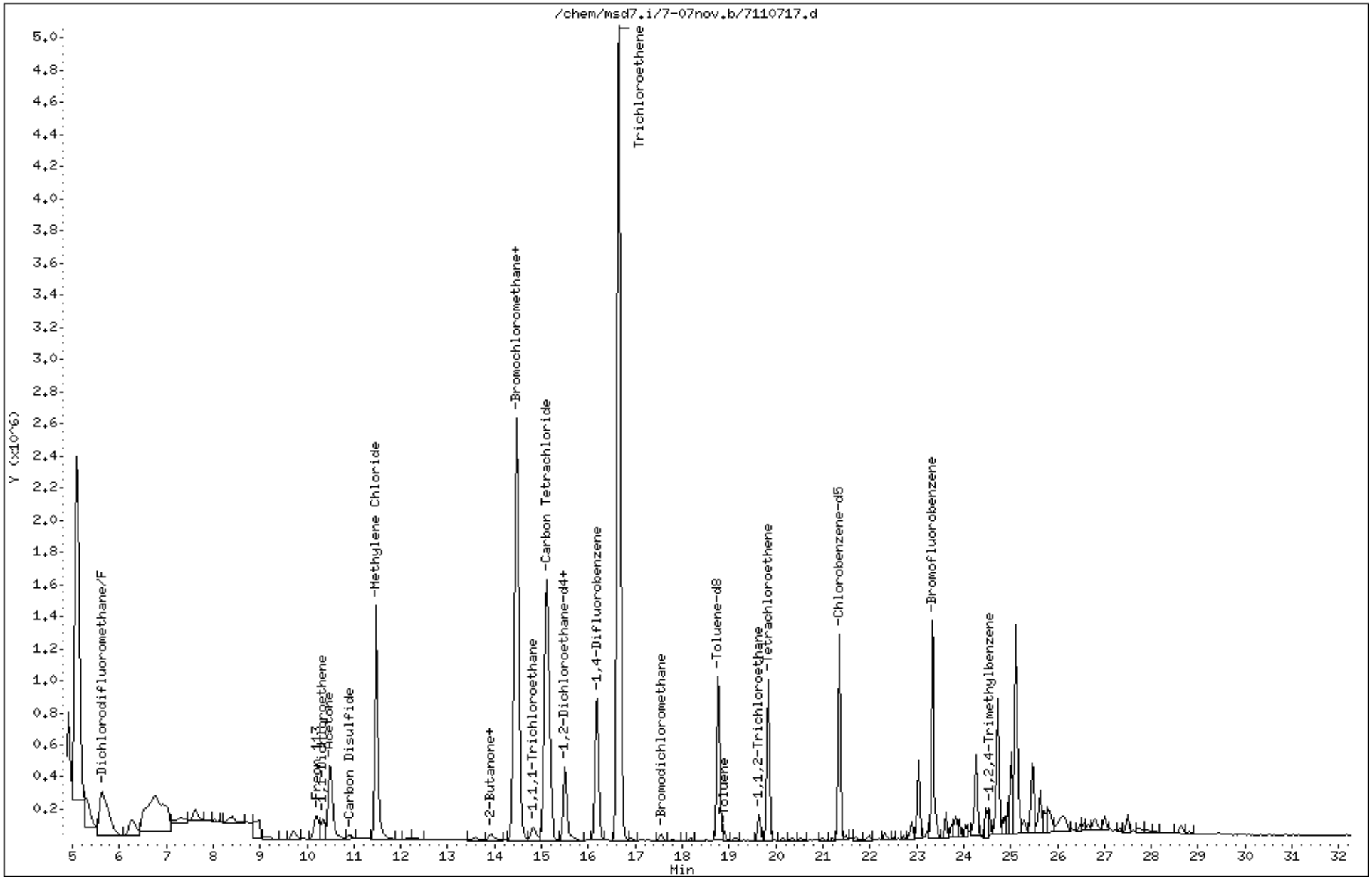
Column phase: RTx-624

Instrument: msd7.i

Operator: dm

Column diameter: 0.53

0105



Data File: /chem/msd7.i/7-07nov.b/7110717.d

Date : 07-NOV-2007 22:25

Client ID:

Instrument: msd7.i

Sample Info: 200mL #35154

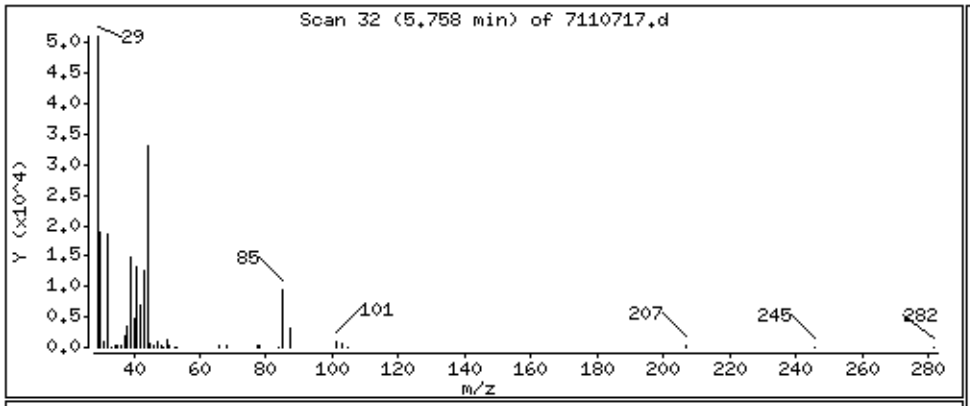
Operator: dm

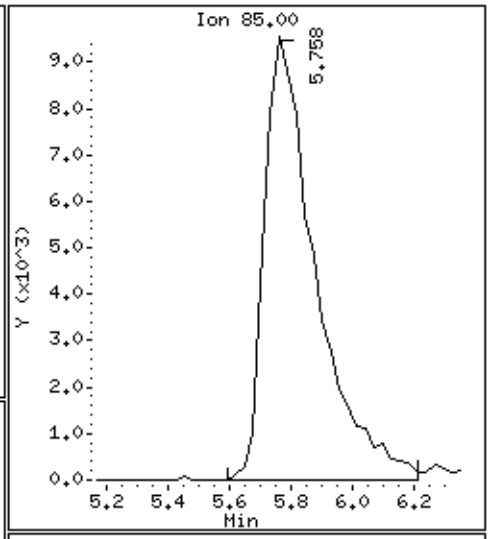
Column phase: RTx-624

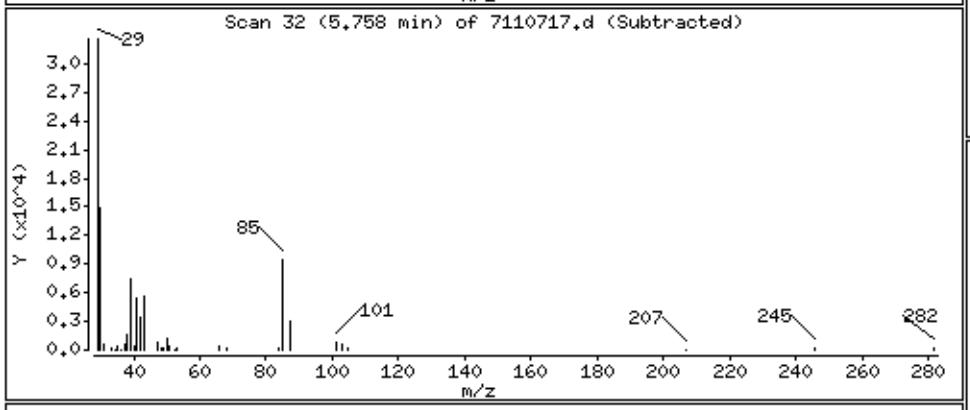
Column diameter: 0.53

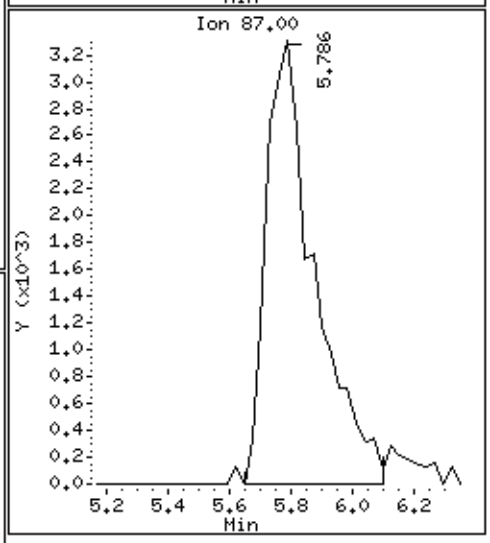
12 Dichlorodifluoromethane/Fr12

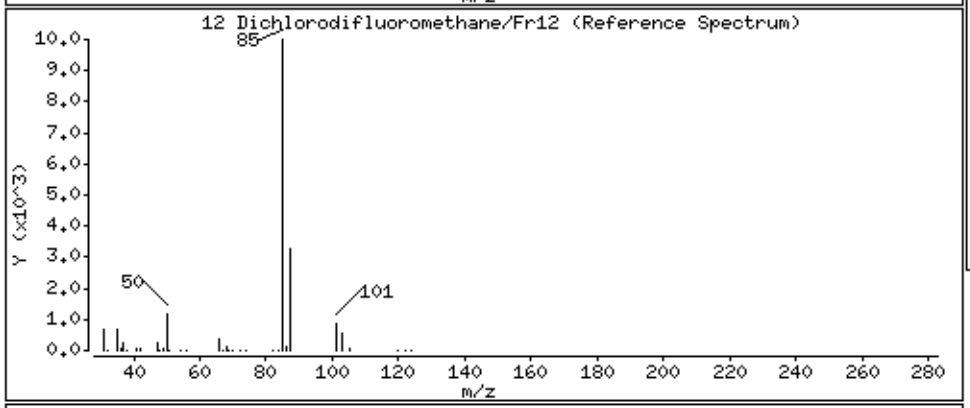
Concentration: 1.855 PPBV

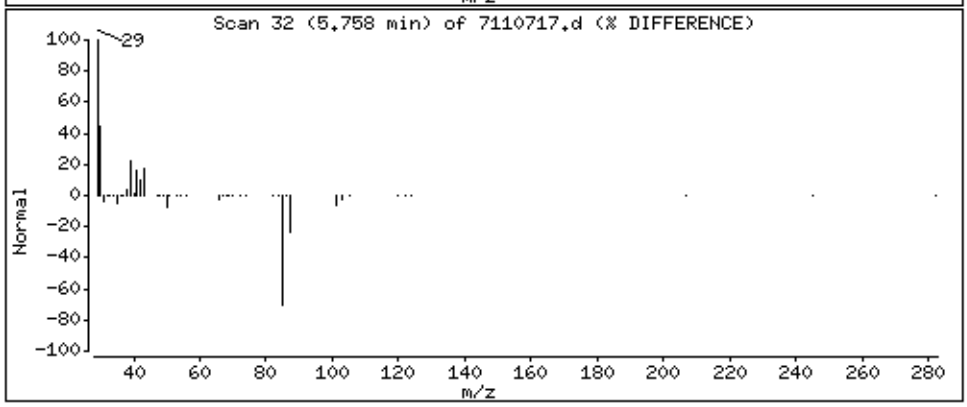












Data File: /chem/msd7.i/7-07nov.b/7110717.d

Date : 07-NOV-2007 22:25

Client ID:

Instrument: msd7.i

Sample Info: 200mL #35154

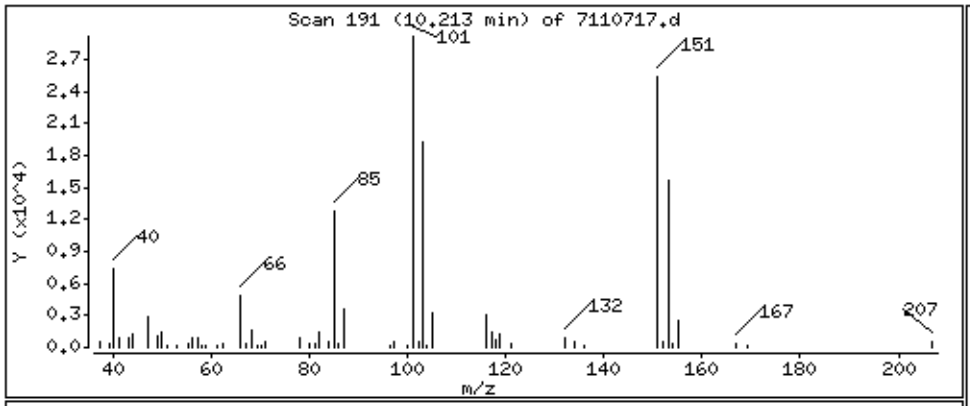
Operator: dm

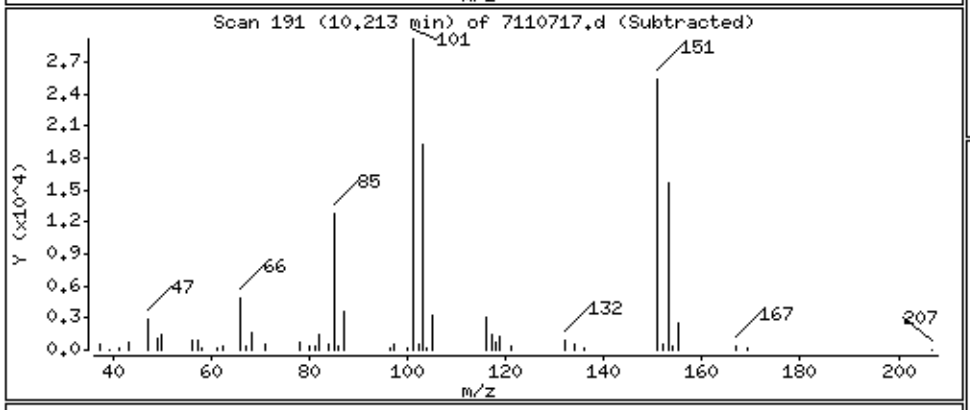
Column phase: RTx-624

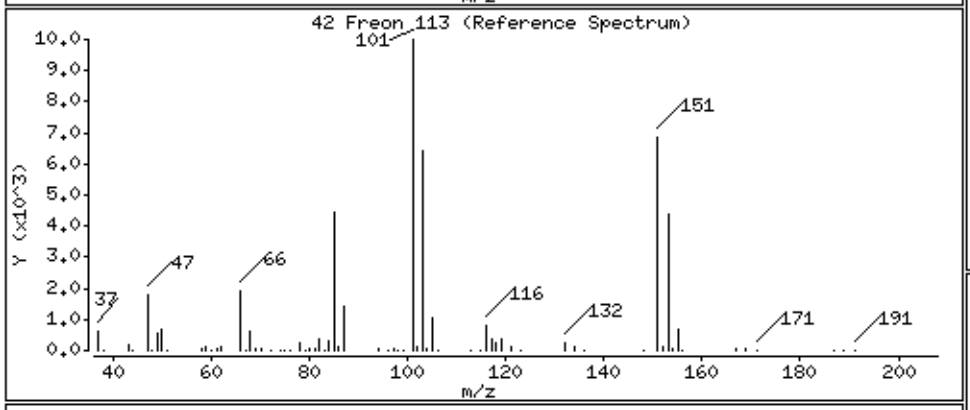
Column diameter: 0.53

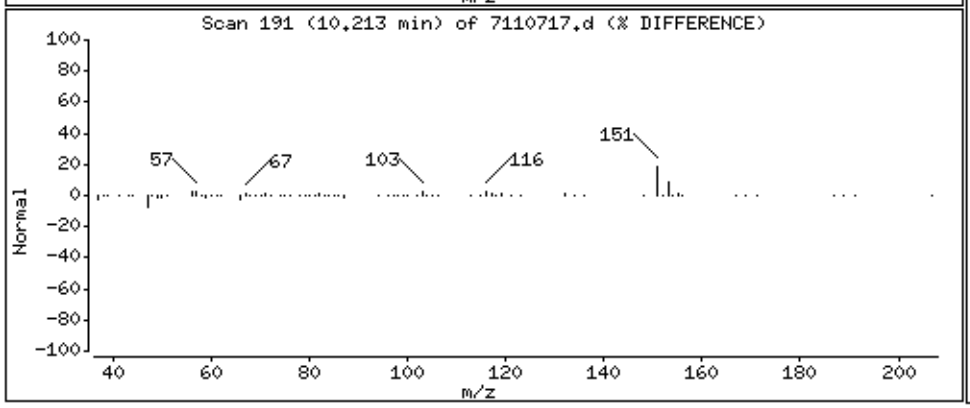
42 Freon 113

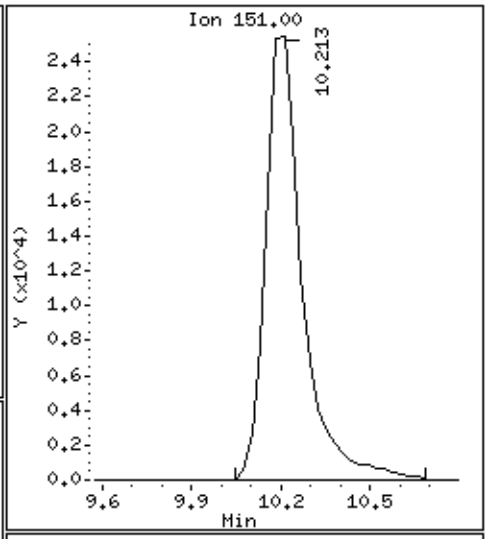
Concentration: 7.133 PPBV

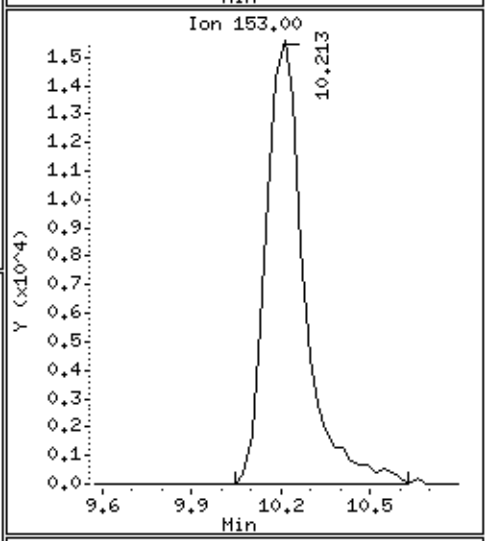


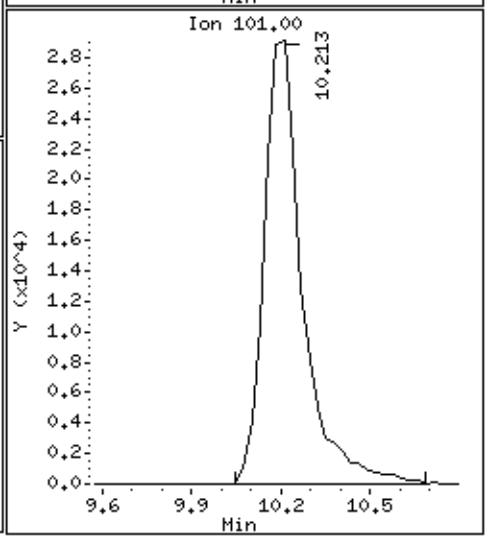












Data File: /chem/msd7.i/7-07nov.b/7110717.d

Date : 07-NOV-2007 22:25

Client ID:

Instrument: msd7.i

Sample Info: 200mL #35154

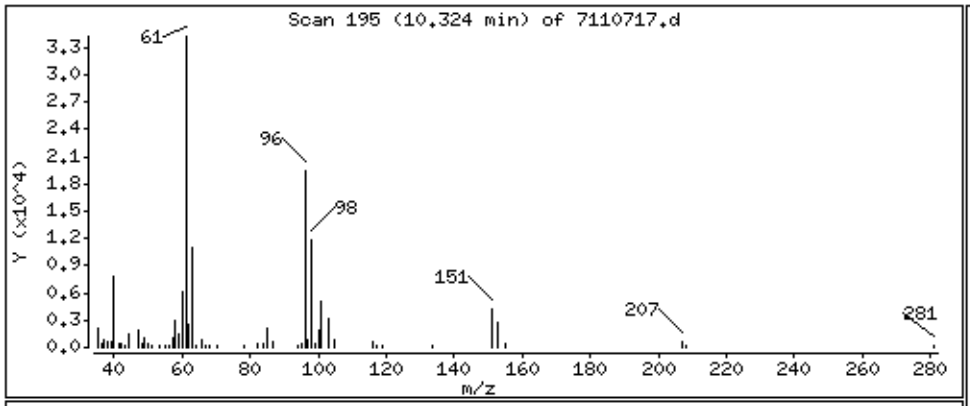
Operator: dm

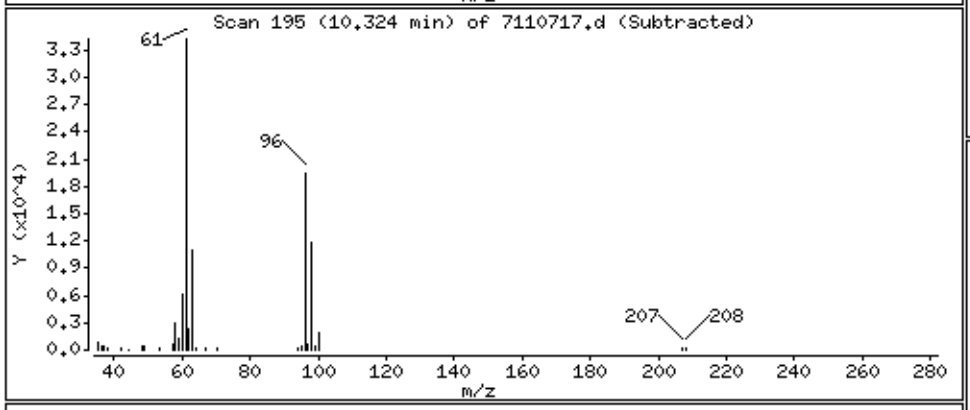
Column phase: RTx-624

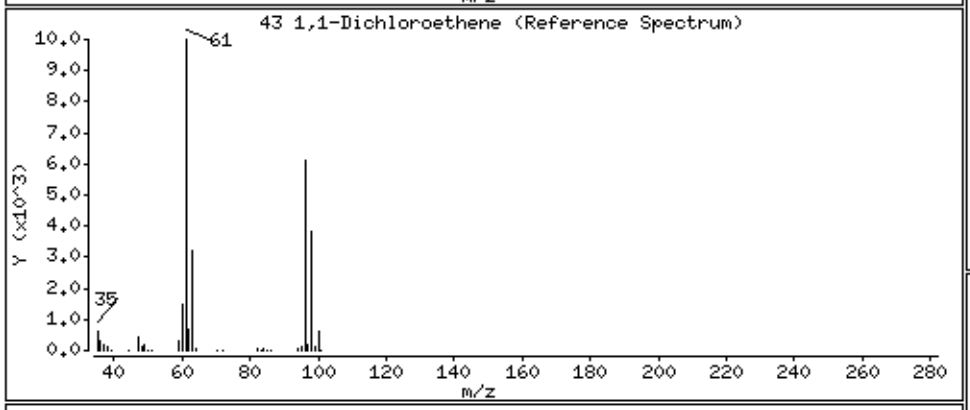
Column diameter: 0.53

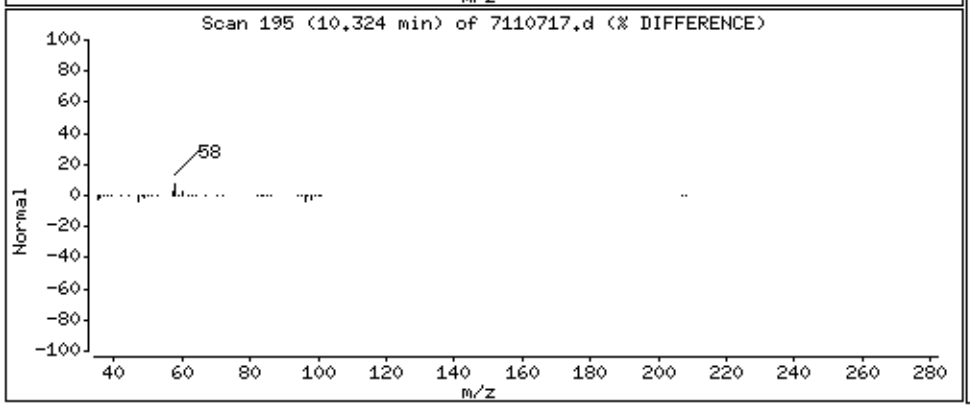
43 1,1-Dichloroethene

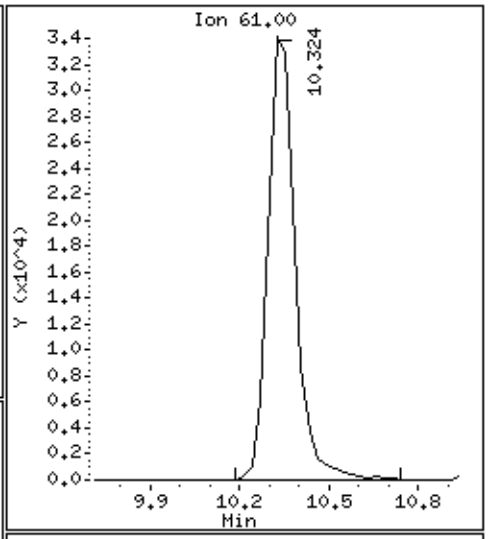
Concentration: 6.712 PPBV

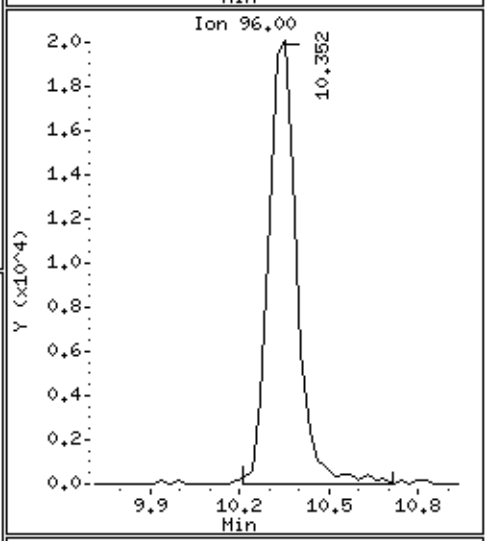


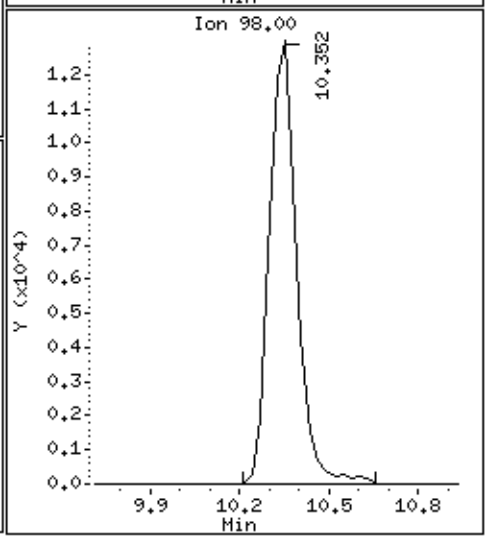












Data File: /chem/msd7.i/7-07nov.b/7110717.d

Date : 07-NOV-2007 22:25

Client ID:

Instrument: msd7.i

Sample Info: 200mL #35154

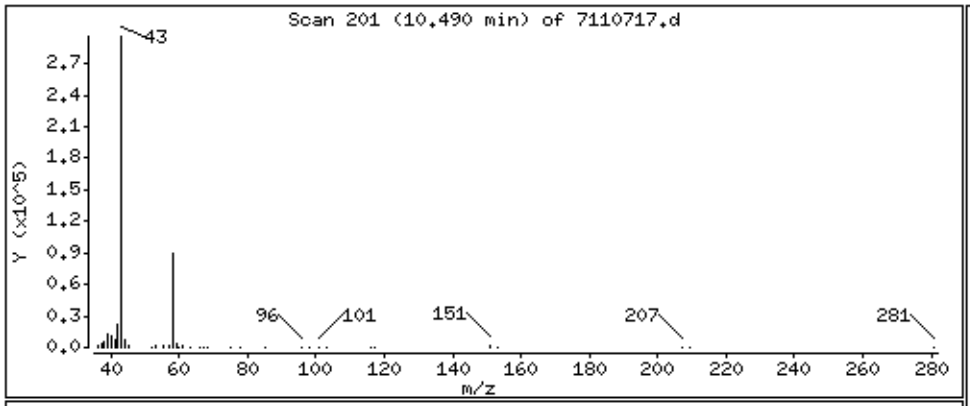
Operator: dm

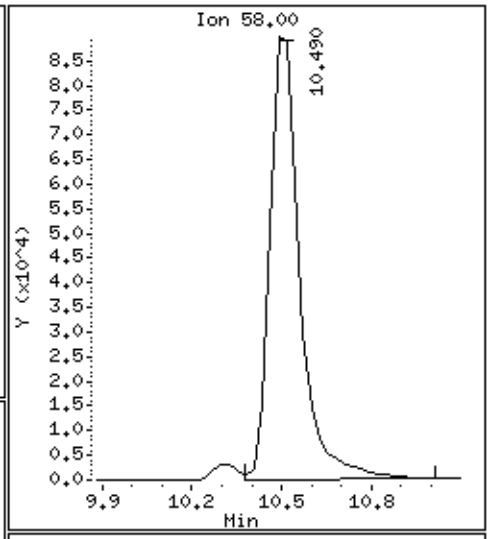
Column phase: RTx-624

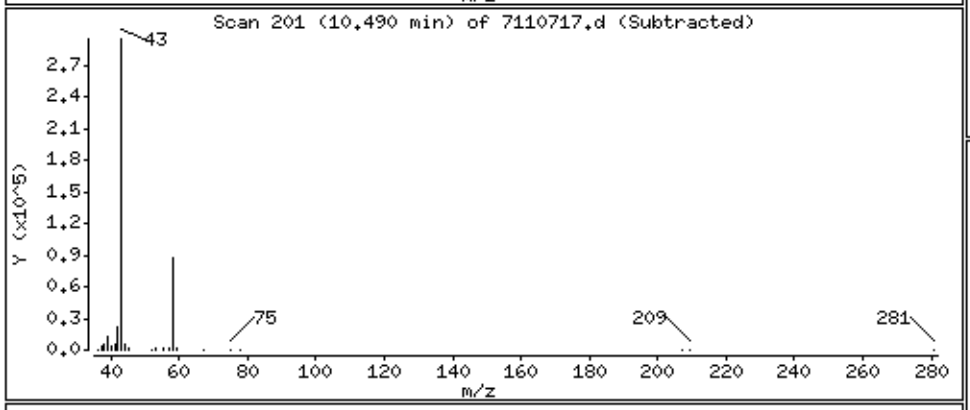
Column diameter: 0.53

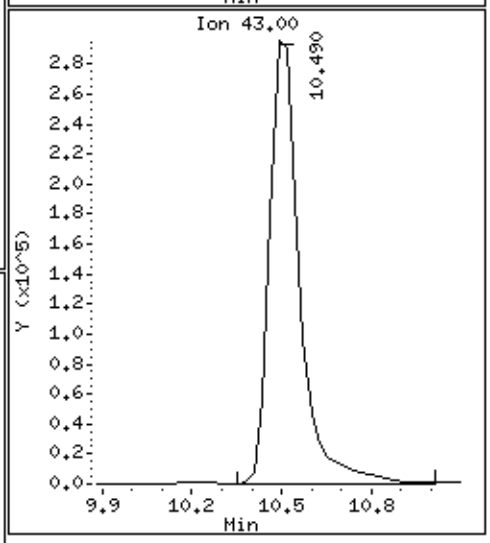
45 Acetone

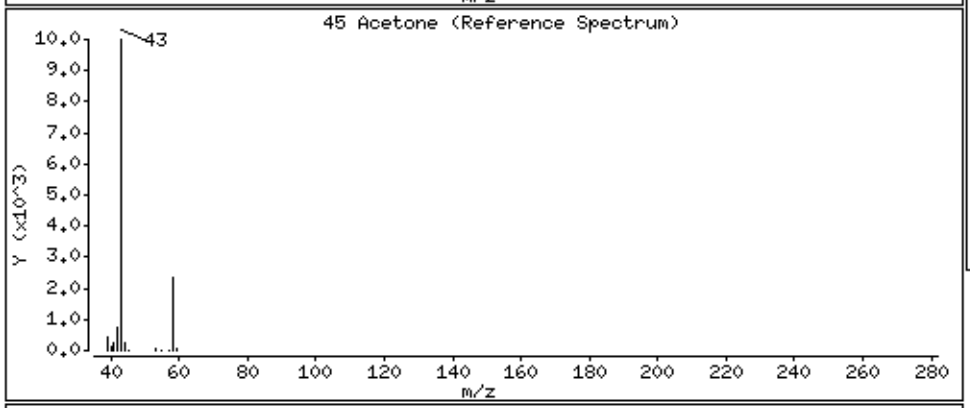
Concentration: 62.402 PPBV

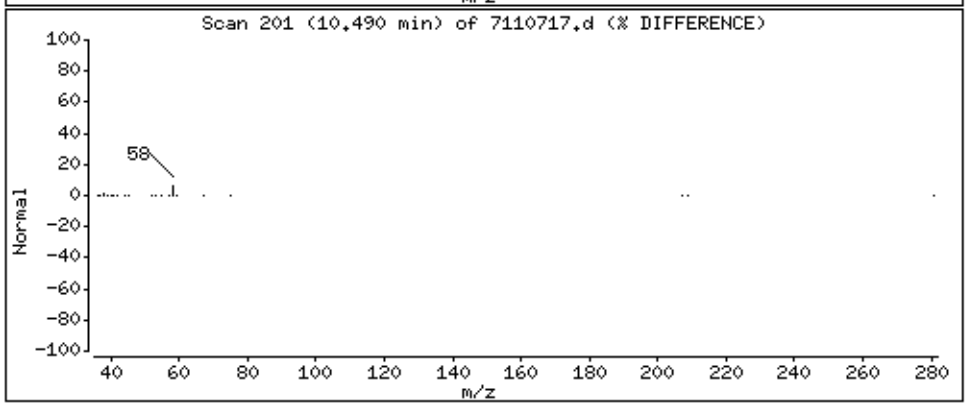












Data File: /chem/msd7.i/7-07nov.b/7110717.d

Date : 07-NOV-2007 22:25

Client ID:

Instrument: msd7.i

Sample Info: 200mL #35154

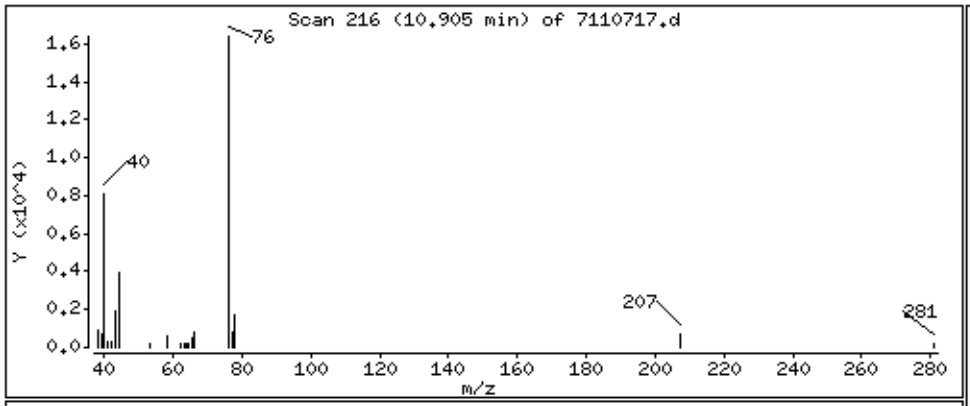
Operator: dm

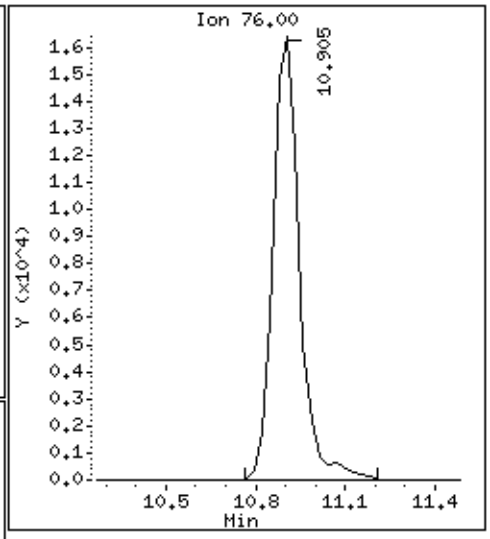
Column phase: RTx-624

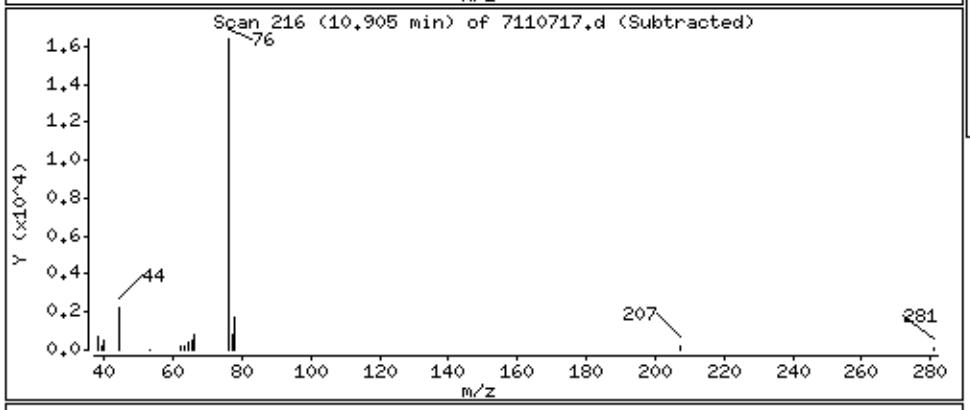
Column diameter: 0.53

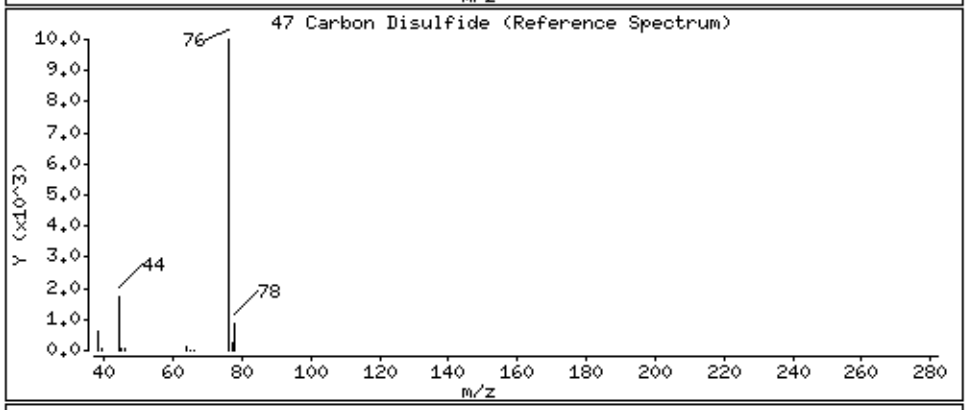
47 Carbon Disulfide

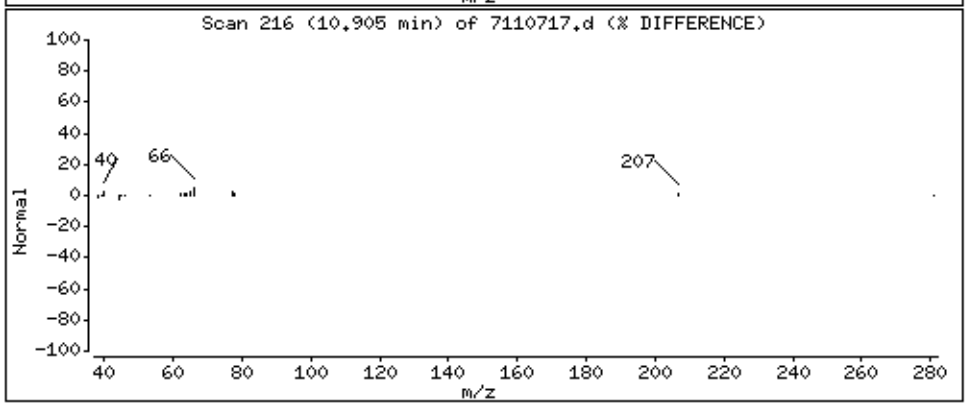
Concentration: 1.636 PPBV











Data File: /chem/msd7.i/7-07nov.b/7110717.d

Date : 07-NOV-2007 22:25

Client ID:

Instrument: msd7.i

Sample Info: 200mL #35154

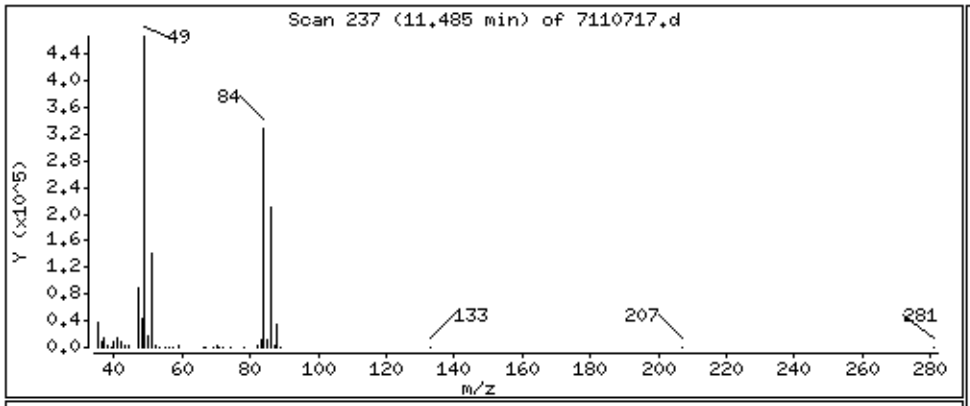
Operator: dm

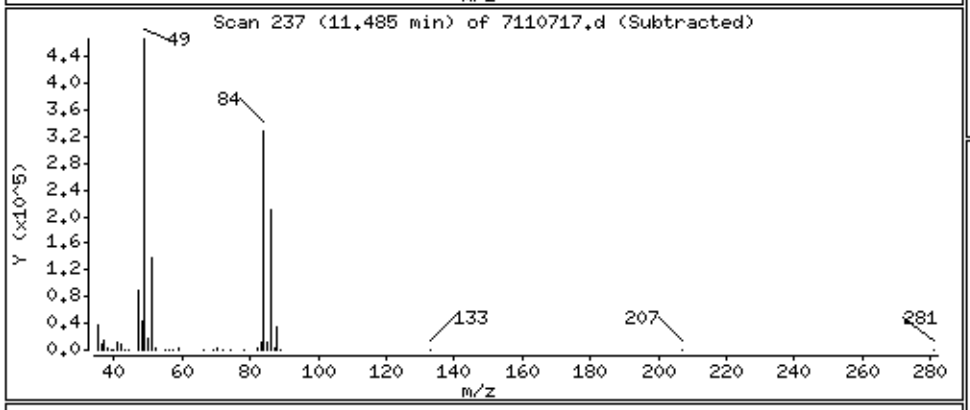
Column phase: RTx-624

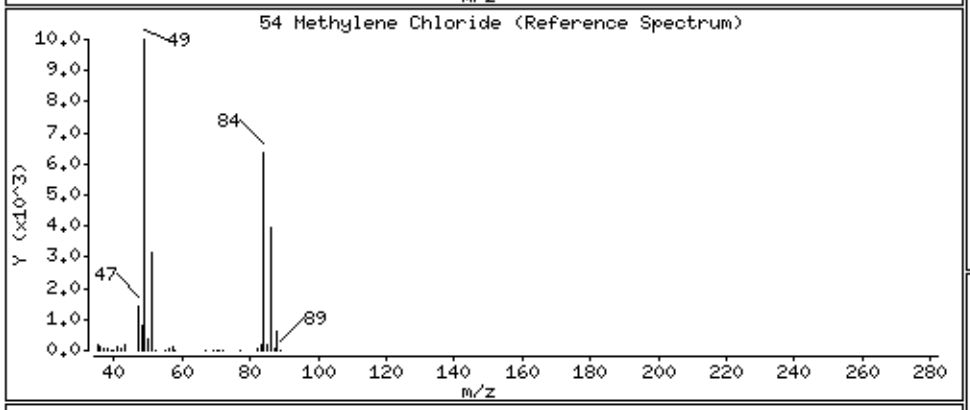
Column diameter: 0.53

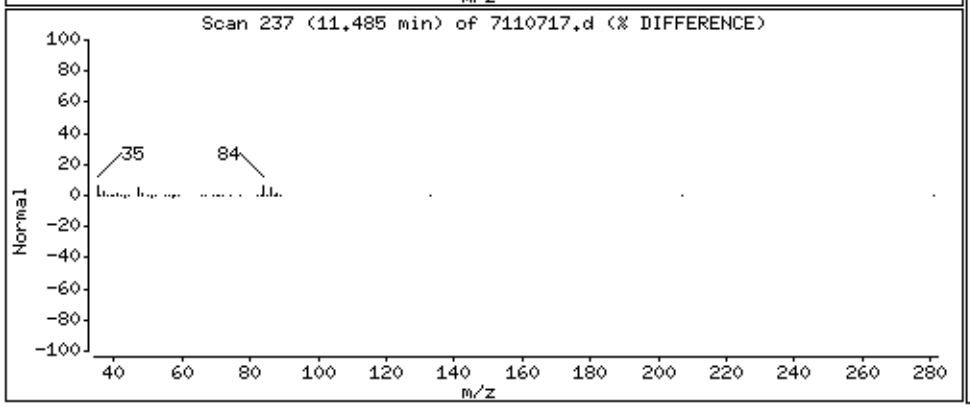
54 Methylene Chloride

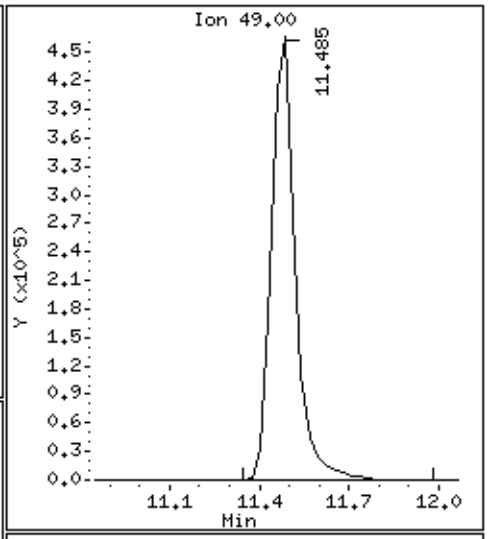
Concentration: 108.57 PPBV

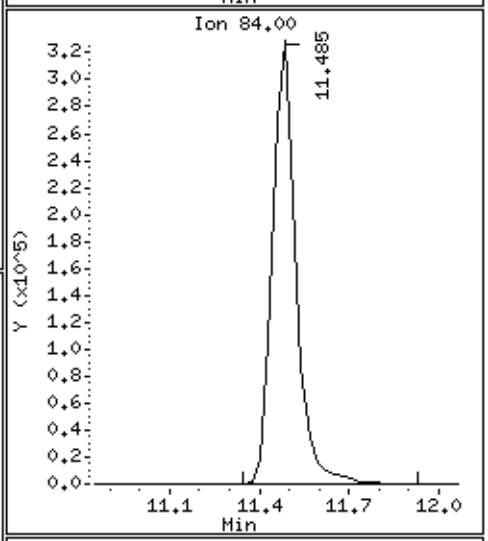


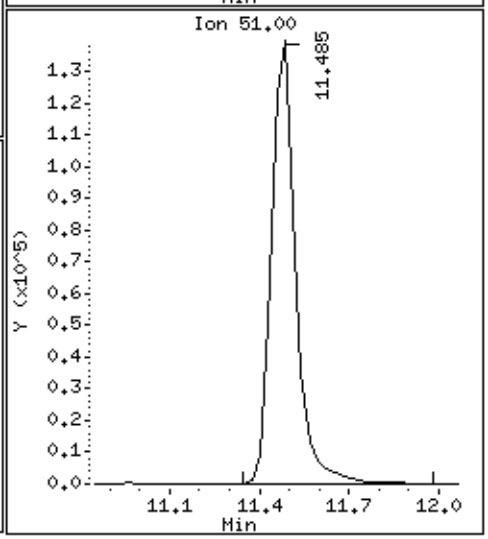












Data File: /chem/msd7.i/7-07nov.b/7110717.d

Date : 07-NOV-2007 22:25

Client ID:

Instrument: msd7.i

Sample Info: 200mL #35154

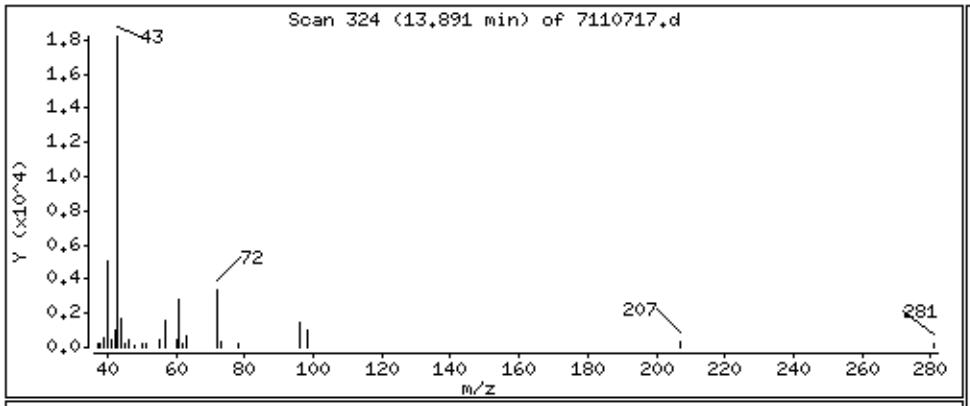
Operator: dm

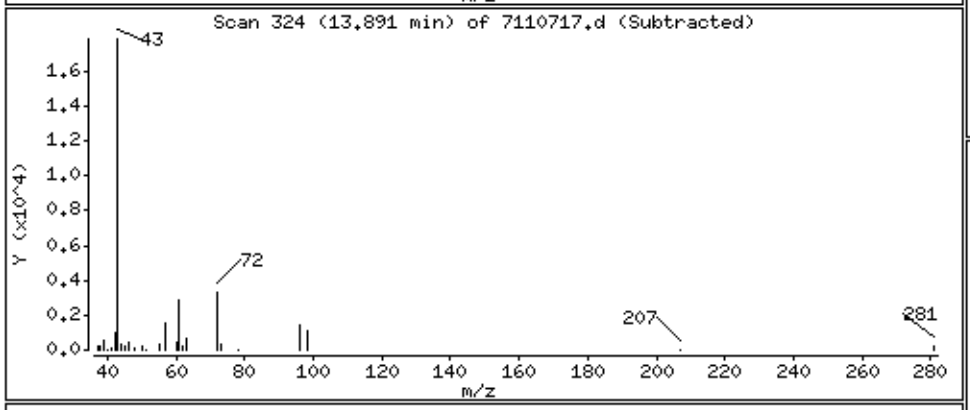
Column phase: RTx-624

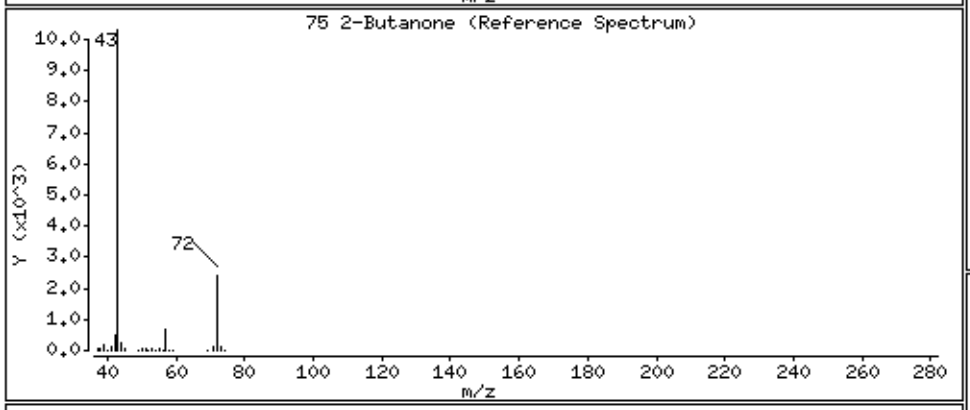
Column diameter: 0.53

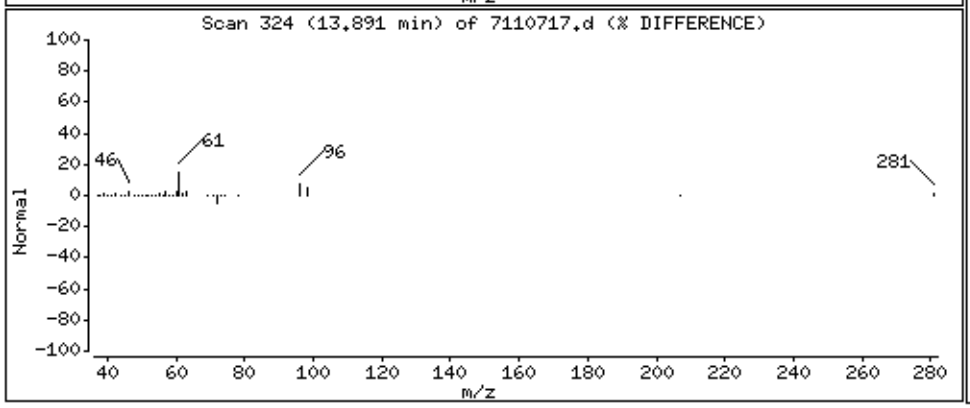
75 2-Butanone

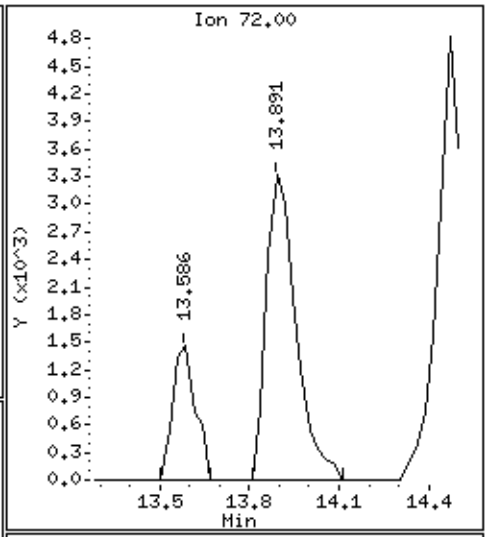
Concentration: 2.856 PPBV

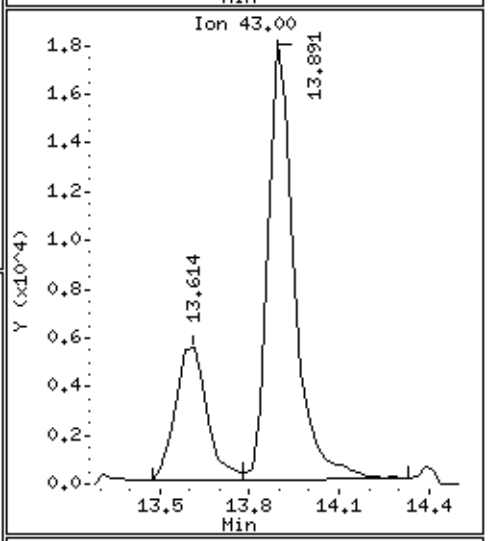


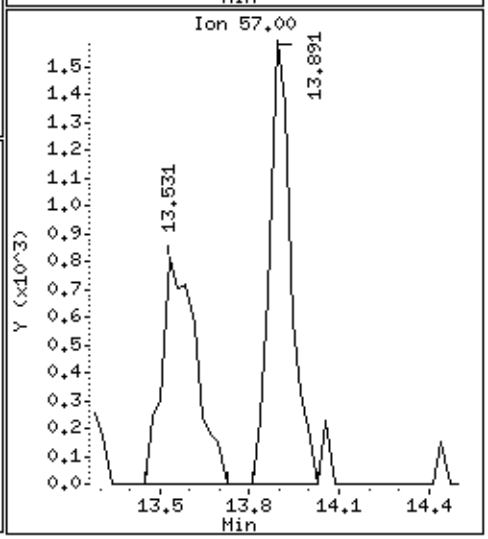












Data File: /chem/msd7.i/7-07nov.b/7110717.d

Date : 07-NOV-2007 22:25

Client ID:

Instrument: msd7.i

Sample Info: 200mL #35154

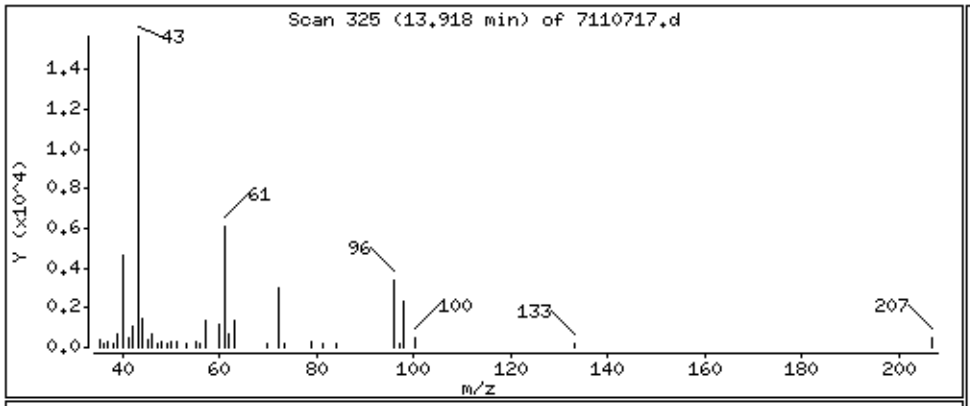
Operator: dm

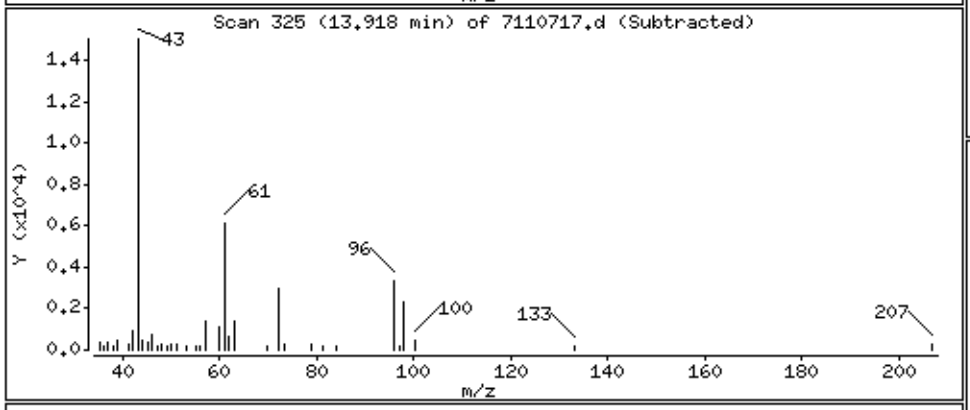
Column phase: RTx-624

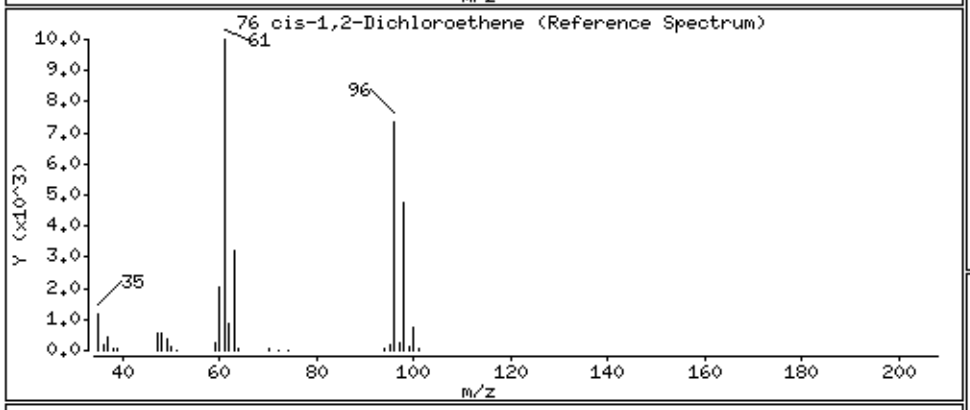
Column diameter: 0.53

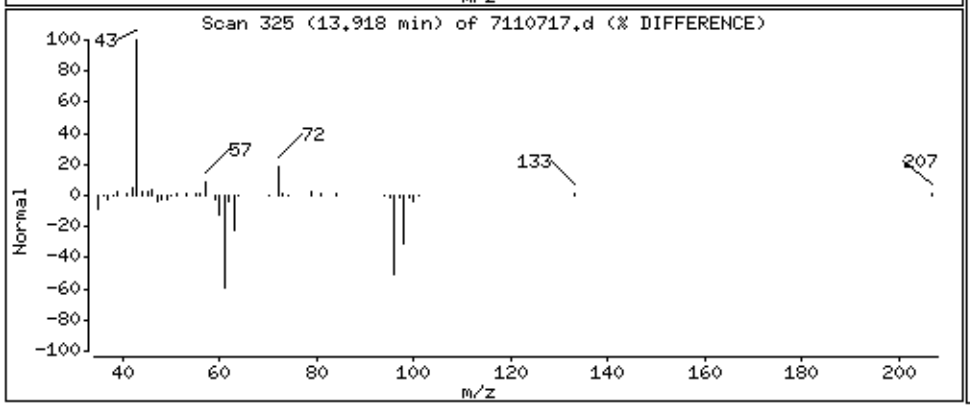
76 cis-1,2-Dichloroethene

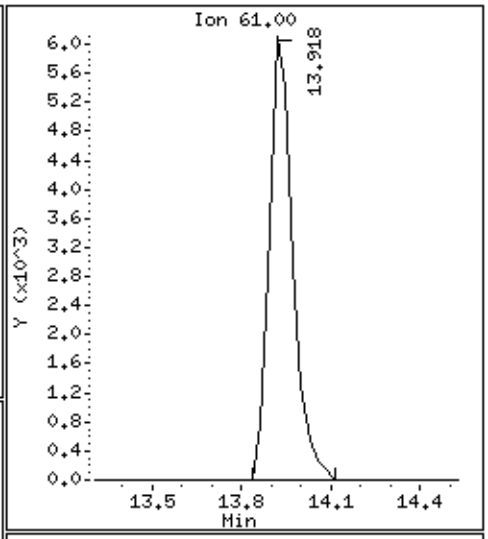
Concentration: 1.265 PPBV

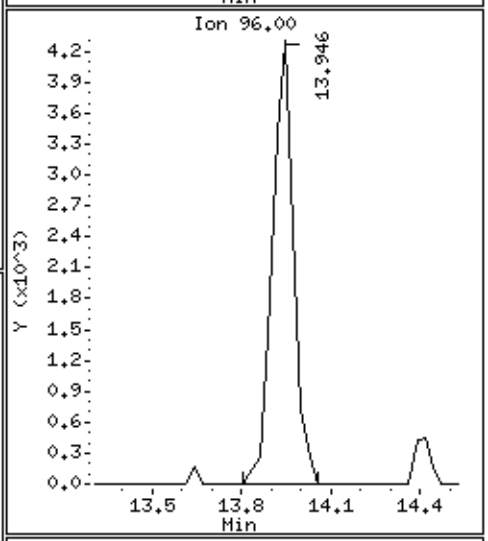


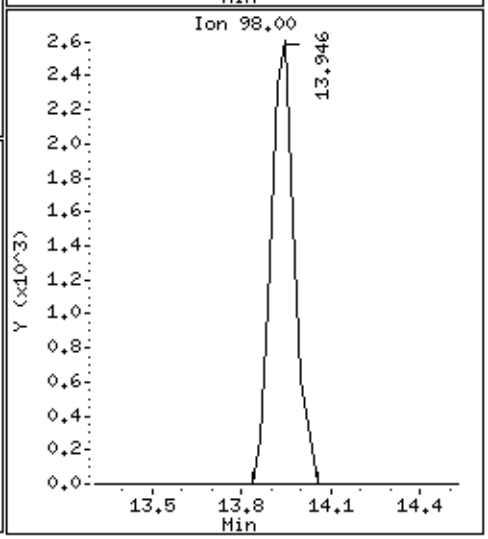












Data File: /chem/msd7.i/7-07nov.b/7110717.d

Date : 07-NOV-2007 22:25

Client ID:

Instrument: msd7.i

Sample Info: 200mL #35154

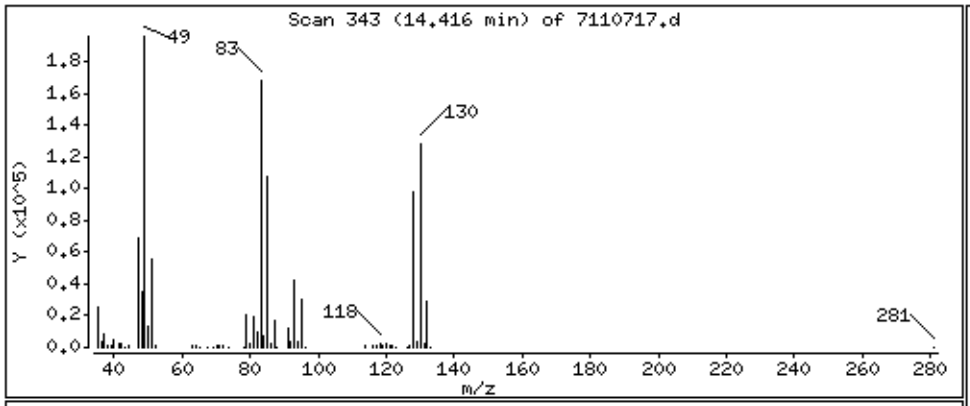
Operator: dm

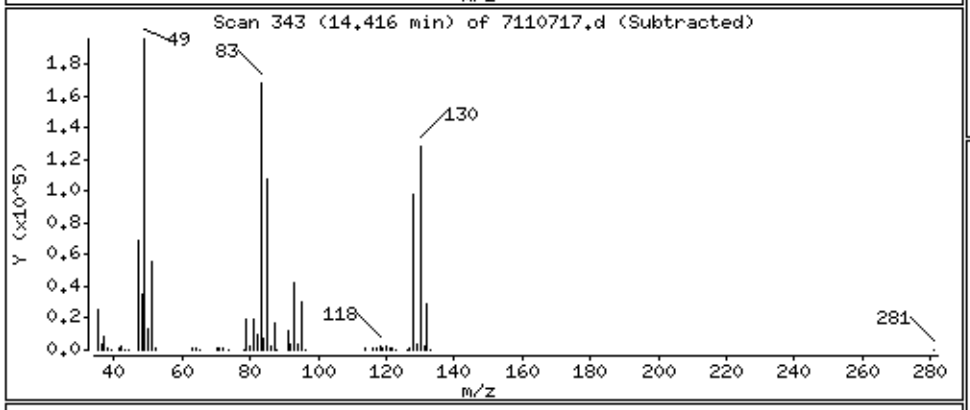
Column phase: RTx-624

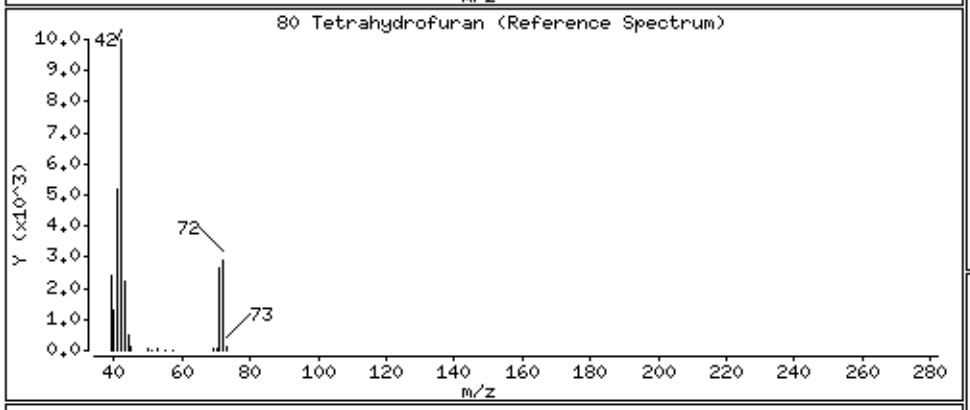
Column diameter: 0.53

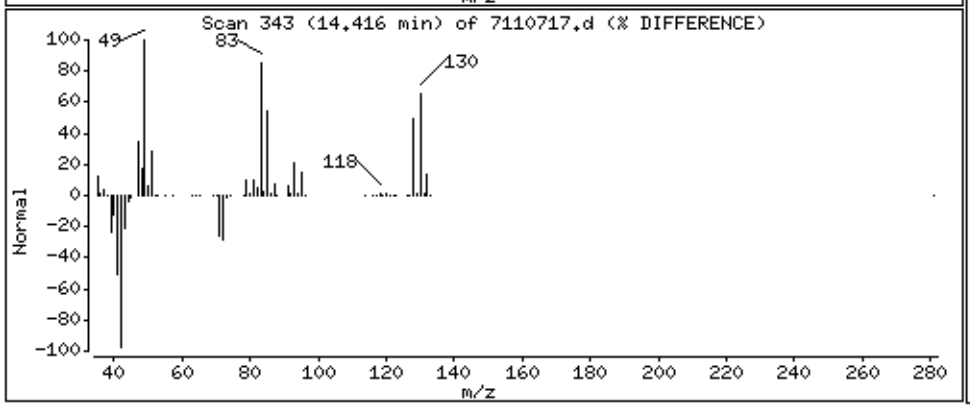
80 Tetrahydrofuran

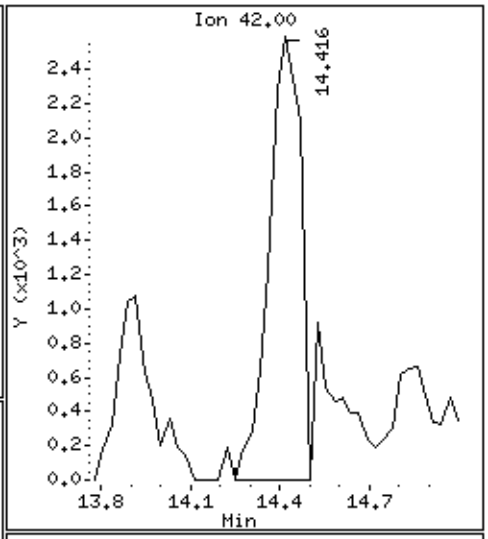
Concentration: 0.9068 PPBV

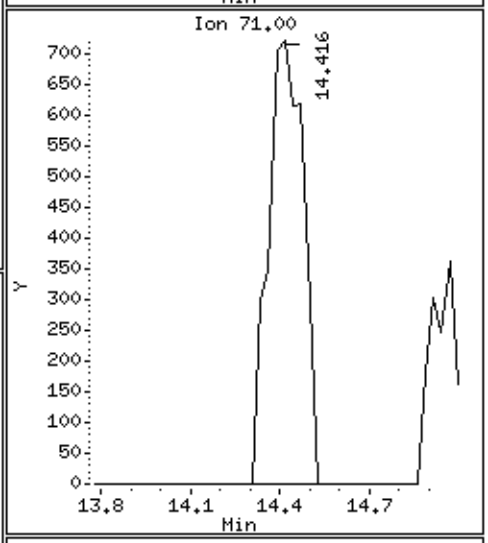


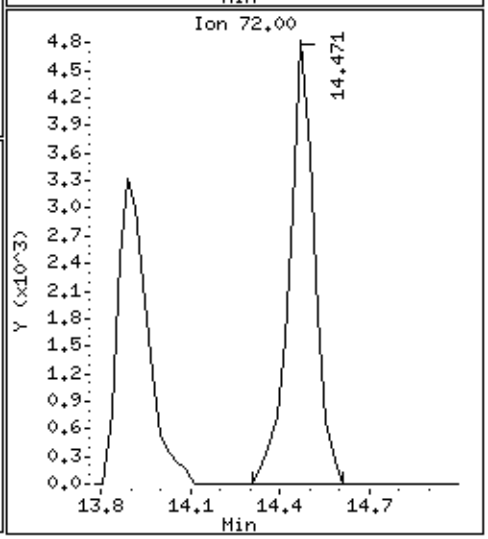












Data File: /chem/msd7.i/7-07nov.b/7110717.d

Date : 07-NOV-2007 22:25

Client ID:

Instrument: msd7.i

Sample Info: 200mL #35154

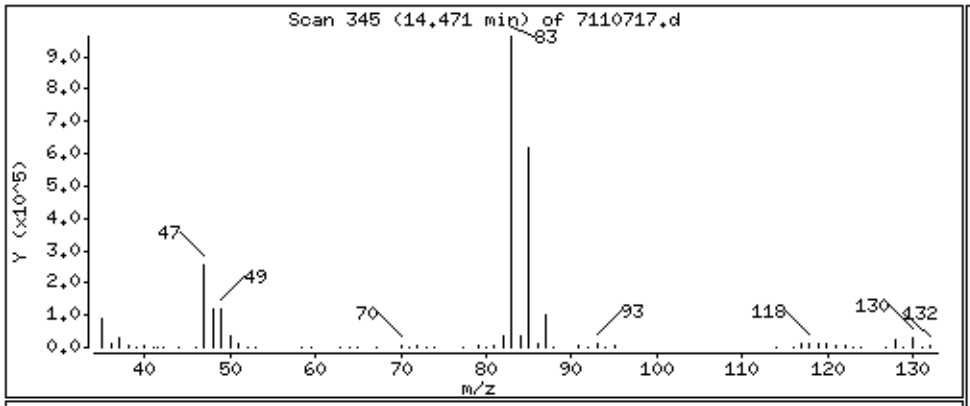
Operator: dm

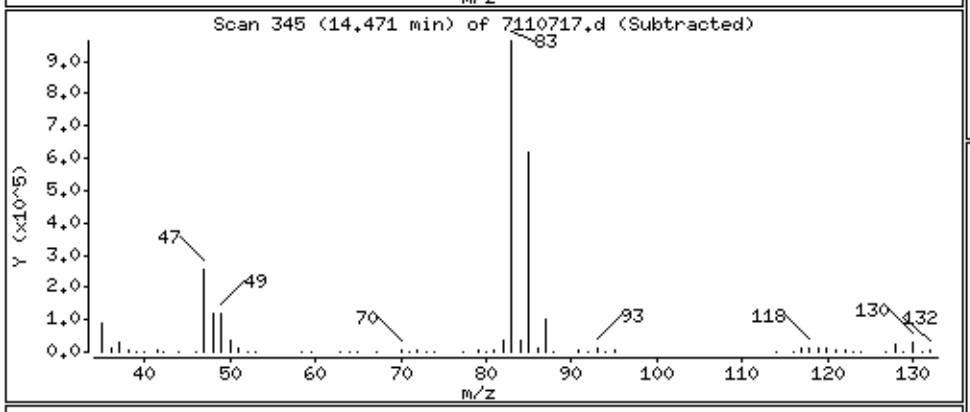
Column phase: RTx-624

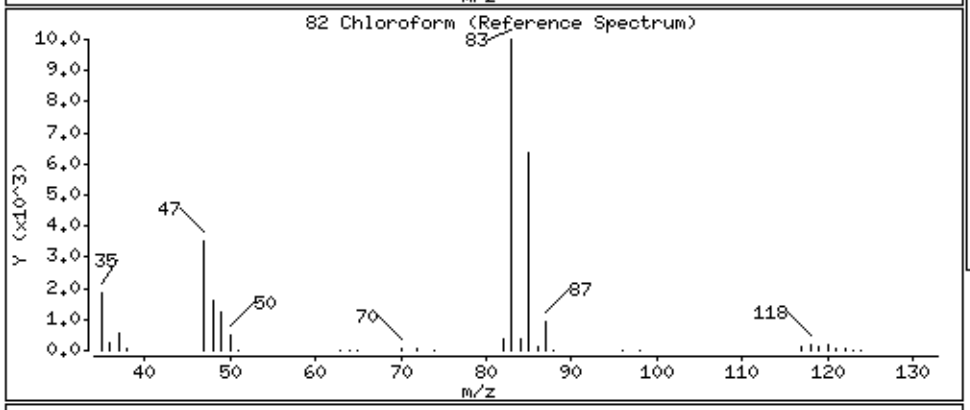
Column diameter: 0.53

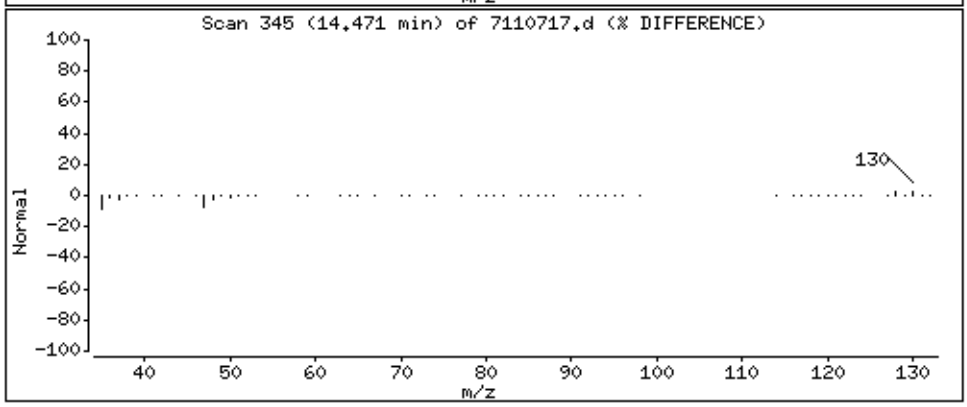
82 Chloroform

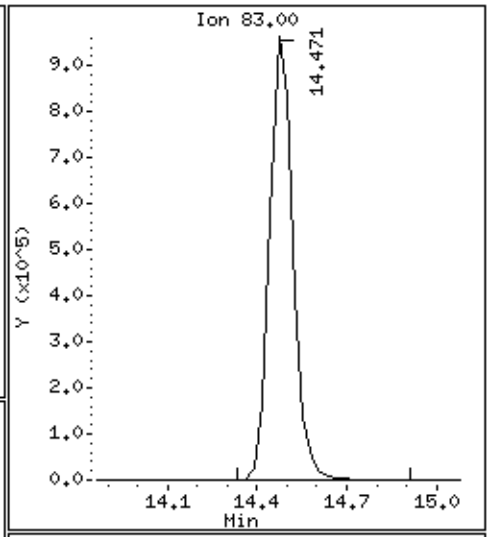
Concentration: 139.66 PPBV

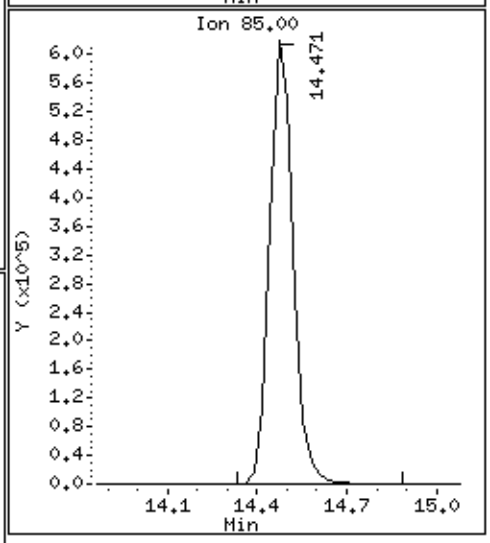












Data File: /chem/msd7.i/7-07nov.b/7110717.d

Date : 07-NOV-2007 22:25

Client ID:

Instrument: msd7.i

Sample Info: 200mL #35154

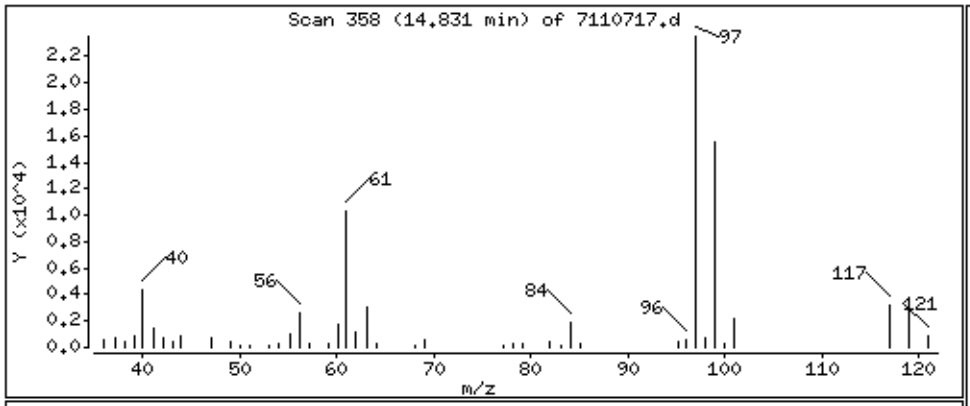
Operator: dm

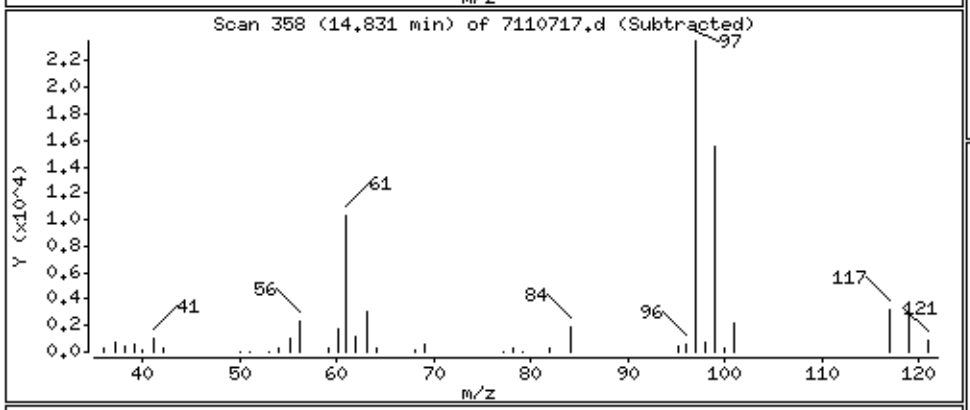
Column phase: RTx-624

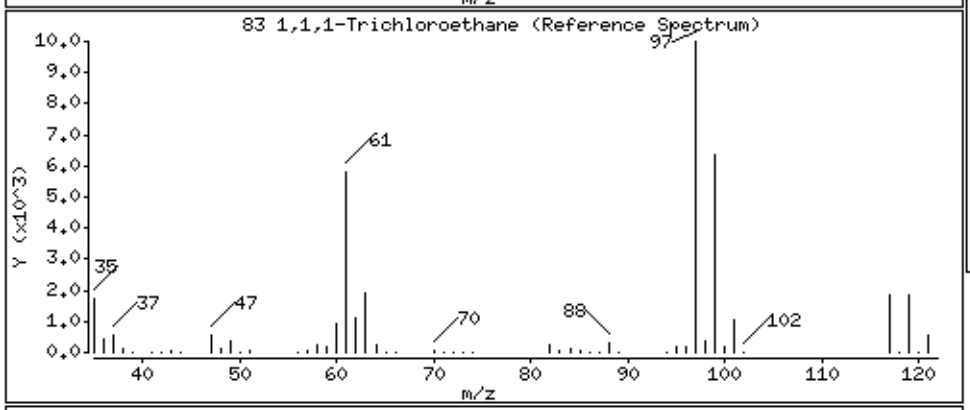
Column diameter: 0.53

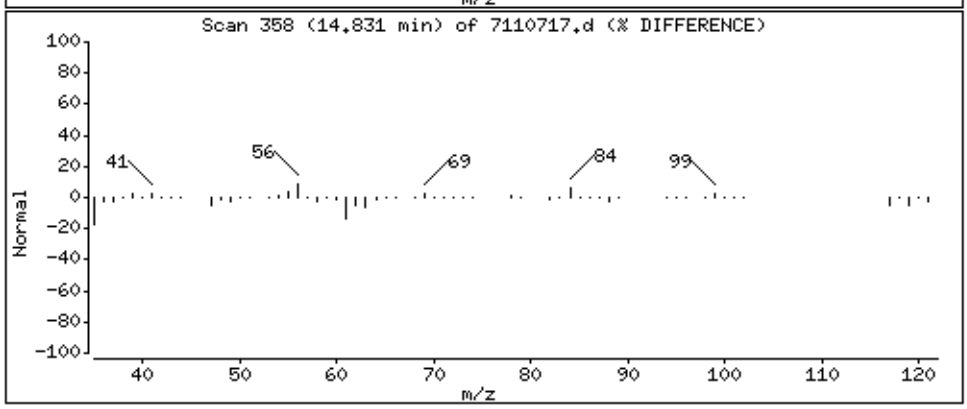
83 1,1,1-Trichloroethane

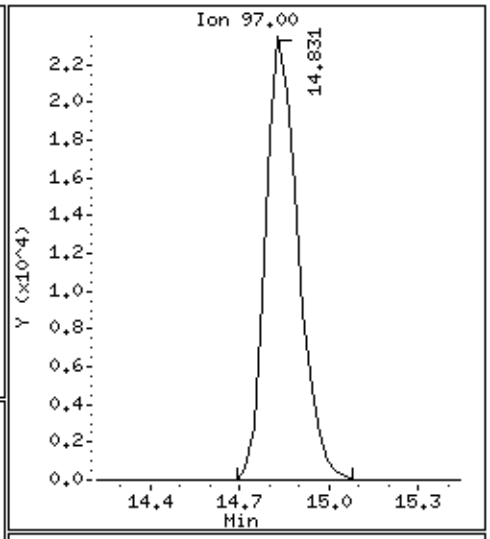
Concentration: 4.731 PPBV

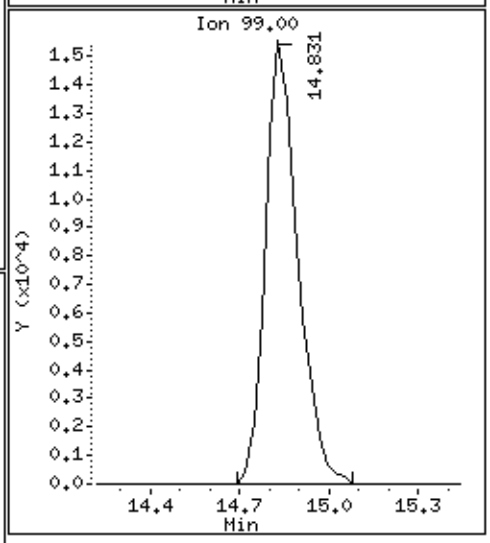












Data File: /chem/msd7.i/7-07nov.b/7110717.d

Date : 07-NOV-2007 22:25

Client ID:

Instrument: msd7.i

Sample Info: 200mL #35154

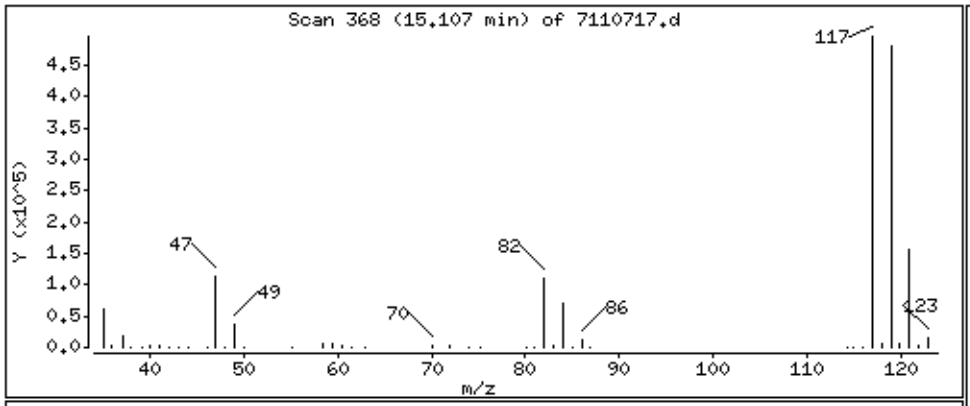
Operator: dm

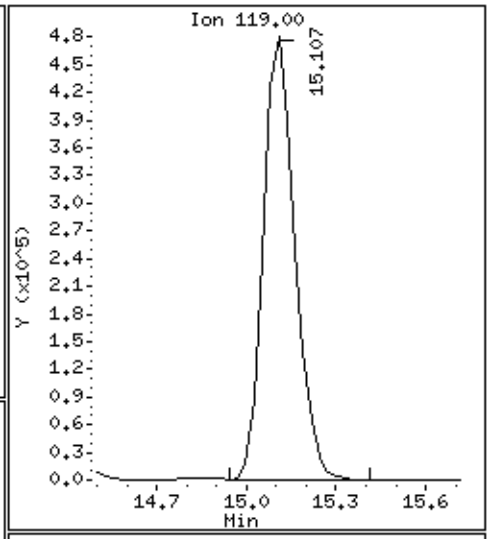
Column phase: RTx-624

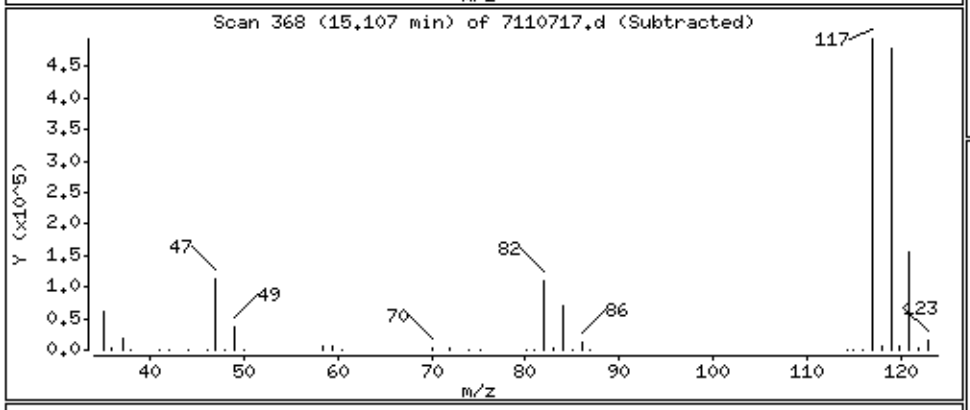
Column diameter: 0.53

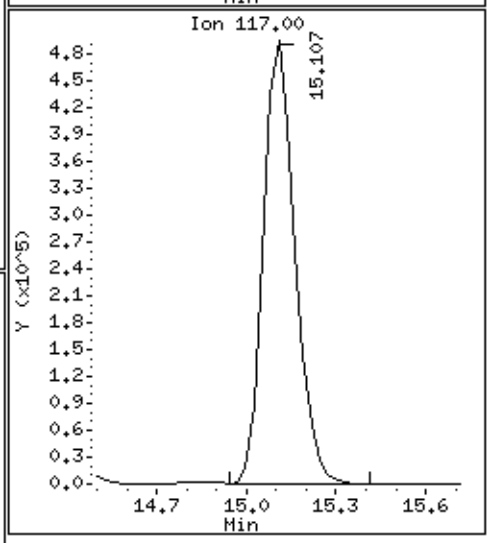
87 Carbon Tetrachloride

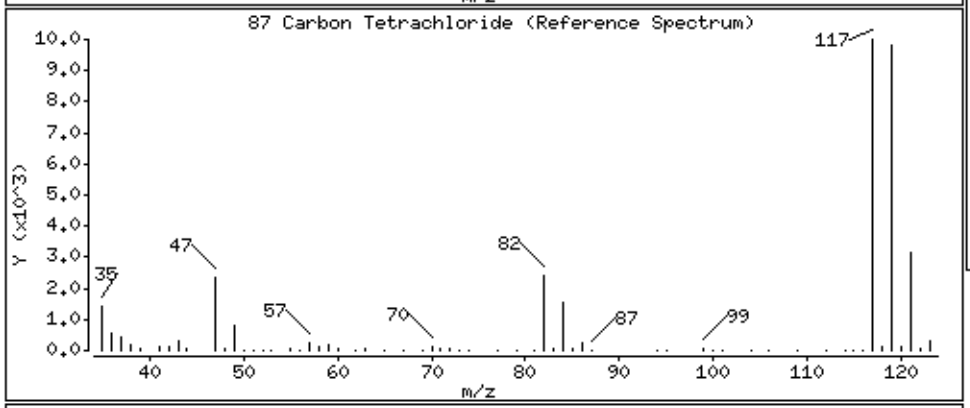
Concentration: 99.380 PPBV

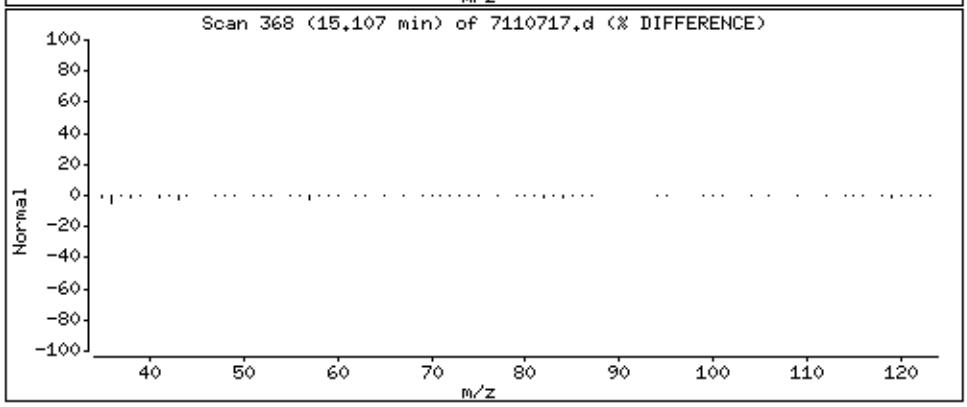












Data File: /chem/msd7.i/7-07nov.b/7110717.d

Date : 07-NOV-2007 22:25

Client ID:

Instrument: msd7.i

Sample Info: 200mL #35154

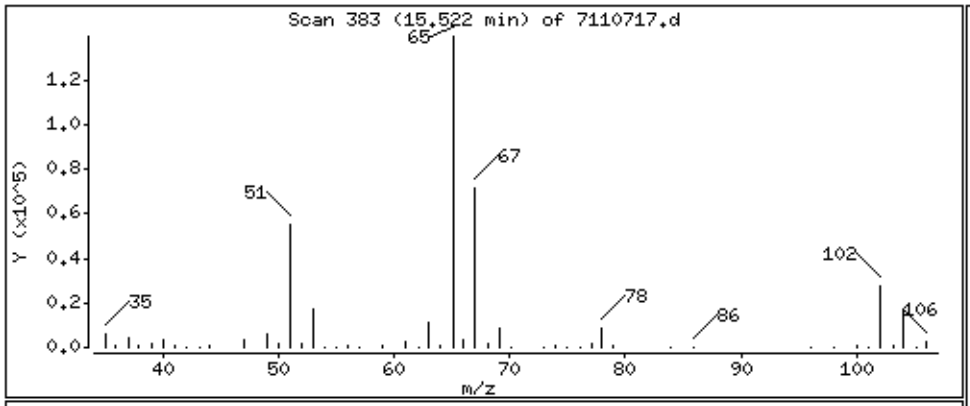
Operator: dm

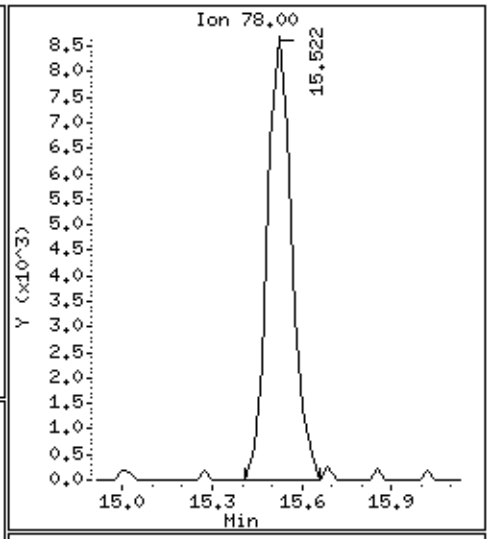
Column phase: RTx-624

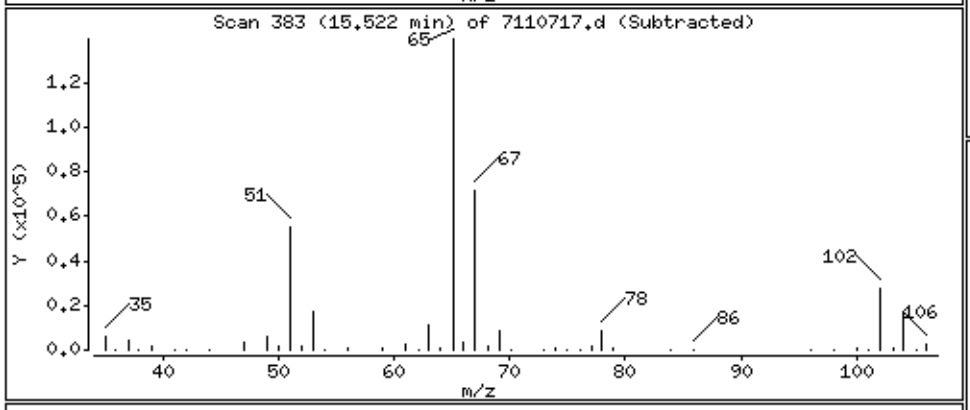
Column diameter: 0.53

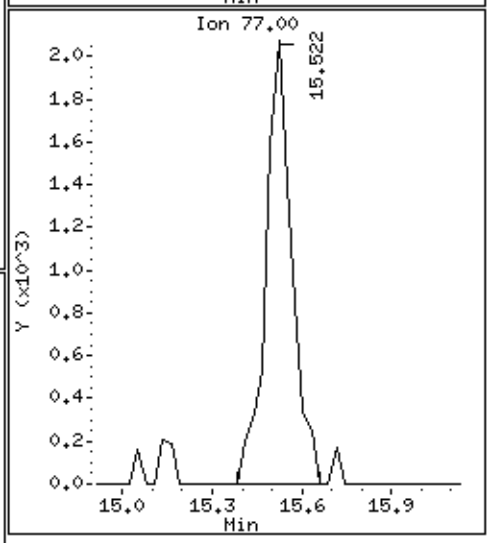
91 Benzene

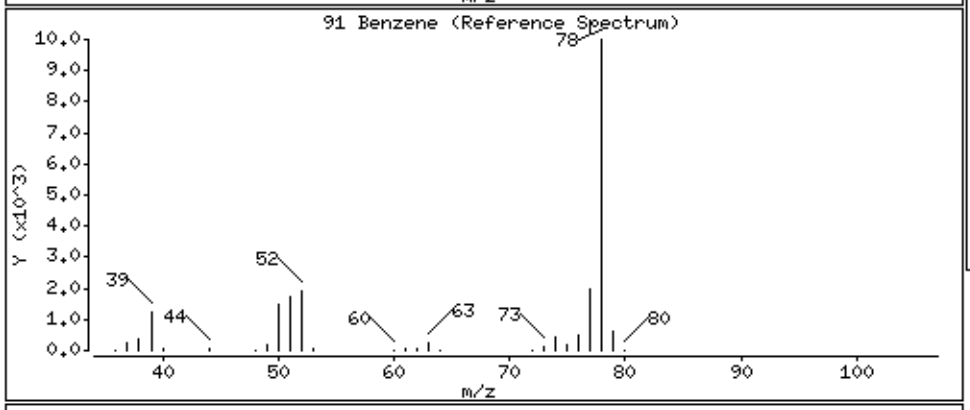
Concentration: 0.9960 PPBV

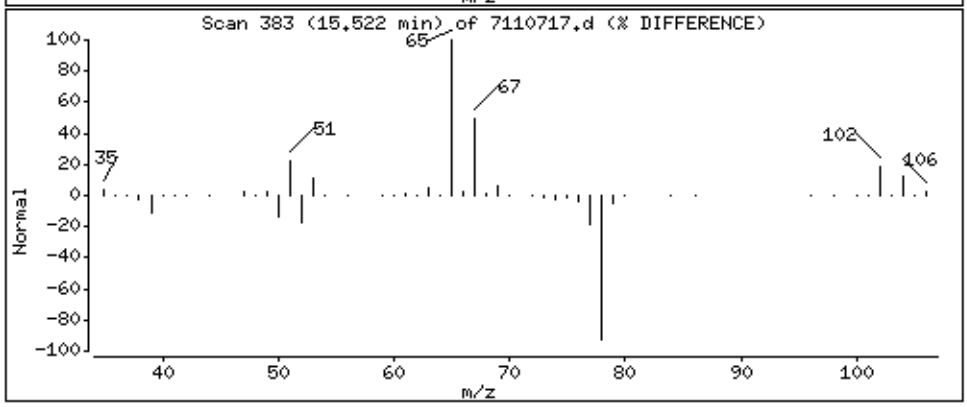












Data File: /chem/msd7.i/7-07nov.b/7110717.d

Date : 07-NOV-2007 22:25

Client ID:

Instrument: msd7.i

Sample Info: 200mL #35154

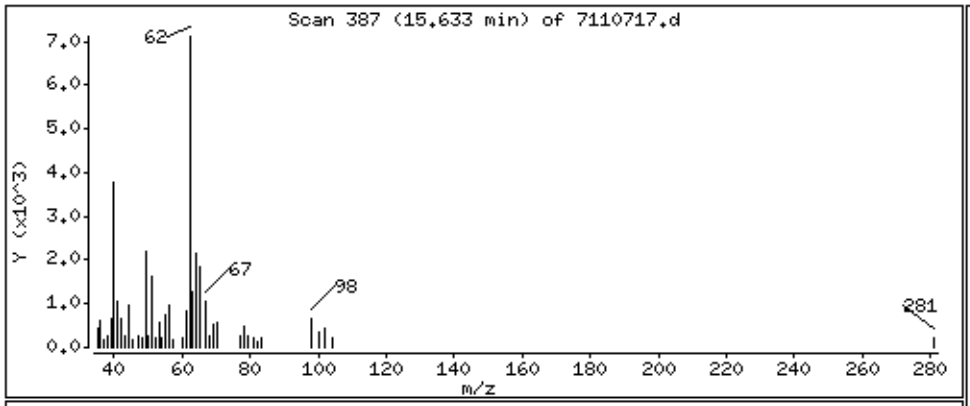
Operator: dm

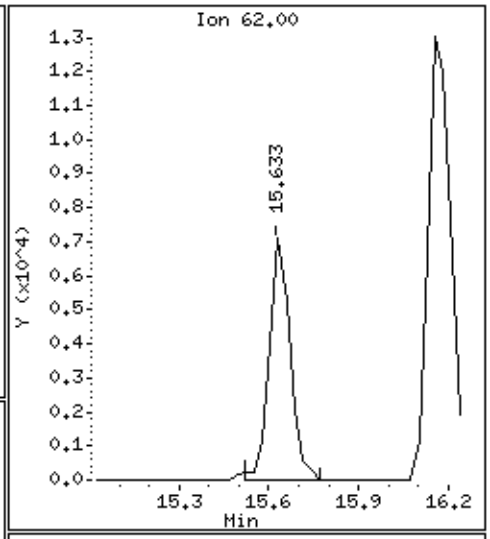
Column phase: RTx-624

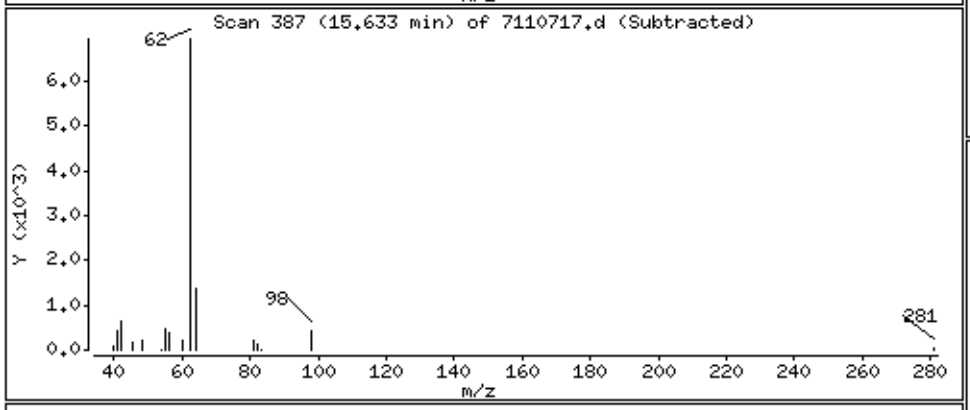
Column diameter: 0.53

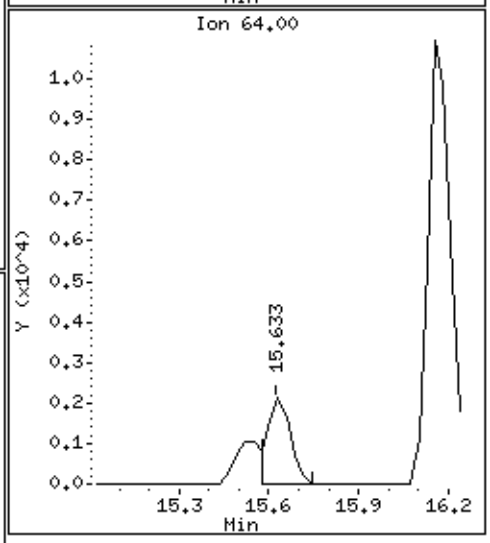
93 1,2-Dichloroethane

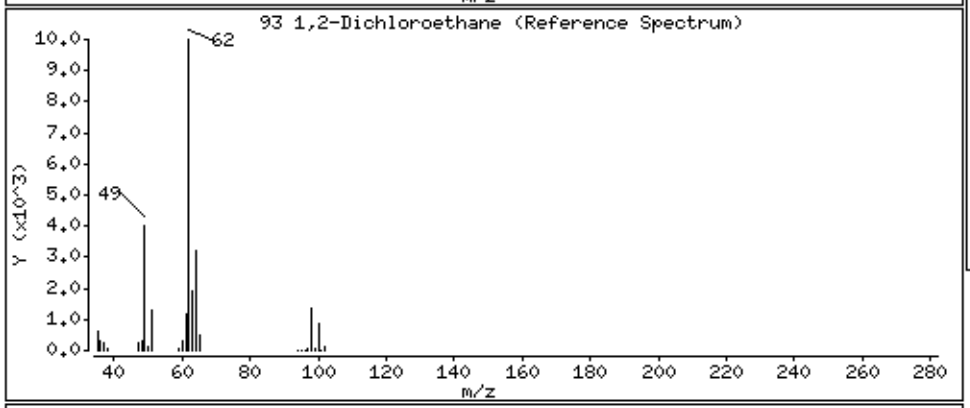
Concentration: 1.291 PPBV

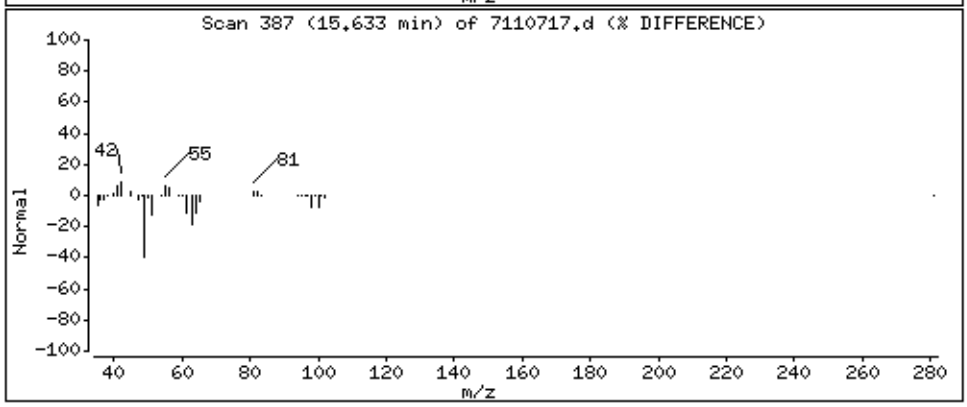












Data File: /chem/msd7.i/7-07nov.b/7110717.d

Date : 07-NOV-2007 22:25

Client ID:

Instrument: msd7.i

Sample Info: 200mL #35154

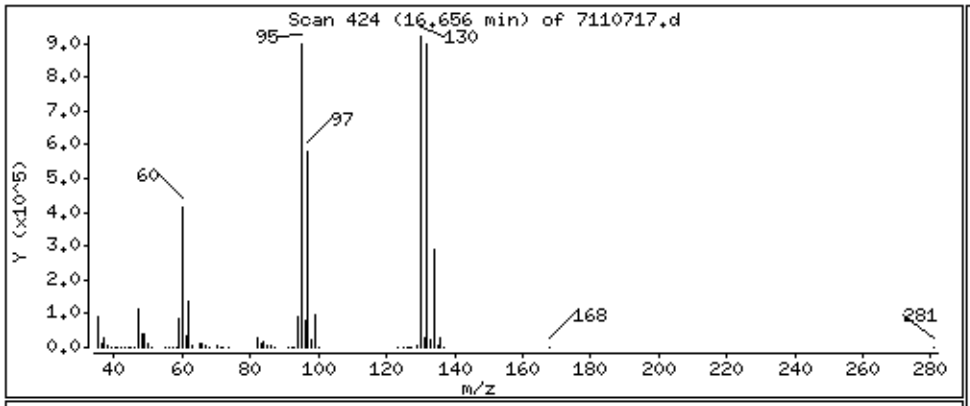
Operator: dm

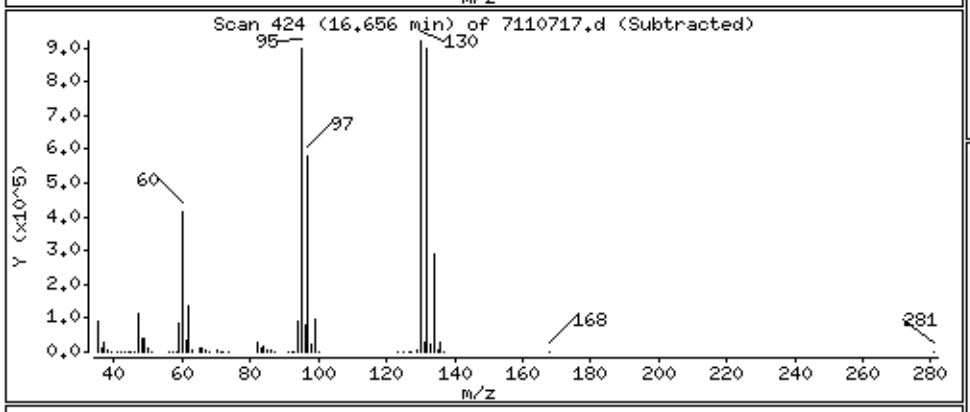
Column phase: RTx-624

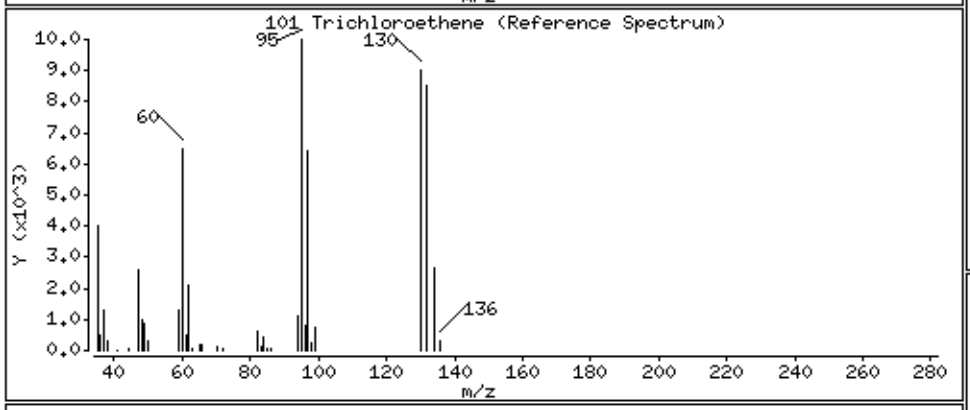
Column diameter: 0.53

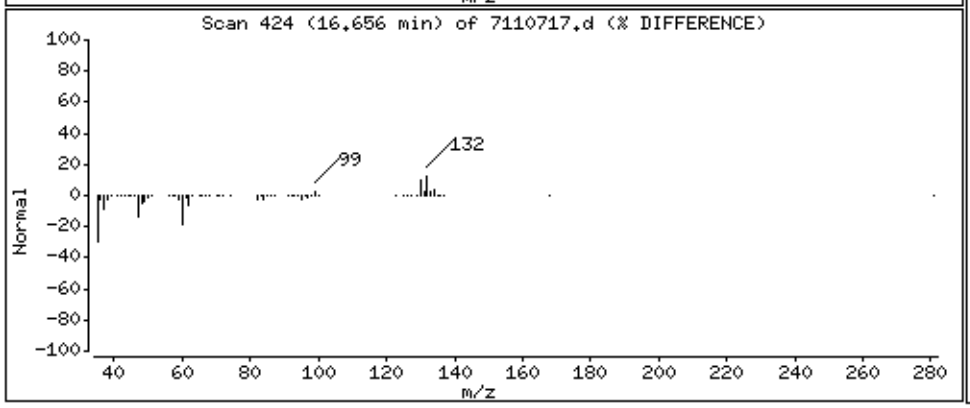
101 Trichloroethene

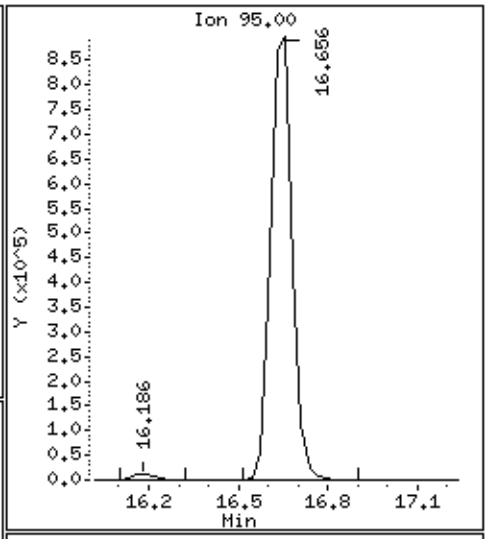
Concentration: 204.22 PPBV

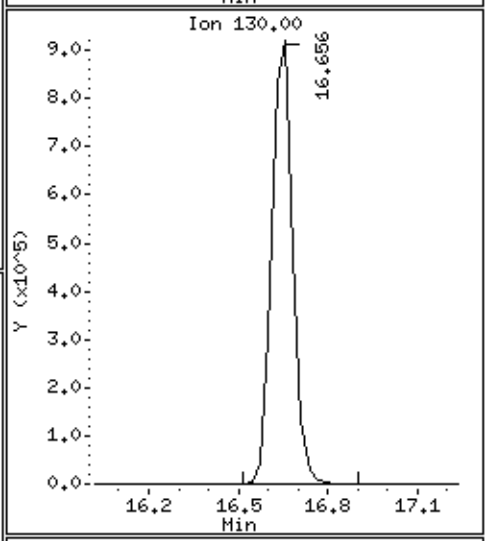


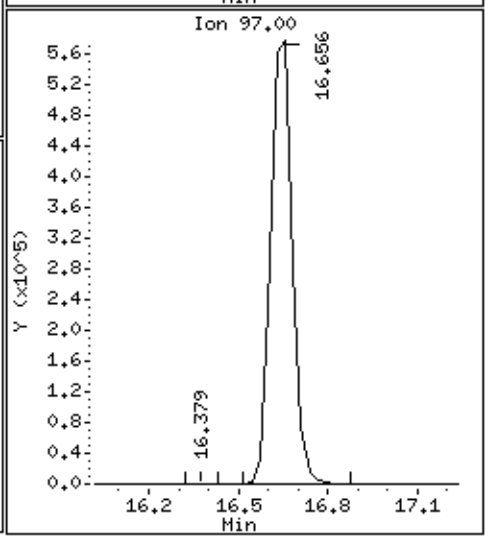












Data File: /chem/msd7.i/7-07nov.b/7110717.d

Date : 07-NOV-2007 22:25

Client ID:

Instrument: msd7.i

Sample Info: 200mL #35154

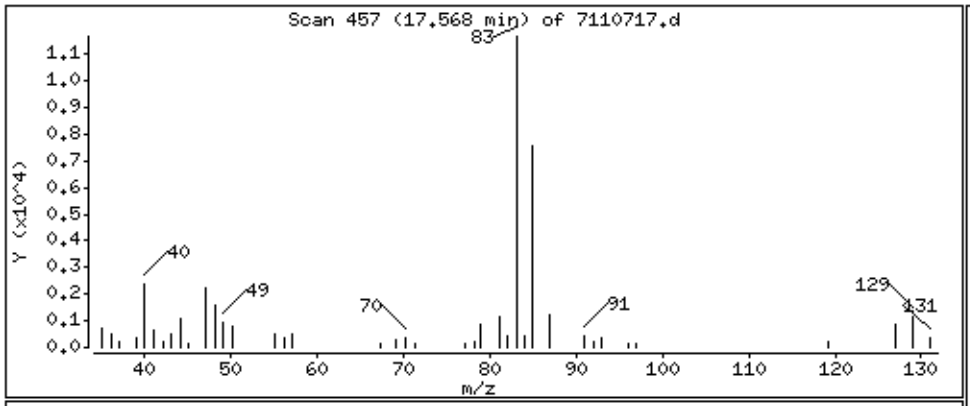
Operator: dm

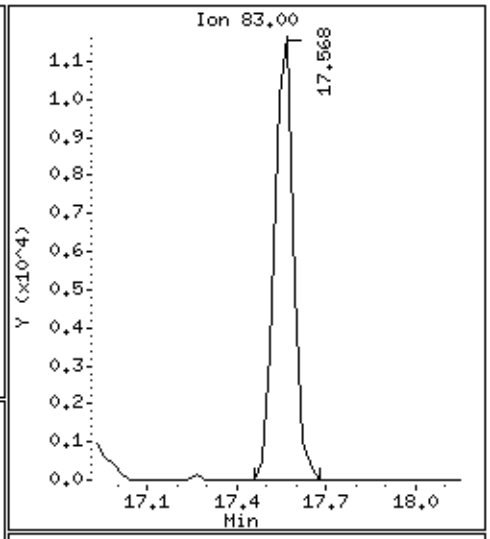
Column phase: RTx-624

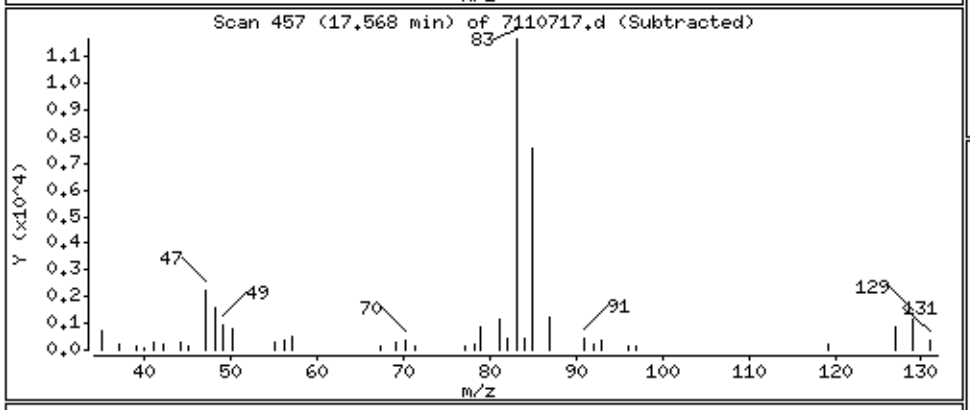
Column diameter: 0.53

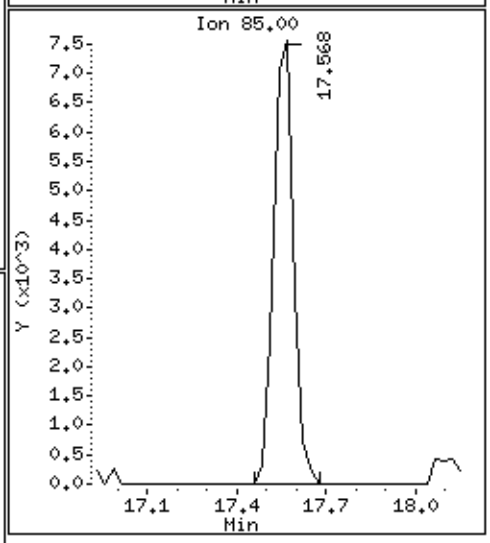
107 Bromodichloromethane

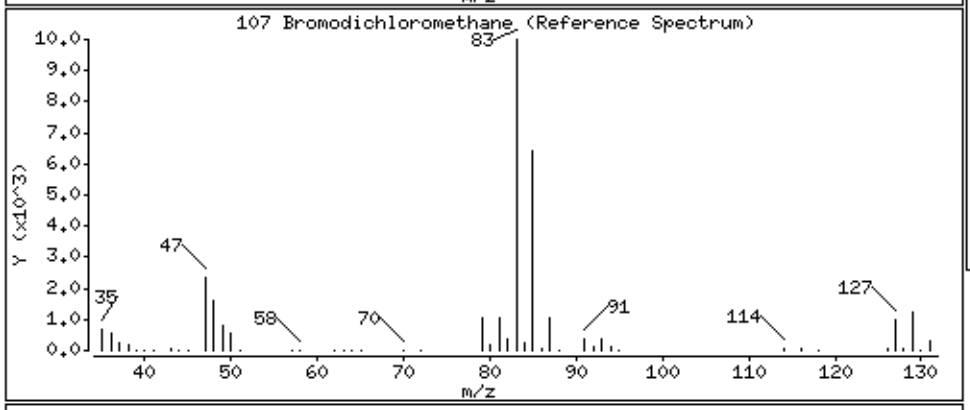
Concentration: 1.368 PPBV

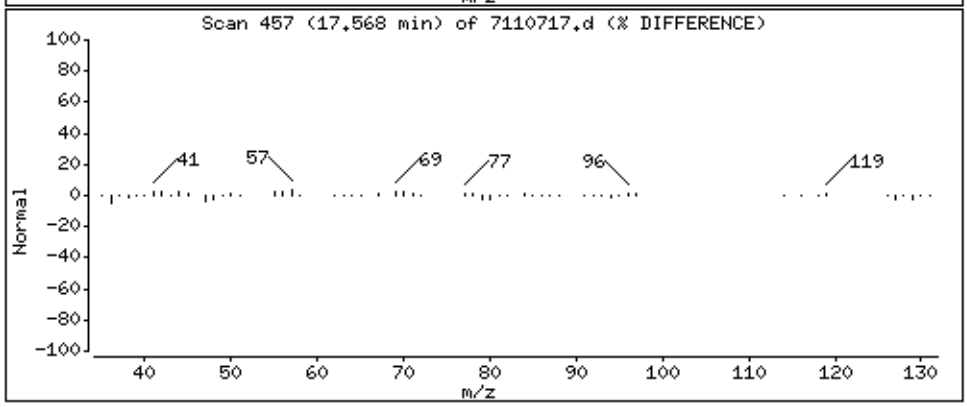












Data File: /chem/msd7.i/7-07nov.b/7110717.d

Date : 07-NOV-2007 22:25

Client ID:

Instrument: msd7.i

Sample Info: 200mL #35154

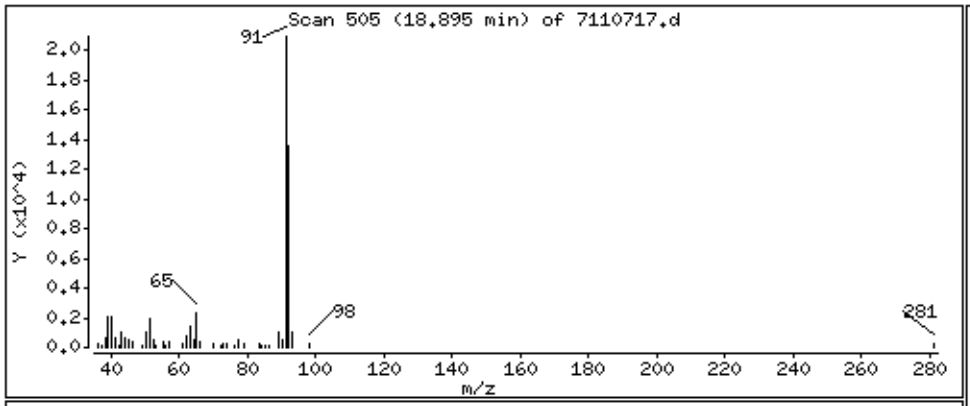
Operator: dm

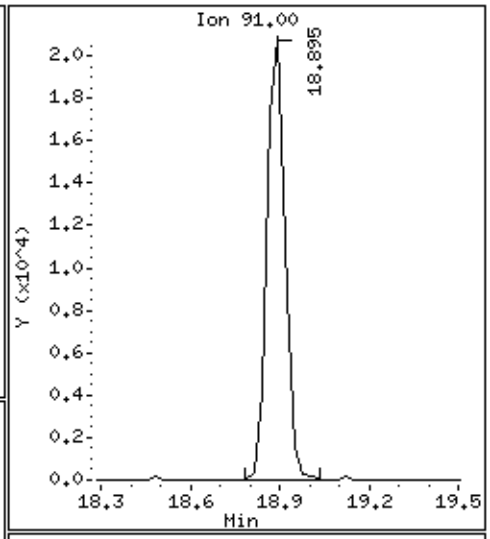
Column phase: RTx-624

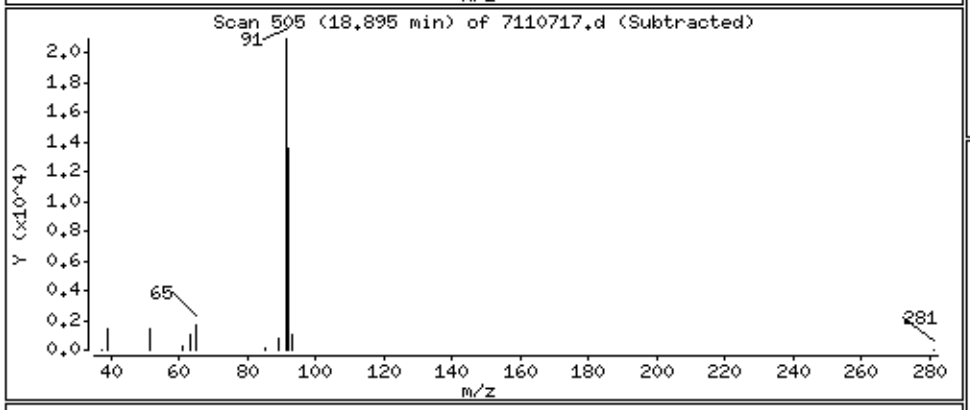
Column diameter: 0.53

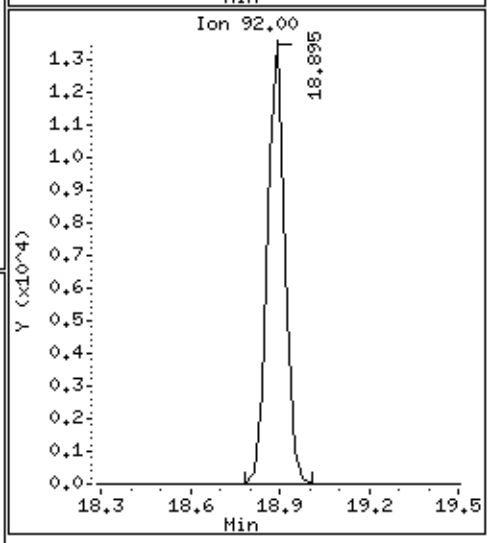
114 Toluene

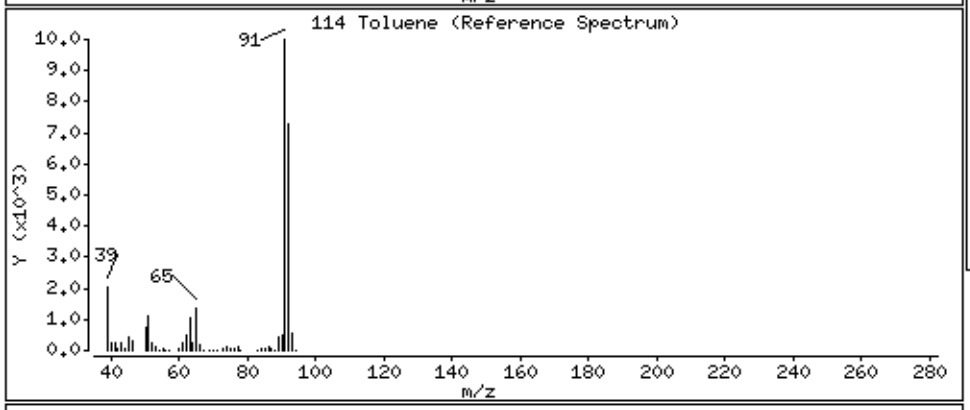
Concentration: 1.608 PPBV

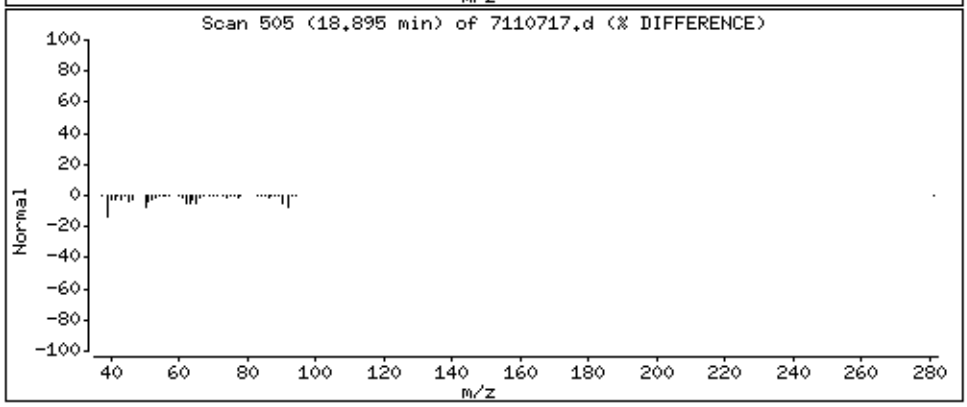












Data File: /chem/msd7.i/7-07nov.b/7110717.d

Date : 07-NOV-2007 22:25

Client ID:

Instrument: msd7.i

Sample Info: 200mL #35154

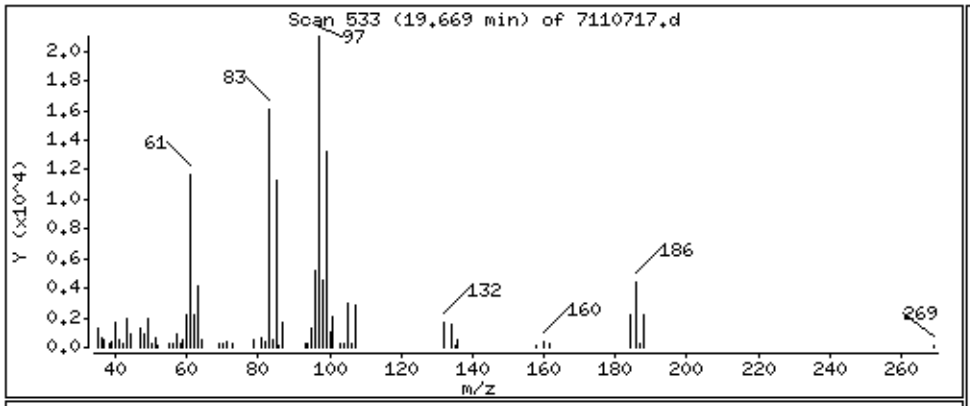
Operator: dm

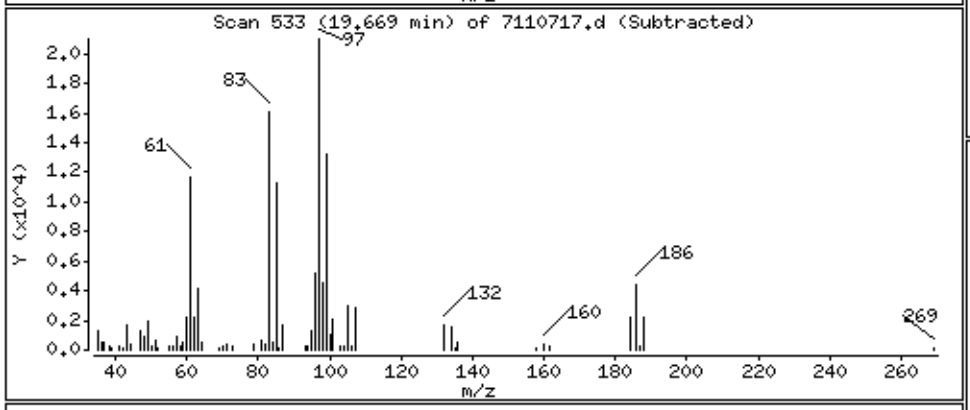
Column phase: RTx-624

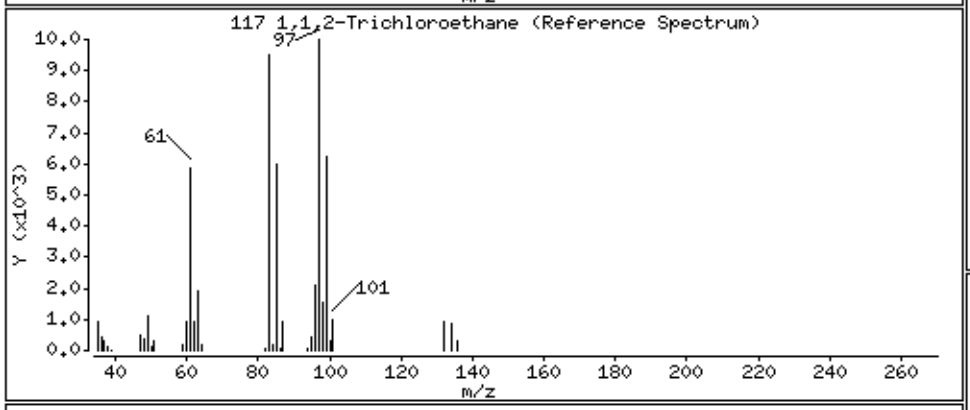
Column diameter: 0.53

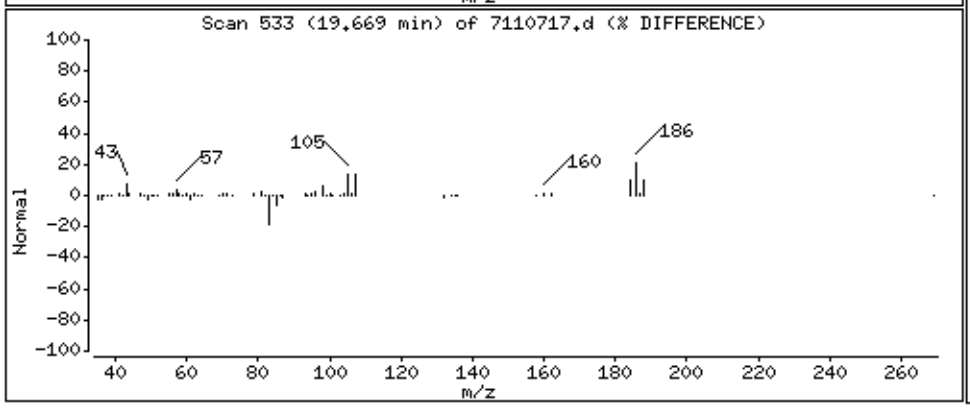
117 1,1,2-Trichloroethane

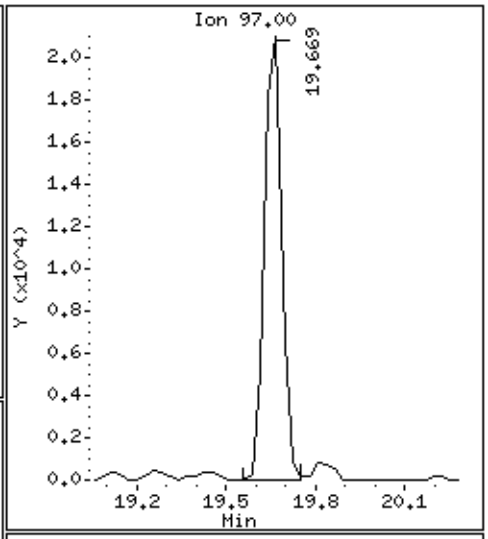
Concentration: 4.976 PPBV

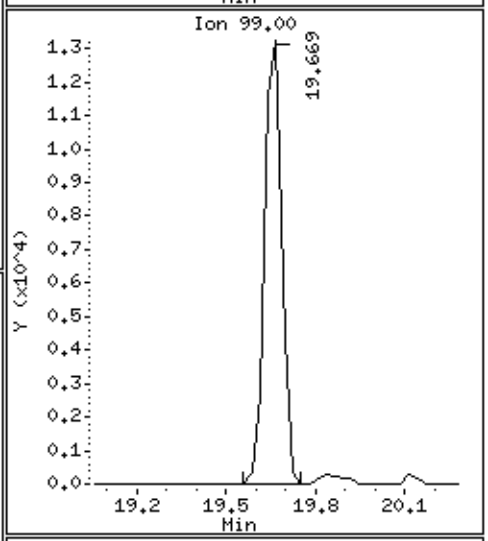


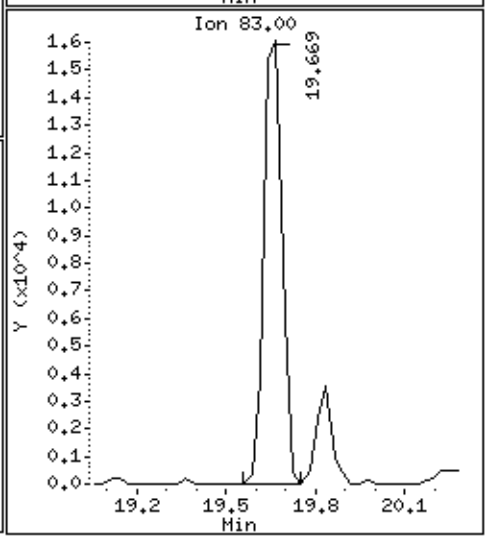












Data File: /chem/msd7.i/7-07nov.b/7110717.d

Date : 07-NOV-2007 22:25

Client ID:

Instrument: msd7.i

Sample Info: 200mL #35154

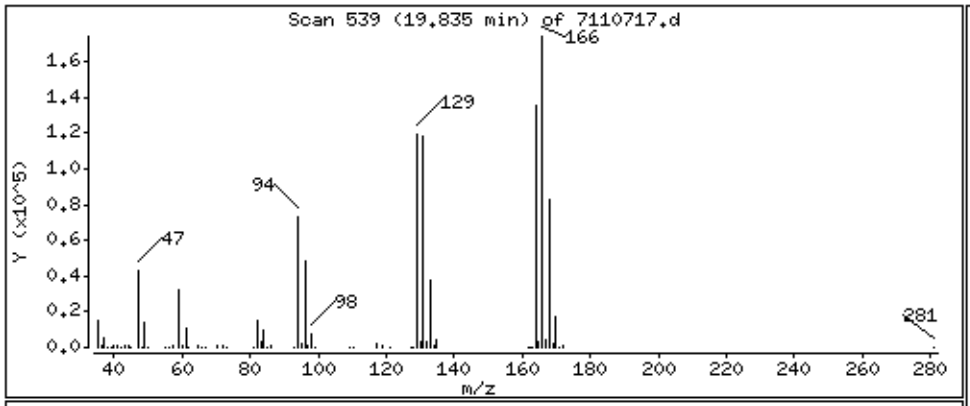
Operator: dm

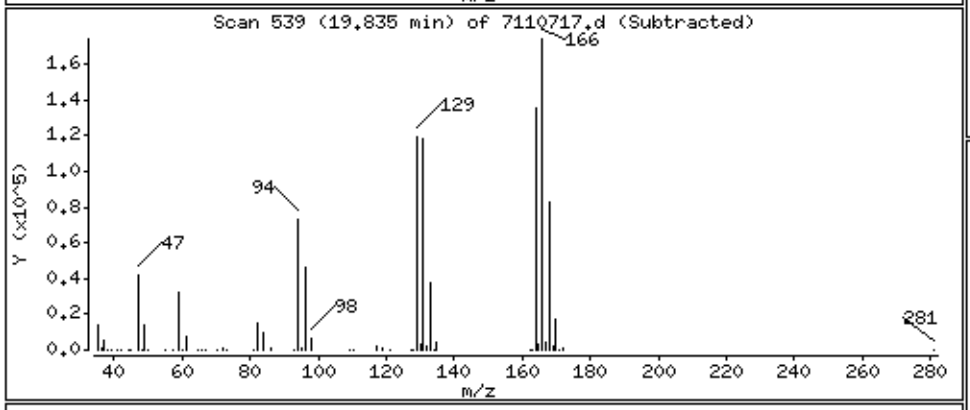
Column phase: RTx-624

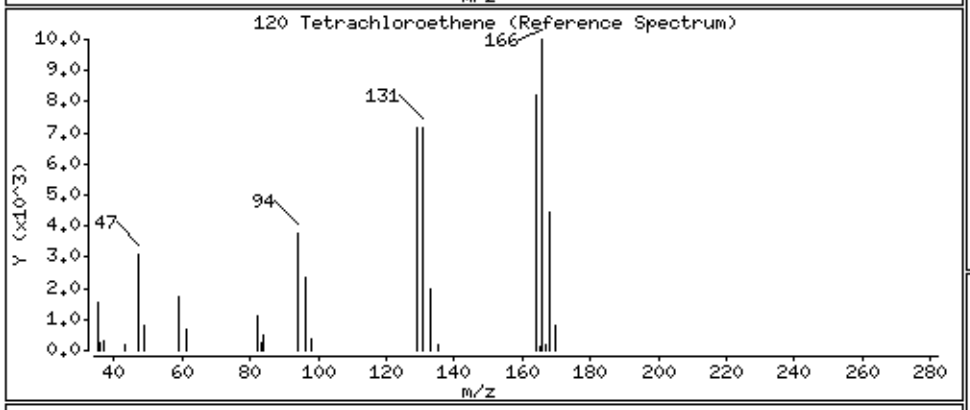
Column diameter: 0.53

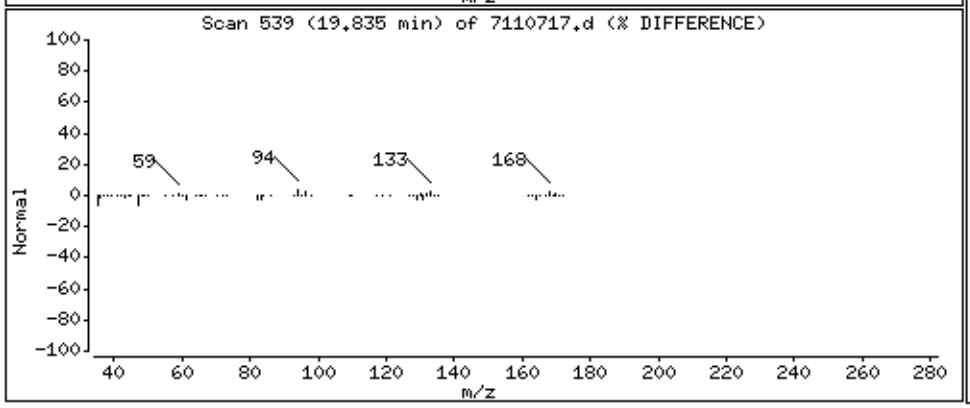
120 Tetrachloroethene

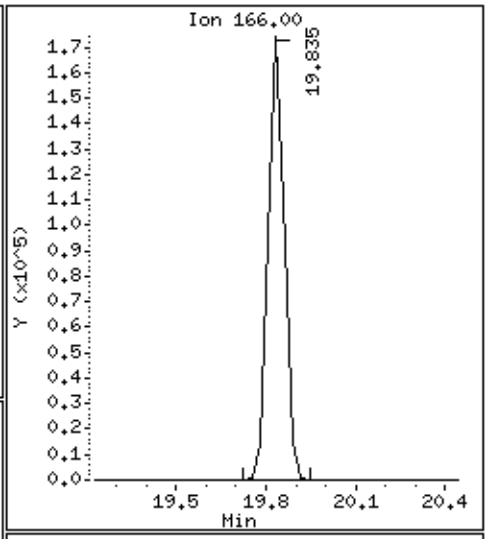
Concentration: 28.870 PPBV

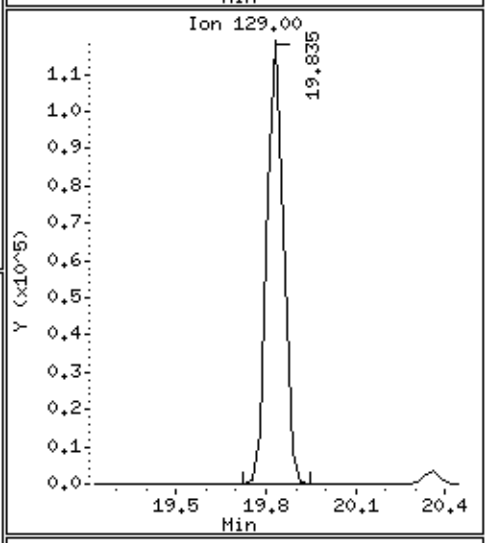


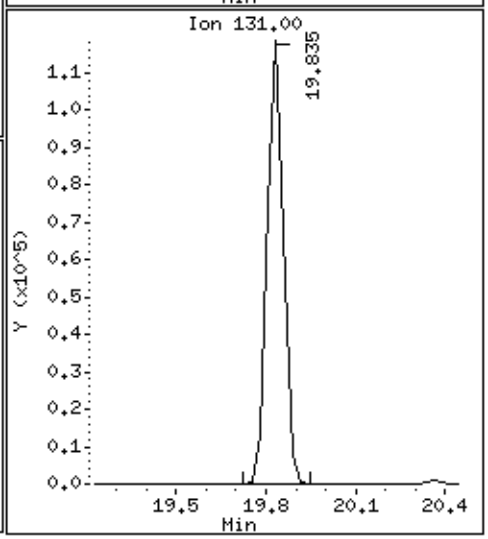












Data File: /chem/msd7.i/7-07nov.b/7110717.d

Date : 07-NOV-2007 22:25

Client ID:

Instrument: msd7.i

Sample Info: 200mL #35154

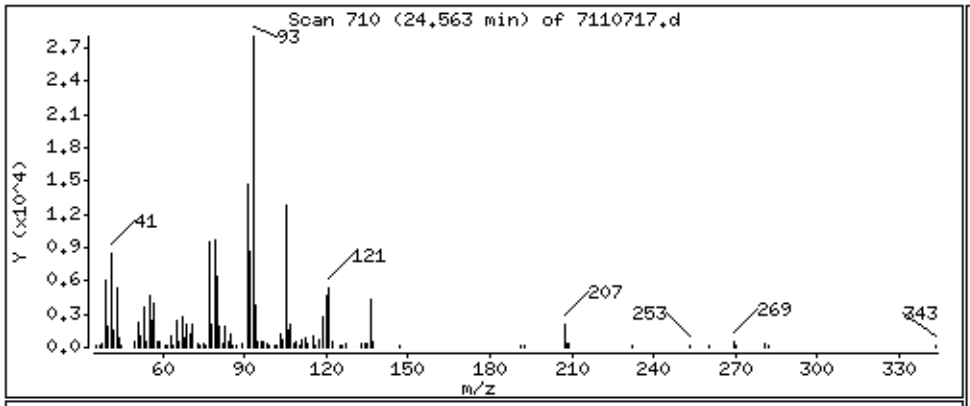
Operator: dm

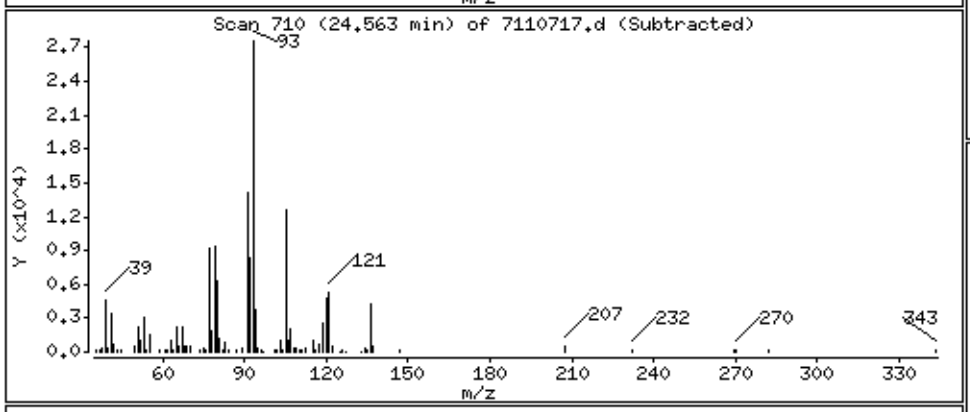
Column phase: RTx-624

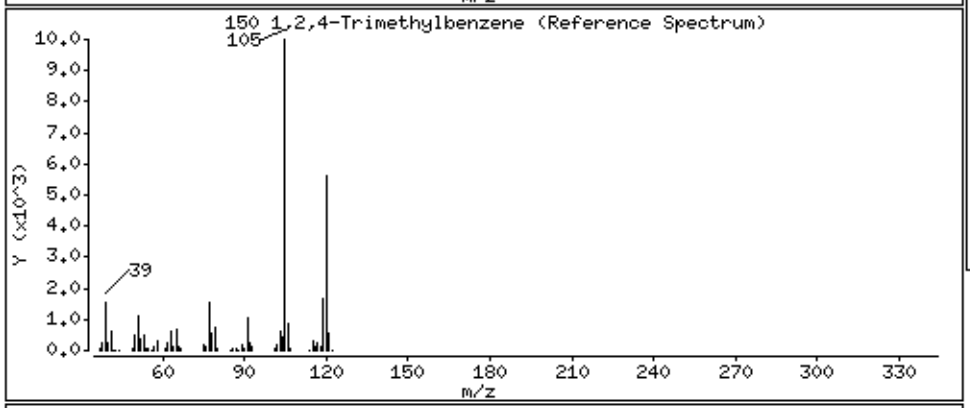
Column diameter: 0.53

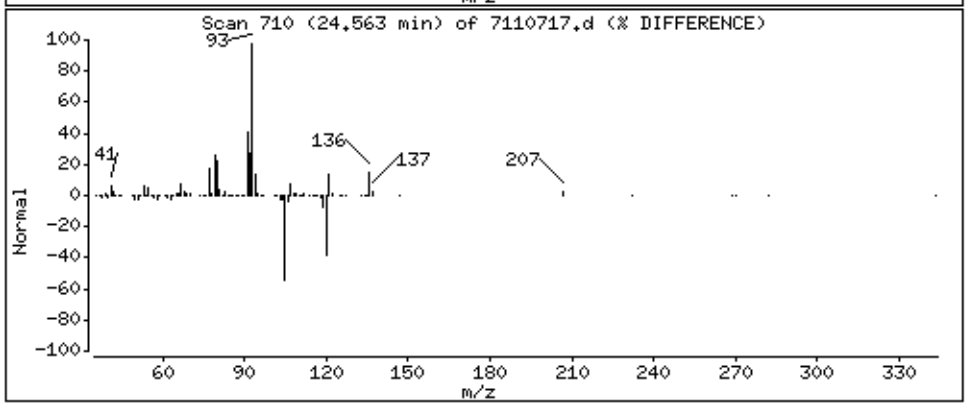
150 1,2,4-Trimethylbenzene

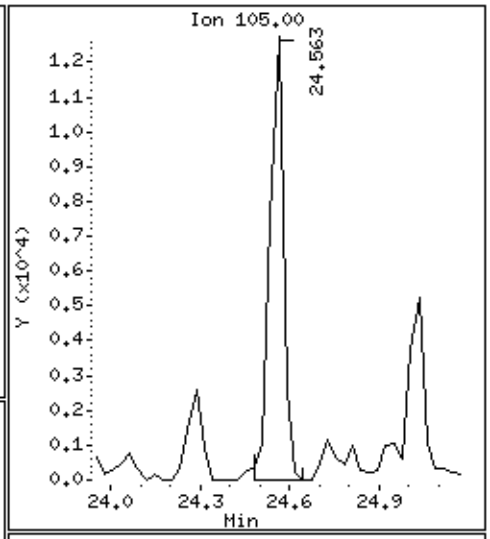
Concentration: 0.9046 PPBV

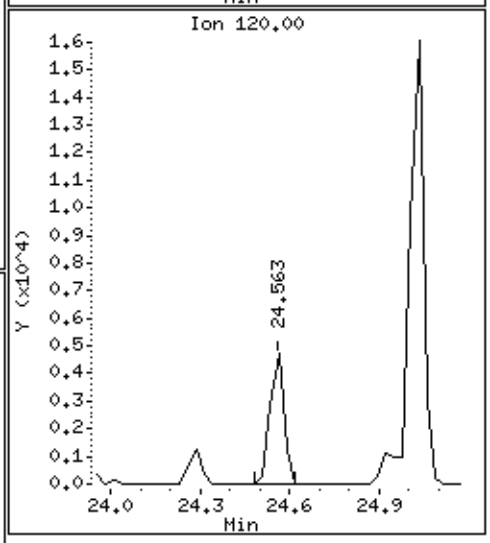












AN ENVIRONMENTAL ANALYTICAL LABORATORY

Summary of Detected Compounds
MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

Client Sample ID: MD21-07-6803

Lab ID#: 0711101-04A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Freon 12	0.90	1.5	4.4	7.4
1,3-Butadiene	0.90	5.1	2.0	11
Freon 113	0.90	2.4	6.8	19
1,1-Dichloroethene	0.90	1.8	3.5	7.4
Acetone	3.6	120	8.5	290
2-Propanol	3.6	4.4	8.8	11
Carbon Disulfide	0.90	1.6	2.8	5.1
Methylene Chloride	0.90	12	3.1	43
Hexane	0.90	1.9	3.2	6.8
2-Butanone (Methyl Ethyl Ketone)	0.90	19	2.6	55
Chloroform	0.90	130	4.4	630
1,1,1-Trichloroethane	0.90	5.3	4.9	29
Cyclohexane	0.90	0.98	3.1	3.4
Carbon Tetrachloride	0.90	24	5.6	150
Benzene	0.90	1.7	2.8	5.5
Heptane	0.90	1.1	3.7	4.7
Trichloroethene	0.90	89	4.8	480
Bromodichloromethane	0.90	0.95	6.0	6.4
4-Methyl-2-pentanone	0.90	0.89 J	3.7	3.6 J
Toluene	0.90	1.7	3.4	6.6
Tetrachloroethene	0.90	51	6.1	340
1,2,4-Trimethylbenzene	0.90	2.3	4.4	11
Propylene	3.6	92	6.2	160

AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: MD21-07-6803

Lab ID#: 0711101-04A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**7110721**	**Date of Collection:**	**11/3/07**
Dil. Factor:	**1.79**	**Date of Analysis:**	**11/8/07 01:31 AM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Freon 12	0.90	1.5	4.4	7.4
Freon 114	0.90	Not Detected	6.2	Not Detected
Chloromethane	3.6	Not Detected	7.4	Not Detected
Vinyl Chloride	0.90	Not Detected	2.3	Not Detected
1,3-Butadiene	0.90	5.1	2.0	11
Bromomethane	0.90	Not Detected	3.5	Not Detected
Chloroethane	0.90	Not Detected	2.4	Not Detected
Freon 11	0.90	Not Detected	5.0	Not Detected
Ethanol	3.6	Not Detected	6.7	Not Detected
Freon 113	0.90	2.4	6.8	19
1,1-Dichloroethene	0.90	1.8	3.5	7.4
Acetone	3.6	120	8.5	290
2-Propanol	3.6	4.4	8.8	11
Carbon Disulfide	0.90	1.6	2.8	5.1
Methylene Chloride	0.90	12	3.1	43
Methyl tert-butyl ether	0.90	Not Detected	3.2	Not Detected
trans-1,2-Dichloroethene	0.90	Not Detected	3.5	Not Detected
Hexane	0.90	1.9	3.2	6.8
1,1-Dichloroethane	0.90	Not Detected	3.6	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.90	19	2.6	55
cis-1,2-Dichloroethene	0.90	Not Detected	3.5	Not Detected
Tetrahydrofuran	0.90	Not Detected	2.6	Not Detected
Chloroform	0.90	130	4.4	630
1,1,1-Trichloroethane	0.90	5.3	4.9	29
Cyclohexane	0.90	0.98	3.1	3.4
Carbon Tetrachloride	0.90	24	5.6	150
Benzene	0.90	1.7	2.8	5.5
1,2-Dichloroethane	0.90	Not Detected	3.6	Not Detected
Heptane	0.90	1.1	3.7	4.7
Trichloroethene	0.90	89	4.8	480
1,2-Dichloropropane	0.90	Not Detected	4.1	Not Detected
1,4-Dioxane	3.6	Not Detected	13	Not Detected
Bromodichloromethane	0.90	0.95	6.0	6.4
cis-1,3-Dichloropropene	0.90	Not Detected	4.1	Not Detected
4-Methyl-2-pentanone	0.90	0.89 J	3.7	3.6 J
Toluene	0.90	1.7	3.4	6.6
trans-1,3-Dichloropropene	0.90	Not Detected	4.1	Not Detected
1,1,2-Trichloroethane	0.90	Not Detected	4.9	Not Detected
Tetrachloroethene	0.90	51	6.1	340

AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: MD21-07-6803

Lab ID#: 0711101-04A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**7110721**	**Date of Collection:**	**11/3/07**
Dil. Factor:	**1.79**	**Date of Analysis:**	**11/8/07 01:31 AM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
2-Hexanone	3.6	Not Detected	15	Not Detected
Dibromochloromethane	0.90	Not Detected	7.6	Not Detected
1,2-Dibromoethane (EDB)	0.90	Not Detected	6.9	Not Detected
Chlorobenzene	0.90	Not Detected	4.1	Not Detected
Ethyl Benzene	0.90	Not Detected	3.9	Not Detected
m,p-Xylene	0.90	Not Detected	3.9	Not Detected
o-Xylene	0.90	Not Detected	3.9	Not Detected
Styrene	0.90	Not Detected	3.8	Not Detected
Bromoform	0.90	Not Detected	9.2	Not Detected
1,1,2,2-Tetrachloroethane	0.90	Not Detected	6.1	Not Detected
4-Ethyltoluene	0.90	Not Detected	4.4	Not Detected
1,3,5-Trimethylbenzene	0.90	Not Detected	4.4	Not Detected
1,2,4-Trimethylbenzene	0.90	2.3	4.4	11
1,3-Dichlorobenzene	0.90	Not Detected	5.4	Not Detected
1,4-Dichlorobenzene	0.90	Not Detected	5.4	Not Detected
alpha-Chlorotoluene	0.90	Not Detected	4.6	Not Detected
1,2-Dichlorobenzene	0.90	Not Detected	5.4	Not Detected
1,2,4-Trichlorobenzene	3.6	Not Detected	26	Not Detected
Hexachlorobutadiene	3.6	Not Detected	38	Not Detected
Chlorodifluoromethane	3.6	Not Detected	13	Not Detected
Methanol	90	Not Detected	120	Not Detected
n-Butanol	3.6	Not Detected	11	Not Detected
Propylene	3.6	92	6.2	160

J = Estimated value.

Container Type: 6 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	92	70-130
1,2-Dichloroethane-d4	93	70-130
4-Bromofluorobenzene	99	70-130

Air Toxics Ltd.

AMBIENT AIR METHOD TO14

Data file : /chem/msd7.i/7-07nov.b/7110721.d
Lab Smp Id: 0711101-04A
Inj Date : 08-NOV-2007 01:31
Operator : ab Inst ID: msd7.i
Smp Info : 200mL #4199
Misc Info : 7.5"Hg ->5psi
Comment :
Method : /chem/msd7.i/7-07nov.b/t14qO18d.m
Meth Date : 07-Nov-2007 11:47 sruth Quant Type: ISTD
Cal Date : 05-NOV-2007 14:29 Cal File: 7110507.d
Als bottle: 1
Dil Factor: 1.79000
Integrator: HP RTE Compound Sublist: Los2153.sub
Target Version: 3.50 Sample Matrix: AIR
Processing Host: eeyore

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

RT	EXP RT (REL RT)	MASS	RESPONSE	CONCENTRATIONS ON-COL (PPBV)	FINAL (PPBV)	TARGET RANGE	RATIO
* 81 Bromochloromethane					CAS #: 74-97-5		
14.416	14.416 (1.000)	130	619105	25.0000		80.00- 120.00	100.00
14.416	14.416 (1.000)	128	476388			28.66- 128.66	76.95
14.416	14.416 (1.000)	49	1276598			133.49- 233.49	206.20
* 97 1,4-Difluorobenzene					CAS #: 540-36-3		
16.186	16.158 (1.000)	114	2091766	25.0000		80.00- 120.00	100.00
16.186	16.158 (1.000)	88	318338			0.00- 65.23	15.22
* 126 Chlorobenzene-d5					CAS #: 3114-55-4		
21.356	21.356 (1.000)	117	1480617	25.0000		80.00- 120.00	100.00
21.356	21.356 (1.000)	82	794257			4.70- 104.70	53.64
$ 90 1,2-Dichloroethane-d4					CAS #: 17060-07-0		
15.494	15.494 (1.075)	65	775648	23.3212	23.321	80.00- 120.00	100.00
15.494	15.494 (1.075)	67	397788			2.91- 102.91	51.28
$ 113 Toluene-d8					CAS #: 2037-26-5		
18.757	18.757 (1.159)	98	1718279	23.1404	23.140	80.00- 120.00	100.00
18.757	18.757 (1.159)	70	199247			0.00- 61.46	11.60

RT	EXP RT (REL RT)	MASS	RESPONSE	CONCENTRATIONS ON-COL (PPBV)	FINAL (PPBV)	TARGET RANGE	RATIO
$ 113 Toluene-d8 (continued)							
18.757	18.757 (1.159)	100	1199964			19.18- 119.18	69.84
$ 137 Bromofluorobenzene					CAS #: 460-00-4		
23.347	23.347 (1.093)	174	870742	24.7142	24.714	80.00- 120.00	100.00
23.319	23.347 (1.092)	95	1085747			73.89- 173.89	124.69
23.347	23.347 (1.093)	176	834354			48.20- 148.20	95.82
11 Propylene					CAS #: 115-07-1		
5.645	5.617 (0.392)	41	1368886	51.3008	91.828	80.00- 120.00	100.00
5.645	5.617 (0.392)	42	859322			21.19- 121.19	62.78
5.645	5.617 (0.392)	39	1110753			24.83- 124.83	81.14
12 Dichlorodifluoromethane/Fr12					CAS #: 75-71-8		
5.786	5.758 (0.401)	85	81771	0.83580	1.496	80.00- 120.00	100.00
5.758	5.758 (0.399)	87	26803			0.00- 83.07	32.78
22 1,3-Butadiene					CAS #: 106-99-0		
6.969	6.940 (0.483)	54	81982	2.84933	5.100	80.00- 120.00	100.00
6.743	6.940 (0.468)	39	600417			55.97- 155.97	732.38
42 Freon 113					CAS #: 76-13-1		
10.213	10.186 (0.708)	151	69677	1.37258	2.457	80.00- 120.00	100.00
10.213	10.186 (0.708)	153	45895			13.12- 113.12	65.87
10.213	10.186 (0.708)	101	87869			67.28- 167.28	126.11
43 1,1-Dichloroethene					CAS #: 75-35-4		
10.352	10.324 (0.718)	61	56107	1.03870	1.859	80.00- 120.00	100.00
10.352	10.324 (0.718)	96	36157			9.78- 109.78	64.44
10.352	10.324 (0.718)	98	22396			0.00- 88.25	39.92
45 Acetone					CAS #: 67-64-1		
10.517	10.490 (0.730)	58	1134489	67.9484	121.63	80.00- 120.00	100.00
10.490	10.490 (0.728)	43	3683201			247.10- 347.10	324.66
46 2-Propanol					CAS #: 67-63-0		
10.711	10.683 (0.743)	45	146689	2.47633	4.433	80.00- 120.00	100.00
10.490	10.683 (0.728)	43	3683201			0.00- 75.54	2510.89
10.683	10.683 (0.741)	59	7930			0.00- 53.72	5.41
47 Carbon Disulfide					CAS #: 75-15-0		
10.905	10.877 (0.756)	76	94240	0.91443	1.637	80.00- 120.00	100.00
54 Methylene Chloride					CAS #: 75-09-2		
11.485	11.457 (0.797)	49	273720	6.89234	12.337	80.00- 120.00	100.00
11.485	11.457 (0.797)	84	200864			19.98- 119.98	73.38

RT	EXP RT (REL RT)	MASS	RESPONSE	CONCENTRATIONS ON-COL (PPBV)	FINAL (PPBV)	TARGET RANGE	RATIO
54 Methylene Chloride (continued)							
11.485	11.457 (0.797)	51	84361			0.00- 80.85	30.82
65 Hexane					CAS #: 110-54-3		
12.287	12.287 (0.852)	57	56176	1.07261	1.920	80.00- 120.00	100.00
12.315	12.287 (0.854)	43	63680			17.84- 117.84	113.36
12.342	12.287 (0.856)	86	8089			0.00- 65.07	14.40
75 2-Butanone					CAS #: 78-93-3		
13.891	13.891 (0.964)	72	139681	10.4171	18.646	80.00- 120.00	100.00
13.891	13.891 (0.964)	43	653421			412.48- 512.48	467.80
13.891	13.891 (0.964)	57	52585			0.00- 86.57	37.65
82 Chloroform					CAS #: 67-66-3		
14.471	14.471 (1.004)	83	4508501	72.3274	129.47	80.00- 120.00	100.00
14.471	14.471 (1.004)	85	2905401			15.69- 115.69	64.44
83 1,1,1-Trichloroethane					CAS #: 71-55-6		
14.831	14.831 (1.029)	97	185209	2.95050	5.281	80.00- 120.00	100.00
14.831	14.831 (1.029)	99	120849			14.03- 114.03	65.25
85 Cyclohexane					CAS #: 110-82-7		
14.858	14.831 (1.031)	84	19584	0.54470	0.9750	80.00- 120.00	100.00
14.831	14.831 (1.029)	56	45887			76.16- 176.16	234.31
14.803	14.831 (1.027)	41	32929			19.79- 119.79	168.14
87 Carbon Tetrachloride					CAS #: 56-23-5		
15.107	15.107 (1.048)	119	795101	13.5125	24.187	80.00- 120.00	100.00
15.107	15.107 (1.048)	117	826056			53.14- 153.14	103.89
91 Benzene					CAS #: 71-43-2		
15.522	15.522 (0.959)	78	79615	0.95793	1.715	80.00- 120.00	100.00
15.522	15.522 (0.959)	77	21822			0.00- 71.87	27.41
94 Heptane					CAS #: 142-82-5		
15.716	15.715 (0.971)	71	16295	0.63750	1.141	80.00- 120.00	100.00
15.716	15.715 (0.971)	43	29118			158.53- 258.53	178.69
15.716	15.715 (0.971)	57	13859			59.34- 159.34	85.05
101 Trichloroethene					CAS #: 79-01-6		
16.656	16.628 (1.029)	95	1842666	49.9113	89.341	80.00- 120.00	100.00
16.656	16.628 (1.029)	130	1837873			51.11- 151.11	99.74
16.656	16.628 (1.029)	97	1190847			15.04- 115.04	64.63
107 Bromodichloromethane					CAS #: 75-27-4		
17.568	17.540 (1.085)	83	34152	0.53282	0.9538	80.00- 120.00	100.00

RT	EXP RT (REL RT)	MASS	RESPONSE	CONCENTRATIONS ON-COL (PPBV)	FINAL (PPBV)	TARGET RANGE	RATIO
107 Bromodichloromethane (continued)							
17.568	17.540 (1.085)	85	22961			14.03- 114.03	67.23
111 4-Methyl-2-pentanone					CAS #: 108-10-1		
18.508	18.508 (1.143)	58	12323	0.49546	0.8869	80.00- 120.00	100.00(a)
18.508	18.508 (1.143)	43	36781			222.97- 322.97	298.47
18.508	18.508 (1.143)	85	5127			0.00- 90.48	41.61
114 Toluene					CAS #: 108-88-3		
18.895	18.895 (1.167)	91	88540	0.97262	1.741	80.00- 120.00	100.00
18.895	18.895 (1.167)	92	55365			12.90- 112.90	62.53
120 Tetrachloroethene					CAS #: 127-18-4		
19.835	19.835 (0.929)	166	1127263	28.3413	50.731	80.00- 120.00	100.00
19.835	19.835 (0.929)	129	797940			21.07- 121.07	70.79
19.835	19.835 (0.929)	131	771911			18.33- 118.33	68.48
150 1,2,4-Trimethylbenzene					CAS #: 95-63-6		
24.563	24.563 (1.150)	105	101165	1.27764	2.287	80.00- 120.00	100.00
24.563	24.563 (1.150)	120	13870			0.00- 98.95	13.71

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).

Air Toxics Ltd.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd7.i
Lab File ID: 7110721.d
Lab Smp Id: 0711101-04A
Analysis Type: VOA
Quant Type: ISTD
Operator: ab
Method File: /chem/msd7.i/7-07nov.b/t14qO18d.m
Misc Info: 7.5"Hg ->5psi

Calibration Date: 07-NOV-2007
Calibration Time: 08:52

Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
81 Bromochloromethan	695461	417277	973645	619105	-10.98
97 1,4-Difluorobenze	2265681	1359409	3171953	2091766	-7.68
126 Chlorobenzene-d5	1765821	1059493	2472149	1480617	-16.15

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
81 Bromochloromethan	14.42	14.09	14.75	14.42	0.00
97 1,4-Difluorobenze	16.16	15.83	16.49	16.19	0.17
126 Chlorobenzene-d5	21.36	21.03	21.69	21.36	0.00

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Air Toxics Ltd.

RECOVERY REPORT

Client Name: Client SDG: 7-07nov
Sample Matrix: GAS Fraction: VOA
Lab Smp Id: 0711101-04A
Level: LOW Operator: ab
Data Type: MS DATA SampleType: SAMPLE
SpikeList File: 2926spectra.spk Quant Type: ISTD
Sublist File: Los2153.sub
Method File: /chem/msd7.i/7-07nov.b/t14qO18d.m
Misc Info: 7.5"Hg ->5psi

SURROGATE COMPOUND	CONC ADDED PPBV	CONC RECOVERED PPBV	% RECOVERED	LIMITS
$ 90 1,2-Dichloroethane	25.000	23.321	93.28	70-130
$ 113 Toluene-d8	25.000	23.140	92.56	70-130
$ 137 Bromofluorobenzene	25.000	24.714	98.86	70-130

Data File: /chem/msd7.i/7-07nov.b/7110721.d

Date : 08-NOV-2007 01:31

Client ID:

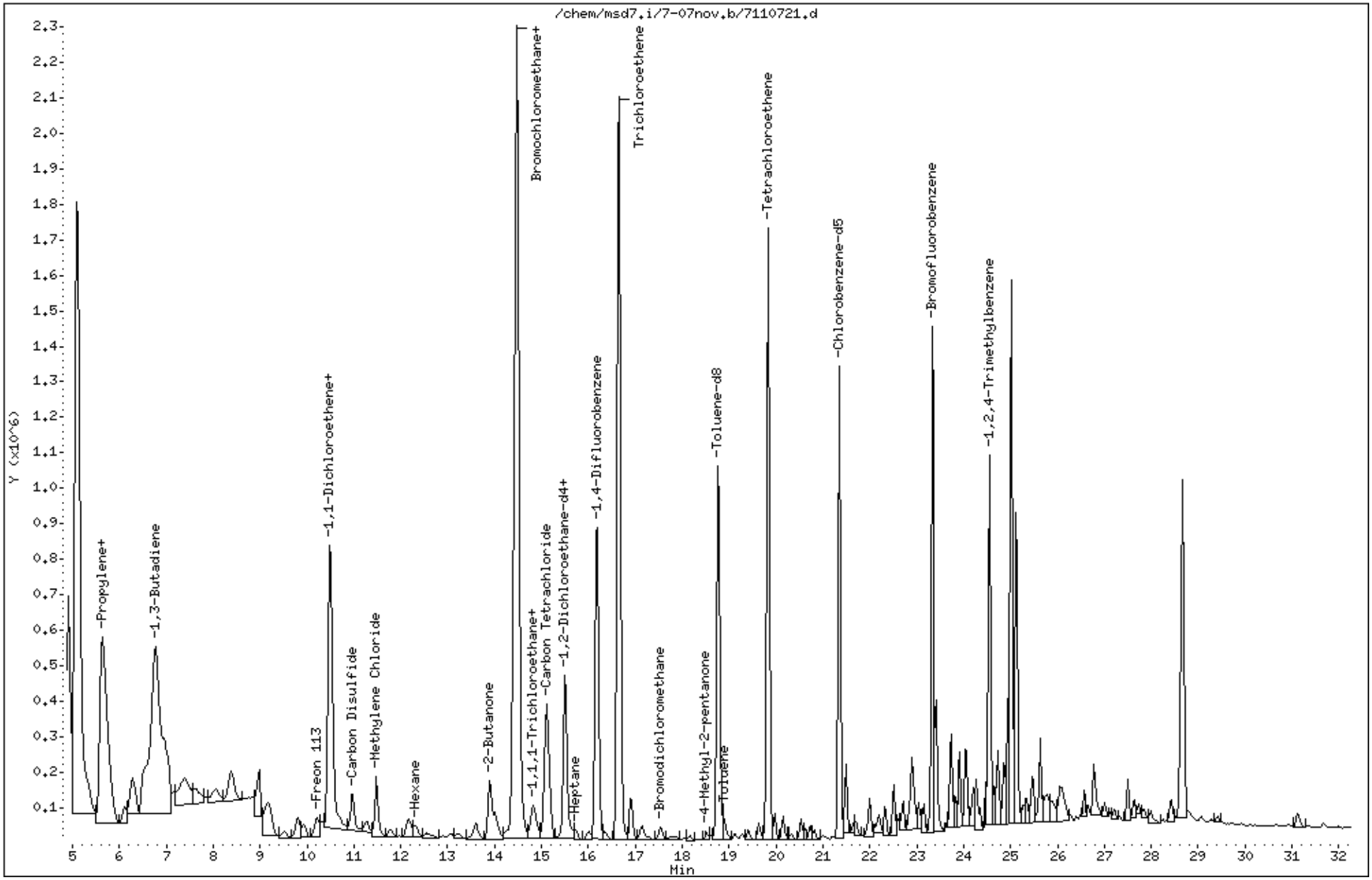
Sample Info: 200mL #4199

Column phase: RTx-624

Instrument: msd7.i

Operator: ab

Column diameter: 0.53



Data File: /chem/msd7.i/7-07nov.b/7110721.d

Date : 08-NOV-2007 01:31

Client ID:

Instrument: msd7.i

Sample Info: 200mL #4199

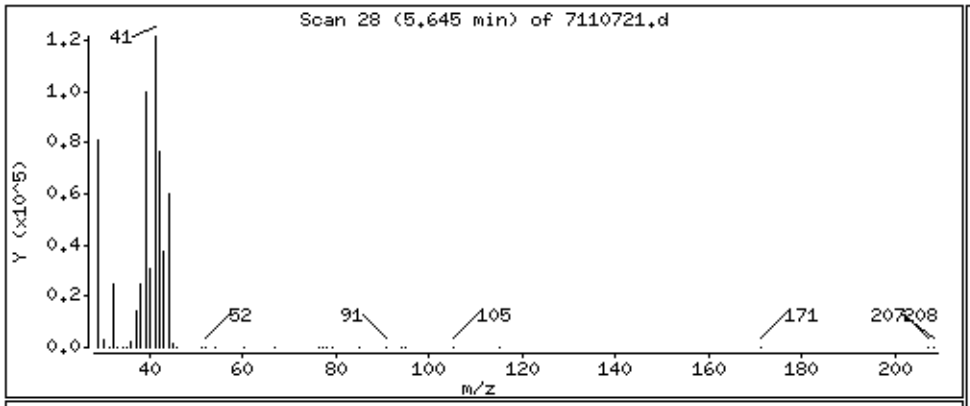
Operator: ab

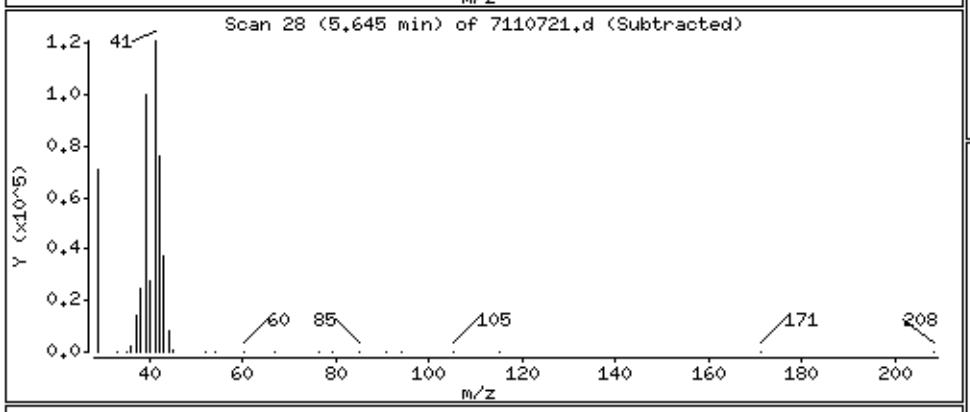
Column phase: RTx-624

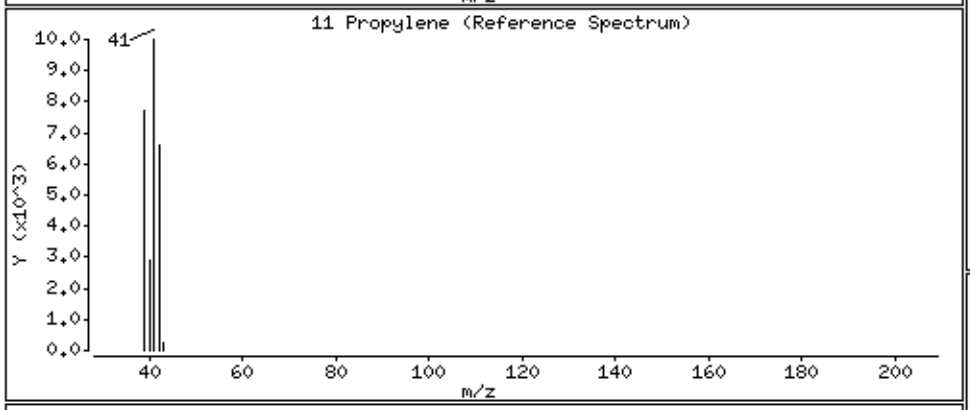
Column diameter: 0.53

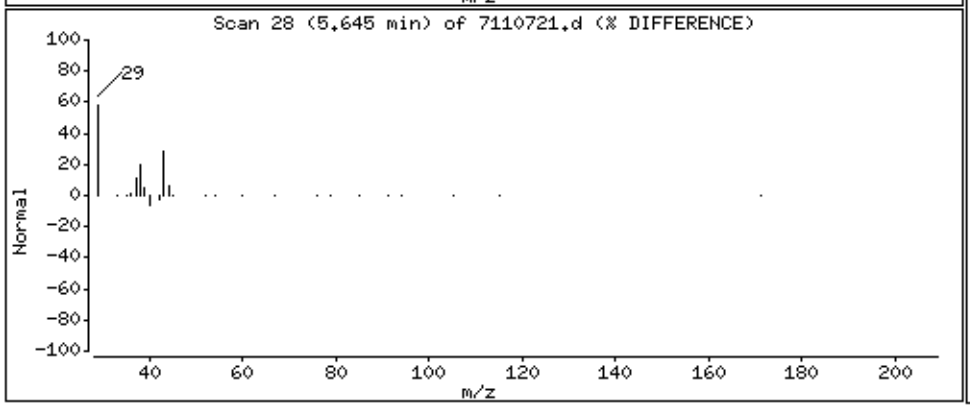
11 Propylene

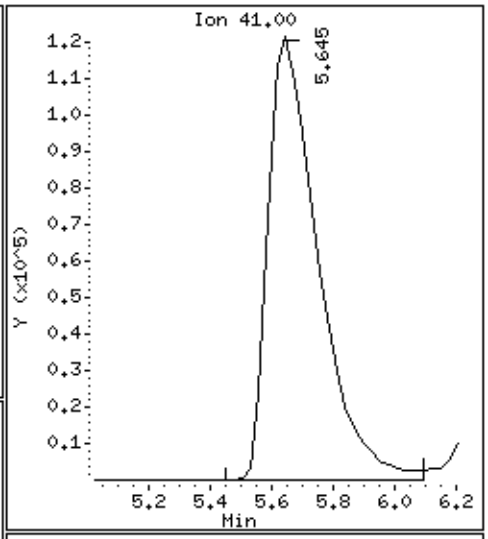
Concentration: 91.828 PPBV

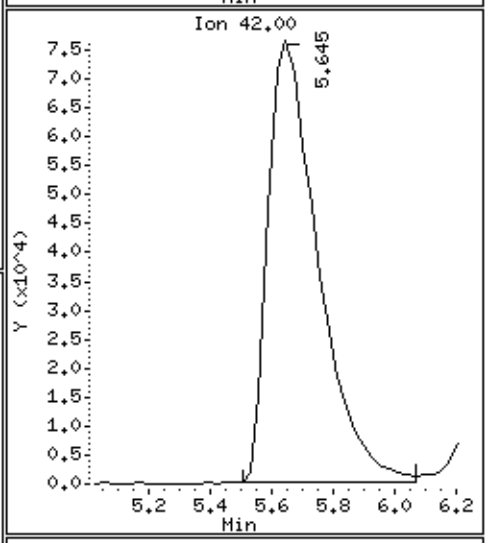


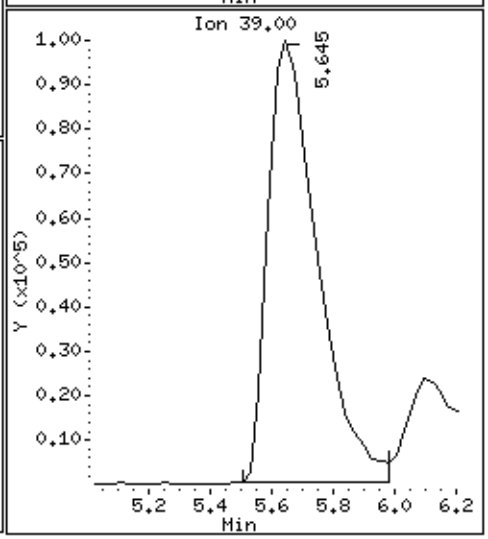












Data File: /chem/msd7.i/7-07nov.b/7110721.d

Date : 08-NOV-2007 01:31

Client ID:

Instrument: msd7.i

Sample Info: 200mL #4199

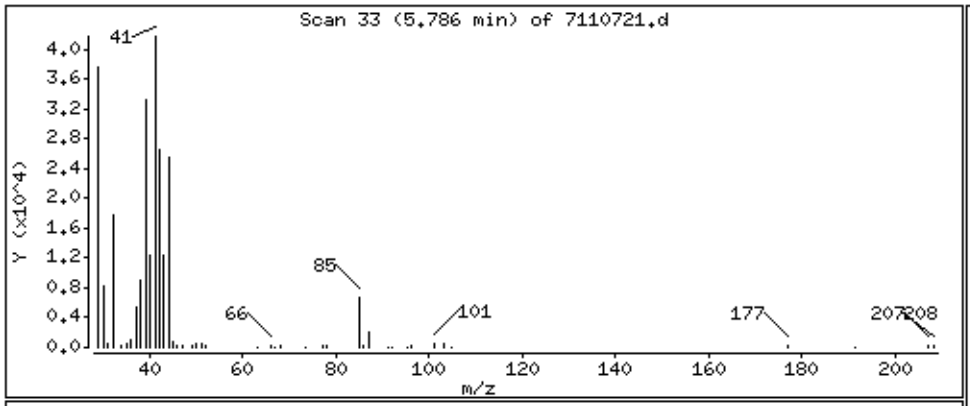
Operator: ab

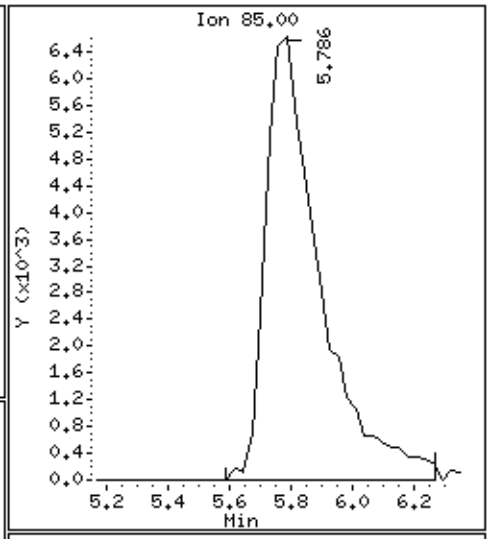
Column phase: RTx-624

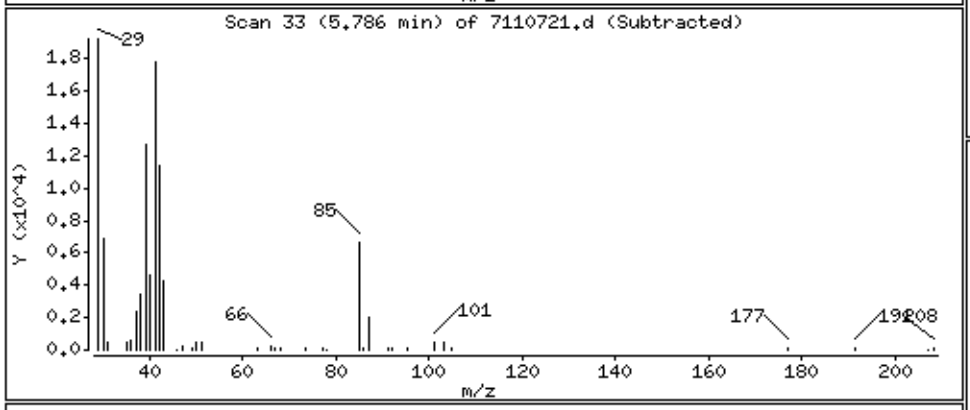
Column diameter: 0.53

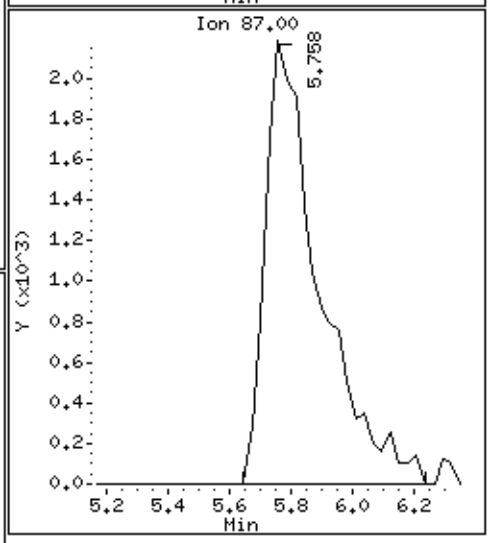
12 Dichlorodifluoromethane/Fr12

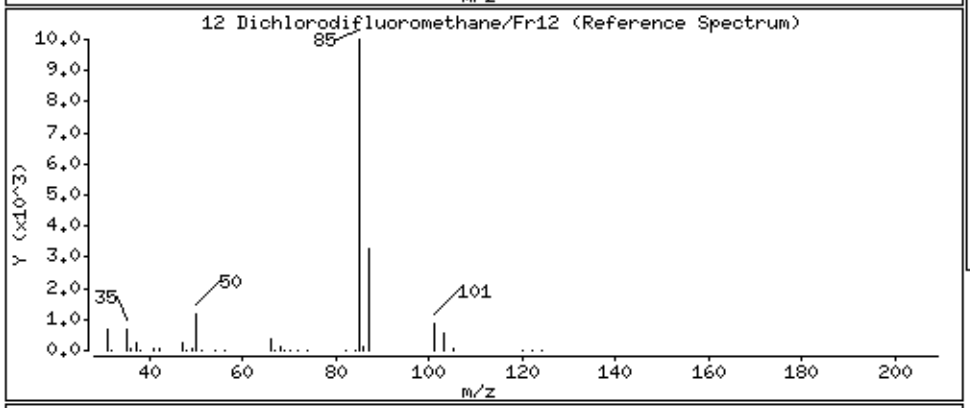
Concentration: 1.496 PPBV

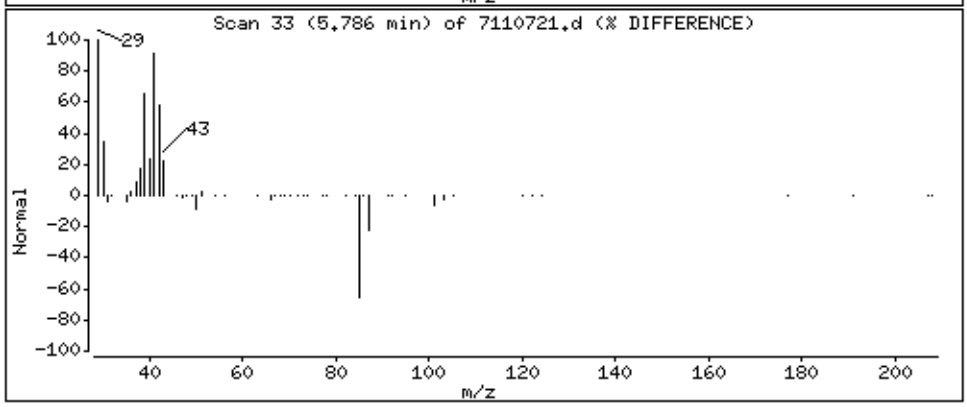












Data File: /chem/msd7.i/7-07nov.b/7110721.d

Date : 08-NOV-2007 01:31

Client ID:

Instrument: msd7.i

Sample Info: 200mL #4199

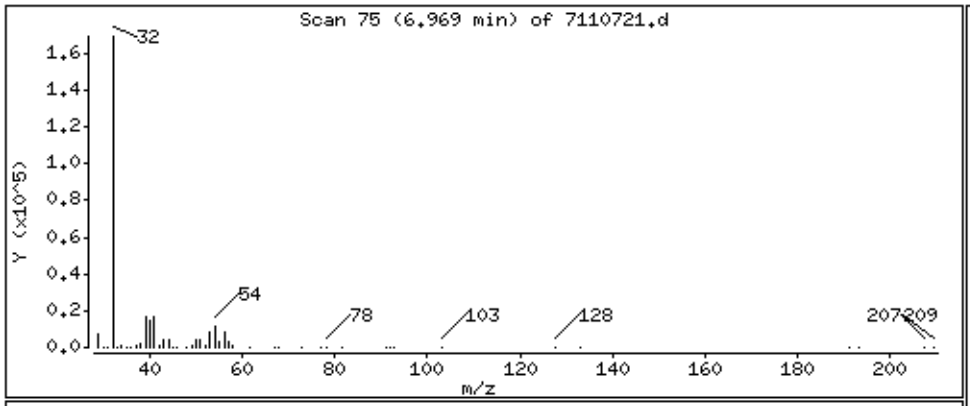
Operator: ab

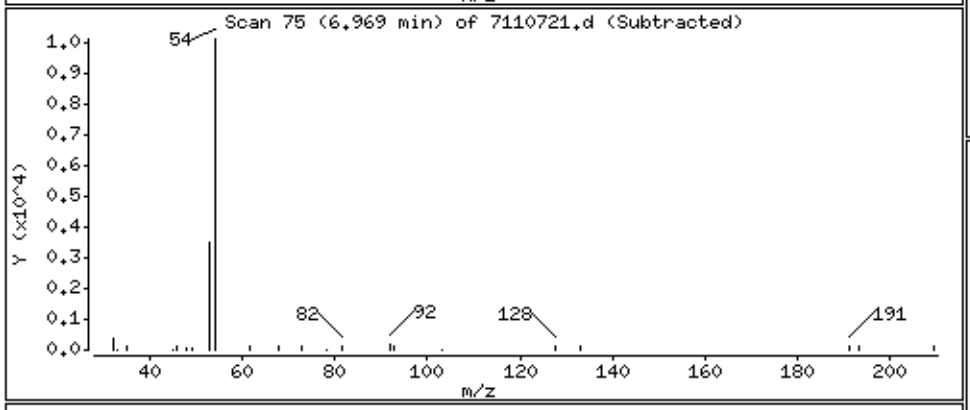
Column phase: RTx-624

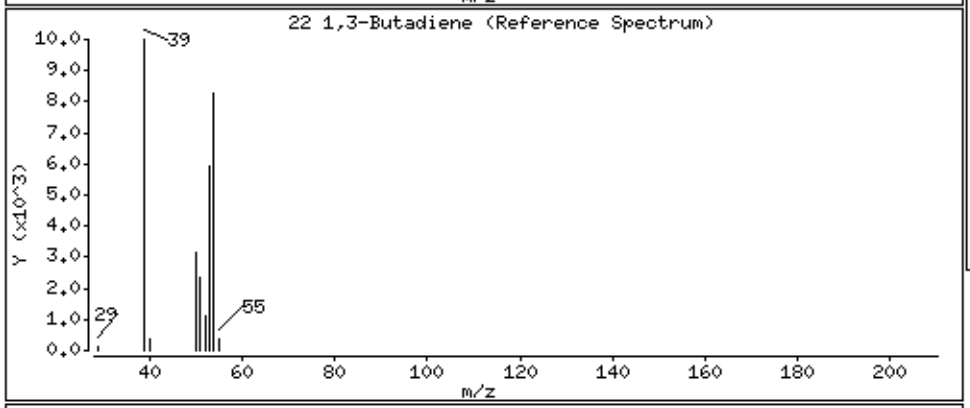
Column diameter: 0.53

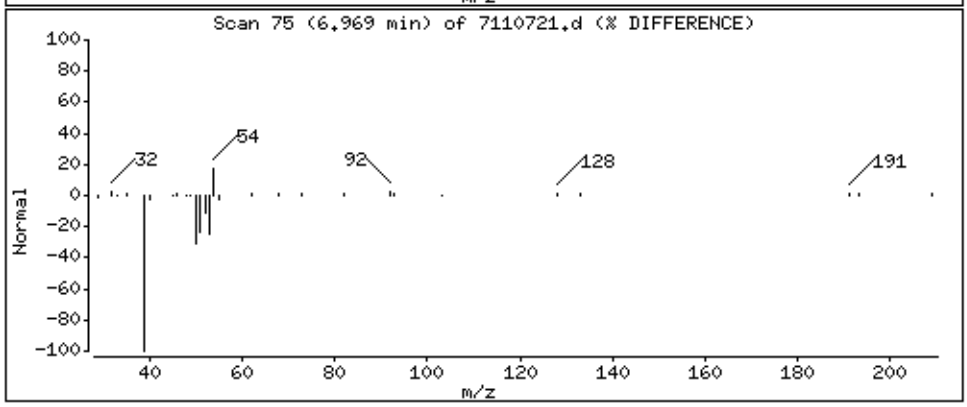
22 1,3-Butadiene

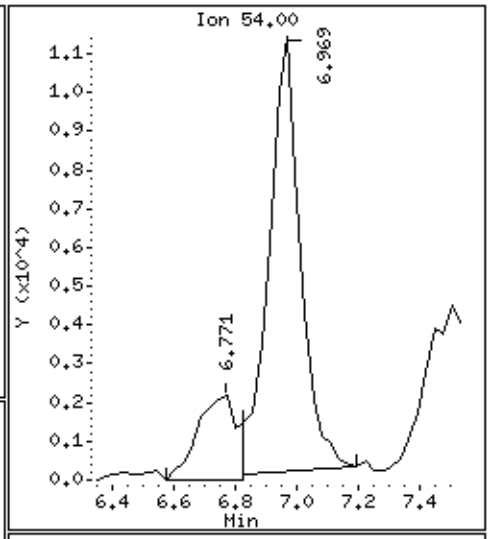
Concentration: 5.100 PPBV

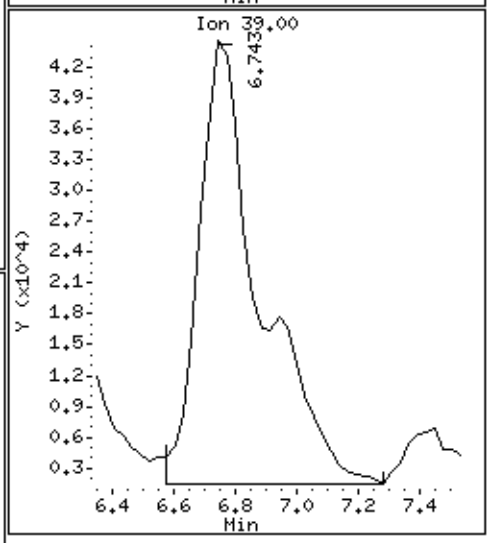












Data File: /chem/msd7.i/7-07nov.b/7110721.d

Date : 08-NOV-2007 01:31

Client ID:

Instrument: msd7.i

Sample Info: 200mL #4199

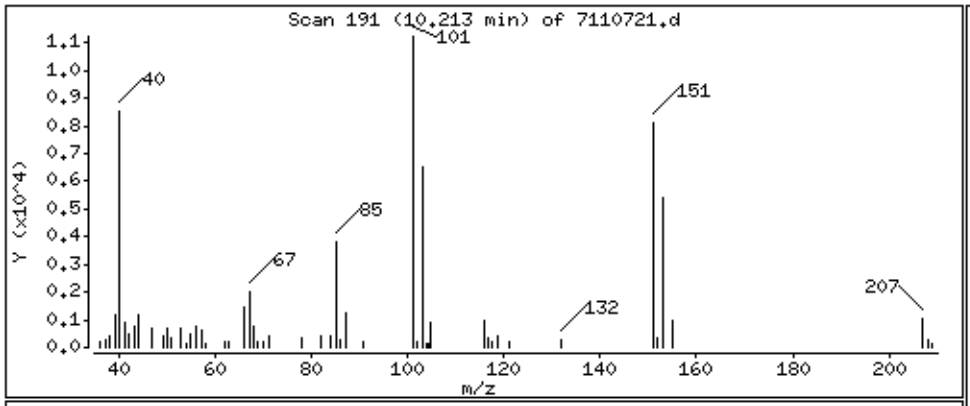
Operator: ab

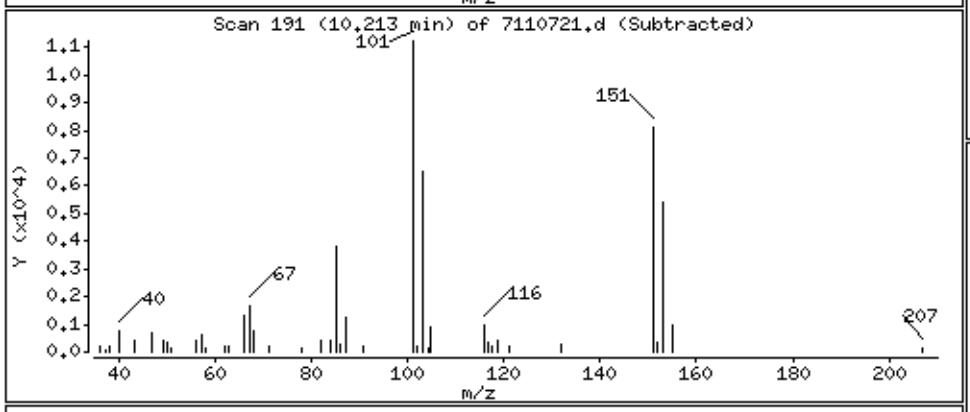
Column phase: RTx-624

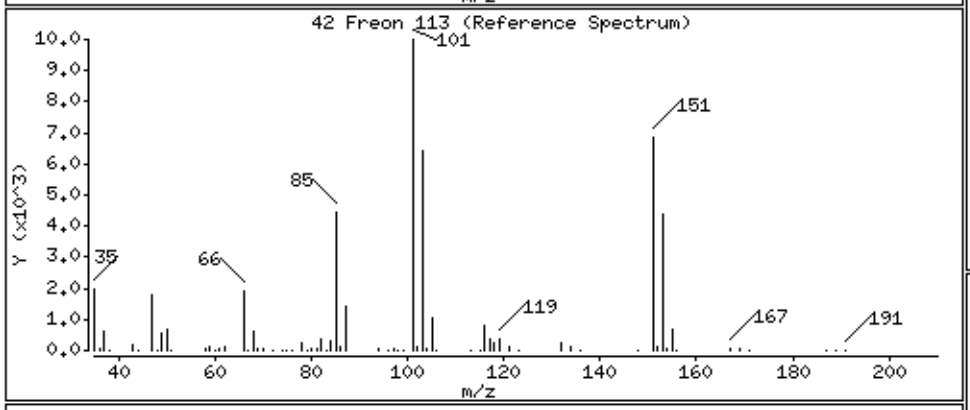
Column diameter: 0.53

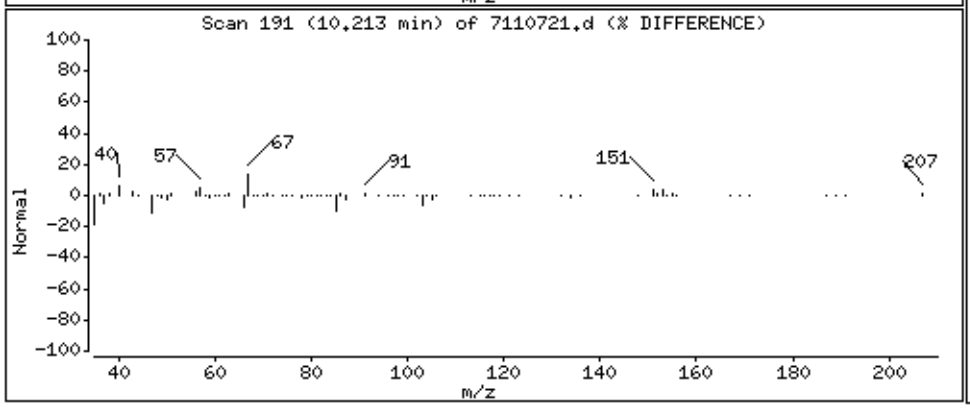
42 Freon 113

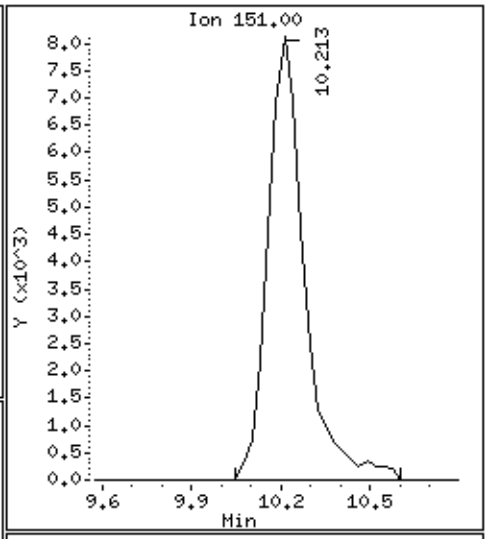
Concentration: 2.457 PPBV

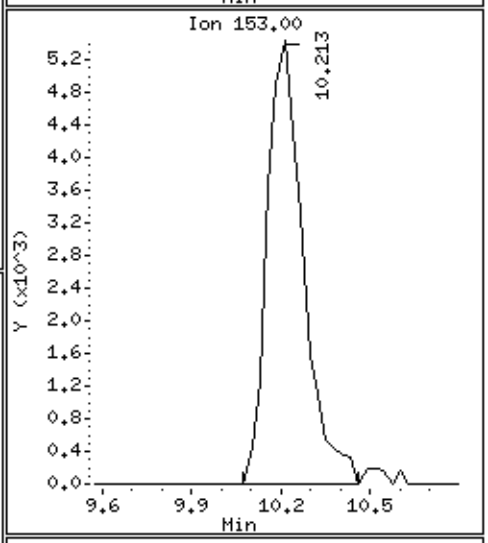


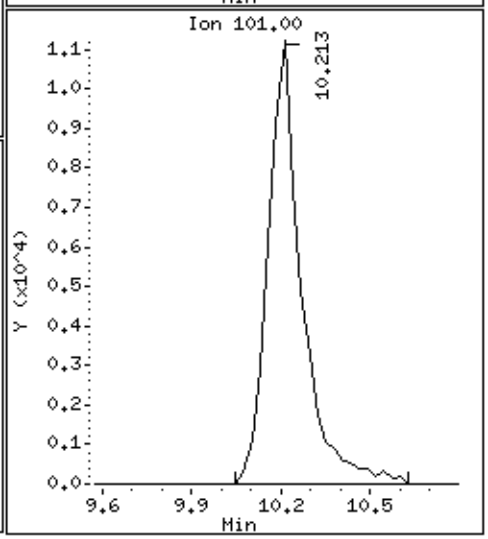












Data File: /chem/msd7.i/7-07nov.b/7110721.d

Date : 08-NOV-2007 01:31

Client ID:

Instrument: msd7.i

Sample Info: 200mL #4199

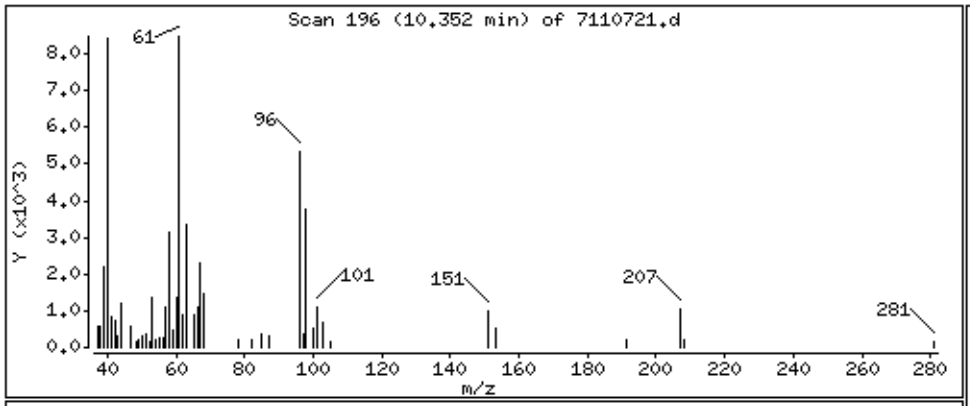
Operator: ab

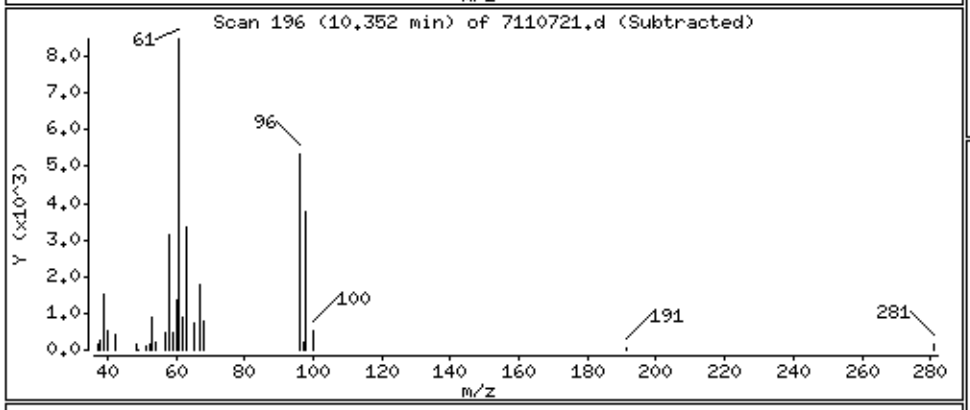
Column phase: RTx-624

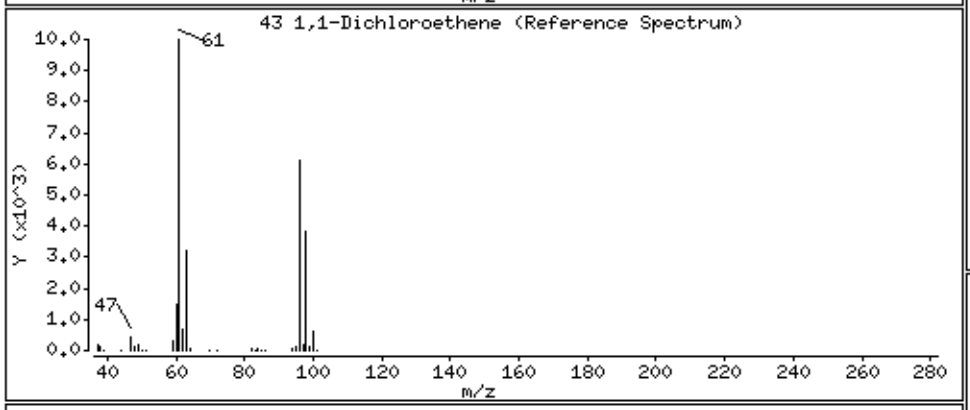
Column diameter: 0.53

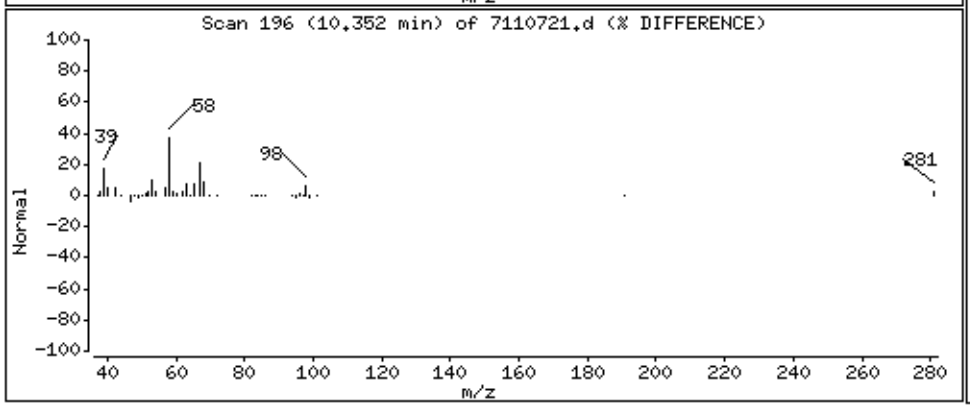
43 1,1-Dichloroethene

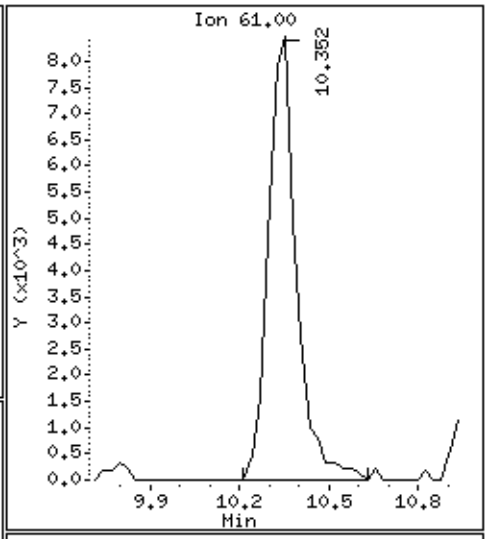
Concentration: 1.859 PPBV

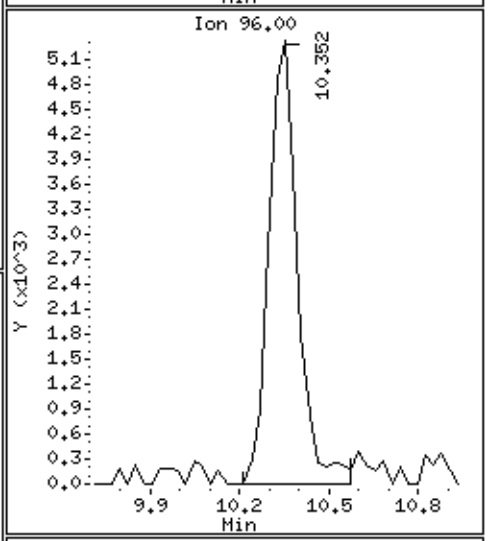


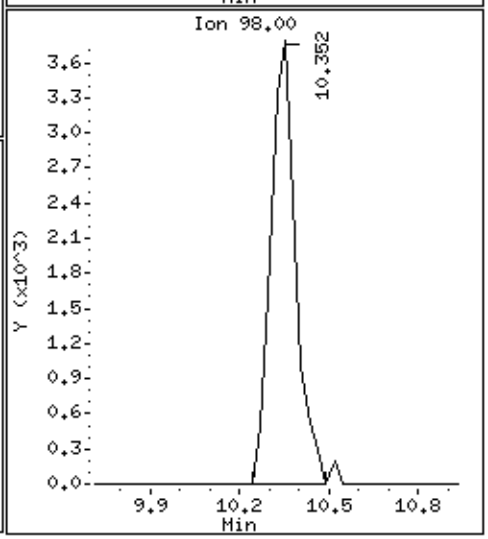












Data File: /chem/msd7.i/7-07nov.b/7110721.d

Date : 08-NOV-2007 01:31

Client ID:

Instrument: msd7.i

Sample Info: 200mL #4199

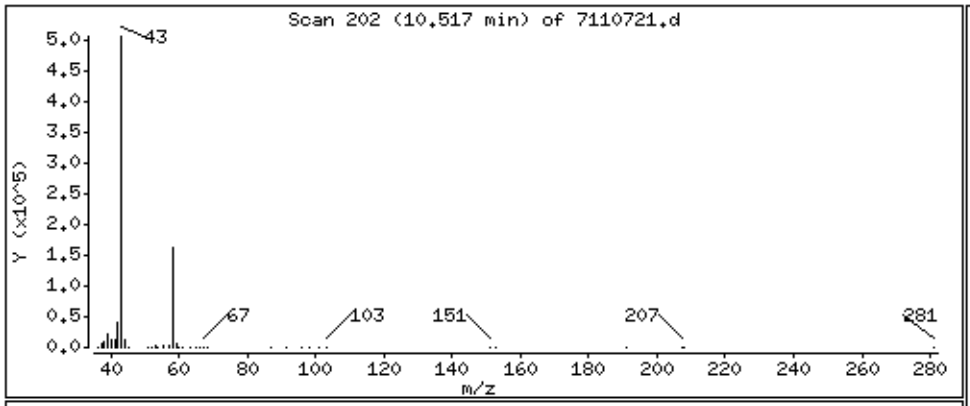
Operator: ab

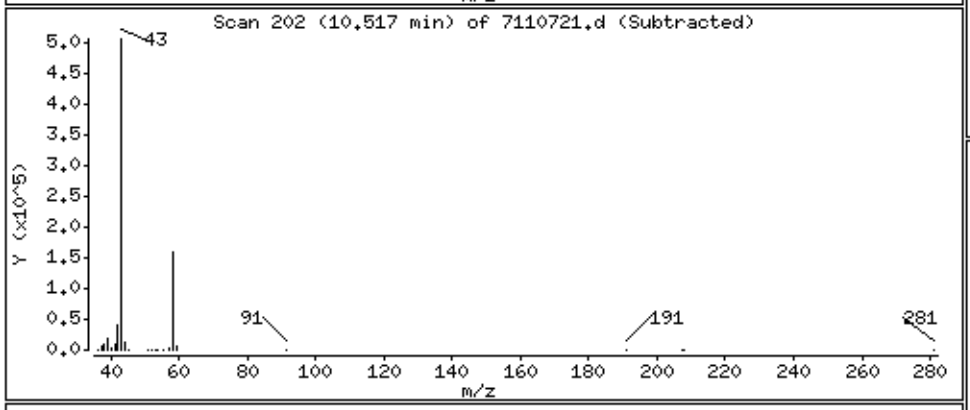
Column phase: RTx-624

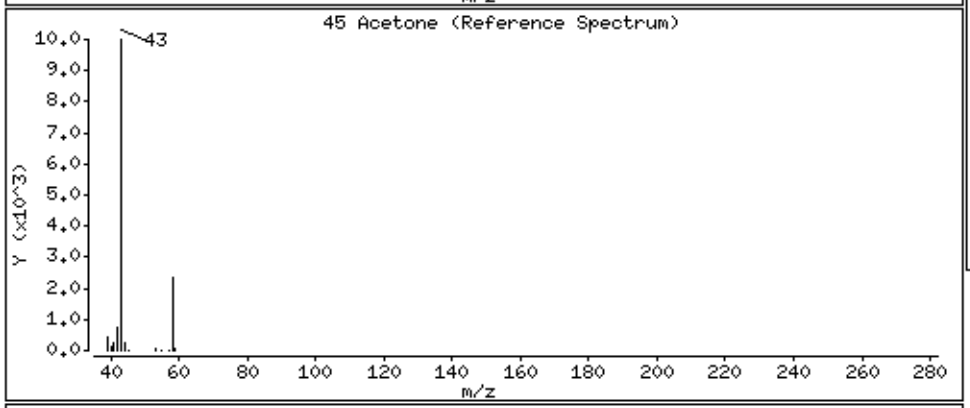
Column diameter: 0.53

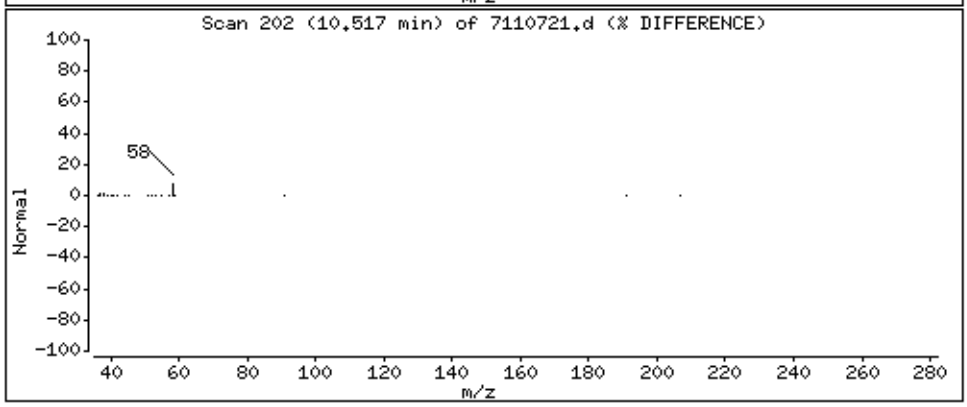
45 Acetone

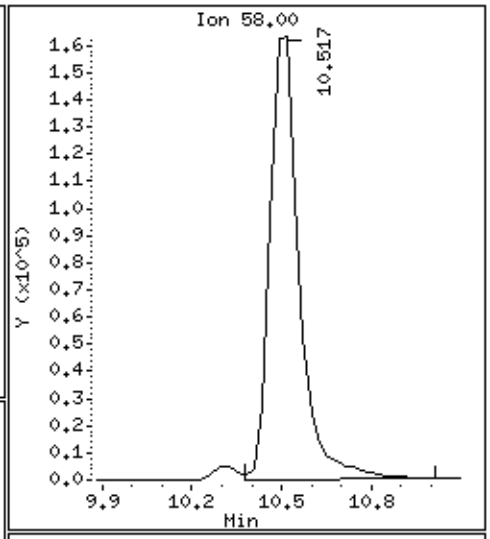
Concentration: 121.63 PPBV

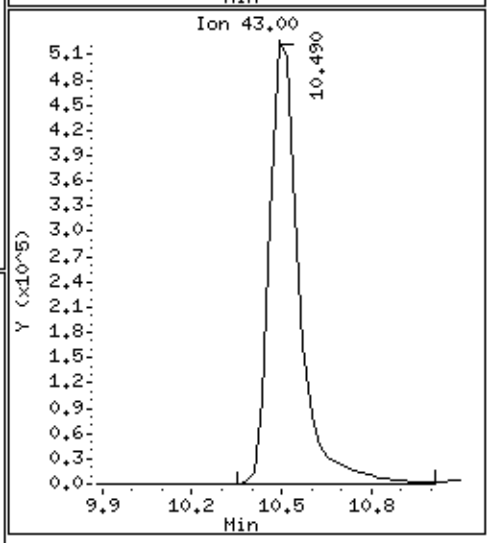












Data File: /chem/msd7.i/7-07nov.b/7110721.d

Date : 08-NOV-2007 01:31

Client ID:

Instrument: msd7.i

Sample Info: 200mL #4199

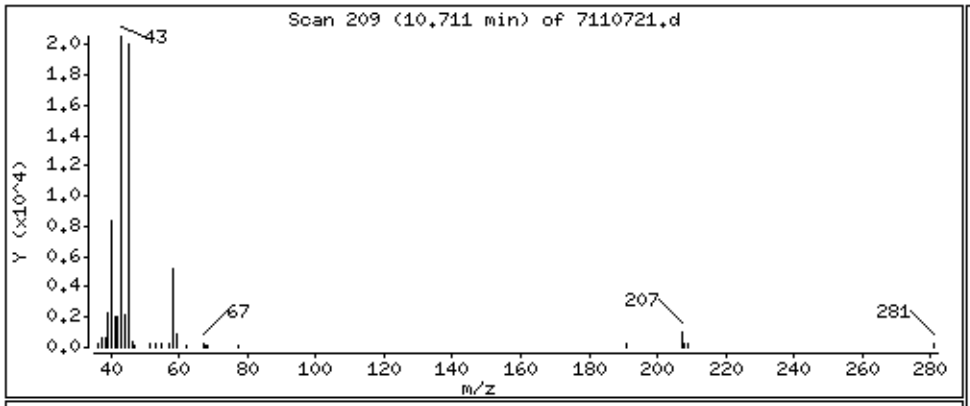
Operator: ab

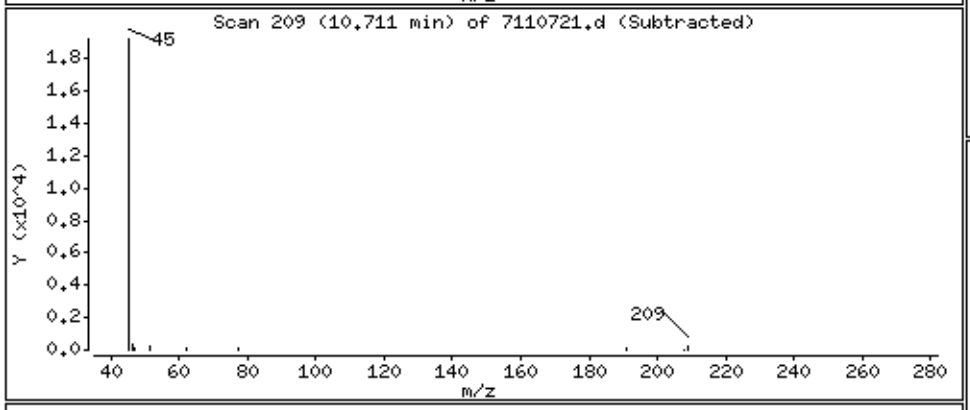
Column phase: RTx-624

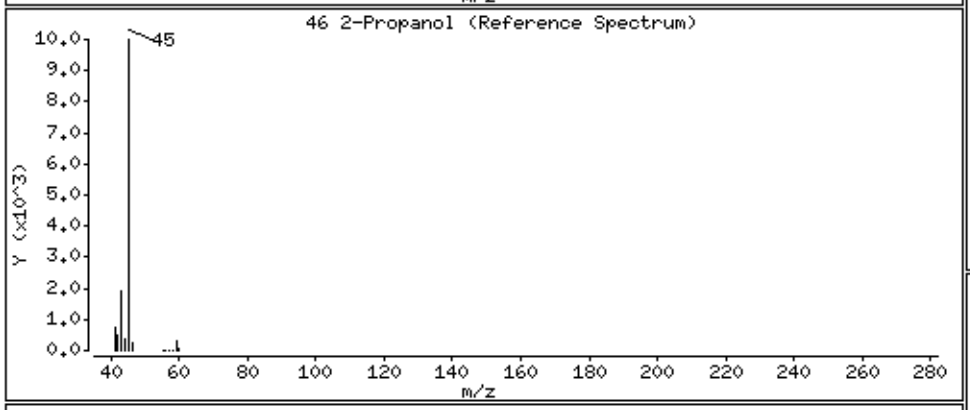
Column diameter: 0.53

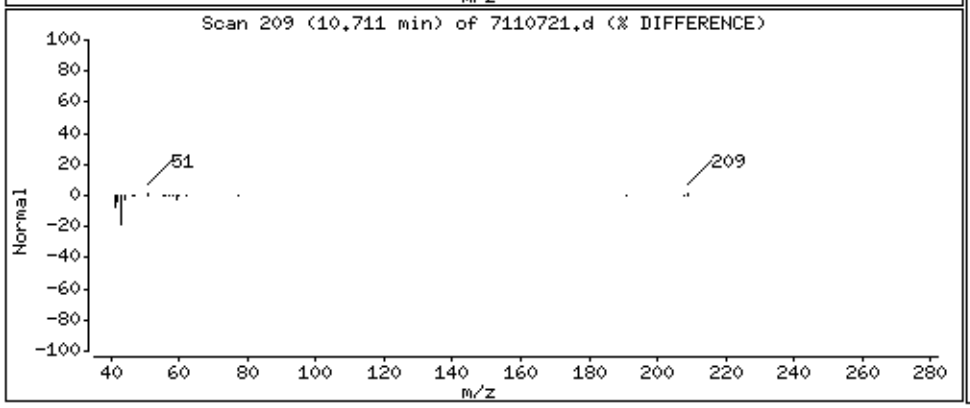
46 2-Propanol

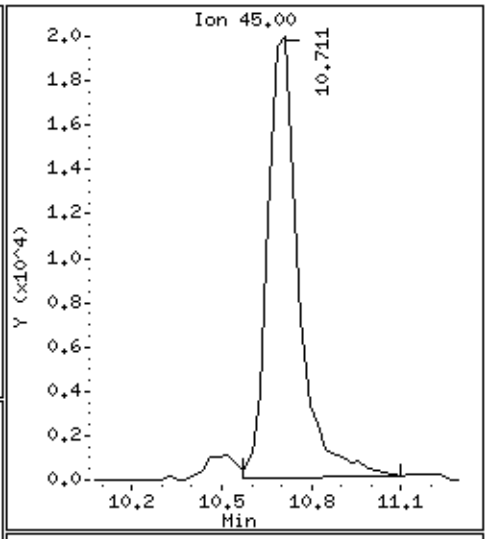
Concentration: 4.433 PPBV

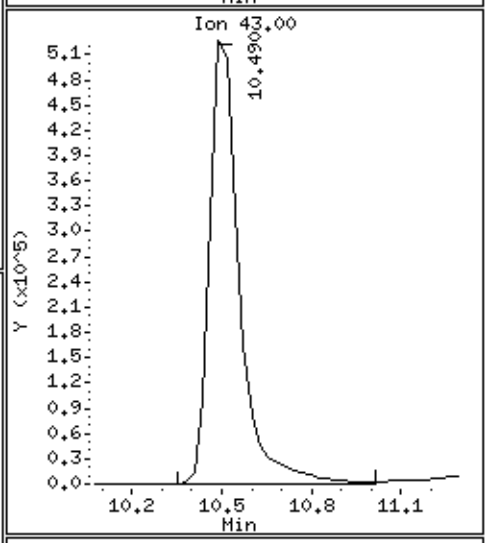


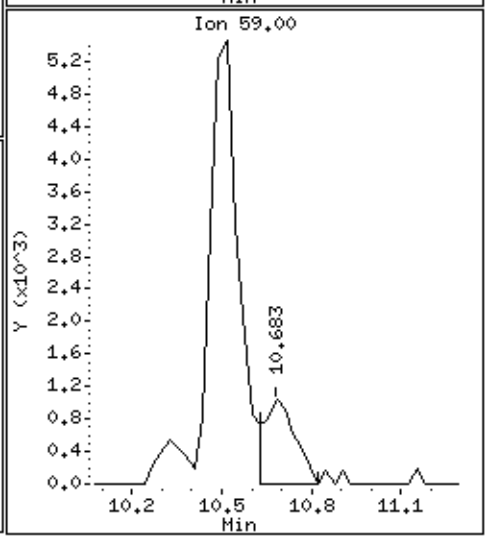












Data File: /chem/msd7.i/7-07nov.b/7110721.d

Date : 08-NOV-2007 01:31

Client ID:

Instrument: msd7.i

Sample Info: 200mL #4199

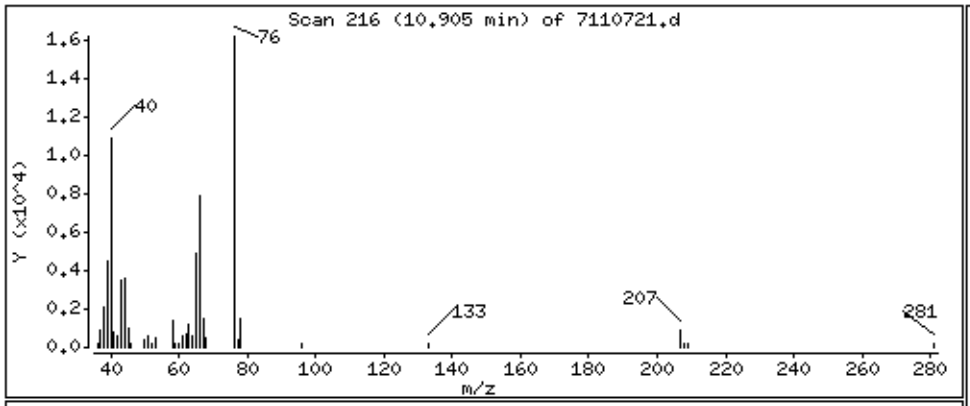
Operator: ab

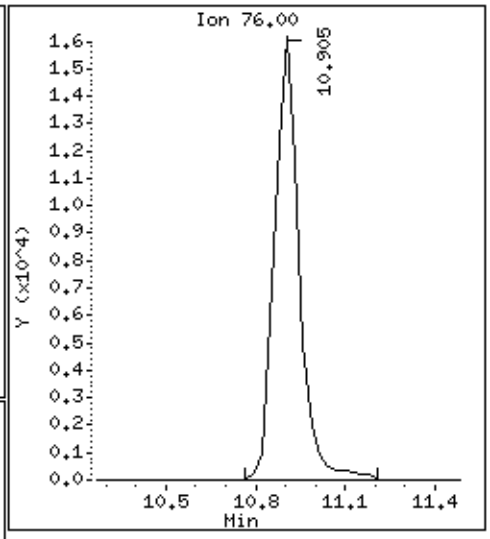
Column phase: RTx-624

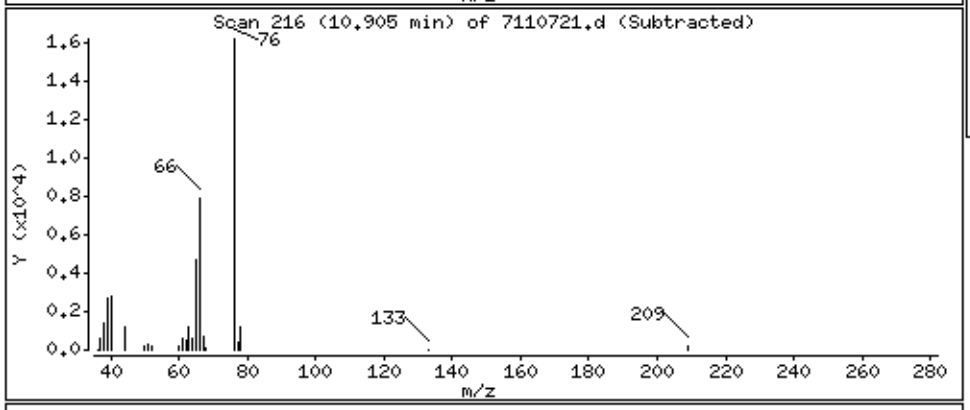
Column diameter: 0.53

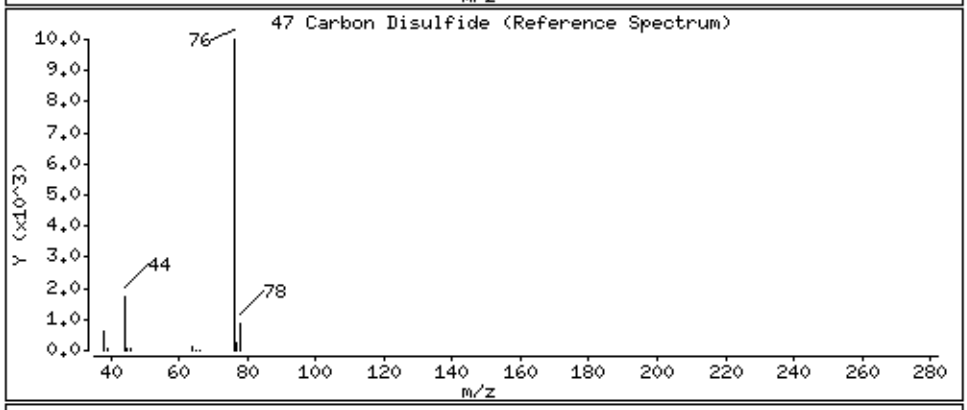
47 Carbon Disulfide

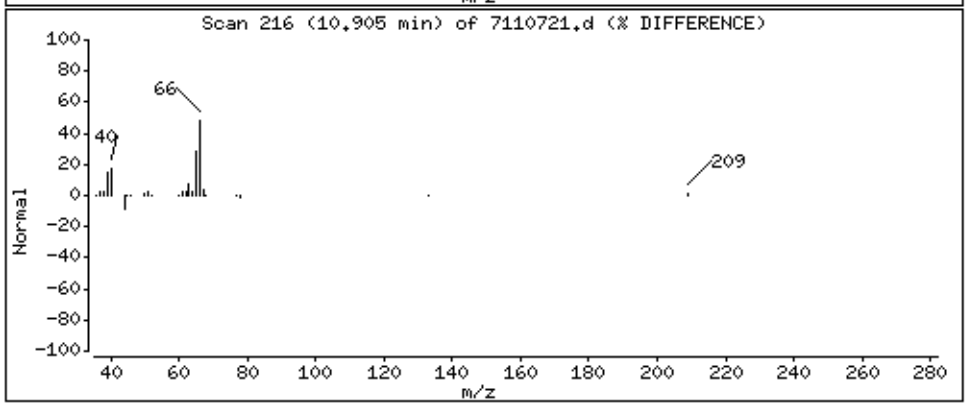
Concentration: 1.637 PPBV











Data File: /chem/msd7.i/7-07nov.b/7110721.d

Date : 08-NOV-2007 01:31

Client ID:

Instrument: msd7.i

Sample Info: 200mL #4199

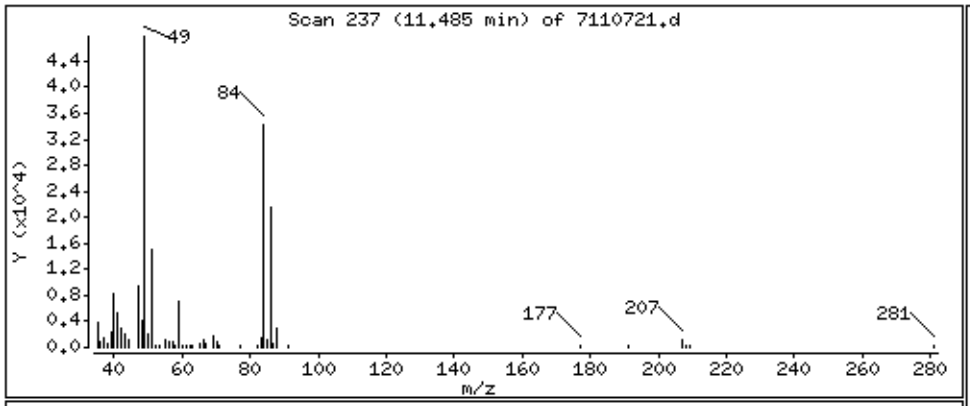
Operator: ab

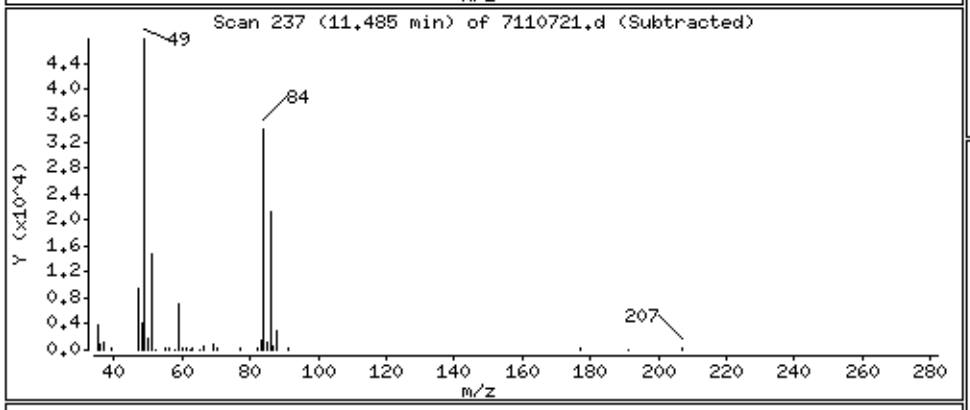
Column phase: RTx-624

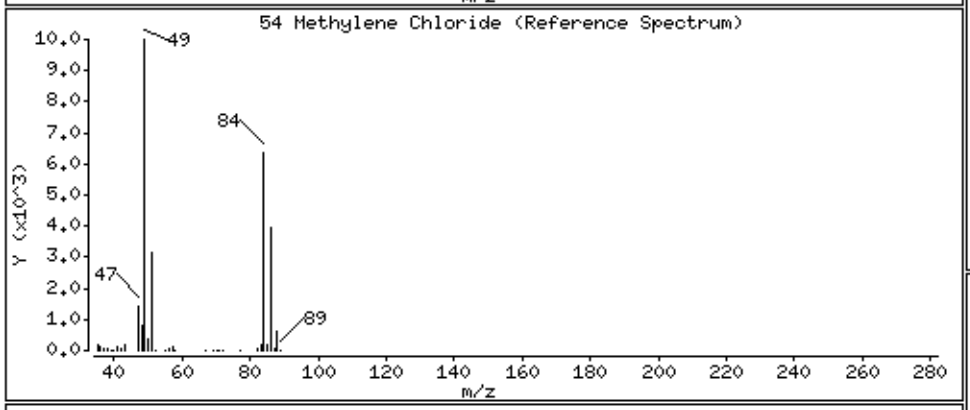
Column diameter: 0.53

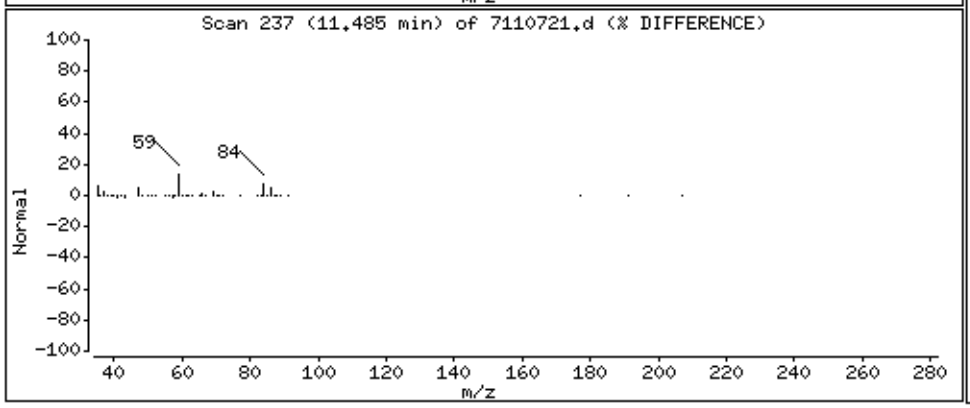
54 Methylene Chloride

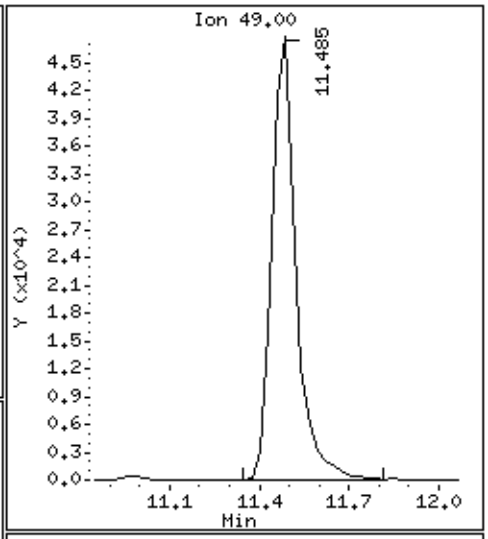
Concentration: 12.337 PPBV

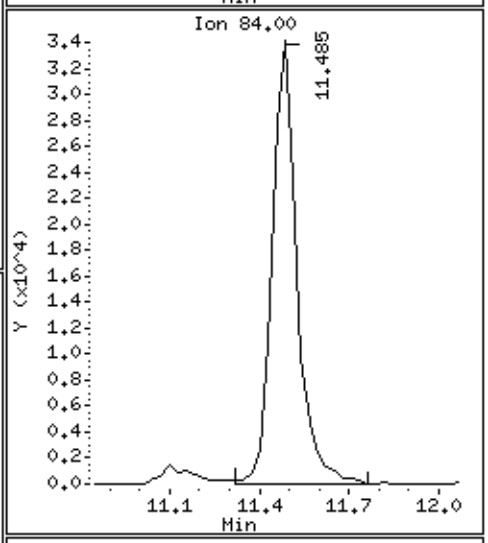


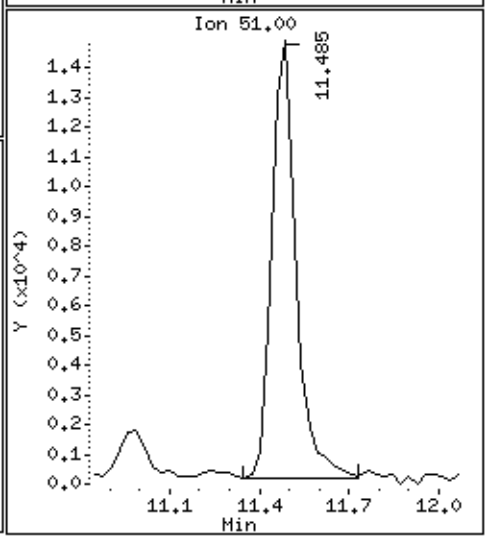












Data File: /chem/msd7.i/7-07nov.b/7110721.d

Date : 08-NOV-2007 01:31

Client ID:

Instrument: msd7.i

Sample Info: 200mL #4199

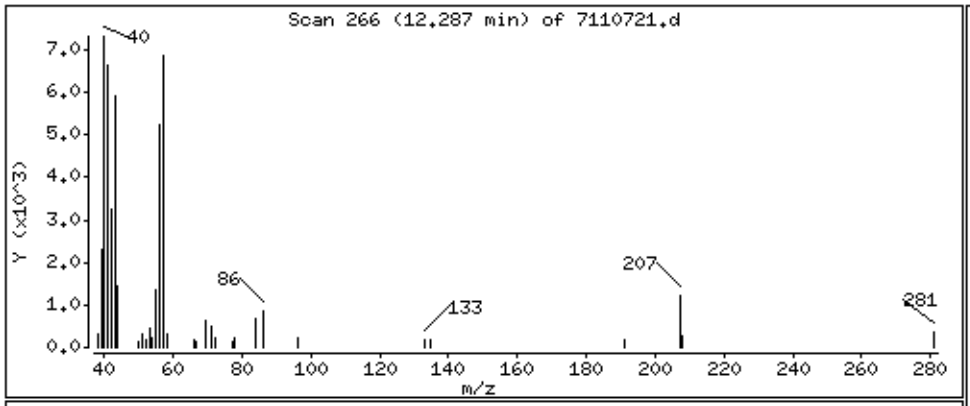
Operator: ab

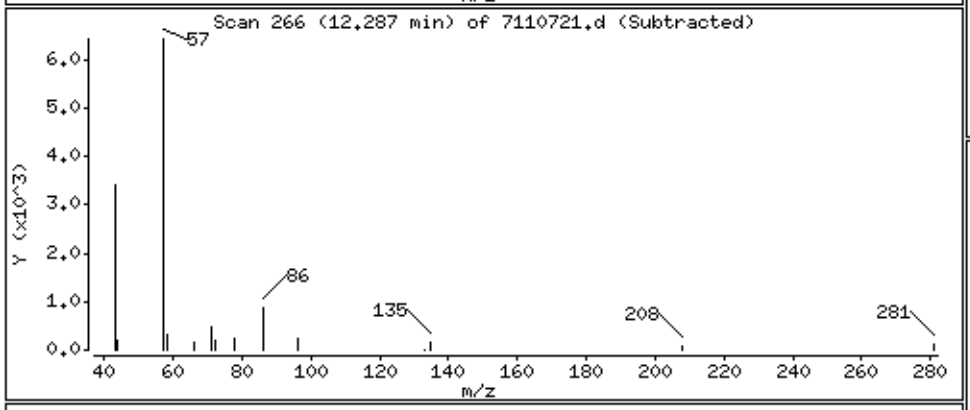
Column phase: RTx-624

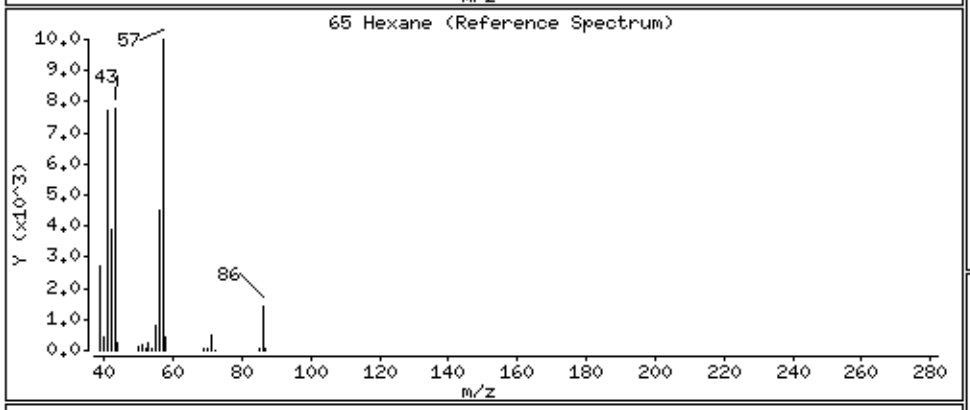
Column diameter: 0.53

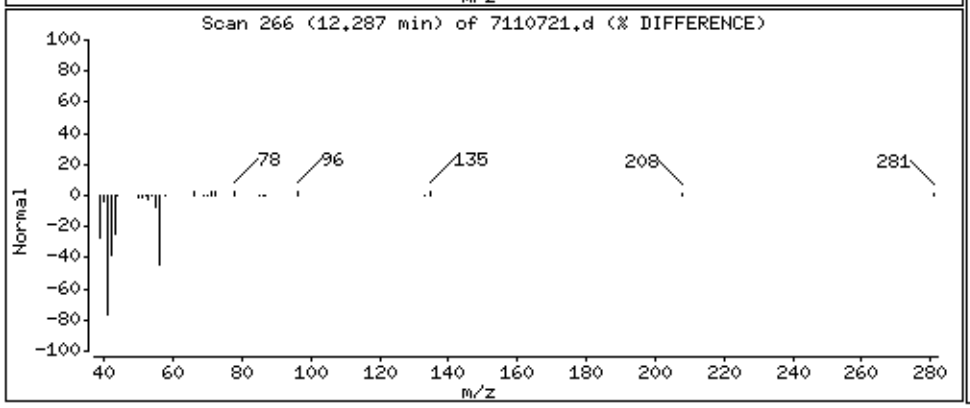
65 Hexane

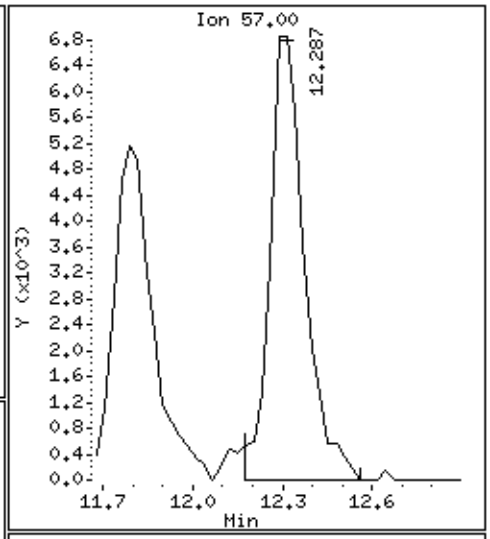
Concentration: 1.920 PPBV

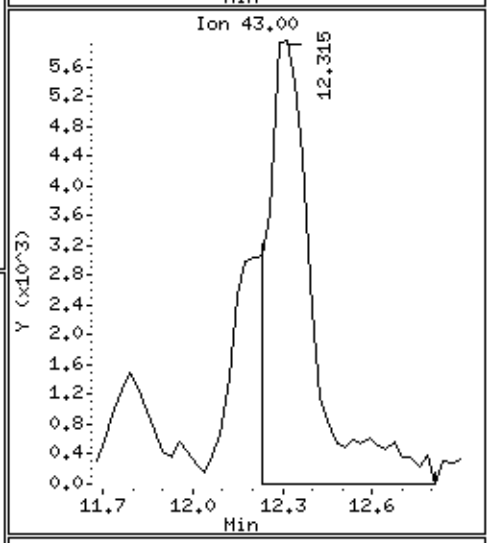


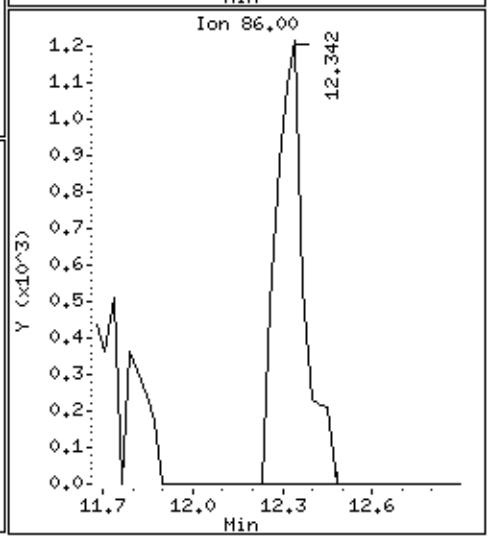












Data File: /chem/msd7.i/7-07nov.b/7110721.d

Date : 08-NOV-2007 01:31

Client ID:

Instrument: msd7.i

Sample Info: 200mL #4199

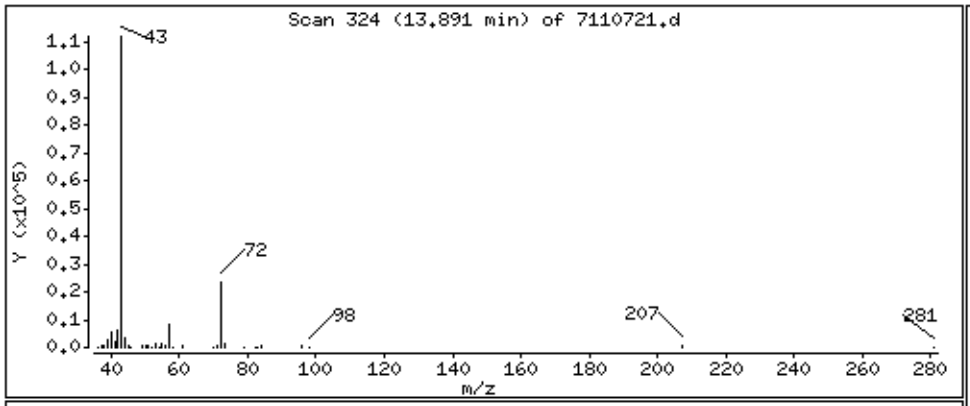
Operator: ab

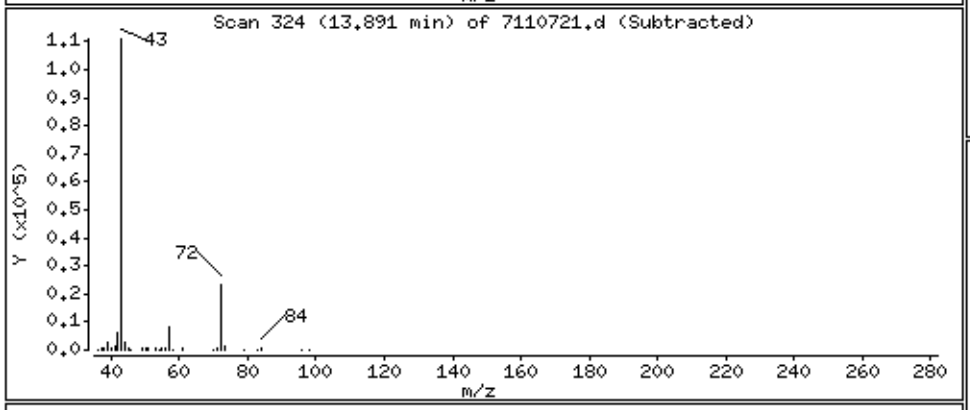
Column phase: RTx-624

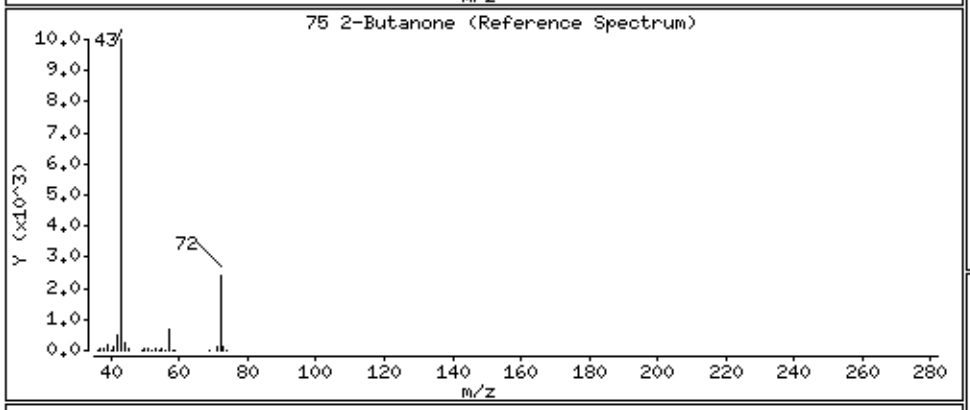
Column diameter: 0.53

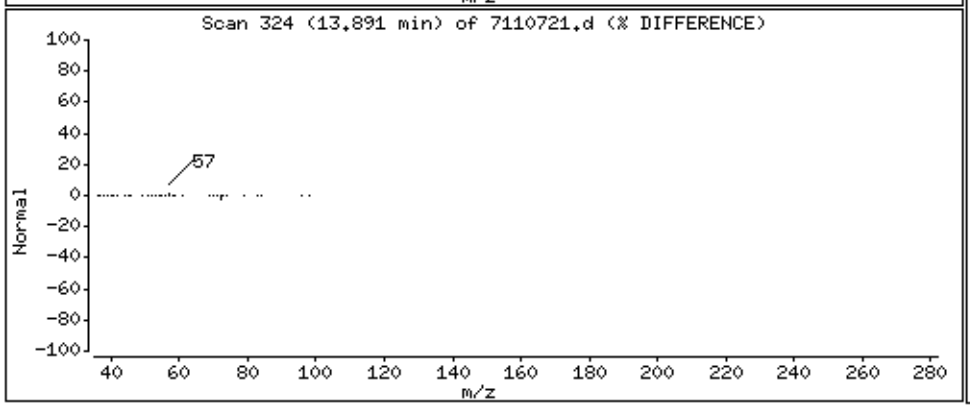
75 2-Butanone

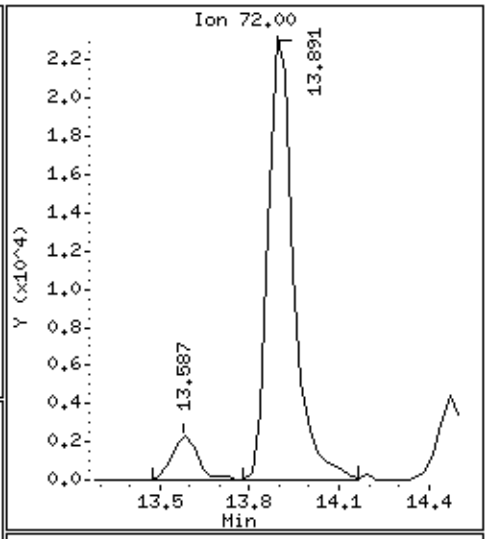
Concentration: 18.646 PPBV

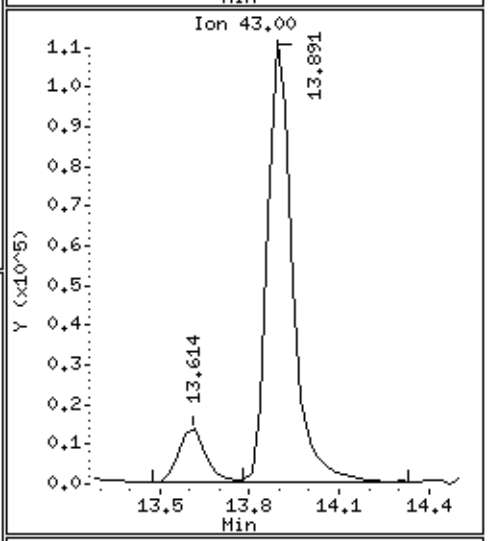


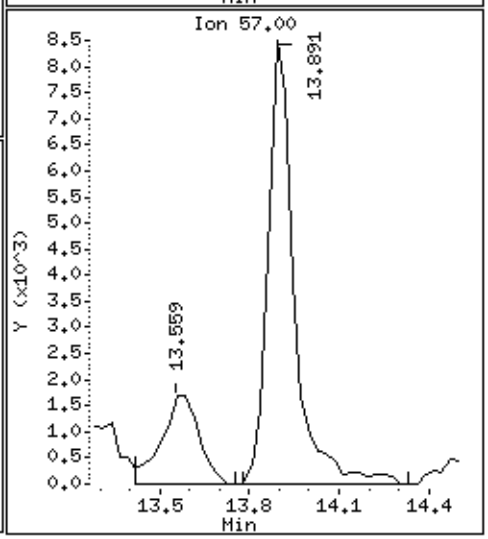












Data File: /chem/msd7.i/7-07nov.b/7110721.d

Date : 08-NOV-2007 01:31

Client ID:

Instrument: msd7.i

Sample Info: 200mL #4199

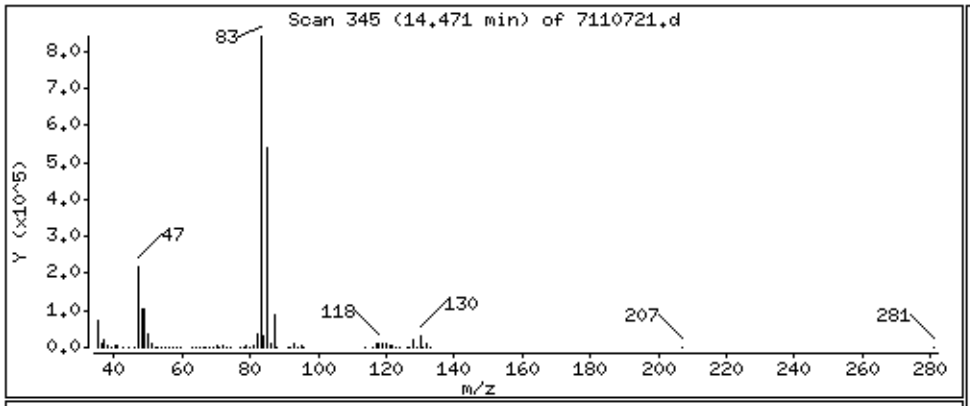
Operator: ab

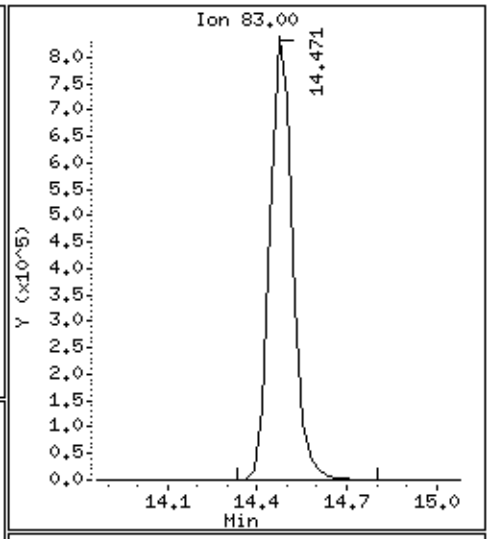
Column phase: RTx-624

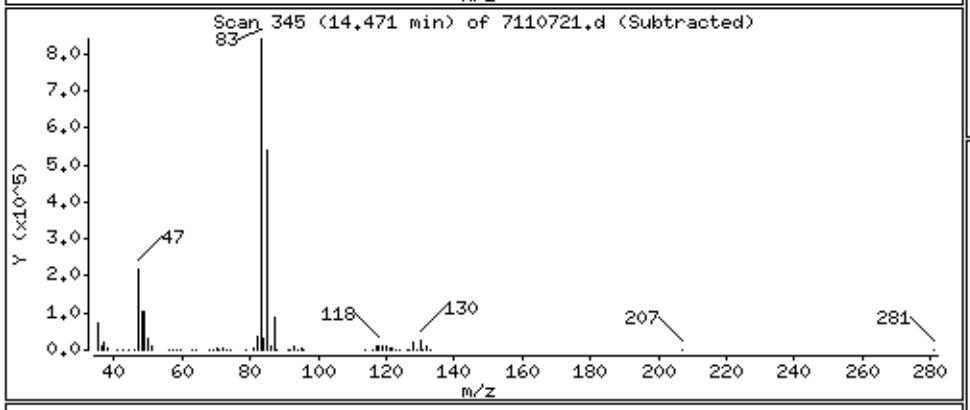
Column diameter: 0.53

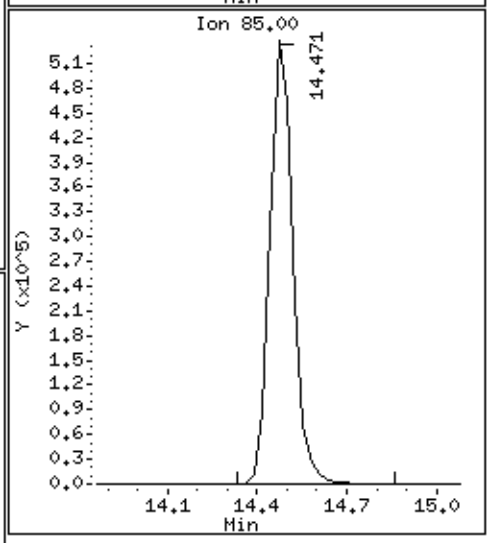
82 Chloroform

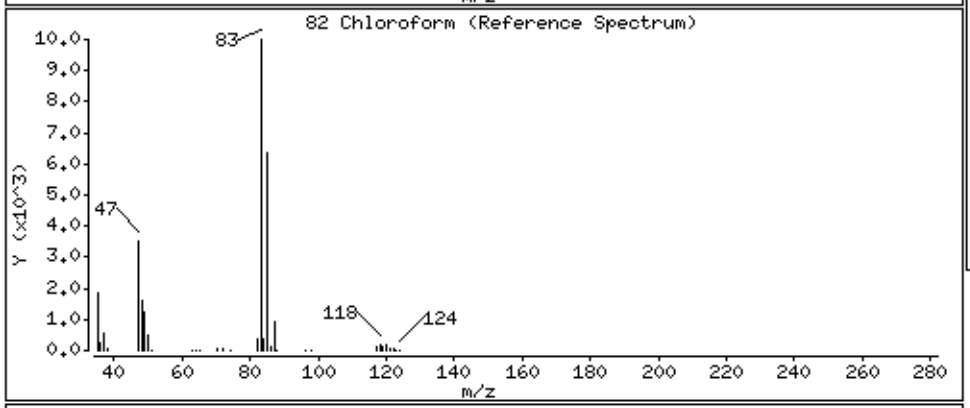
Concentration: 129.47 PPBV

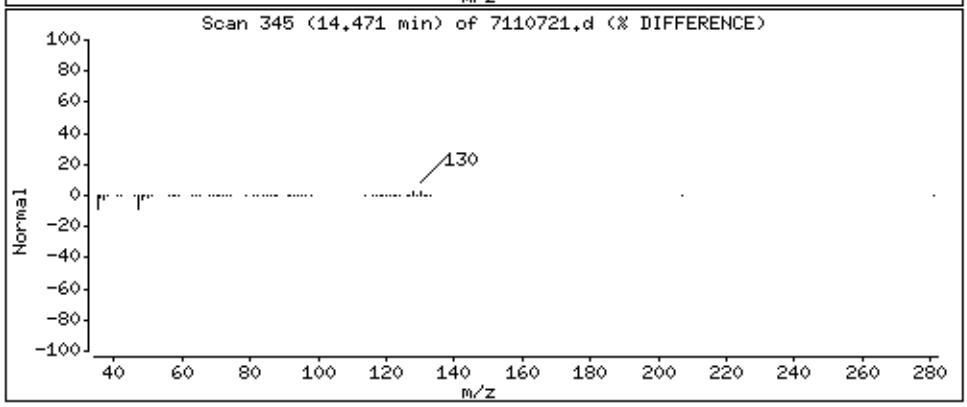












Data File: /chem/msd7.i/7-07nov.b/7110721.d

Date : 08-NOV-2007 01:31

Client ID:

Instrument: msd7.i

Sample Info: 200mL #4199

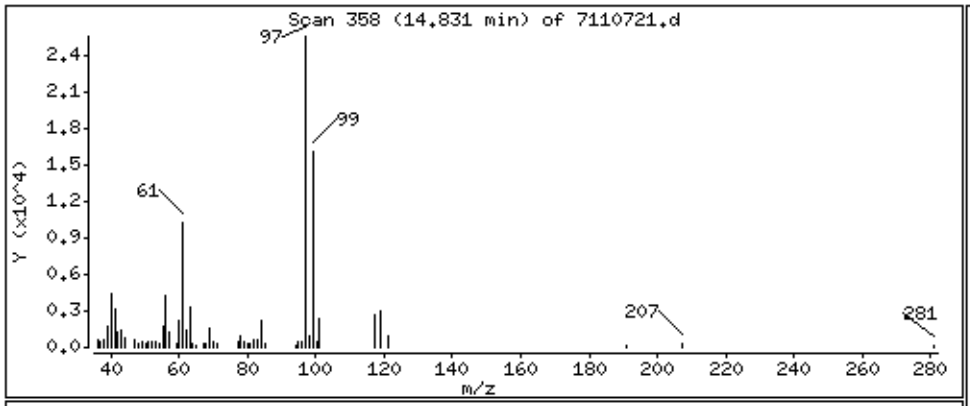
Operator: ab

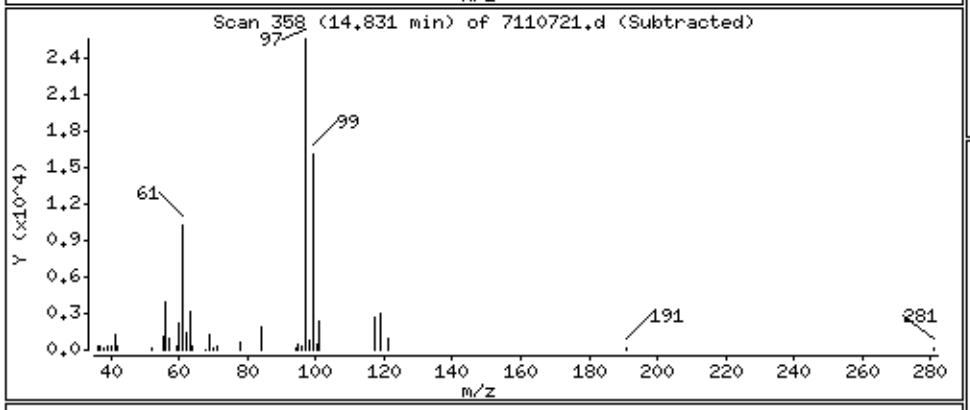
Column phase: RTx-624

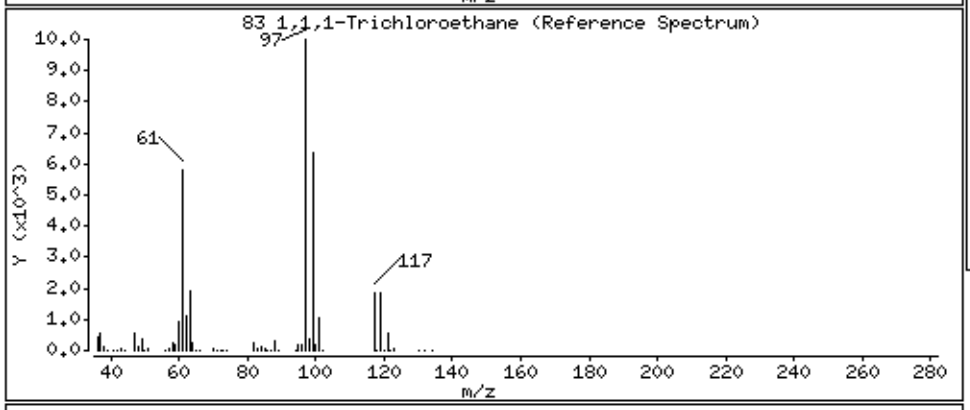
Column diameter: 0.53

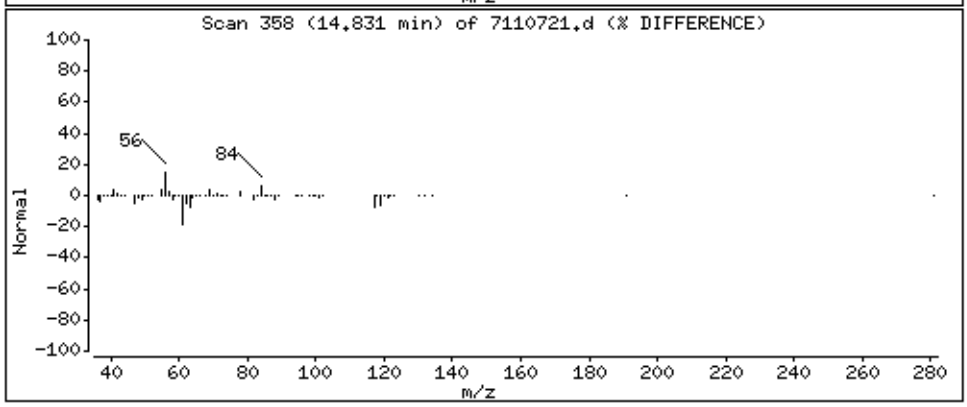
83 1,1,1-Trichloroethane

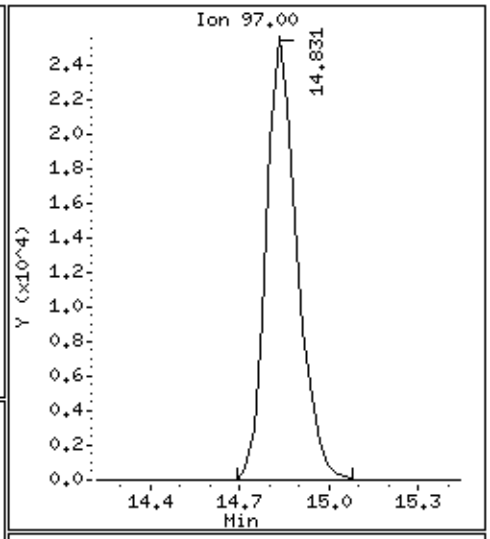
Concentration: 5.281 PPBV

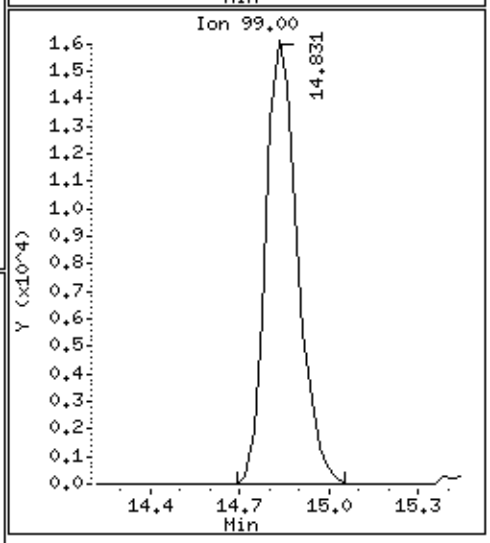












Data File: /chem/msd7.i/7-07nov.b/7110721.d

Date : 08-NOV-2007 01:31

Client ID:

Instrument: msd7.i

Sample Info: 200mL #4199

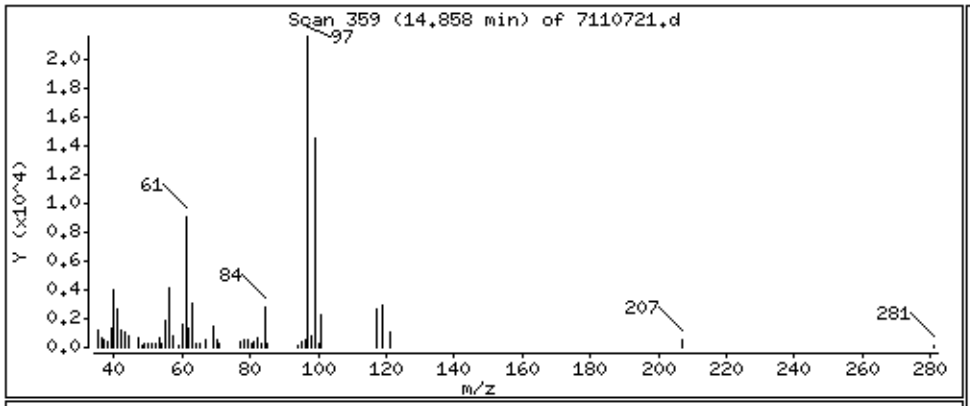
Operator: ab

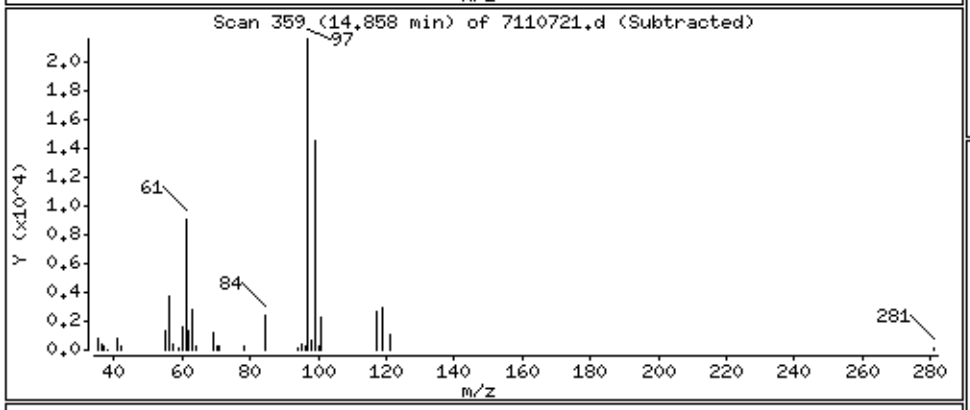
Column phase: RTx-624

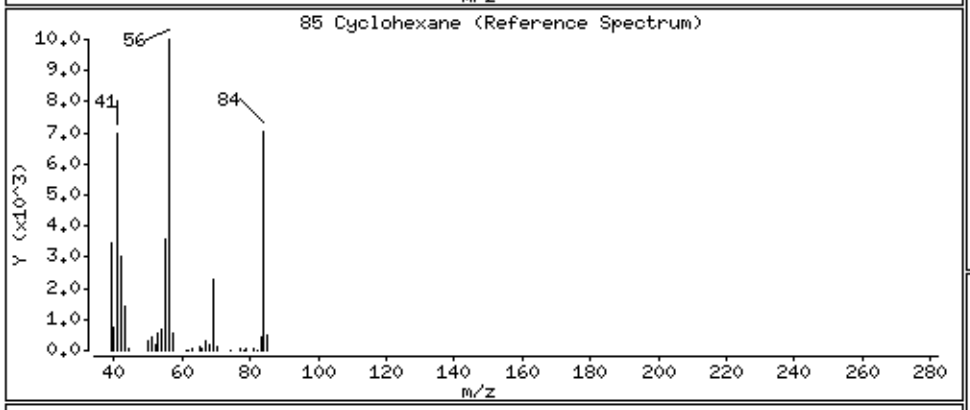
Column diameter: 0.53

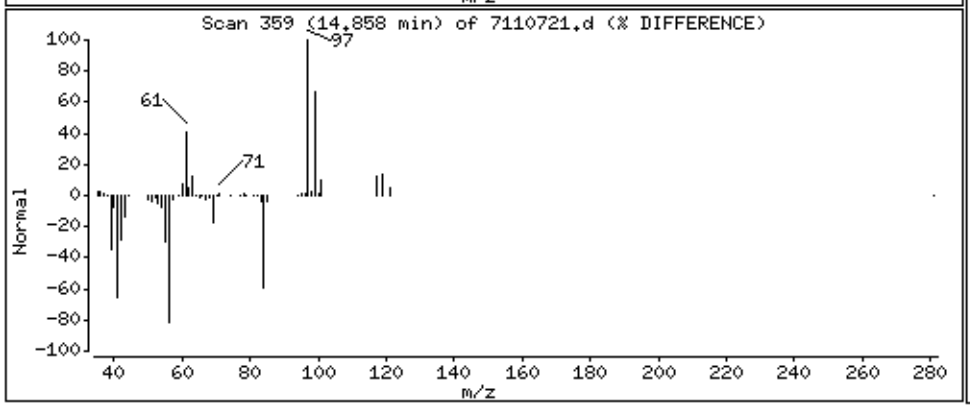
85 Cyclohexane

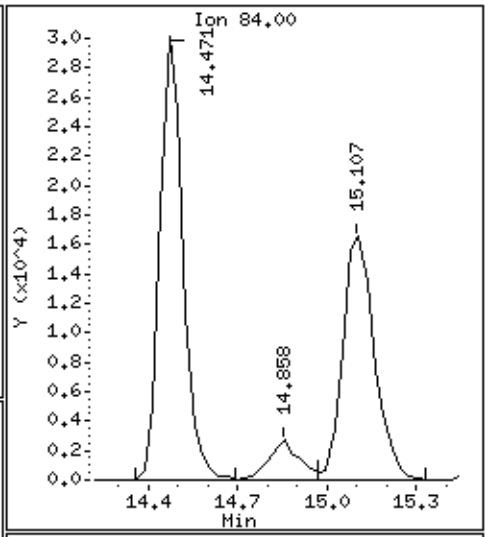
Concentration: 0.9750 PPBV

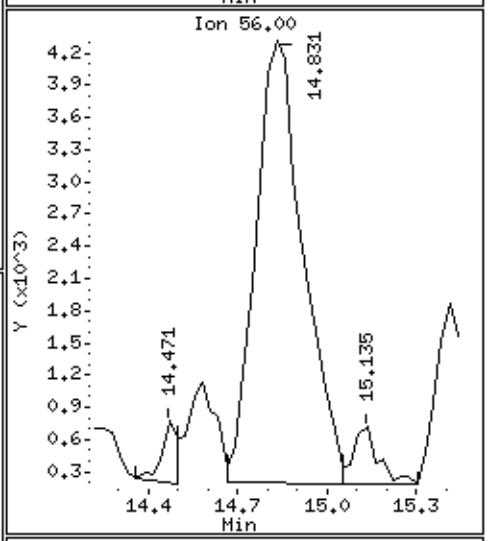


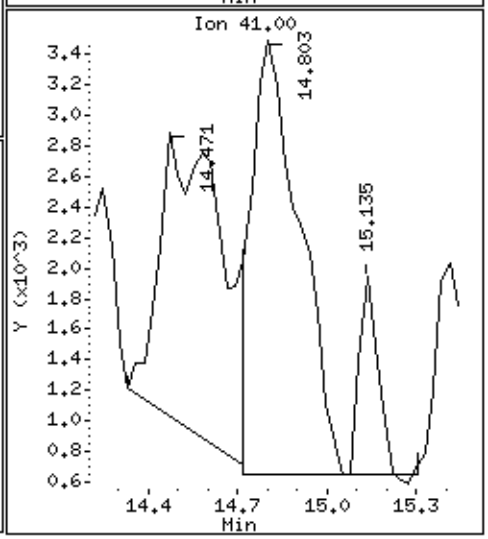












Data File: /chem/msd7.i/7-07nov.b/7110721.d

Date : 08-NOV-2007 01:31

Client ID:

Instrument: msd7.i

Sample Info: 200mL #4199

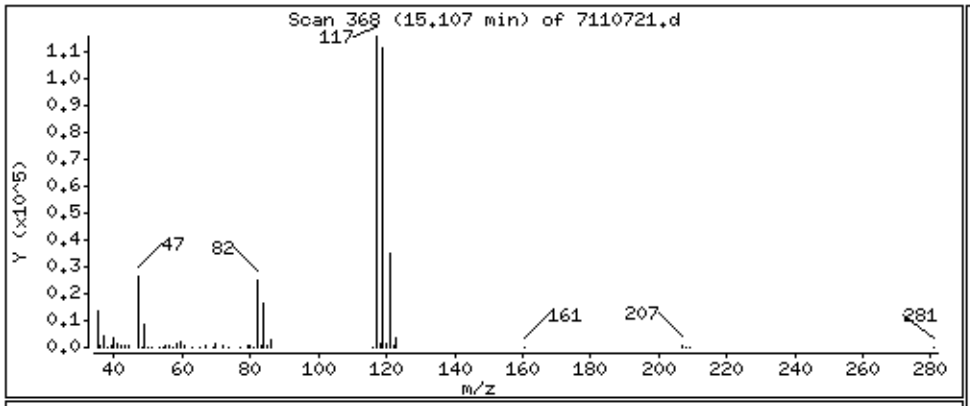
Operator: ab

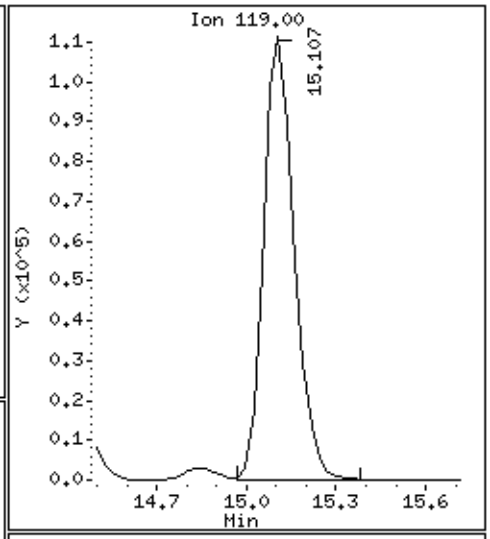
Column phase: RTx-624

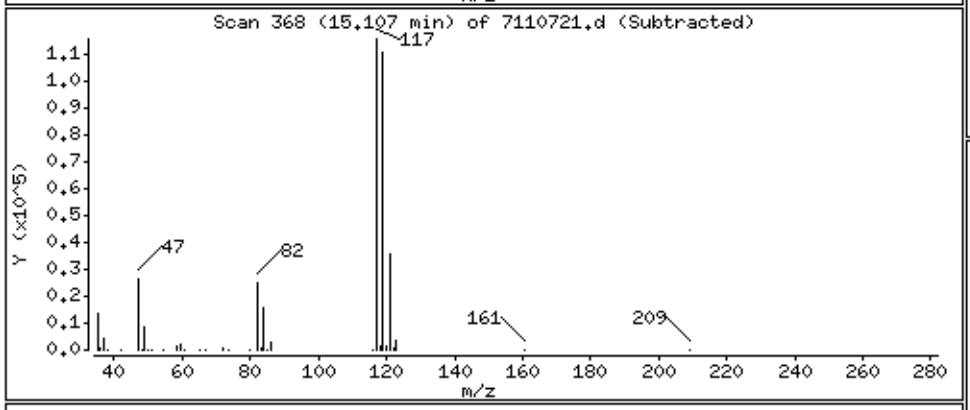
Column diameter: 0.53

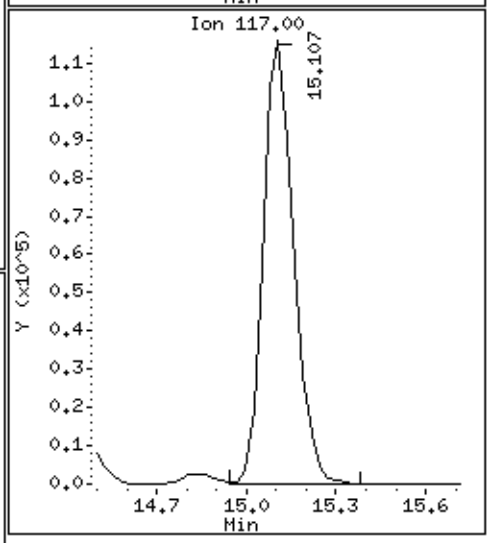
87 Carbon Tetrachloride

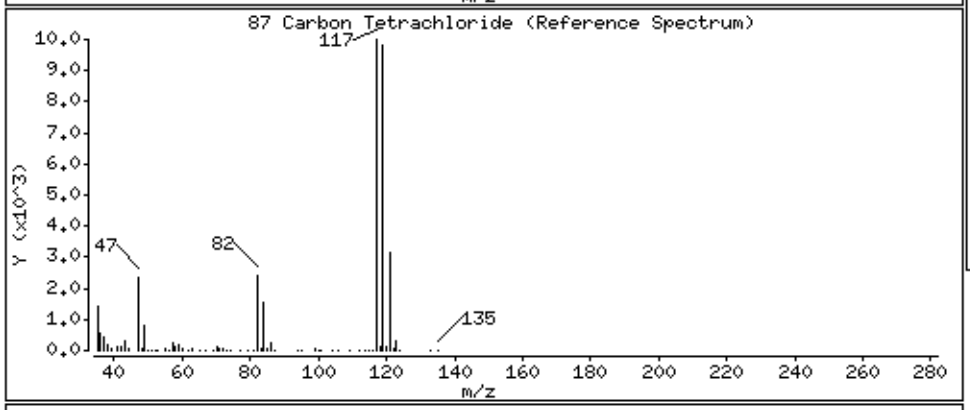
Concentration: 24.187 PPBV

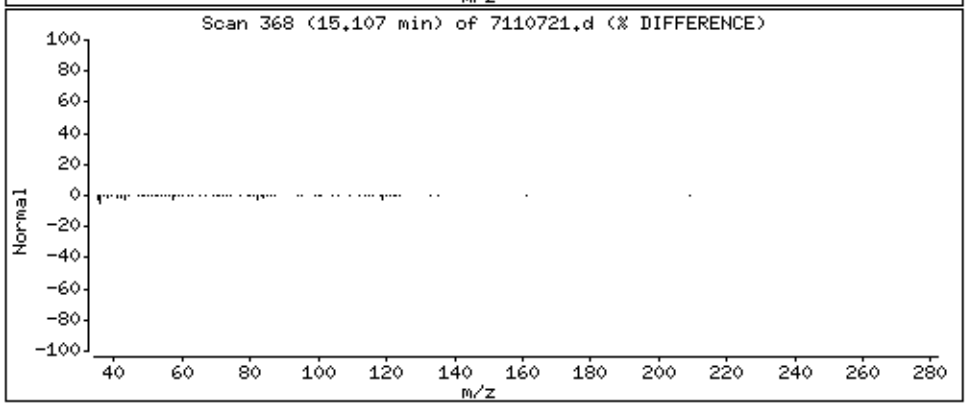












Data File: /chem/msd7.i/7-07nov.b/7110721.d

Date : 08-NOV-2007 01:31

Client ID:

Instrument: msd7.i

Sample Info: 200mL #4199

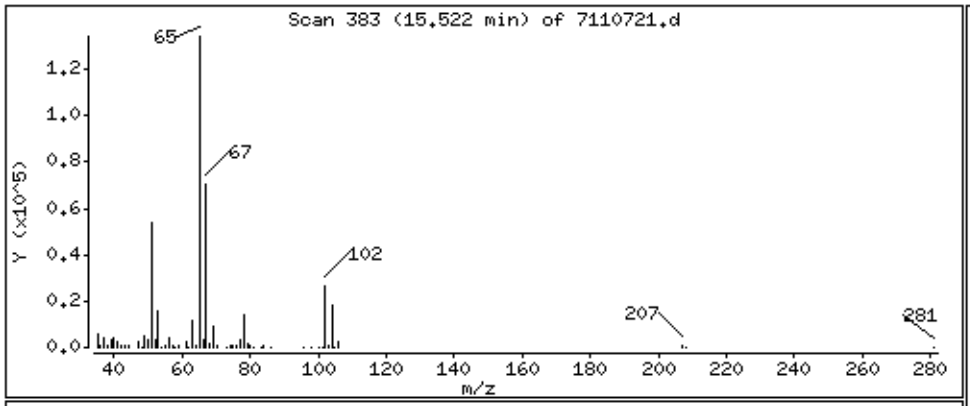
Operator: ab

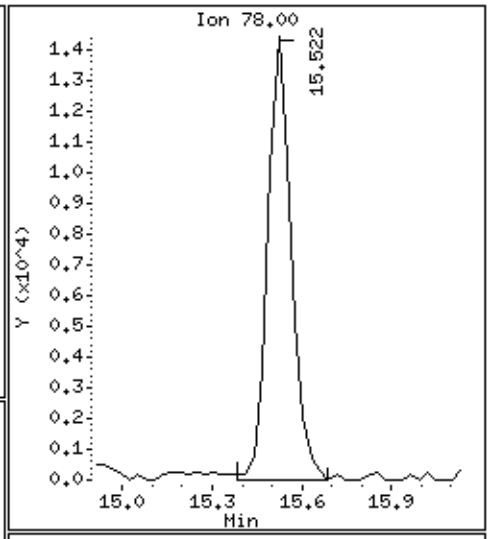
Column phase: RTx-624

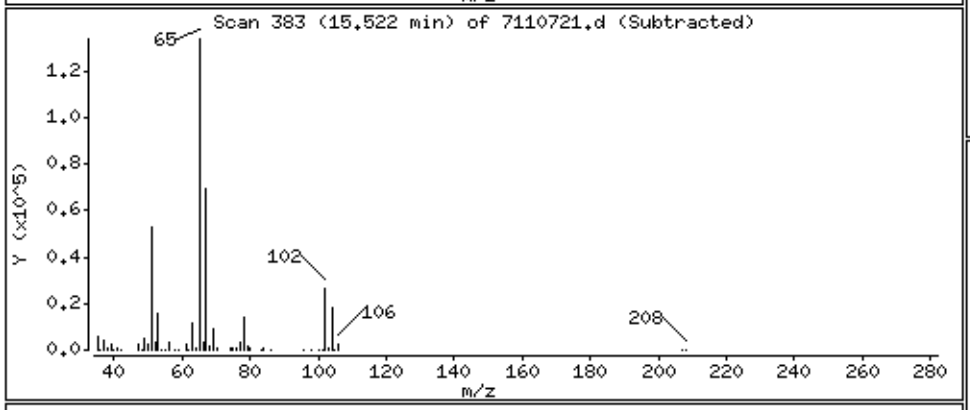
Column diameter: 0.53

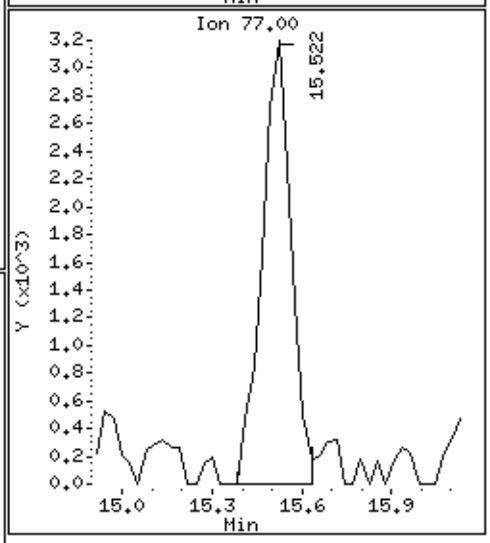
91 Benzene

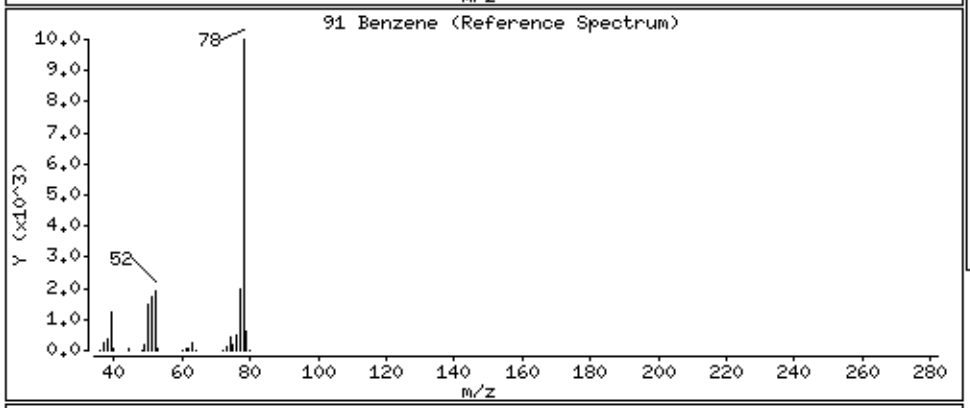
Concentration: 1.715 PPBV

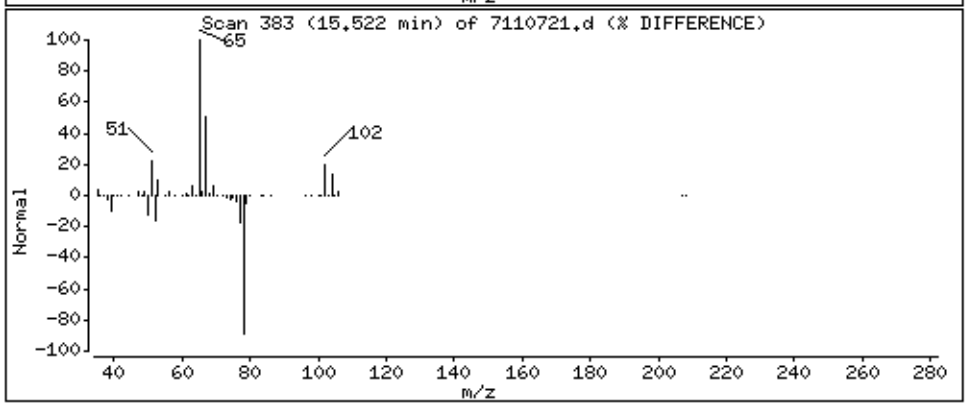












Data File: /chem/msd7.i/7-07nov.b/7110721.d

Date : 08-NOV-2007 01:31

Client ID:

Instrument: msd7.i

Sample Info: 200mL #4199

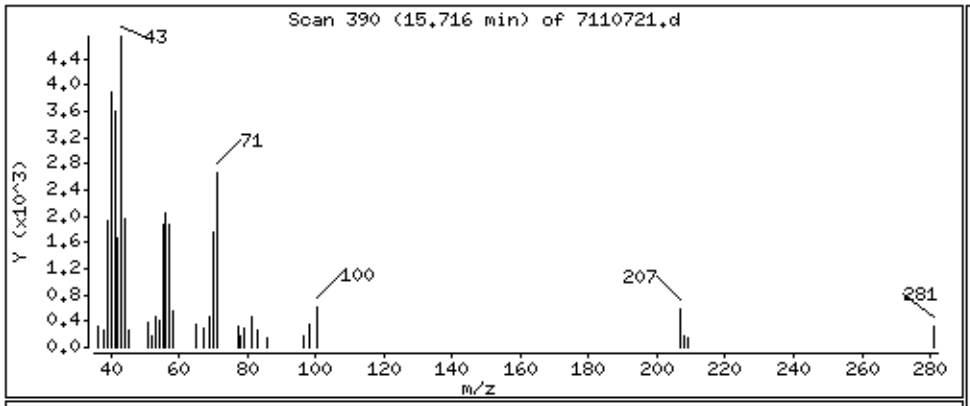
Operator: ab

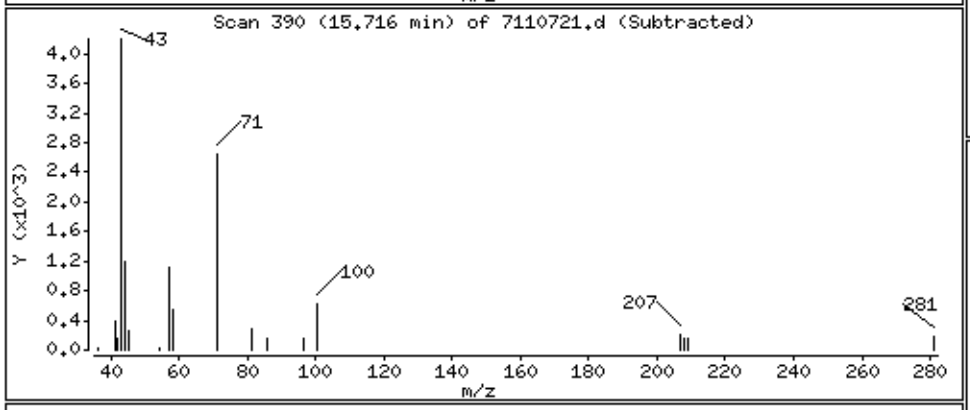
Column phase: RTx-624

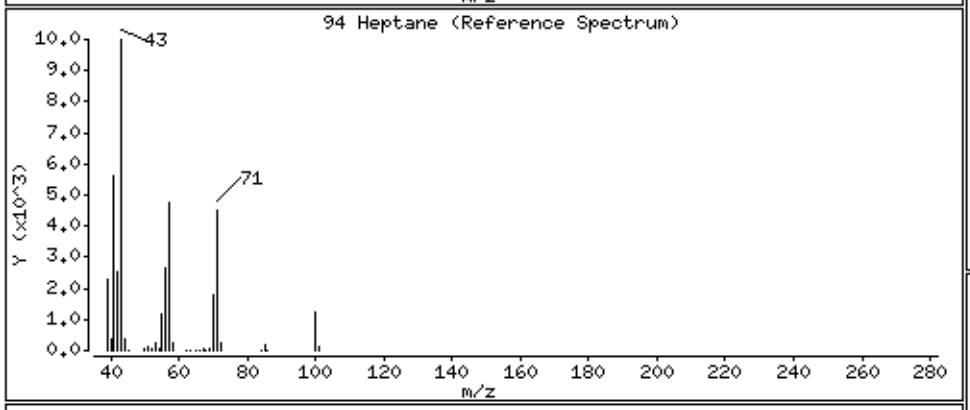
Column diameter: 0.53

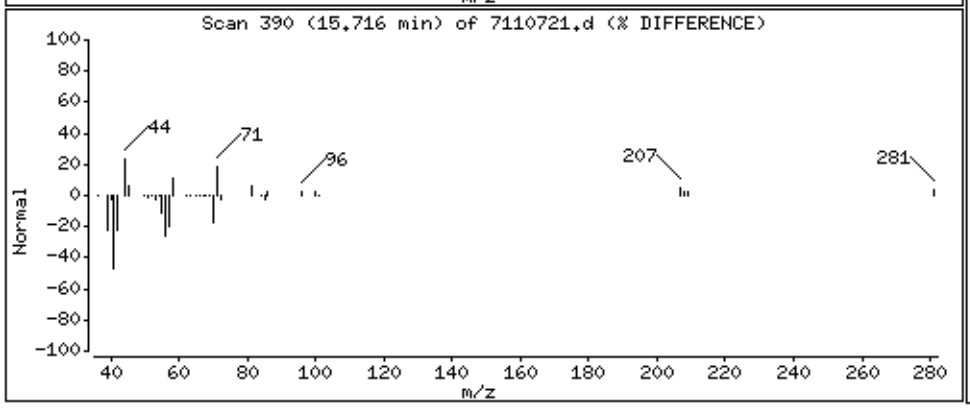
94 Heptane

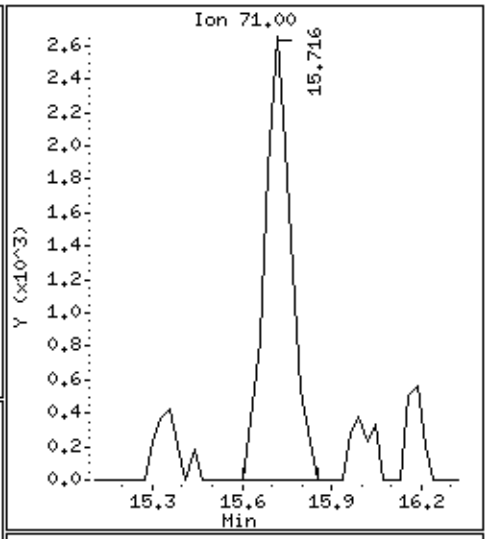
Concentration: 1.141 PPBV

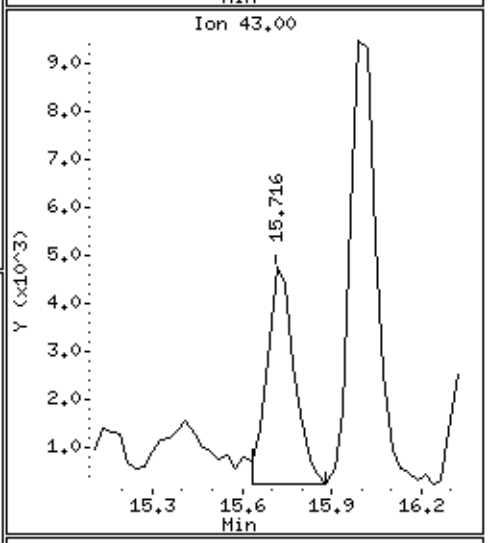


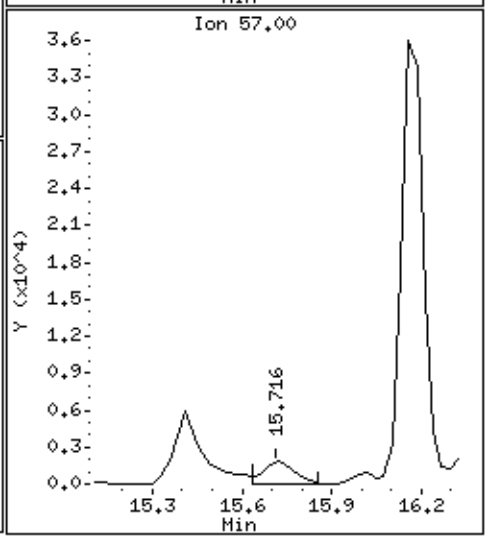












Data File: /chem/msd7.i/7-07nov.b/7110721.d

Date : 08-NOV-2007 01:31

Client ID:

Instrument: msd7.i

Sample Info: 200mL #4199

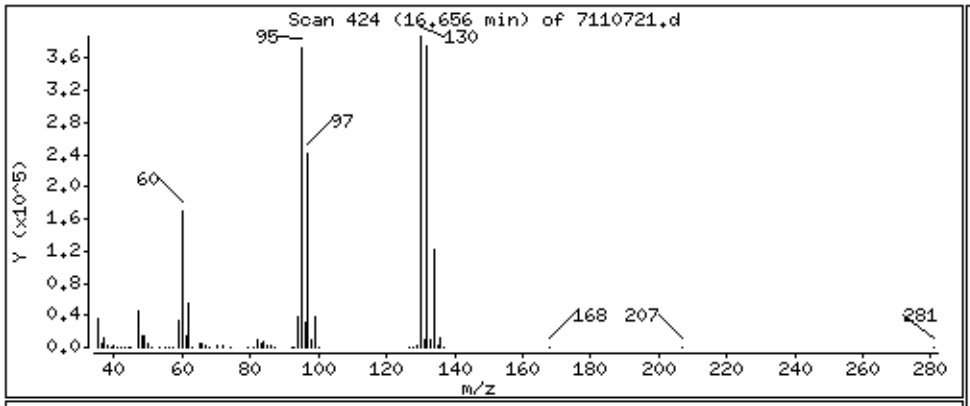
Operator: ab

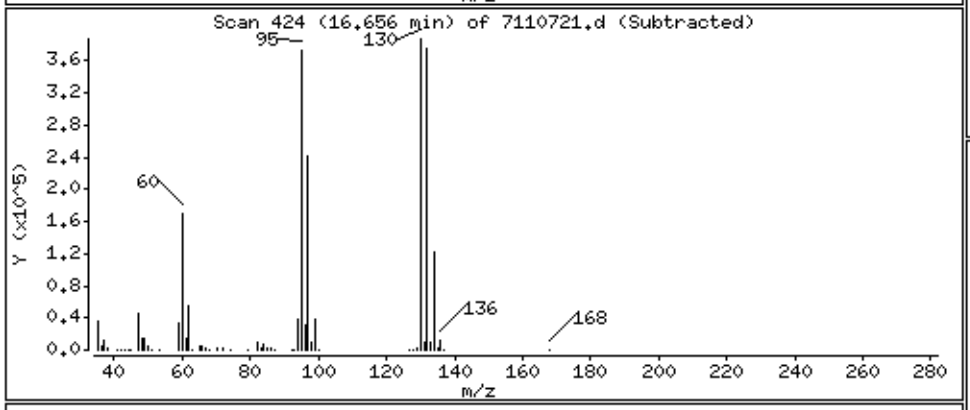
Column phase: RTx-624

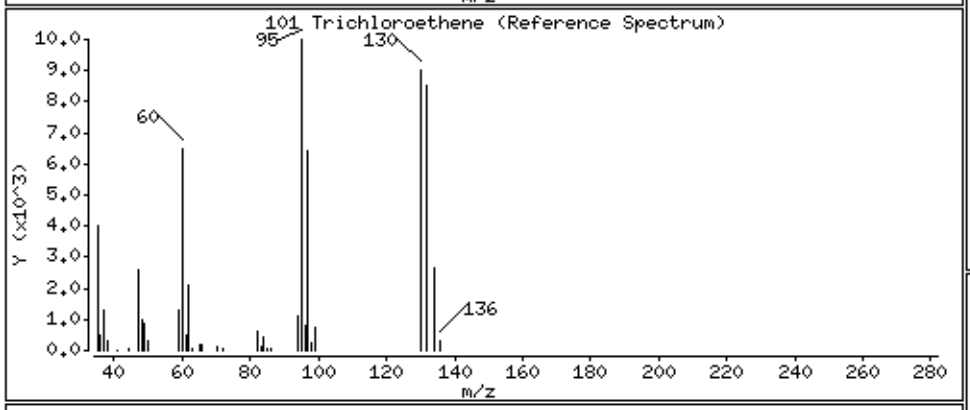
Column diameter: 0.53

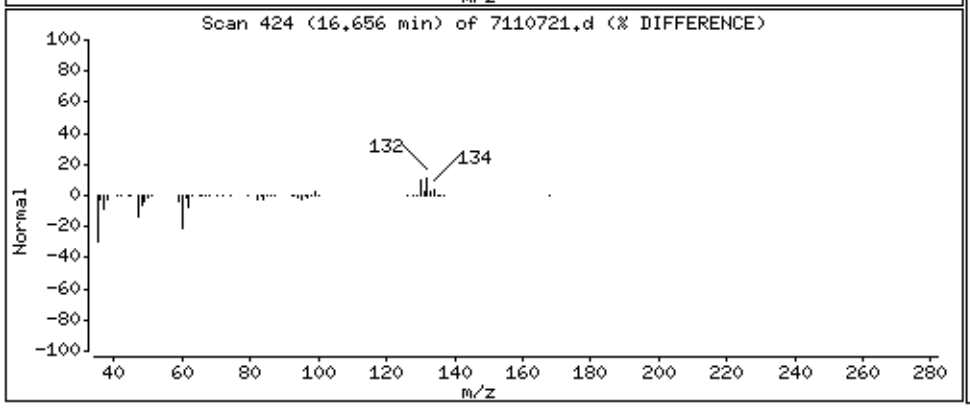
101 Trichloroethene

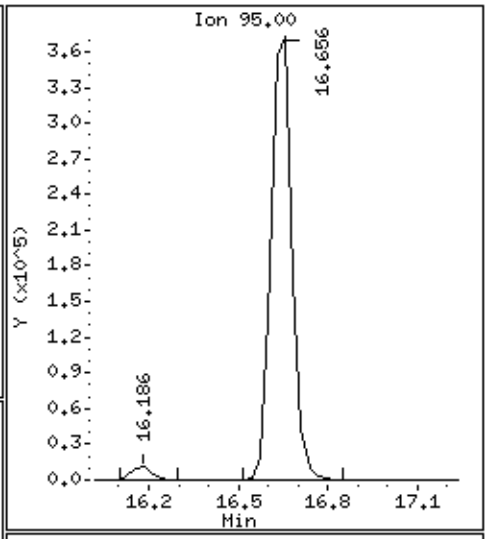
Concentration: 89.341 PPBV

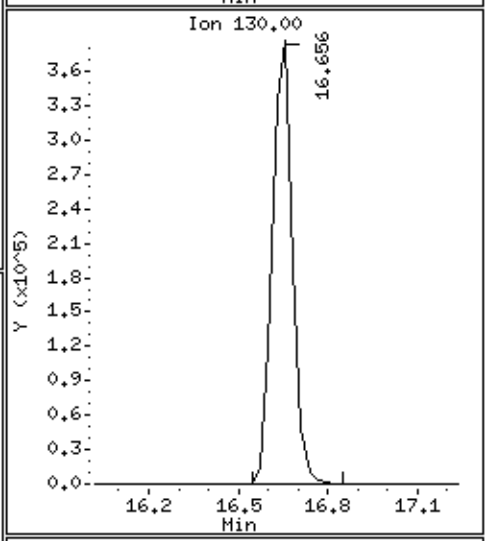


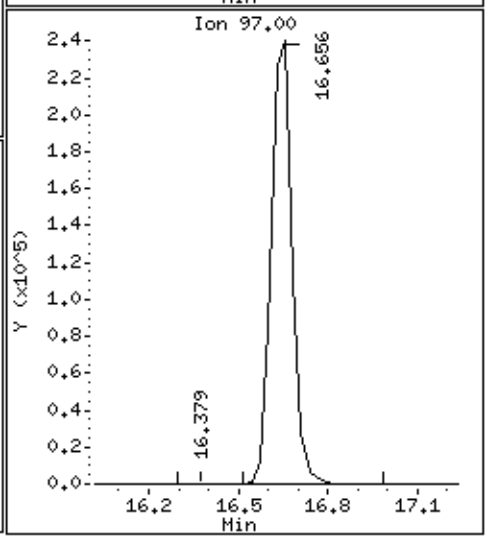












Data File: /chem/msd7.i/7-07nov.b/7110721.d

Date : 08-NOV-2007 01:31

Client ID:

Instrument: msd7.i

Sample Info: 200mL #4199

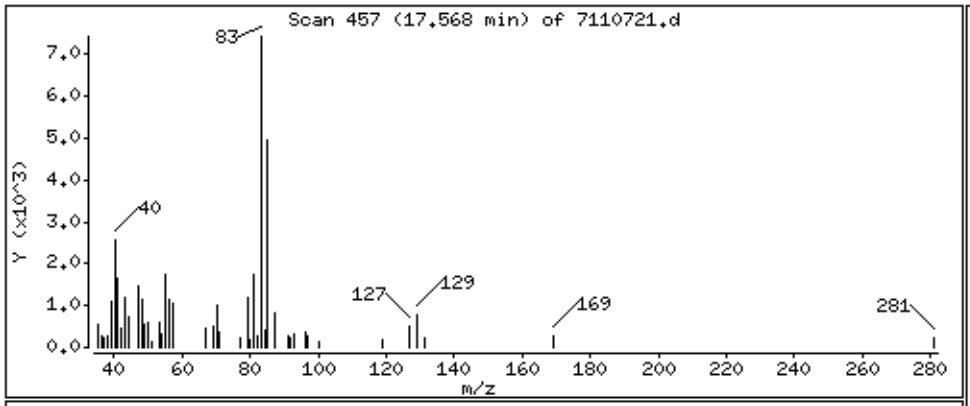
Operator: ab

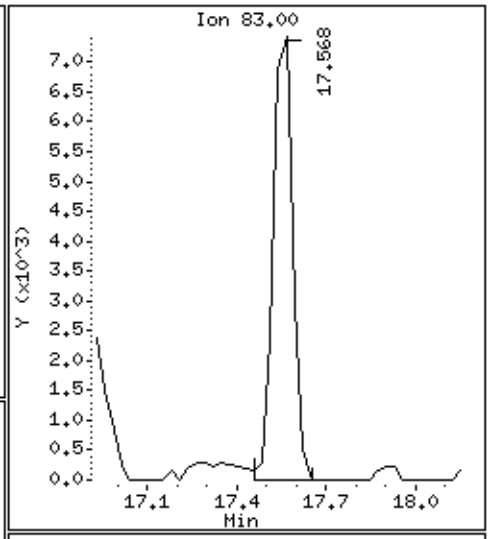
Column phase: RTx-624

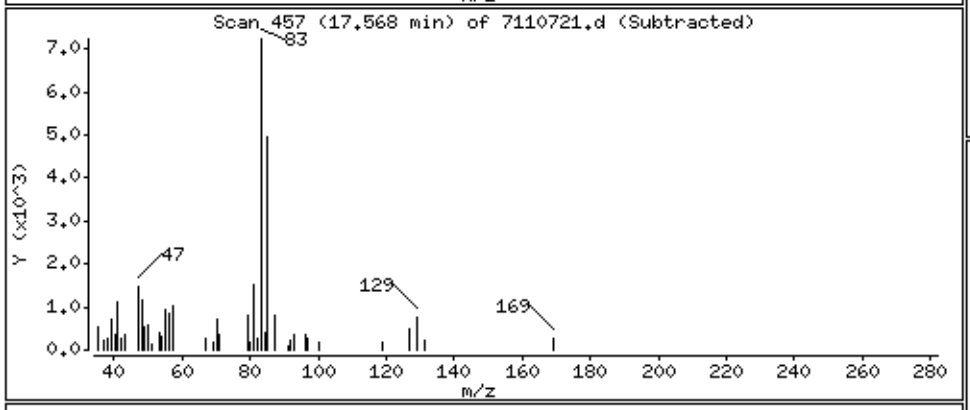
Column diameter: 0.53

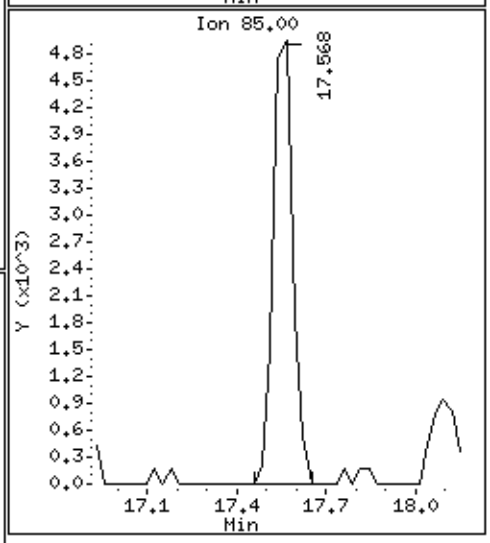
107 Bromodichloromethane

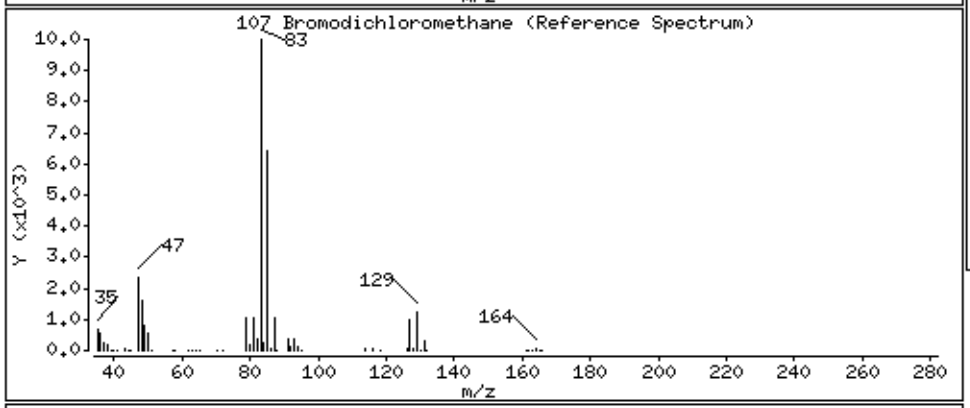
Concentration: 0.9538 PPBV

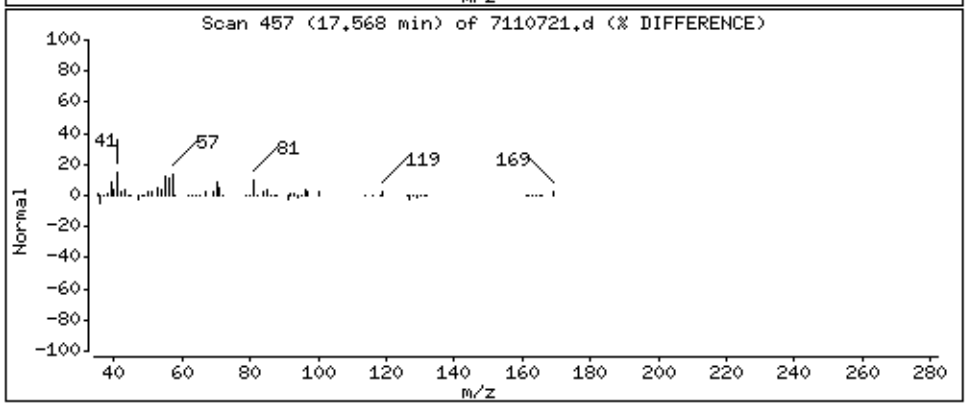












Data File: /chem/msd7.i/7-07nov.b/7110721.d

Date : 08-NOV-2007 01:31

Client ID:

Instrument: msd7.i

Sample Info: 200mL #4199

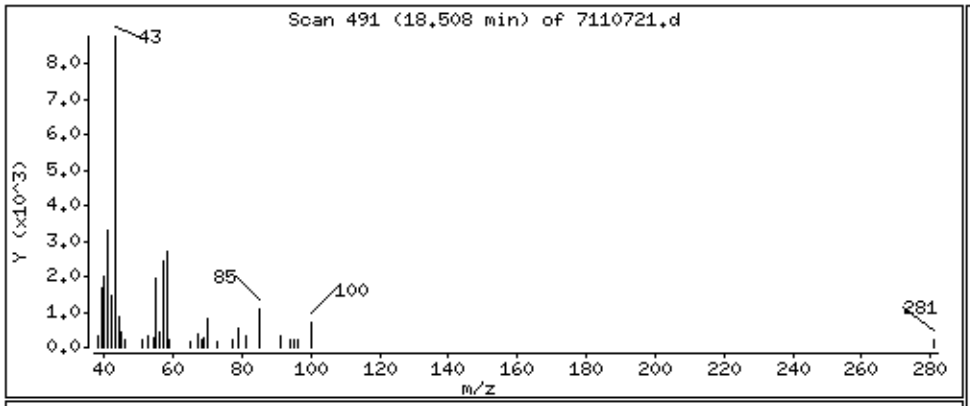
Operator: ab

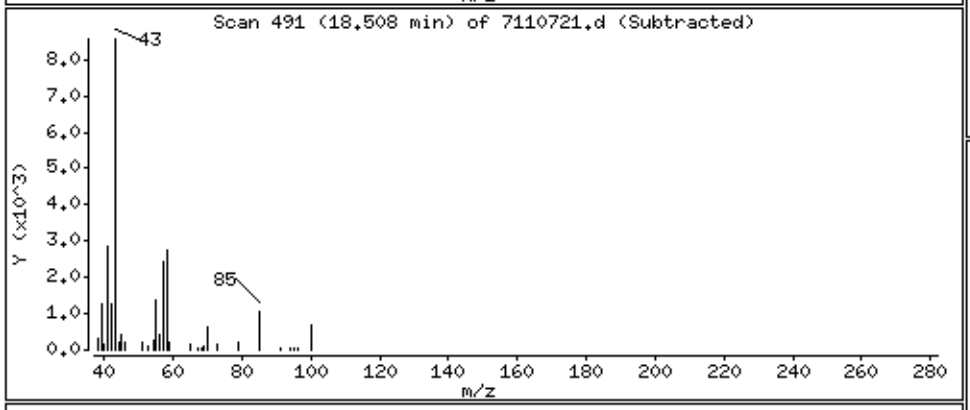
Column phase: RTx-624

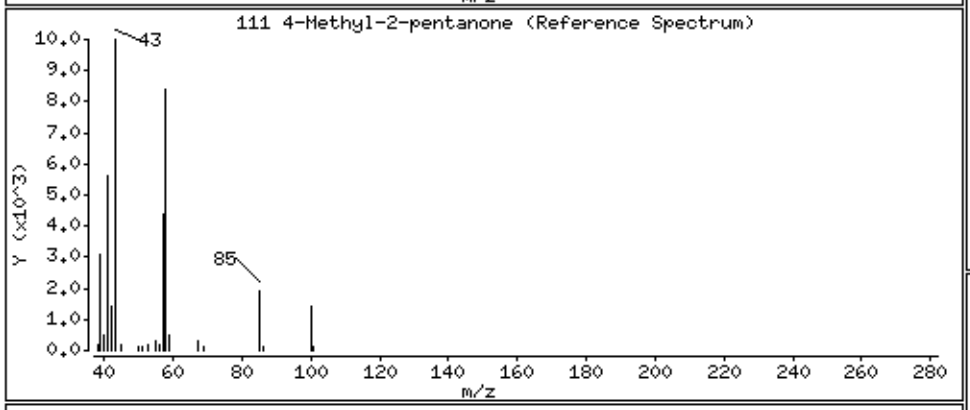
Column diameter: 0.53

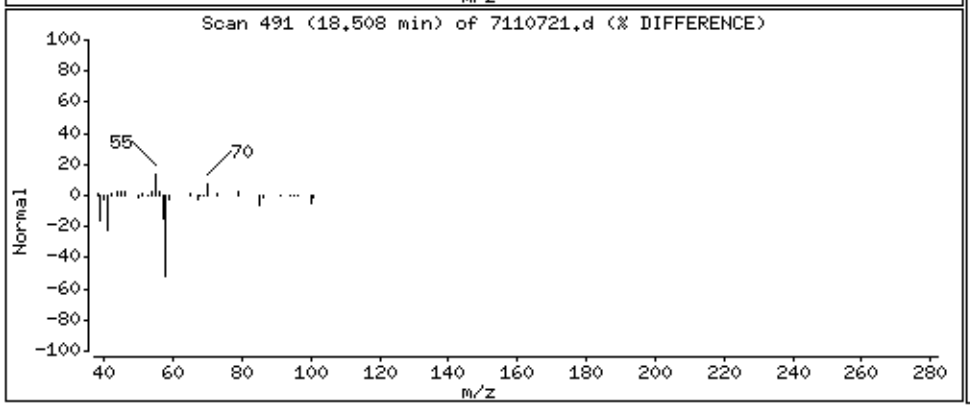
111 4-Methyl-2-pentanone

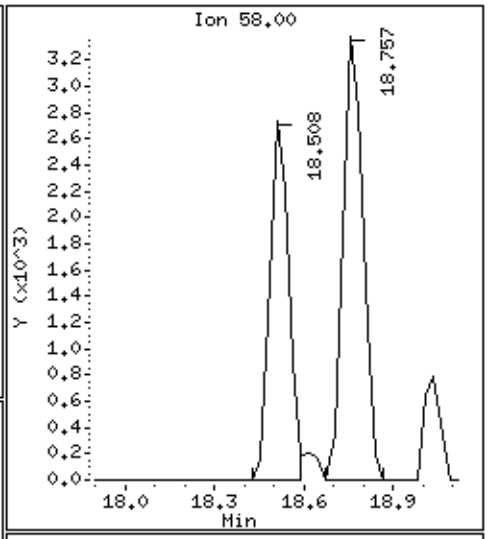
Concentration: 0.8869 PPBV

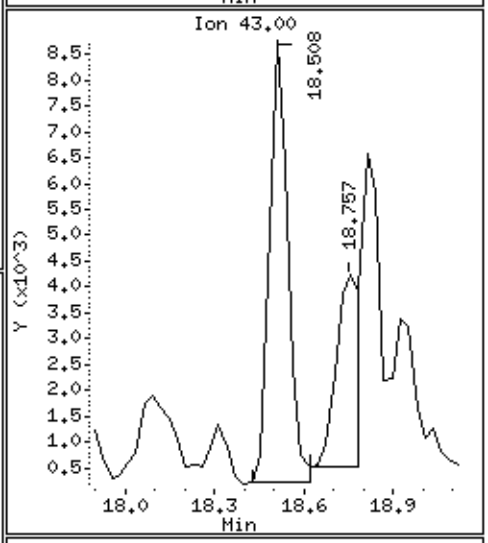


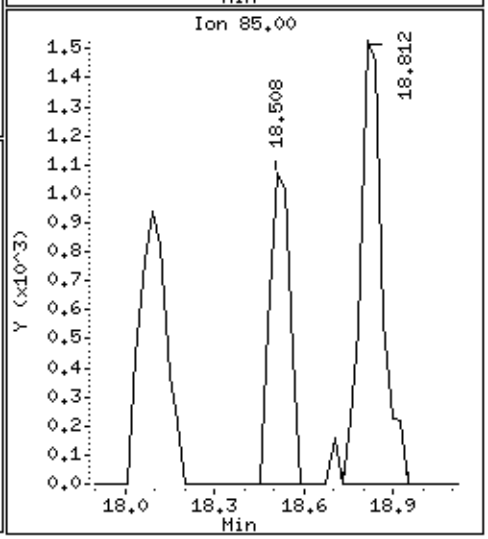












Data File: /chem/msd7.i/7-07nov.b/7110721.d

Date : 08-NOV-2007 01:31

Client ID:

Instrument: msd7.i

Sample Info: 200mL #4199

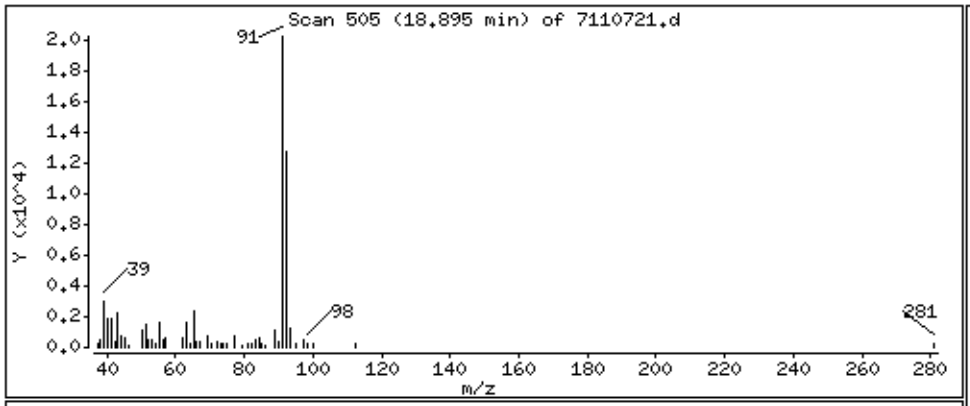
Operator: ab

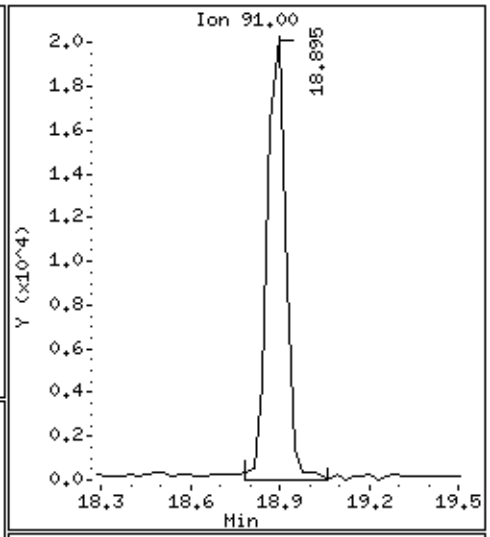
Column phase: RTx-624

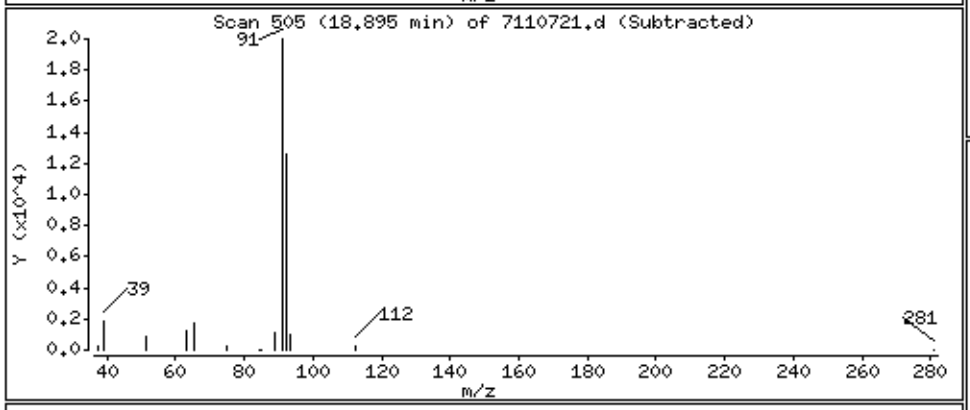
Column diameter: 0.53

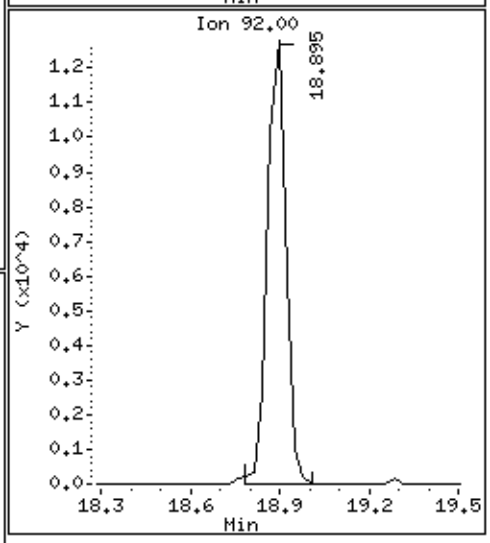
114 Toluene

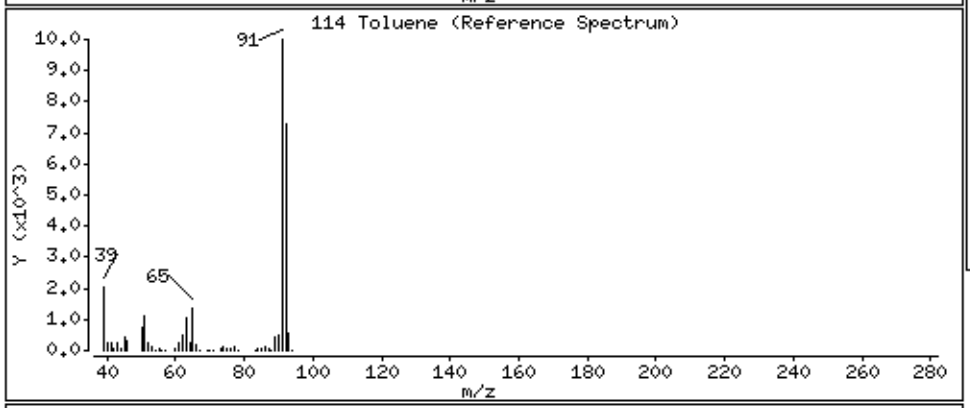
Concentration: 1.741 PPBV

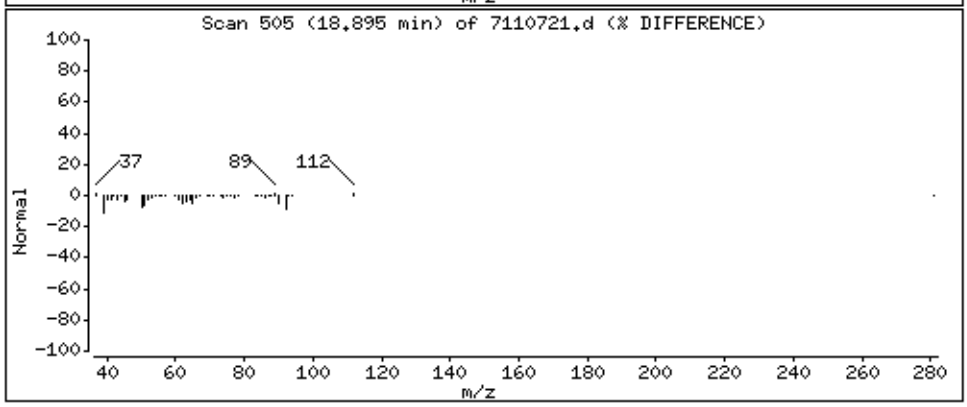












Data File: /chem/msd7.i/7-07nov.b/7110721.d

Date : 08-NOV-2007 01:31

Client ID:

Instrument: msd7.i

Sample Info: 200mL #4199

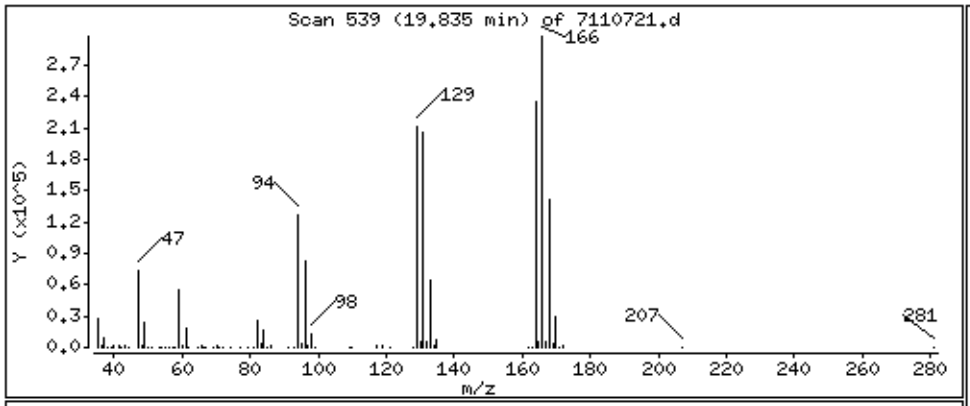
Operator: ab

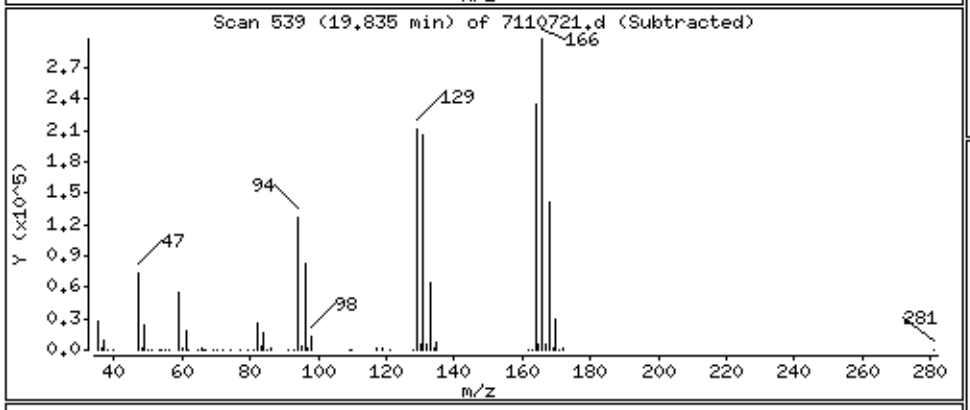
Column phase: RTx-624

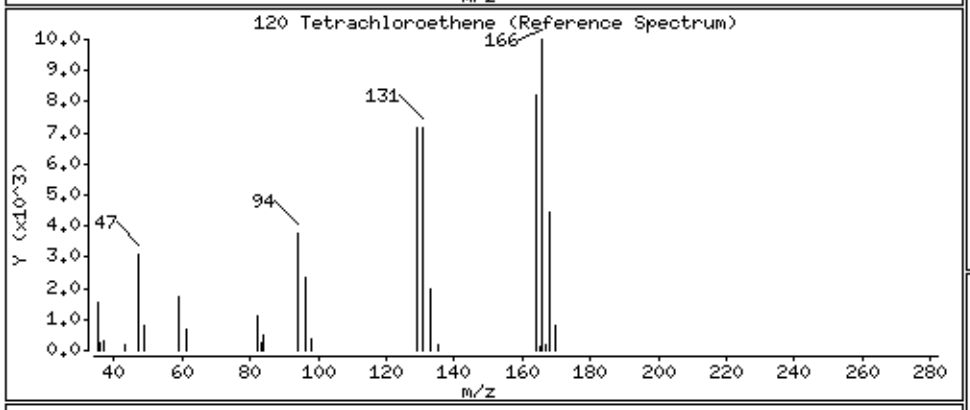
Column diameter: 0.53

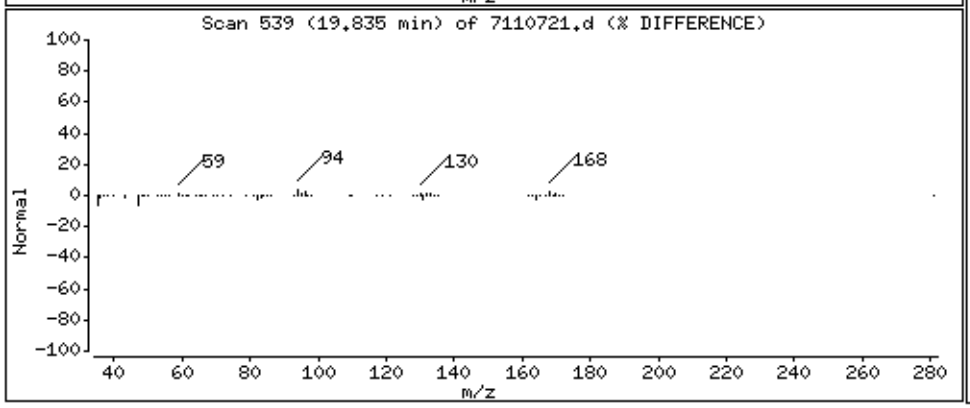
120 Tetrachloroethene

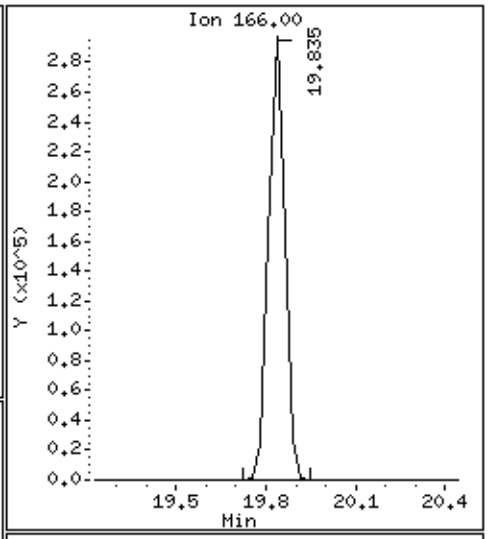
Concentration: 50.731 PPBV

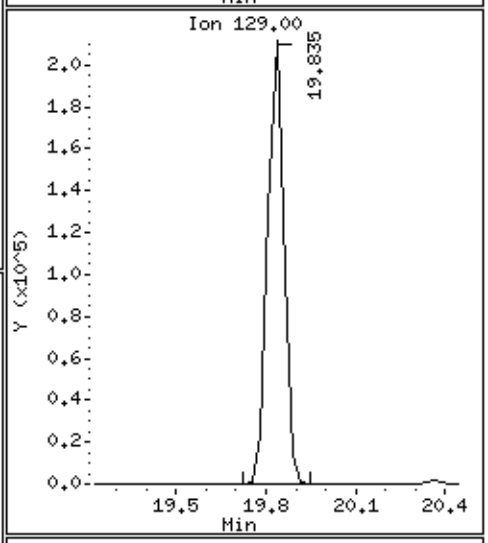


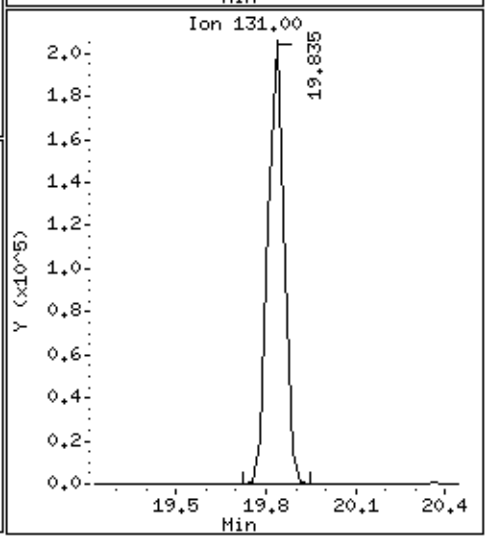












Data File: /chem/msd7.i/7-07nov.b/7110721.d

Date : 08-NOV-2007 01:31

Client ID:

Instrument: msd7.i

Sample Info: 200mL #4199

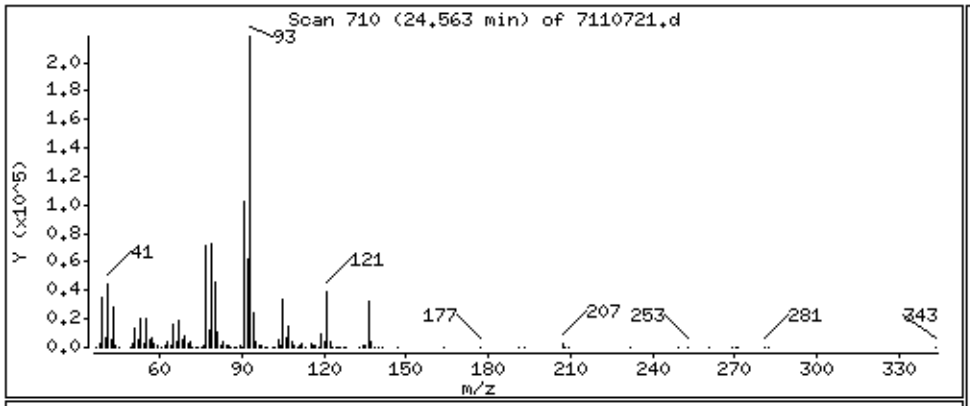
Operator: ab

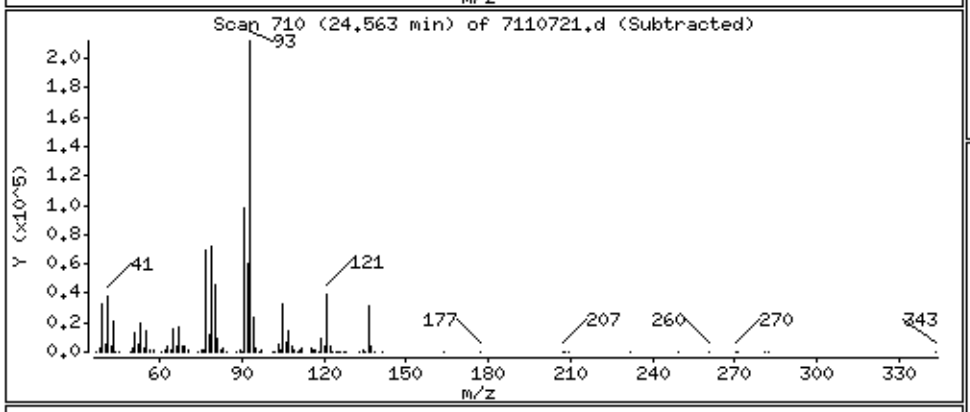
Column phase: RTx-624

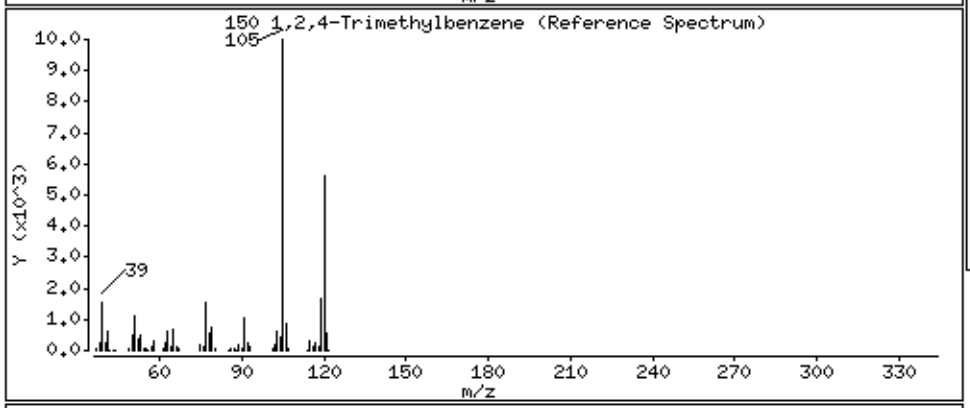
Column diameter: 0.53

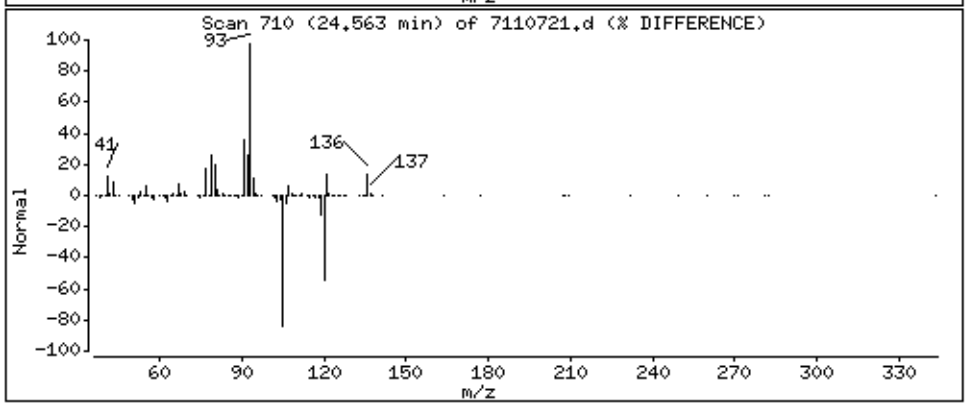
150 1,2,4-Trimethylbenzene

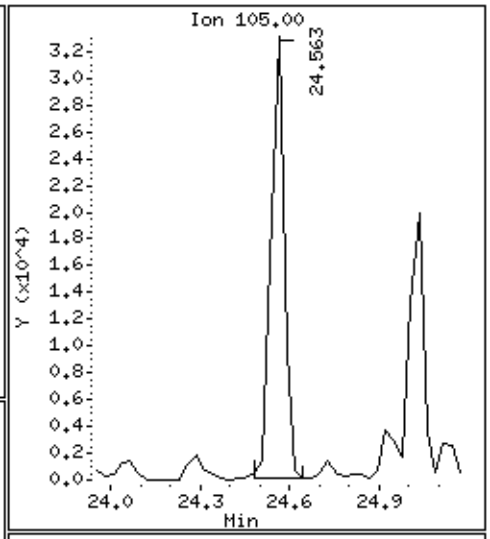
Concentration: 2.287 PPBV

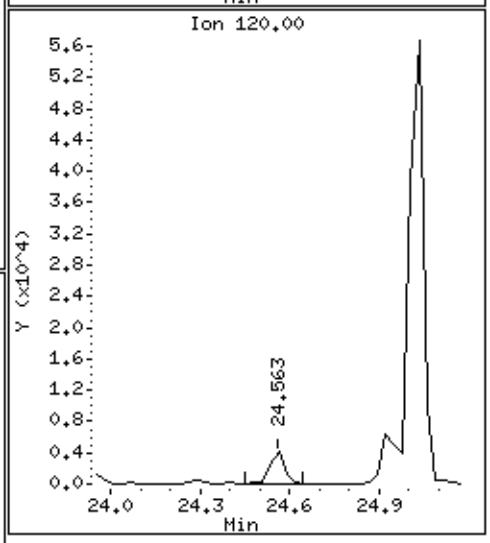












AN ENVIRONMENTAL ANALYTICAL LABORATORY

Summary of Detected Compounds
MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

Client Sample ID: MD21-07-6804

Lab ID#: 0711101-05A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Freon 12	0.88	1.2	4.3	6.0
1,3-Butadiene	0.88	4.7	1.9	10
Freon 113	0.88	0.95	6.7	7.2
Acetone	3.5	21	8.3	49
Carbon Disulfide	0.88	3.7	2.7	12
Methylene Chloride	0.88	1.8	3.0	6.4
Hexane	0.88	2.4	3.1	8.5
2-Butanone (Methyl Ethyl Ketone)	0.88	1.4	2.6	4.3
Chloroform	0.88	170	4.3	840
1,1,1-Trichloroethane	0.88	3.7	4.8	20
Carbon Tetrachloride	0.88	9.9	5.5	62
Benzene	0.88	1.5	2.8	4.8
Heptane	0.88	1.5	3.6	6.2
Trichloroethene	0.88	130	4.7	710
Toluene	0.88	1.8	3.3	6.6
Tetrachloroethene	0.88	200	5.9	1300
m,p-Xylene	0.88	1.3	3.8	5.6
Bromoform	0.88	0.99	9.0	10
1,2,4-Trimethylbenzene	0.88	4.4	4.3	21
Propylene	3.5	81	6.0	140

AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: MD21-07-6804

Lab ID#: 0711101-05A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**7110722**	**Date of Collection:**	**11/4/07**
Dil. Factor:	**1.75**	**Date of Analysis:**	**11/8/07 02:10 AM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Freon 12	0.88	1.2	4.3	6.0
Freon 114	0.88	Not Detected	6.1	Not Detected
Chloromethane	3.5	Not Detected	7.2	Not Detected
Vinyl Chloride	0.88	Not Detected	2.2	Not Detected
1,3-Butadiene	0.88	4.7	1.9	10
Bromomethane	0.88	Not Detected	3.4	Not Detected
Chloroethane	0.88	Not Detected	2.3	Not Detected
Freon 11	0.88	Not Detected	4.9	Not Detected
Ethanol	3.5	Not Detected	6.6	Not Detected
Freon 113	0.88	0.95	6.7	7.2
1,1-Dichloroethene	0.88	Not Detected	3.5	Not Detected
Acetone	3.5	21	8.3	49
2-Propanol	3.5	Not Detected	8.6	Not Detected
Carbon Disulfide	0.88	3.7	2.7	12
Methylene Chloride	0.88	1.8	3.0	6.4
Methyl tert-butyl ether	0.88	Not Detected	3.2	Not Detected
trans-1,2-Dichloroethene	0.88	Not Detected	3.5	Not Detected
Hexane	0.88	2.4	3.1	8.5
1,1-Dichloroethane	0.88	Not Detected	3.5	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.88	1.4	2.6	4.3
cis-1,2-Dichloroethene	0.88	Not Detected	3.5	Not Detected
Tetrahydrofuran	0.88	Not Detected	2.6	Not Detected
Chloroform	0.88	170	4.3	840
1,1,1-Trichloroethane	0.88	3.7	4.8	20
Cyclohexane	0.88	Not Detected	3.0	Not Detected
Carbon Tetrachloride	0.88	9.9	5.5	62
Benzene	0.88	1.5	2.8	4.8
1,2-Dichloroethane	0.88	Not Detected	3.5	Not Detected
Heptane	0.88	1.5	3.6	6.2
Trichloroethene	0.88	130	4.7	710
1,2-Dichloropropane	0.88	Not Detected	4.0	Not Detected
1,4-Dioxane	3.5	Not Detected	13	Not Detected
Bromodichloromethane	0.88	Not Detected	5.9	Not Detected
cis-1,3-Dichloropropene	0.88	Not Detected	4.0	Not Detected
4-Methyl-2-pentanone	0.88	Not Detected	3.6	Not Detected
Toluene	0.88	1.8	3.3	6.6
trans-1,3-Dichloropropene	0.88	Not Detected	4.0	Not Detected
1,1,2-Trichloroethane	0.88	Not Detected	4.8	Not Detected
Tetrachloroethene	0.88	200	5.9	1300

AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: MD21-07-6804

Lab ID#: 0711101-05A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**7110722**	**Date of Collection:**	**11/4/07**
Dil. Factor:	**1.75**	**Date of Analysis:**	**11/8/07 02:10 AM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
2-Hexanone	3.5	Not Detected	14	Not Detected
Dibromochloromethane	0.88	Not Detected	7.4	Not Detected
1,2-Dibromoethane (EDB)	0.88	Not Detected	6.7	Not Detected
Chlorobenzene	0.88	Not Detected	4.0	Not Detected
Ethyl Benzene	0.88	Not Detected	3.8	Not Detected
m,p-Xylene	0.88	1.3	3.8	5.6
o-Xylene	0.88	Not Detected	3.8	Not Detected
Styrene	0.88	Not Detected	3.7	Not Detected
Bromoform	0.88	0.99	9.0	10
1,1,2,2-Tetrachloroethane	0.88	Not Detected	6.0	Not Detected
4-Ethyltoluene	0.88	Not Detected	4.3	Not Detected
1,3,5-Trimethylbenzene	0.88	Not Detected	4.3	Not Detected
1,2,4-Trimethylbenzene	0.88	4.4	4.3	21
1,3-Dichlorobenzene	0.88	Not Detected	5.3	Not Detected
1,4-Dichlorobenzene	0.88	Not Detected	5.3	Not Detected
alpha-Chlorotoluene	0.88	Not Detected	4.5	Not Detected
1,2-Dichlorobenzene	0.88	Not Detected	5.3	Not Detected
1,2,4-Trichlorobenzene	3.5	Not Detected	26	Not Detected
Hexachlorobutadiene	3.5	Not Detected	37	Not Detected
Chlorodifluoromethane	3.5	Not Detected	12	Not Detected
Methanol	88	Not Detected	110	Not Detected
n-Butanol	3.5	Not Detected	11	Not Detected
Propylene	3.5	81	6.0	140

Container Type: 6 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	94	70-130
1,2-Dichloroethane-d4	92	70-130
4-Bromofluorobenzene	100	70-130

Air Toxics Ltd.

AMBIENT AIR METHOD TO14

Data file : /chem/msd7.i/7-07nov.b/7110722.d
Lab Smp Id: 0711101-05A
Inj Date : 08-NOV-2007 02:10
Operator : ab Inst ID: msd7.i
Smp Info : 200mL #25259
Misc Info : 7.0"Hg ->5psi
Comment :
Method : /chem/msd7.i/7-07nov.b/t14qO18d.m
Meth Date : 07-Nov-2007 11:47 sruth Quant Type: ISTD
Cal Date : 05-NOV-2007 14:29 Cal File: 7110507.d
Als bottle: 1
Dil Factor: 1.75000
Integrator: HP RTE Compound Sublist: Los2153.sub
Target Version: 3.50 Sample Matrix: AIR
Processing Host: eeyore

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

RT	EXP RT (REL RT)	MASS	RESPONSE	CONCENTRATIONS ON-COL (PPBV)	FINAL (PPBV)	TARGET RANGE	RATIO
* 81 Bromochloromethane					CAS #: 74-97-5		
14.416	14.416 (1.000)	130	584784	25.0000		80.00- 120.00	100.00
14.416	14.416 (1.000)	128	450430			28.66- 128.66	77.03
14.416	14.416 (1.000)	49	1346414			133.49- 233.49	230.24
* 97 1,4-Difluorobenzene					CAS #: 540-36-3		
16.186	16.158 (1.000)	114	2032361	25.0000		80.00- 120.00	100.00
16.186	16.158 (1.000)	88	305013			0.00- 65.23	15.01
* 126 Chlorobenzene-d5					CAS #: 3114-55-4		
21.356	21.356 (1.000)	117	1556200	25.0000		80.00- 120.00	100.00
21.356	21.356 (1.000)	82	825024			4.70- 104.70	53.02
$ 90 1,2-Dichloroethane-d4					CAS #: 17060-07-0		
15.494	15.494 (1.075)	65	723572	23.0323	23.032	80.00- 120.00	100.00
15.494	15.494 (1.075)	67	380900			2.91- 102.91	52.64
$ 113 Toluene-d8					CAS #: 2037-26-5		
18.757	18.757 (1.159)	98	1698814	23.5469	23.547	80.00- 120.00	100.00
18.757	18.757 (1.159)	70	196650			0.00- 61.46	11.58

RT	EXP RT (REL RT)	MASS	RESPONSE	CONCENTRATIONS ON-COL (PPBV)	FINAL (PPBV)	TARGET RANGE	RATIO
$ 113 Toluene-d8 (continued)							
18.757	18.757 (1.159)	100	1186764			19.18- 119.18	69.86
$ 137 Bromofluorobenzene					CAS #: 460-00-4		
23.347	23.347 (1.093)	174	930466	25.1267	25.127	80.00- 120.00	100.00
23.319	23.347 (1.092)	95	1199787			73.89- 173.89	128.94
23.347	23.347 (1.093)	176	906882			48.20- 148.20	97.47
11 Propylene					CAS #: 115-07-1		
5.617	5.617 (0.390)	41	1160846	46.0575	80.600	80.00- 120.00	100.00
5.617	5.617 (0.390)	42	763090			21.19- 121.19	65.74
5.617	5.617 (0.390)	39	948137			24.83- 124.83	81.68
12 Dichlorodifluoromethane/Fr12					CAS #: 75-71-8		
5.786	5.758 (0.401)	85	63686	0.68916	1.206	80.00- 120.00	100.00
5.786	5.758 (0.401)	87	20654			0.00- 83.07	32.43
22 1,3-Butadiene					CAS #: 106-99-0		
6.969	6.940 (0.483)	54	72366	2.66273	4.660	80.00- 120.00	100.00
6.743	6.940 (0.468)	39	541205			55.97- 155.97	747.87
42 Freon 113					CAS #: 76-13-1		
10.213	10.186 (0.708)	151	25920	0.54057	0.9460	80.00- 120.00	100.00
10.213	10.186 (0.708)	153	18225			13.12- 113.12	70.31
10.213	10.186 (0.708)	101	33574			67.28- 167.28	129.53
45 Acetone					CAS #: 67-64-1		
10.517	10.490 (0.730)	58	186970	11.8555	20.747	80.00- 120.00	100.00
10.517	10.490 (0.730)	43	608434			247.10- 347.10	325.42
47 Carbon Disulfide					CAS #: 75-15-0		
10.905	10.877 (0.756)	76	205780	2.11390	3.699	80.00- 120.00	100.00
54 Methylene Chloride					CAS #: 75-09-2		
11.485	11.457 (0.797)	49	39279	1.04710	1.832	80.00- 120.00	100.00
11.485	11.457 (0.797)	84	39298			19.98- 119.98	100.05
11.485	11.457 (0.797)	51	14934			0.00- 80.85	38.02
65 Hexane					CAS #: 110-54-3		
12.315	12.287 (0.854)	57	68501	1.38470	2.423	80.00- 120.00	100.00
12.315	12.287 (0.854)	43	54017			17.84- 117.84	78.86
12.315	12.287 (0.854)	86	9264			0.00- 65.07	13.52
75 2-Butanone					CAS #: 78-93-3		
13.918	13.891 (0.965)	72	10460	0.82586	1.445	80.00- 120.00	100.00
13.891	13.891 (0.964)	43	64700			412.48- 512.48	618.55

RT	EXP RT (REL RT)	MASS	RESPONSE	CONCENTRATIONS ON-COL (PPBV)	FINAL (PPBV)	TARGET RANGE	RATIO
75 2-Butanone (continued)							
13.891	13.891 (0.964)	57	4208			0.00- 86.57	40.23
82 Chloroform					CAS #: 67-66-3		
14.471	14.471 (1.004)	83	5800567	98.5167	172.40	80.00- 120.00	100.00
14.471	14.471 (1.004)	85	3778481			15.69- 115.69	65.14
83 1,1,1-Trichloroethane					CAS #: 71-55-6		
14.831	14.831 (1.029)	97	126832	2.13910	3.743	80.00- 120.00	100.00
14.831	14.831 (1.029)	99	81907			14.03- 114.03	64.58
87 Carbon Tetrachloride					CAS #: 56-23-5		
15.107	15.107 (1.048)	119	313492	5.64039	9.871	80.00- 120.00	100.00
15.107	15.107 (1.048)	117	326613			53.14- 153.14	104.19
91 Benzene					CAS #: 71-43-2		
15.522	15.522 (0.959)	78	69951	0.86625	1.516	80.00- 120.00	100.00
15.522	15.522 (0.959)	77	21464			0.00- 71.87	30.68
94 Heptane					CAS #: 142-82-5		
15.716	15.715 (0.971)	71	21591	0.86939	1.521	80.00- 120.00	100.00
15.743	15.715 (0.973)	43	34389			158.53- 258.53	159.27
15.716	15.715 (0.971)	57	16726			59.34- 159.34	77.47
101 Trichloroethene					CAS #: 79-01-6		
16.656	16.628 (1.029)	95	2718341	75.7825	132.62	80.00- 120.00	100.00
16.656	16.628 (1.029)	130	2697545			51.11- 151.11	99.23
16.656	16.628 (1.029)	97	1762549			15.04- 115.04	64.84
114 Toluene					CAS #: 108-88-3		
18.895	18.895 (1.167)	91	88567	1.00135	1.752	80.00- 120.00	100.00
18.895	18.895 (1.167)	92	55310			12.90- 112.90	62.45
120 Tetrachloroethene					CAS #: 127-18-4		
19.835	19.835 (0.929)	166	4742717	113.449	198.53	80.00- 120.00	100.00
19.835	19.835 (0.929)	129	3446107			21.07- 121.07	72.66
19.835	19.835 (0.929)	131	3305076			18.33- 118.33	69.69
129 m,p-Xylene					CAS #: 108-38-3		
21.688	21.688 (1.016)	106	32907	0.73157	1.280	80.00- 120.00	100.00
21.688	21.688 (1.016)	91	61104			145.05- 245.05	185.69
133 Bromoform					CAS #: 75-25-2		
22.821	22.821 (1.069)	173	28266	0.56363	0.9864	80.00- 120.00	100.00
22.821	22.821 (1.069)	171	15249			1.15- 101.15	53.95

RT	EXP RT	(REL RT)	MASS	RESPONSE	CONCENTRATIONS ON-COL (PPBV)	FINAL (PPBV)	TARGET RANGE	RATIO
150 1,2,4-Trimethylbenzene						CAS #: 95-63-6		
24.563	24.563	(1.150)	105	207007	2.48736	4.353	80.00- 120.00	100.00
24.563	24.563	(1.150)	120	27629			0.00- 98.95	13.35

Air Toxics Ltd.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd7.i
Lab File ID: 7110722.d
Lab Smp Id: 0711101-05A
Analysis Type: VOA
Quant Type: ISTD
Operator: ab
Method File: /chem/msd7.i/7-07nov.b/t14qO18d.m
Misc Info: 7.0"Hg ->5psi

Calibration Date: 07-NOV-2007
Calibration Time: 08:52

Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
81 Bromochloromethan	695461	417277	973645	584784	-15.91
97 1,4-Difluorobenze	2265681	1359409	3171953	2032361	-10.30
126 Chlorobenzene-d5	1765821	1059493	2472149	1556200	-11.87

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
81 Bromochloromethan	14.42	14.09	14.75	14.42	0.00
97 1,4-Difluorobenze	16.16	15.83	16.49	16.19	0.17
126 Chlorobenzene-d5	21.36	21.03	21.69	21.36	0.00

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Air Toxics Ltd.

RECOVERY REPORT

Client Name: Client SDG: 7-07nov
Sample Matrix: GAS Fraction: VOA
Lab Smp Id: 0711101-05A
Level: LOW Operator: ab
Data Type: MS DATA SampleType: SAMPLE
SpikeList File: 2926spectra.spk Quant Type: ISTD
Sublist File: Los2153.sub
Method File: /chem/msd7.i/7-07nov.b/t14qO18d.m
Misc Info: 7.0"Hg ->5psi

SURROGATE COMPOUND	CONC ADDED PPBV	CONC RECOVERED PPBV	% RECOVERED	LIMITS
$ 90 1,2-Dichloroethane	25.000	23.032	92.13	70-130
$ 113 Toluene-d8	25.000	23.547	94.19	70-130
$ 137 Bromofluorobenzene	25.000	25.127	100.51	70-130

Data File: /chem/msd7.i/7-07nov.b/7110722.d

Date : 08-NOV-2007 02:10

Client ID:

Sample Info: 200mL #25259

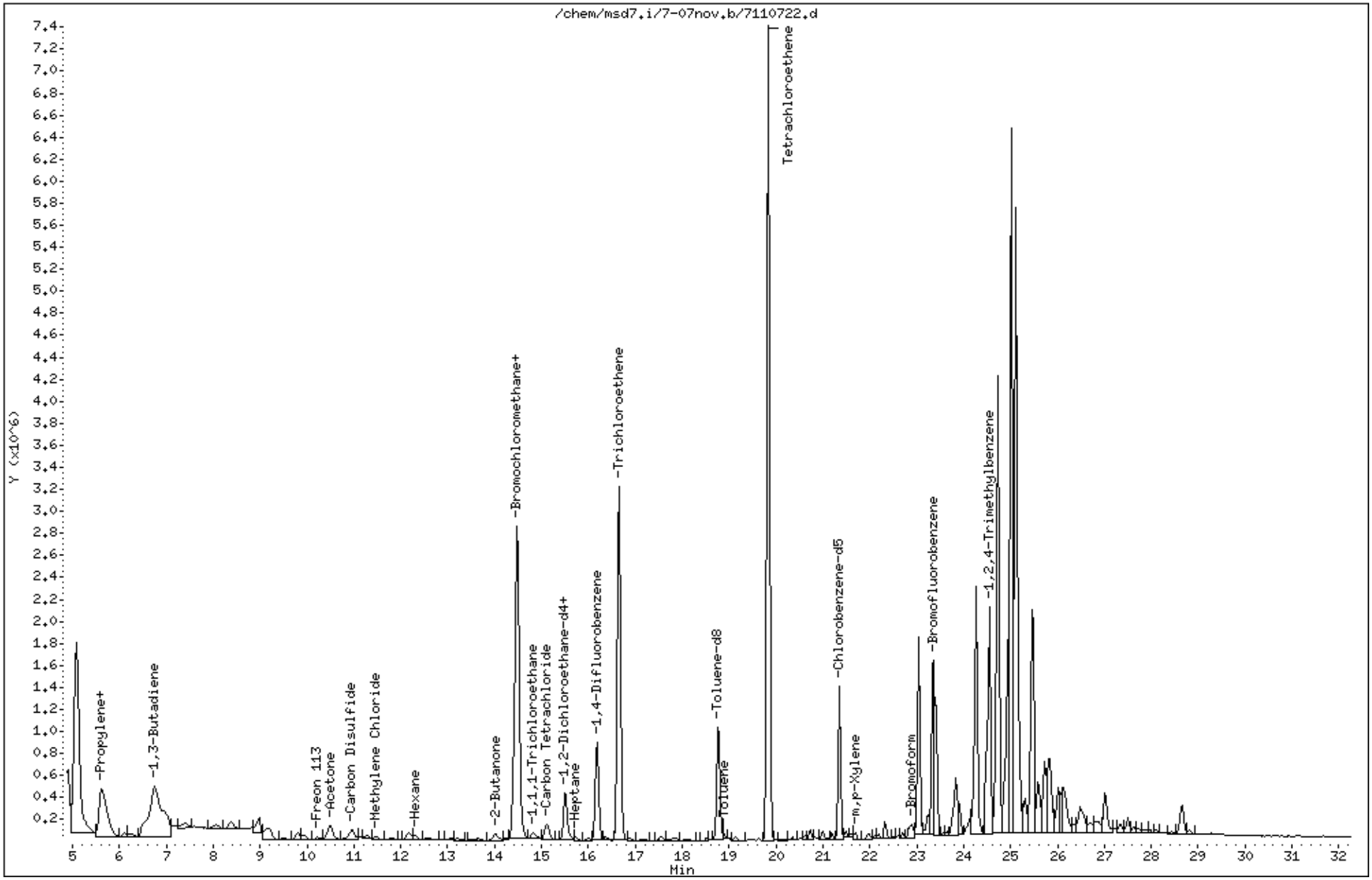
Column phase: RTx-624

Instrument: msd7.i

Operator: ab

Column diameter: 0.53

0168



Data File: /chem/msd7.i/7-07nov.b/7110722.d

Date : 08-NOV-2007 02:10

Client ID:

Instrument: msd7.i

Sample Info: 200mL #25259

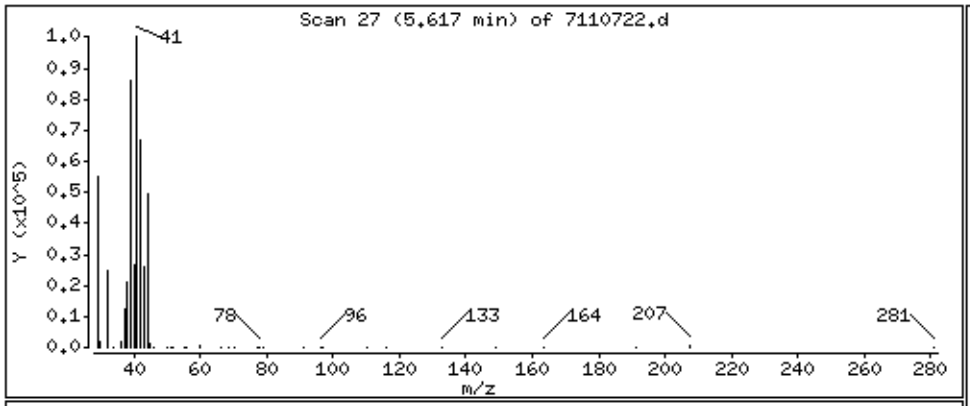
Operator: ab

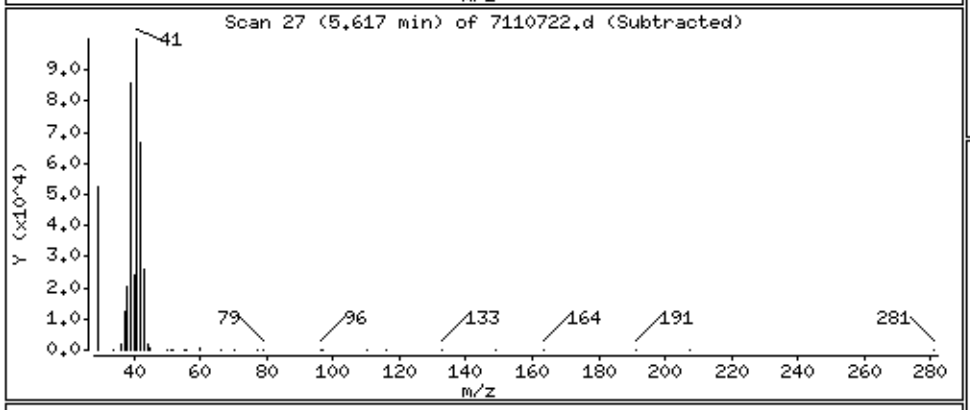
Column phase: RTx-624

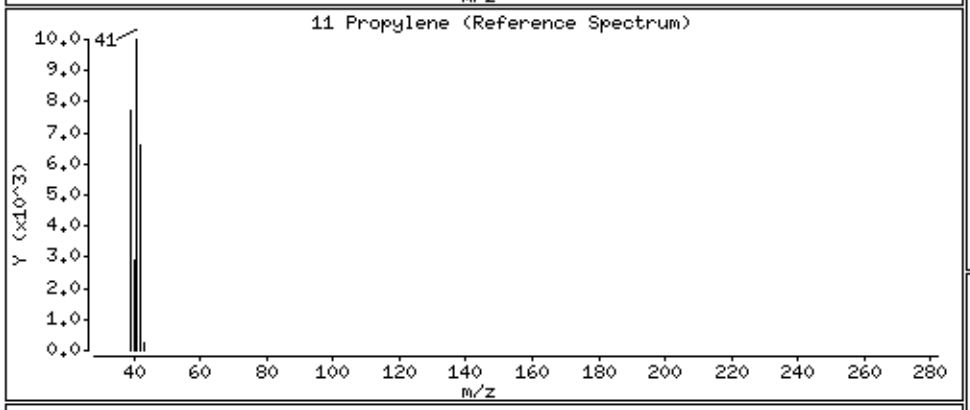
Column diameter: 0.53

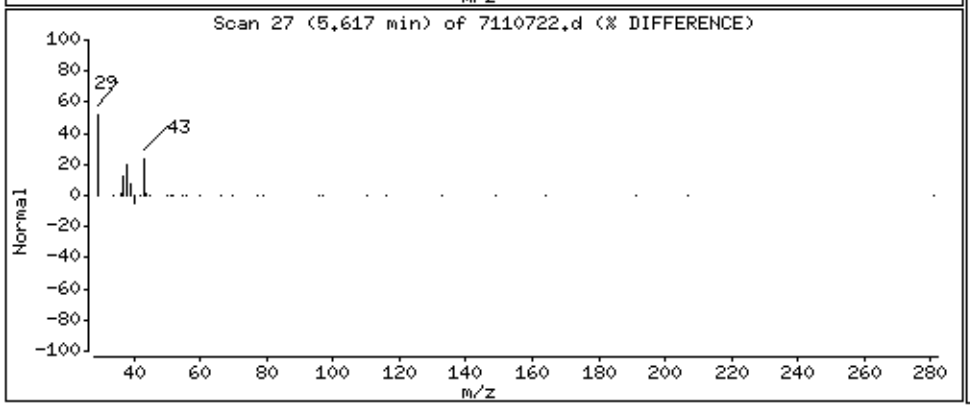
11 Propylene

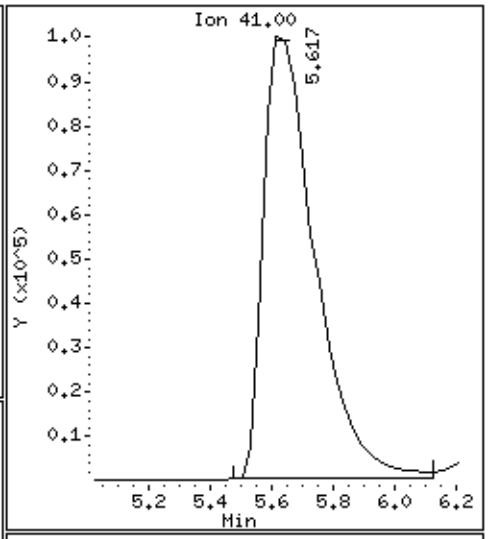
Concentration: 80.600 PPBV

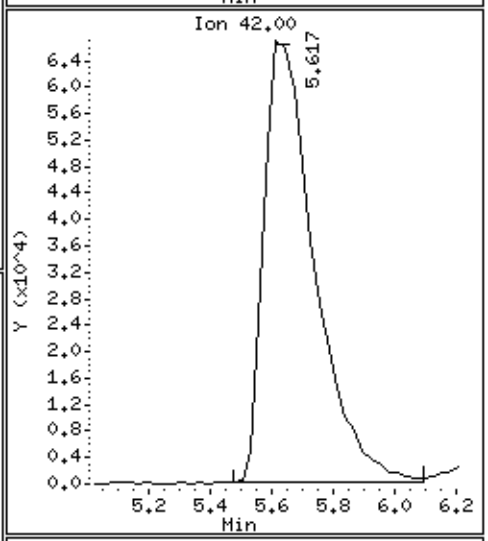


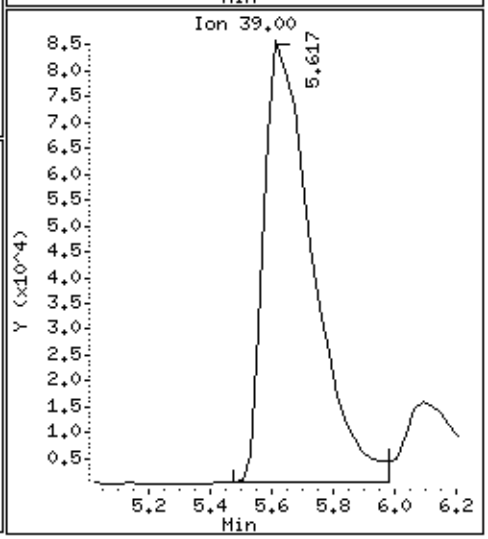












Data File: /chem/msd7.i/7-07nov.b/7110722.d

Date : 08-NOV-2007 02:10

Client ID:

Instrument: msd7.i

Sample Info: 200mL #25259

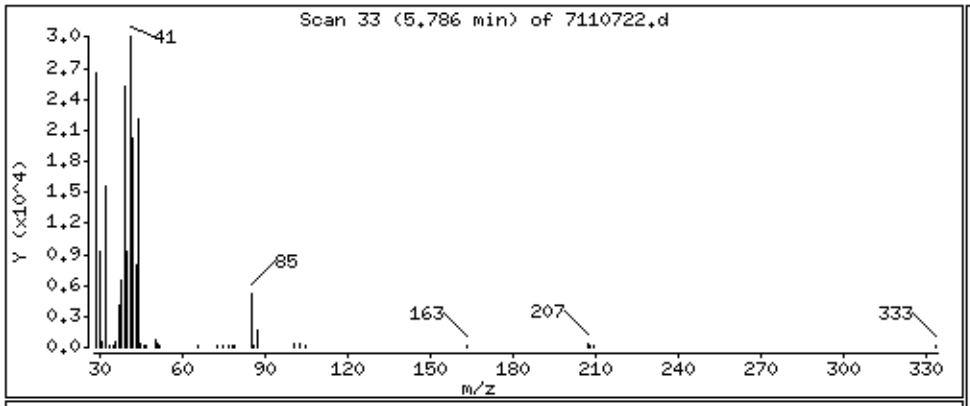
Operator: ab

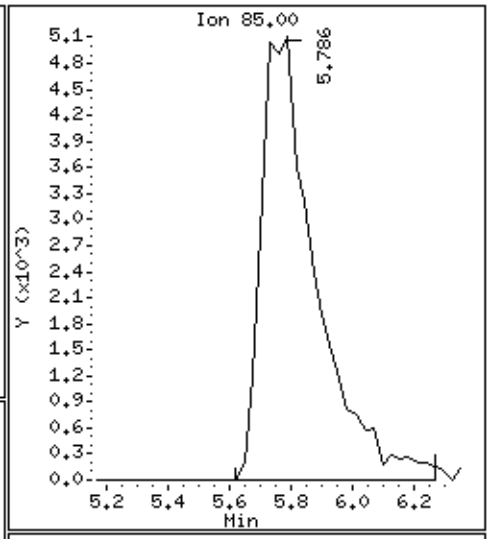
Column phase: RTx-624

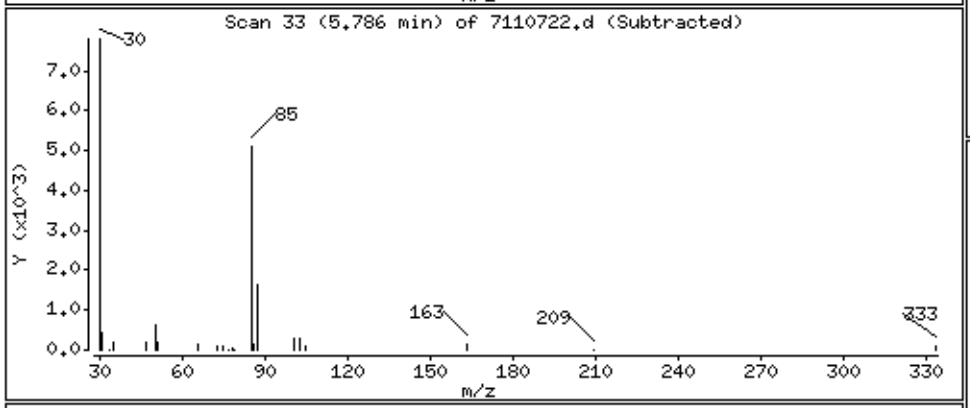
Column diameter: 0.53

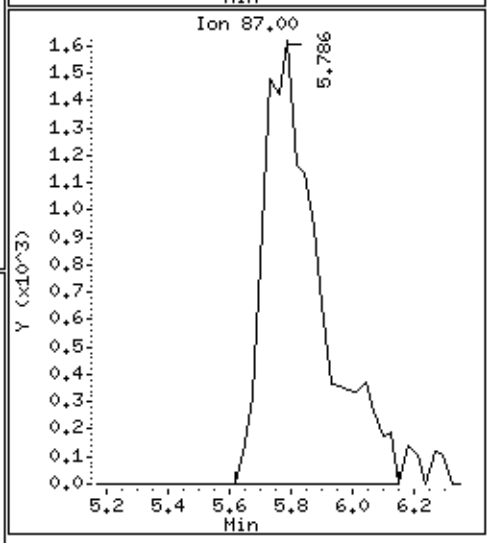
12 Dichlorodifluoromethane/Fr12

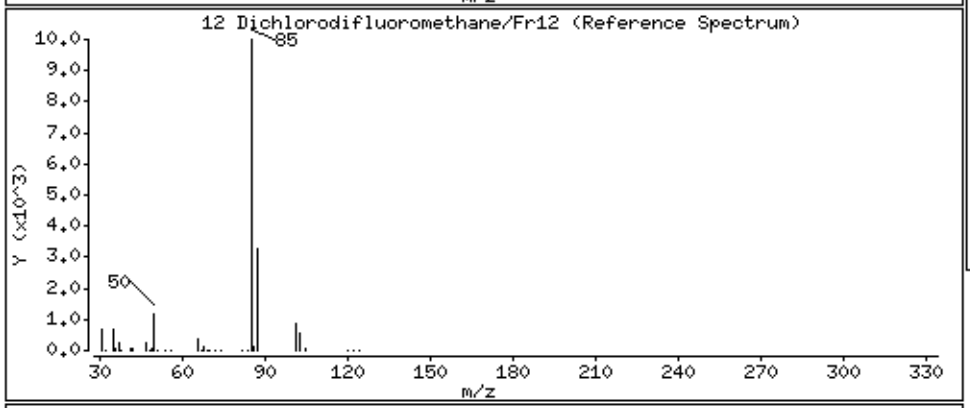
Concentration: 1.206 PPBV

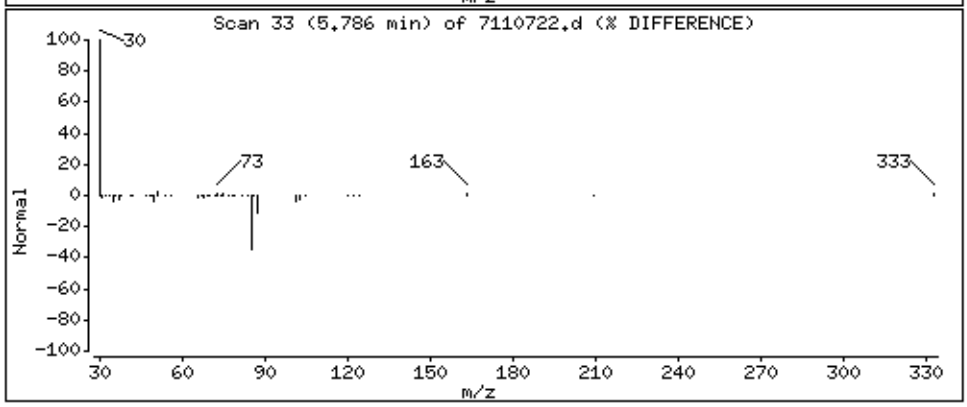












Data File: /chem/msd7.i/7-07nov.b/7110722.d

Date : 08-NOV-2007 02:10

Client ID:

Instrument: msd7.i

Sample Info: 200mL #25259

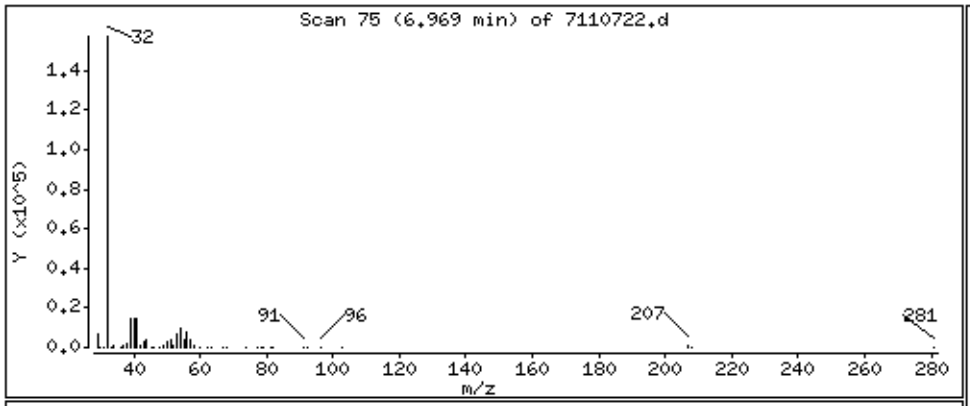
Operator: ab

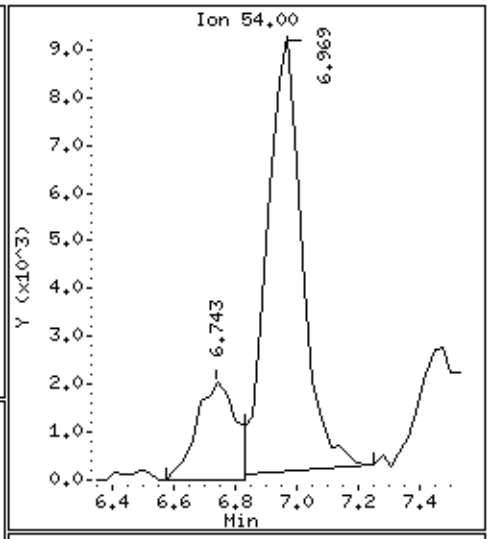
Column phase: RTx-624

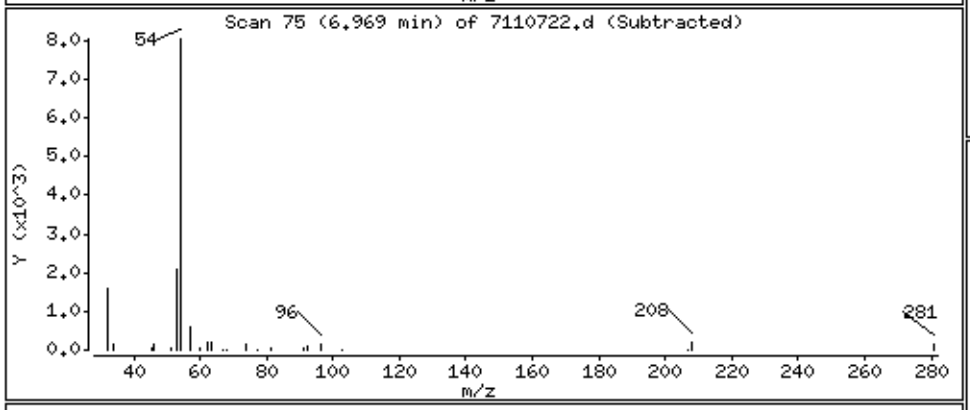
Column diameter: 0.53

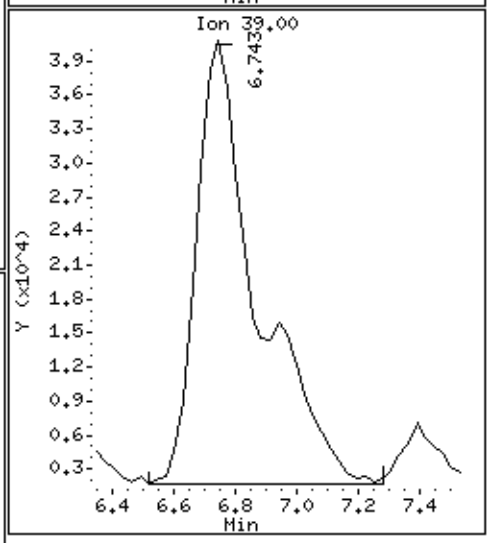
22 1,3-Butadiene

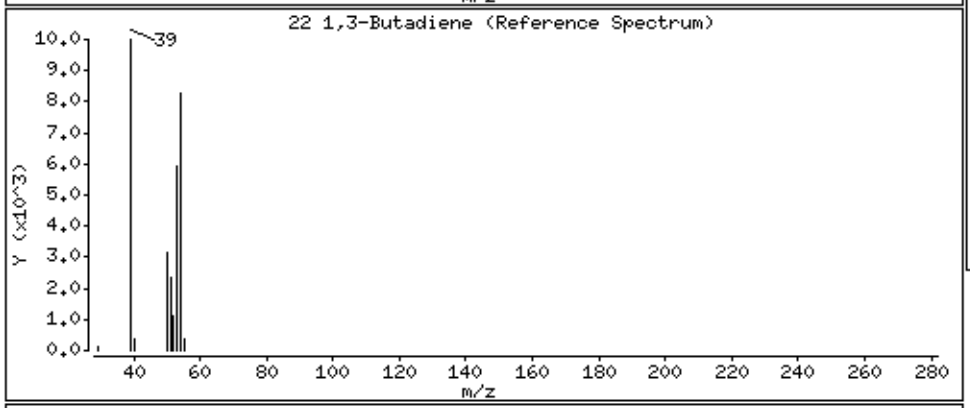
Concentration: 4.660 PPBV

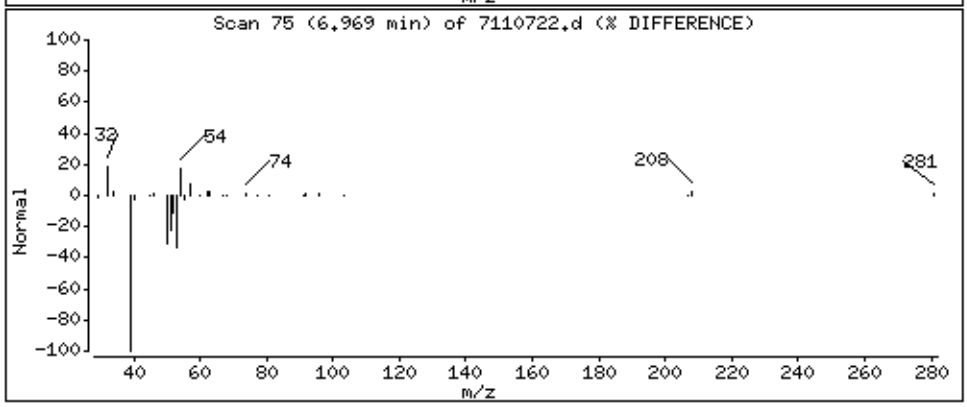












Data File: /chem/msd7.i/7-07nov.b/7110722.d

Date : 08-NOV-2007 02:10

Client ID:

Instrument: msd7.i

Sample Info: 200mL #25259

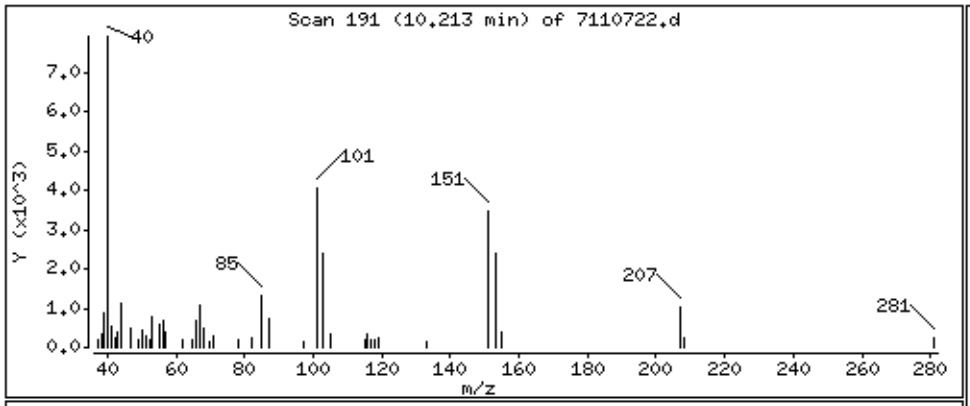
Operator: ab

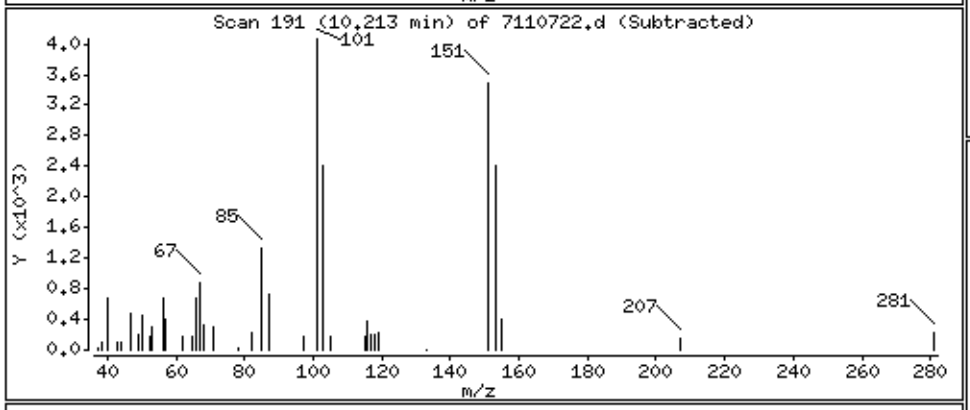
Column phase: RTx-624

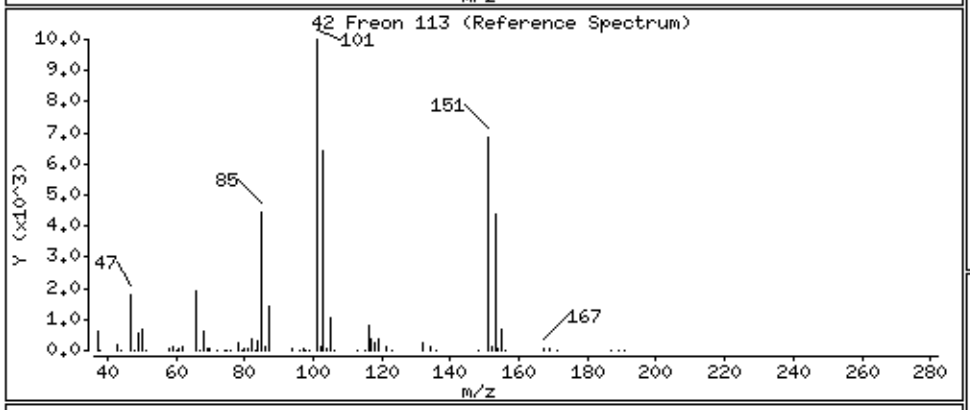
Column diameter: 0.53

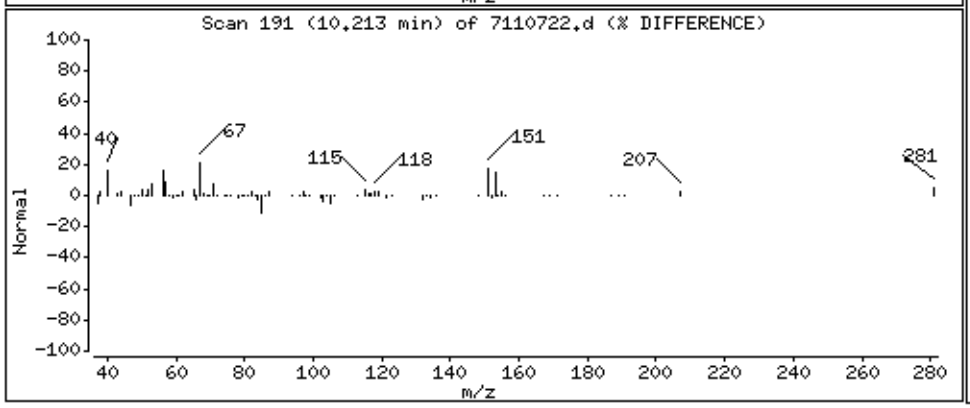
42 Freon 113

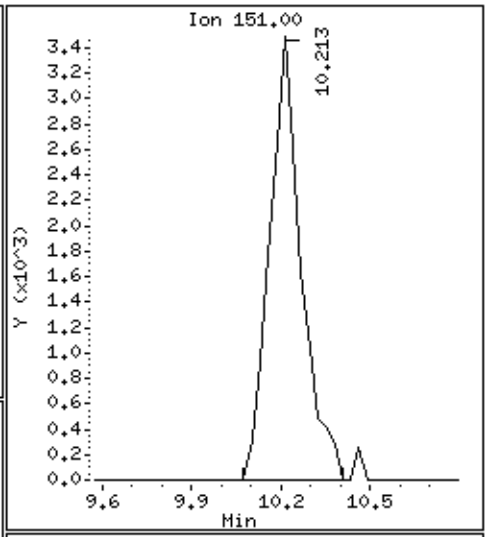
Concentration: 0.9460 PPBV

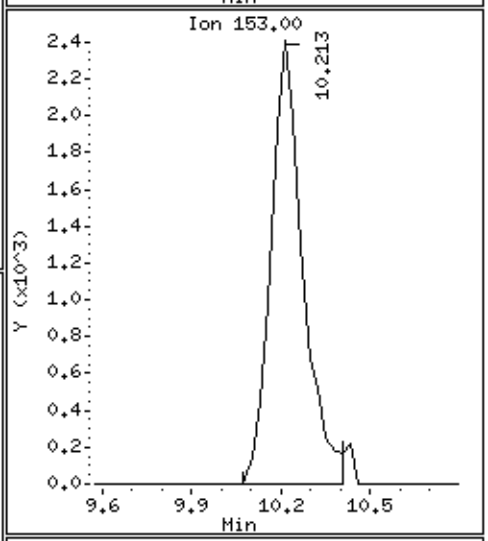


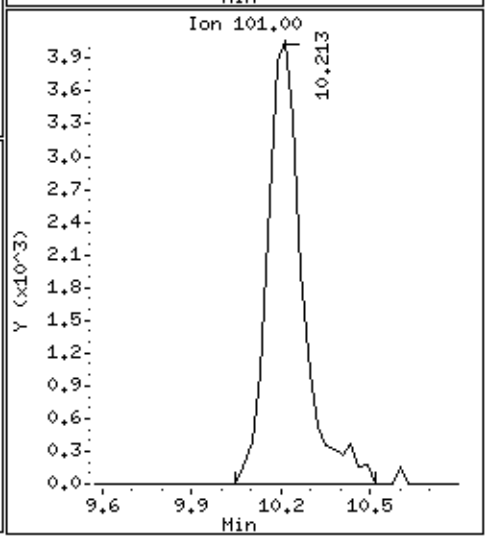












Data File: /chem/msd7.i/7-07nov.b/7110722.d

Date : 08-NOV-2007 02:10

Client ID:

Instrument: msd7.i

Sample Info: 200mL #25259

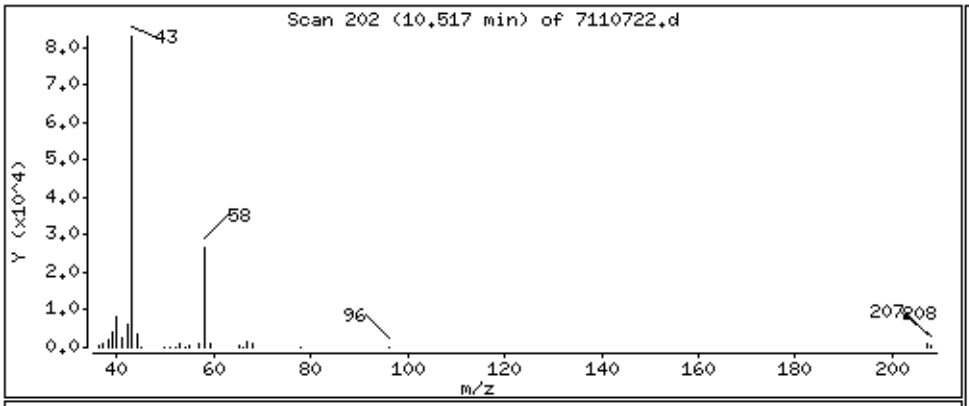
Operator: ab

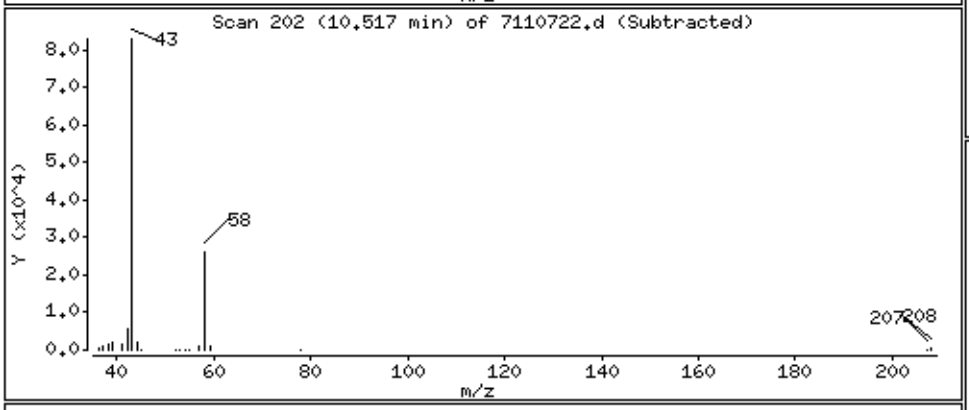
Column phase: RTx-624

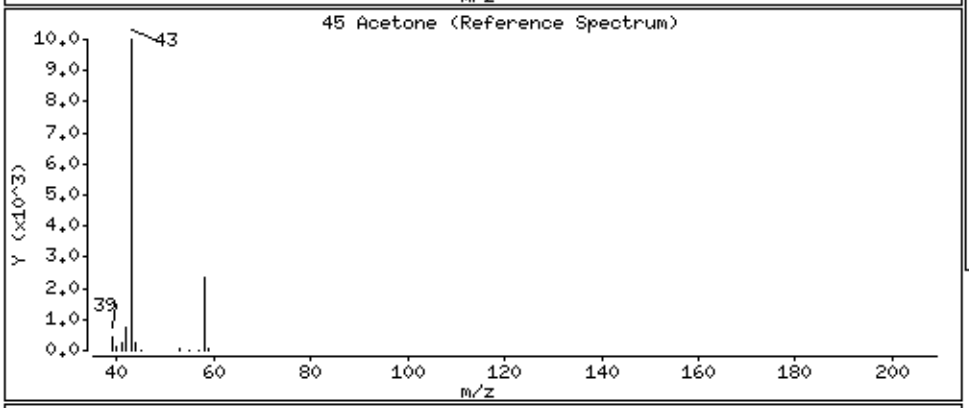
Column diameter: 0.53

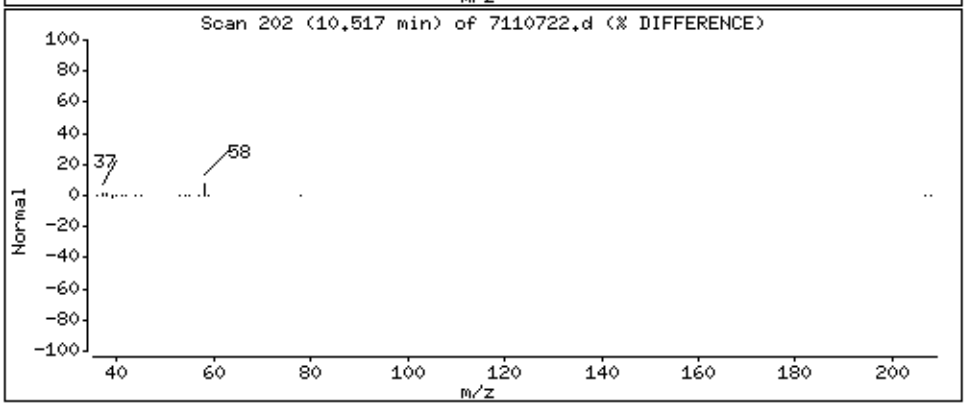
45 Acetone

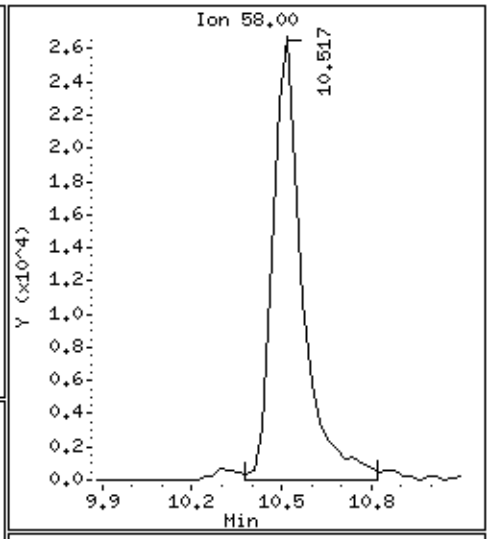
Concentration: 20.747 PPBV

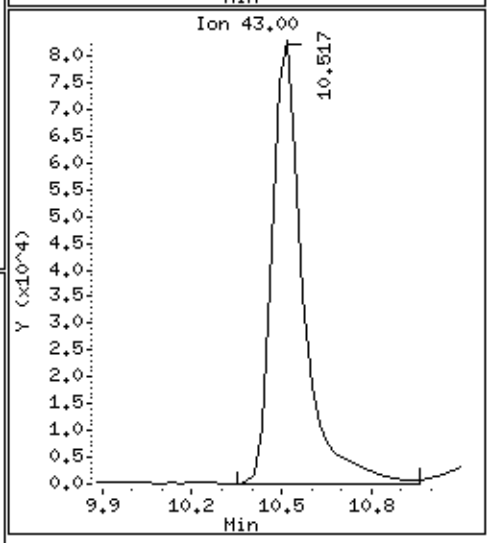












Data File: /chem/msd7.i/7-07nov.b/7110722.d

Date : 08-NOV-2007 02:10

Client ID:

Instrument: msd7.i

Sample Info: 200mL #25259

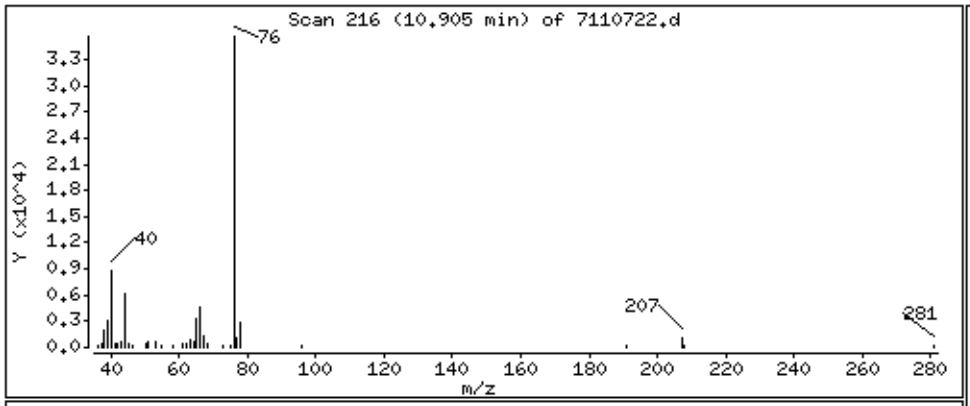
Operator: ab

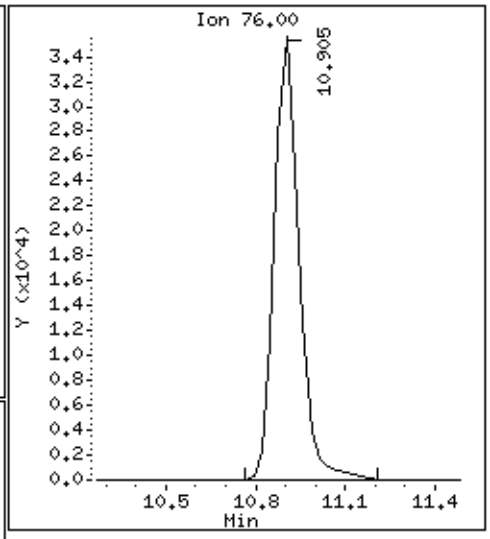
Column phase: RTx-624

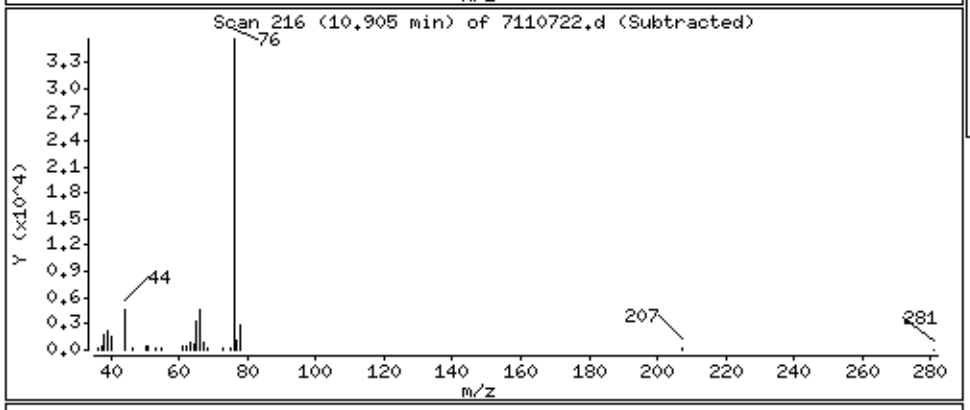
Column diameter: 0.53

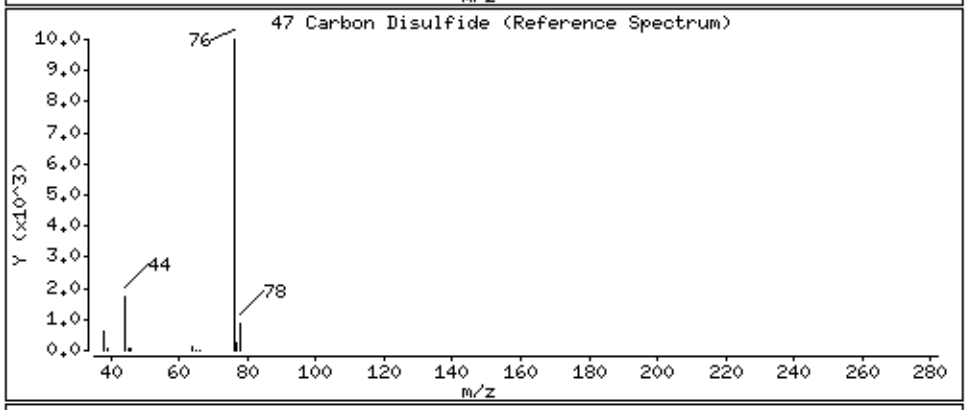
47 Carbon Disulfide

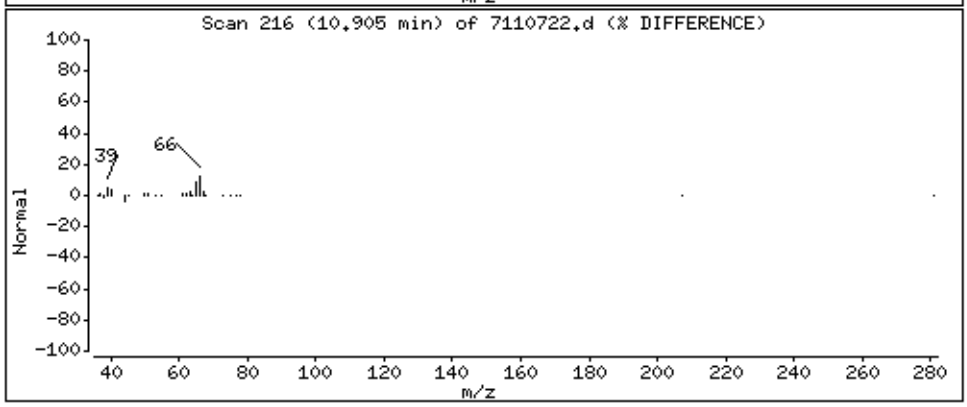
Concentration: 3.699 PPBV











Data File: /chem/msd7.i/7-07nov.b/7110722.d

Date : 08-NOV-2007 02:10

Client ID:

Instrument: msd7.i

Sample Info: 200mL #25259

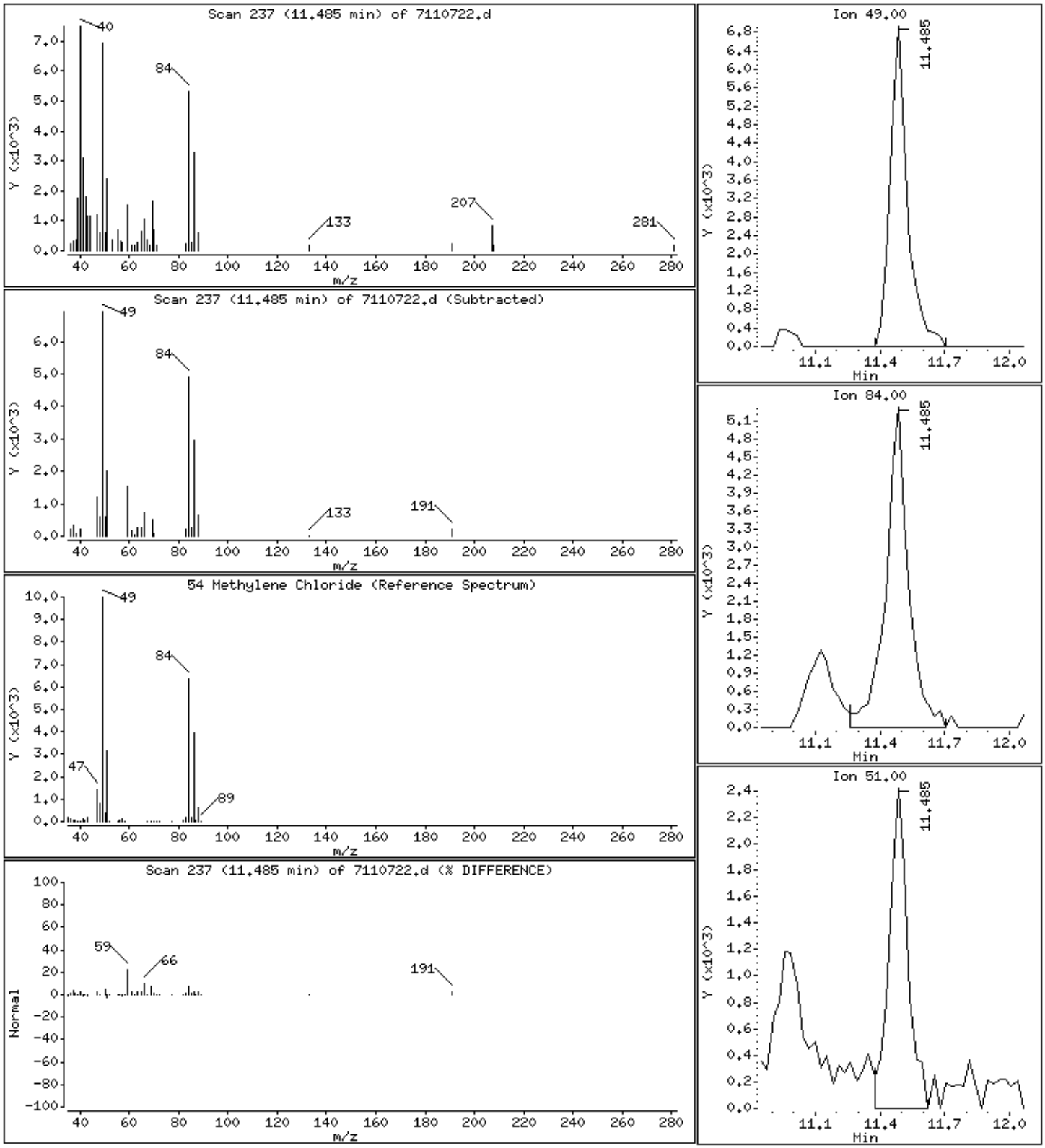
Operator: ab

Column phase: RTx-624

Column diameter: 0.53

54 Methylene Chloride

Concentration: 1.832 PPBV



Data File: /chem/msd7.i/7-07nov.b/7110722.d

Date : 08-NOV-2007 02:10

Client ID:

Instrument: msd7.i

Sample Info: 200mL #25259

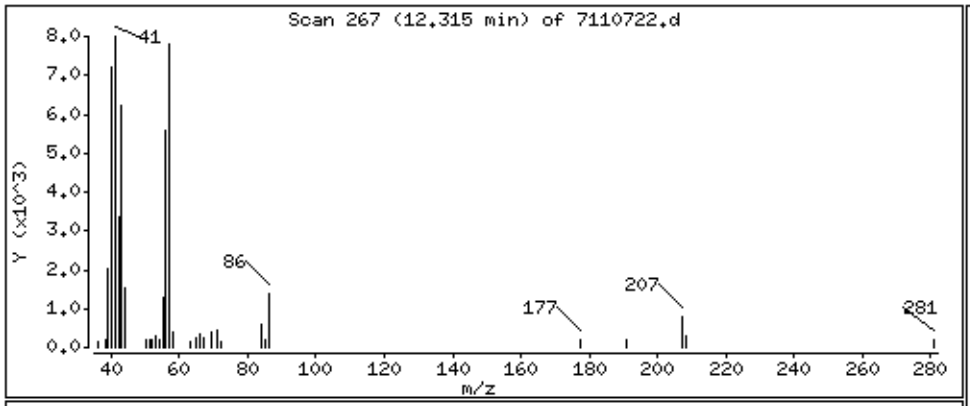
Operator: ab

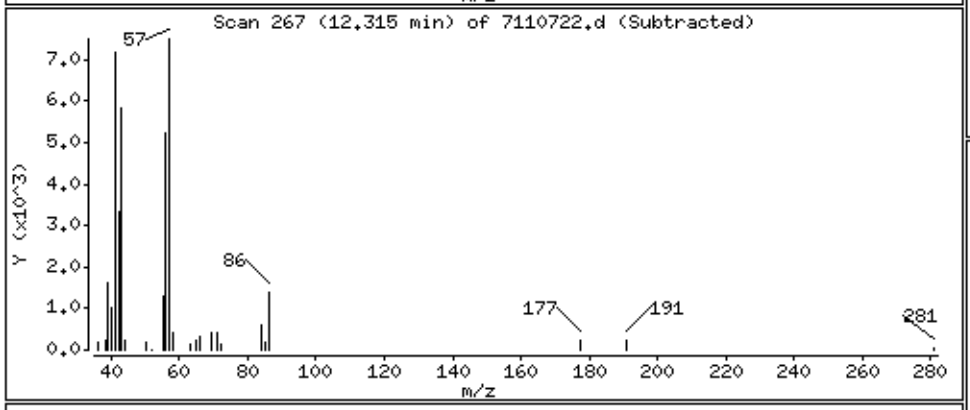
Column phase: RTx-624

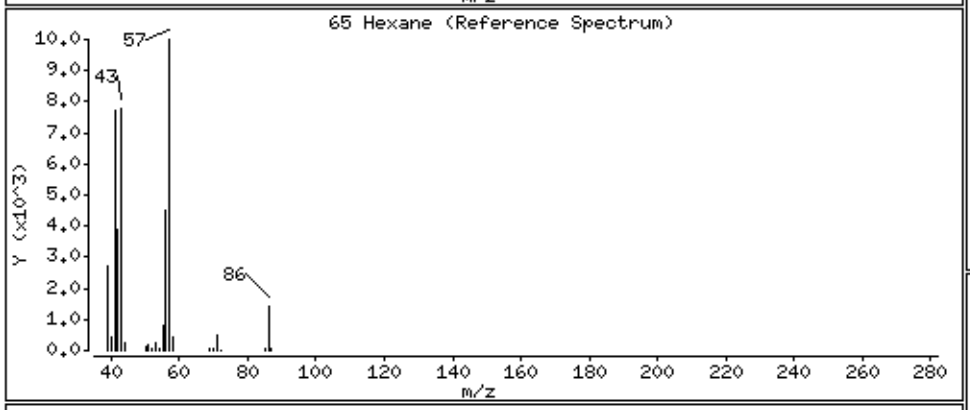
Column diameter: 0.53

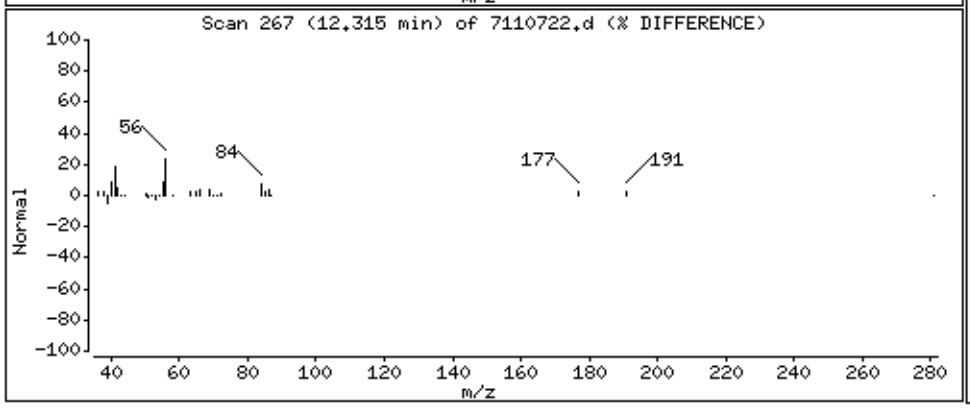
65 Hexane

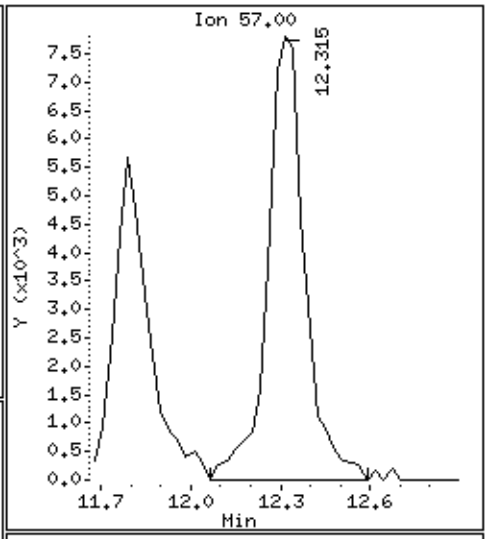
Concentration: 2.423 PPBV

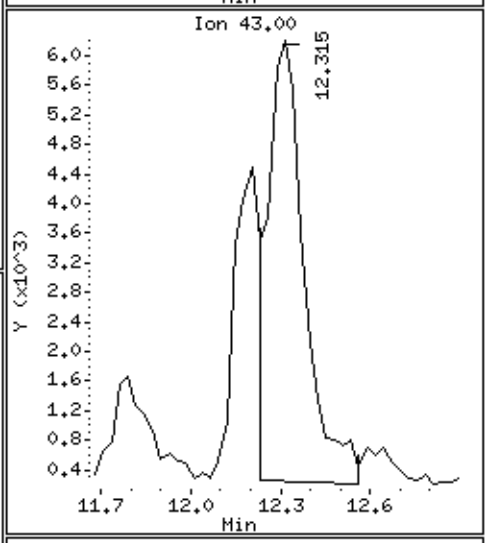


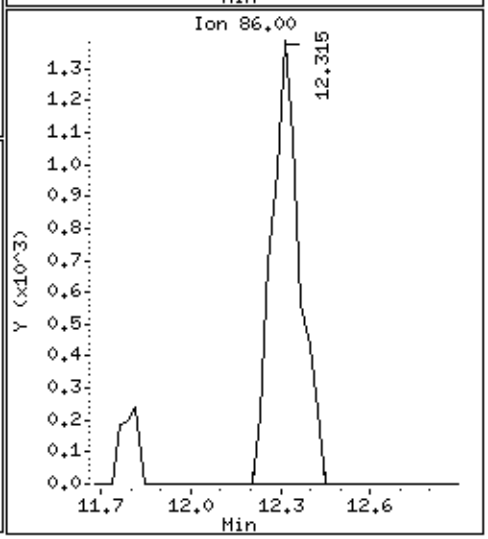












Data File: /chem/msd7.i/7-07nov.b/7110722.d

Date : 08-NOV-2007 02:10

Client ID:

Instrument: msd7.i

Sample Info: 200mL #25259

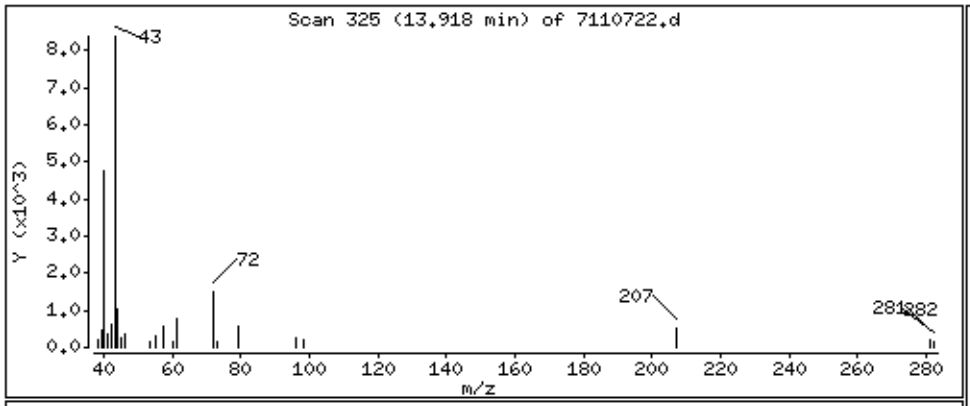
Operator: ab

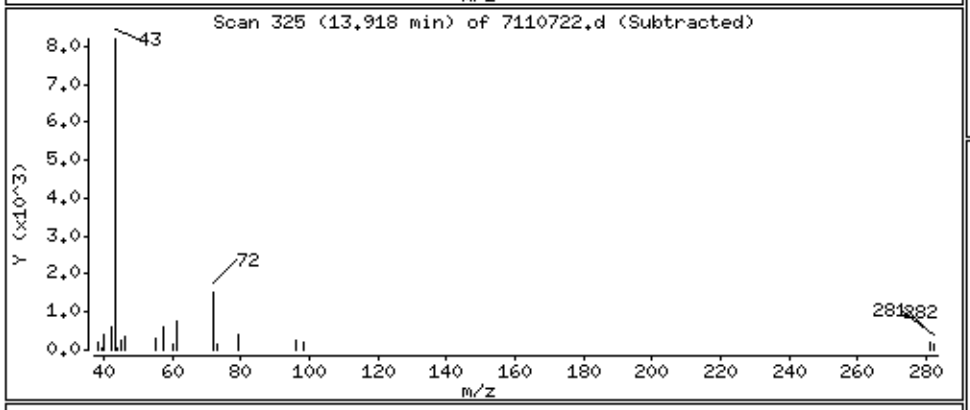
Column phase: RTx-624

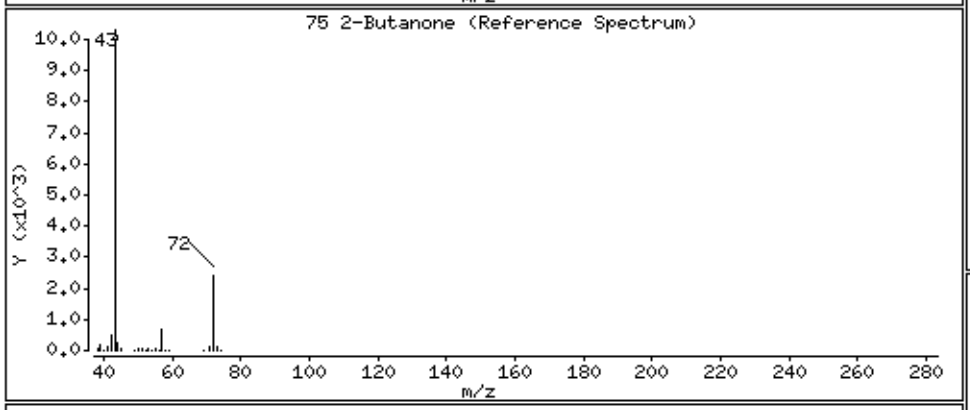
Column diameter: 0.53

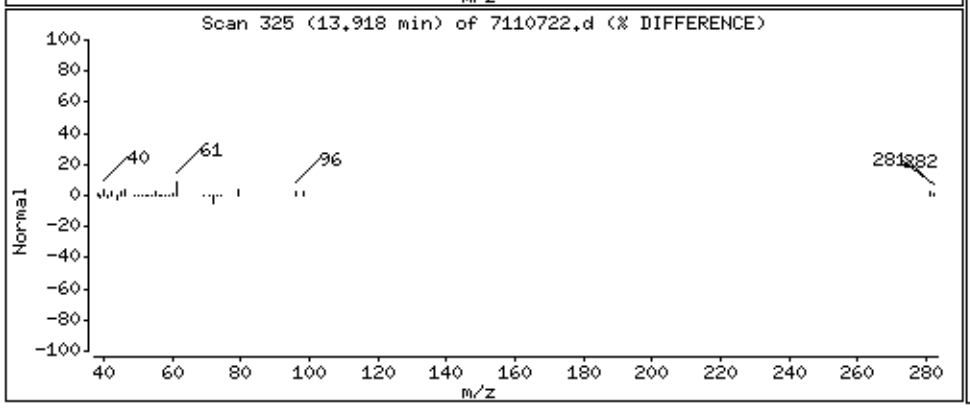
75 2-Butanone

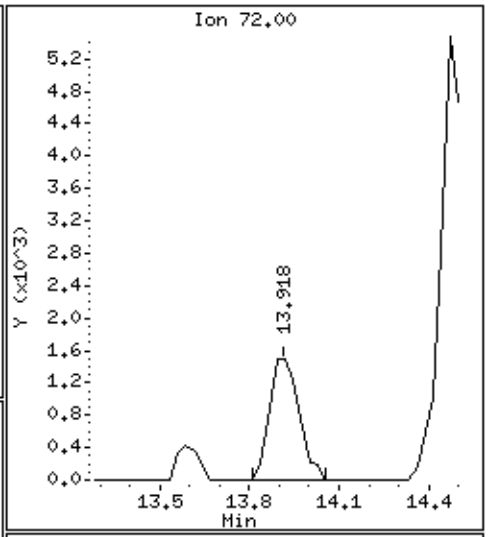
Concentration: 1.445 PPBV

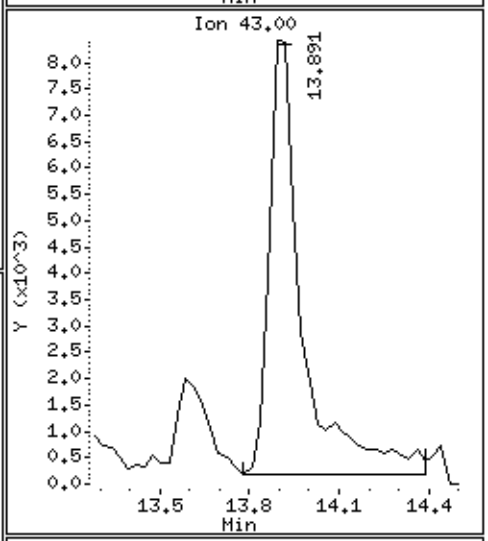


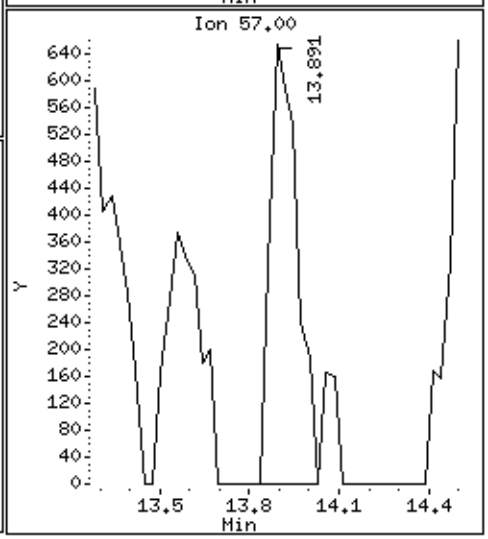












Data File: /chem/msd7.i/7-07nov.b/7110722.d

Date : 08-NOV-2007 02:10

Client ID:

Instrument: msd7.i

Sample Info: 200mL #25259

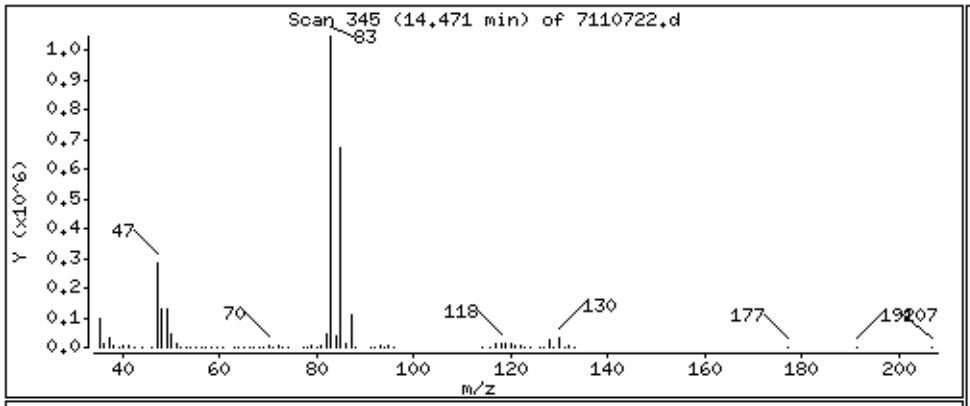
Operator: ab

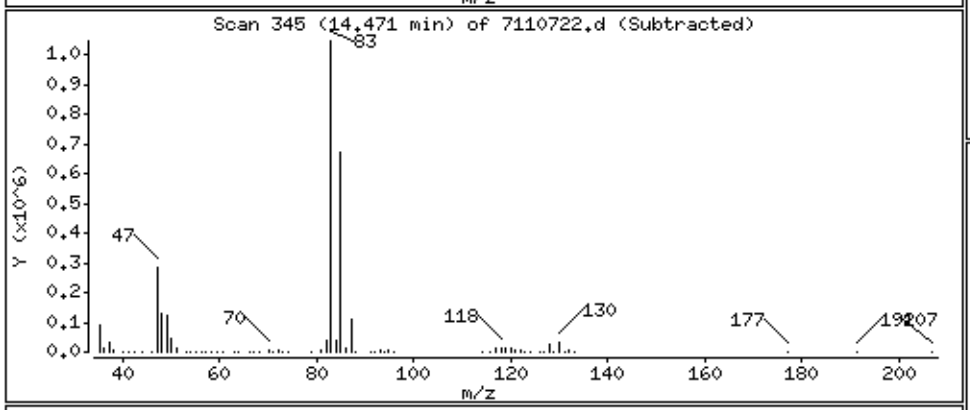
Column phase: RTx-624

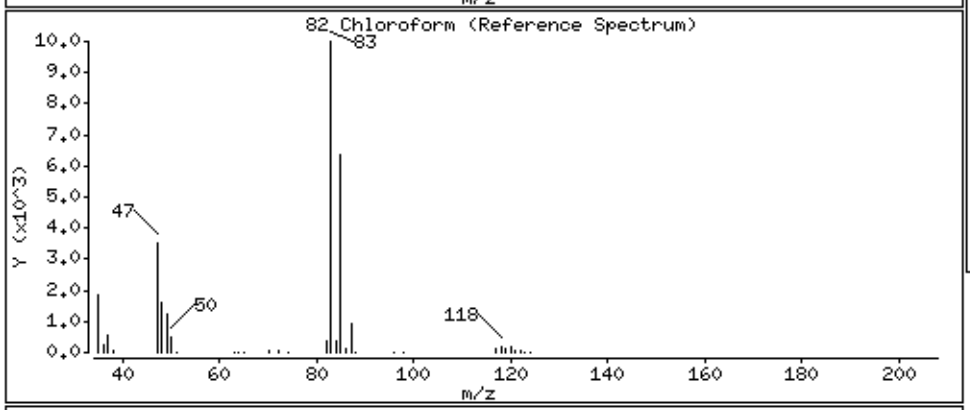
Column diameter: 0.53

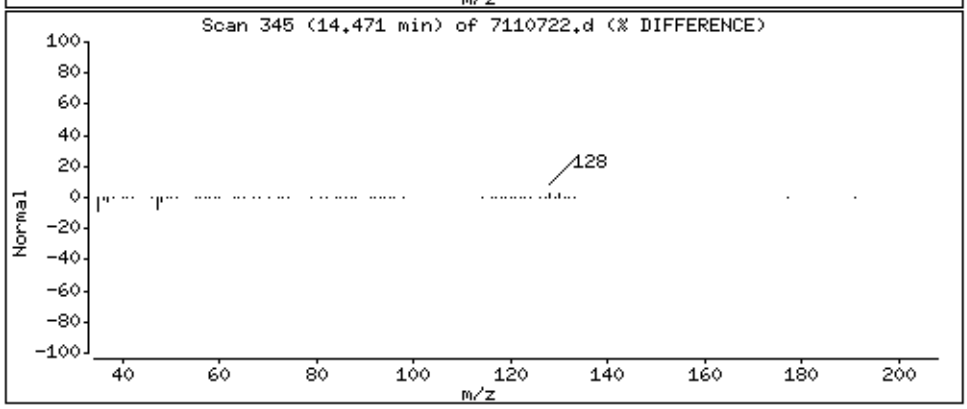
82 Chloroform

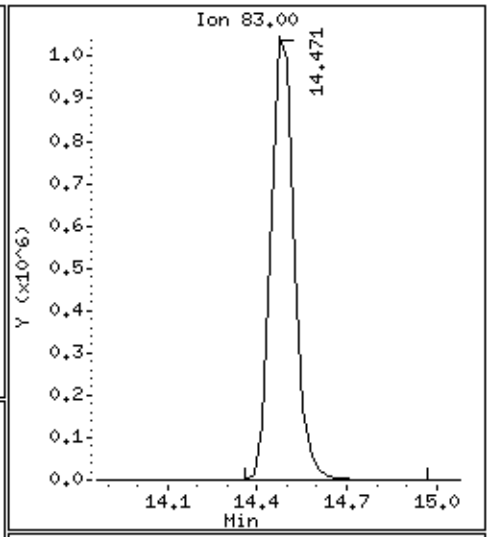
Concentration: 172.40 PPBV

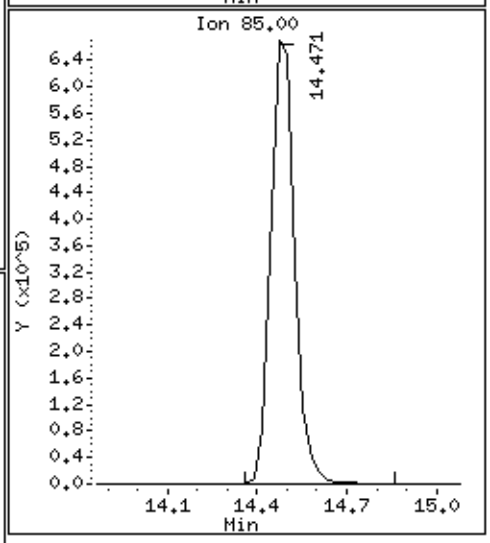












Data File: /chem/msd7.i/7-07nov.b/7110722.d

Date : 08-NOV-2007 02:10

Client ID:

Instrument: msd7.i

Sample Info: 200mL #25259

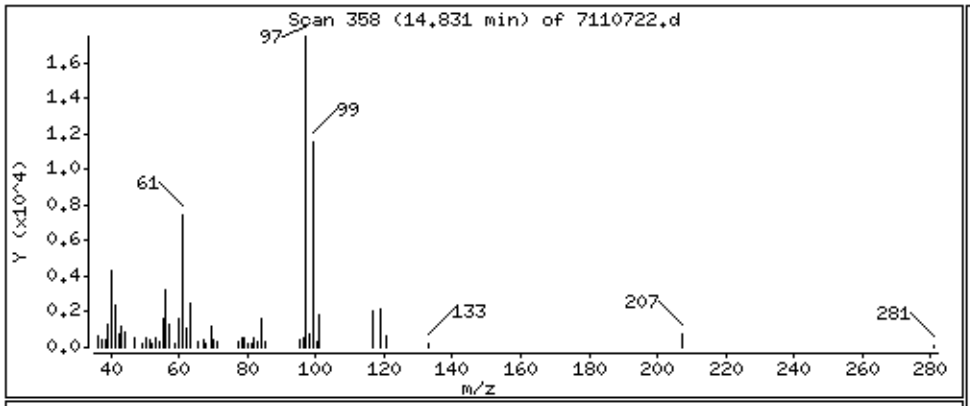
Operator: ab

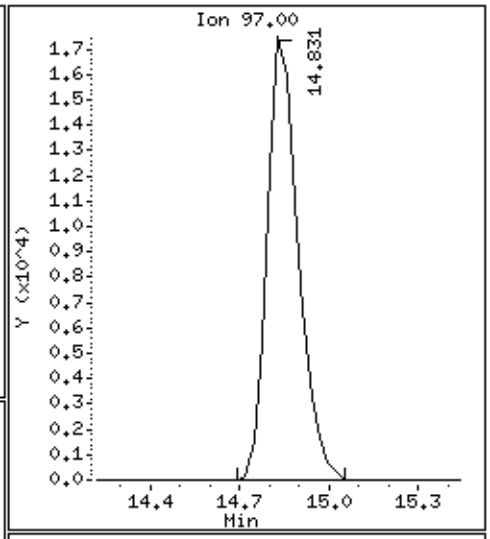
Column phase: RTx-624

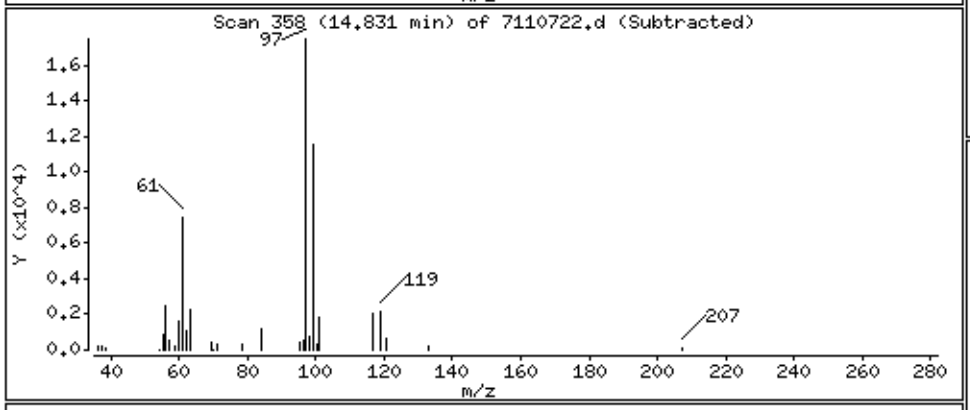
Column diameter: 0.53

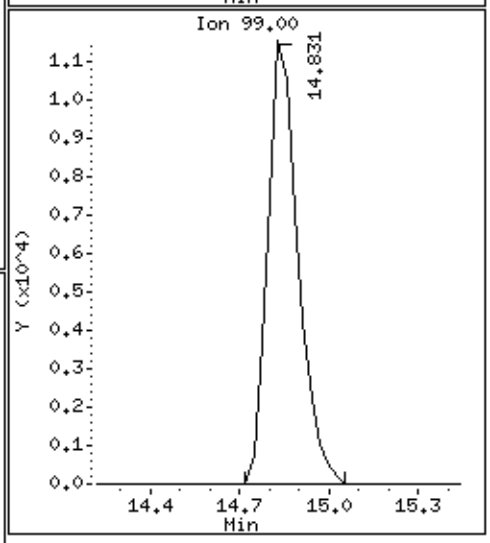
83 1,1,1-Trichloroethane

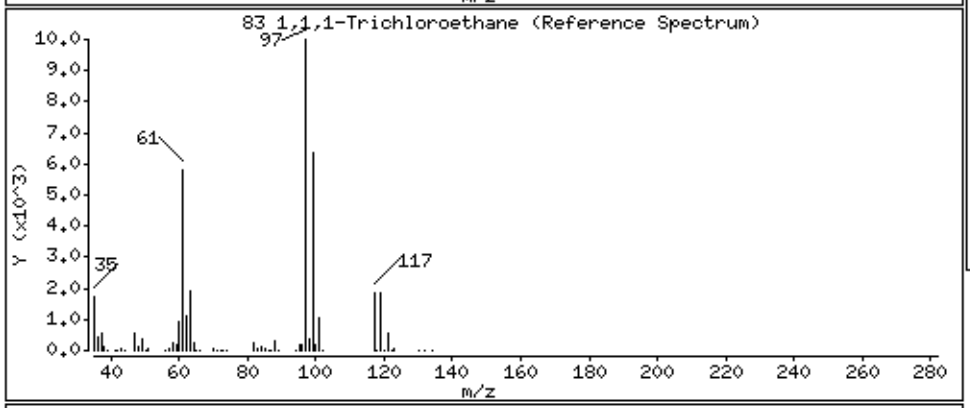
Concentration: 3.743 PPBV

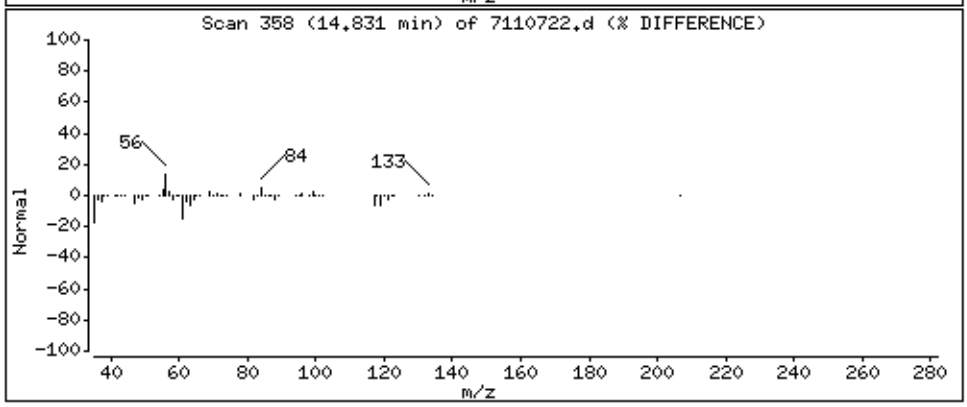












Data File: /chem/msd7.i/7-07nov.b/7110722.d

Date : 08-NOV-2007 02:10

Client ID:

Instrument: msd7.i

Sample Info: 200mL #25259

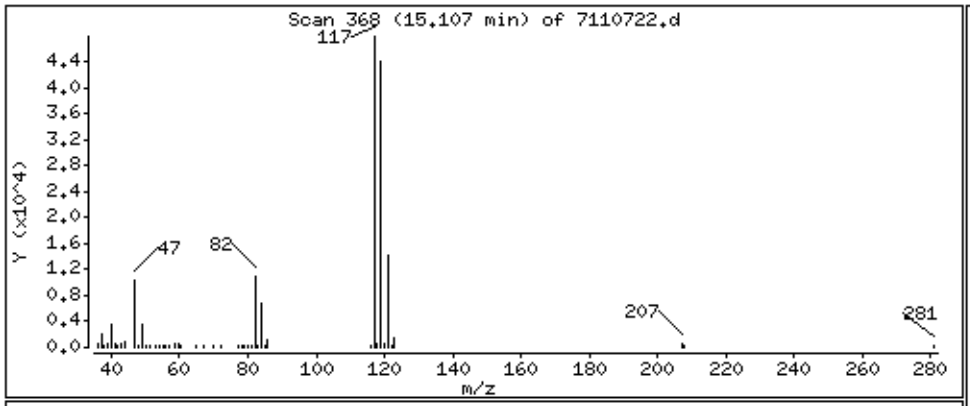
Operator: ab

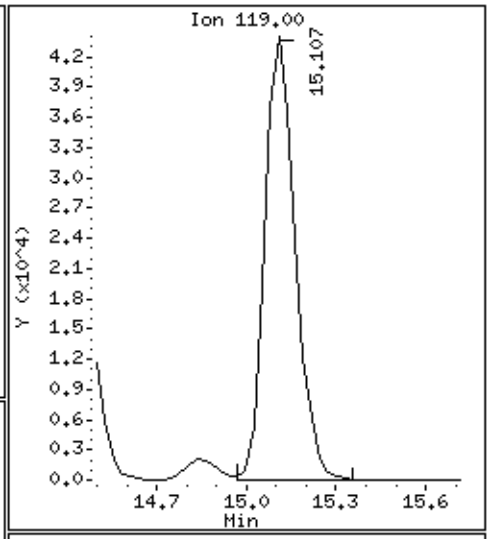
Column phase: RTx-624

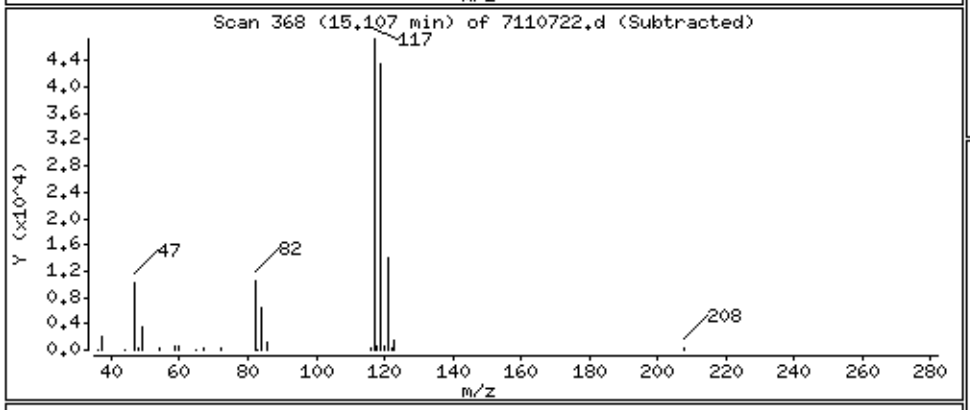
Column diameter: 0.53

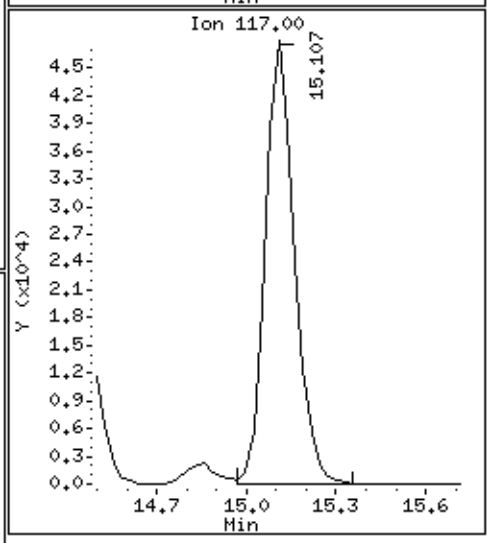
87 Carbon Tetrachloride

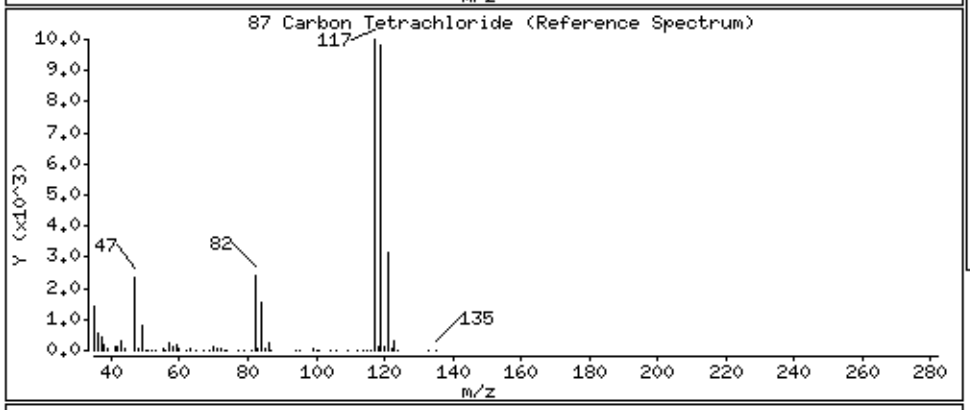
Concentration: 9.871 PPBV

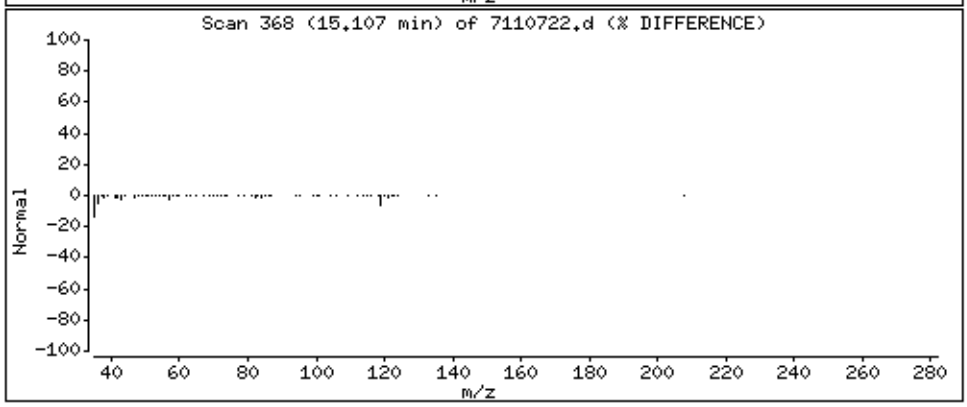












Data File: /chem/msd7.i/7-07nov.b/7110722.d

Date : 08-NOV-2007 02:10

Client ID:

Instrument: msd7.i

Sample Info: 200mL #25259

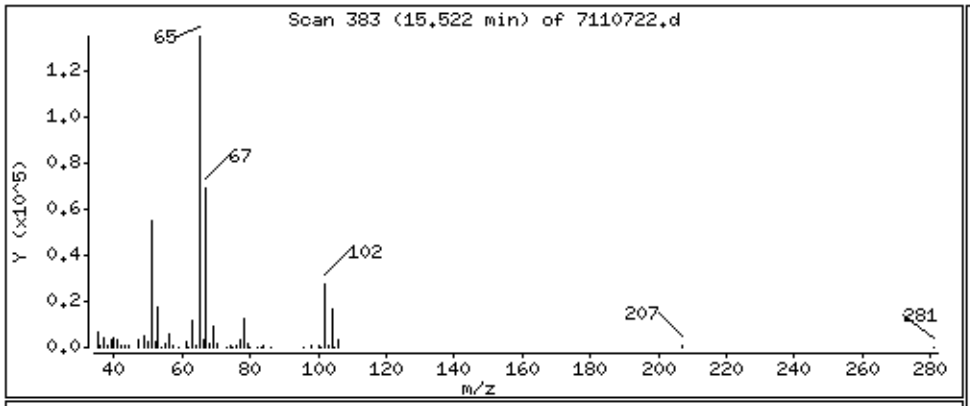
Operator: ab

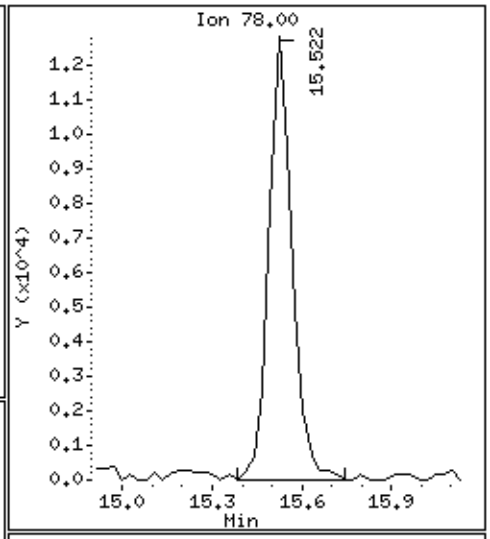
Column phase: RTx-624

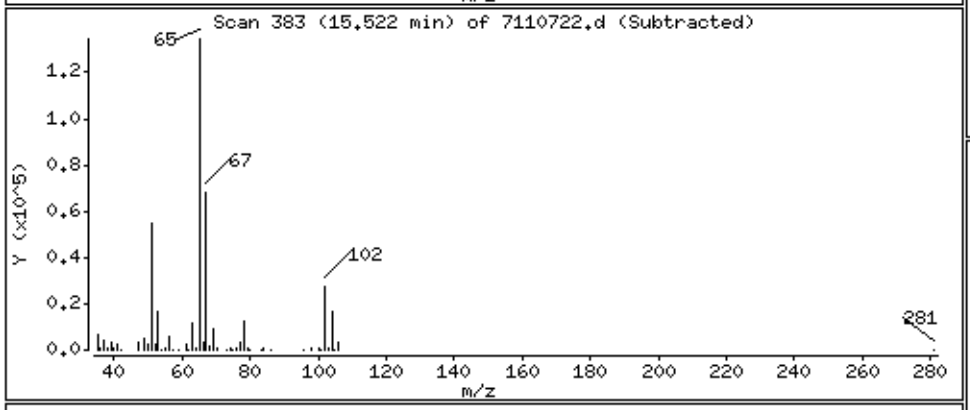
Column diameter: 0.53

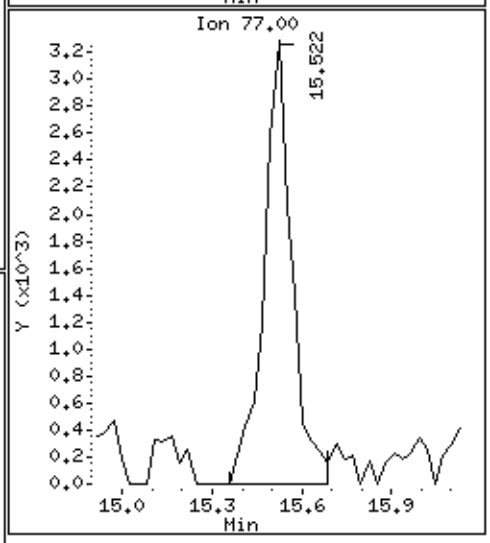
91 Benzene

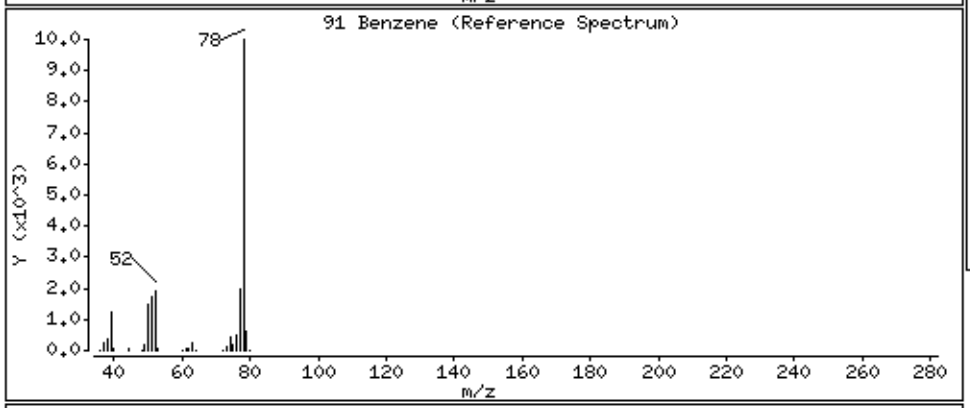
Concentration: 1.516 PPBV

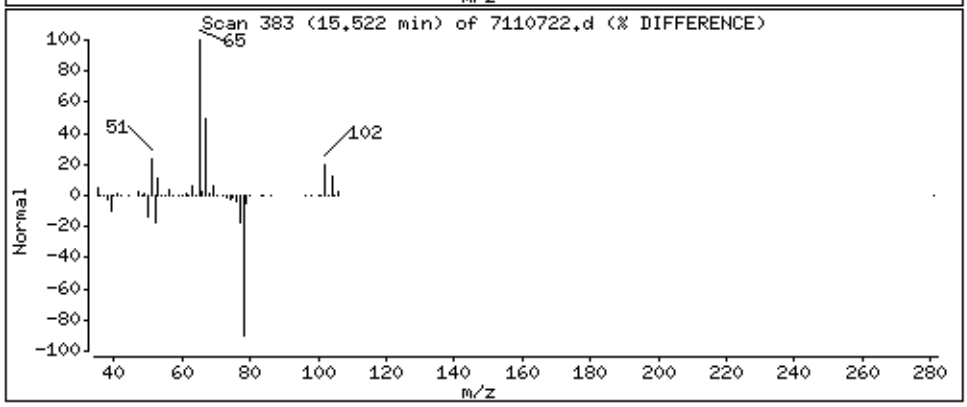












Data File: /chem/msd7.i/7-07nov.b/7110722.d

Date : 08-NOV-2007 02:10

Client ID:

Instrument: msd7.i

Sample Info: 200mL #25259

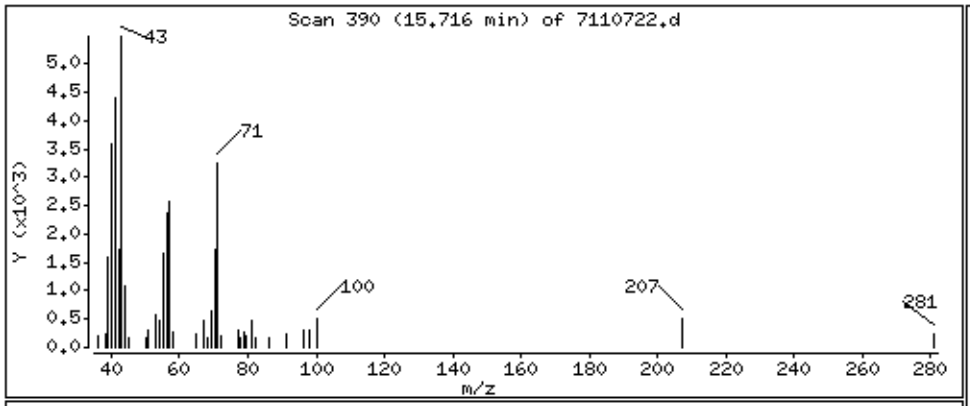
Operator: ab

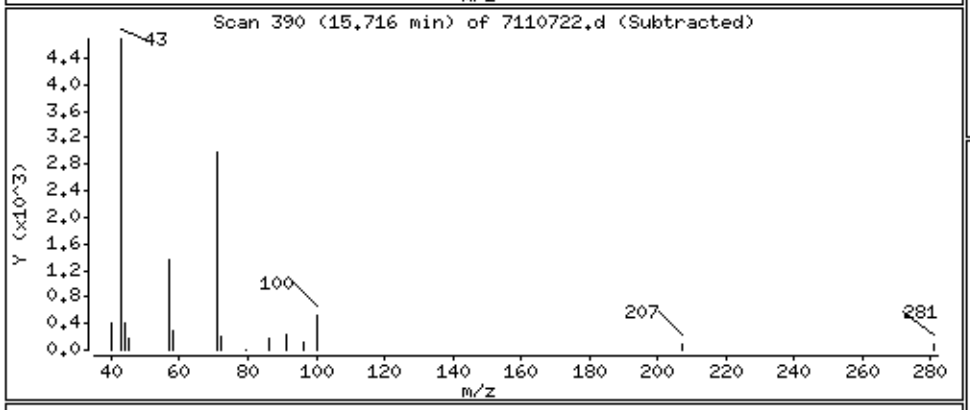
Column phase: RTx-624

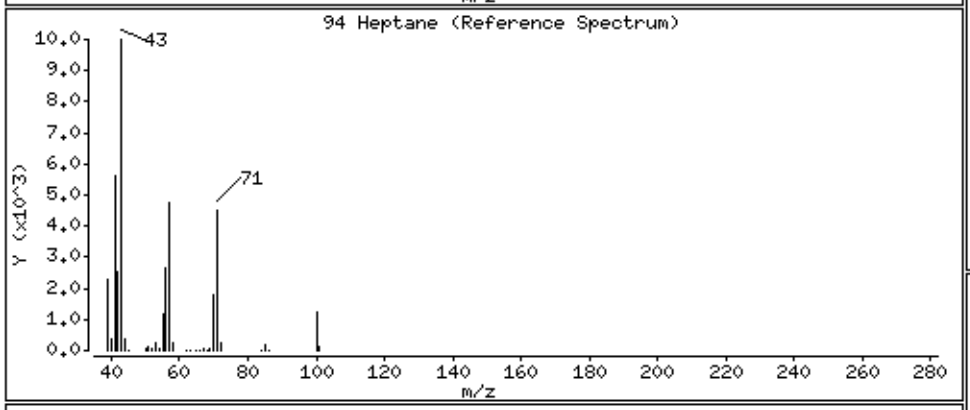
Column diameter: 0.53

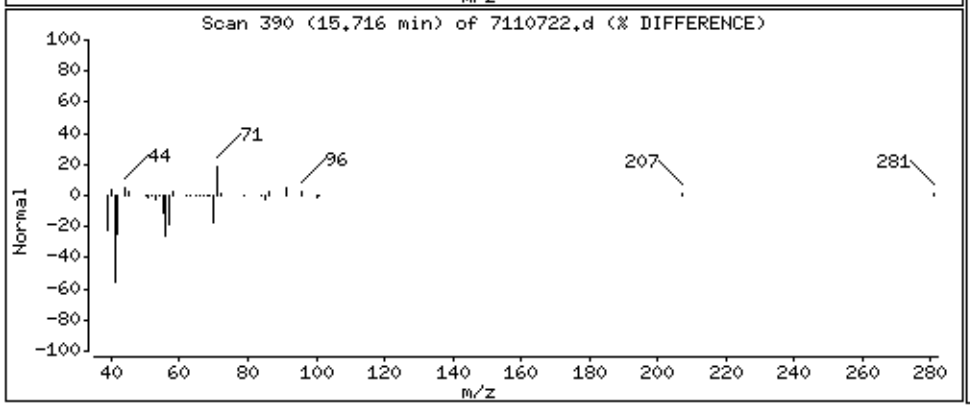
94 Heptane

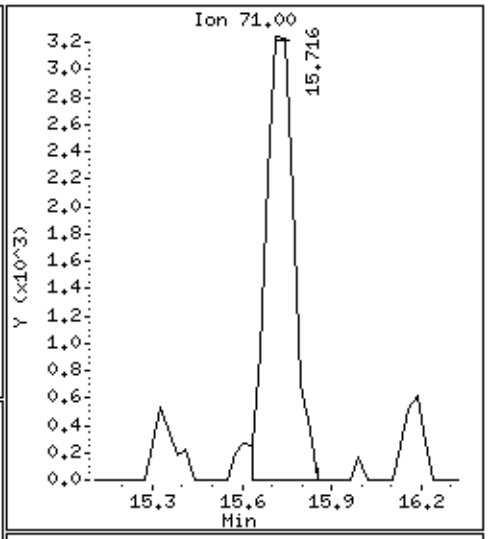
Concentration: 1.521 PPBV

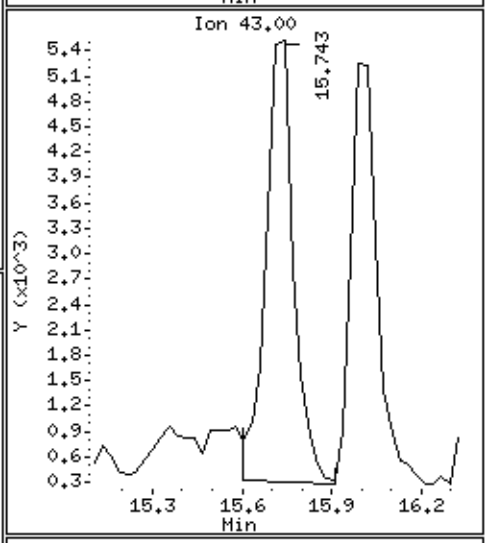


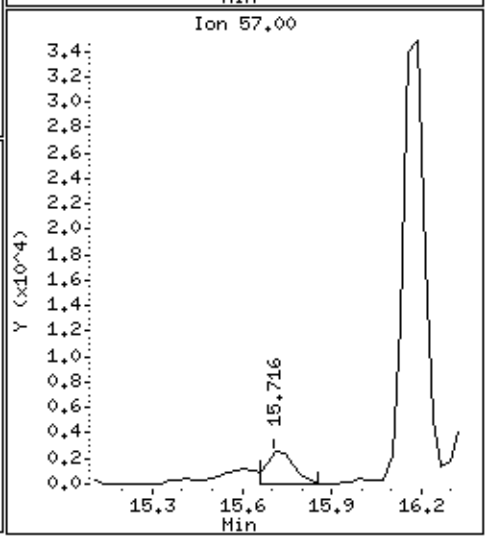












Data File: /chem/msd7.i/7-07nov.b/7110722.d

Date : 08-NOV-2007 02:10

Client ID:

Instrument: msd7.i

Sample Info: 200mL #25259

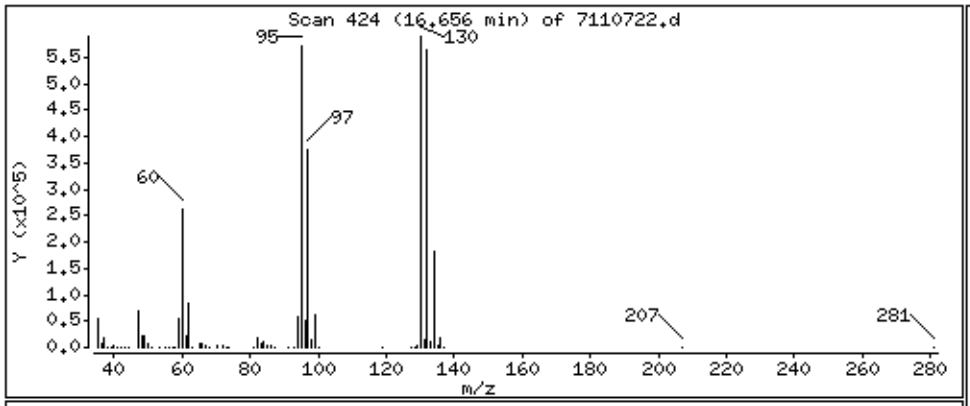
Operator: ab

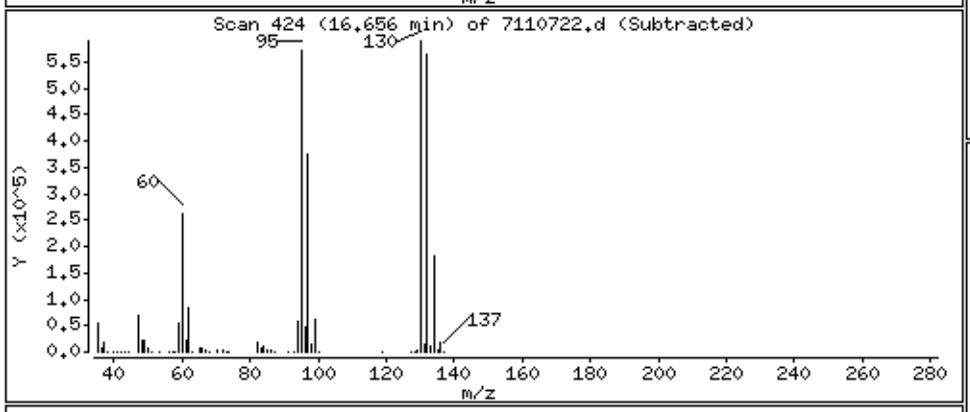
Column phase: RTx-624

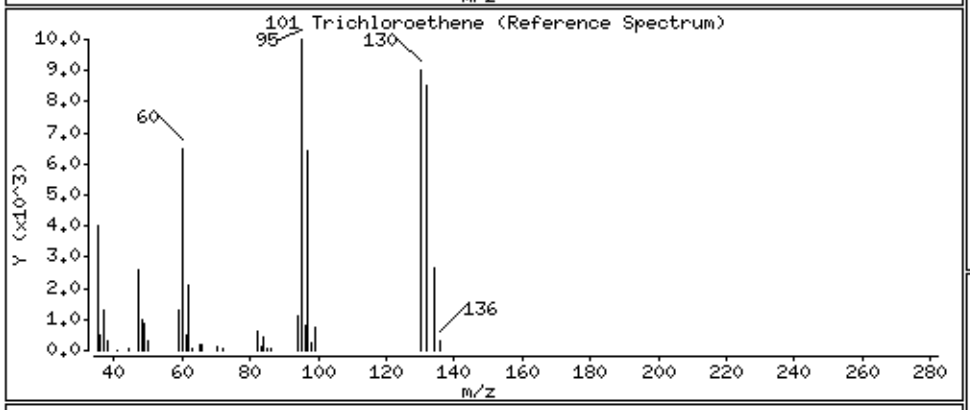
Column diameter: 0.53

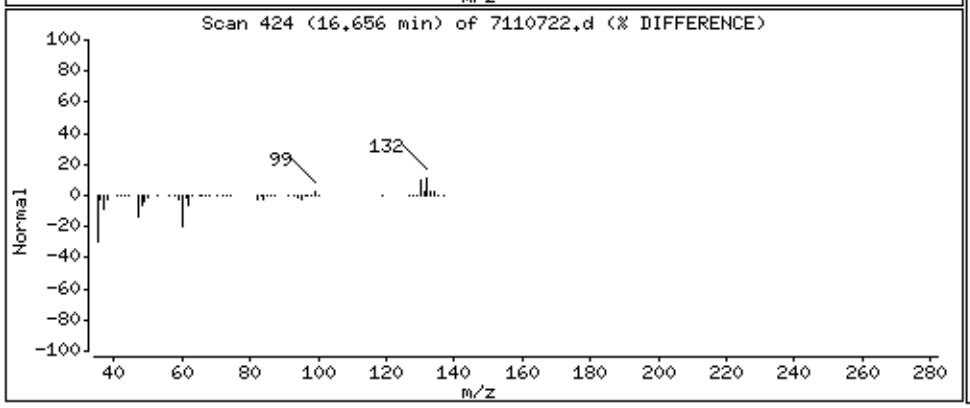
101 Trichloroethene

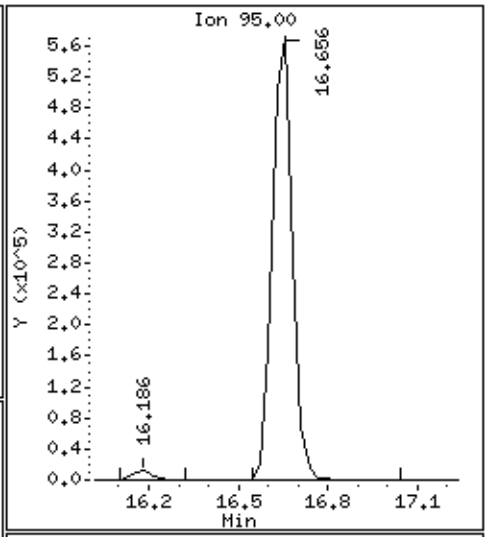
Concentration: 132.62 PPBV

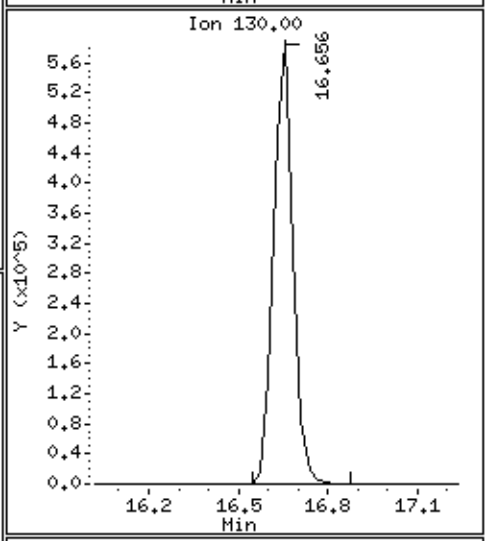


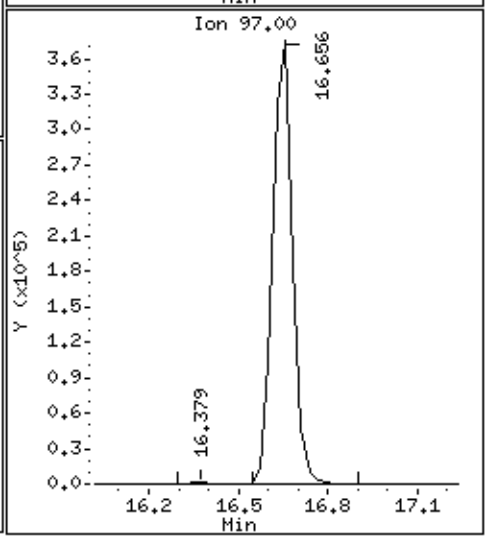












Data File: /chem/msd7.i/7-07nov.b/7110722.d

Date : 08-NOV-2007 02:10

Client ID:

Instrument: msd7.i

Sample Info: 200mL #25259

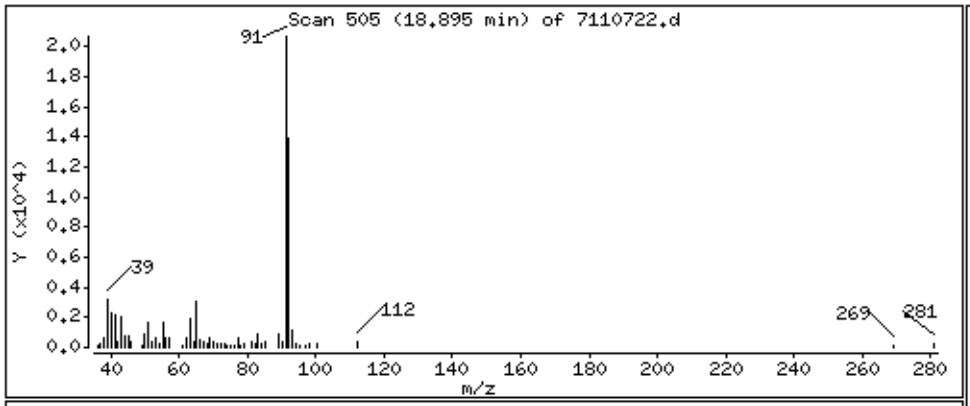
Operator: ab

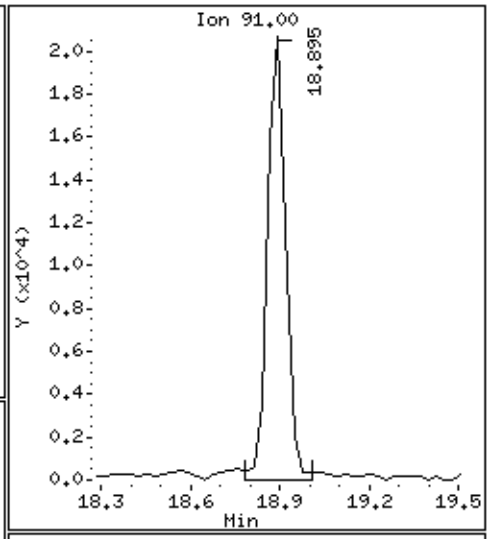
Column phase: RTx-624

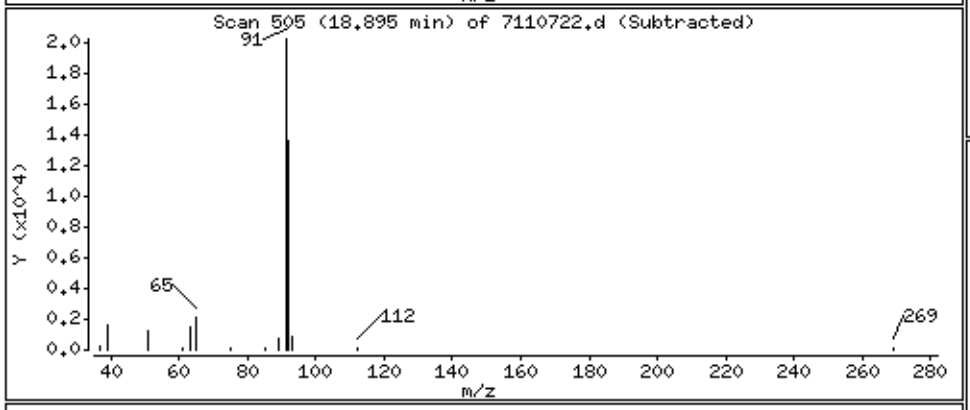
Column diameter: 0.53

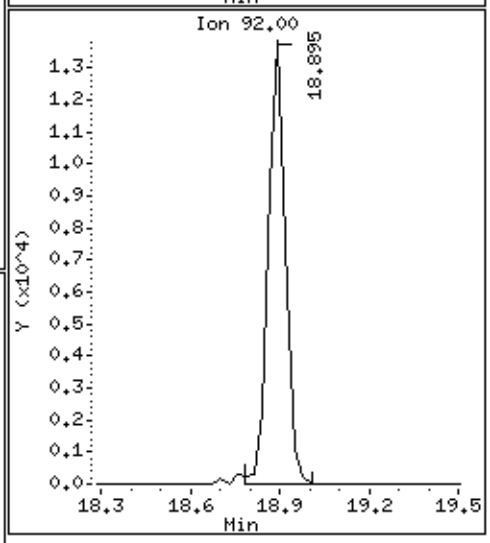
114 Toluene

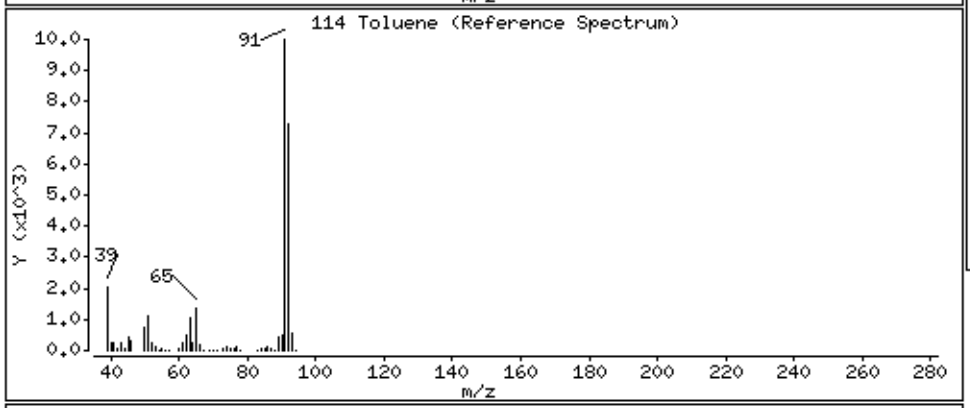
Concentration: 1.752 PPBV

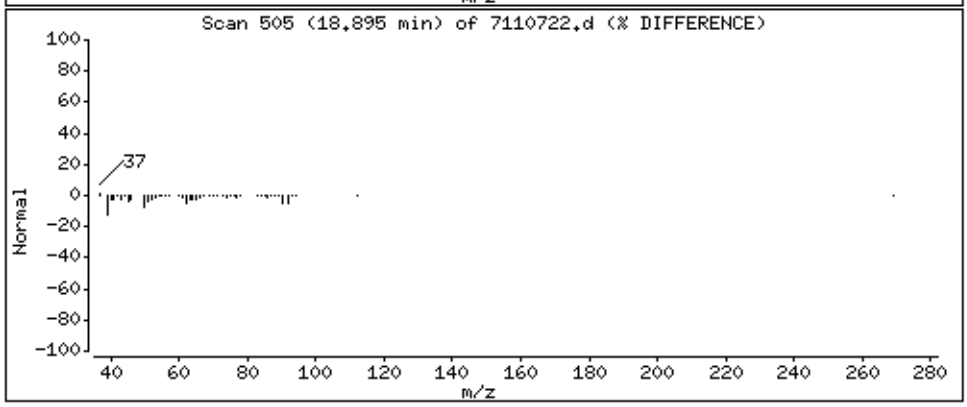












Data File: /chem/msd7.i/7-07nov.b/7110722.d

Date : 08-NOV-2007 02:10

Client ID:

Instrument: msd7.i

Sample Info: 200mL #25259

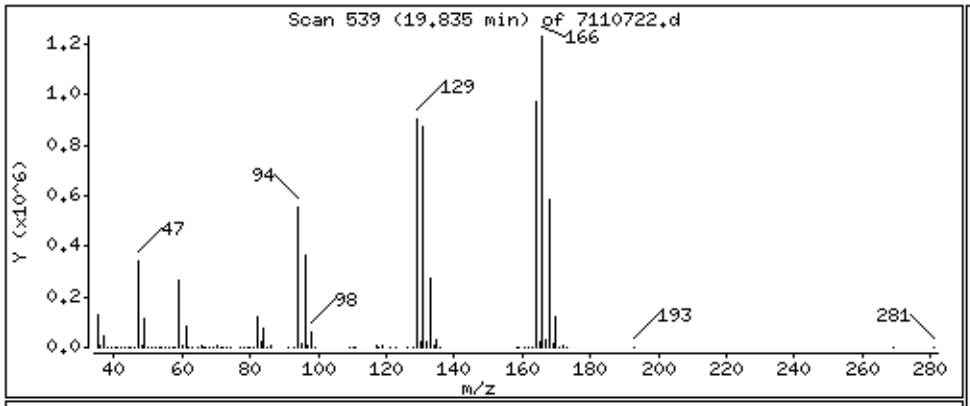
Operator: ab

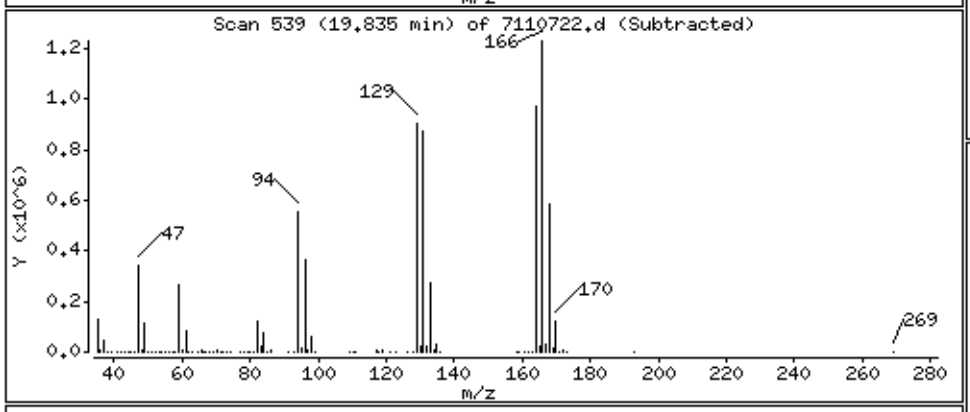
Column phase: RTx-624

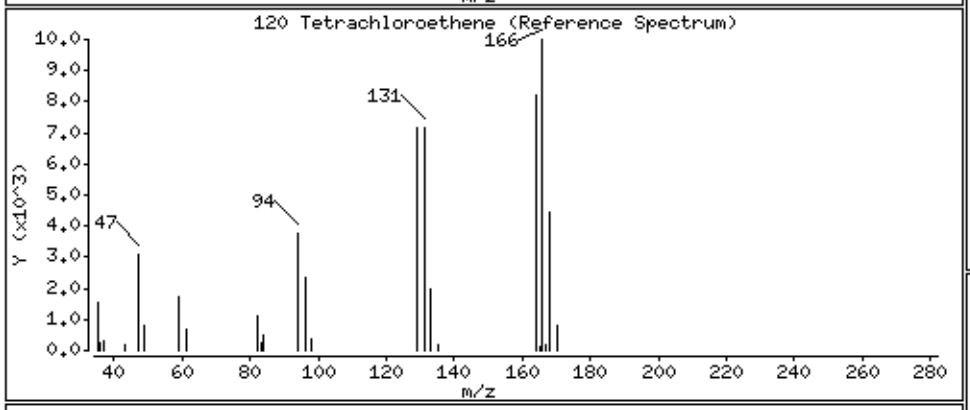
Column diameter: 0.53

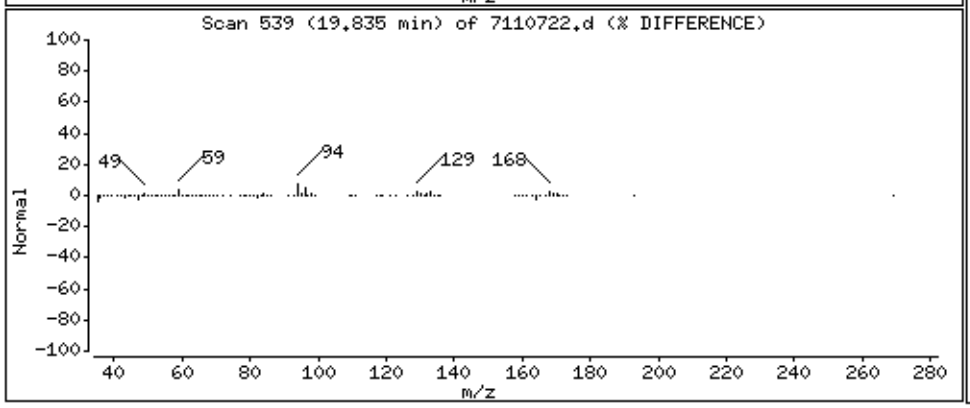
120 Tetrachloroethene

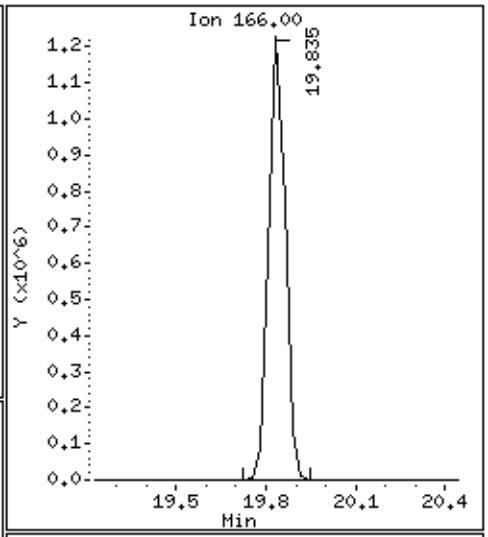
Concentration: 198.53 PPBV

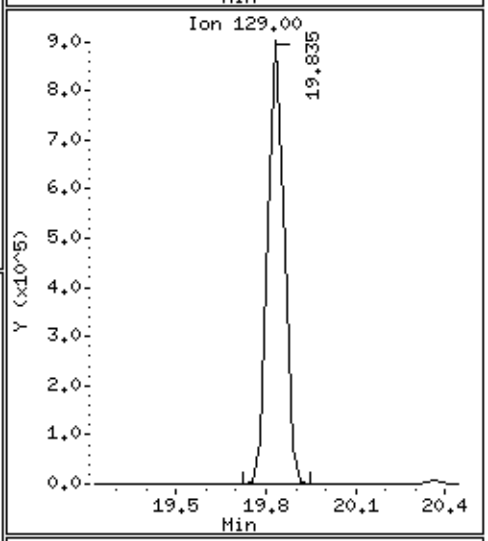


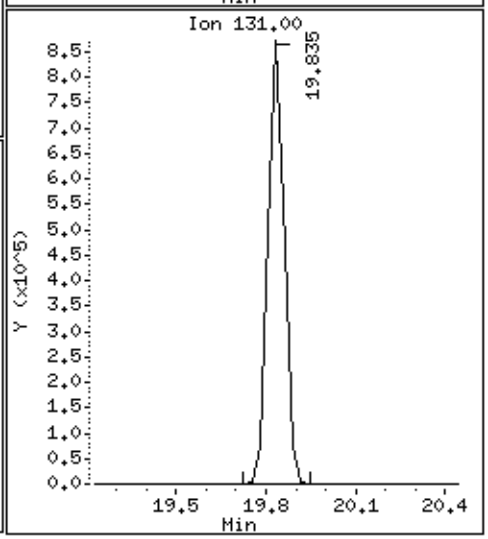












Data File: /chem/msd7.i/7-07nov.b/7110722.d

Date : 08-NOV-2007 02:10

Client ID:

Instrument: msd7.i

Sample Info: 200mL #25259

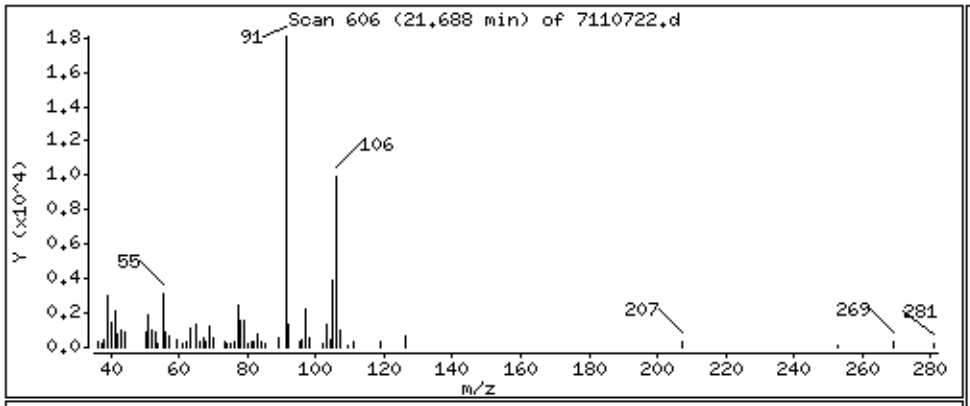
Operator: ab

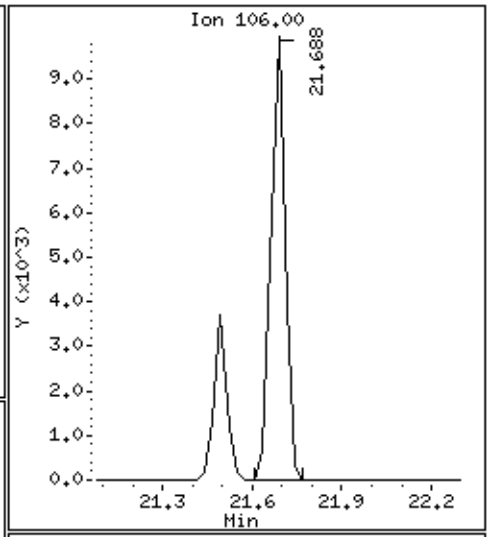
Column phase: RTx-624

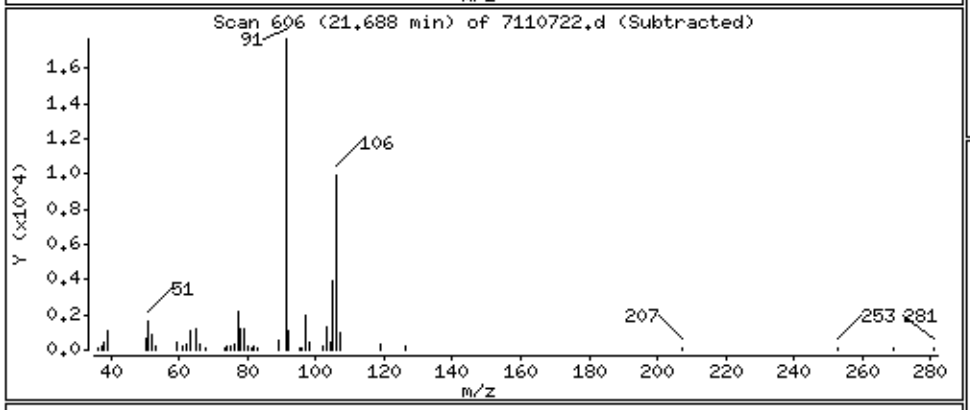
Column diameter: 0.53

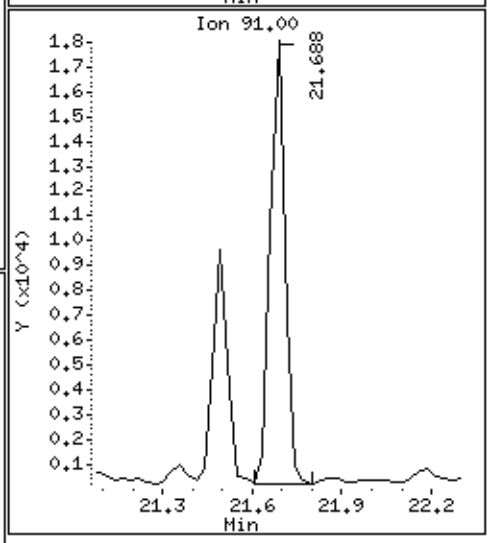
129 m,p-Xylene

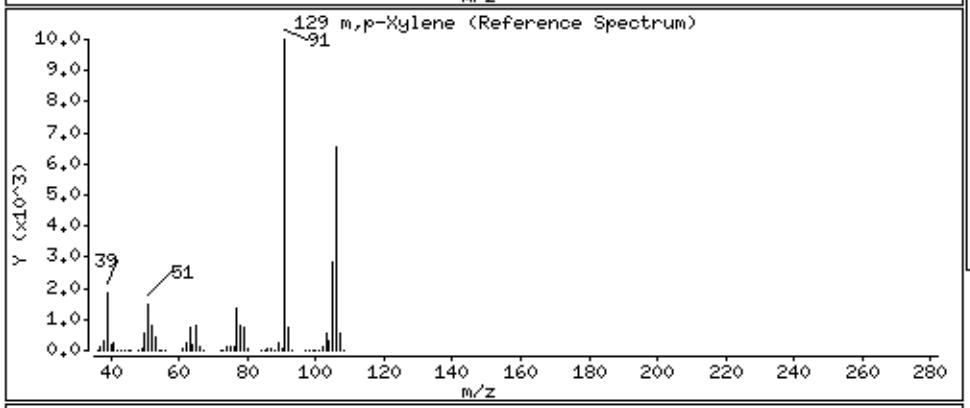
Concentration: 1.280 PPBV

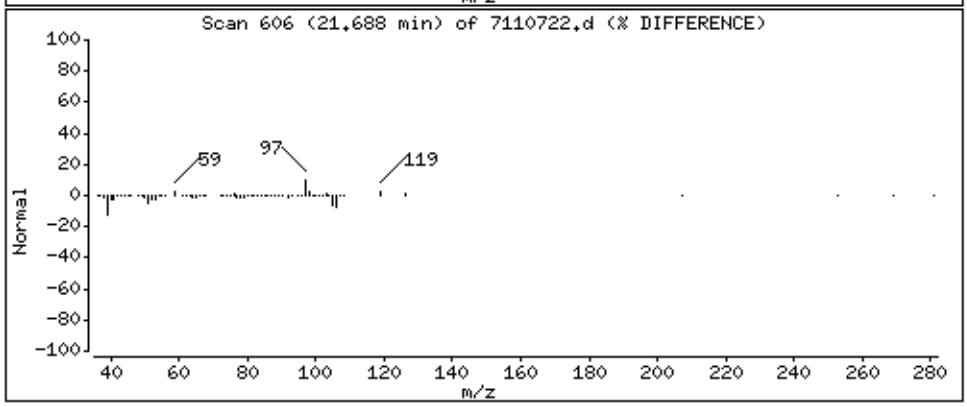












Data File: /chem/msd7.i/7-07nov.b/7110722.d

Date : 08-NOV-2007 02:10

Client ID:

Instrument: msd7.i

Sample Info: 200mL #25259

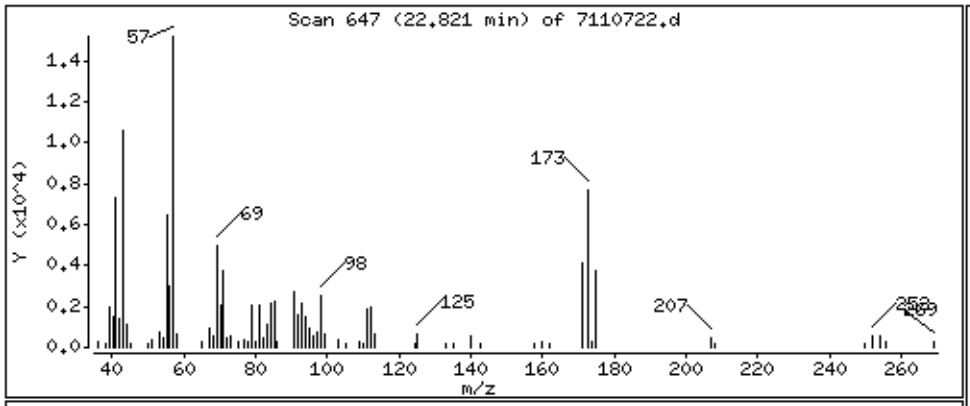
Operator: ab

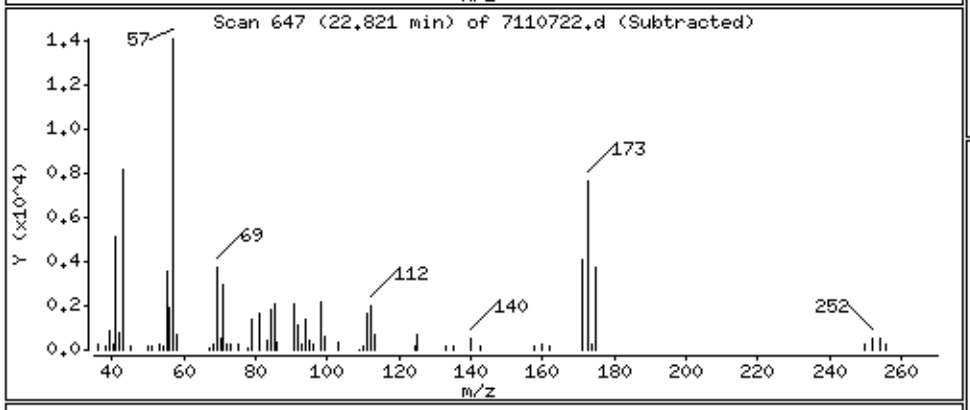
Column phase: RTx-624

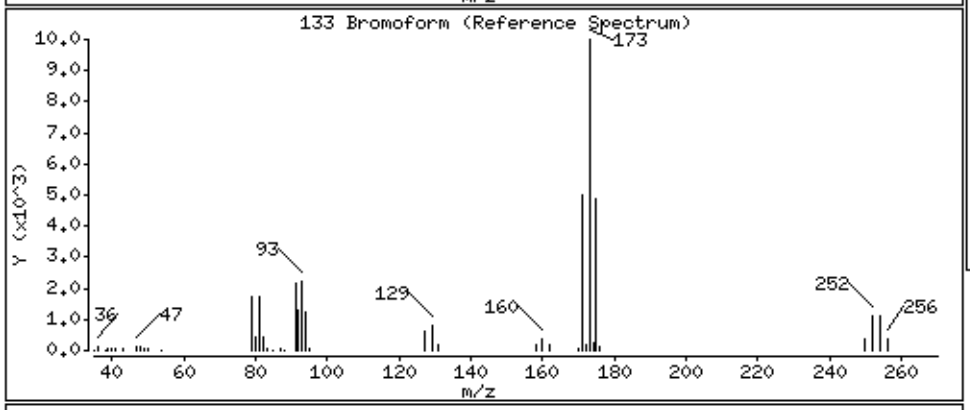
Column diameter: 0.53

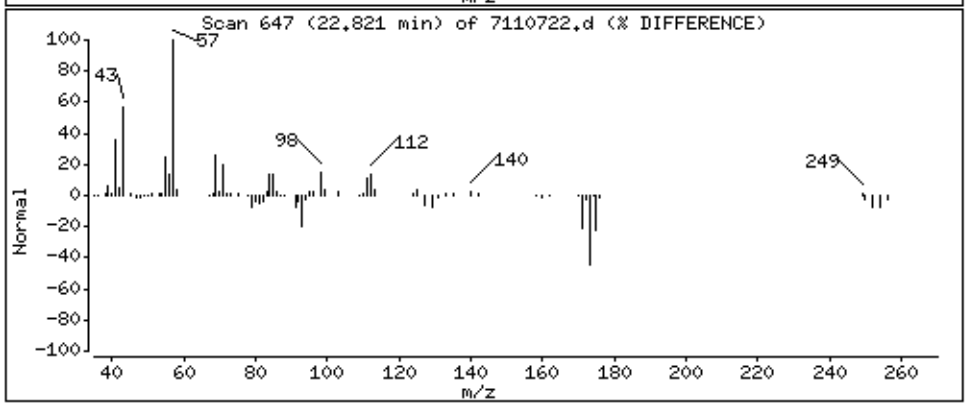
133 Bromoform

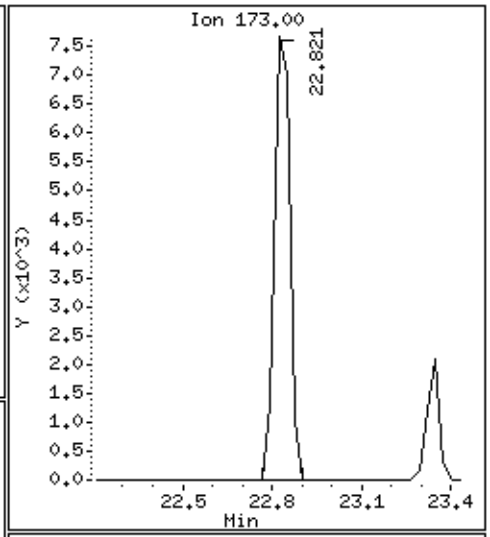
Concentration: 0.9864 PPBV

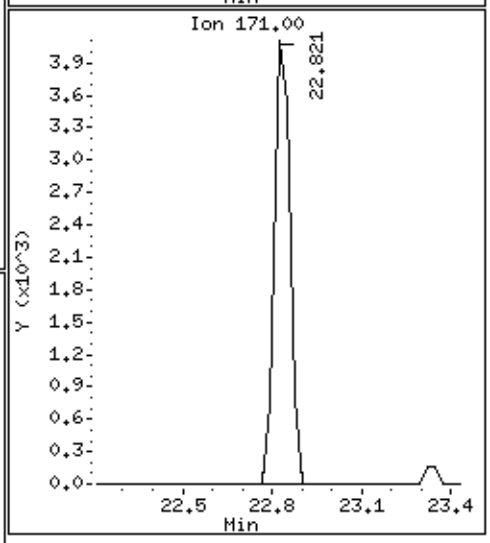












Data File: /chem/msd7.i/7-07nov.b/7110722.d

Date : 08-NOV-2007 02:10

Client ID:

Instrument: msd7.i

Sample Info: 200mL #25259

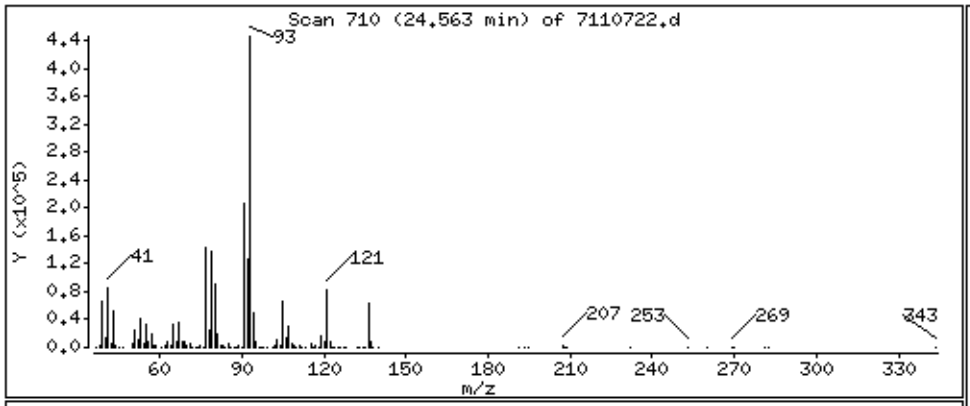
Operator: ab

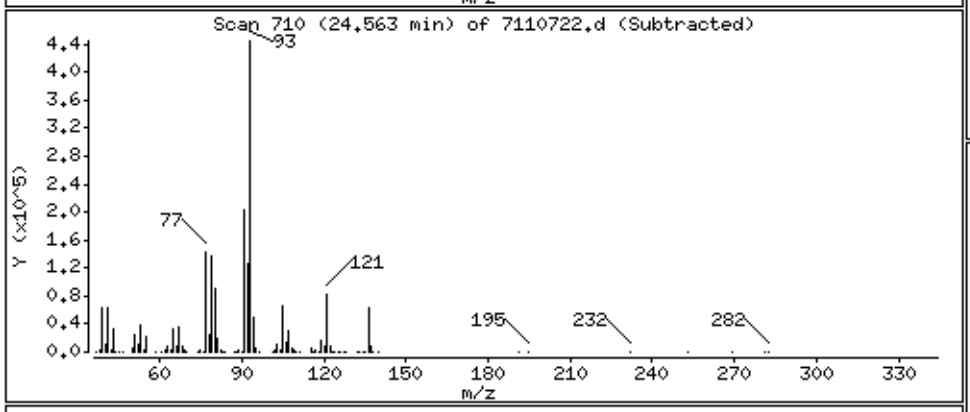
Column phase: RTx-624

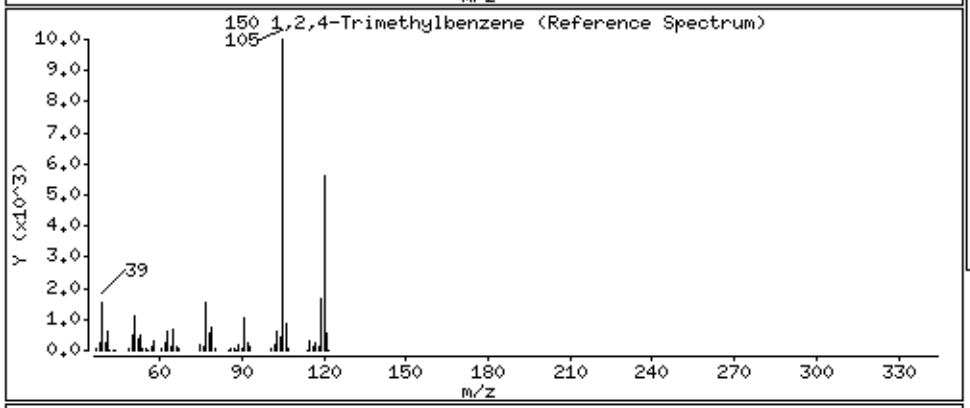
Column diameter: 0.53

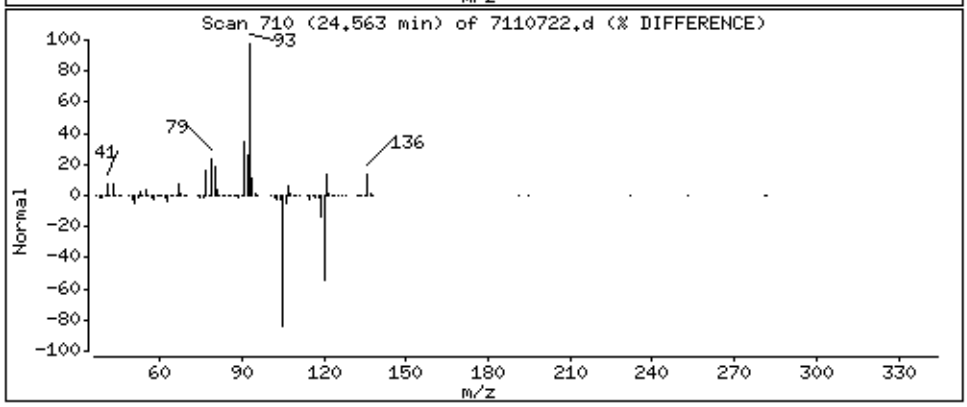
150 1,2,4-Trimethylbenzene

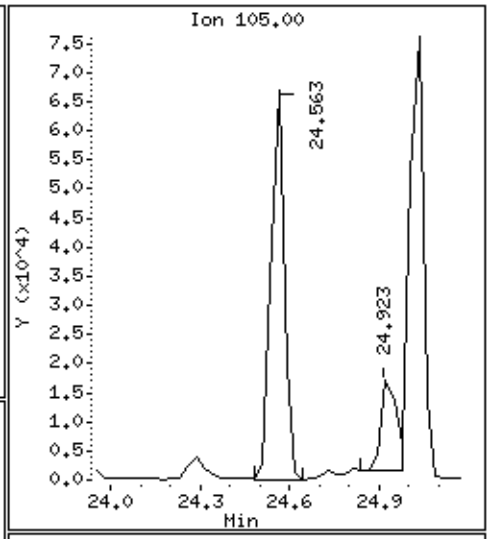
Concentration: 4.353 PPBV

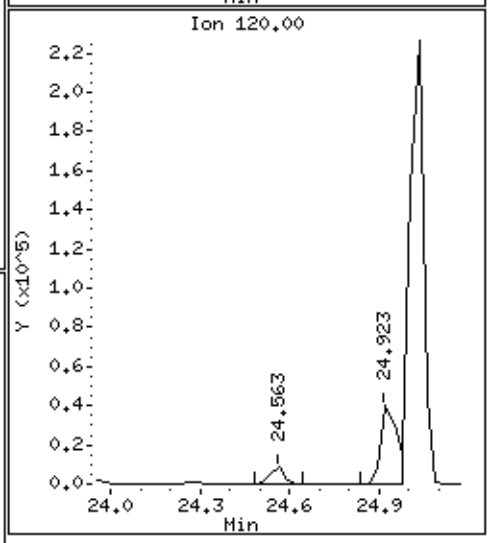












AN ENVIRONMENTAL ANALYTICAL LABORATORY

Summary of Detected Compounds
MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

Client Sample ID: MD21-07-6806

Lab ID#: 0711101-06A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Freon 12	0.80	0.89	4.0	4.4
Freon 113	0.80	3.6	6.2	28
1,1-Dichloroethene	0.80	14	3.2	55
Acetone	3.2	60	7.6	140
Carbon Disulfide	0.80	1.1	2.5	3.3
Methylene Chloride	0.80	300	2.8	1000
Hexane	0.80	0.83	2.8	2.9
2-Butanone (Methyl Ethyl Ketone)	0.80	0.83	2.4	2.4
cis-1,2-Dichloroethene	0.80	1.2	3.2	4.6
Chloroform	0.80	160	3.9	780
1,1,1-Trichloroethane	0.80	2.4	4.4	13
Carbon Tetrachloride	0.80	87	5.1	550
Benzene	0.80	1.5	2.6	4.7
1,2-Dichloroethane	0.80	3.5	3.2	14
Trichloroethene	0.80	220	4.3	1200
Bromodichloromethane	0.80	1.6	5.4	10
Toluene	0.80	2.0	3.0	7.5
1,1,2-Trichloroethane	0.80	21	4.4	110
Tetrachloroethene	0.80	17	5.5	120
1,4-Dichlorobenzene	0.80	0.81	4.8	4.9
Propylene	3.2	33	5.5	57

AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: MD21-07-6806

Lab ID#: 0711101-06A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**7110723**	**Date of Collection:**	**11/3/07**
Dil. Factor:	**1.61**	**Date of Analysis:**	**11/8/07 02:58 AM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Freon 12	0.80	0.89	4.0	4.4
Freon 114	0.80	Not Detected	5.6	Not Detected
Chloromethane	3.2	Not Detected	6.6	Not Detected
Vinyl Chloride	0.80	Not Detected	2.0	Not Detected
1,3-Butadiene	0.80	Not Detected	1.8	Not Detected
Bromomethane	0.80	Not Detected	3.1	Not Detected
Chloroethane	0.80	Not Detected	2.1	Not Detected
Freon 11	0.80	Not Detected	4.5	Not Detected
Ethanol	3.2	Not Detected	6.1	Not Detected
Freon 113	0.80	3.6	6.2	28
1,1-Dichloroethene	0.80	14	3.2	55
Acetone	3.2	60	7.6	140
2-Propanol	3.2	Not Detected	7.9	Not Detected
Carbon Disulfide	0.80	1.1	2.5	3.3
Methylene Chloride	0.80	300	2.8	1000
Methyl tert-butyl ether	0.80	Not Detected	2.9	Not Detected
trans-1,2-Dichloroethene	0.80	Not Detected	3.2	Not Detected
Hexane	0.80	0.83	2.8	2.9
1,1-Dichloroethane	0.80	Not Detected	3.2	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.80	0.83	2.4	2.4
cis-1,2-Dichloroethene	0.80	1.2	3.2	4.6
Tetrahydrofuran	0.80	Not Detected	2.4	Not Detected
Chloroform	0.80	160	3.9	780
1,1,1-Trichloroethane	0.80	2.4	4.4	13
Cyclohexane	0.80	Not Detected	2.8	Not Detected
Carbon Tetrachloride	0.80	87	5.1	550
Benzene	0.80	1.5	2.6	4.7
1,2-Dichloroethane	0.80	3.5	3.2	14
Heptane	0.80	Not Detected	3.3	Not Detected
Trichloroethene	0.80	220	4.3	1200
1,2-Dichloropropane	0.80	Not Detected	3.7	Not Detected
1,4-Dioxane	3.2	Not Detected	12	Not Detected
Bromodichloromethane	0.80	1.6	5.4	10
cis-1,3-Dichloropropene	0.80	Not Detected	3.6	Not Detected
4-Methyl-2-pentanone	0.80	Not Detected	3.3	Not Detected
Toluene	0.80	2.0	3.0	7.5
trans-1,3-Dichloropropene	0.80	Not Detected	3.6	Not Detected
1,1,2-Trichloroethane	0.80	21	4.4	110
Tetrachloroethene	0.80	17	5.5	120

AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: MD21-07-6806

Lab ID#: 0711101-06A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**7110723**	**Date of Collection:**	**11/3/07**
Dil. Factor:	**1.61**	**Date of Analysis:**	**11/8/07 02:58 AM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
2-Hexanone	3.2	Not Detected	13	Not Detected
Dibromochloromethane	0.80	Not Detected	6.8	Not Detected
1,2-Dibromoethane (EDB)	0.80	Not Detected	6.2	Not Detected
Chlorobenzene	0.80	Not Detected	3.7	Not Detected
Ethyl Benzene	0.80	Not Detected	3.5	Not Detected
m,p-Xylene	0.80	Not Detected	3.5	Not Detected
o-Xylene	0.80	Not Detected	3.5	Not Detected
Styrene	0.80	Not Detected	3.4	Not Detected
Bromoform	0.80	Not Detected	8.3	Not Detected
1,1,2,2-Tetrachloroethane	0.80	Not Detected	5.5	Not Detected
4-Ethyltoluene	0.80	Not Detected	4.0	Not Detected
1,3,5-Trimethylbenzene	0.80	Not Detected	4.0	Not Detected
1,2,4-Trimethylbenzene	0.80	Not Detected	4.0	Not Detected
1,3-Dichlorobenzene	0.80	Not Detected	4.8	Not Detected
1,4-Dichlorobenzene	0.80	0.81	4.8	4.9
alpha-Chlorotoluene	0.80	Not Detected	4.2	Not Detected
1,2-Dichlorobenzene	0.80	Not Detected	4.8	Not Detected
1,2,4-Trichlorobenzene	3.2	Not Detected	24	Not Detected
Hexachlorobutadiene	3.2	Not Detected	34	Not Detected
Chlorodifluoromethane	3.2	Not Detected	11	Not Detected
Methanol	80	Not Detected	100	Not Detected
n-Butanol	3.2	Not Detected	9.8	Not Detected
Propylene	3.2	33	5.5	57

Container Type: 6 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	90	70-130
1,2-Dichloroethane-d4	94	70-130
4-Bromofluorobenzene	93	70-130

Air Toxics Ltd.

AMBIENT AIR METHOD TO14

Data file : /chem/msd7.i/7-07nov.b/7110723.d
Lab Smp Id: 0711101-06A
Inj Date : 08-NOV-2007 02:58
Operator : ab Inst ID: msd7.i
Smp Info : 200mL #21005
Misc Info : 5.0"Hg ->5psi
Comment :
Method : /chem/msd7.i/7-07nov.b/t14qO18d.m
Meth Date : 07-Nov-2007 11:47 sruth Quant Type: ISTD
Cal Date : 05-NOV-2007 14:29 Cal File: 7110507.d
Als bottle: 1
Dil Factor: 1.61000
Integrator: HP RTE Compound Sublist: Los2153.sub
Target Version: 3.50 Sample Matrix: AIR
Processing Host: eeyore

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

RT	EXP RT (REL RT)	MASS	RESPONSE	CONCENTRATIONS ON-COL (PPBV)	FINAL (PPBV)	TARGET RANGE	RATIO
* 81 Bromochloromethane						CAS #: 74-97-5	
14.416	14.416 (1.000)	130	622353	25.0000		80.00- 120.00	100.00
14.416	14.416 (1.000)	128	485348			28.66- 128.66	77.99
14.416	14.416 (1.000)	49	1440448			133.49- 233.49	231.45
* 97 1,4-Difluorobenzene						CAS #: 540-36-3	
16.185	16.158 (1.000)	114	2128372	25.0000		80.00- 120.00	100.00
16.185	16.158 (1.000)	88	328876			0.00- 65.23	15.45
* 126 Chlorobenzene-d5						CAS #: 3114-55-4	
21.356	21.356 (1.000)	117	1440777	25.0000		80.00- 120.00	100.00
21.356	21.356 (1.000)	82	757210			4.70- 104.70	52.56
$ 90 1,2-Dichloroethane-d4						CAS #: 17060-07-0	
15.494	15.494 (1.075)	65	789357	23.6095	23.610	80.00- 120.00	100.00
15.494	15.494 (1.075)	67	404162			2.91- 102.91	51.20
$ 113 Toluene-d8						CAS #: 2037-26-5	
18.757	18.757 (1.159)	98	1705145	22.5685	22.568	80.00- 120.00	100.00
18.757	18.757 (1.159)	70	181225			0.00- 61.46	10.63

```
                                        CONCENTRATIONS
                                        ON-COL    FINAL
   RT   EXP RT (REL RT)  MASS  RESPONSE ( PPBV)  ( PPBV)   TARGET RANGE    RATIO
   ==   ====== ========  ====  ======== =======  =======   ============    =====

$ 113 Toluene-d8 (continued)
 18.757  18.757 (1.159)   100   1186785                   19.18- 119.18    69.60
-------------------------------------------------------------------------------
$ 137 Bromofluorobenzene                            CAS #: 460-00-4
 23.347  23.347 (1.093)   174    801323 23.3728   23.373  80.00- 120.00   100.00
 23.319  23.347 (1.092)    95    976457                   73.89- 173.89   121.86
 23.347  23.347 (1.093)   176    778729                   48.20- 148.20    97.18
-------------------------------------------------------------------------------
   11 Propylene                                     CAS #: 115-07-1
  5.645   5.617 (0.392)    41    551431 20.5577   33.098  80.00- 120.00   100.00
  5.645   5.617 (0.392)    42    339742                   21.19- 121.19    61.61
  5.645   5.617 (0.392)    39    522420                   24.83- 124.83    94.74
-------------------------------------------------------------------------------
   12 Dichlorodifluoromethane/Fr12                  CAS #: 75-71-8
  5.757   5.758 (0.399)    85     54248 0.55159   0.8881  80.00- 120.00   100.00
  5.786   5.758 (0.401)    87     17366                    0.00-  83.07    32.01
-------------------------------------------------------------------------------
   42 Freon 113                                     CAS #: 76-13-1
 10.213  10.186 (0.708)   151    115831 2.26987    3.654  80.00- 120.00   100.00
 10.213  10.186 (0.708)   153     75394                   13.12- 113.12    65.09
 10.213  10.186 (0.708)   101    142342                   67.28- 167.28   122.89
-------------------------------------------------------------------------------
   43 1,1-Dichloroethene                            CAS #: 75-35-4
 10.351  10.324 (0.718)    61    471314 8.67978   13.974  80.00- 120.00   100.00
 10.351  10.324 (0.718)    96    289168                    9.78- 109.78    61.35
 10.351  10.324 (0.718)    98    181541                    0.00-  88.25    38.52
-------------------------------------------------------------------------------
   45 Acetone                                       CAS #: 67-64-1
 10.517  10.490 (0.730)    58    627245 37.3717   60.168  80.00- 120.00   100.00
 10.517  10.490 (0.730)    43   2016148                  247.10- 347.10   321.43
-------------------------------------------------------------------------------
   47 Carbon Disulfide                              CAS #: 75-15-0
 10.904  10.877 (0.756)    76     69035 0.66636    1.073  80.00- 120.00   100.00
-------------------------------------------------------------------------------
   54 Methylene Chloride                            CAS #: 75-09-2
 11.485  11.457 (0.797)    49   7340754 183.878   296.04  80.00- 120.00   100.00
 11.485  11.457 (0.797)    84   5264746                   19.98- 119.98    71.72
 11.485  11.457 (0.797)    51   2254652                    0.00-  80.85    30.71
-------------------------------------------------------------------------------
   65 Hexane                                        CAS #: 110-54-3
 12.314  12.287 (0.854)    57     27194 0.51652   0.8316  80.00- 120.00   100.00
 12.314  12.287 (0.854)    43     38129                   17.84- 117.84   140.21
 12.314  12.287 (0.854)    86      4105                    0.00-  65.07    15.10
-------------------------------------------------------------------------------
   75 2-Butanone                                    CAS #: 78-93-3
 13.918  13.891 (0.965)    72      6940 0.51487   0.8289  80.00- 120.00   100.00
```

RT	EXP RT (REL RT)	MASS	RESPONSE	CONCENTRATIONS ON-COL (PPBV)	FINAL (PPBV)	TARGET RANGE	RATIO
75 2-Butanone (continued)							
13.918	13.891 (0.965)	43	34748			412.48- 512.48	500.69
13.918	13.891 (0.965)	57	3546			0.00- 86.57	51.10
76 cis-1,2-Dichloroethene					CAS #: 156-59-2		
13.946	13.918 (0.967)	61	32053	0.72615	1.169	80.00- 120.00	100.00
13.946	13.918 (0.967)	96	23751			26.41- 126.41	74.10
13.946	13.918 (0.967)	98	16051			0.00- 98.54	50.08
82 Chloroform					CAS #: 67-66-3		
14.471	14.471 (1.004)	83	6261919	99.9322	160.89	80.00- 120.00	100.00
14.471	14.471 (1.004)	85	4083511			15.69- 115.69	65.21
83 1,1,1-Trichloroethane					CAS #: 71-55-6		
14.831	14.831 (1.029)	97	94062	1.49065	2.400	80.00- 120.00	100.00
14.831	14.831 (1.029)	99	59915			14.03- 114.03	63.70
87 Carbon Tetrachloride					CAS #: 56-23-5		
15.107	15.107 (1.048)	119	3203615	54.1604	87.198	80.00- 120.00	100.00
15.107	15.107 (1.048)	117	3313001			53.14- 153.14	103.41
91 Benzene					CAS #: 71-43-2		
15.522	15.522 (0.959)	78	77314	0.91424	1.472	80.00- 120.00	100.00
15.522	15.522 (0.959)	77	17745			0.00- 71.87	22.95
93 1,2-Dichloroethane					CAS #: 107-06-2		
15.632	15.633 (0.966)	62	98495	2.19211	3.529	80.00- 120.00	100.00
15.632	15.633 (0.966)	64	34588			0.00- 82.89	35.12
101 Trichloroethene					CAS #: 79-01-6		
16.655	16.628 (1.029)	95	5123154	136.382	219.57	80.00- 120.00	100.00
16.655	16.628 (1.029)	130	5049456			51.11- 151.11	98.56
16.655	16.628 (1.029)	97	3295903			15.04- 115.04	64.33
107 Bromodichloromethane					CAS #: 75-27-4		
17.568	17.540 (1.085)	83	62945	0.96515	1.554	80.00- 120.00	100.00
17.568	17.540 (1.085)	85	38432			14.03- 114.03	61.06
114 Toluene					CAS #: 108-88-3		
18.895	18.895 (1.167)	91	114840	1.23983	1.996	80.00- 120.00	100.00
18.895	18.895 (1.167)	92	76158			12.90- 112.90	66.32
117 1,1,2-Trichloroethane					CAS #: 79-00-5		
19.669	19.669 (0.921)	97	389367	13.0475	21.006	80.00- 120.00	100.00
19.669	19.669 (0.921)	99	247082			12.40- 112.40	63.46
19.669	19.669 (0.921)	83	331044			32.55- 132.55	85.02

RT	EXP RT (REL RT)	MASS	RESPONSE	CONCENTRATIONS ON-COL (PPBV)	FINAL (PPBV)	TARGET RANGE	RATIO
120 Tetrachloroethene					CAS #: 127-18-4		
19.835	19.835 (0.929)	166	412394	10.6550	17.154	80.00- 120.00	100.00
19.835	19.835 (0.929)	129	289329			21.07- 121.07	70.16
19.835	19.835 (0.929)	131	277723			18.33- 118.33	67.34
156 1,4-Dichlorobenzene					CAS #: 106-46-7		
25.282	25.282 (1.184)	146	31393	0.50520	0.8134	80.00- 120.00	100.00
25.282	25.282 (1.184)	148	19441			13.81- 113.81	61.93
25.282	25.282 (1.184)	111	13905			0.00- 87.35	44.29

Air Toxics Ltd.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd7.i
Lab File ID: 7110723.d
Lab Smp Id: 0711101-06A
Analysis Type: VOA
Quant Type: ISTD
Operator: ab
Method File: /chem/msd7.i/7-07nov.b/t14qO18d.m
Misc Info: 5.0"Hg ->5psi

Calibration Date: 07-NOV-2007
Calibration Time: 08:52

Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
81 Bromochloromethan	695461	417277	973645	622353	-10.51
97 1,4-Difluorobenze	2265681	1359409	3171953	2128372	-6.06
126 Chlorobenzene-d5	1765821	1059493	2472149	1440777	-18.41

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
81 Bromochloromethan	14.42	14.09	14.75	14.42	0.00
97 1,4-Difluorobenze	16.16	15.83	16.49	16.19	0.17
126 Chlorobenzene-d5	21.36	21.03	21.69	21.36	0.00

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Air Toxics Ltd.

RECOVERY REPORT

Client Name: Client SDG: 7-07nov
Sample Matrix: GAS Fraction: VOA
Lab Smp Id: 0711101-06A
Level: LOW Operator: ab
Data Type: MS DATA SampleType: SAMPLE
SpikeList File: 2926spectra.spk Quant Type: ISTD
Sublist File: Los2153.sub
Method File: /chem/msd7.i/7-07nov.b/t14qO18d.m
Misc Info: 5.0"Hg ->5psi

SURROGATE COMPOUND	CONC ADDED PPBV	CONC RECOVERED PPBV	% RECOVERED	LIMITS
$ 90 1,2-Dichloroethane	25.000	23.610	94.44	70-130
$ 113 Toluene-d8	25.000	22.568	90.27	70-130
$ 137 Bromofluorobenzene	25.000	23.373	93.49	70-130

Data File: /chem/msd7.i/7-07nov.b/7110723.d

Date : 08-NOV-2007 02:58

Client ID:

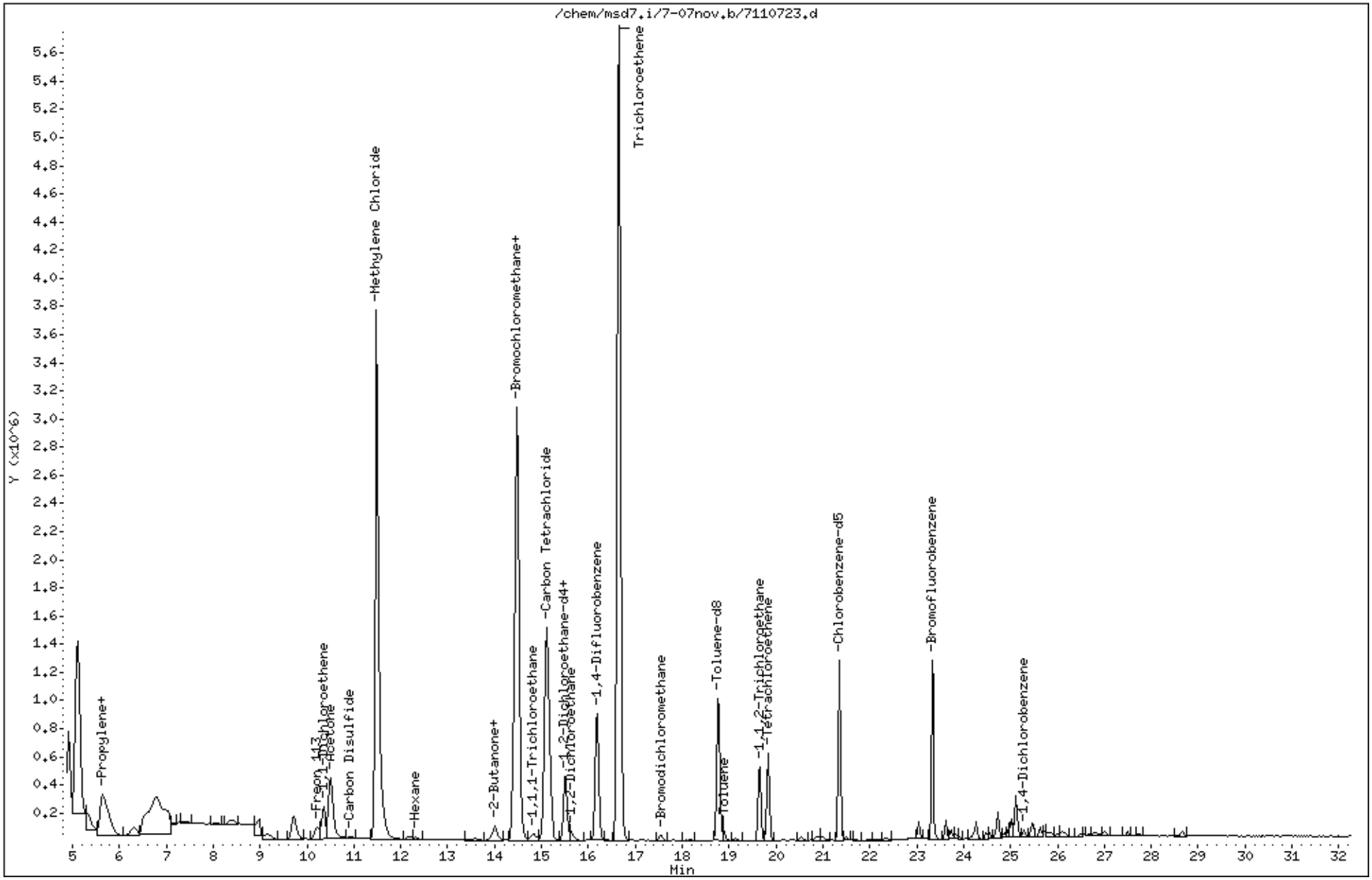
Sample Info: 200mL #21005

Column phase: RTx-624

Instrument: msd7.i

Operator: ab

Column diameter: 0.53



Data File: /chem/msd7.i/7-07nov.b/7110723.d

Date : 08-NOV-2007 02:58

Client ID:

Instrument: msd7.i

Sample Info: 200mL #21005

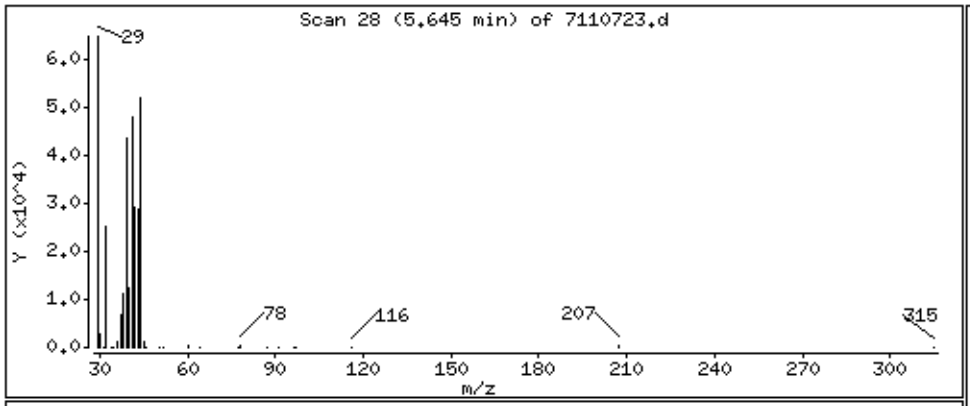
Operator: ab

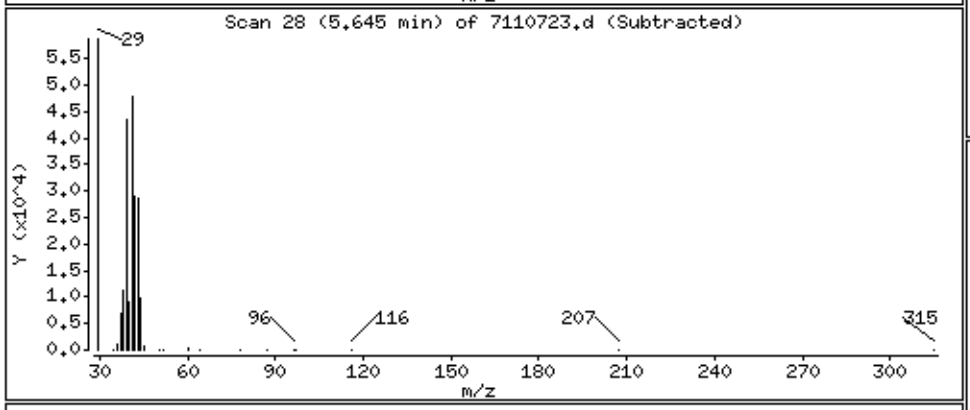
Column phase: RTx-624

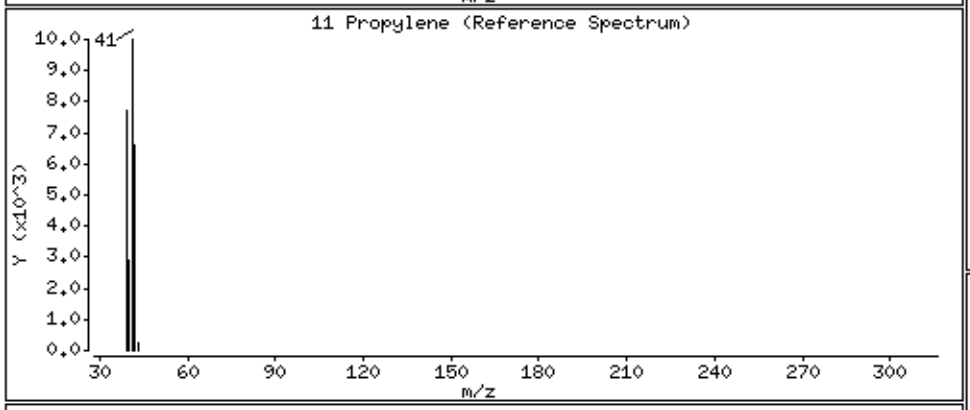
Column diameter: 0.53

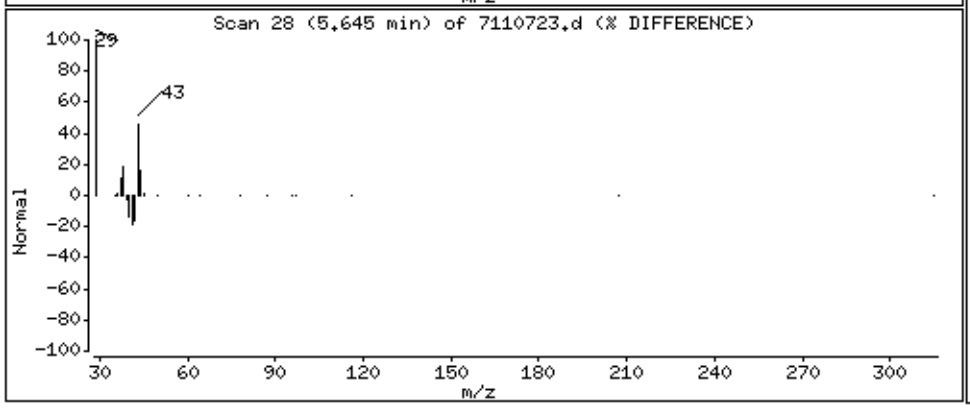
11 Propylene

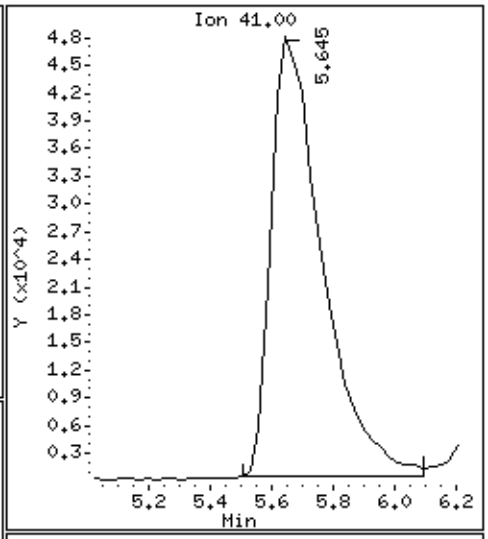
Concentration: 33.098 PPBV

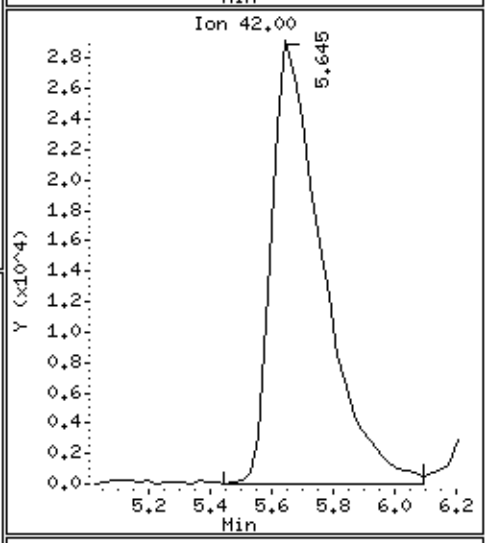


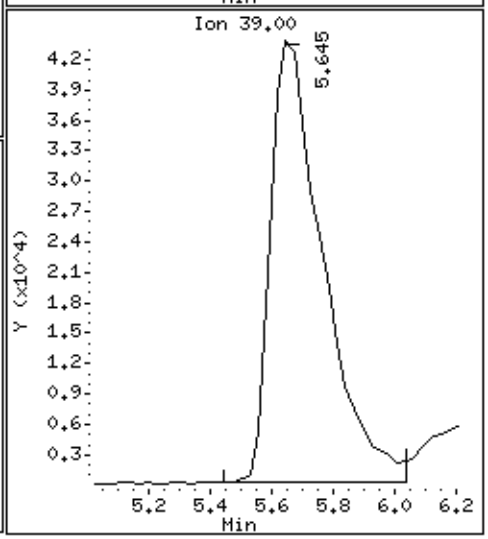












Data File: /chem/msd7.i/7-07nov.b/7110723.d

Date : 08-NOV-2007 02:58

Client ID:

Instrument: msd7.i

Sample Info: 200mL #21005

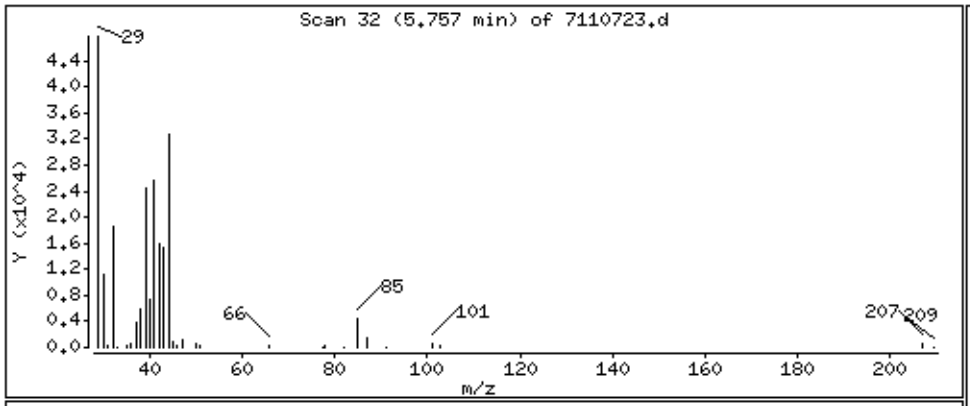
Operator: ab

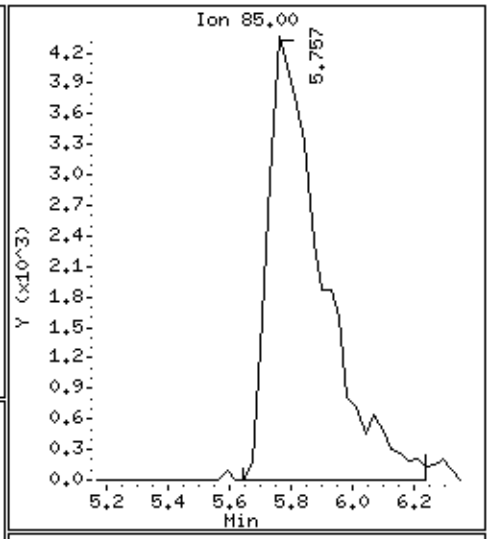
Column phase: RTx-624

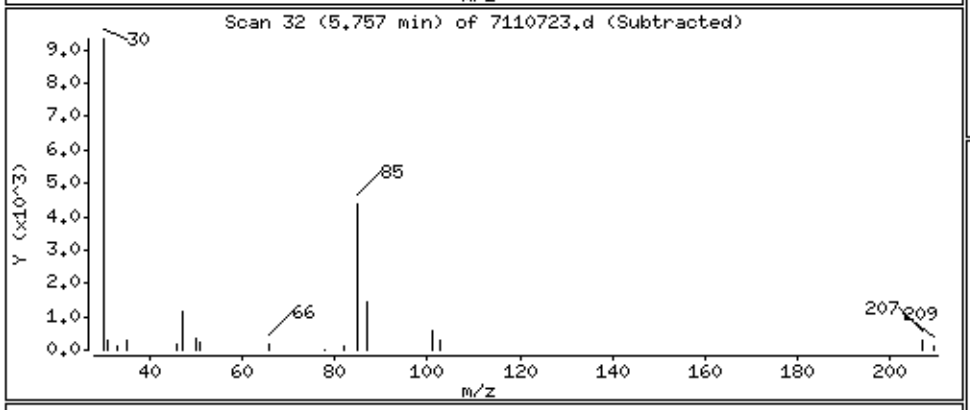
Column diameter: 0.53

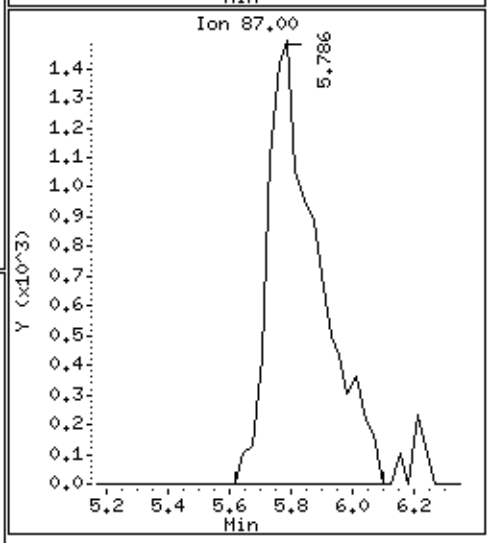
12 Dichlorodifluoromethane/Fr12

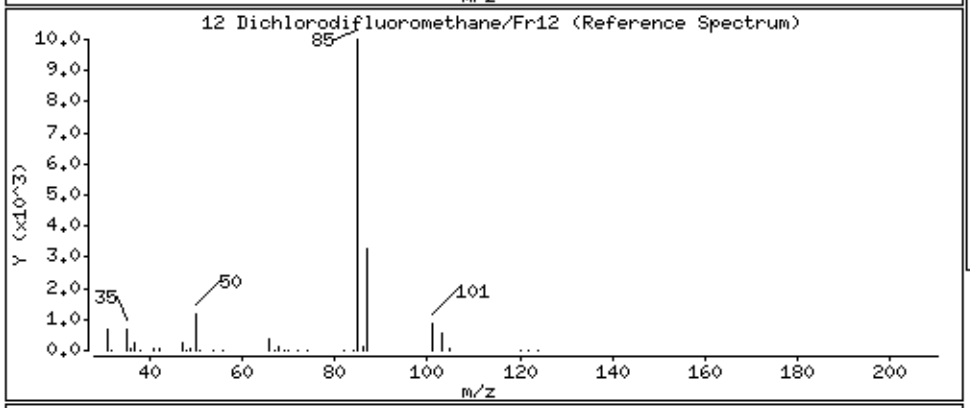
Concentration: 0.8881 PPBV

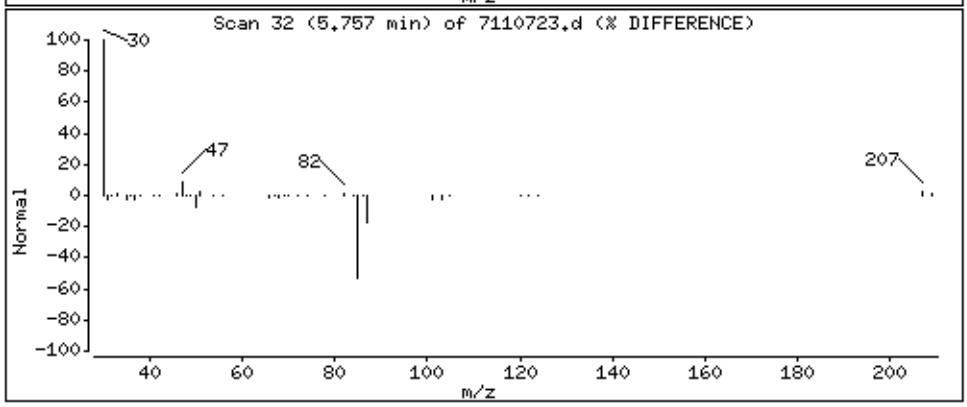












Data File: /chem/msd7.i/7-07nov.b/7110723.d

Date : 08-NOV-2007 02:58

Client ID:

Instrument: msd7.i

Sample Info: 200mL #21005

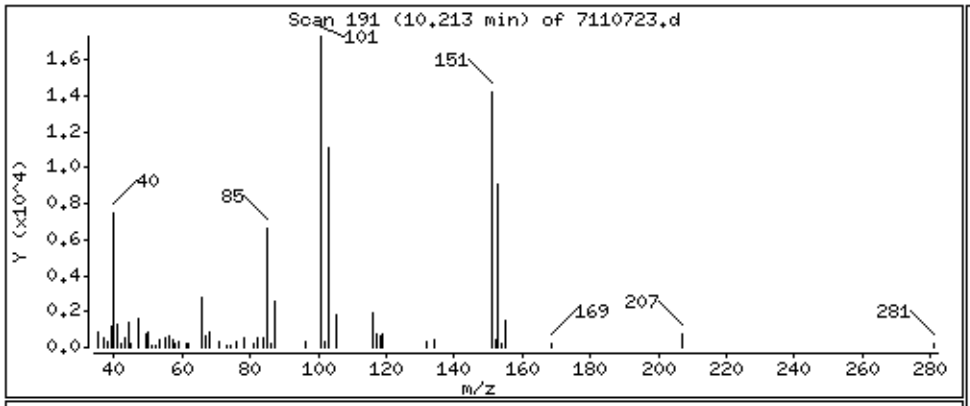
Operator: ab

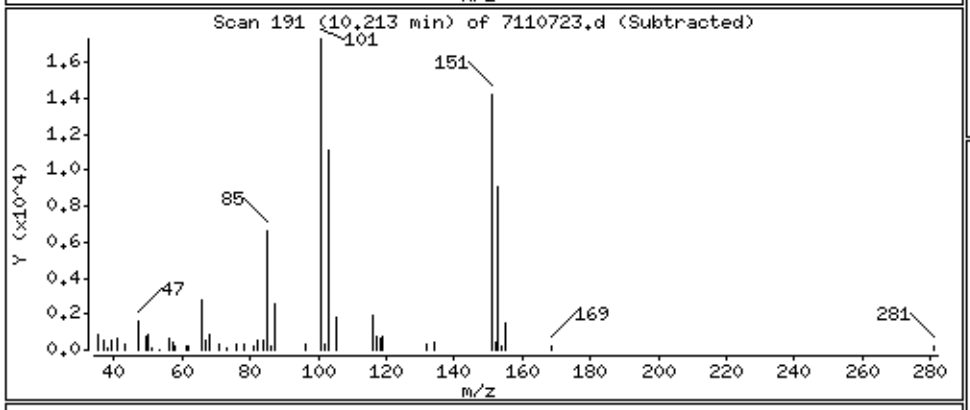
Column phase: RTx-624

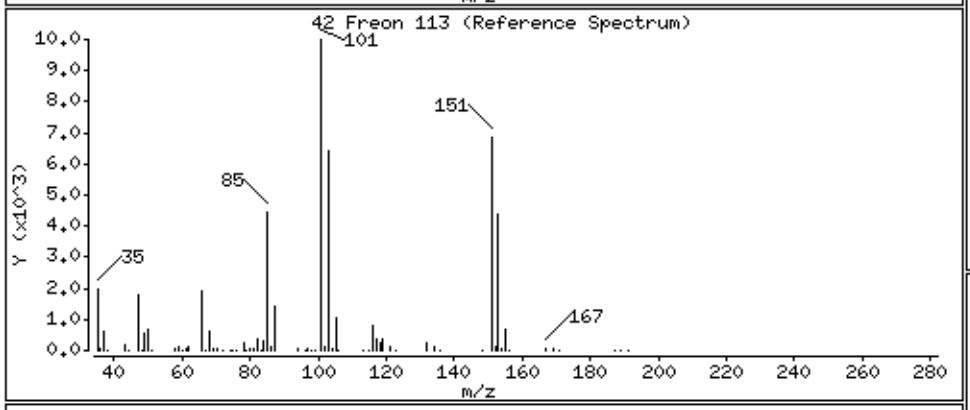
Column diameter: 0.53

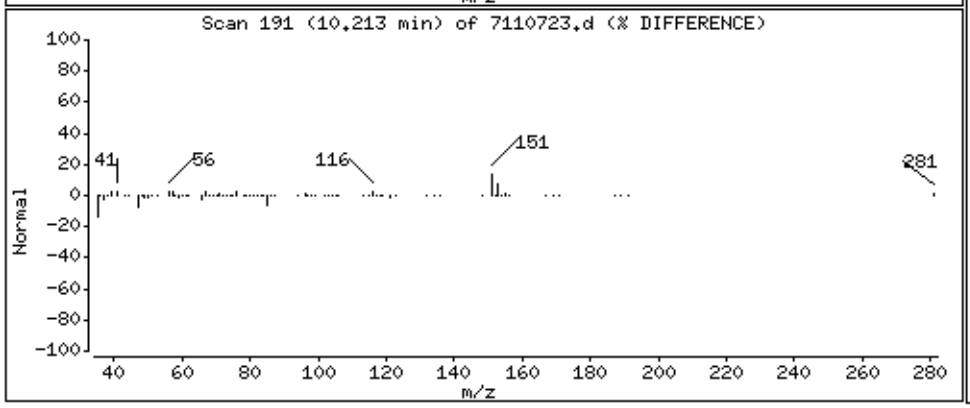
42 Freon 113

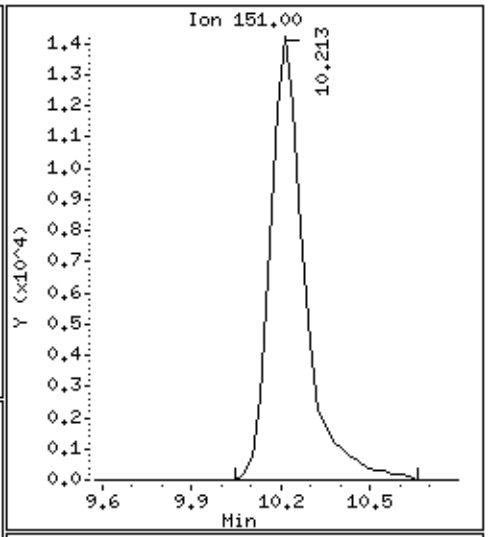
Concentration: 3.654 PPBV

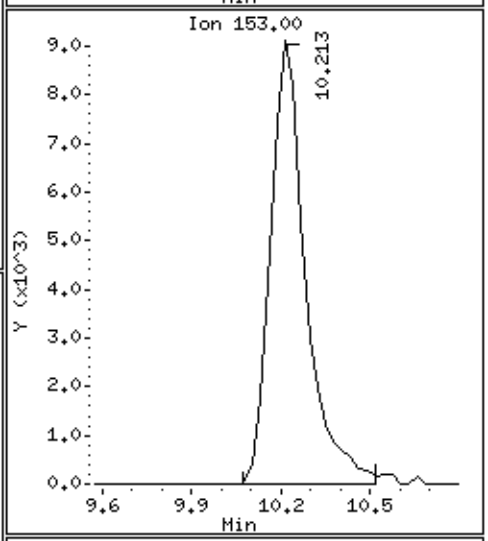


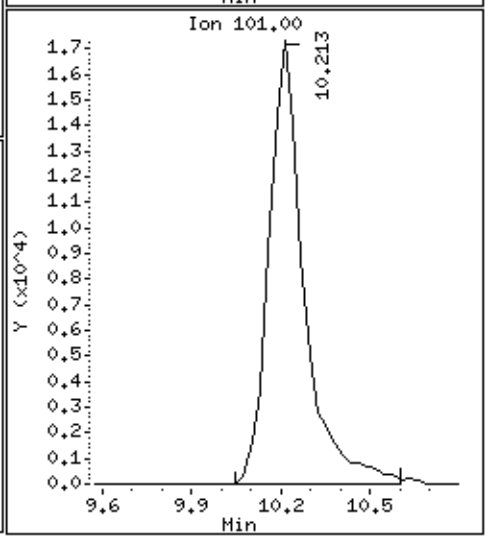












Data File: /chem/msd7.i/7-07nov.b/7110723.d

Date : 08-NOV-2007 02:58

Client ID:

Instrument: msd7.i

Sample Info: 200mL #21005

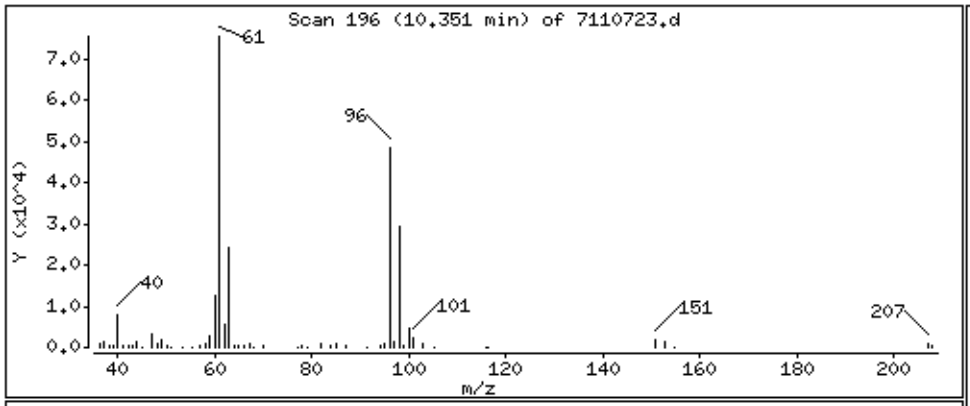
Operator: ab

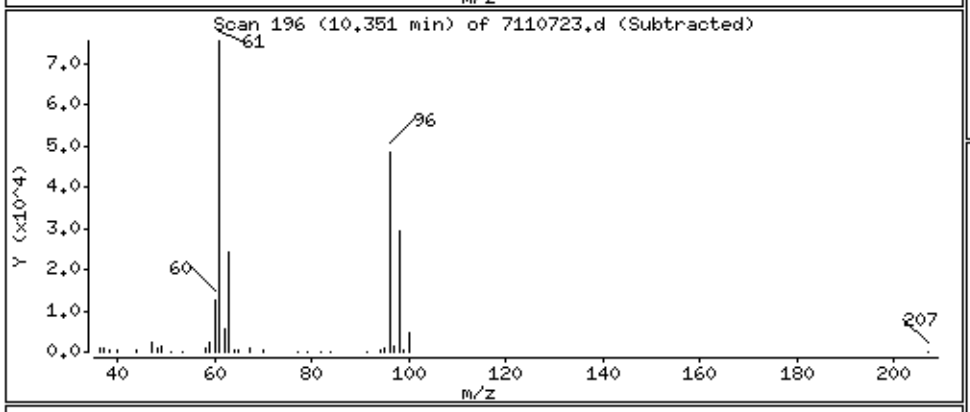
Column phase: RTx-624

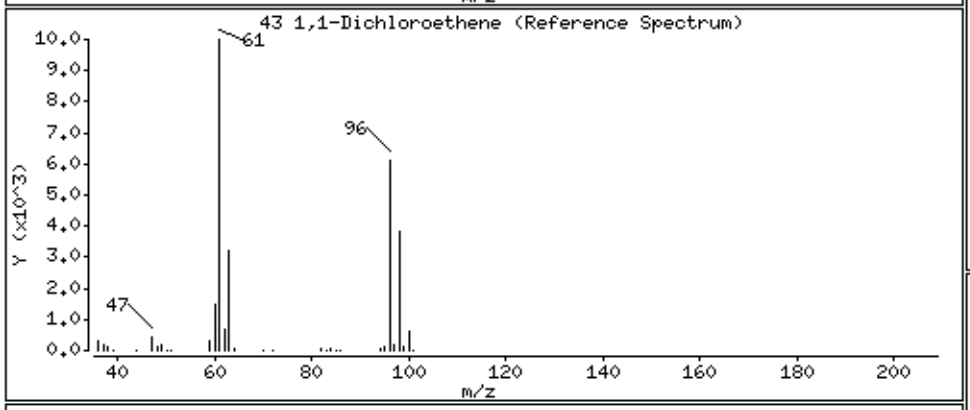
Column diameter: 0.53

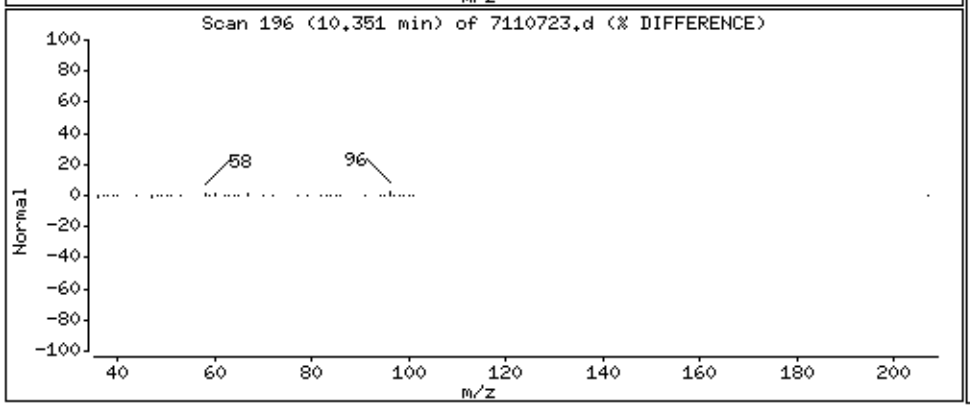
43 1,1-Dichloroethene

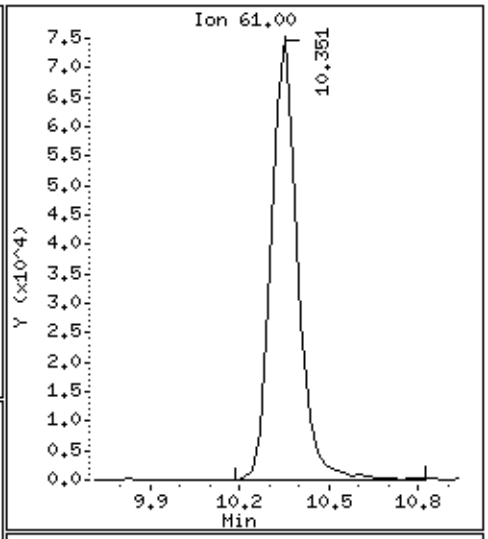
Concentration: 13.974 PPBV

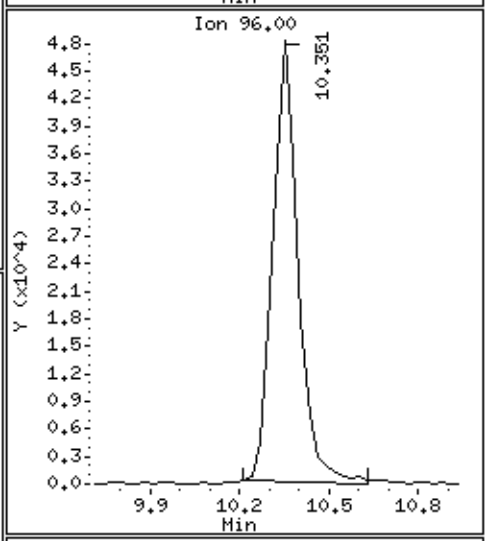


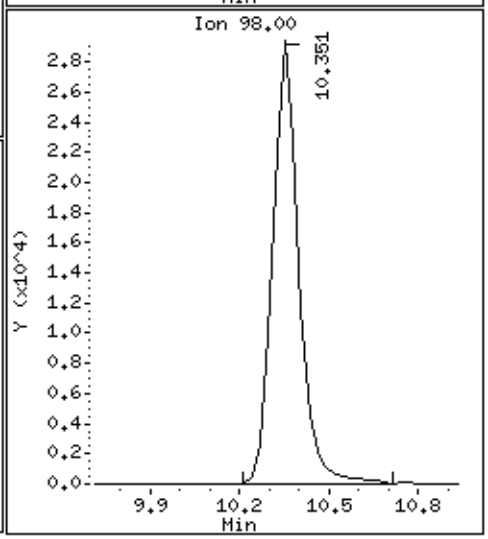












Data File: /chem/msd7.i/7-07nov.b/7110723.d

Date : 08-NOV-2007 02:58

Client ID:

Instrument: msd7.i

Sample Info: 200mL #21005

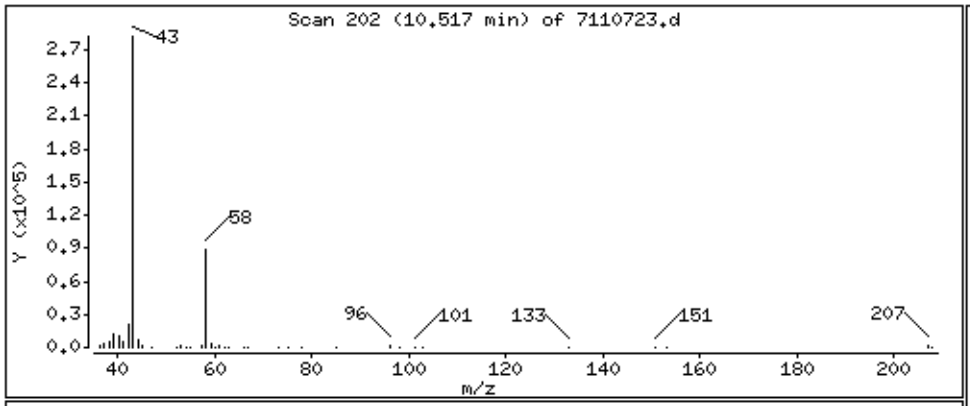
Operator: ab

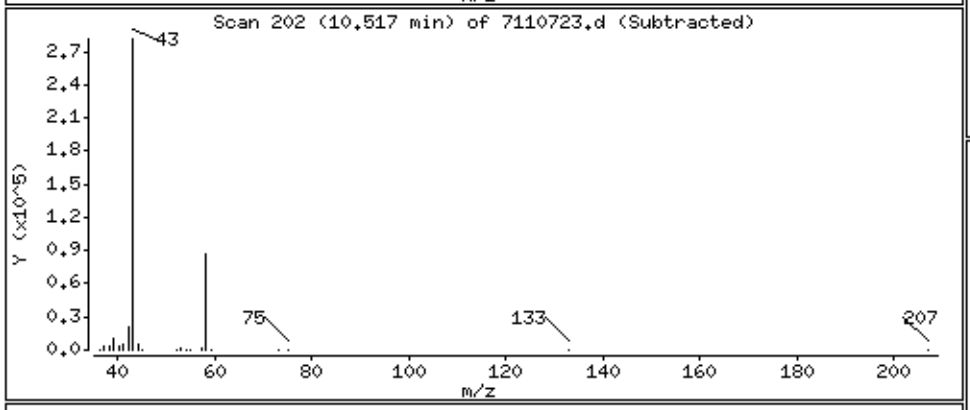
Column phase: RTx-624

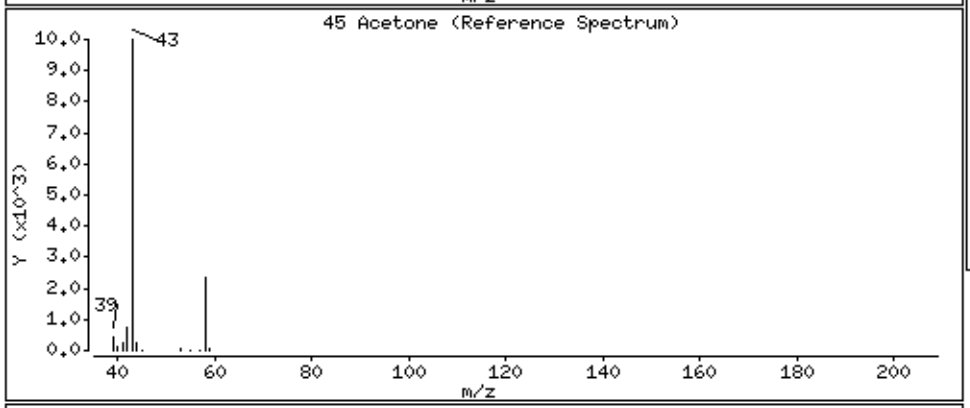
Column diameter: 0.53

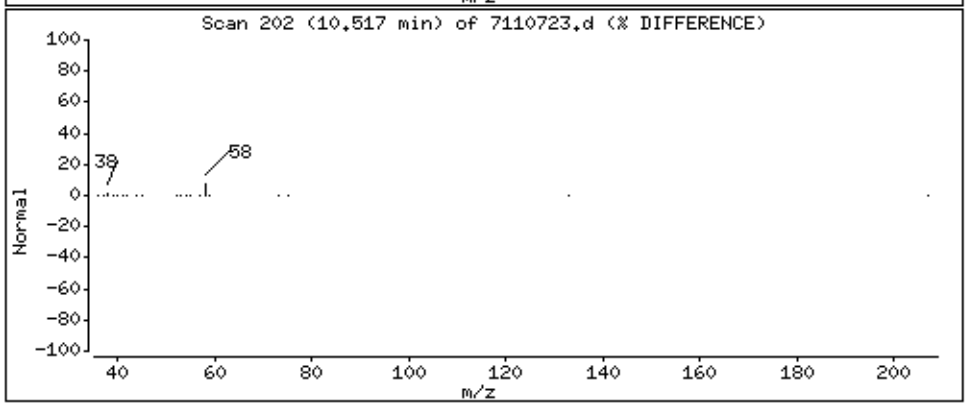
45 Acetone

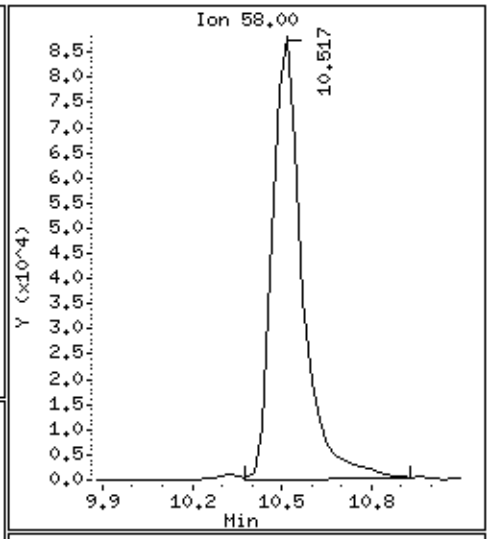
Concentration: 60.168 PPBV

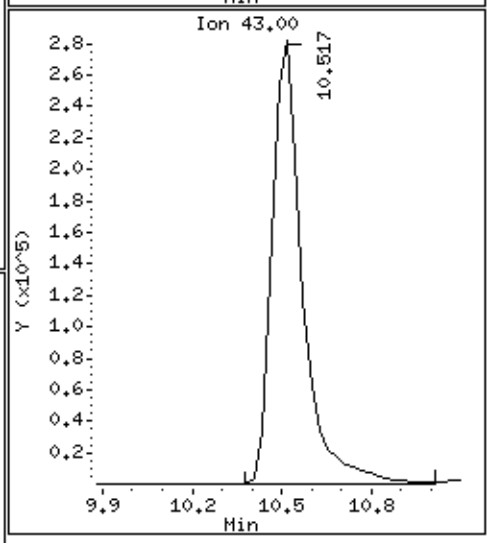












Data File: /chem/msd7.i/7-07nov.b/7110723.d

Date : 08-NOV-2007 02:58

Client ID:

Instrument: msd7.i

Sample Info: 200mL #21005

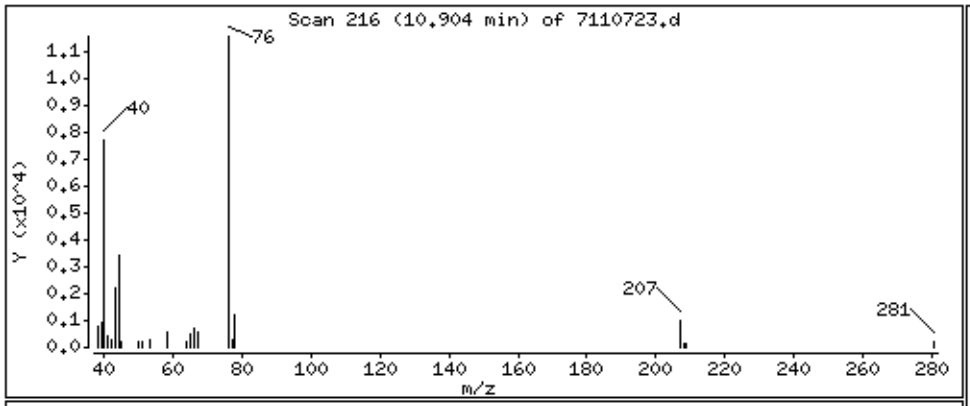
Operator: ab

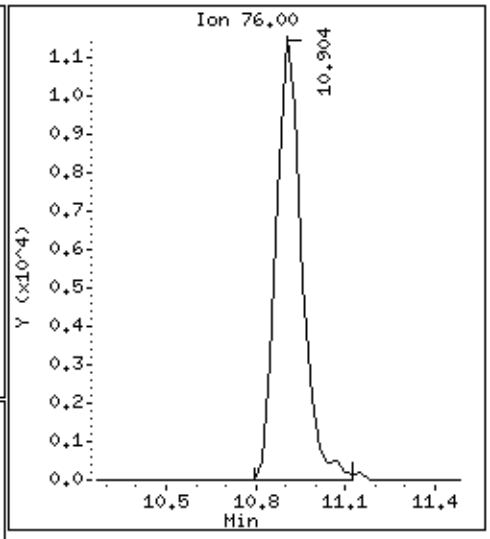
Column phase: RTx-624

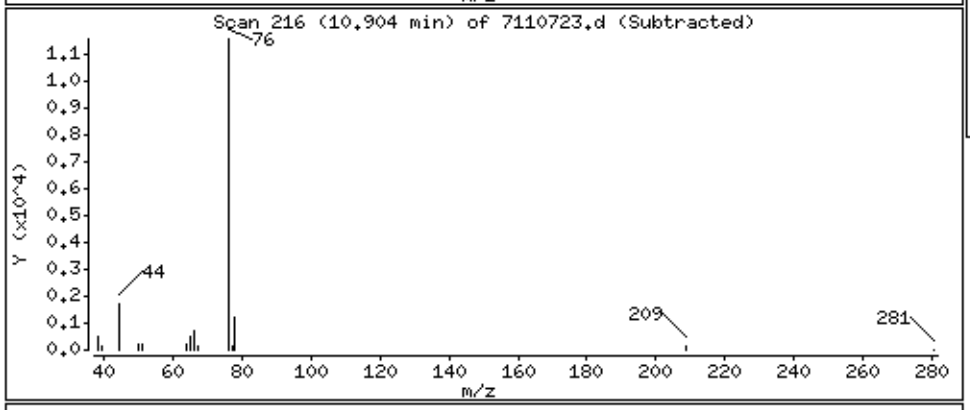
Column diameter: 0.53

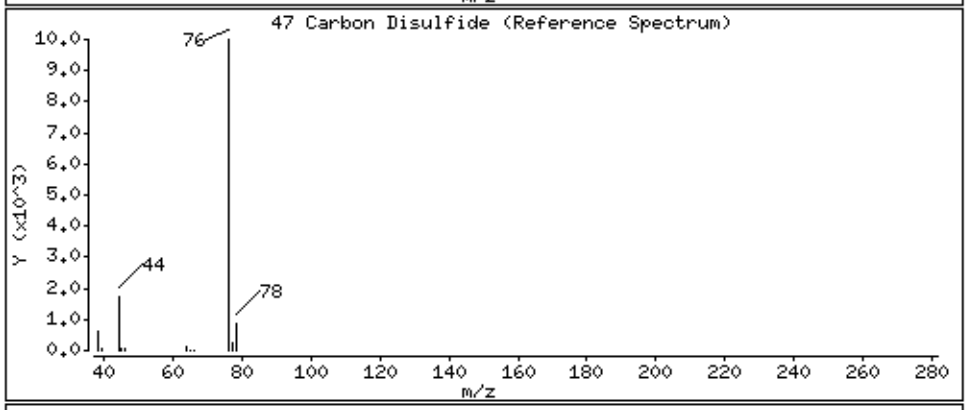
47 Carbon Disulfide

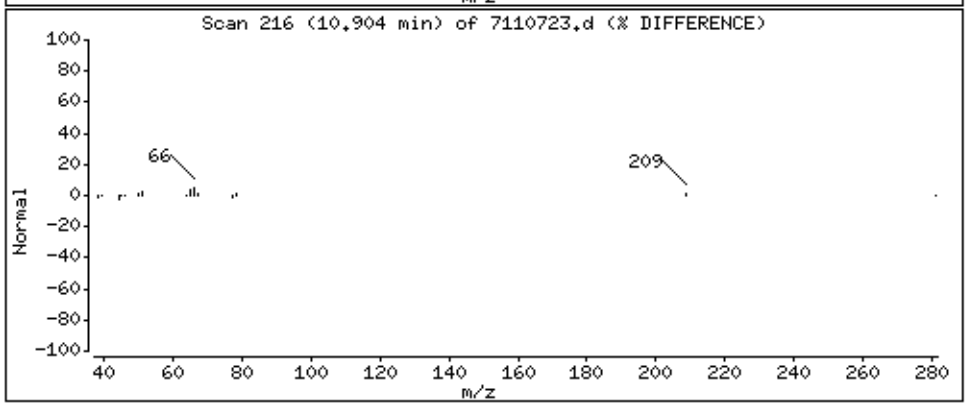
Concentration: 1.073 PPBV











Data File: /chem/msd7.i/7-07nov.b/7110723.d

Date : 08-NOV-2007 02:58

Client ID:

Instrument: msd7.i

Sample Info: 200mL #21005

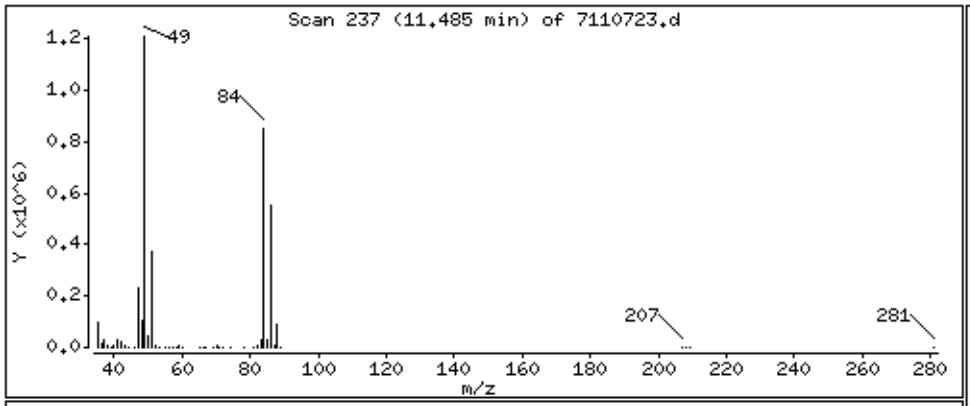
Operator: ab

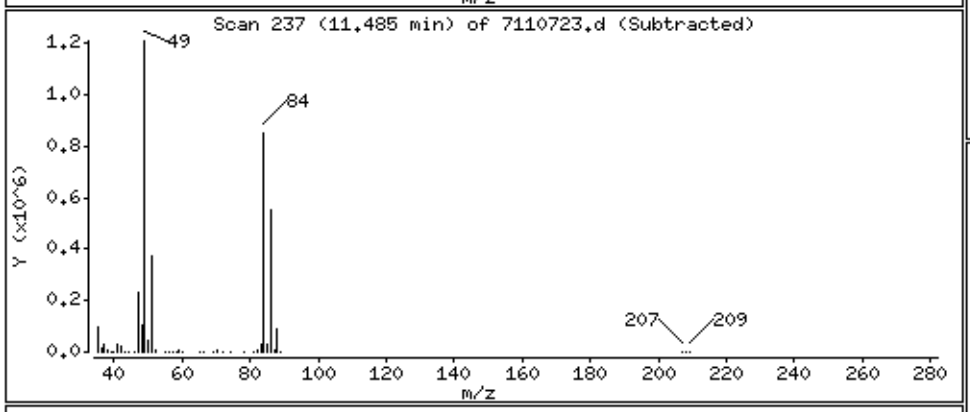
Column phase: RTx-624

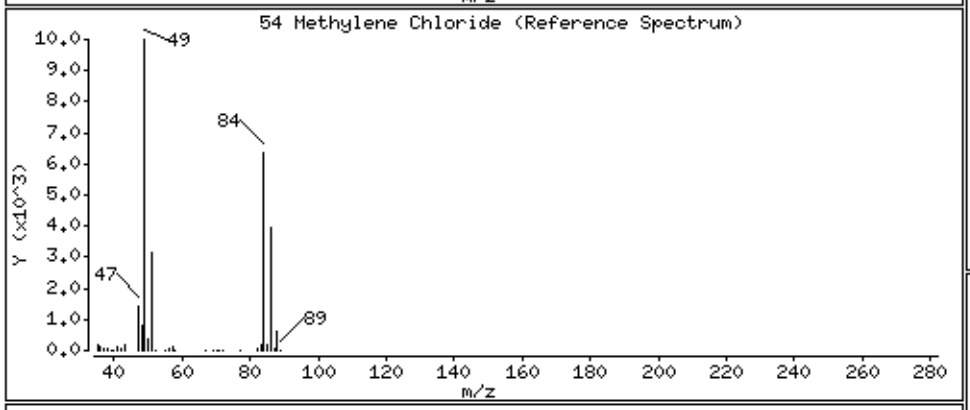
Column diameter: 0.53

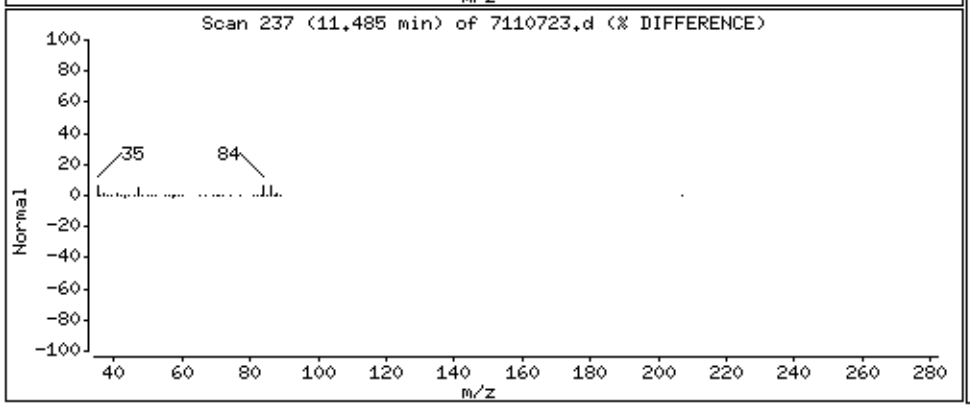
54 Methylene Chloride

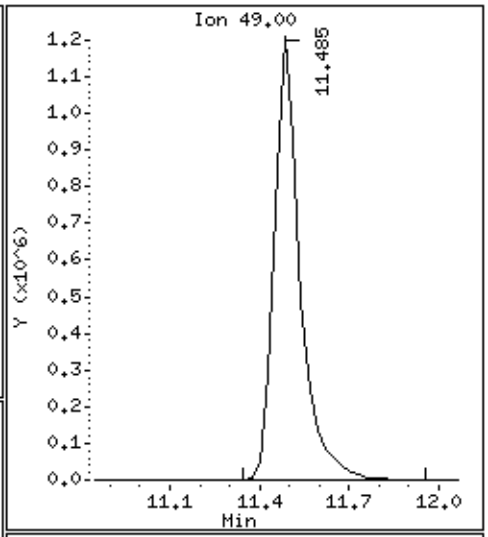
Concentration: 296.04 PPBV

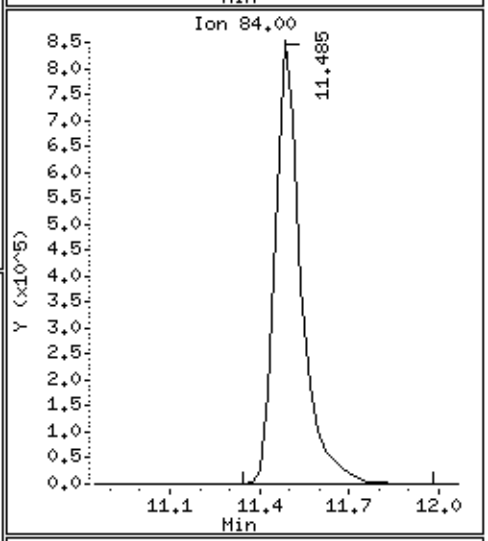


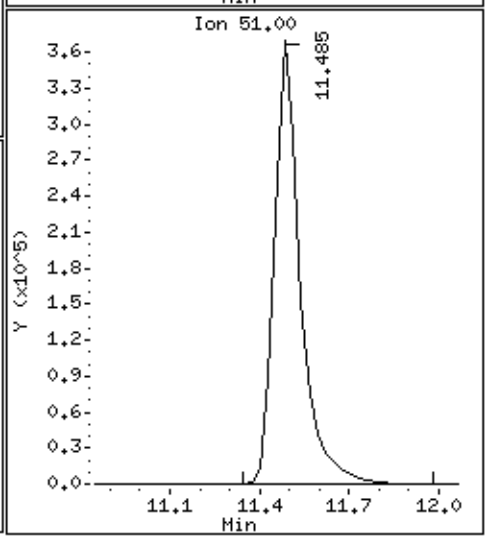












Data File: /chem/msd7.i/7-07nov.b/7110723.d

Date : 08-NOV-2007 02:58

Client ID:

Instrument: msd7.i

Sample Info: 200mL #21005

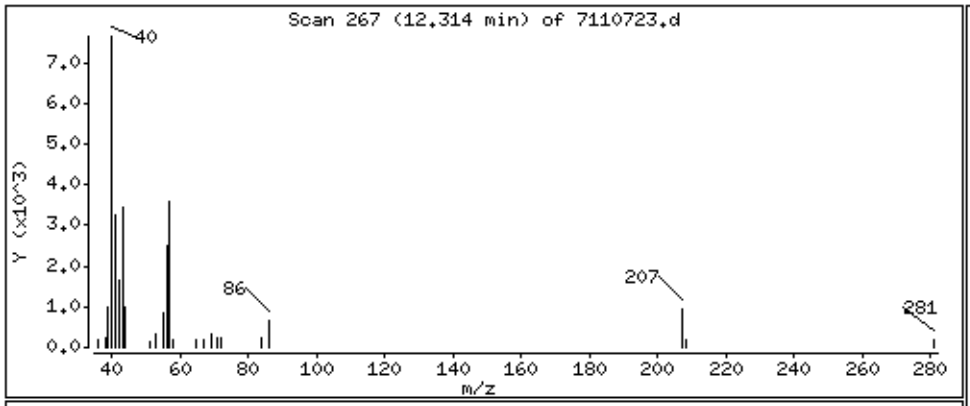
Operator: ab

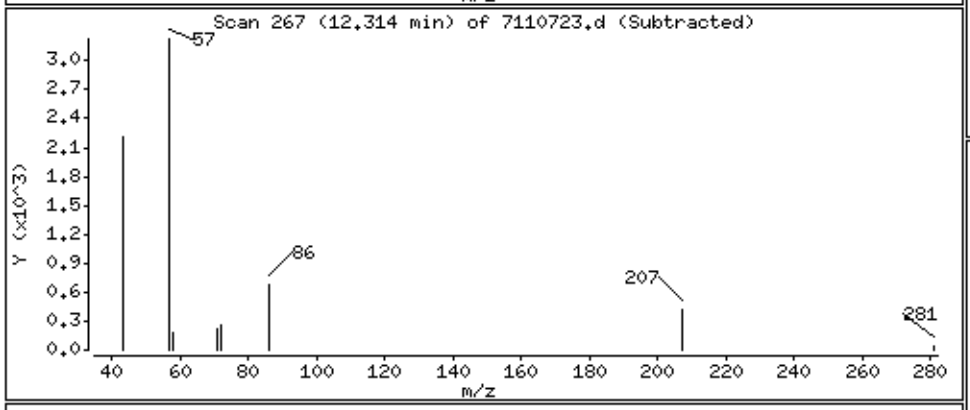
Column phase: RTx-624

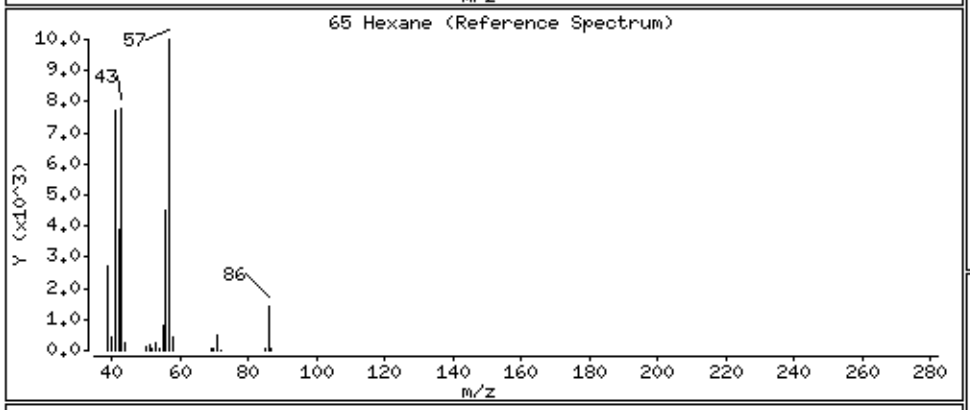
Column diameter: 0.53

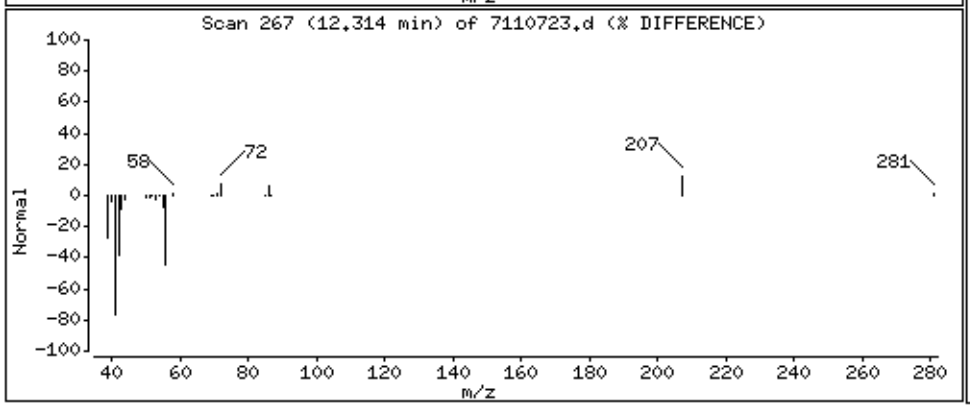
65 Hexane

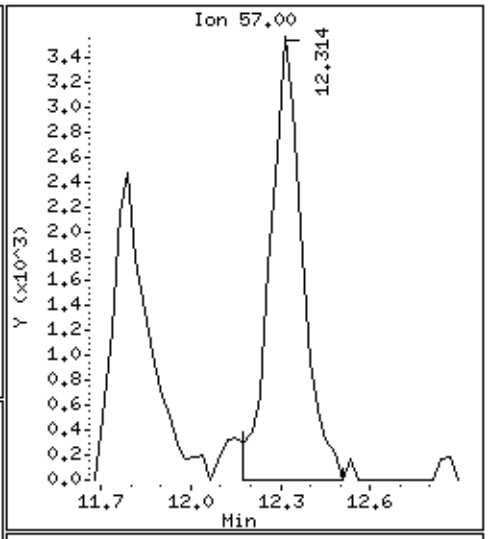
Concentration: 0.8316 PPBV

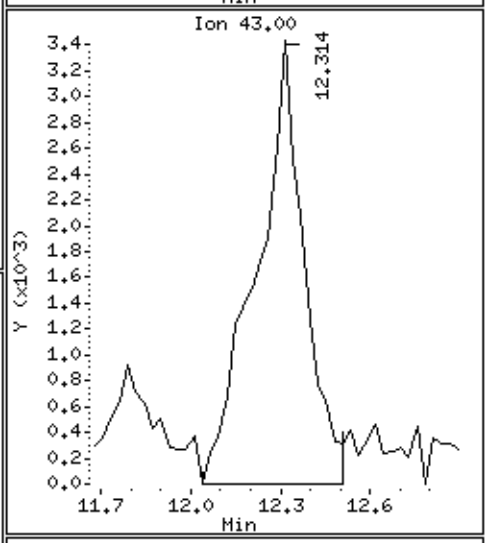


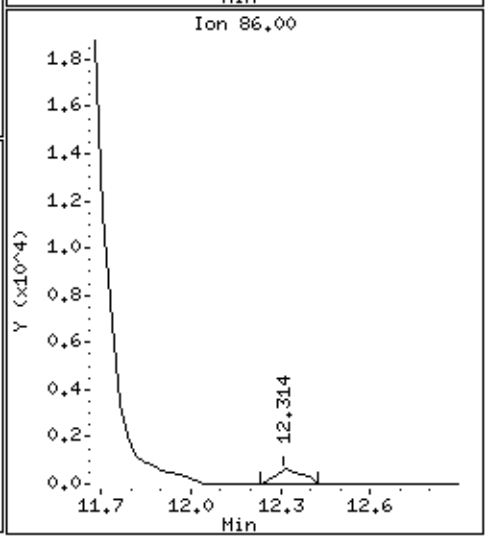












Data File: /chem/msd7.i/7-07nov.b/7110723.d

Date : 08-NOV-2007 02:58

Client ID:

Instrument: msd7.i

Sample Info: 200mL #21005

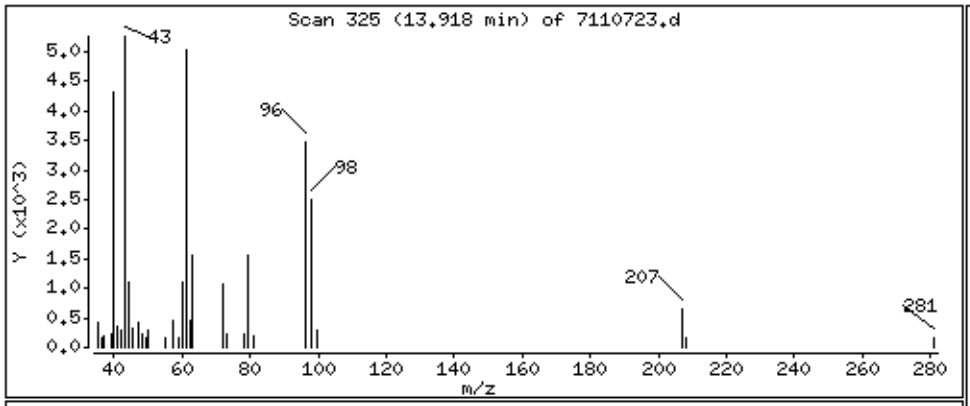
Operator: ab

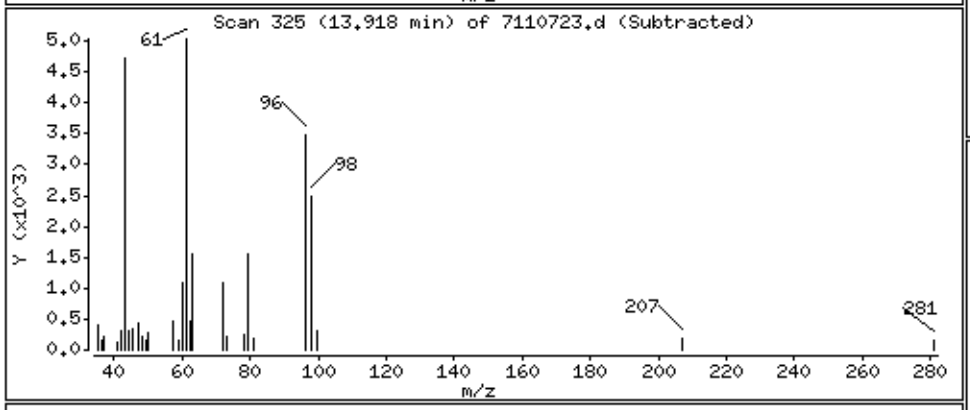
Column phase: RTx-624

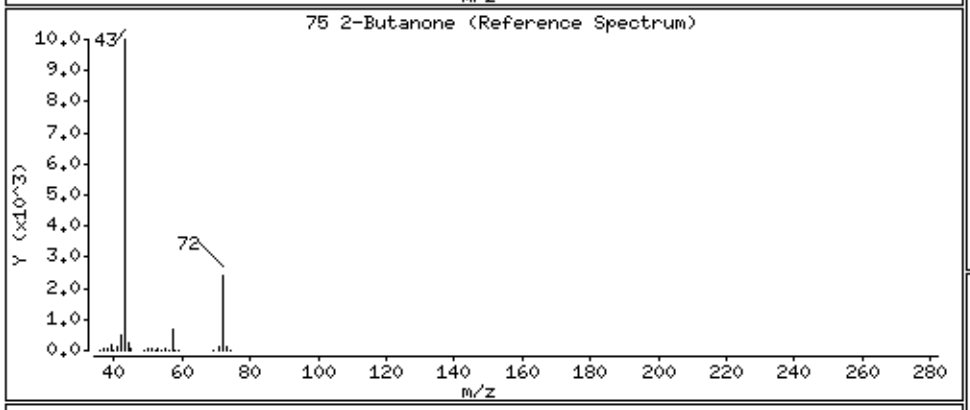
Column diameter: 0.53

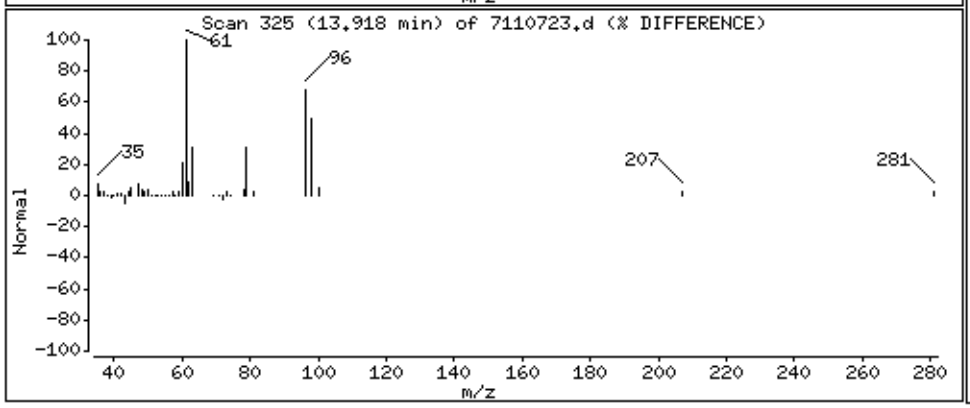
75 2-Butanone

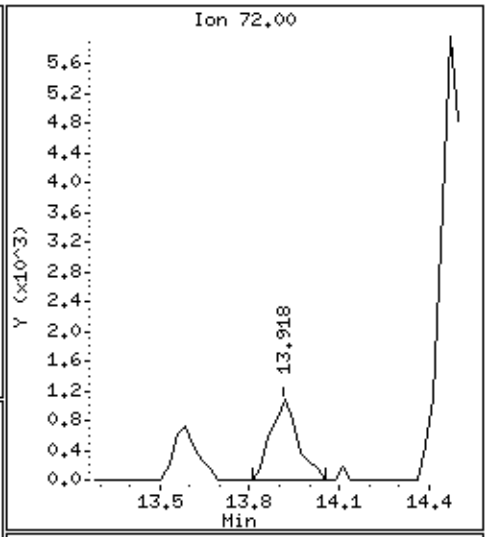
Concentration: 0.8289 PPBV

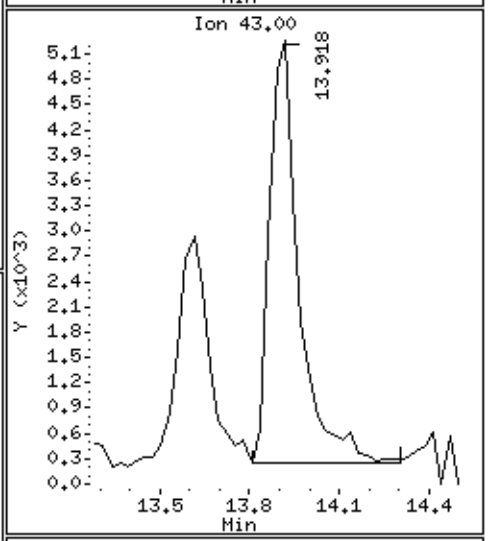


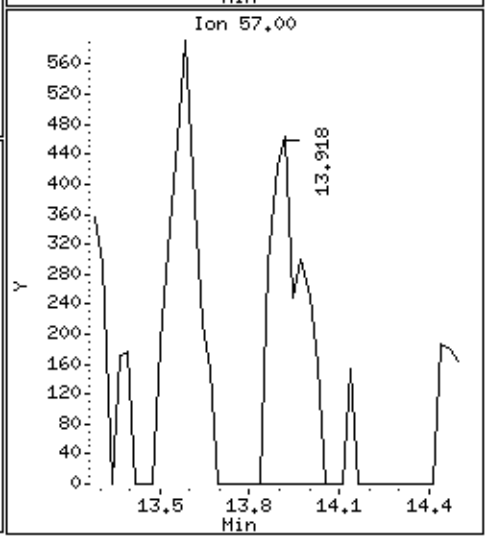












Data File: /chem/msd7.i/7-07nov.b/7110723.d

Date : 08-NOV-2007 02:58

Client ID:

Instrument: msd7.i

Sample Info: 200mL #21005

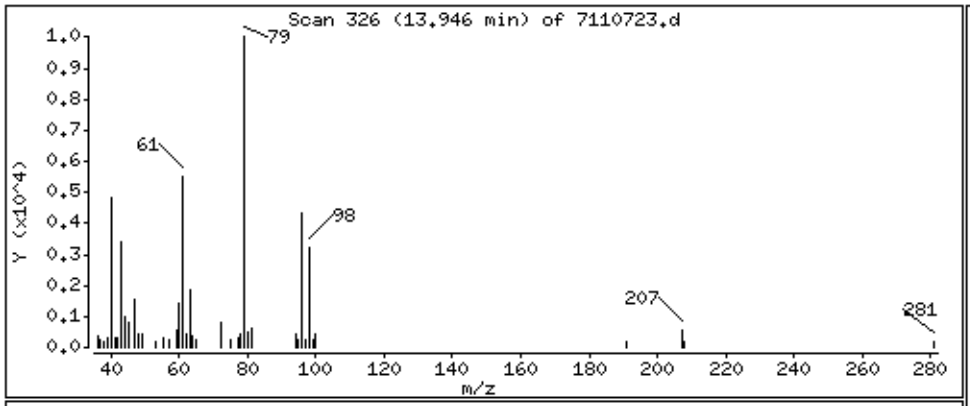
Operator: ab

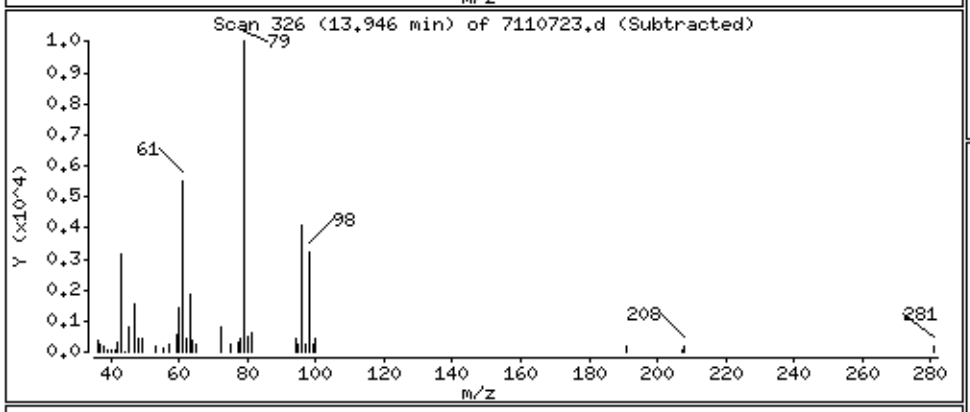
Column phase: RTx-624

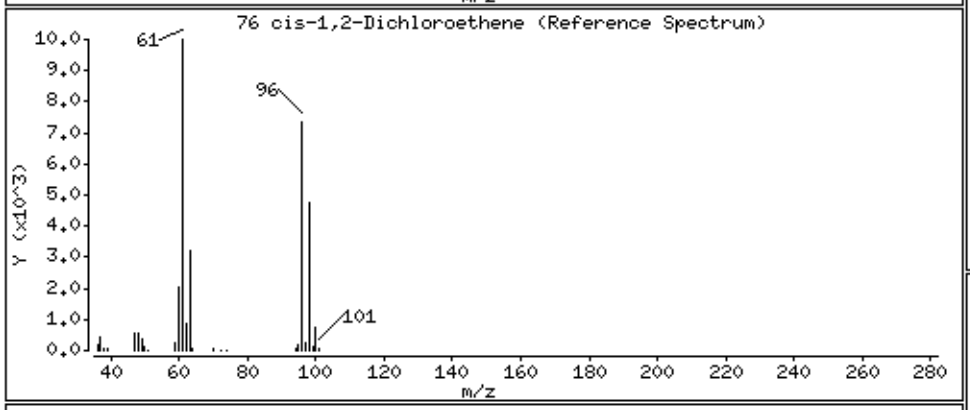
Column diameter: 0.53

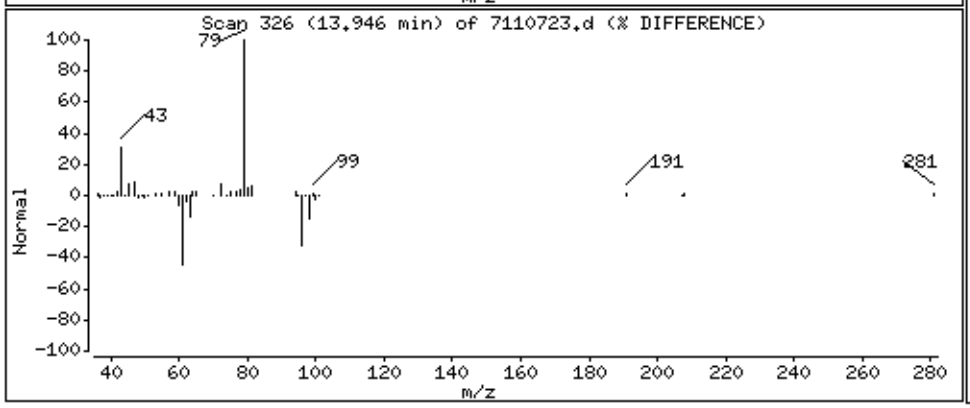
76 cis-1,2-Dichloroethene

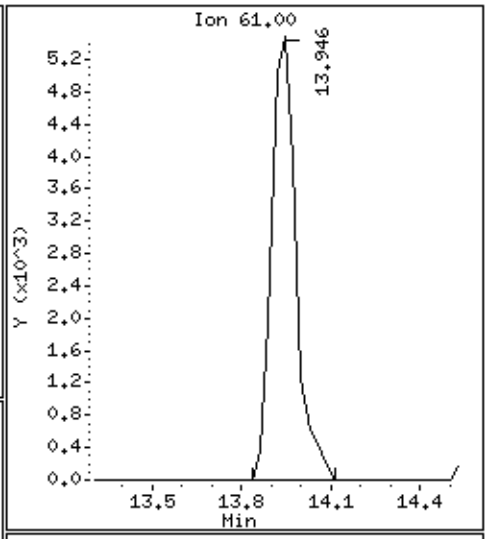
Concentration: 1.169 PPBV

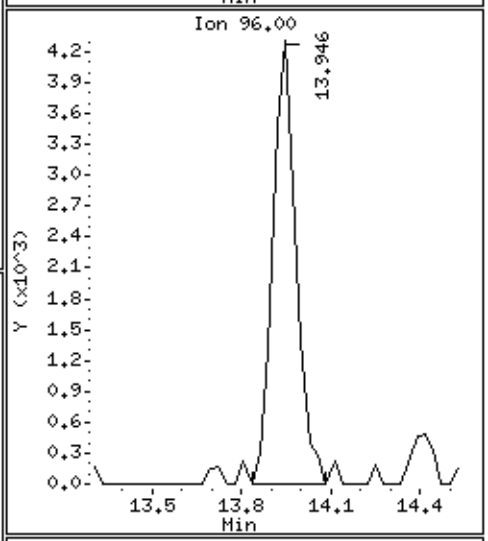


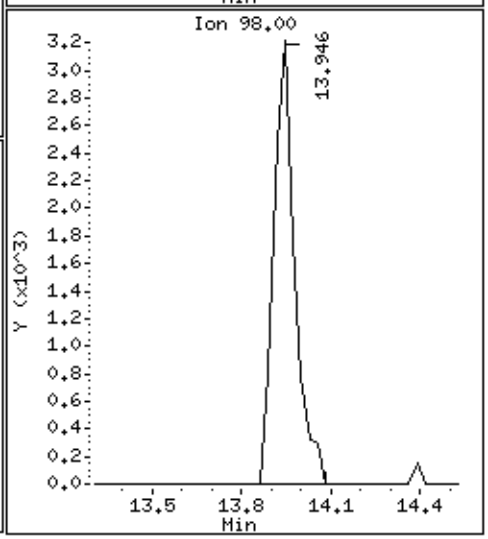












Data File: /chem/msd7.i/7-07nov.b/7110723.d

Date : 08-NOV-2007 02:58

Client ID:

Instrument: msd7.i

Sample Info: 200mL #21005

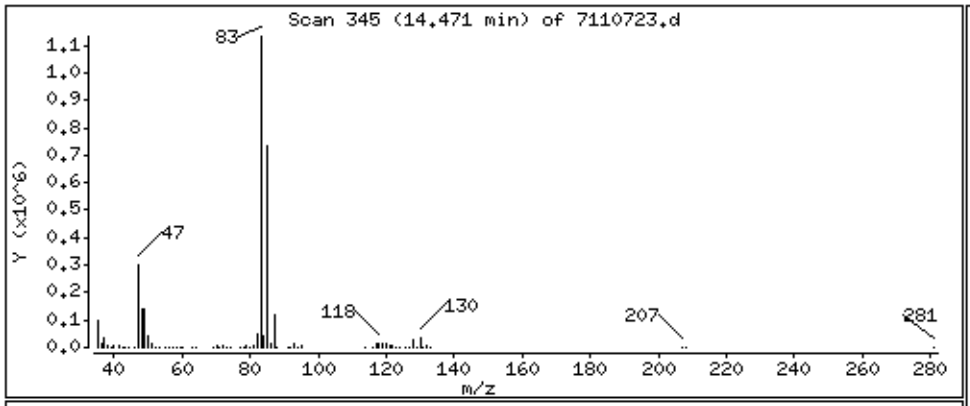
Operator: ab

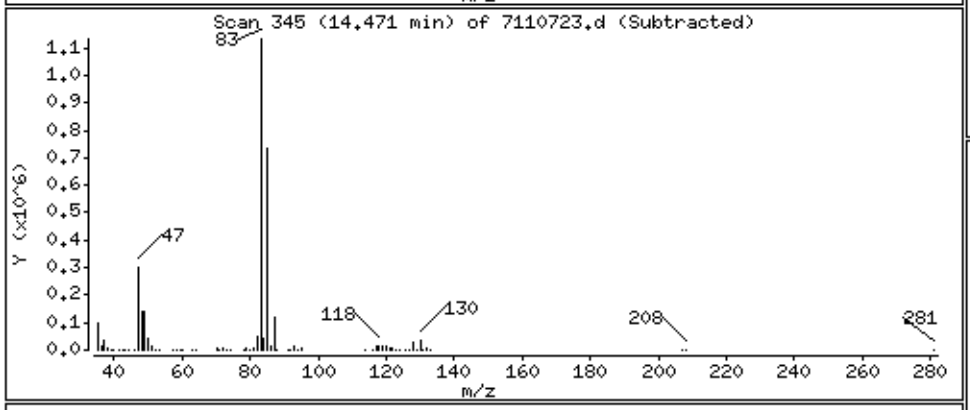
Column phase: RTx-624

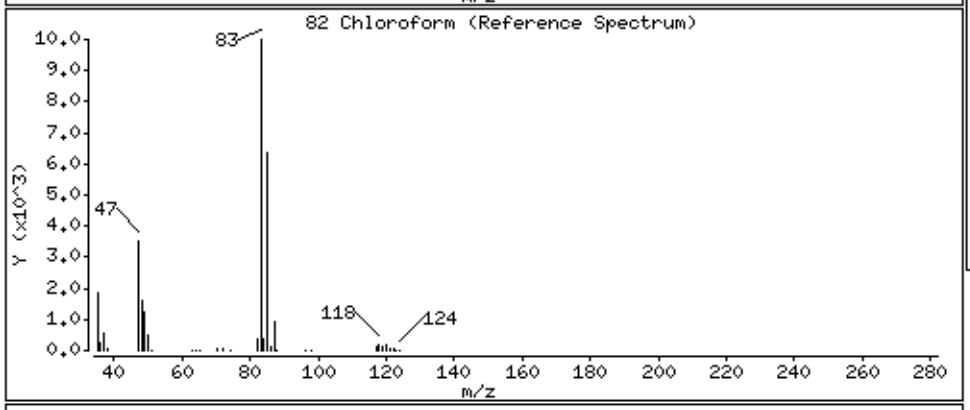
Column diameter: 0.53

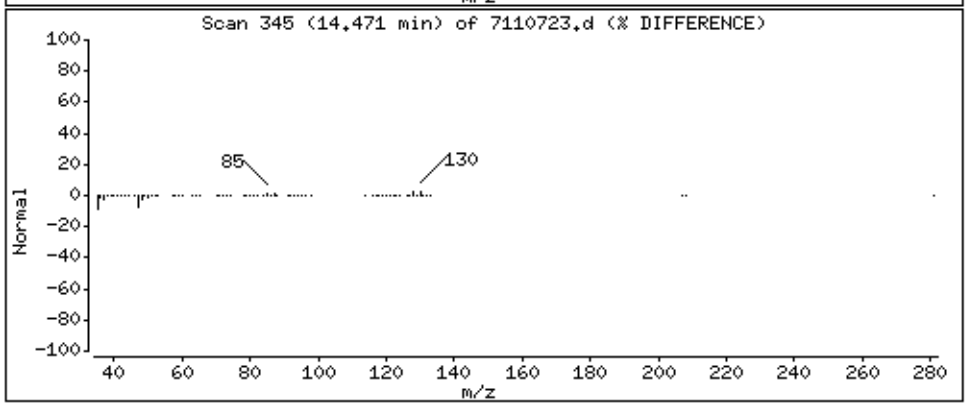
82 Chloroform

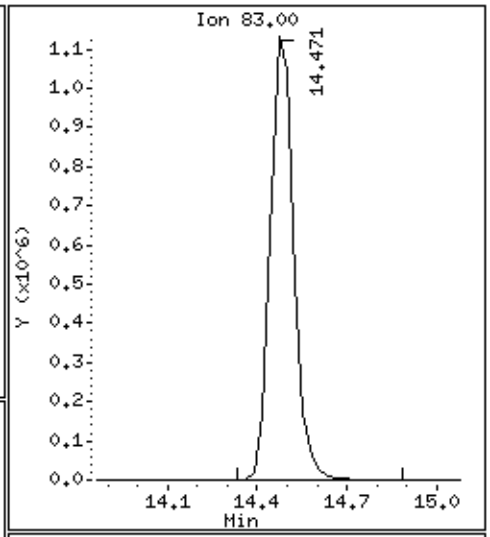
Concentration: 160.89 PPBV

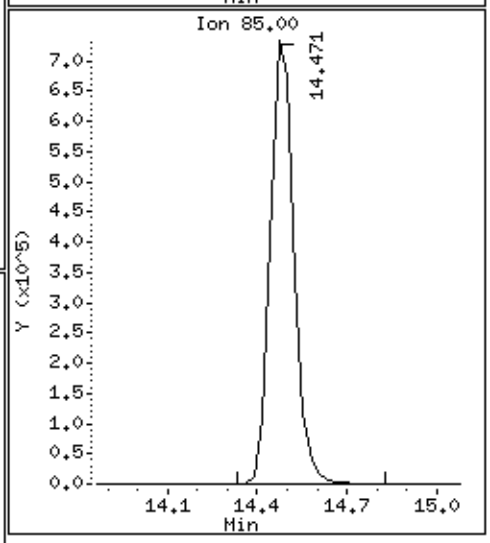












Data File: /chem/msd7.i/7-07nov.b/7110723.d

Date : 08-NOV-2007 02:58

Client ID:

Instrument: msd7.i

Sample Info: 200mL #21005

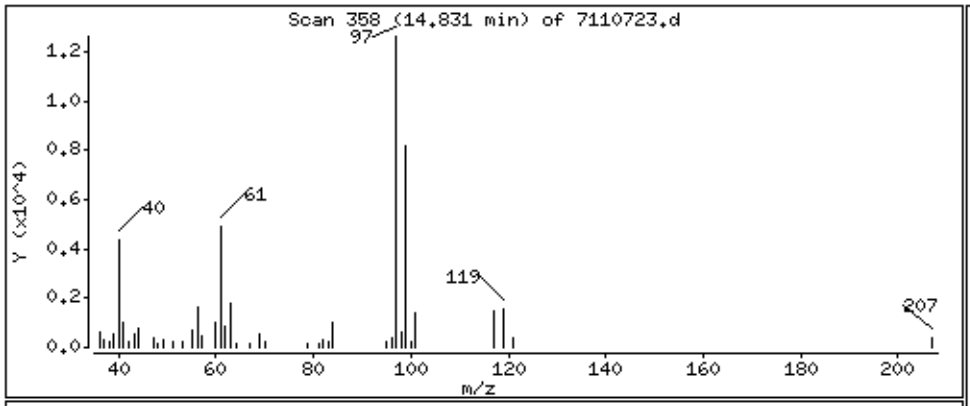
Operator: ab

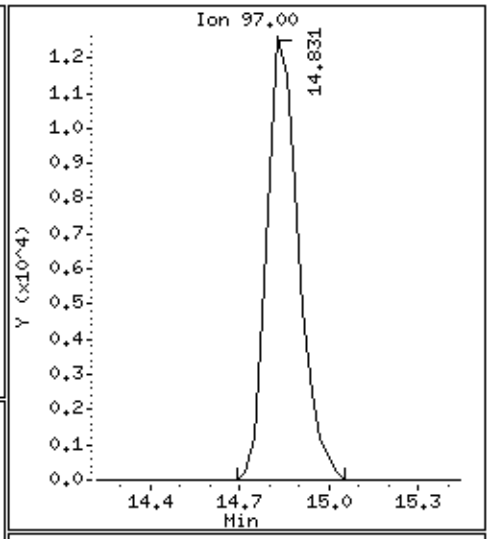
Column phase: RTx-624

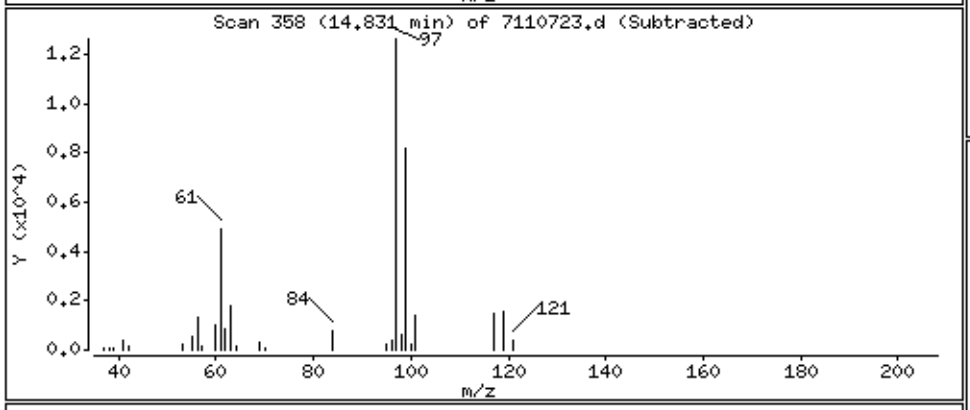
Column diameter: 0.53

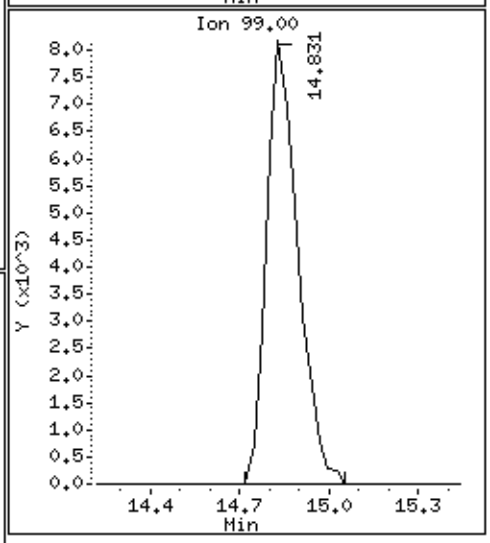
83 1,1,1-Trichloroethane

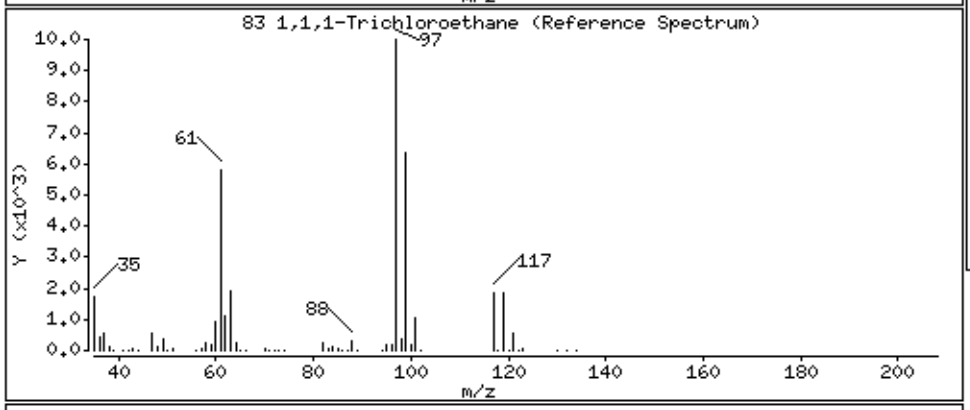
Concentration: 2.400 PPBV

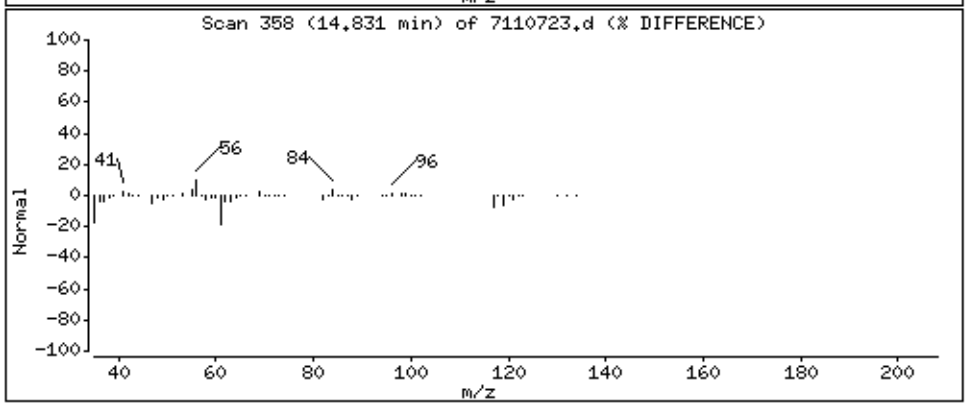












Data File: /chem/msd7.i/7-07nov.b/7110723.d

Date : 08-NOV-2007 02:58

Client ID:

Instrument: msd7.i

Sample Info: 200mL #21005

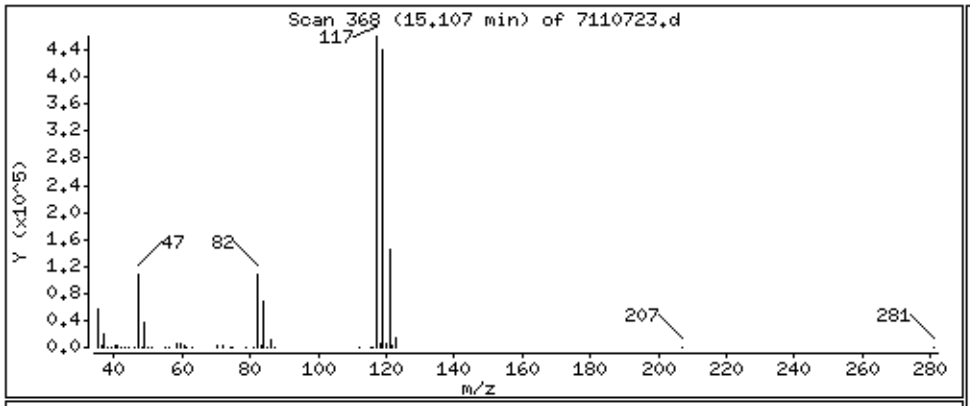
Operator: ab

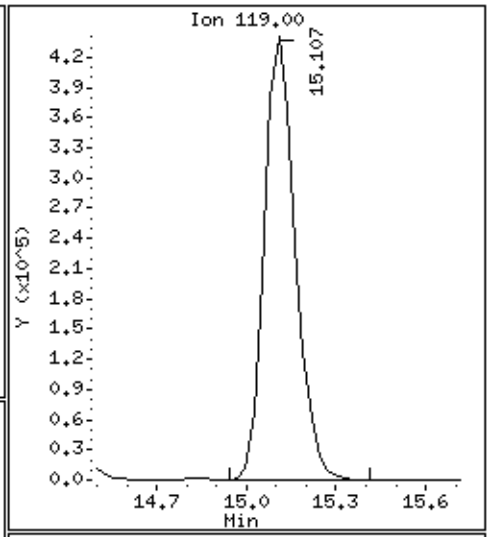
Column phase: RTx-624

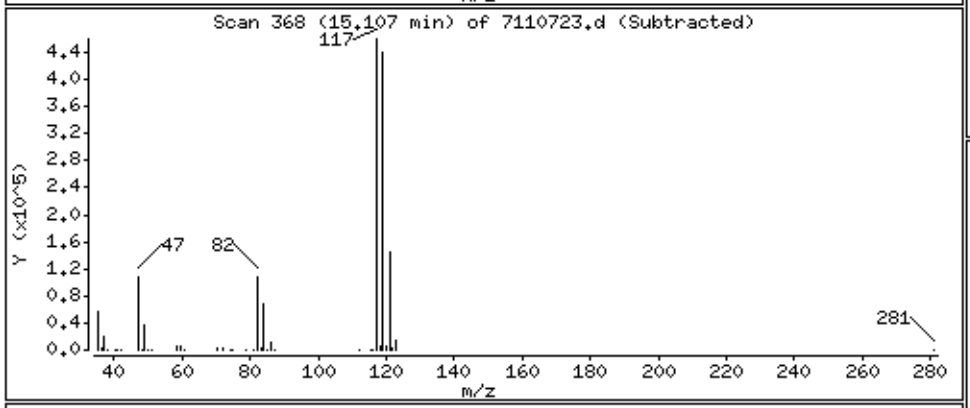
Column diameter: 0.53

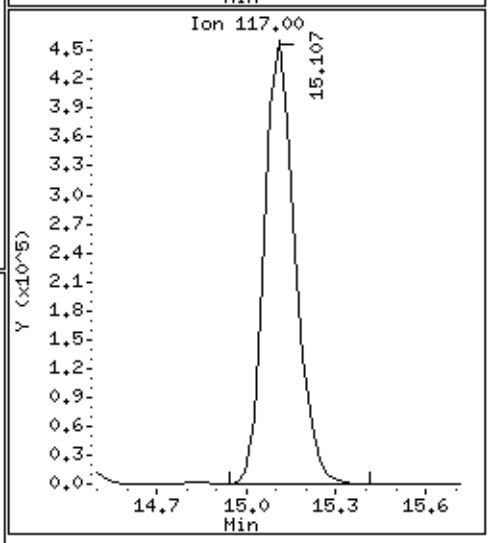
87 Carbon Tetrachloride

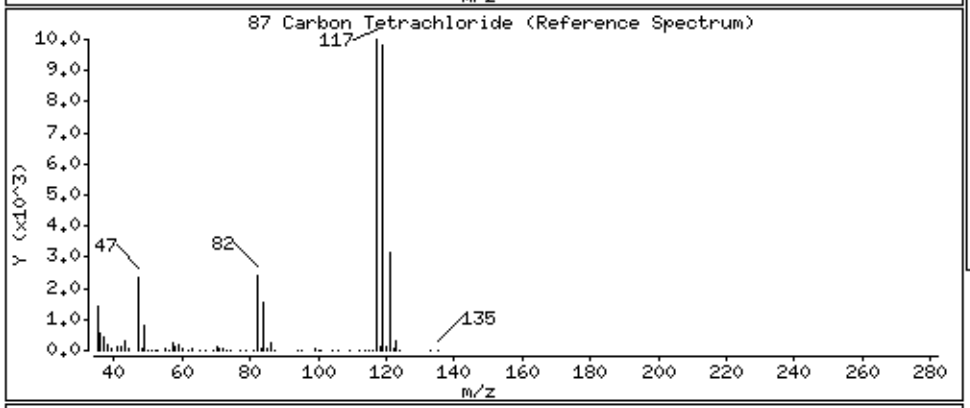
Concentration: 87.198 PPBV

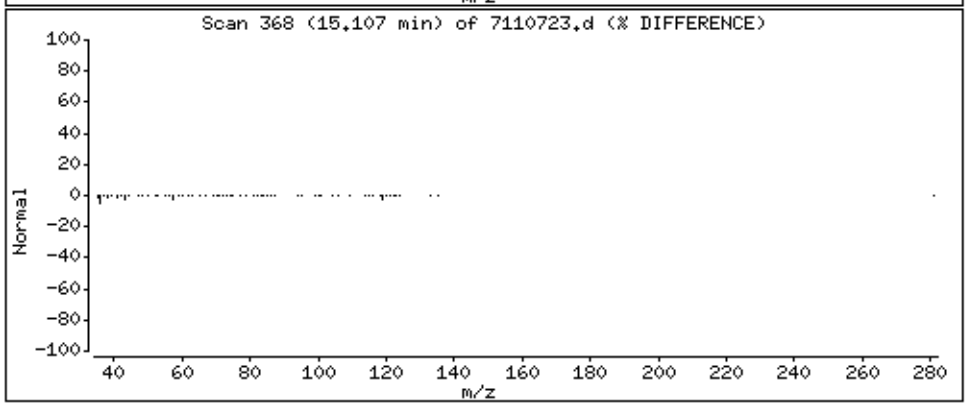












Data File: /chem/msd7.i/7-07nov.b/7110723.d

Date : 08-NOV-2007 02:58

Client ID:

Instrument: msd7.i

Sample Info: 200mL #21005

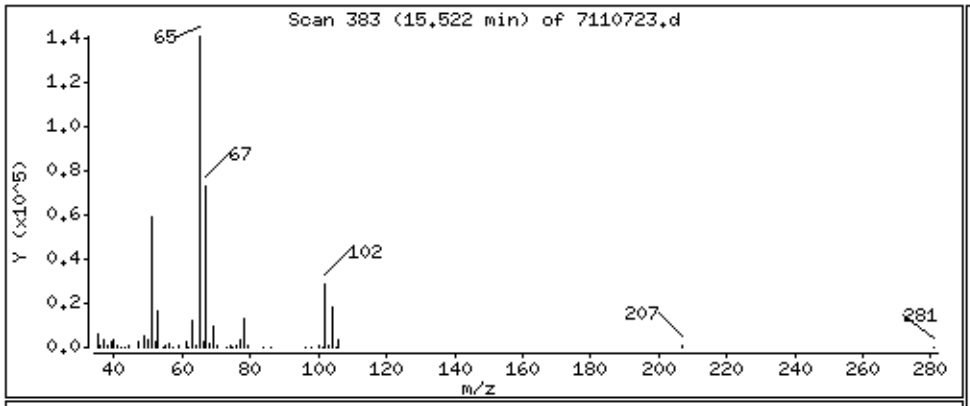
Operator: ab

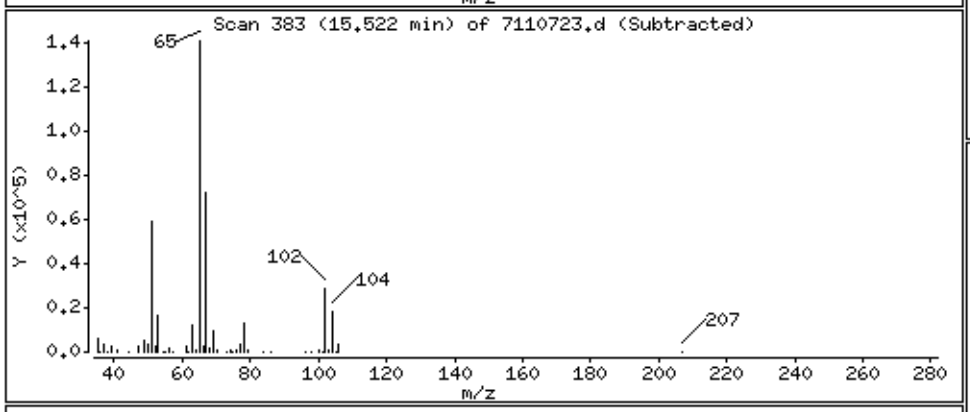
Column phase: RTx-624

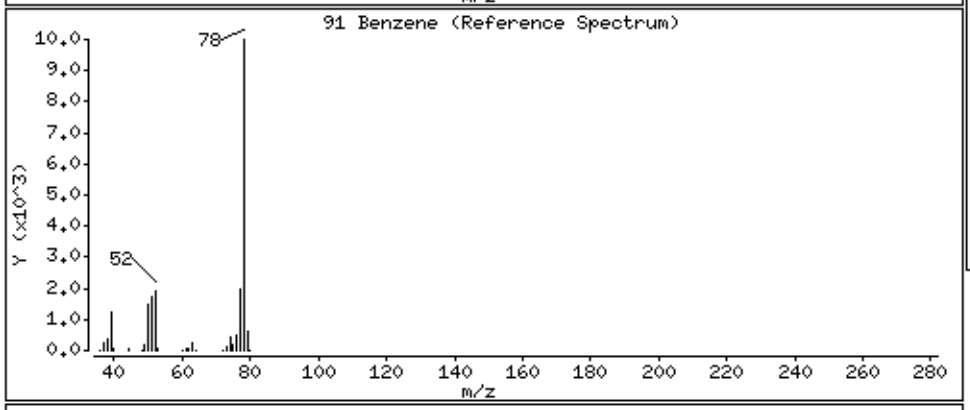
Column diameter: 0.53

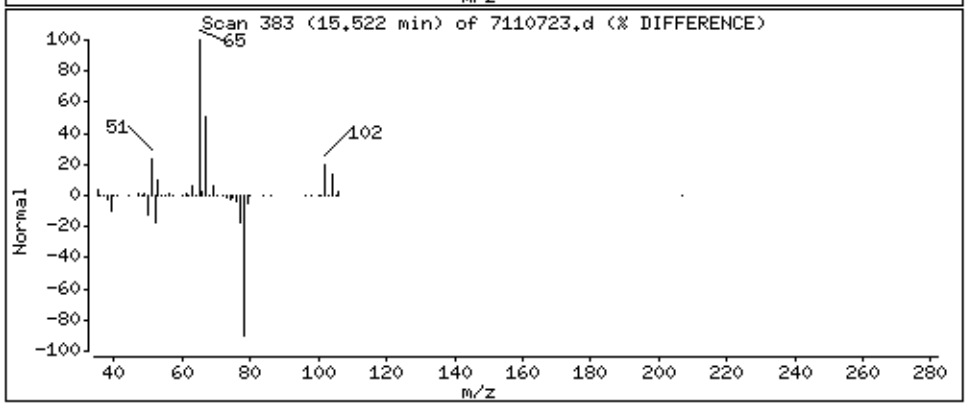
91 Benzene

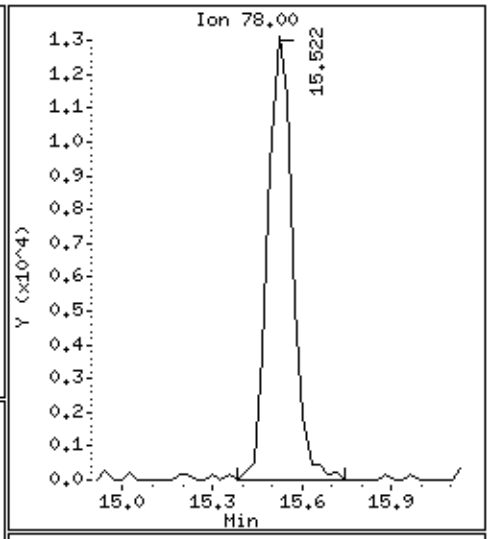
Concentration: 1.472 PPBV

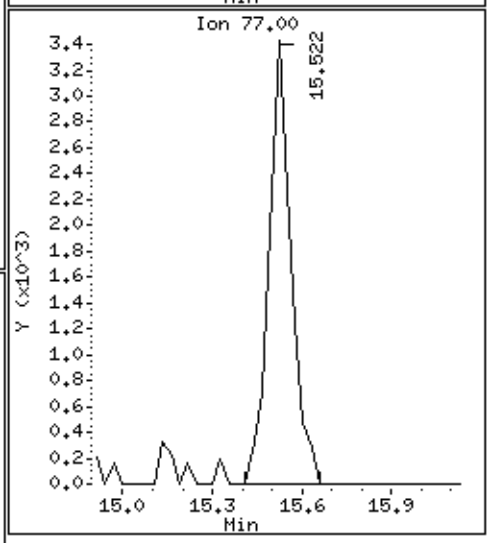












Data File: /chem/msd7.i/7-07nov.b/7110723.d

Date : 08-NOV-2007 02:58

Client ID:

Instrument: msd7.i

Sample Info: 200mL #21005

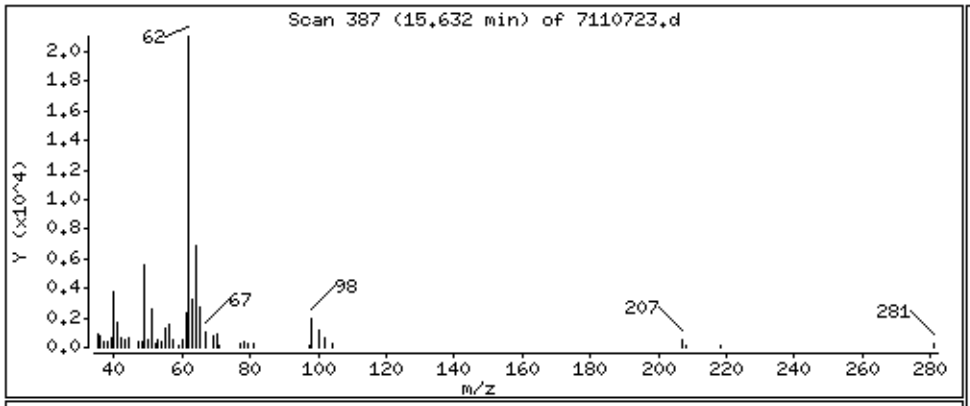
Operator: ab

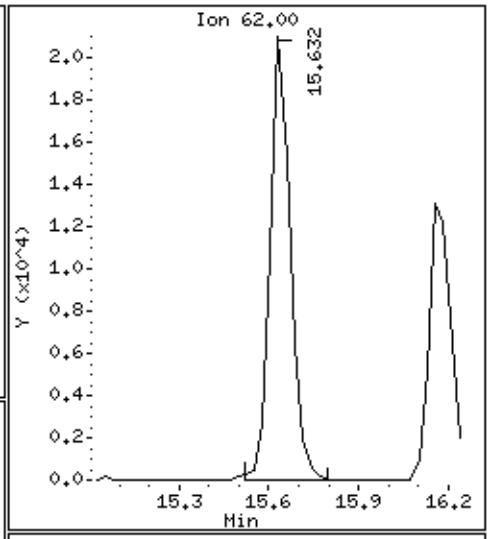
Column phase: RTx-624

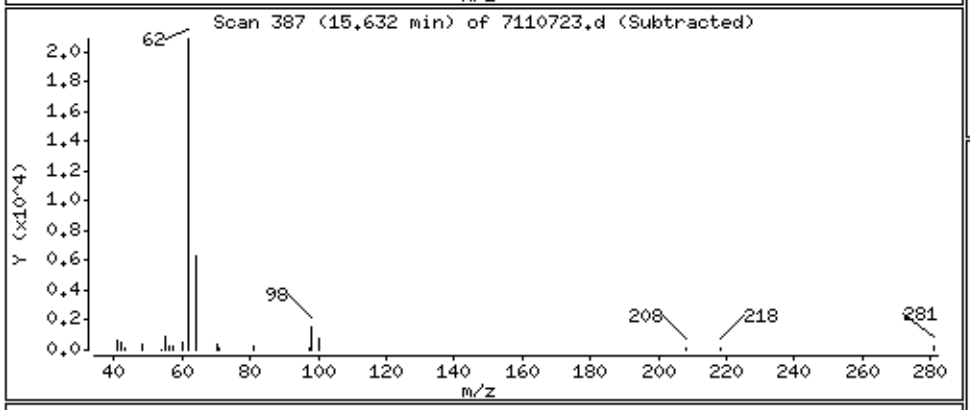
Column diameter: 0.53

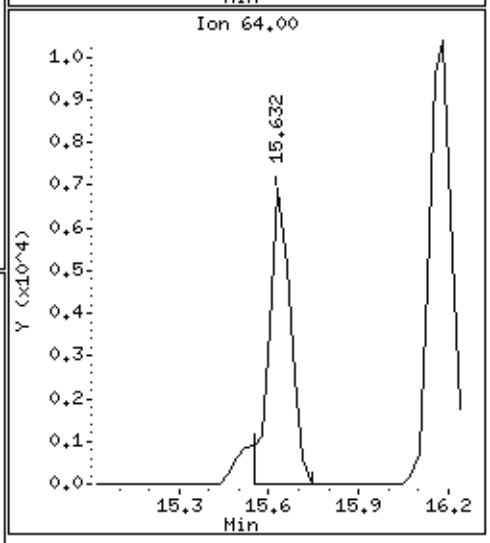
93 1,2-Dichloroethane

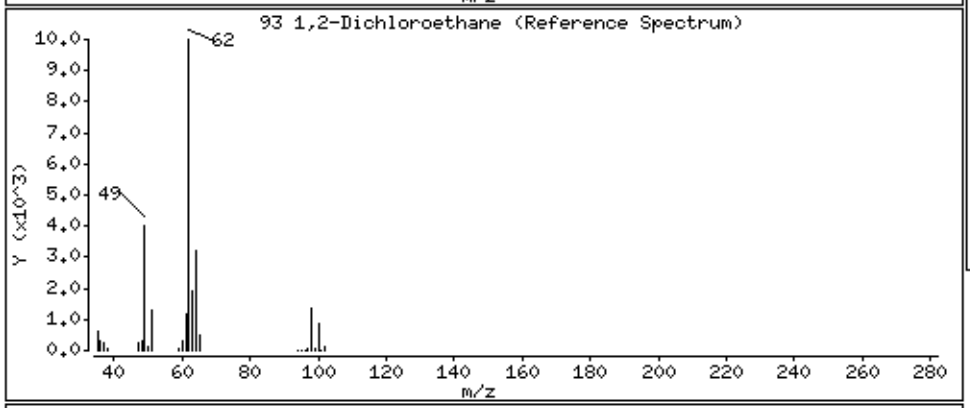
Concentration: 3.529 PPBV

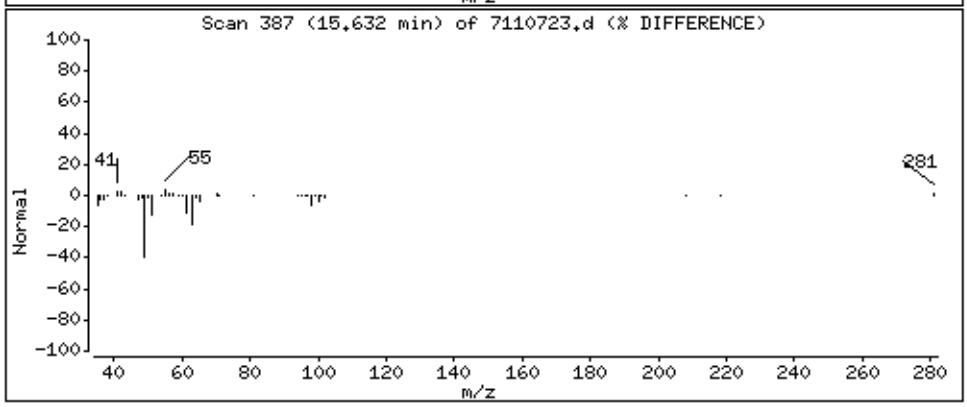












Data File: /chem/msd7.i/7-07nov.b/7110723.d

Date : 08-NOV-2007 02:58

Client ID:

Instrument: msd7.i

Sample Info: 200mL #21005

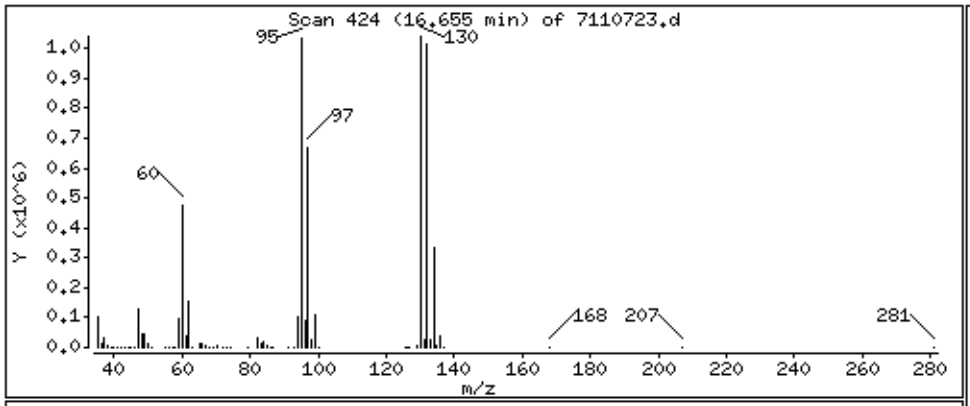
Operator: ab

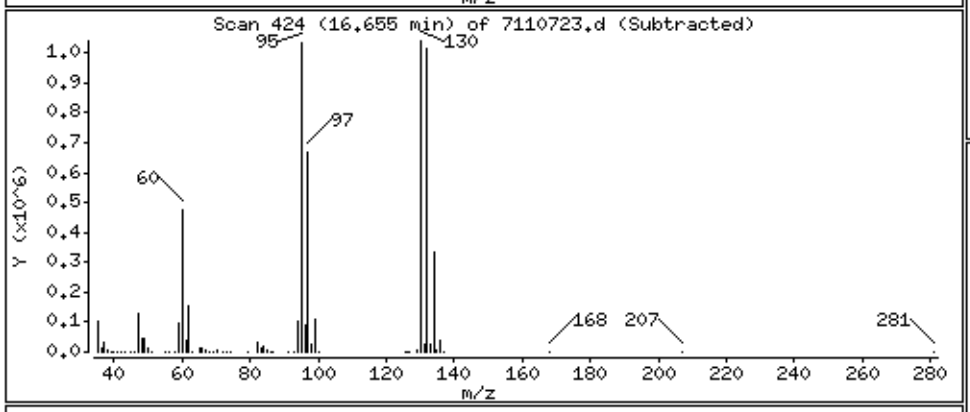
Column phase: RTx-624

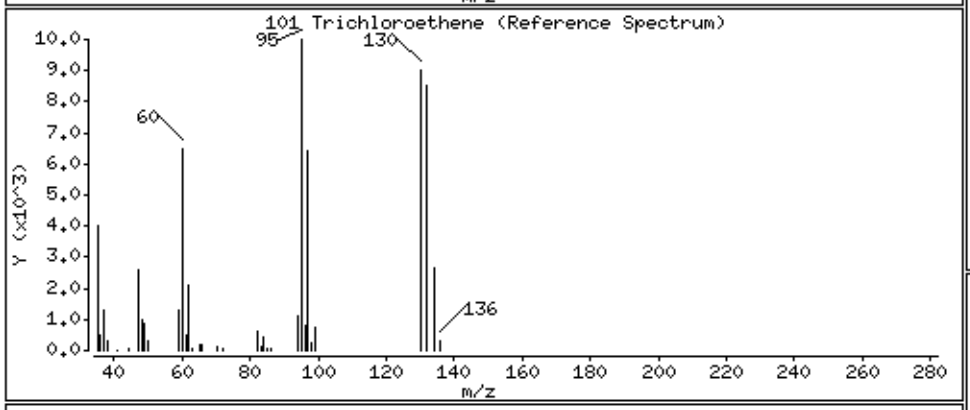
Column diameter: 0.53

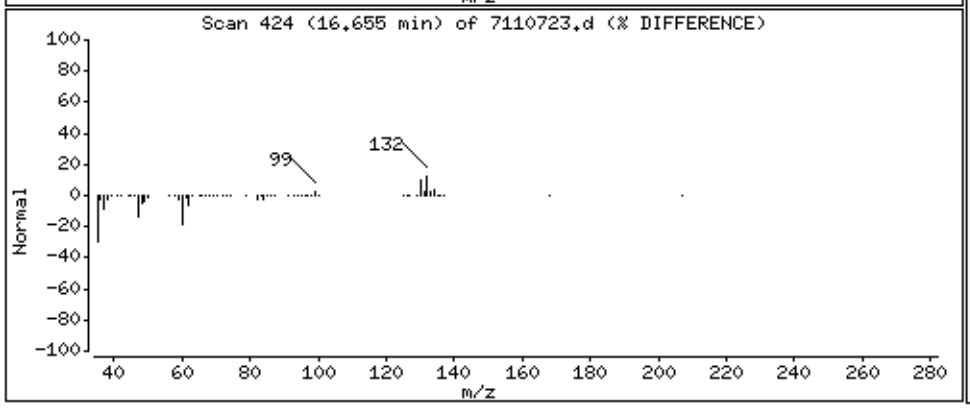
101 Trichloroethene

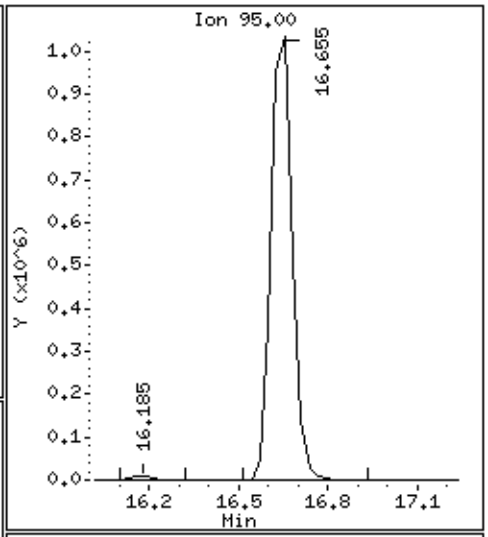
Concentration: 219.57 PPBV

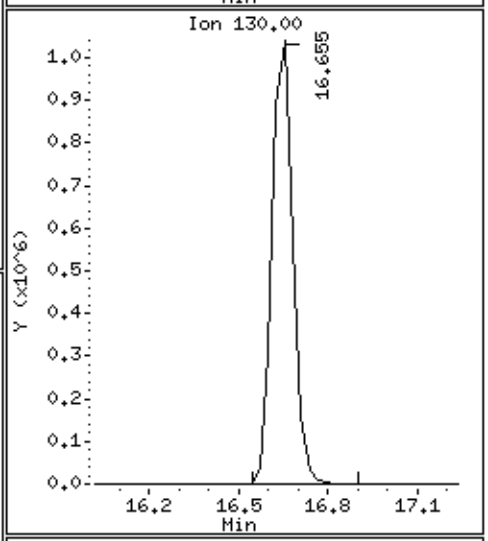


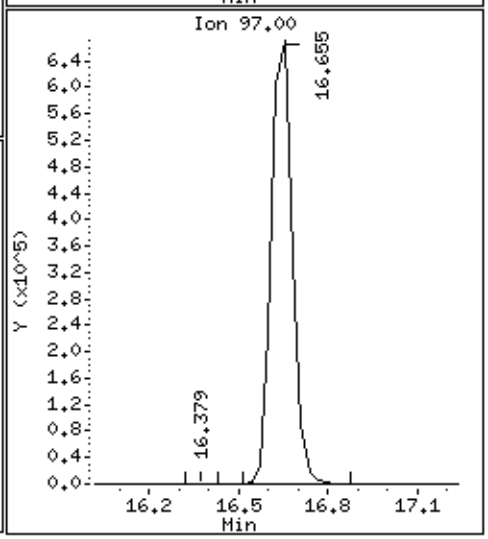












Data File: /chem/msd7.i/7-07nov.b/7110723.d

Date : 08-NOV-2007 02:58

Client ID:

Instrument: msd7.i

Sample Info: 200mL #21005

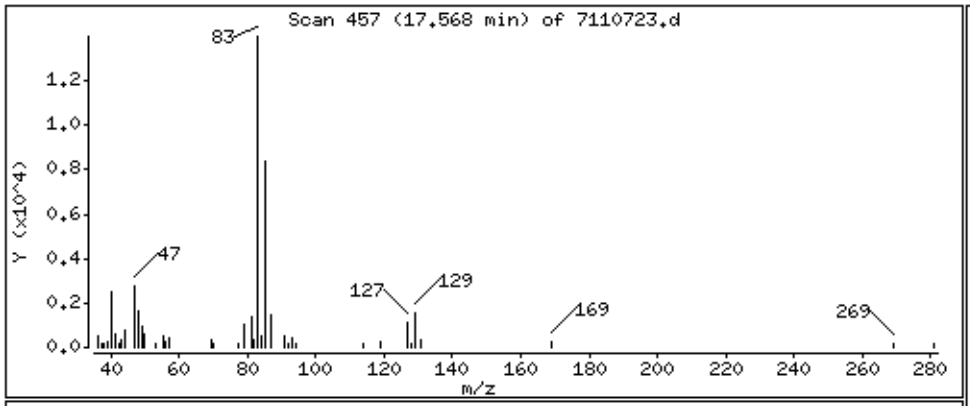
Operator: ab

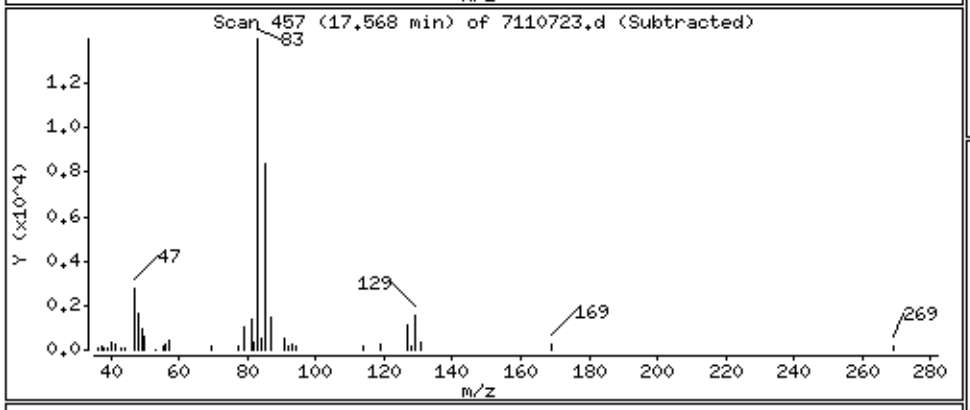
Column phase: RTx-624

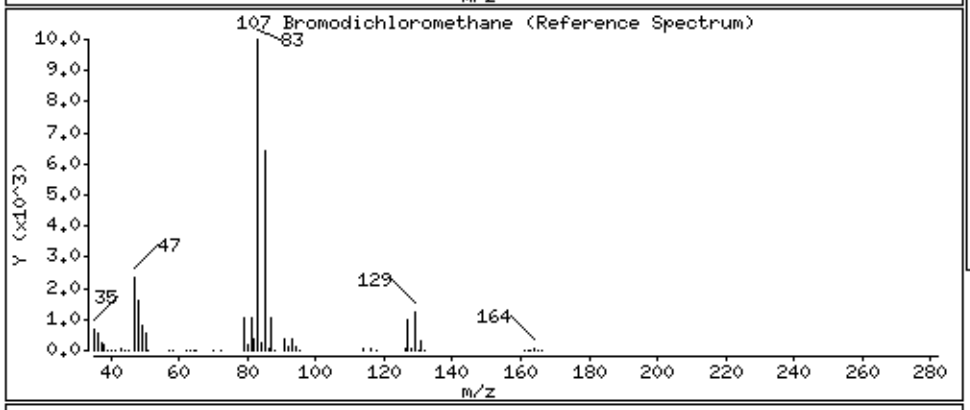
Column diameter: 0.53

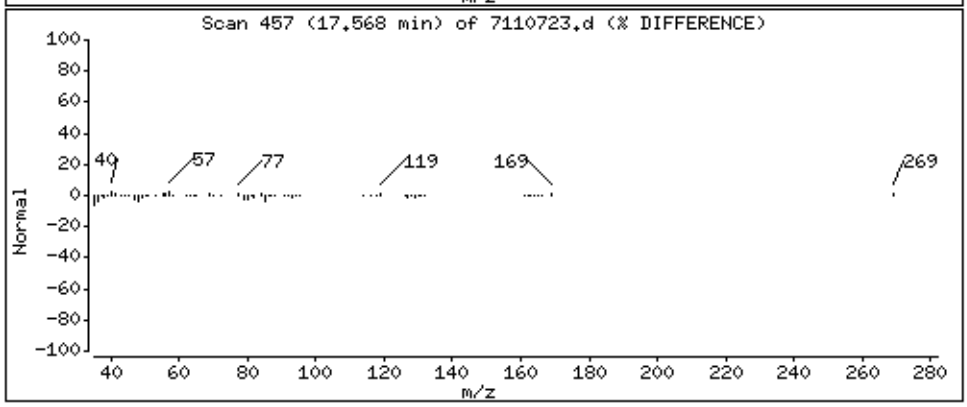
107 Bromodichloromethane

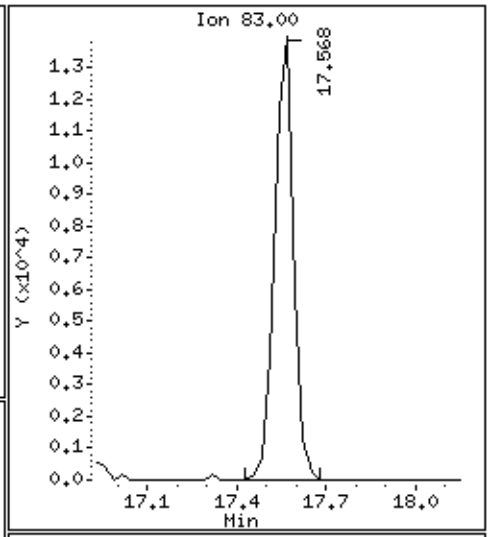
Concentration: 1.554 PPBV

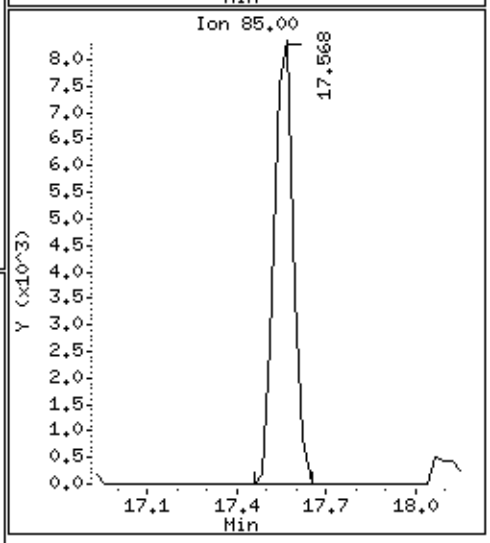












Data File: /chem/msd7.i/7-07nov.b/7110723.d

Date : 08-NOV-2007 02:58

Client ID:

Instrument: msd7.i

Sample Info: 200mL #21005

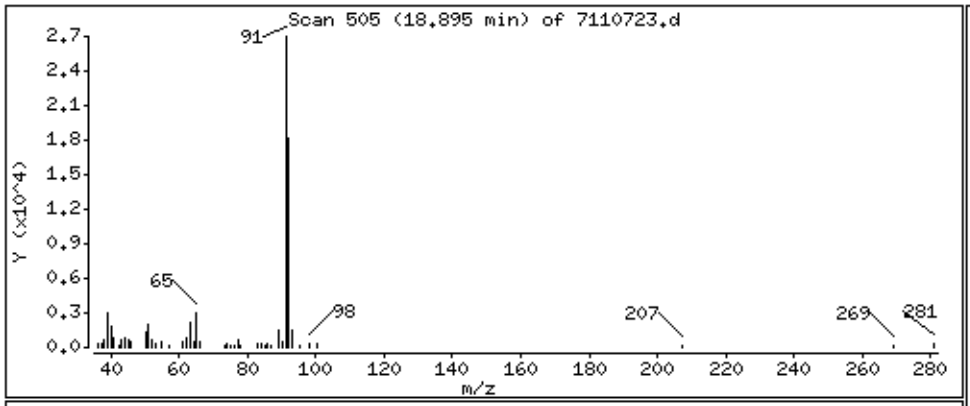
Operator: ab

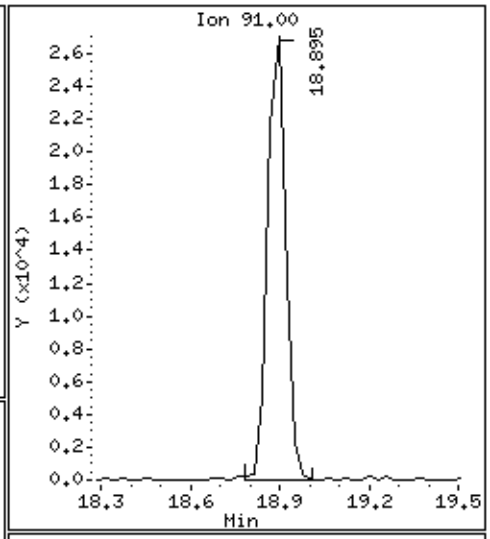
Column phase: RTx-624

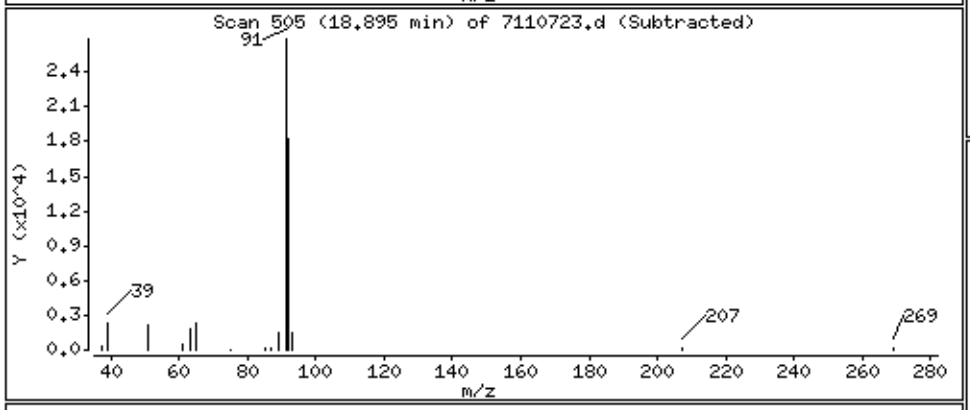
Column diameter: 0.53

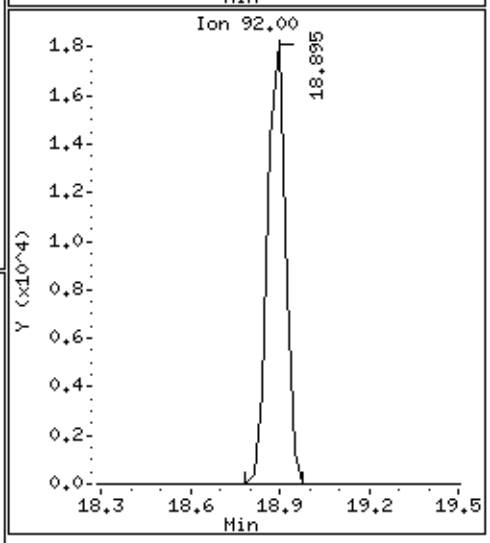
114 Toluene

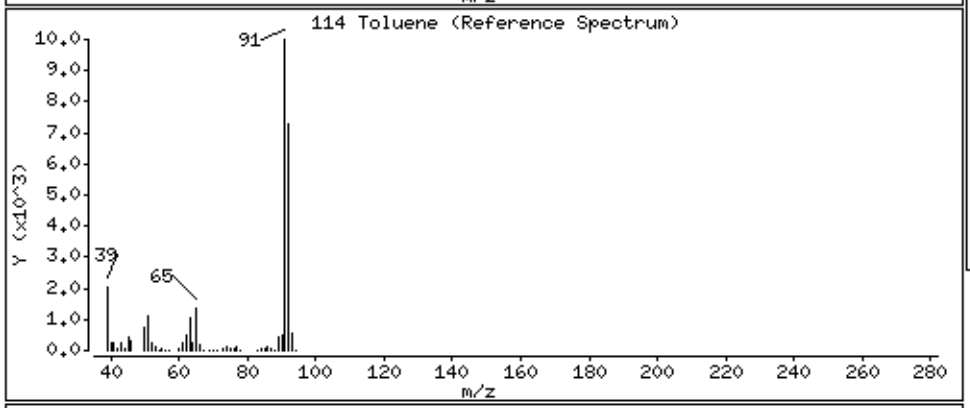
Concentration: 1.996 PPBV

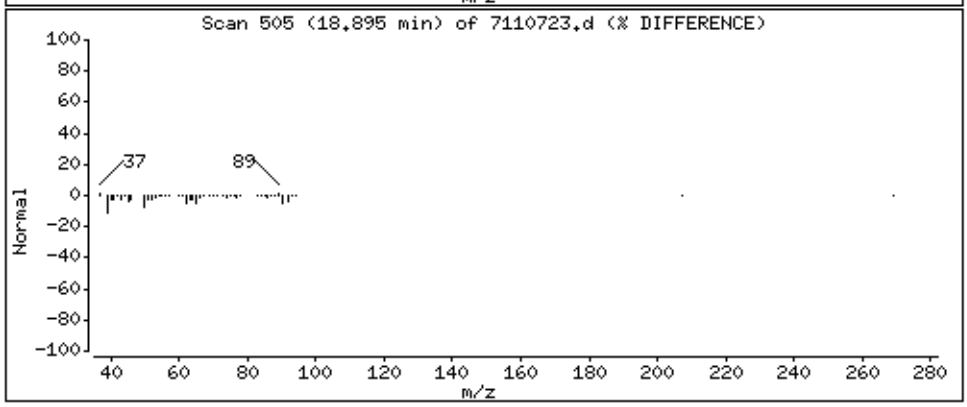












Data File: /chem/msd7.i/7-07nov.b/7110723.d

Date : 08-NOV-2007 02:58

Client ID:

Instrument: msd7.i

Sample Info: 200mL #21005

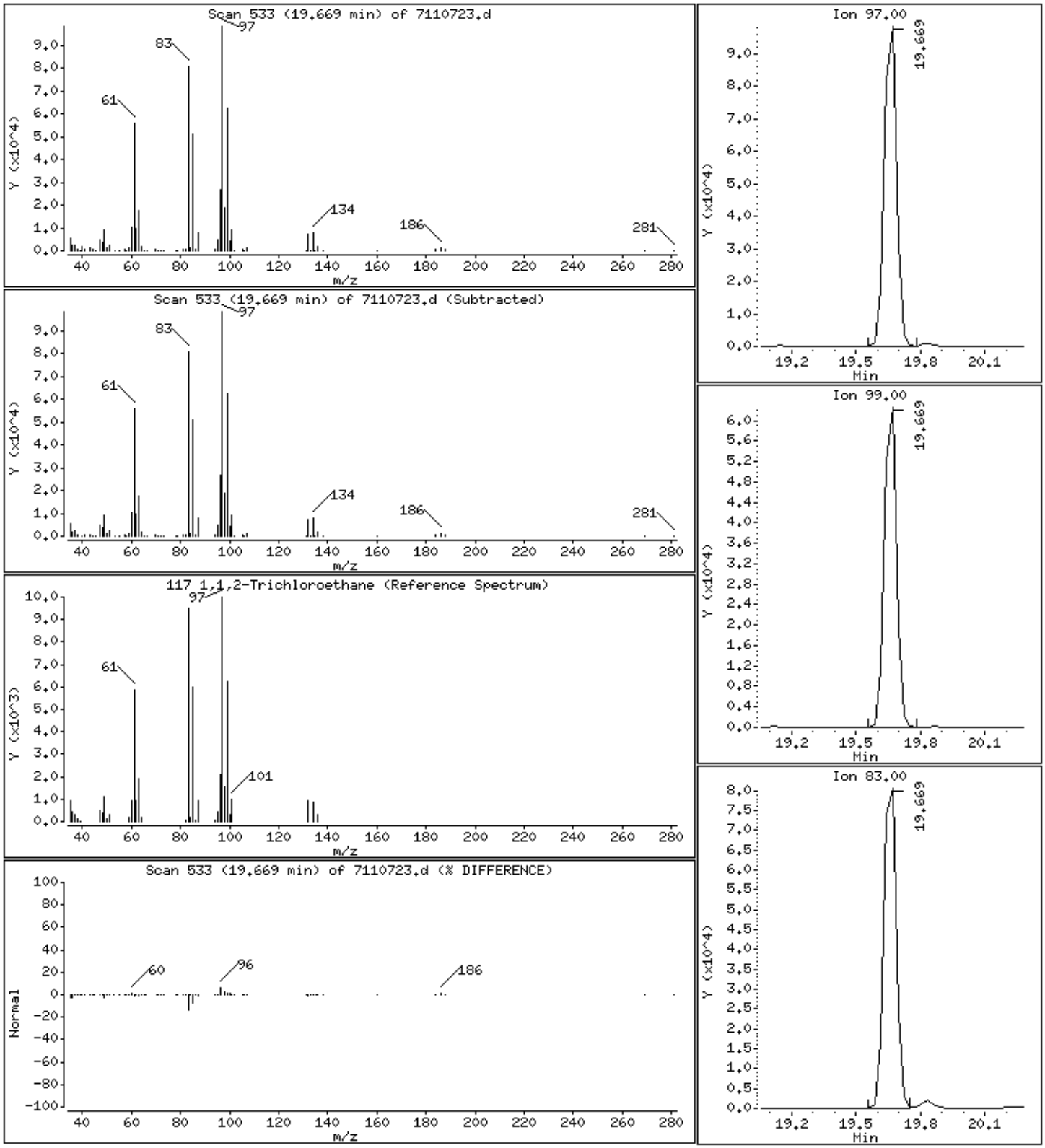
Operator: ab

Column phase: RTx-624

Column diameter: 0.53

117 1,1,2-Trichloroethane

Concentration: 21.006 PPBV



Data File: /chem/msd7.i/7-07nov.b/7110723.d

Date : 08-NOV-2007 02:58

Client ID:

Instrument: msd7.i

Sample Info: 200mL #21005

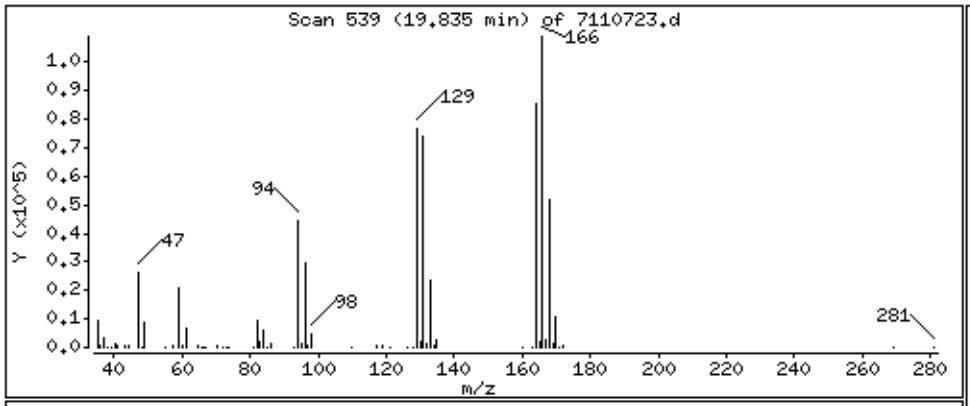
Operator: ab

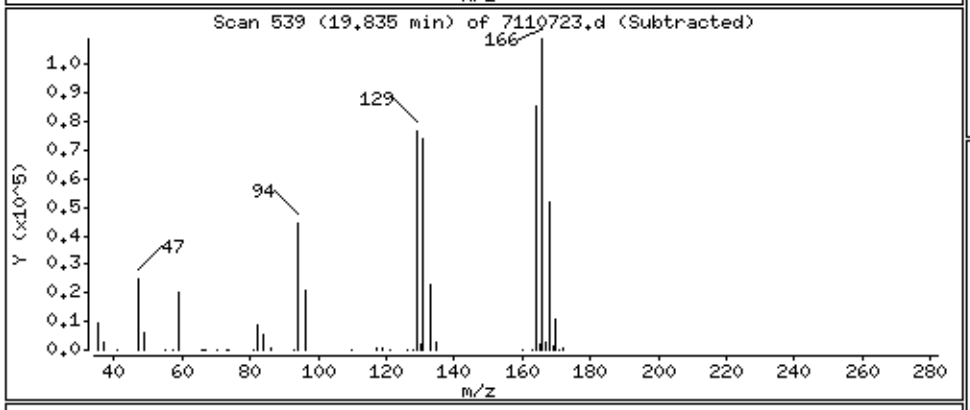
Column phase: RTx-624

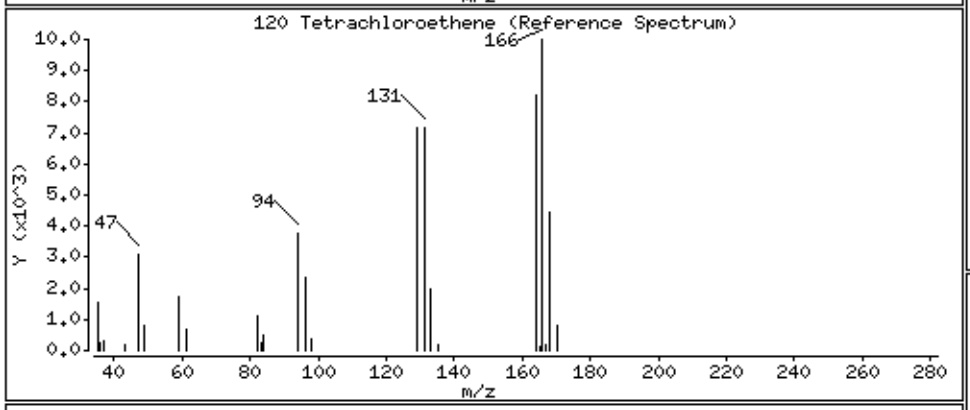
Column diameter: 0.53

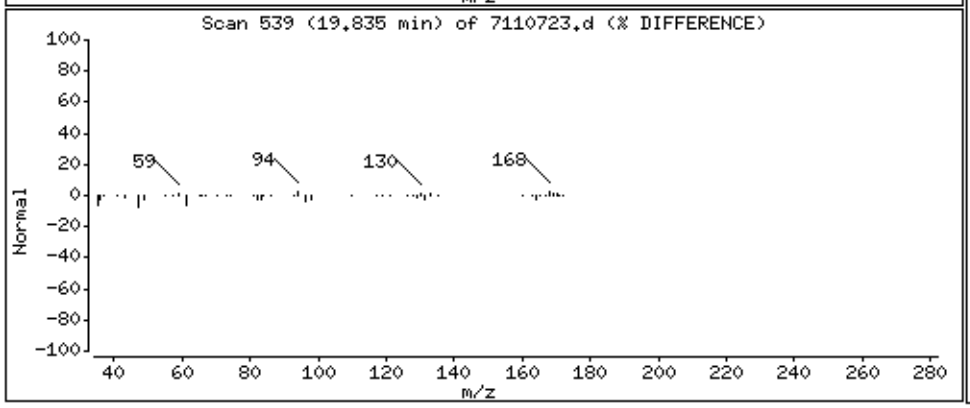
120 Tetrachloroethene

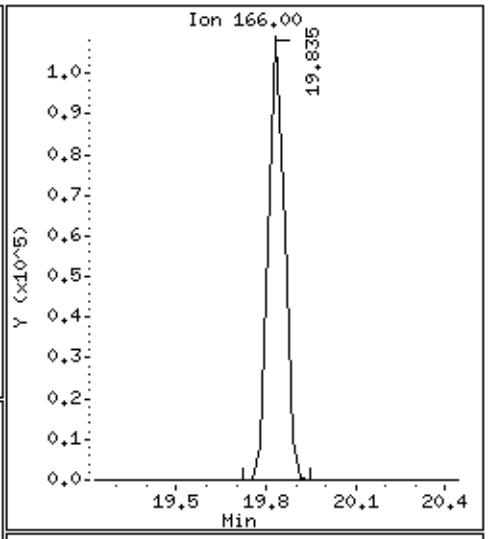
Concentration: 17.154 PPBV

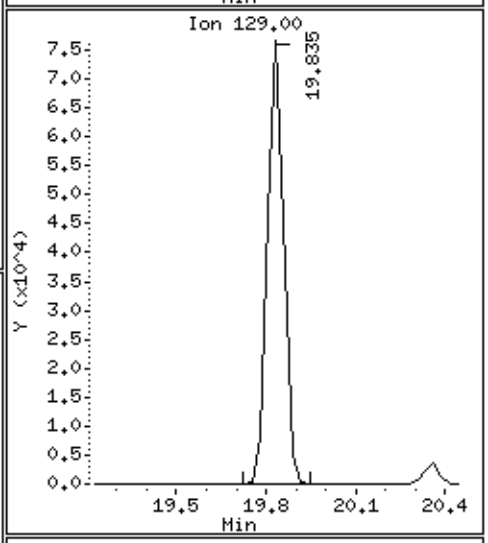


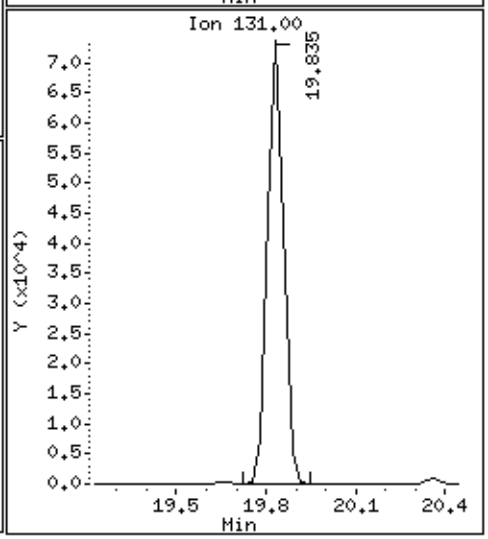












Data File: /chem/msd7.i/7-07nov.b/7110723.d

Date : 08-NOV-2007 02:58

Client ID:

Instrument: msd7.i

Sample Info: 200mL #21005

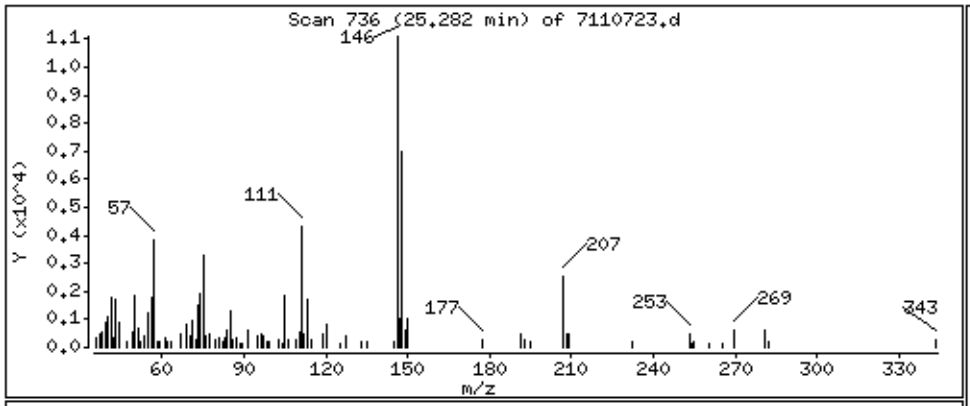
Operator: ab

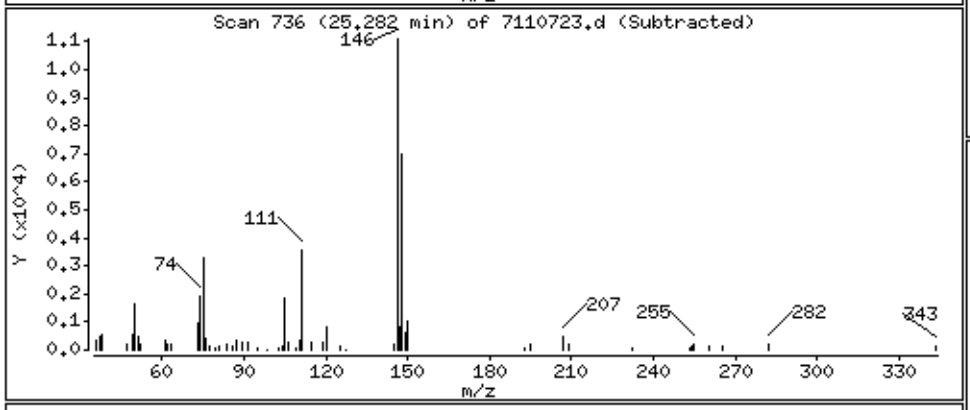
Column phase: RTx-624

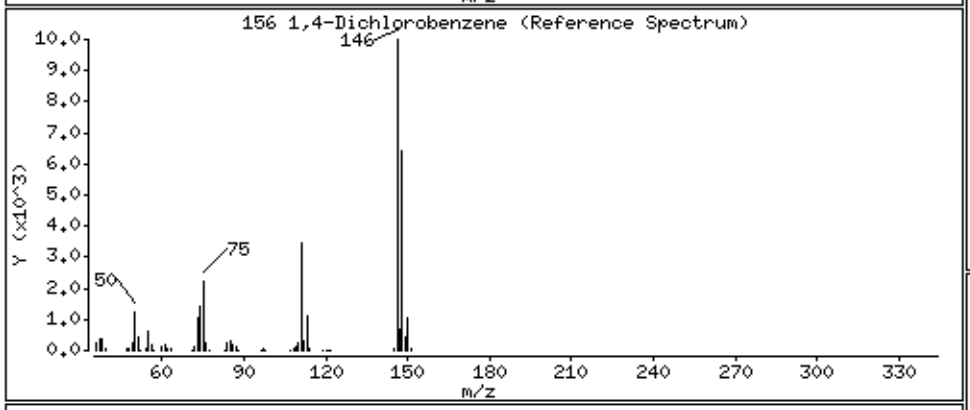
Column diameter: 0.53

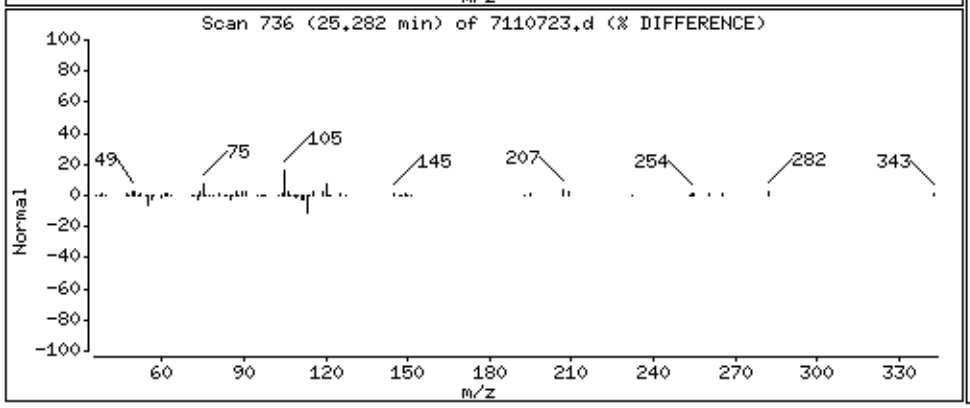
156 1,4-Dichlorobenzene

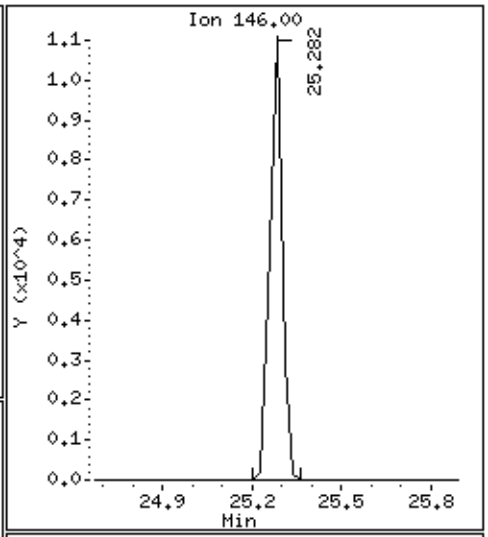
Concentration: 0.8134 PPBV

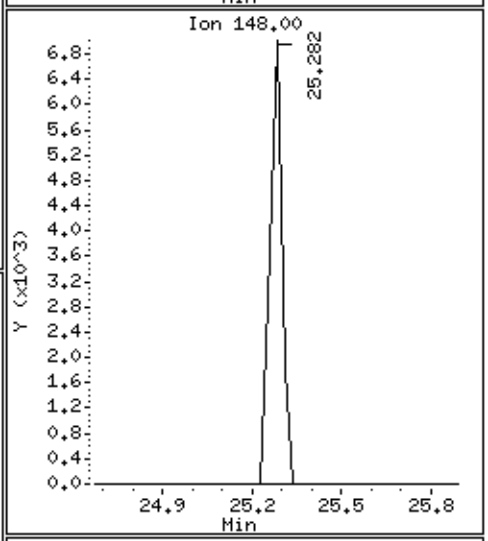


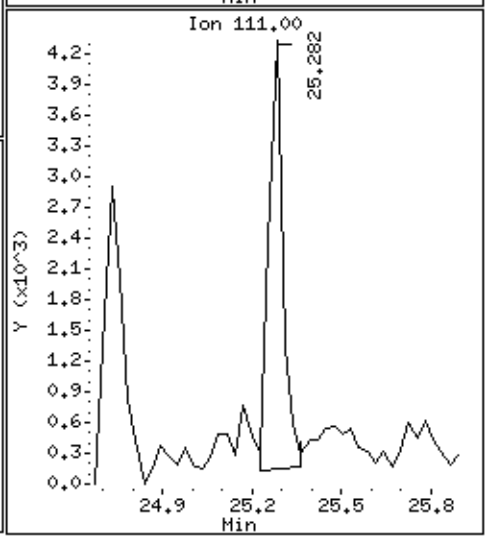












AN ENVIRONMENTAL ANALYTICAL LABORATORY

Summary of Detected Compounds
MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

Client Sample ID: MD21-07-6806 Lab Duplicate

Lab ID#: 0711101-06AA

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Freon 12	0.80	0.89	4.0	4.4
Freon 113	0.80	3.7	6.2	28
1,1-Dichloroethene	0.80	14	3.2	54
Acetone	3.2	58	7.6	140
Carbon Disulfide	0.80	1.0	2.5	3.2
Methylene Chloride	0.80	280	2.8	990
Hexane	0.80	0.88	2.8	3.1
2-Butanone (Methyl Ethyl Ketone)	0.80	0.89	2.4	2.6
cis-1,2-Dichloroethene	0.80	1.2	3.2	4.6
Chloroform	0.80	160	3.9	770
1,1,1-Trichloroethane	0.80	2.4	4.4	13
Carbon Tetrachloride	0.80	86	5.1	540
Benzene	0.80	1.4	2.6	4.3
1,2-Dichloroethane	0.80	3.4	3.2	14
Trichloroethene	0.80	220	4.3	1200
Bromodichloromethane	0.80	1.5	5.4	9.9
Toluene	0.80	1.9	3.0	7.1
1,1,2-Trichloroethane	0.80	21	4.4	120
Tetrachloroethene	0.80	17	5.5	120
1,4-Dichlorobenzene	0.80	0.80	4.8	4.8
Propylene	3.2	32	5.5	55

AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: MD21-07-6806 Lab Duplicate

Lab ID#: 0711101-06AA

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**7110724**	**Date of Collection:**	**11/3/07**
Dil. Factor:	**1.61**	**Date of Analysis:**	**11/8/07 03:55 AM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Freon 12	0.80	0.89	4.0	4.4
Freon 114	0.80	Not Detected	5.6	Not Detected
Chloromethane	3.2	Not Detected	6.6	Not Detected
Vinyl Chloride	0.80	Not Detected	2.0	Not Detected
1,3-Butadiene	0.80	Not Detected	1.8	Not Detected
Bromomethane	0.80	Not Detected	3.1	Not Detected
Chloroethane	0.80	Not Detected	2.1	Not Detected
Freon 11	0.80	Not Detected	4.5	Not Detected
Ethanol	3.2	Not Detected	6.1	Not Detected
Freon 113	0.80	3.7	6.2	28
1,1-Dichloroethene	0.80	14	3.2	54
Acetone	3.2	58	7.6	140
2-Propanol	3.2	Not Detected	7.9	Not Detected
Carbon Disulfide	0.80	1.0	2.5	3.2
Methylene Chloride	0.80	280	2.8	990
Methyl tert-butyl ether	0.80	Not Detected	2.9	Not Detected
trans-1,2-Dichloroethene	0.80	Not Detected	3.2	Not Detected
Hexane	0.80	0.88	2.8	3.1
1,1-Dichloroethane	0.80	Not Detected	3.2	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.80	0.89	2.4	2.6
cis-1,2-Dichloroethene	0.80	1.2	3.2	4.6
Tetrahydrofuran	0.80	Not Detected	2.4	Not Detected
Chloroform	0.80	160	3.9	770
1,1,1-Trichloroethane	0.80	2.4	4.4	13
Cyclohexane	0.80	Not Detected	2.8	Not Detected
Carbon Tetrachloride	0.80	86	5.1	540
Benzene	0.80	1.4	2.6	4.3
1,2-Dichloroethane	0.80	3.4	3.2	14
Heptane	0.80	Not Detected	3.3	Not Detected
Trichloroethene	0.80	220	4.3	1200
1,2-Dichloropropane	0.80	Not Detected	3.7	Not Detected
1,4-Dioxane	3.2	Not Detected	12	Not Detected
Bromodichloromethane	0.80	1.5	5.4	9.9
cis-1,3-Dichloropropene	0.80	Not Detected	3.6	Not Detected
4-Methyl-2-pentanone	0.80	Not Detected	3.3	Not Detected
Toluene	0.80	1.9	3.0	7.1
trans-1,3-Dichloropropene	0.80	Not Detected	3.6	Not Detected
1,1,2-Trichloroethane	0.80	21	4.4	120
Tetrachloroethene	0.80	17	5.5	120

AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: MD21-07-6806 Lab Duplicate

Lab ID#: 0711101-06AA

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**7110724**	**Date of Collection:**	**11/3/07**
Dil. Factor:	**1.61**	**Date of Analysis:**	**11/8/07 03:55 AM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
2-Hexanone	3.2	Not Detected	13	Not Detected
Dibromochloromethane	0.80	Not Detected	6.8	Not Detected
1,2-Dibromoethane (EDB)	0.80	Not Detected	6.2	Not Detected
Chlorobenzene	0.80	Not Detected	3.7	Not Detected
Ethyl Benzene	0.80	Not Detected	3.5	Not Detected
m,p-Xylene	0.80	Not Detected	3.5	Not Detected
o-Xylene	0.80	Not Detected	3.5	Not Detected
Styrene	0.80	Not Detected	3.4	Not Detected
Bromoform	0.80	Not Detected	8.3	Not Detected
1,1,2,2-Tetrachloroethane	0.80	Not Detected	5.5	Not Detected
4-Ethyltoluene	0.80	Not Detected	4.0	Not Detected
1,3,5-Trimethylbenzene	0.80	Not Detected	4.0	Not Detected
1,2,4-Trimethylbenzene	0.80	Not Detected	4.0	Not Detected
1,3-Dichlorobenzene	0.80	Not Detected	4.8	Not Detected
1,4-Dichlorobenzene	0.80	0.80	4.8	4.8
alpha-Chlorotoluene	0.80	Not Detected	4.2	Not Detected
1,2-Dichlorobenzene	0.80	Not Detected	4.8	Not Detected
1,2,4-Trichlorobenzene	3.2	Not Detected	24	Not Detected
Hexachlorobutadiene	3.2	Not Detected	34	Not Detected
Chlorodifluoromethane	3.2	Not Detected	11	Not Detected
Methanol	80	Not Detected	100	Not Detected
n-Butanol	3.2	Not Detected	9.8	Not Detected
Propylene	3.2	32	5.5	55

Container Type: 6 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	90	70-130
1,2-Dichloroethane-d4	95	70-130
4-Bromofluorobenzene	94	70-130

Air Toxics Ltd.

AMBIENT AIR METHOD TO14

Data file : /chem/msd7.i/7-07nov.b/7110724.d
Lab Smp Id: 0711101-06AA
Inj Date : 08-NOV-2007 03:55
Operator : ab Inst ID: msd7.i
Smp Info : 200mL #21005
Misc Info : 5.0"Hg ->5psi
Comment :
Method : /chem/msd7.i/7-07nov.b/t14qO18d.m
Meth Date : 07-Nov-2007 11:47 sruth Quant Type: ISTD
Cal Date : 05-NOV-2007 14:29 Cal File: 7110507.d
Als bottle: 1
Dil Factor: 1.61000
Integrator: HP RTE Compound Sublist: Los2153.sub
Target Version: 3.50 Sample Matrix: AIR
Processing Host: eeyore

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

RT	EXP RT (REL RT)	MASS	RESPONSE	CONCENTRATIONS ON-COL (PPBV)	FINAL (PPBV)	TARGET RANGE	RATIO
* 81 Bromochloromethane					CAS #: 74-97-5		
14.416	14.416 (1.000)	130	625844	25.0000		80.00- 120.00	100.00
14.416	14.416 (1.000)	128	486964			28.66- 128.66	77.81
14.416	14.416 (1.000)	49	1430803			133.49- 233.49	228.62
* 97 1,4-Difluorobenzene					CAS #: 540-36-3		
16.185	16.158 (1.000)	114	2123911	25.0000		80.00- 120.00	100.00
16.185	16.158 (1.000)	88	322997			0.00- 65.23	15.21
* 126 Chlorobenzene-d5					CAS #: 3114-55-4		
21.356	21.356 (1.000)	117	1413093	25.0000		80.00- 120.00	100.00
21.356	21.356 (1.000)	82	747902			4.70- 104.70	52.93
$ 90 1,2-Dichloroethane-d4					CAS #: 17060-07-0		
15.494	15.494 (1.075)	65	796607	23.6934	23.693	80.00- 120.00	100.00
15.494	15.494 (1.075)	67	412737			2.91- 102.91	51.81
$ 113 Toluene-d8					CAS #: 2037-26-5		
18.757	18.757 (1.159)	98	1689913	22.4139	22.414	80.00- 120.00	100.00
18.757	18.757 (1.159)	70	190179			0.00- 61.46	11.25

RT	EXP RT (REL RT)	MASS	RESPONSE	CONCENTRATIONS ON-COL (PPBV)	FINAL (PPBV)	TARGET RANGE	RATIO
$ 113 Toluene-d8 (continued)							
18.757	18.757 (1.159)	100	1186425			19.18- 119.18	70.21
$ 137 Bromofluorobenzene					CAS #: 460-00-4		
23.347	23.347 (1.093)	174	794002	23.6130	23.613	80.00- 120.00	100.00
23.319	23.347 (1.092)	95	976528			73.89- 173.89	122.99
23.347	23.347 (1.093)	176	772395			48.20- 148.20	97.28
11 Propylene					CAS #: 115-07-1		
5.645	5.617 (0.392)	41	533069	19.7623	31.817	80.00- 120.00	100.00
5.645	5.617 (0.392)	42	320157			21.19- 121.19	60.06
5.645	5.617 (0.392)	39	488110			24.83- 124.83	91.57
12 Dichlorodifluoromethane/Fr12					CAS #: 75-71-8		
5.786	5.758 (0.401)	85	54494	0.55100	0.8871	80.00- 120.00	100.00
5.757	5.758 (0.399)	87	19005			0.00- 83.07	34.88
42 Freon 113					CAS #: 76-13-1		
10.213	10.186 (0.708)	151	117626	2.29219	3.690	80.00- 120.00	100.00
10.213	10.186 (0.708)	153	72648			13.12- 113.12	61.76
10.213	10.186 (0.708)	101	137112			67.28- 167.28	116.57
43 1,1-Dichloroethene					CAS #: 75-35-4		
10.351	10.324 (0.718)	61	459226	8.41000	13.540	80.00- 120.00	100.00
10.351	10.324 (0.718)	96	281237			9.78- 109.78	61.24
10.351	10.324 (0.718)	98	180845			0.00- 88.25	39.38
45 Acetone					CAS #: 67-64-1		
10.517	10.490 (0.730)	58	612803	36.3076	58.455	80.00- 120.00	100.00
10.517	10.490 (0.730)	43	1957596			247.10- 347.10	319.45
47 Carbon Disulfide					CAS #: 75-15-0		
10.904	10.877 (0.756)	76	65942	0.63296	1.019	80.00- 120.00	100.00
54 Methylene Chloride					CAS #: 75-09-2		
11.485	11.457 (0.797)	49	7123735	177.446	285.69	80.00- 120.00	100.00
11.485	11.457 (0.797)	84	5083216			19.98- 119.98	71.36
11.485	11.457 (0.797)	51	2182204			0.00- 80.85	30.63
65 Hexane					CAS #: 110-54-3		
12.314	12.287 (0.854)	57	28835	0.54464	0.8769	80.00- 120.00	100.00
12.342	12.287 (0.856)	43	21104			17.84- 117.84	73.19
12.314	12.287 (0.854)	86	4061			0.00- 65.07	14.08
75 2-Butanone					CAS #: 78-93-3		
13.918	13.891 (0.965)	72	7500	0.55331	0.8908	80.00- 120.00	100.00

RT	EXP RT (REL RT)	MASS	RESPONSE	CONCENTRATIONS ON-COL (PPBV)	FINAL (PPBV)	TARGET RANGE	RATIO
75 2-Butanone (continued)							
13.890	13.891 (0.964)	43	36090			412.48- 512.48	481.20
13.890	13.891 (0.964)	57	2921			0.00- 86.57	38.95
76 cis-1,2-Dichloroethene					CAS #: 156-59-2		
13.946	13.918 (0.967)	61	31696	0.71406	1.150	80.00- 120.00	100.00
13.946	13.918 (0.967)	96	24450			26.41- 126.41	77.14
13.946	13.918 (0.967)	98	15176			0.00- 98.54	47.88
82 Chloroform					CAS #: 67-66-3		
14.471	14.471 (1.004)	83	6176352	98.0169	157.81	80.00- 120.00	100.00
14.471	14.471 (1.004)	85	4012069			15.69- 115.69	64.96
83 1,1,1-Trichloroethane					CAS #: 71-55-6		
14.831	14.831 (1.029)	97	92721	1.46120	2.352	80.00- 120.00	100.00
14.831	14.831 (1.029)	99	59033			14.03- 114.03	63.67
87 Carbon Tetrachloride					CAS #: 56-23-5		
15.107	15.107 (1.048)	119	3177418	53.4178	86.003	80.00- 120.00	100.00
15.107	15.107 (1.048)	117	3292859			53.14- 153.14	103.63
91 Benzene					CAS #: 71-43-2		
15.522	15.522 (0.959)	78	71210	0.84383	1.358	80.00- 120.00	100.00
15.522	15.522 (0.959)	77	17651			0.00- 71.87	24.79
93 1,2-Dichloroethane					CAS #: 107-06-2		
15.632	15.633 (0.966)	62	95030	2.11944	3.412	80.00- 120.00	100.00
15.632	15.633 (0.966)	64	32473			0.00- 82.89	34.17
101 Trichloroethene					CAS #: 79-01-6		
16.655	16.628 (1.029)	95	5023137	134.000	215.74	80.00- 120.00	100.00
16.655	16.628 (1.029)	130	4980389			51.11- 151.11	99.15
16.655	16.628 (1.029)	97	3237806			15.04- 115.04	64.46
107 Bromodichloromethane					CAS #: 75-27-4		
17.568	17.540 (1.085)	83	59582	0.91550	1.474	80.00- 120.00	100.00
17.568	17.540 (1.085)	85	40990			14.03- 114.03	68.80
114 Toluene					CAS #: 108-88-3		
18.895	18.895 (1.167)	91	108591	1.17482	1.891	80.00- 120.00	100.00
18.895	18.895 (1.167)	92	72008			12.90- 112.90	66.31
117 1,1,2-Trichloroethane					CAS #: 79-00-5		
19.669	19.669 (0.921)	97	388921	13.2879	21.393	80.00- 120.00	100.00
19.669	19.669 (0.921)	99	240364			12.40- 112.40	61.80
19.669	19.669 (0.921)	83	317645			32.55- 132.55	81.67

RT	EXP RT (REL RT)	MASS	RESPONSE	CONCENTRATIONS ON-COL (PPBV)	FINAL (PPBV)	TARGET RANGE	RATIO
120 Tetrachloroethene					CAS #: 127-18-4		
19.835	19.835 (0.929)	166	403372	10.6261	17.108	80.00- 120.00	100.00
19.835	19.835 (0.929)	129	280216			21.07- 121.07	69.47
19.835	19.835 (0.929)	131	277557			18.33- 118.33	68.81
156 1,4-Dichlorobenzene					CAS #: 106-46-7		
25.282	25.282 (1.184)	146	30359	0.49813	0.8020	80.00- 120.00	100.00(a)
25.282	25.282 (1.184)	148	21245			13.81- 113.81	69.98
25.282	25.282 (1.184)	111	13295			0.00- 87.35	43.79

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).

Air Toxics Ltd.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd7.i
Lab File ID: 7110724.d
Lab Smp Id: 0711101-06AA
Analysis Type: VOA
Quant Type: ISTD
Operator: ab
Method File: /chem/msd7.i/7-07nov.b/t14qO18d.m
Misc Info: 5.0"Hg ->5psi

Calibration Date: 07-NOV-2007
Calibration Time: 08:52

Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
81 Bromochloromethan	695461	417277	973645	625844	-10.01
97 1,4-Difluorobenze	2265681	1359409	3171953	2123911	-6.26
126 Chlorobenzene-d5	1765821	1059493	2472149	1413093	-19.98

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
81 Bromochloromethan	14.42	14.09	14.75	14.42	0.00
97 1,4-Difluorobenze	16.16	15.83	16.49	16.19	0.17
126 Chlorobenzene-d5	21.36	21.03	21.69	21.36	0.00

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Air Toxics Ltd.

RECOVERY REPORT

Client Name: Client SDG: 7-07nov
Sample Matrix: GAS Fraction: VOA
Lab Smp Id: 0711101-06AA
Level: LOW Operator: ab
Data Type: MS DATA SampleType: SAMPLE
SpikeList File: 2926spectra.spk Quant Type: ISTD
Sublist File: Los2153.sub
Method File: /chem/msd7.i/7-07nov.b/t14qO18d.m
Misc Info: 5.0"Hg ->5psi

SURROGATE COMPOUND	CONC ADDED PPBV	CONC RECOVERED PPBV	% RECOVERED	LIMITS
$ 90 1,2-Dichloroethane	25.000	23.693	94.77	70-130
$ 113 Toluene-d8	25.000	22.414	89.66	70-130
$ 137 Bromofluorobenzene	25.000	23.613	94.45	70-130

Data File: /chem/msd7.i/7-07nov.b/7110724.d

Date : 08-NOV-2007 03:55

Client ID:

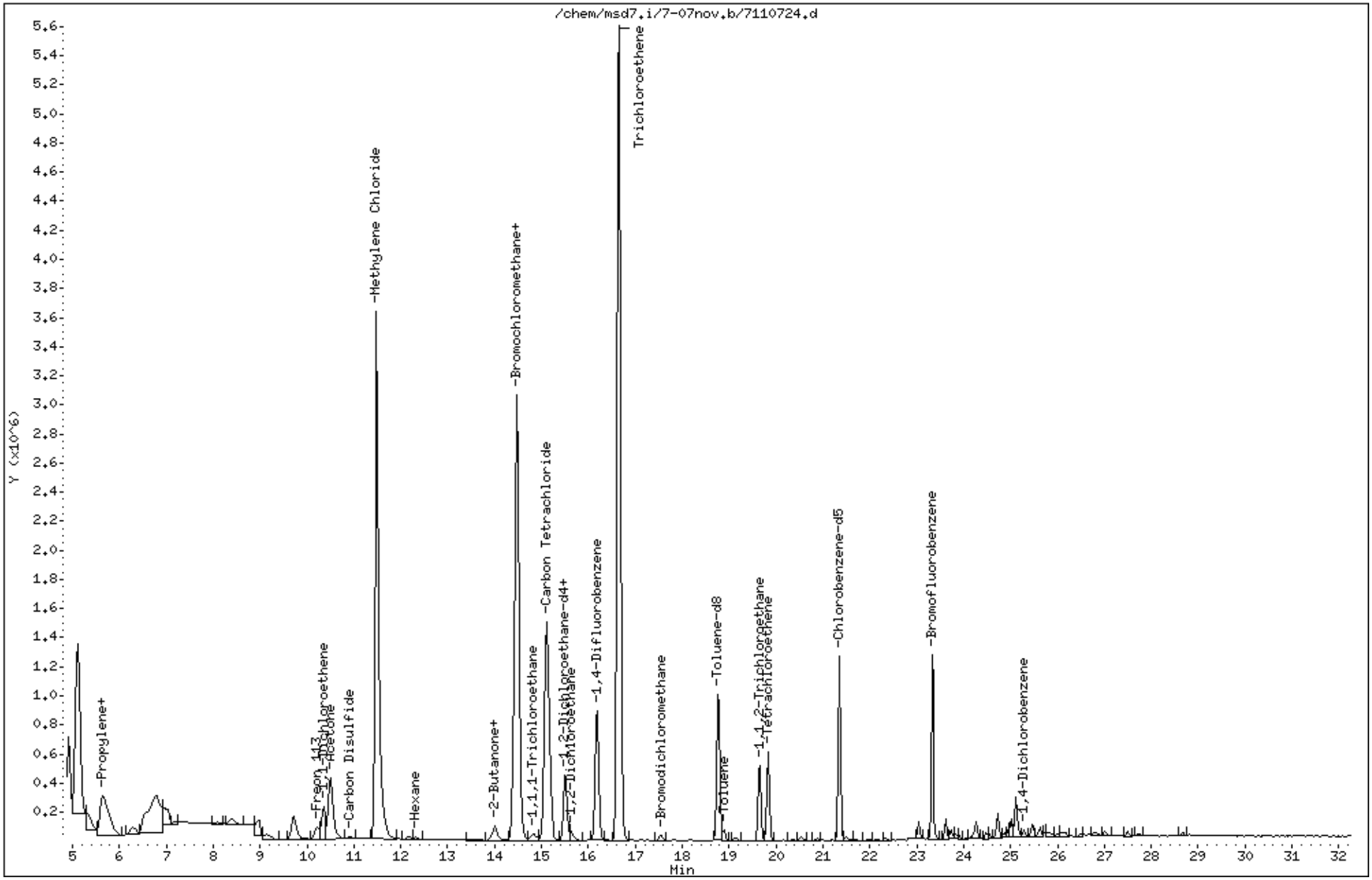
Sample Info: 200mL #21005

Column phase: RTx-624

Instrument: msd7.i

Operator: ab

Column diameter: 0.53



Data File: /chem/msd7.i/7-07nov.b/7110724.d

Date : 08-NOV-2007 03:55

Client ID:

Instrument: msd7.i

Sample Info: 200mL #21005

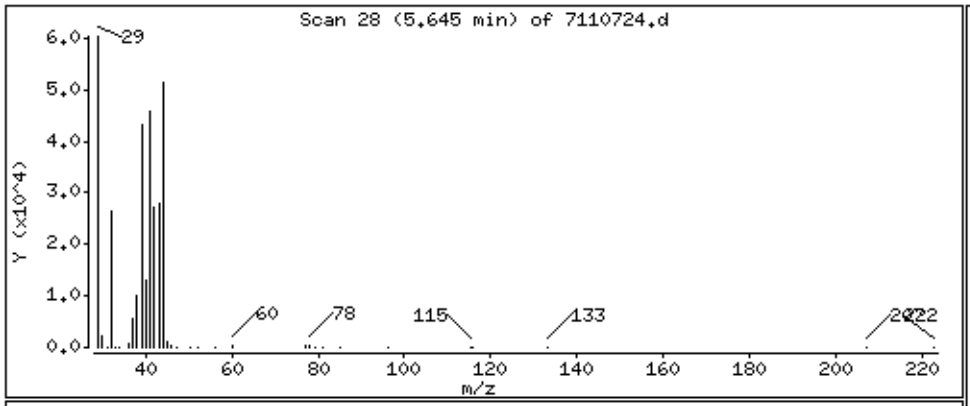
Operator: ab

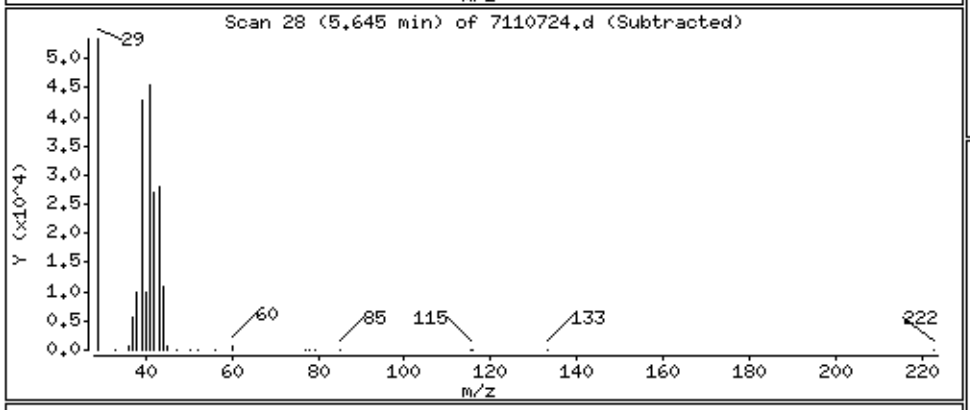
Column phase: RTx-624

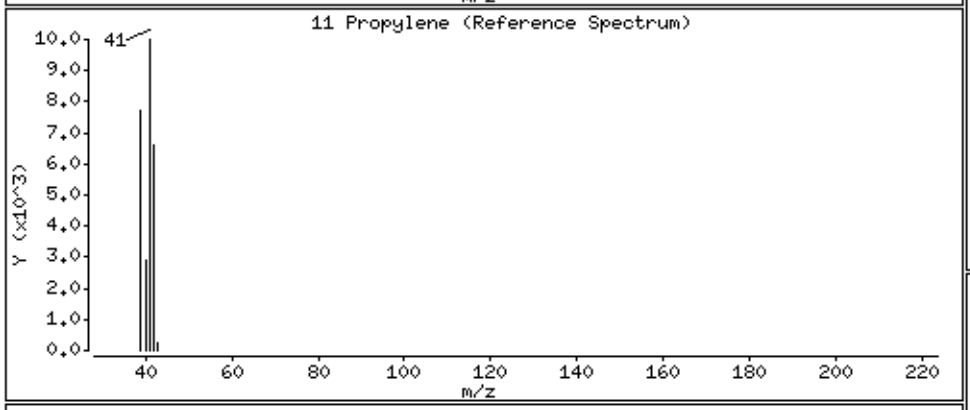
Column diameter: 0.53

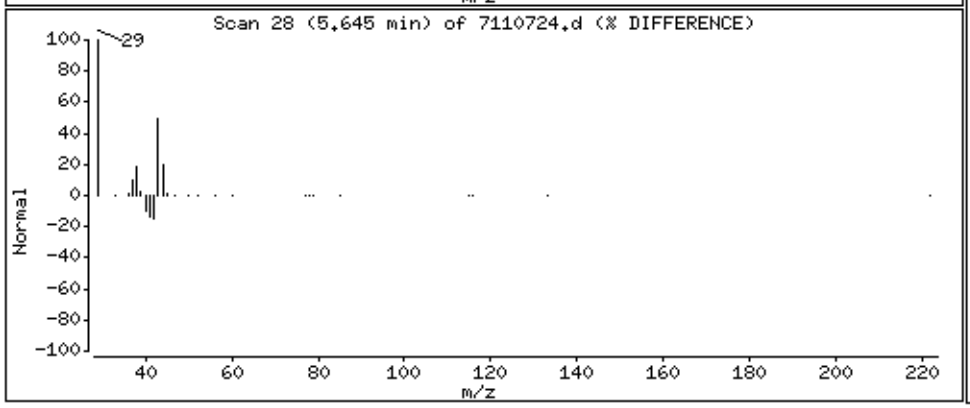
11 Propylene

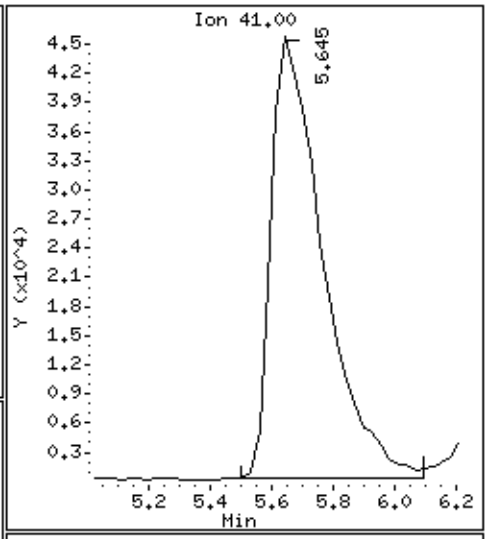
Concentration: 31.817 PPBV

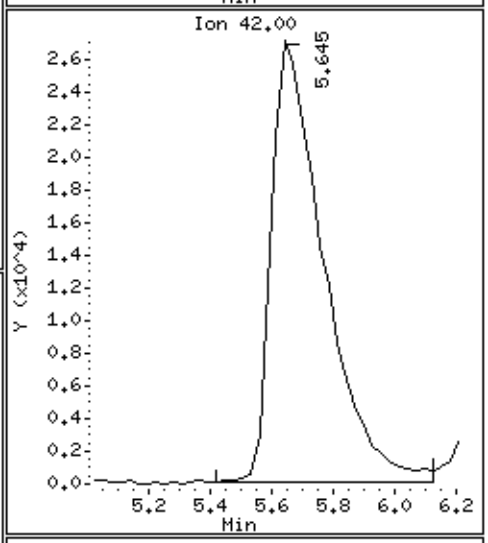


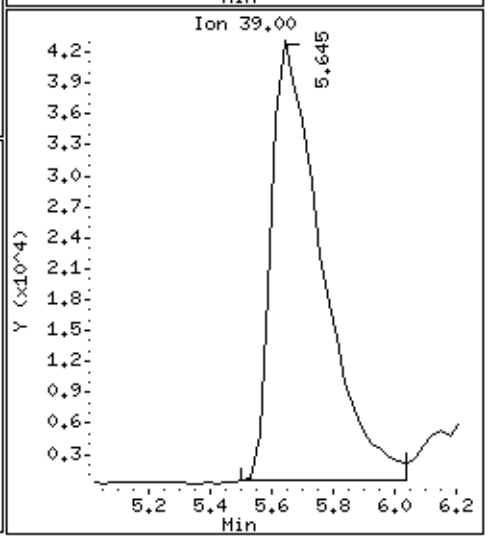












Data File: /chem/msd7.i/7-07nov.b/7110724.d

Date : 08-NOV-2007 03:55

Client ID:

Instrument: msd7.i

Sample Info: 200mL #21005

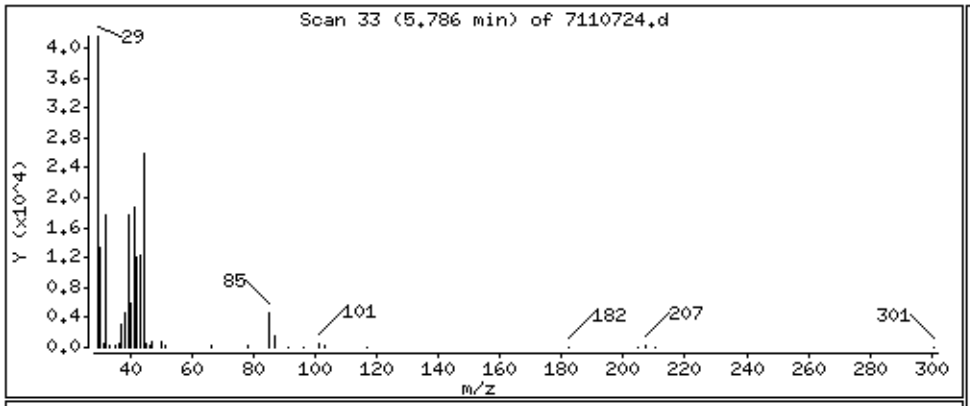
Operator: ab

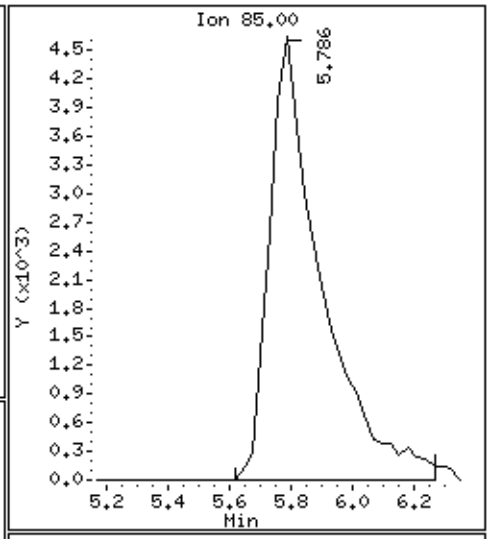
Column phase: RTx-624

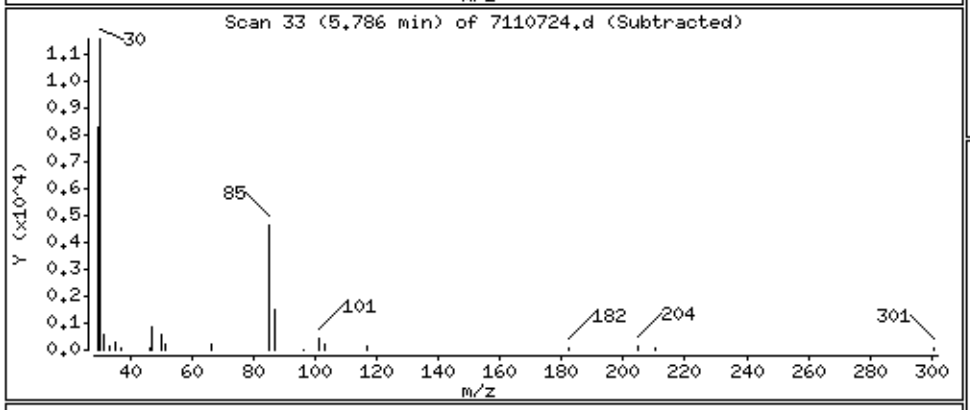
Column diameter: 0.53

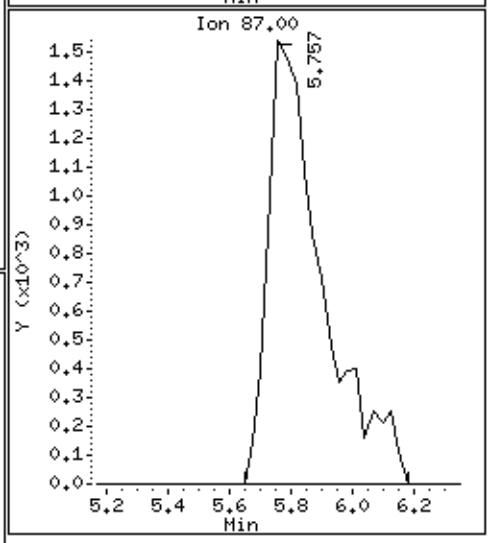
12 Dichlorodifluoromethane/Fr12

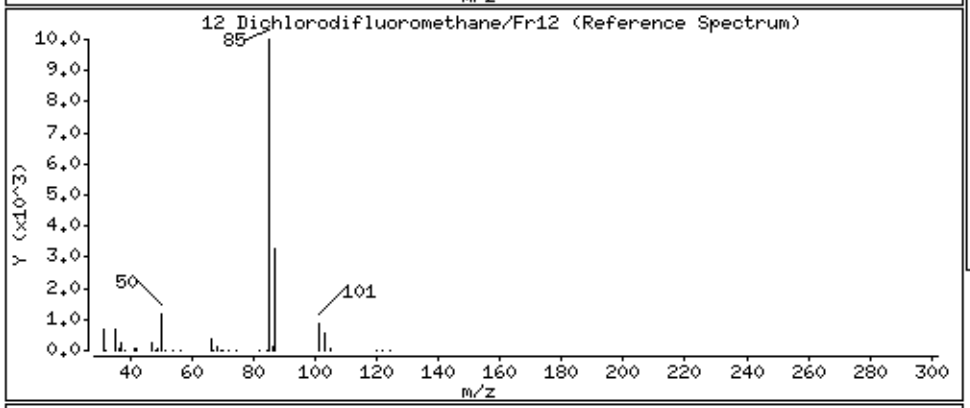
Concentration: 0.8871 PPBV

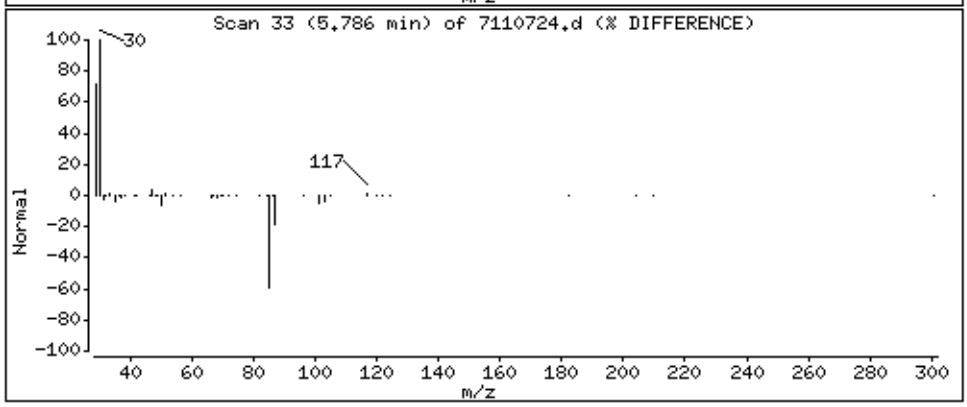












Data File: /chem/msd7.i/7-07nov.b/7110724.d

Date : 08-NOV-2007 03:55

Client ID:

Instrument: msd7.i

Sample Info: 200mL #21005

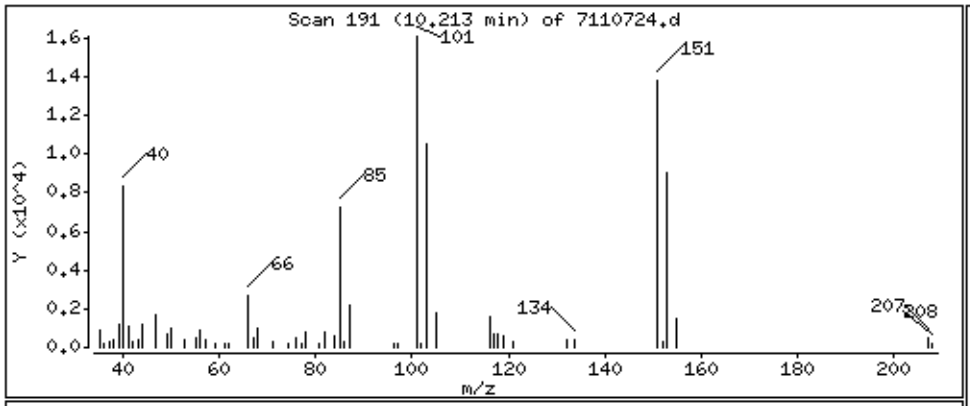
Operator: ab

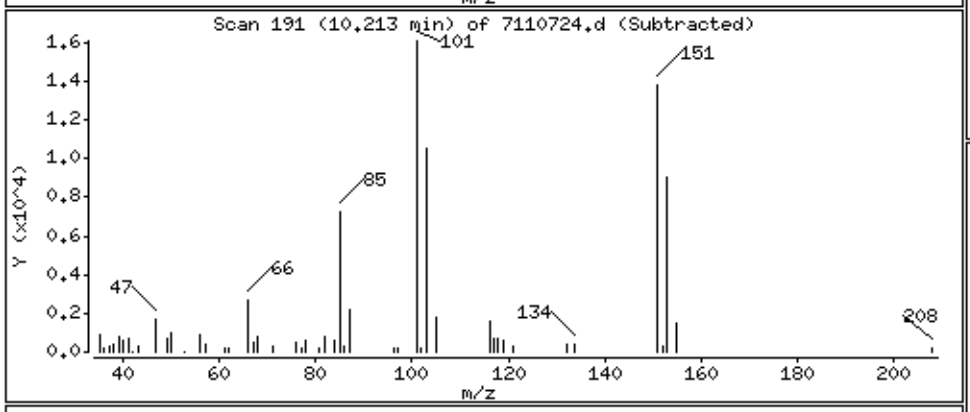
Column phase: RTx-624

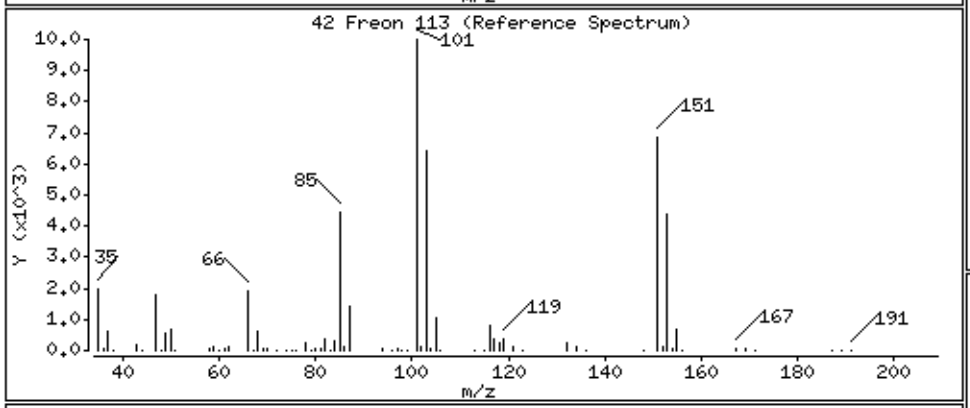
Column diameter: 0.53

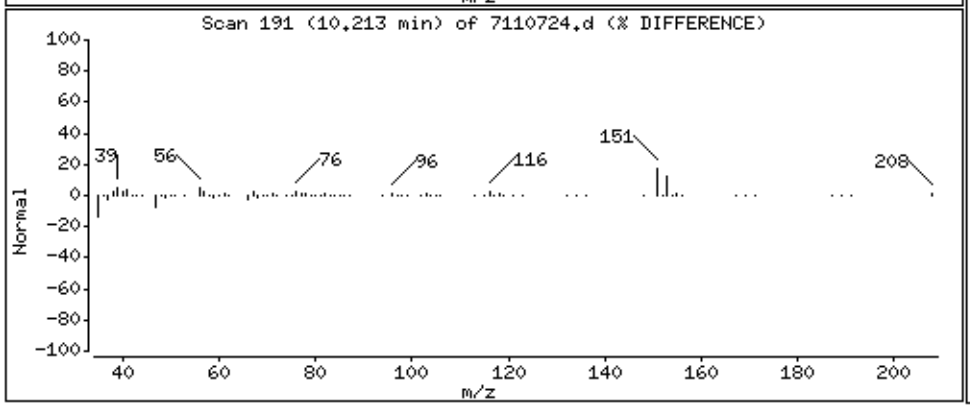
42 Freon 113

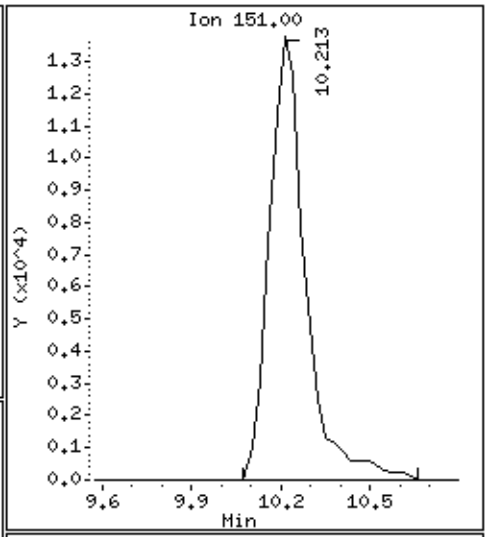
Concentration: 3.690 PPBV

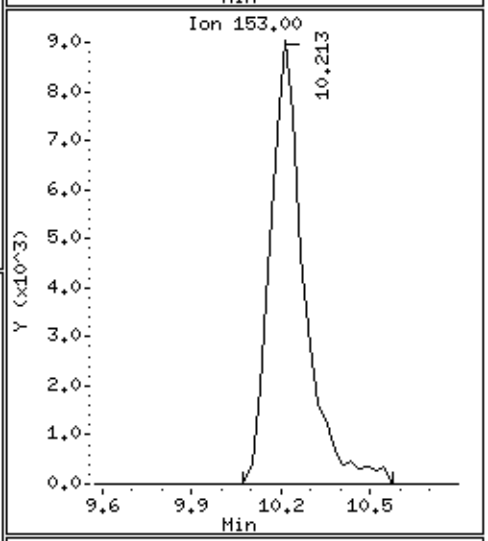


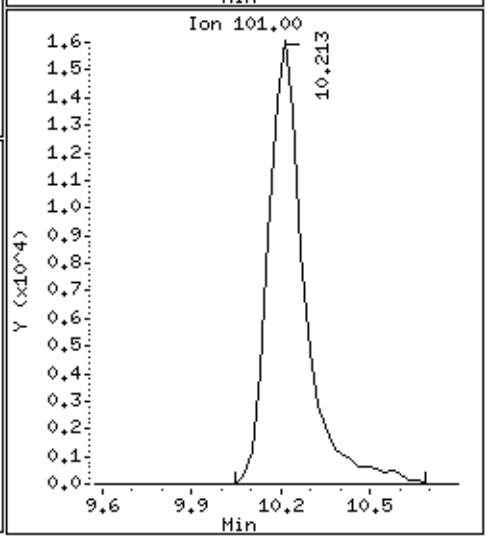












Data File: /chem/msd7.i/7-07nov.b/7110724.d

Date : 08-NOV-2007 03:55

Client ID:

Instrument: msd7.i

Sample Info: 200mL #21005

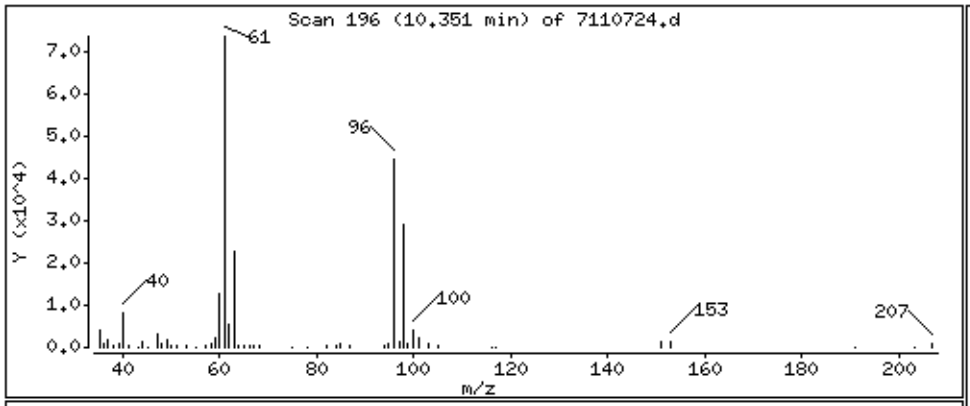
Operator: ab

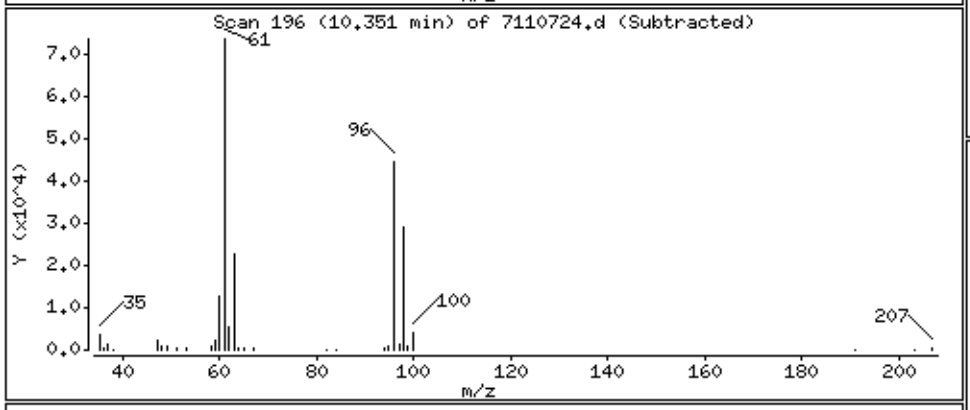
Column phase: RTx-624

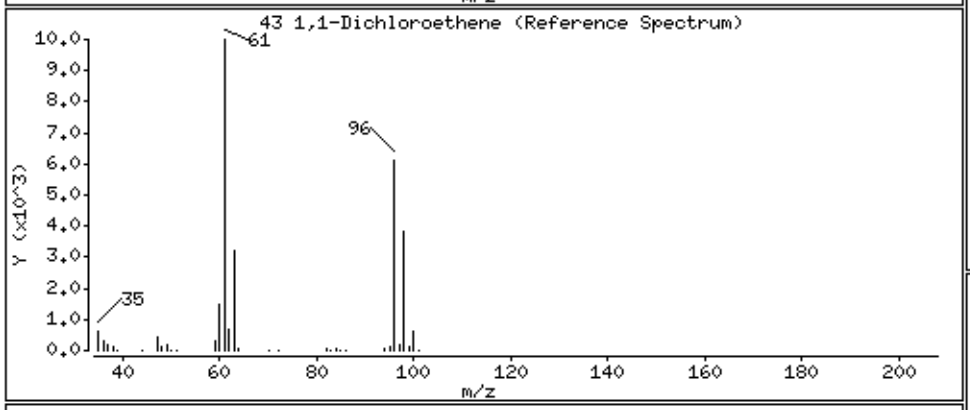
Column diameter: 0.53

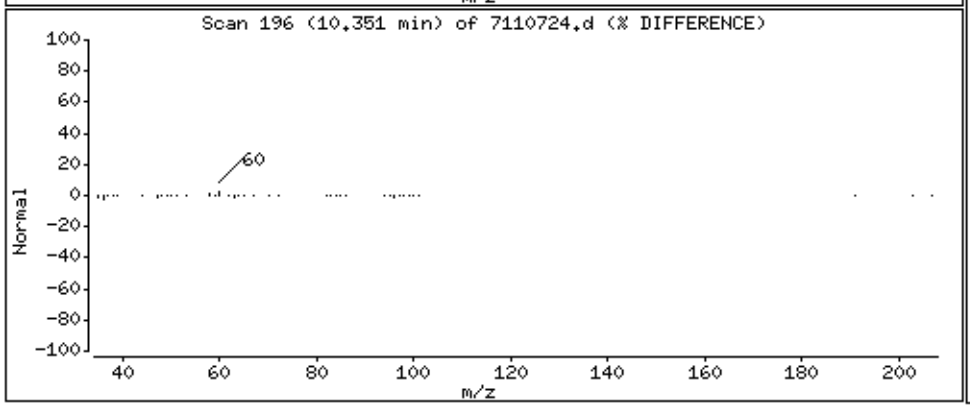
43 1,1-Dichloroethene

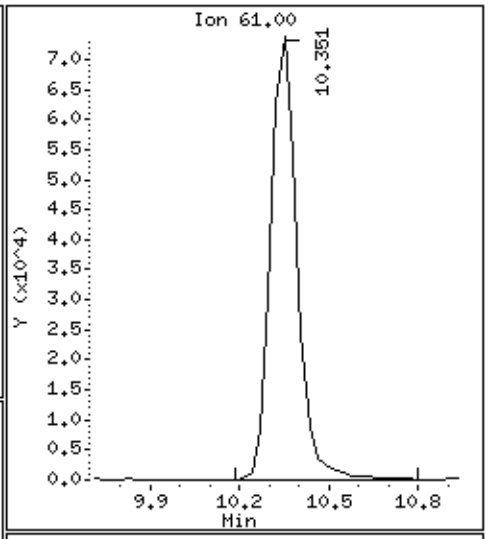
Concentration: 13.540 PPBV

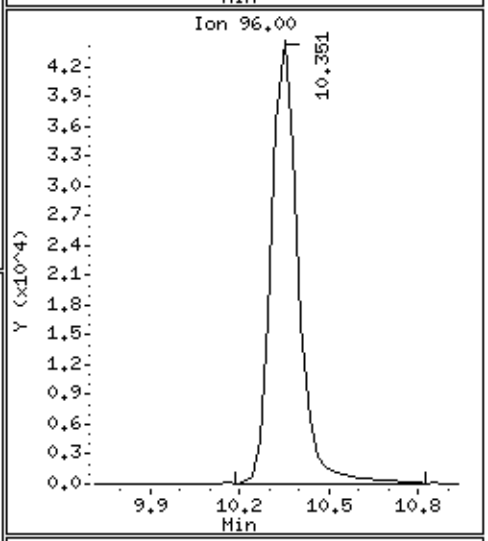


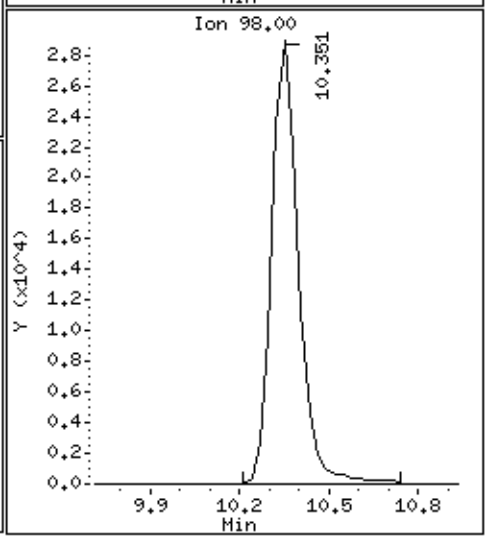












Data File: /chem/msd7.i/7-07nov.b/7110724.d

Date : 08-NOV-2007 03:55

Client ID:

Instrument: msd7.i

Sample Info: 200mL #21005

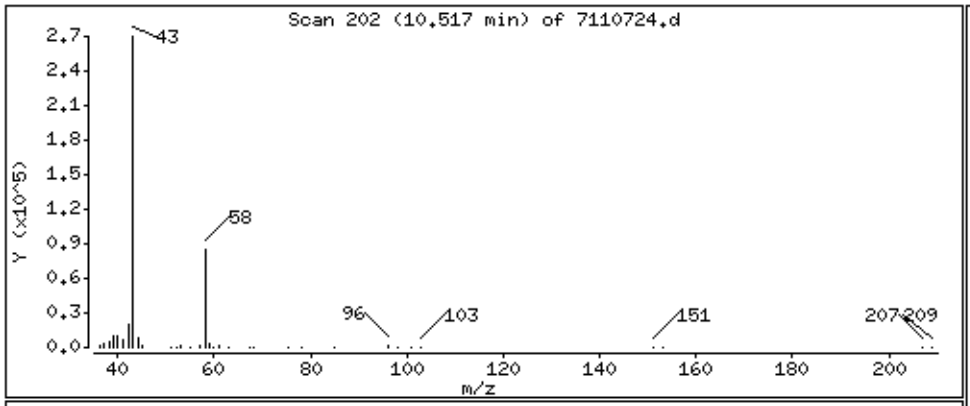
Operator: ab

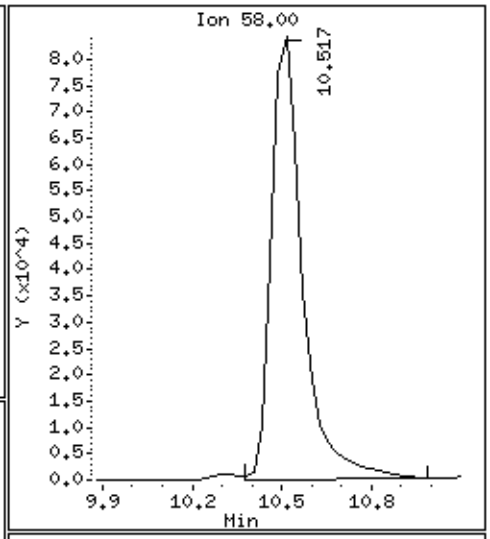
Column phase: RTx-624

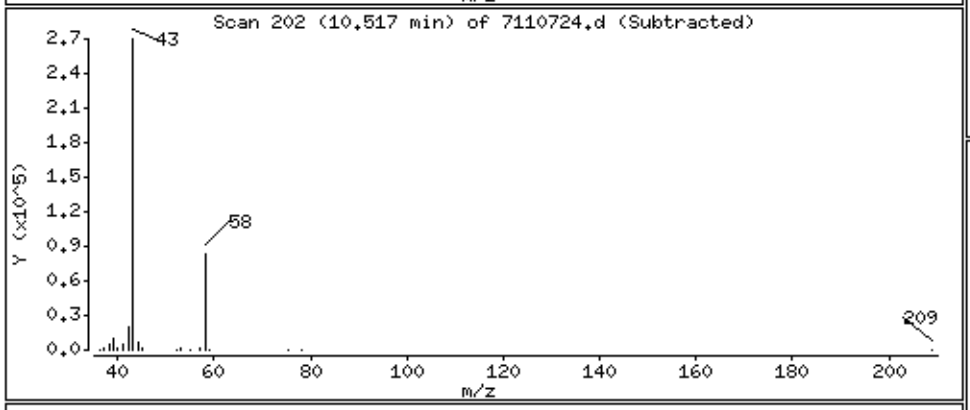
Column diameter: 0.53

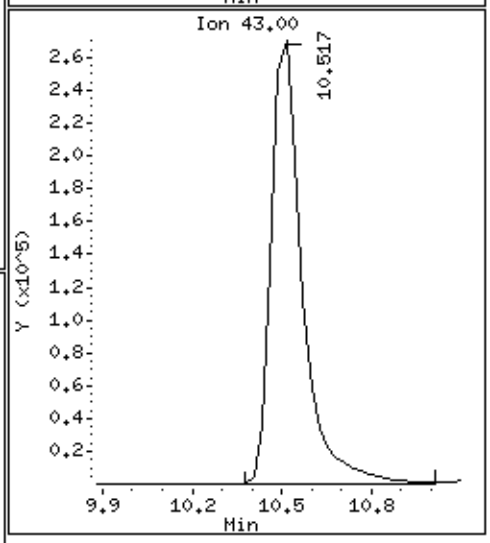
45 Acetone

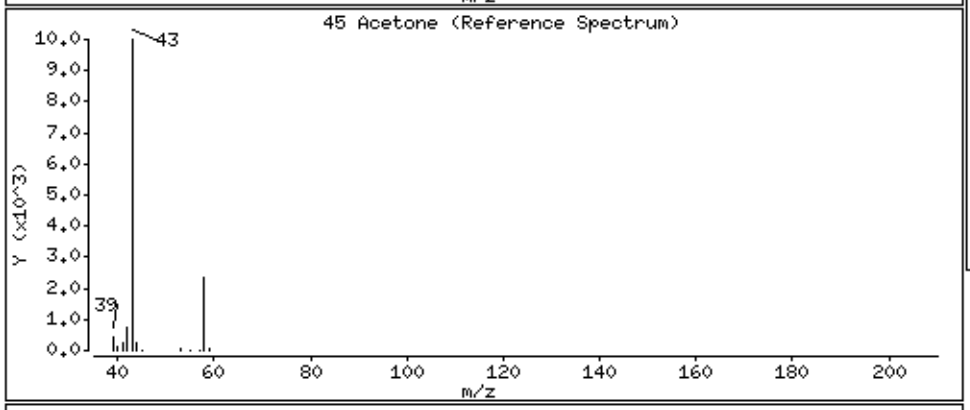
Concentration: 58.455 PPBV

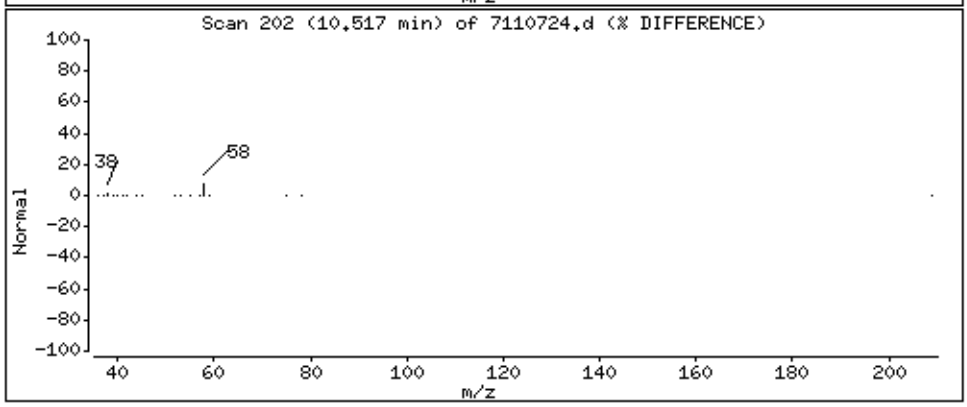












Data File: /chem/msd7.i/7-07nov.b/7110724.d

Date : 08-NOV-2007 03:55

Client ID:

Instrument: msd7.i

Sample Info: 200mL #21005

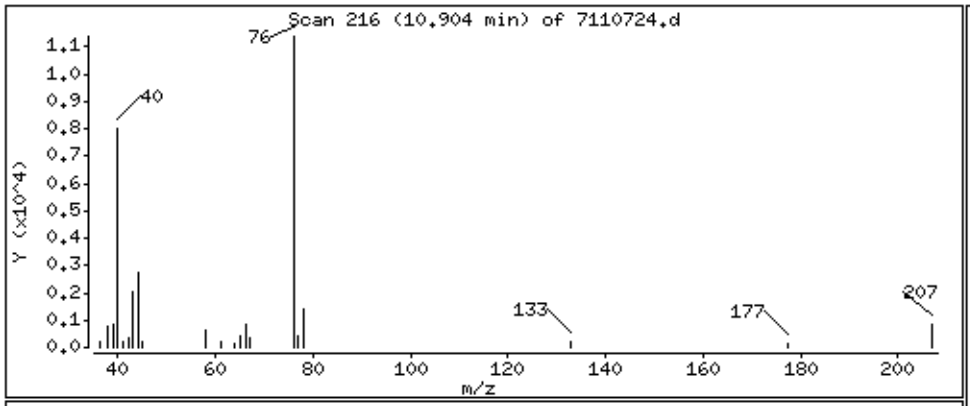
Operator: ab

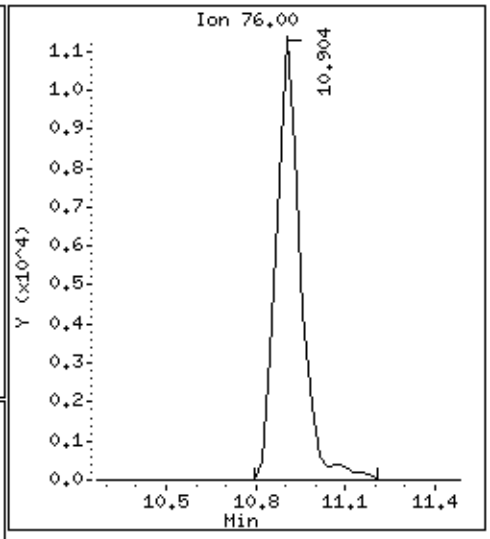
Column phase: RTx-624

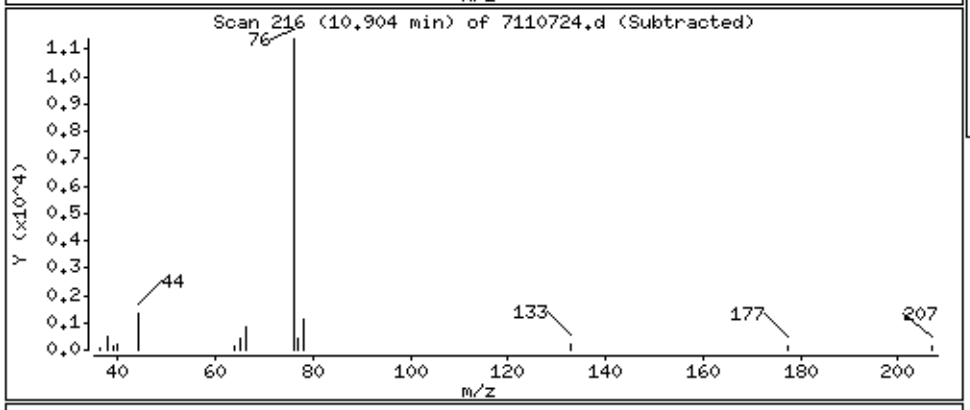
Column diameter: 0.53

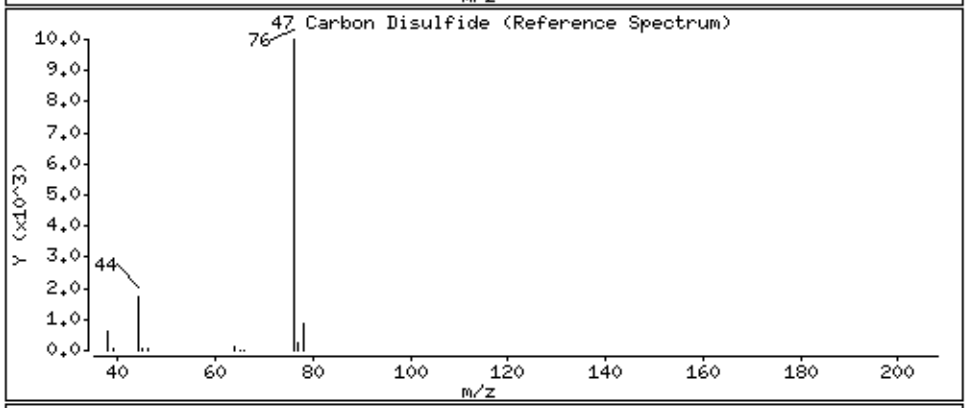
47 Carbon Disulfide

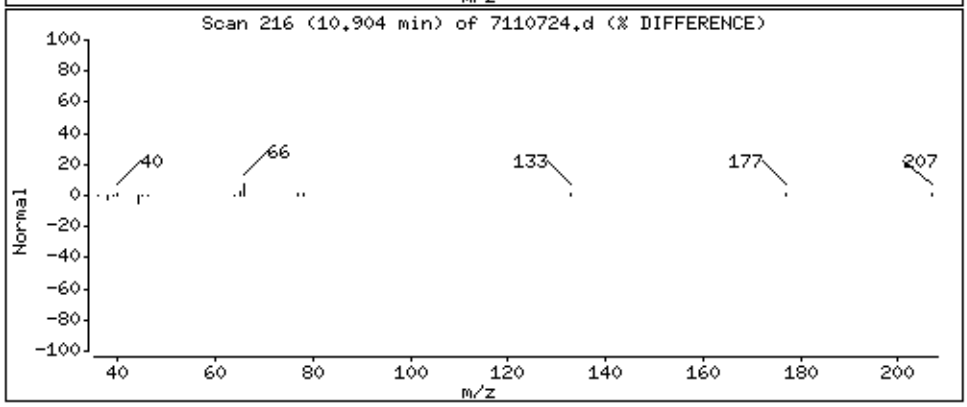
Concentration: 1.019 PPBV











Data File: /chem/msd7.i/7-07nov.b/7110724.d

Date : 08-NOV-2007 03:55

Client ID:

Instrument: msd7.i

Sample Info: 200mL #21005

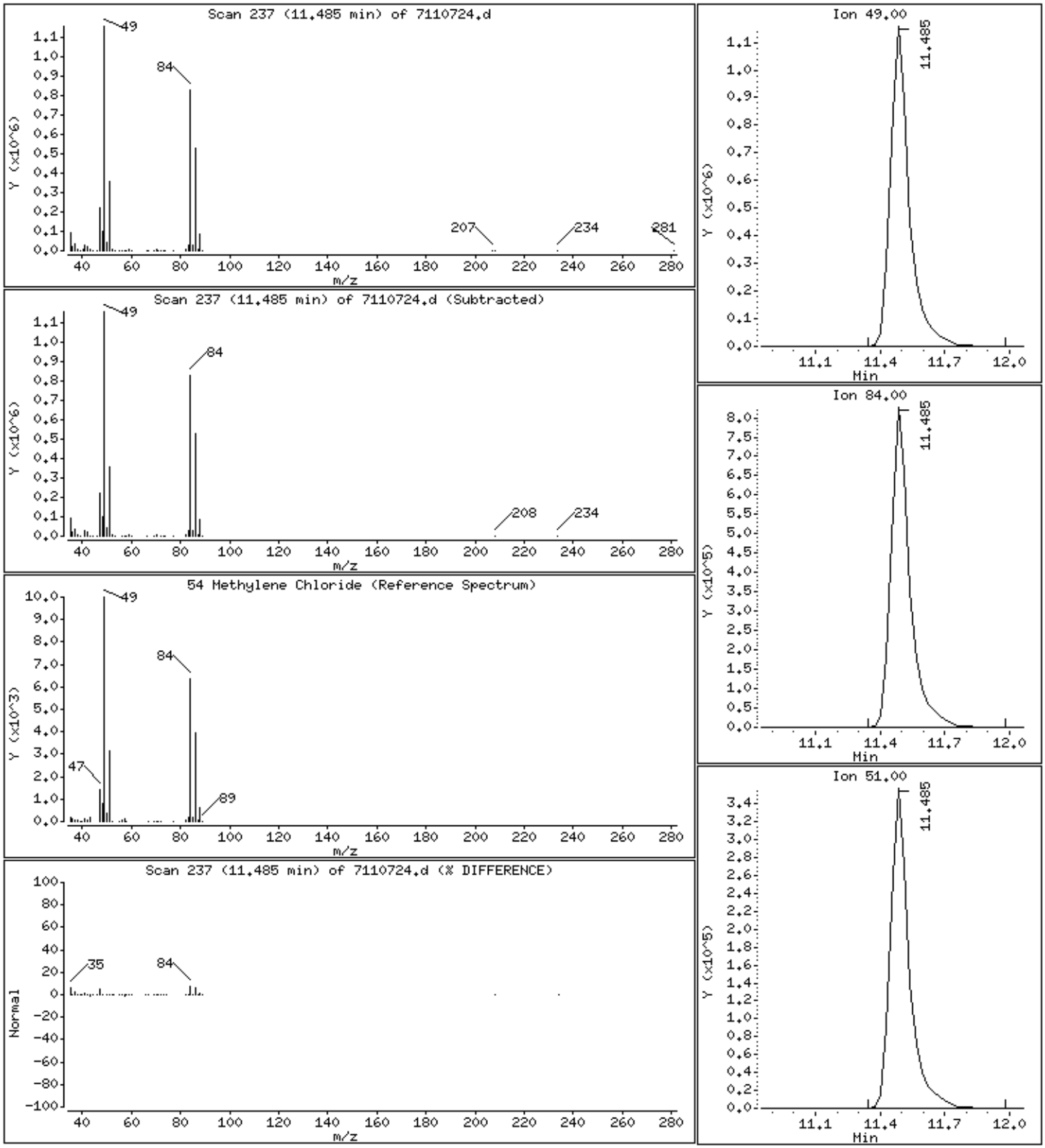
Operator: ab

Column phase: RTx-624

Column diameter: 0.53

54 Methylene Chloride

Concentration: 285.69 PPBV



Data File: /chem/msd7.i/7-07nov.b/7110724.d

Date : 08-NOV-2007 03:55

Client ID:

Instrument: msd7.i

Sample Info: 200mL #21005

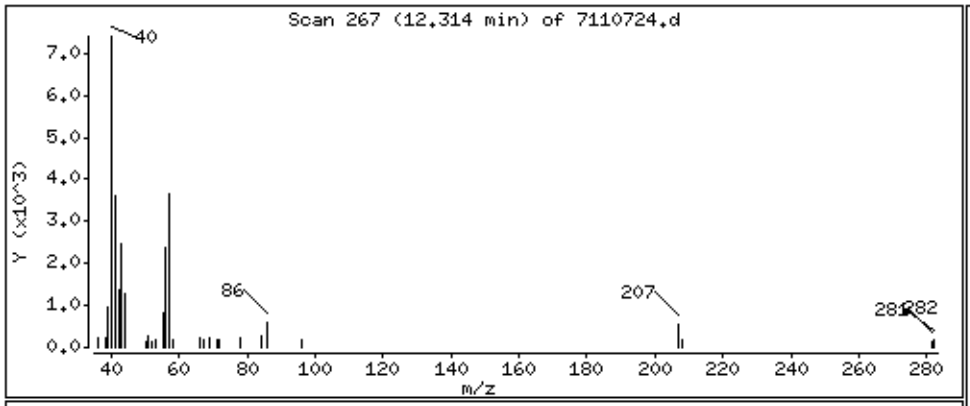
Operator: ab

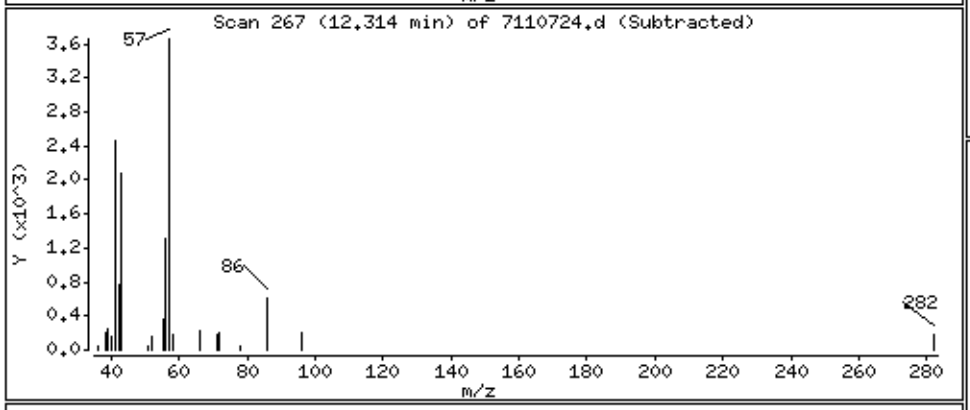
Column phase: RTx-624

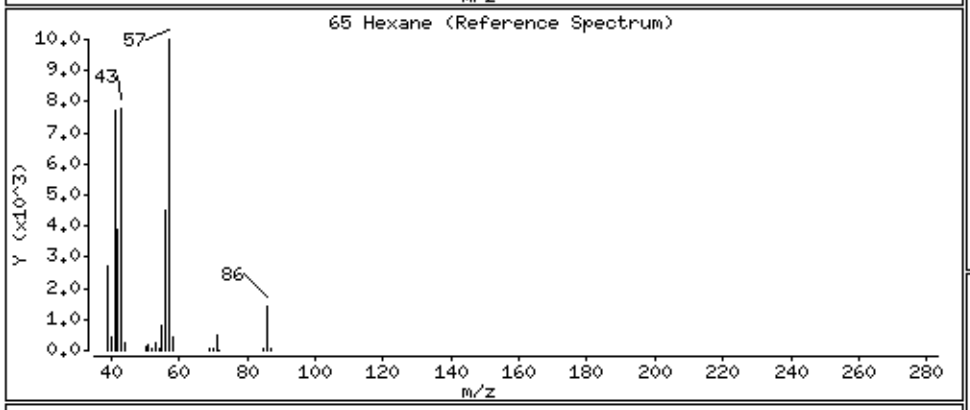
Column diameter: 0.53

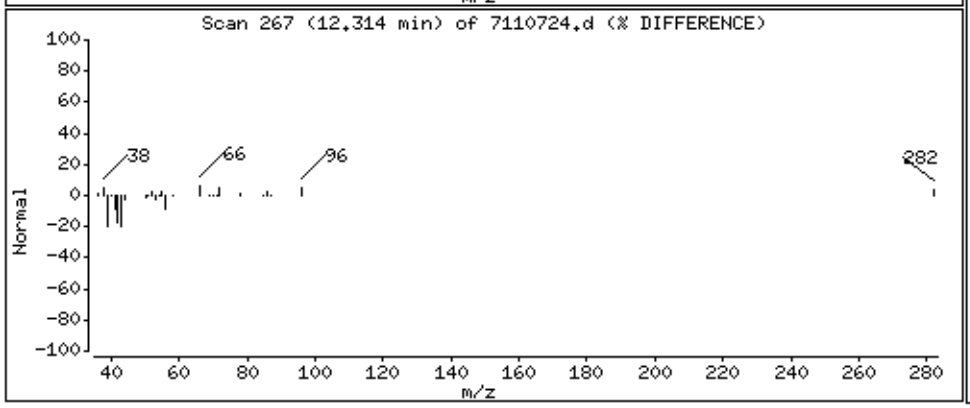
65 Hexane

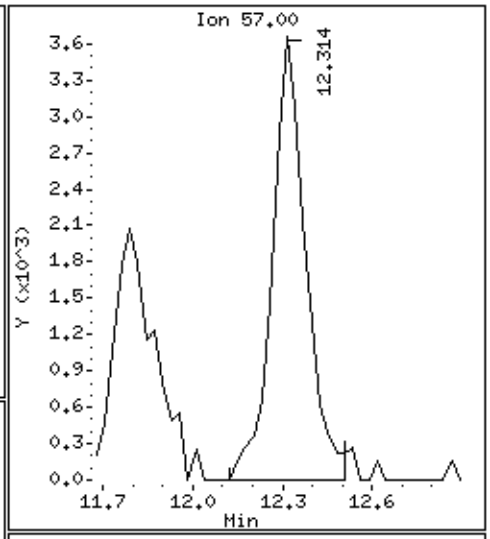
Concentration: 0.8769 PPBV

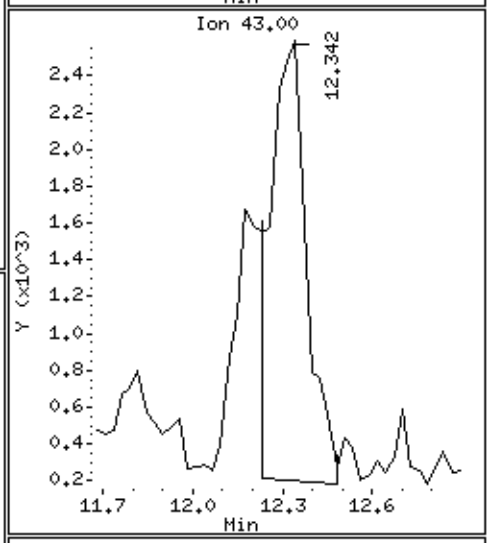


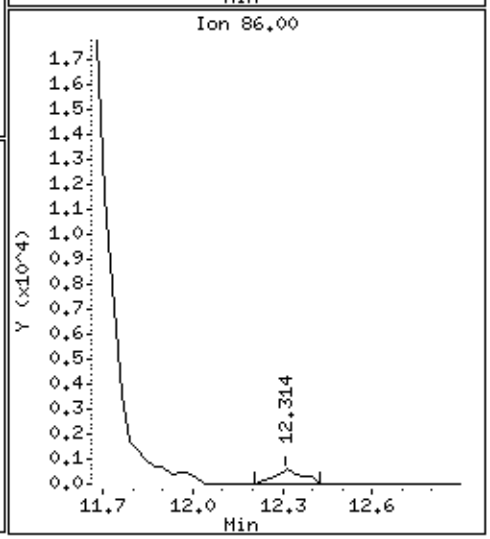












Data File: /chem/msd7.i/7-07nov.b/7110724.d

Date : 08-NOV-2007 03:55

Client ID:

Instrument: msd7.i

Sample Info: 200mL #21005

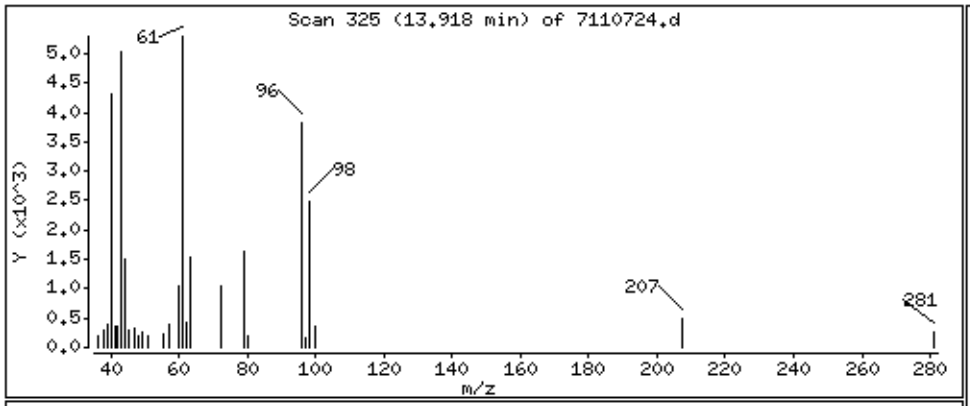
Operator: ab

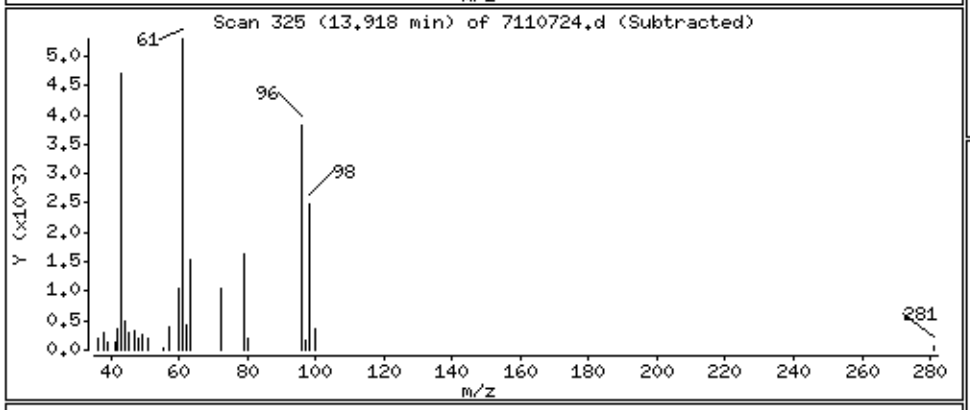
Column phase: RTx-624

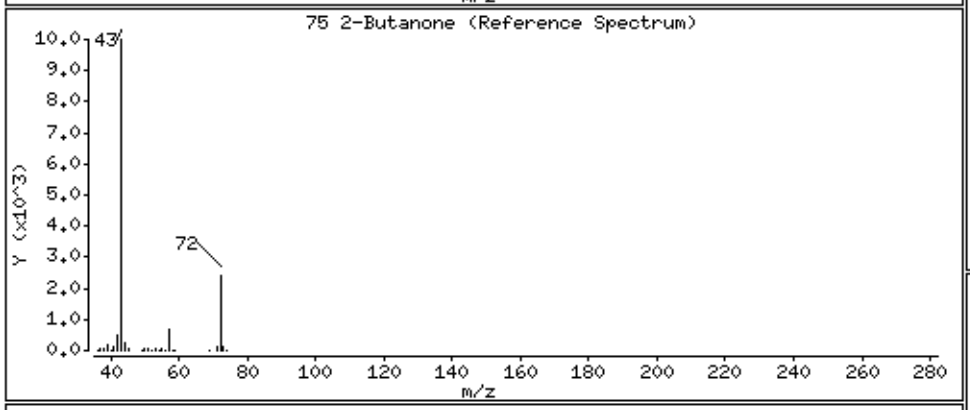
Column diameter: 0.53

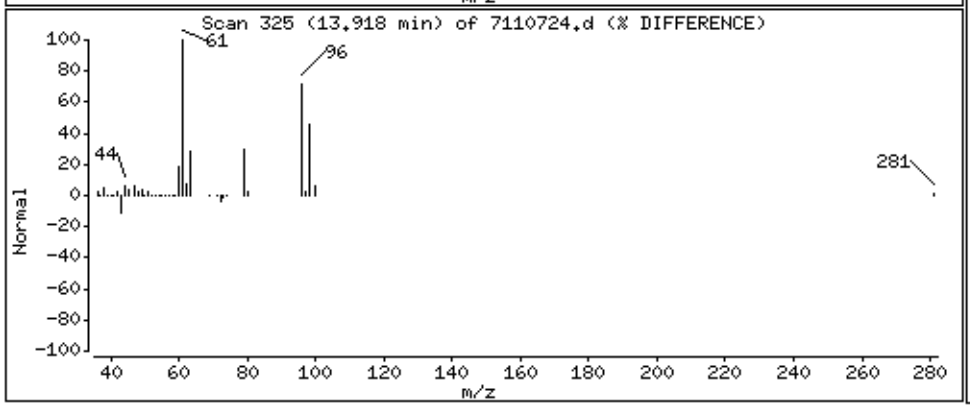
75 2-Butanone

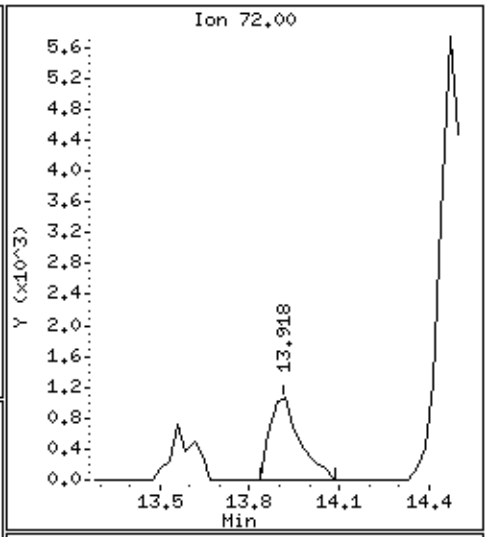
Concentration: 0.8908 PPBV

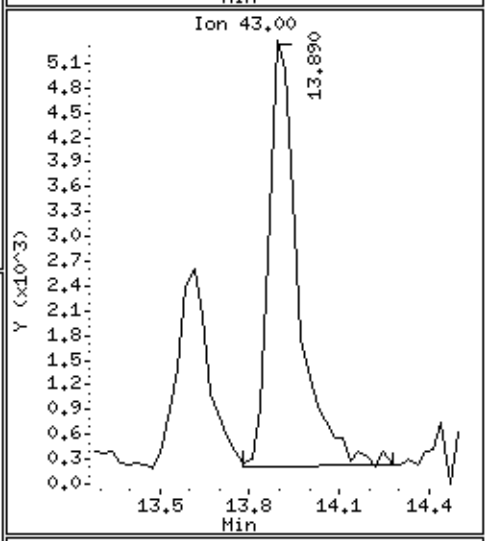


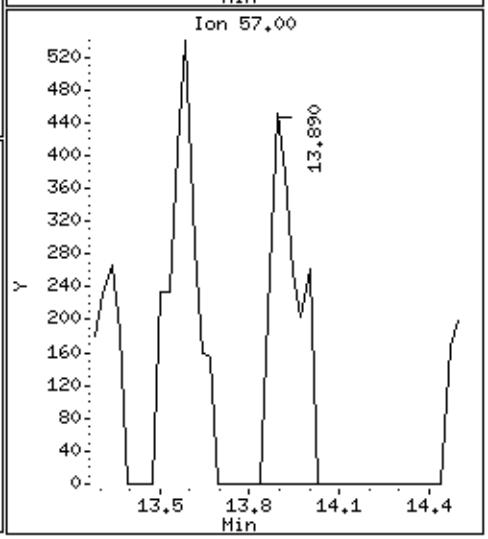












Data File: /chem/msd7.i/7-07nov.b/7110724.d

Date : 08-NOV-2007 03:55

Client ID:

Instrument: msd7.i

Sample Info: 200mL #21005

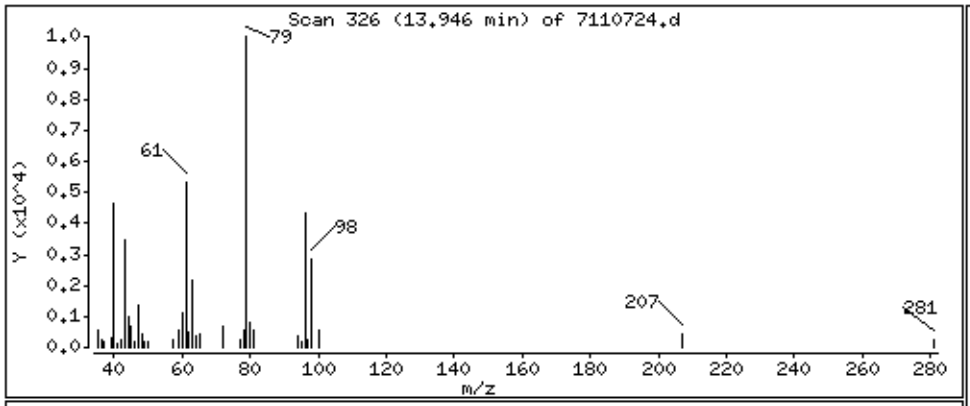
Operator: ab

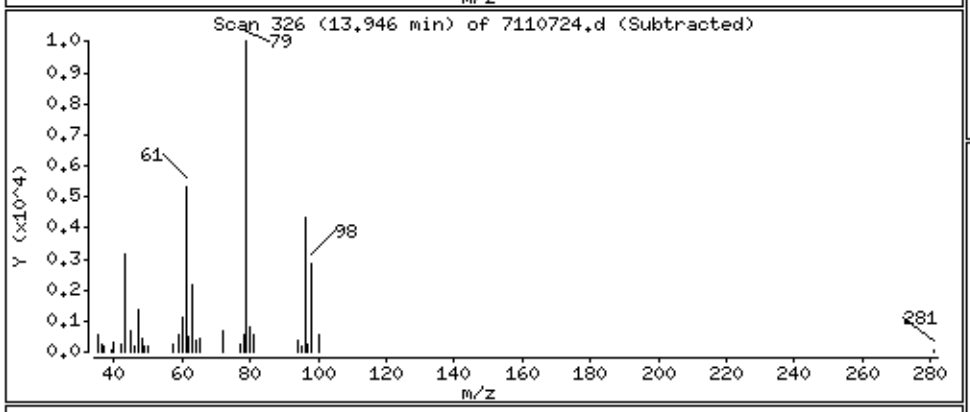
Column phase: RTx-624

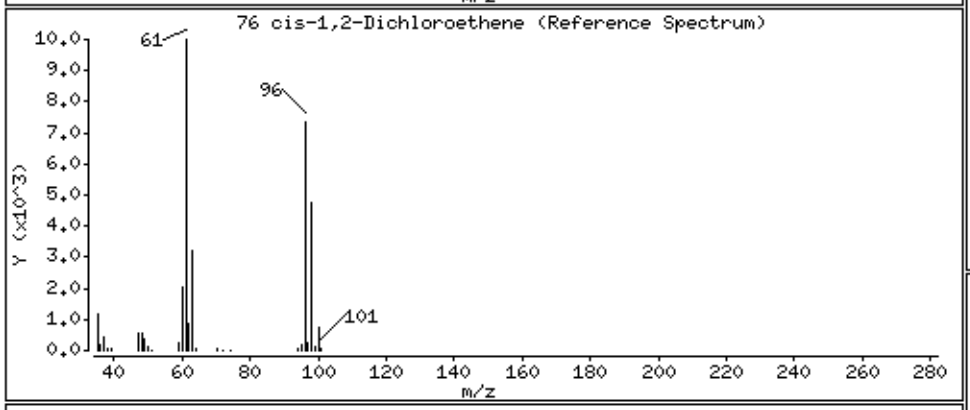
Column diameter: 0.53

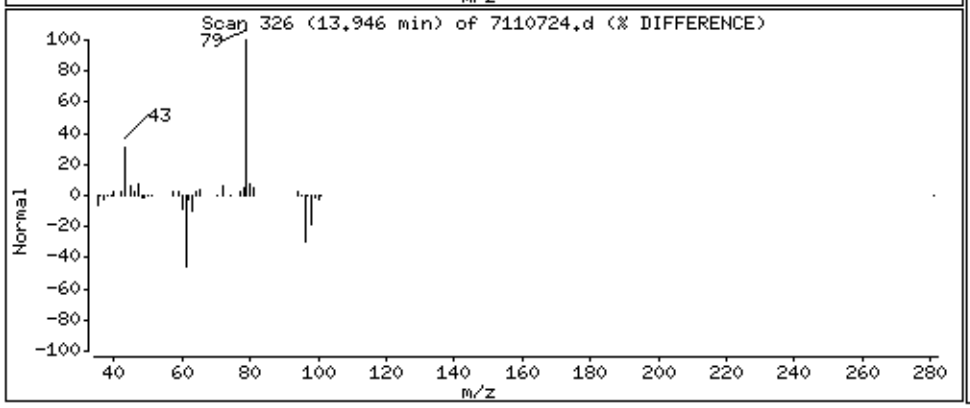
76 cis-1,2-Dichloroethene

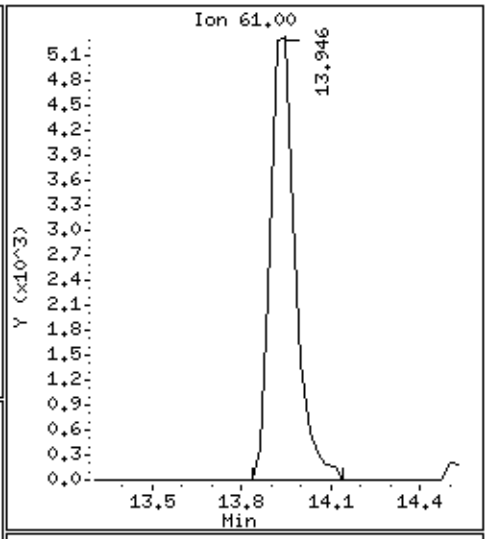
Concentration: 1.150 PPBV

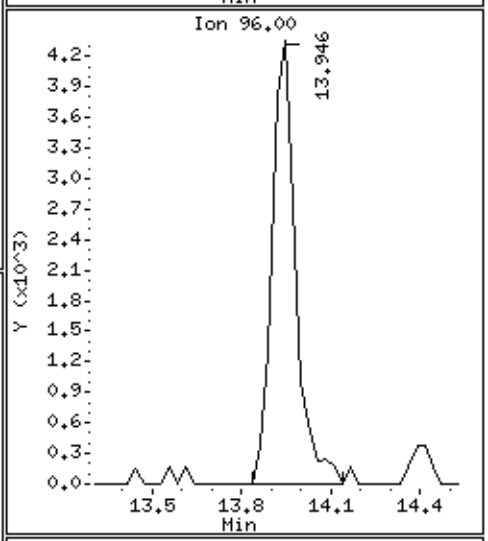


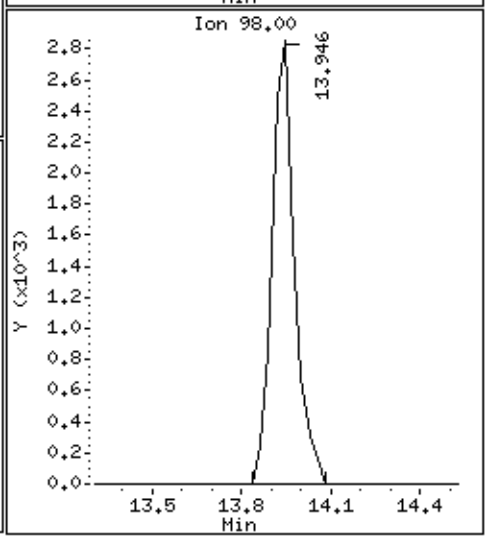












Data File: /chem/msd7.i/7-07nov.b/7110724.d

Date : 08-NOV-2007 03:55

Client ID:

Instrument: msd7.i

Sample Info: 200mL #21005

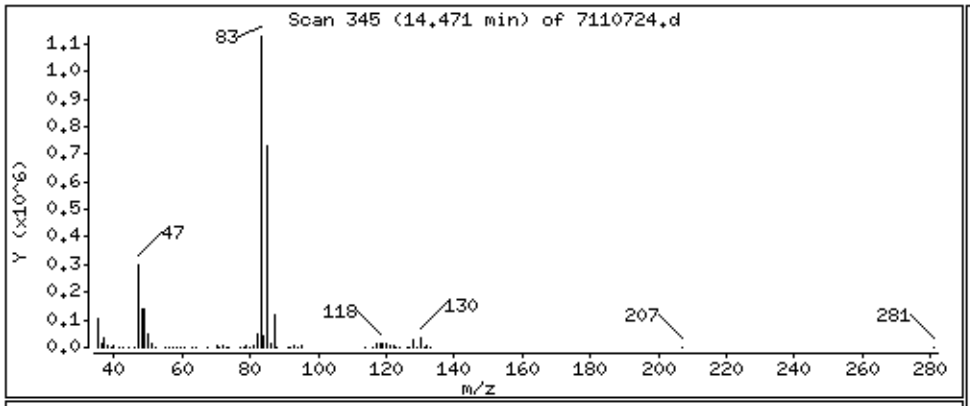
Operator: ab

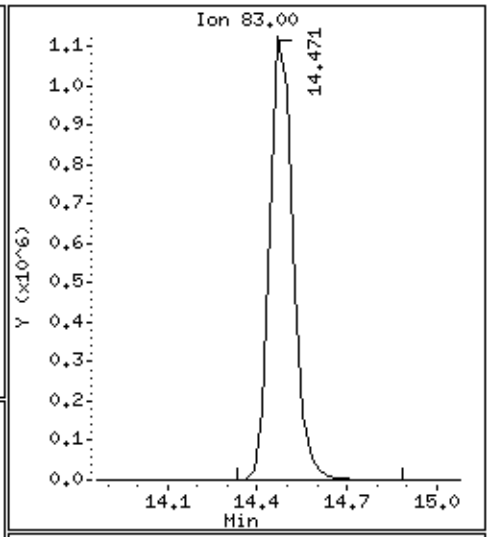
Column phase: RTx-624

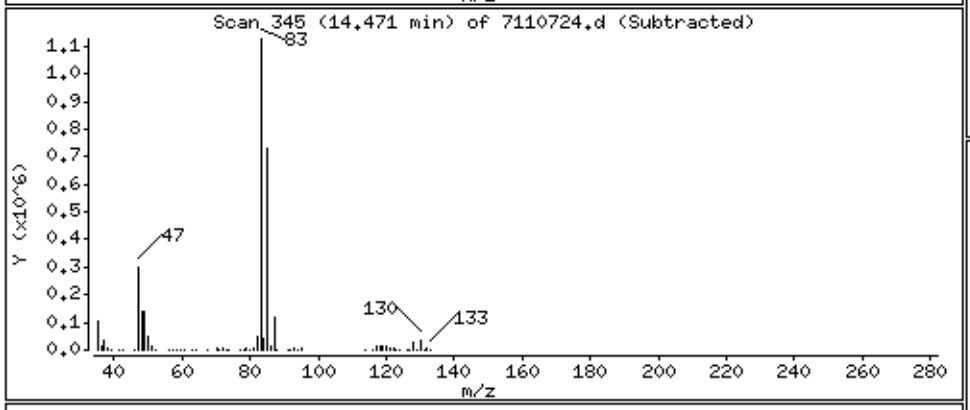
Column diameter: 0.53

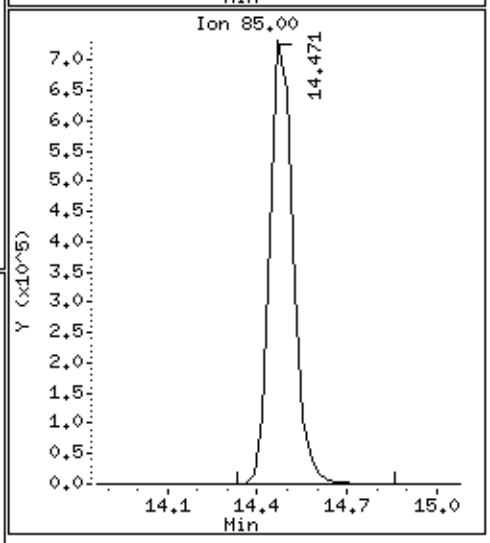
82 Chloroform

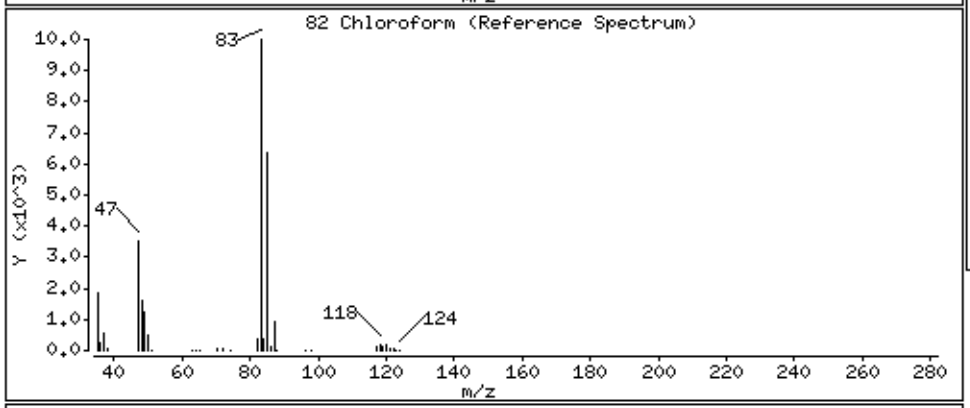
Concentration: 157.81 PPBV

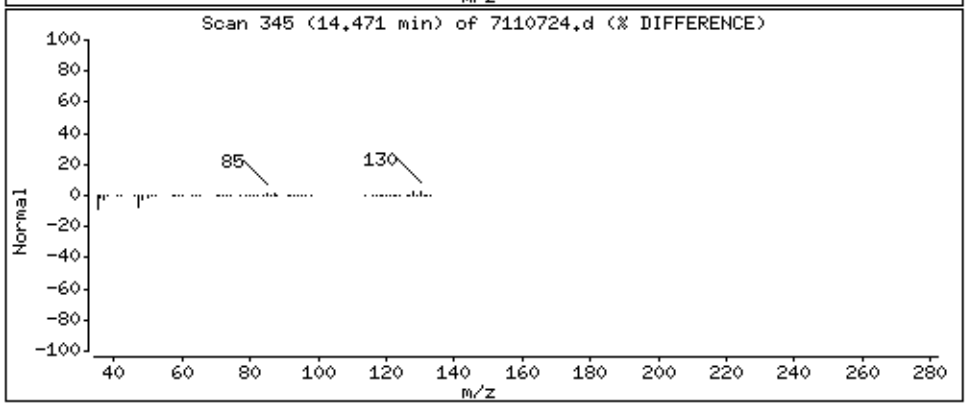












Data File: /chem/msd7.i/7-07nov.b/7110724.d

Date : 08-NOV-2007 03:55

Client ID:

Instrument: msd7.i

Sample Info: 200mL #21005

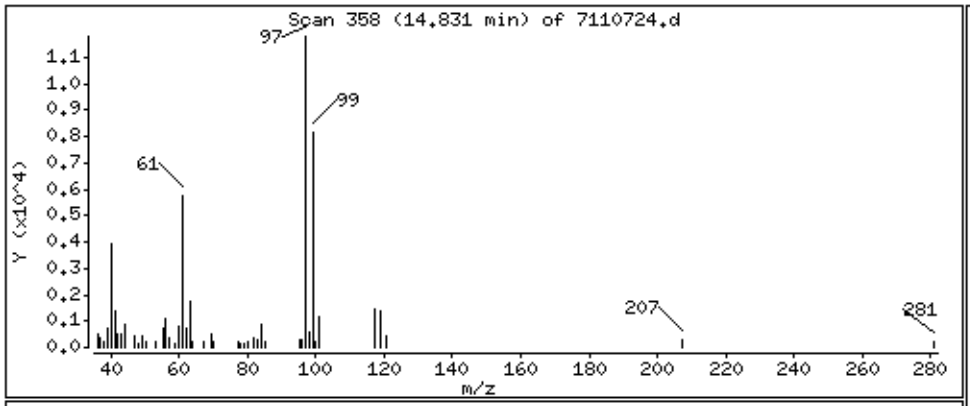
Operator: ab

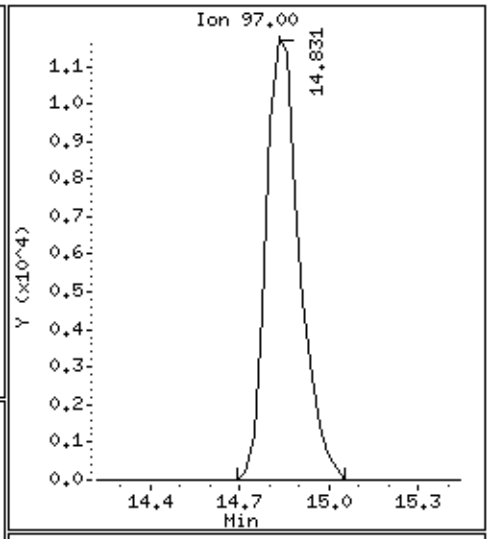
Column phase: RTx-624

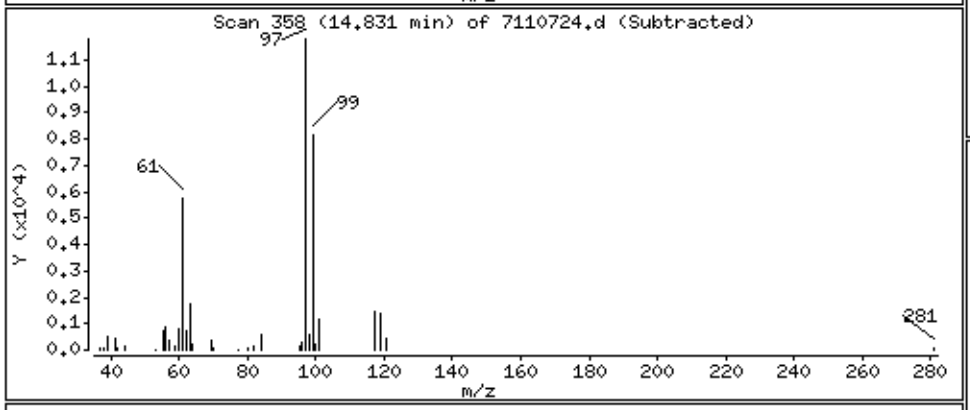
Column diameter: 0.53

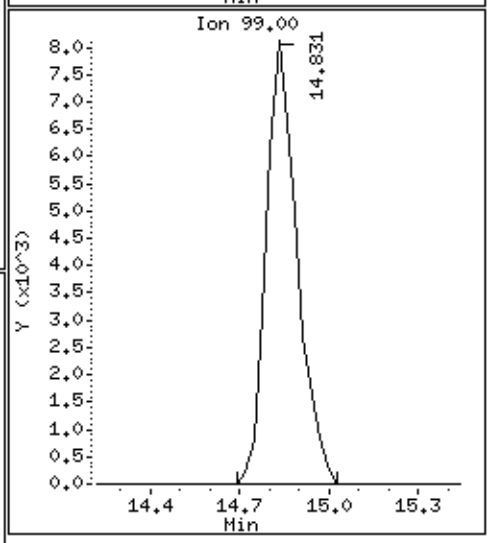
83 1,1,1-Trichloroethane

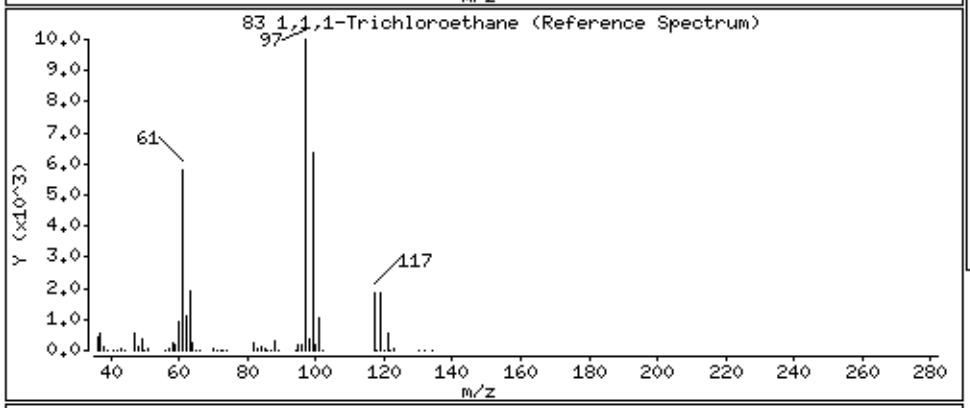
Concentration: 2.352 PPBV

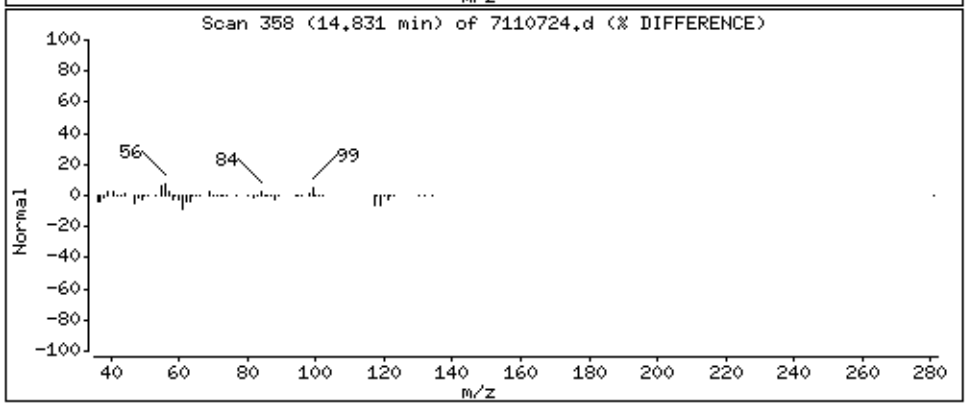












Data File: /chem/msd7.i/7-07nov.b/7110724.d

Date : 08-NOV-2007 03:55

Client ID:

Instrument: msd7.i

Sample Info: 200mL #21005

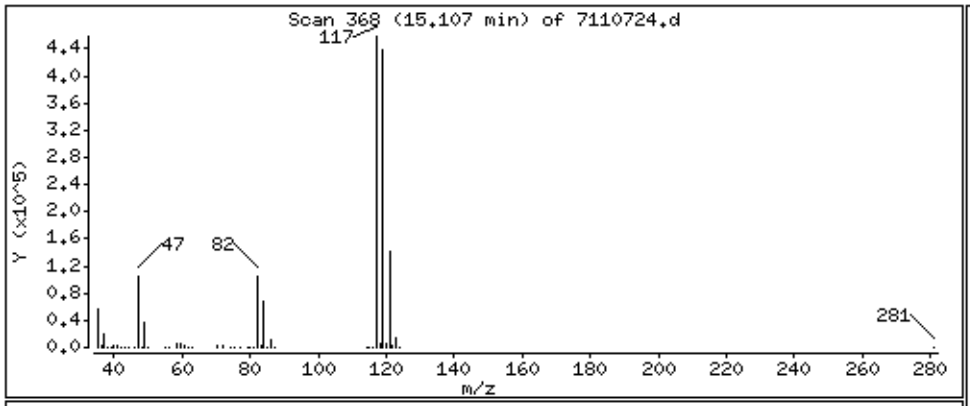
Operator: ab

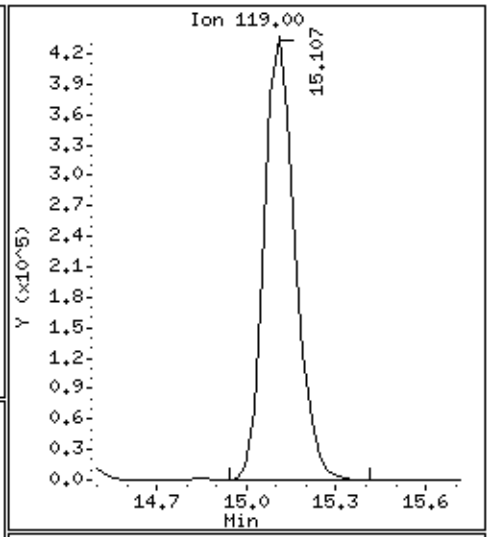
Column phase: RTx-624

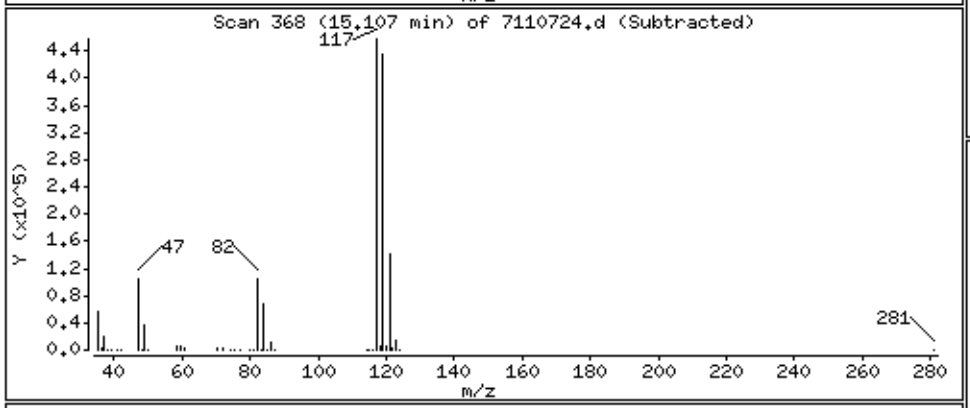
Column diameter: 0.53

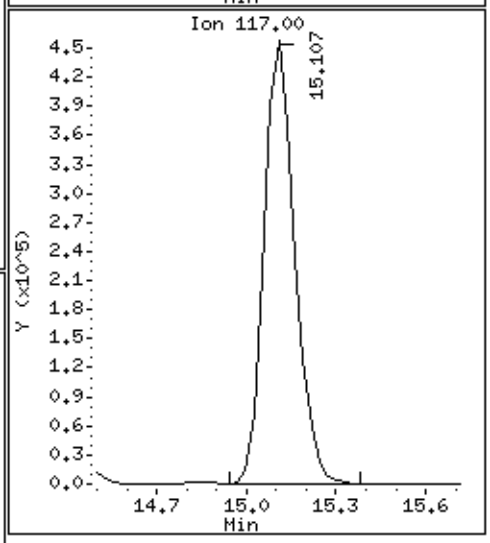
87 Carbon Tetrachloride

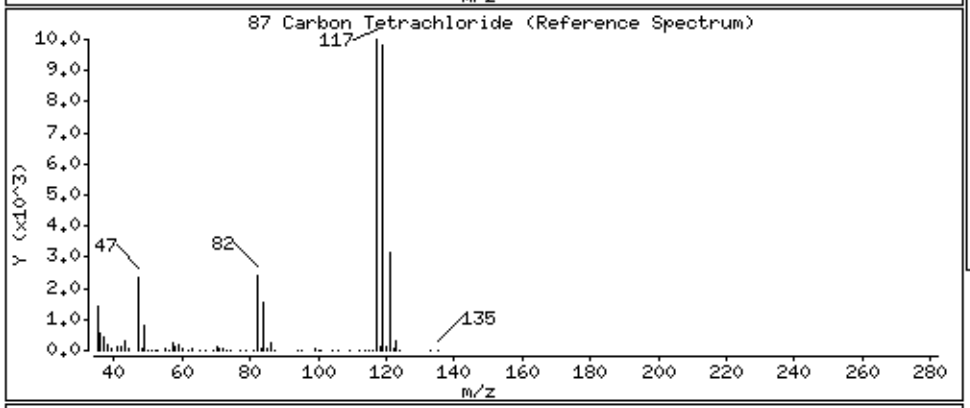
Concentration: 86.003 PPBV

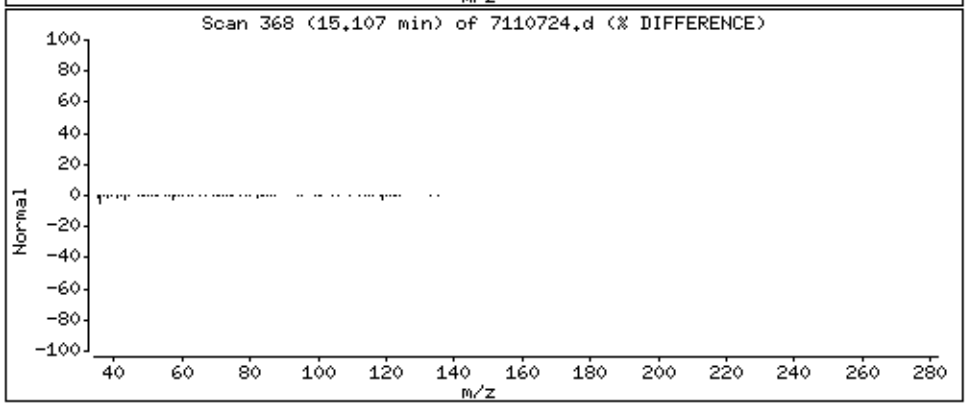












Data File: /chem/msd7.i/7-07nov.b/7110724.d

Date : 08-NOV-2007 03:55

Client ID:

Instrument: msd7.i

Sample Info: 200mL #21005

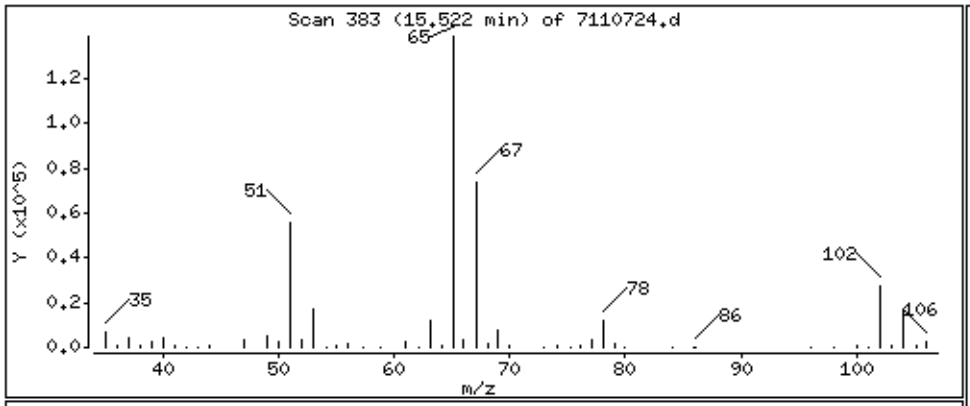
Operator: ab

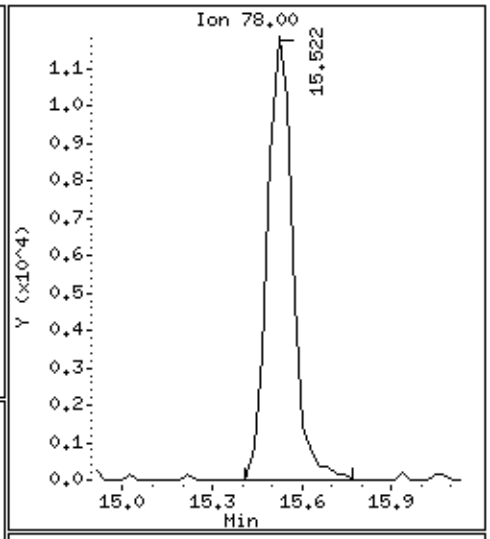
Column phase: RTx-624

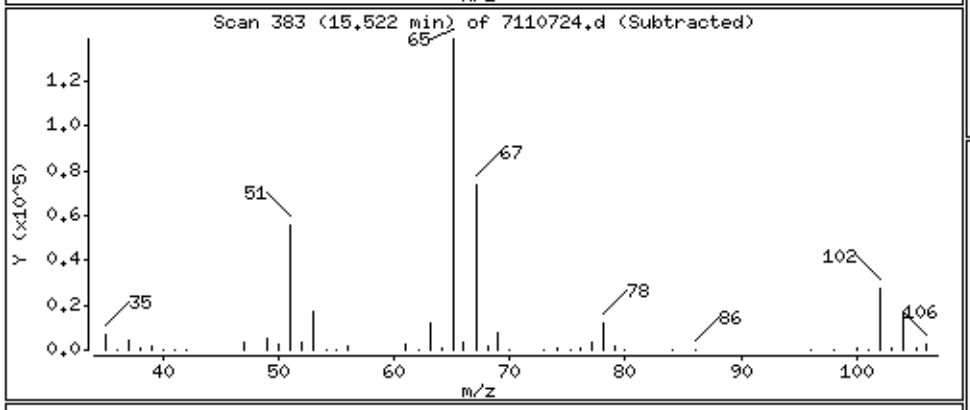
Column diameter: 0.53

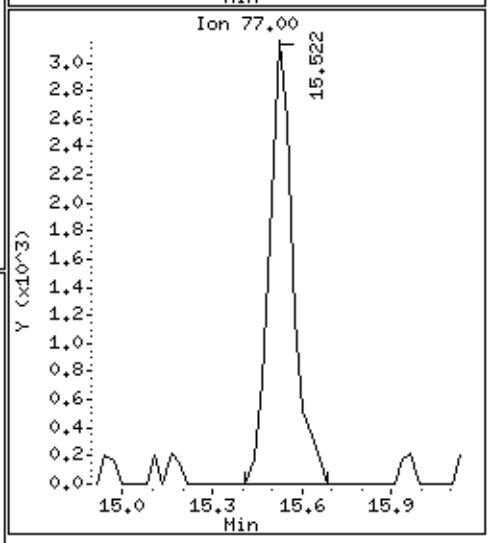
91 Benzene

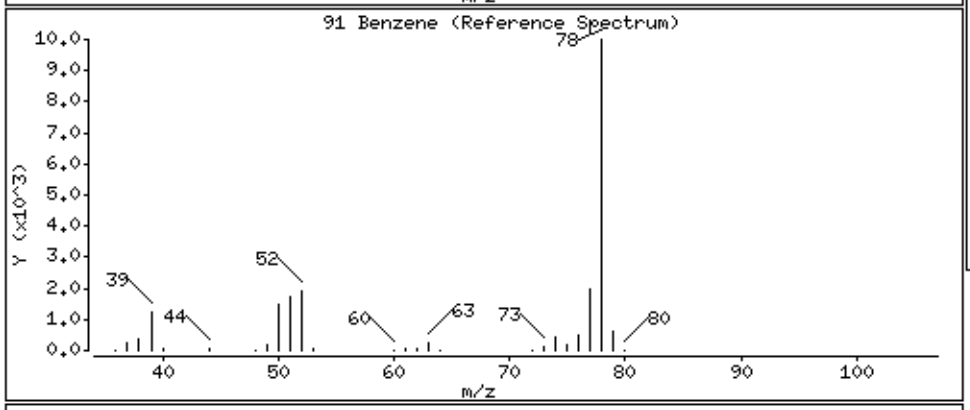
Concentration: 1.358 PPBV

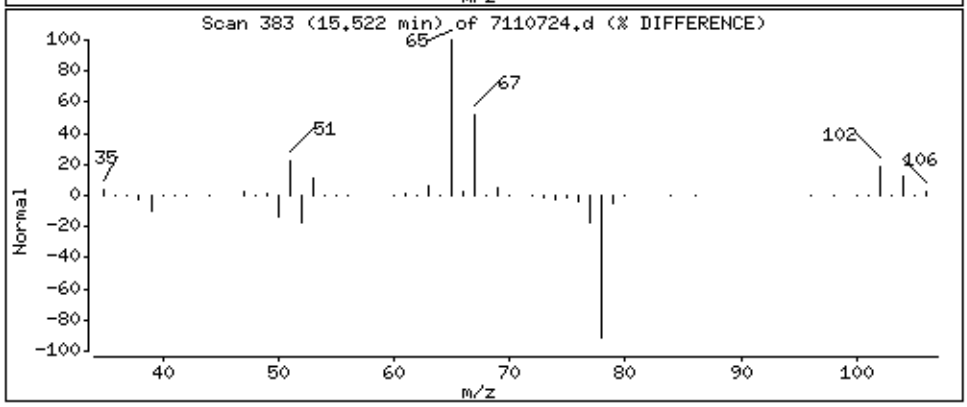












Data File: /chem/msd7.i/7-07nov.b/7110724.d

Date : 08-NOV-2007 03:55

Client ID:

Instrument: msd7.i

Sample Info: 200mL #21005

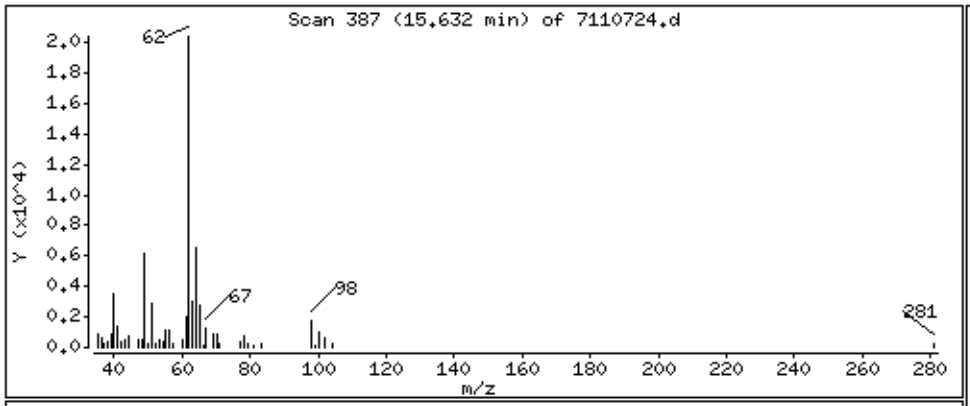
Operator: ab

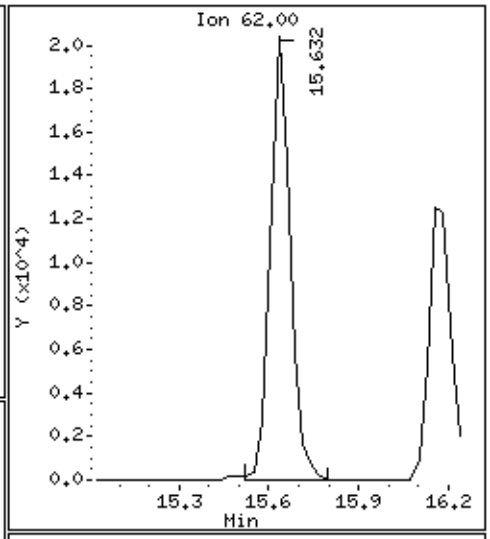
Column phase: RTx-624

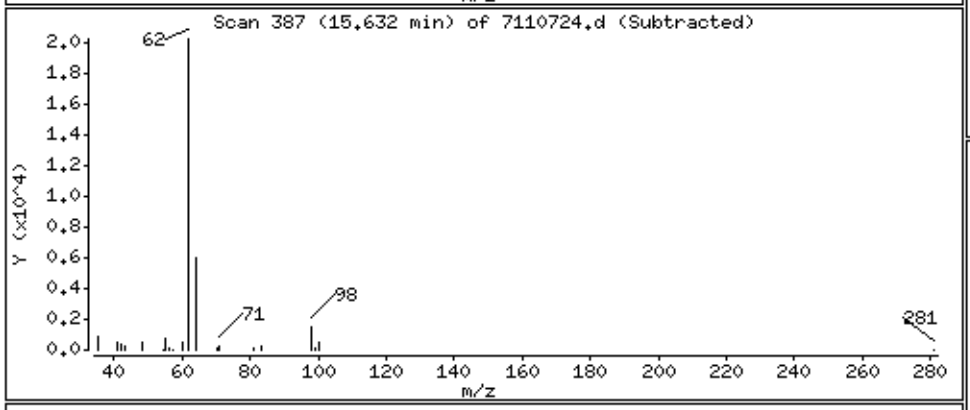
Column diameter: 0.53

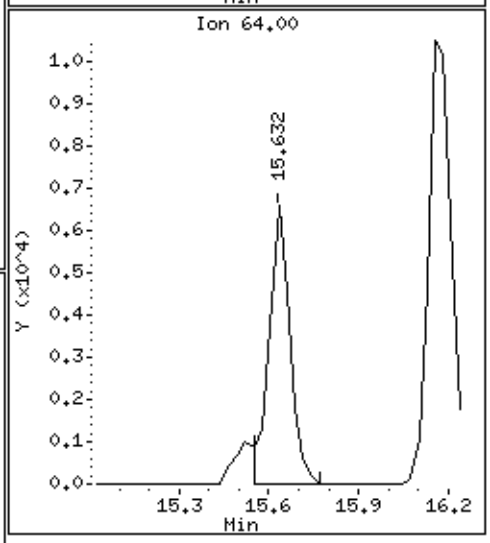
93 1,2-Dichloroethane

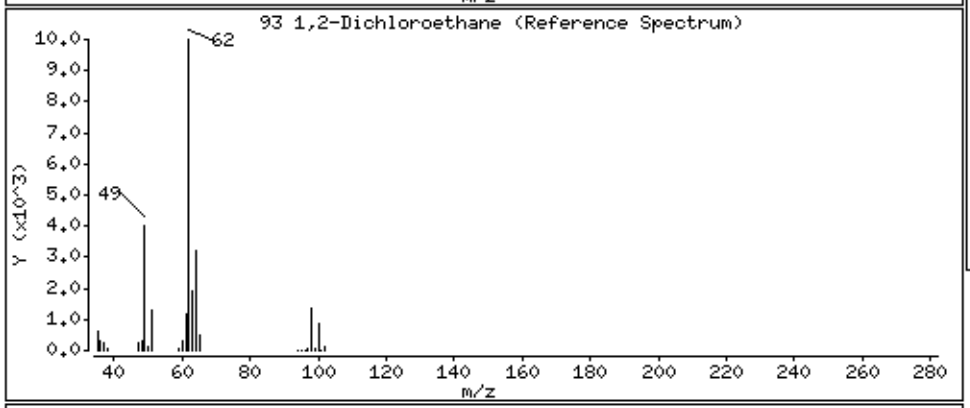
Concentration: 3.412 PPBV

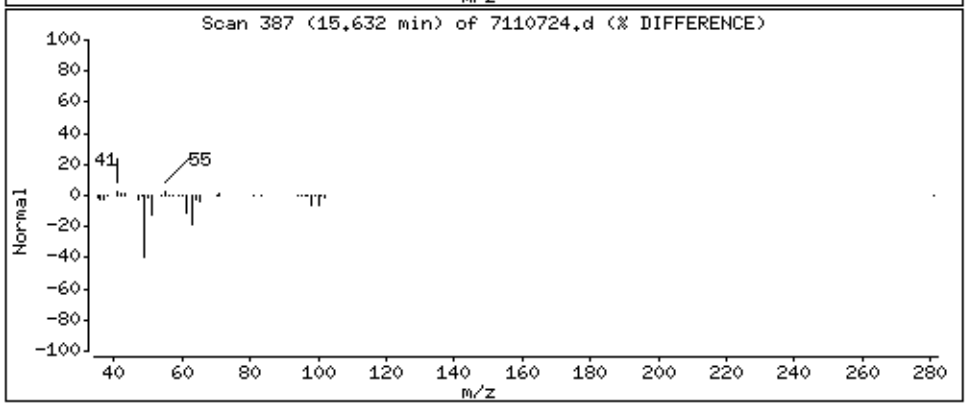












Data File: /chem/msd7.i/7-07nov.b/7110724.d

Date : 08-NOV-2007 03:55

Client ID:

Instrument: msd7.i

Sample Info: 200mL #21005

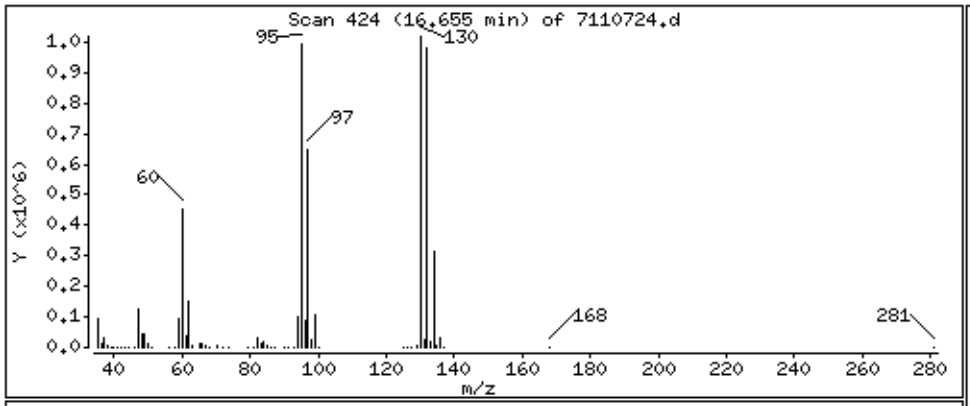
Operator: ab

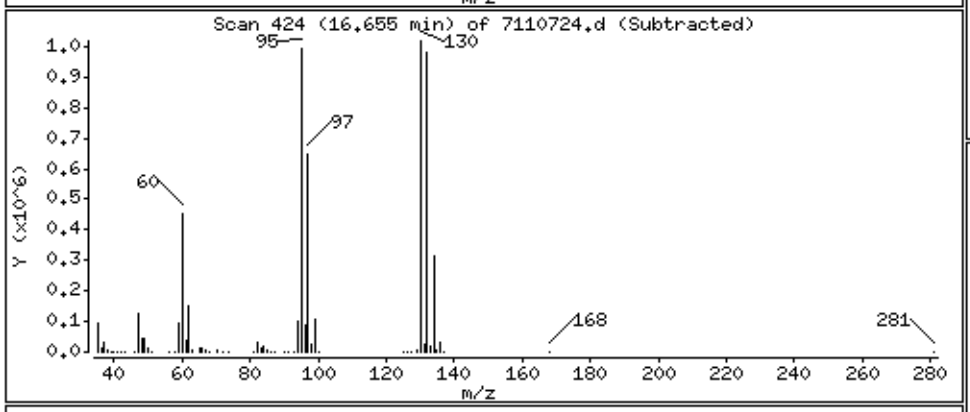
Column phase: RTx-624

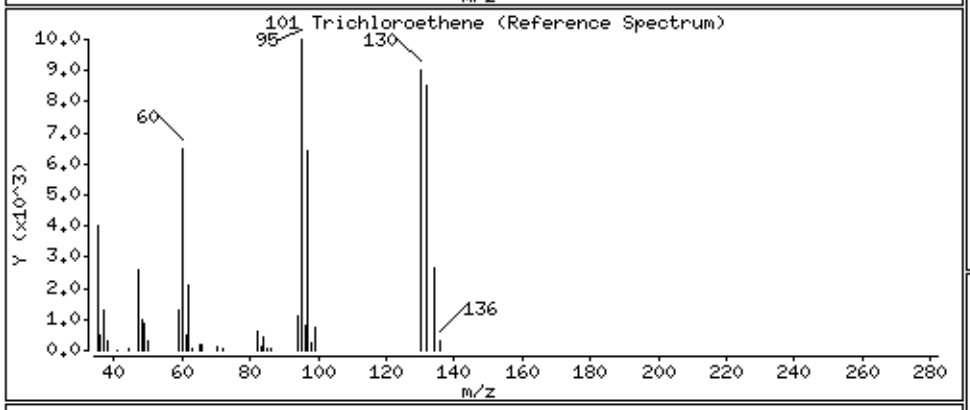
Column diameter: 0.53

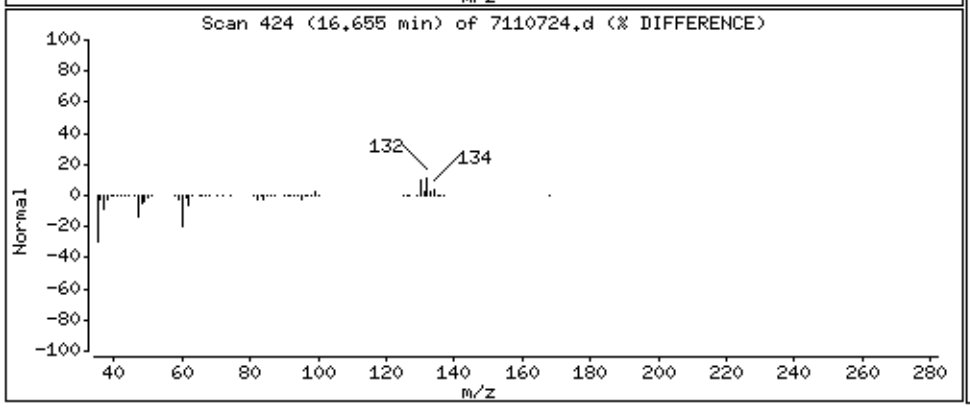
101 Trichloroethene

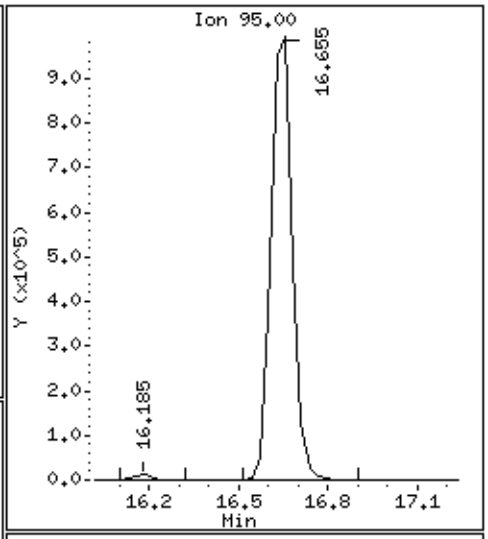
Concentration: 215.74 PPBV

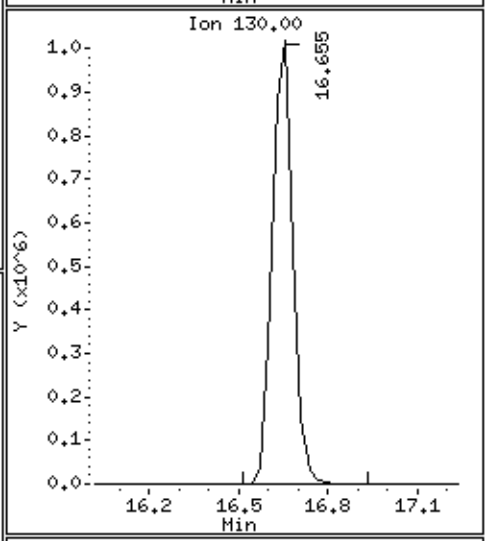


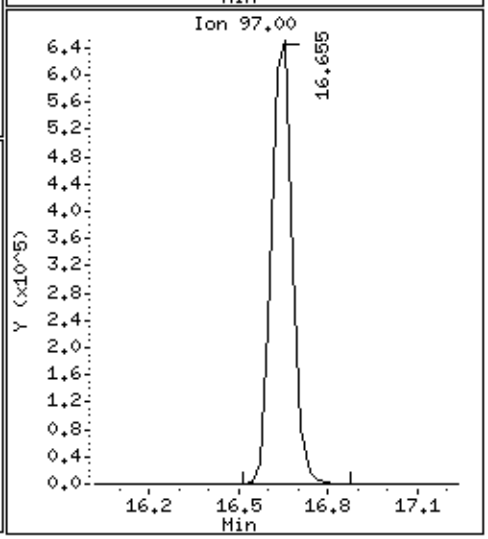












Data File: /chem/msd7.i/7-07nov.b/7110724.d

Date : 08-NOV-2007 03:55

Client ID:

Instrument: msd7.i

Sample Info: 200mL #21005

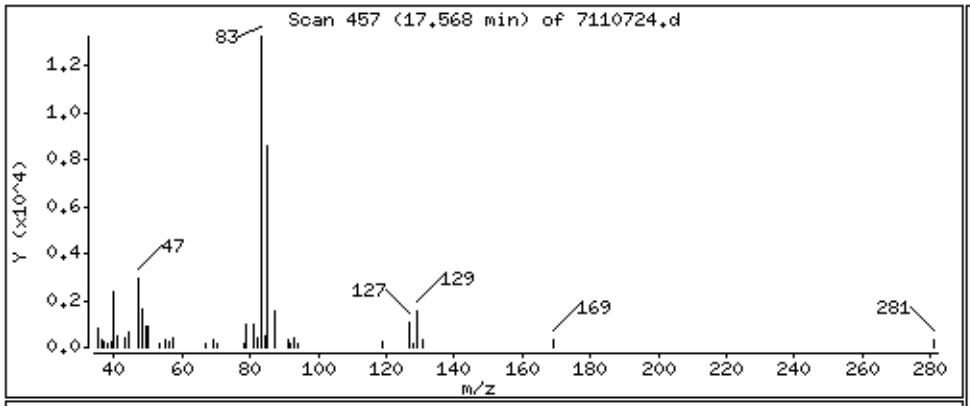
Operator: ab

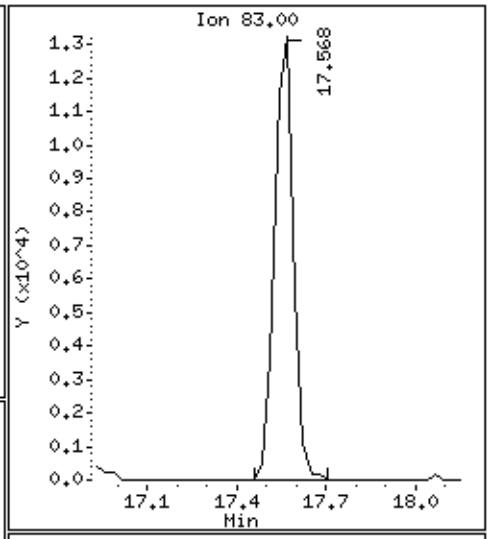
Column phase: RTx-624

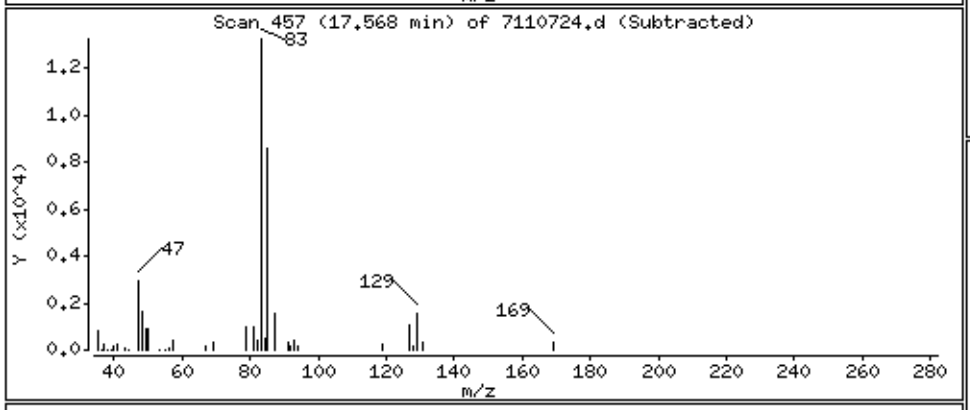
Column diameter: 0.53

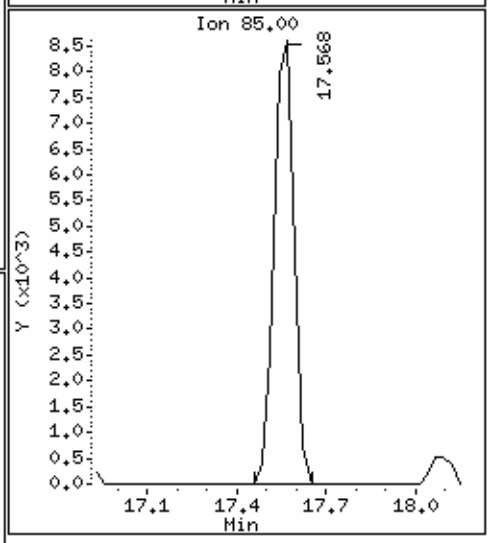
107 Bromodichloromethane

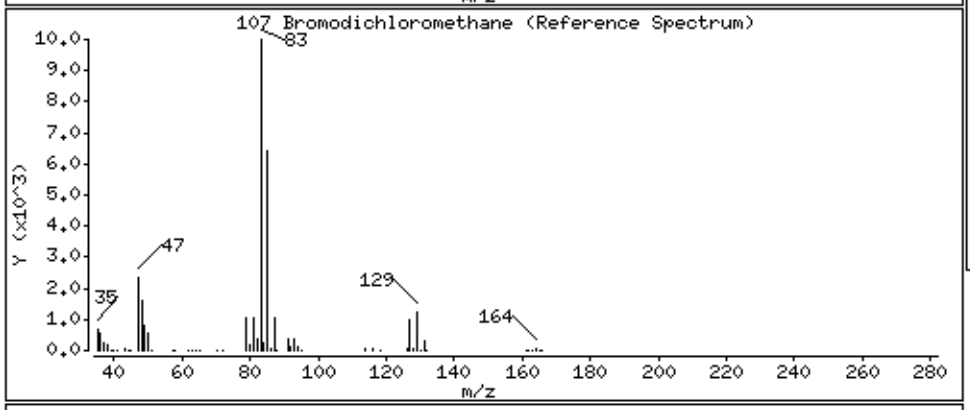
Concentration: 1.474 PPBV

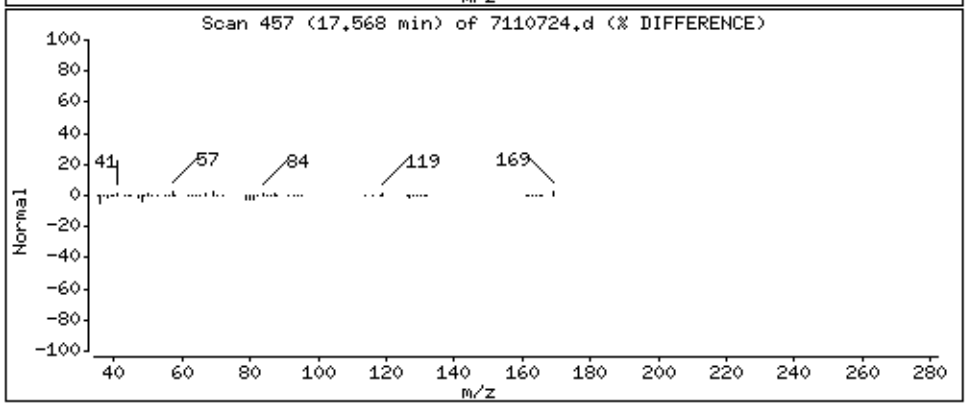












Data File: /chem/msd7.i/7-07nov.b/7110724.d

Date : 08-NOV-2007 03:55

Client ID:

Instrument: msd7.i

Sample Info: 200mL #21005

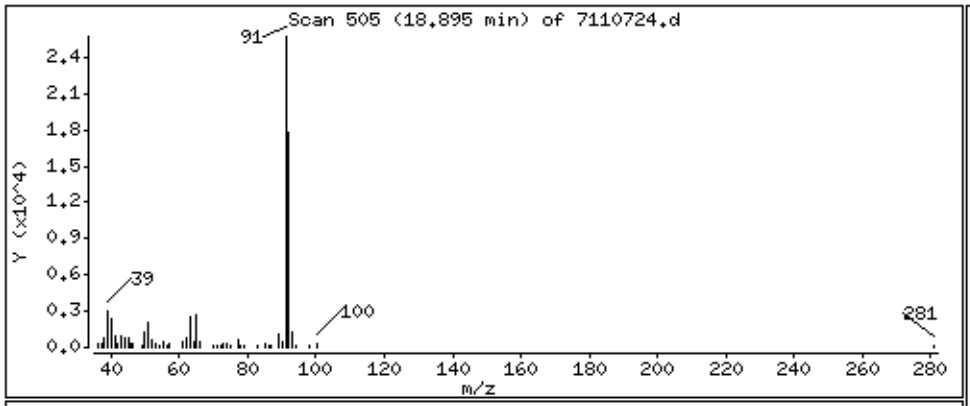
Operator: ab

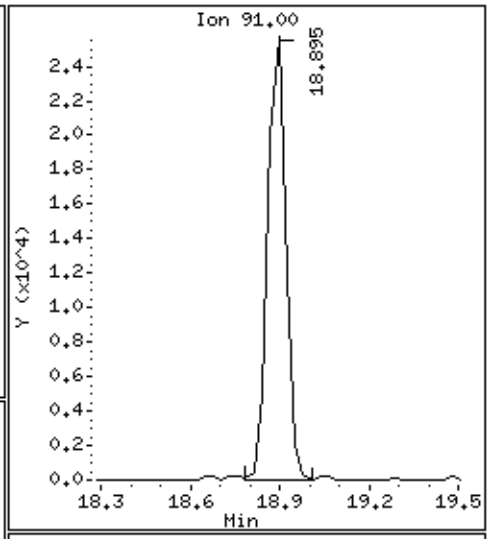
Column phase: RTx-624

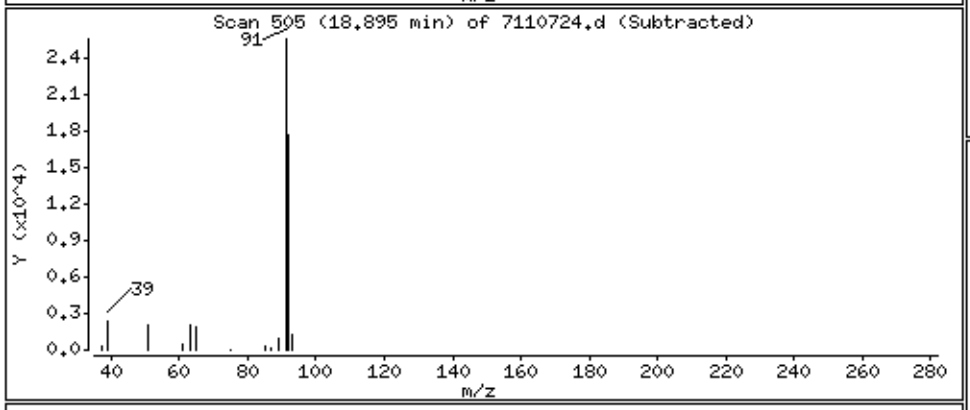
Column diameter: 0.53

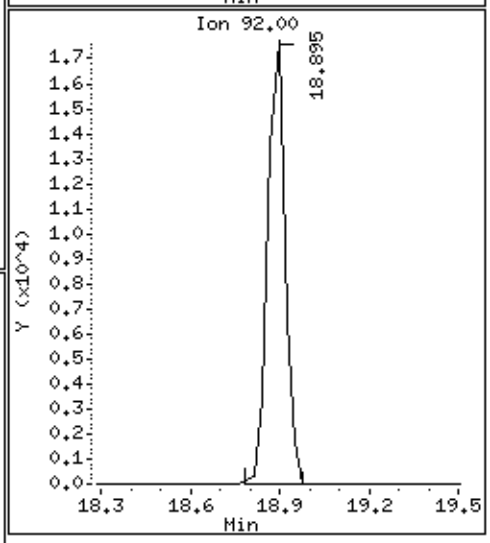
114 Toluene

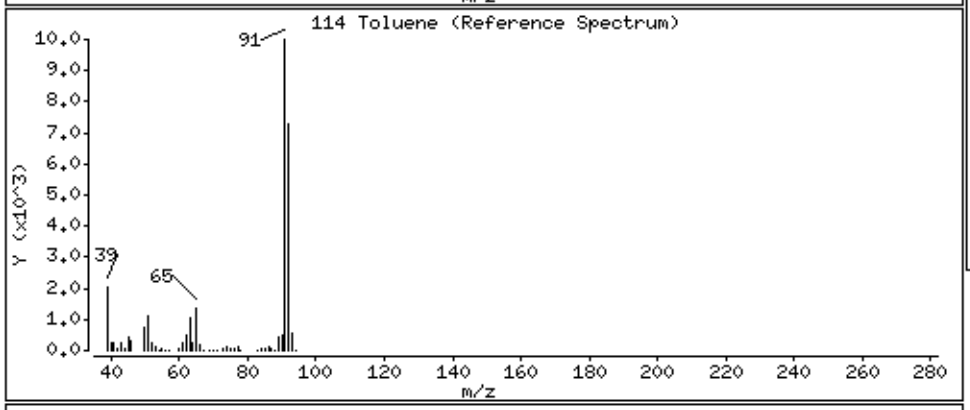
Concentration: 1.891 PPBV

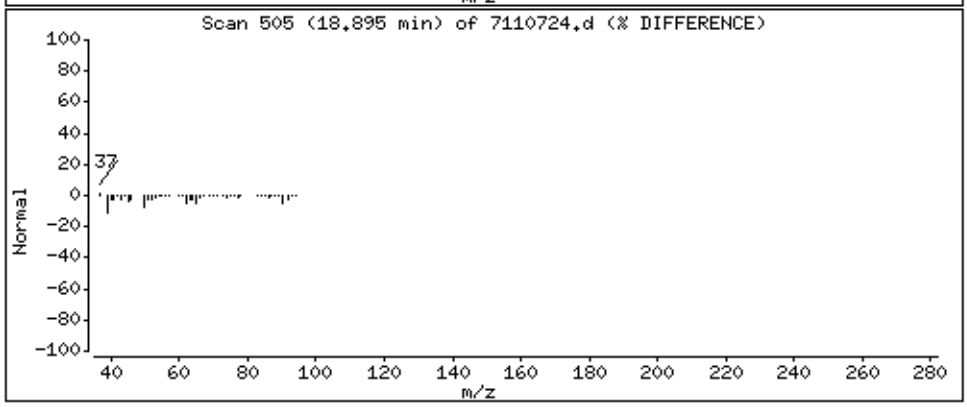












Data File: /chem/msd7.i/7-07nov.b/7110724.d

Date : 08-NOV-2007 03:55

Client ID:

Instrument: msd7.i

Sample Info: 200mL #21005

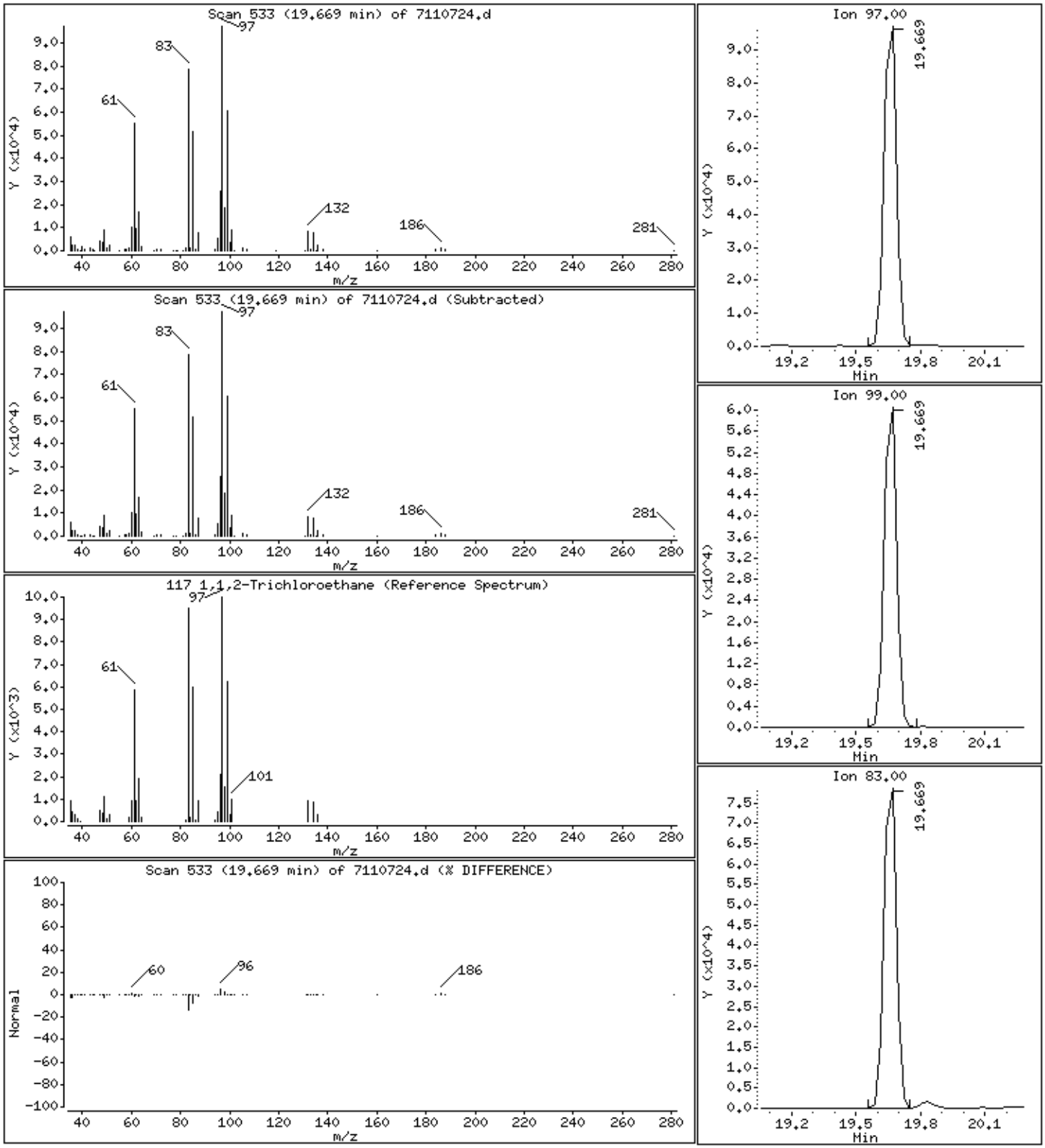
Operator: ab

Column phase: RTx-624

Column diameter: 0.53

117 1,1,2-Trichloroethane

Concentration: 21.393 PPBV



Data File: /chem/msd7.i/7-07nov.b/7110724.d

Date : 08-NOV-2007 03:55

Client ID:

Instrument: msd7.i

Sample Info: 200mL #21005

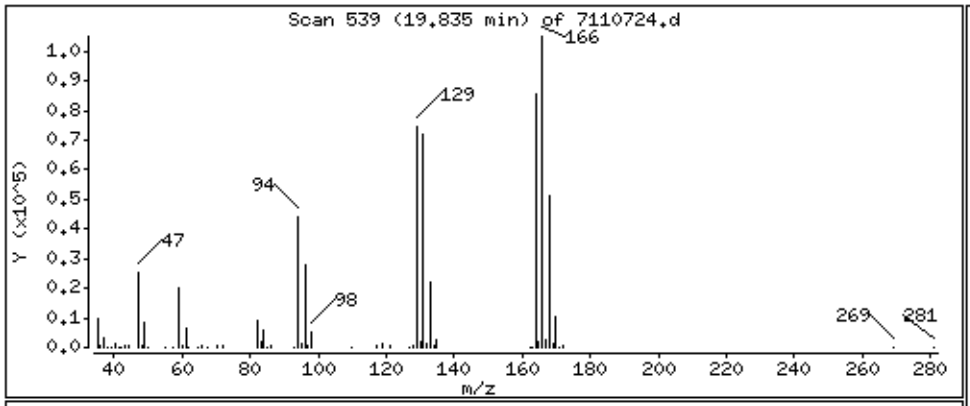
Operator: ab

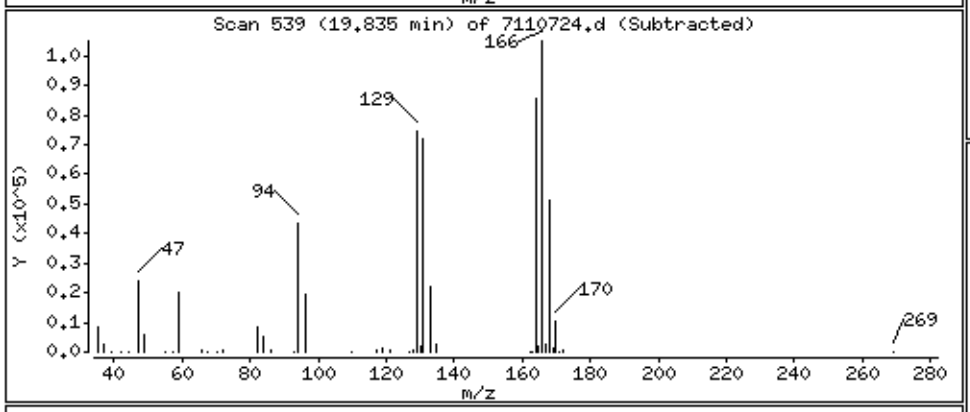
Column phase: RTx-624

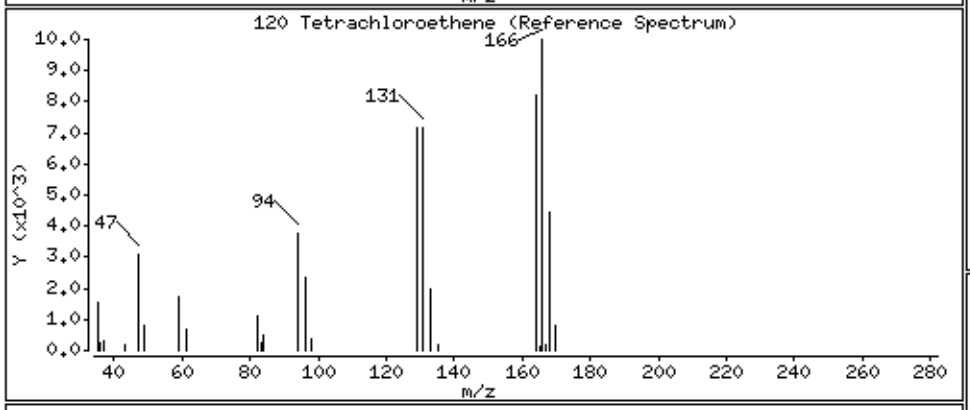
Column diameter: 0.53

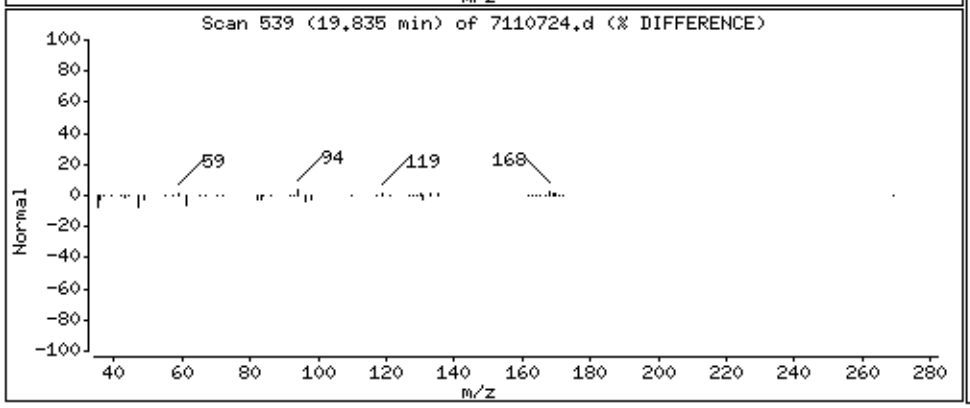
120 Tetrachloroethene

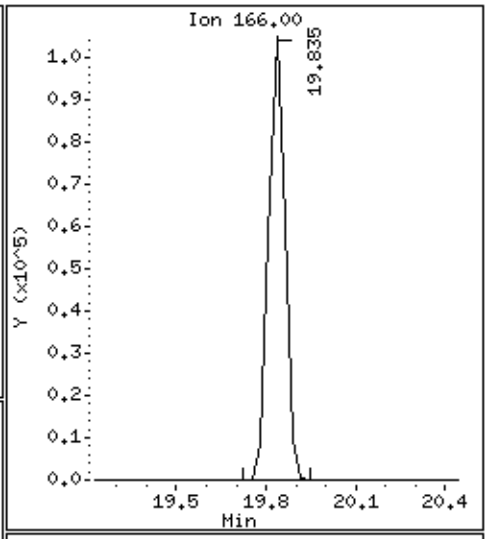
Concentration: 17.108 PPBV

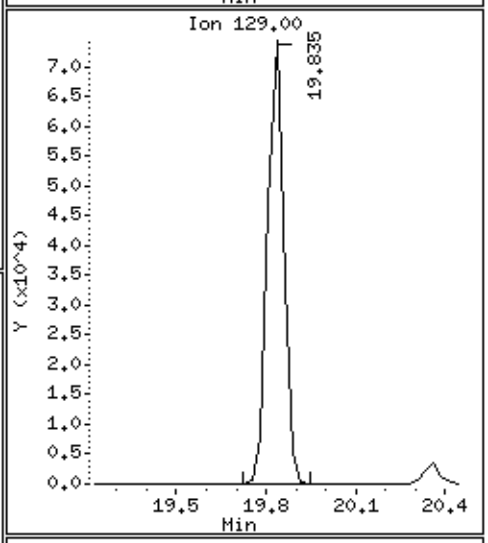


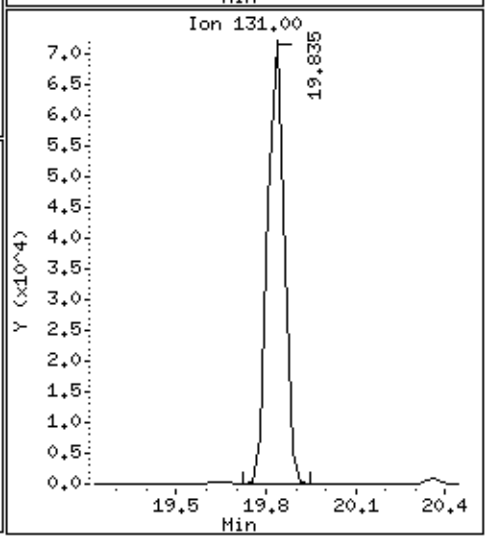












Data File: /chem/msd7.i/7-07nov.b/7110724.d

Date : 08-NOV-2007 03:55

Client ID:

Instrument: msd7.i

Sample Info: 200mL #21005

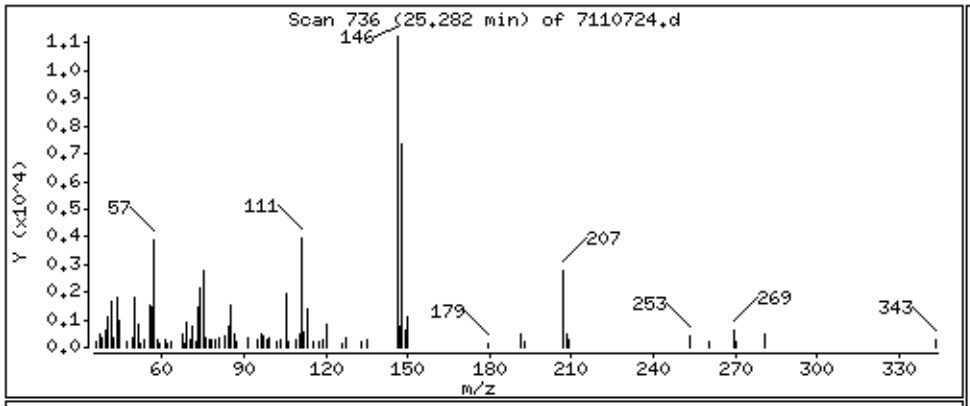
Operator: ab

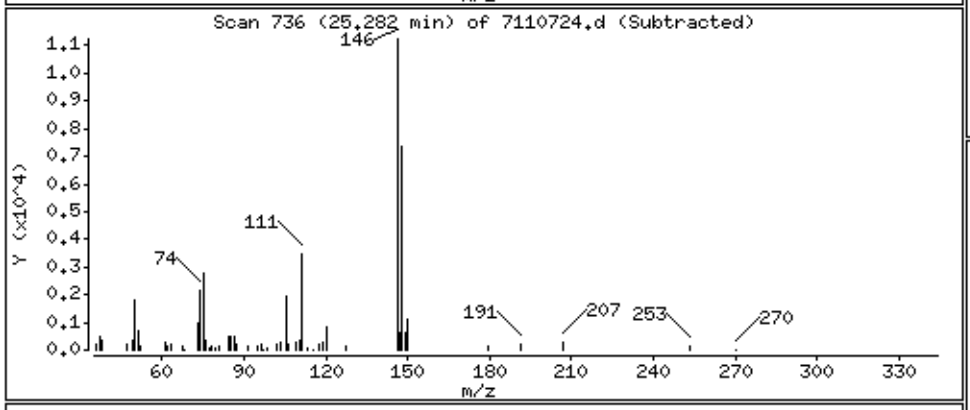
Column phase: RTx-624

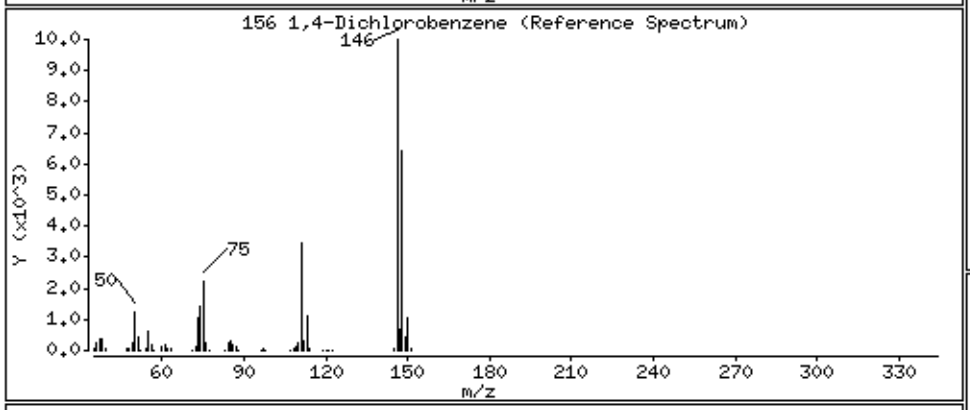
Column diameter: 0.53

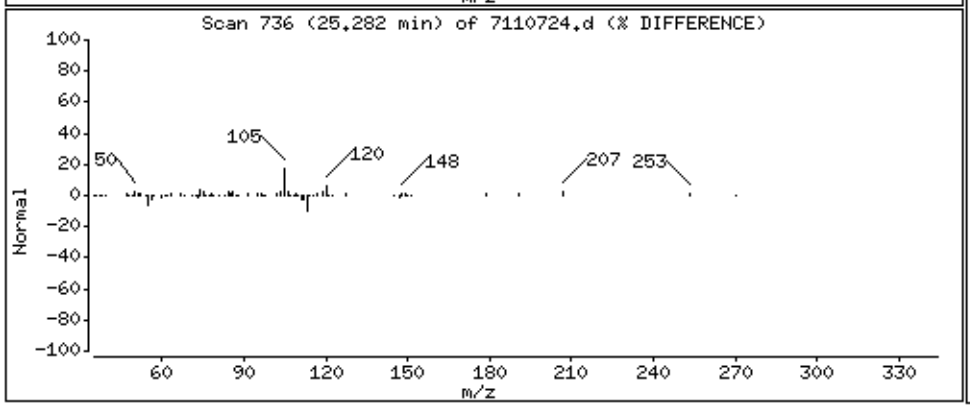
156 1,4-Dichlorobenzene

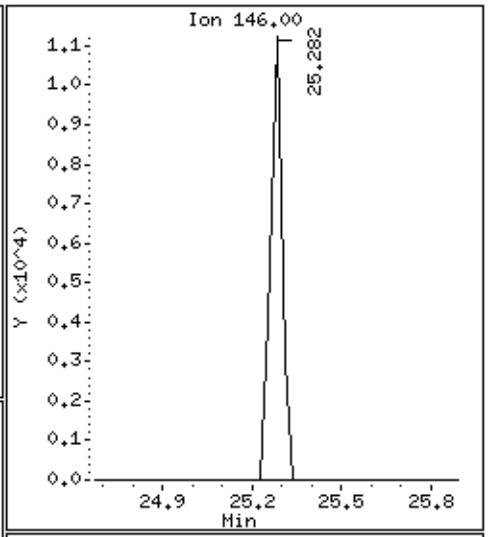
Concentration: 0.8020 PPBV

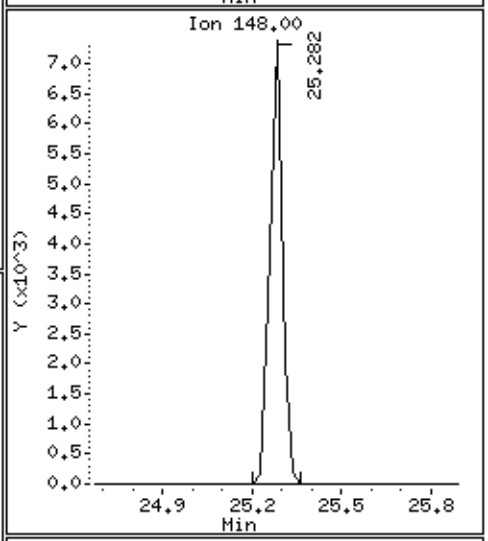


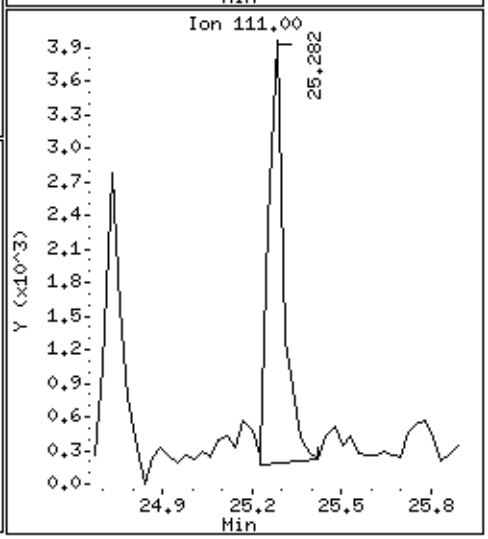












AN ENVIRONMENTAL ANALYTICAL LABORATORY

Summary of Detected Compounds
MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

Client Sample ID: MD21-07-6818

Lab ID#: 0711101-07A

No Detections Were Found.

AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: MD21-07-6818

Lab ID#: 0711101-07A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**7110725**	**Date of Collection:**	**10/30/07**
Dil. Factor:	**1.61**	**Date of Analysis:**	**11/8/07 04:47 AM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Freon 12	0.80	Not Detected	4.0	Not Detected
Freon 114	0.80	Not Detected	5.6	Not Detected
Chloromethane	3.2	Not Detected	6.6	Not Detected
Vinyl Chloride	0.80	Not Detected	2.0	Not Detected
1,3-Butadiene	0.80	Not Detected	1.8	Not Detected
Bromomethane	0.80	Not Detected	3.1	Not Detected
Chloroethane	0.80	Not Detected	2.1	Not Detected
Freon 11	0.80	Not Detected	4.5	Not Detected
Ethanol	3.2	Not Detected	6.1	Not Detected
Freon 113	0.80	Not Detected	6.2	Not Detected
1,1-Dichloroethene	0.80	Not Detected	3.2	Not Detected
Acetone	3.2	Not Detected	7.6	Not Detected
2-Propanol	3.2	Not Detected	7.9	Not Detected
Carbon Disulfide	0.80	Not Detected	2.5	Not Detected
Methylene Chloride	0.80	Not Detected	2.8	Not Detected
Methyl tert-butyl ether	0.80	Not Detected	2.9	Not Detected
trans-1,2-Dichloroethene	0.80	Not Detected	3.2	Not Detected
Hexane	0.80	Not Detected	2.8	Not Detected
1,1-Dichloroethane	0.80	Not Detected	3.2	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.80	Not Detected	2.4	Not Detected
cis-1,2-Dichloroethene	0.80	Not Detected	3.2	Not Detected
Tetrahydrofuran	0.80	Not Detected	2.4	Not Detected
Chloroform	0.80	Not Detected	3.9	Not Detected
1,1,1-Trichloroethane	0.80	Not Detected	4.4	Not Detected
Cyclohexane	0.80	Not Detected	2.8	Not Detected
Carbon Tetrachloride	0.80	Not Detected	5.1	Not Detected
Benzene	0.80	Not Detected	2.6	Not Detected
1,2-Dichloroethane	0.80	Not Detected	3.2	Not Detected
Heptane	0.80	Not Detected	3.3	Not Detected
Trichloroethene	0.80	Not Detected	4.3	Not Detected
1,2-Dichloropropane	0.80	Not Detected	3.7	Not Detected
1,4-Dioxane	3.2	Not Detected	12	Not Detected
Bromodichloromethane	0.80	Not Detected	5.4	Not Detected
cis-1,3-Dichloropropene	0.80	Not Detected	3.6	Not Detected
4-Methyl-2-pentanone	0.80	Not Detected	3.3	Not Detected
Toluene	0.80	Not Detected	3.0	Not Detected
trans-1,3-Dichloropropene	0.80	Not Detected	3.6	Not Detected
1,1,2-Trichloroethane	0.80	Not Detected	4.4	Not Detected
Tetrachloroethene	0.80	Not Detected	5.5	Not Detected

AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: MD21-07-6818

Lab ID#: 0711101-07A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**7110725**	**Date of Collection:**	**10/30/07**
Dil. Factor:	**1.61**	**Date of Analysis:**	**11/8/07 04:47 AM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
2-Hexanone	3.2	Not Detected	13	Not Detected
Dibromochloromethane	0.80	Not Detected	6.8	Not Detected
1,2-Dibromoethane (EDB)	0.80	Not Detected	6.2	Not Detected
Chlorobenzene	0.80	Not Detected	3.7	Not Detected
Ethyl Benzene	0.80	Not Detected	3.5	Not Detected
m,p-Xylene	0.80	Not Detected	3.5	Not Detected
o-Xylene	0.80	Not Detected	3.5	Not Detected
Styrene	0.80	Not Detected	3.4	Not Detected
Bromoform	0.80	Not Detected	8.3	Not Detected
1,1,2,2-Tetrachloroethane	0.80	Not Detected	5.5	Not Detected
4-Ethyltoluene	0.80	Not Detected	4.0	Not Detected
1,3,5-Trimethylbenzene	0.80	Not Detected	4.0	Not Detected
1,2,4-Trimethylbenzene	0.80	Not Detected	4.0	Not Detected
1,3-Dichlorobenzene	0.80	Not Detected	4.8	Not Detected
1,4-Dichlorobenzene	0.80	Not Detected	4.8	Not Detected
alpha-Chlorotoluene	0.80	Not Detected	4.2	Not Detected
1,2-Dichlorobenzene	0.80	Not Detected	4.8	Not Detected
1,2,4-Trichlorobenzene	3.2	Not Detected	24	Not Detected
Hexachlorobutadiene	3.2	Not Detected	34	Not Detected
Chlorodifluoromethane	3.2	Not Detected	11	Not Detected
Methanol	80	Not Detected	100	Not Detected
n-Butanol	3.2	Not Detected	9.8	Not Detected
Propylene	3.2	Not Detected	5.5	Not Detected

Container Type: 6 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	93	70-130
1,2-Dichloroethane-d4	86	70-130
4-Bromofluorobenzene	97	70-130

Air Toxics Ltd.

AMBIENT AIR METHOD TO14

Data file : /chem/msd7.i/7-07nov.b/7110725.d
Lab Smp Id: 0711101-07A
Inj Date : 08-NOV-2007 04:47
Operator : ab Inst ID: msd7.i
Smp Info : 200mL #35248
Misc Info : 5.0"Hg ->5psi
Comment :
Method : /chem/msd7.i/7-07nov.b/t14qO18d.m
Meth Date : 07-Nov-2007 11:47 sruth Quant Type: ISTD
Cal Date : 05-NOV-2007 14:29 Cal File: 7110507.d
Als bottle: 1
Dil Factor: 1.61000
Integrator: HP RTE Compound Sublist: Los2153.sub
Target Version: 3.50 Sample Matrix: AIR
Processing Host: eeyore

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

RT	EXP RT (REL RT)	MASS	RESPONSE	CONCENTRATIONS ON-COL (PPBV)	FINAL (PPBV)	TARGET RANGE	RATIO
* 81 Bromochloromethane					CAS #: 74-97-5		
14.416	14.416 (1.000)	130	570367	25.0000		80.00- 120.00	100.00
14.416	14.416 (1.000)	128	434924			28.66- 128.66	76.25
14.416	14.416 (1.000)	49	807437			133.49- 233.49	141.56
* 97 1,4-Difluorobenzene					CAS #: 540-36-3		
16.185	16.158 (1.000)	114	1814662	25.0000		80.00- 120.00	100.00
16.158	16.158 (1.000)	88	276936			0.00- 65.23	15.26
* 126 Chlorobenzene-d5					CAS #: 3114-55-4		
21.356	21.356 (1.000)	117	1287470	25.0000		80.00- 120.00	100.00
21.356	21.356 (1.000)	82	687794			4.70- 104.70	53.42
$ 90 1,2-Dichloroethane-d4					CAS #: 17060-07-0		
15.494	15.494 (1.075)	65	659465	21.5222	21.522	80.00- 120.00	100.00
15.494	15.494 (1.075)	67	339600			2.91- 102.91	51.50
$ 113 Toluene-d8					CAS #: 2037-26-5		
18.757	18.757 (1.159)	98	1491546	23.1542	23.154	80.00- 120.00	100.00
18.757	18.757 (1.159)	70	158170			0.00- 61.46	10.60

RT	EXP RT	(REL RT)	MASS	RESPONSE	CONCENTRATIONS ON-COL (PPBV)	FINAL (PPBV)	TARGET RANGE	RATIO
$ 113 Toluene-d8 (continued)								
18.757	18.757	(1.159)	100	1036183			19.18- 119.18	69.47
$ 137 Bromofluorobenzene						CAS #:	460-00-4	
23.347	23.347	(1.093)	174	741118	24.1908	24.191	80.00- 120.00	100.00
23.319	23.347	(1.092)	95	904682			73.89- 173.89	122.07
23.347	23.347	(1.093)	176	706566			48.20- 148.20	95.34

Report Date: 08-Nov-2007 11:45

Air Toxics Ltd.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd7.i
Lab File ID: 7110725.d
Lab Smp Id: 0711101-07A
Analysis Type: VOA
Quant Type: ISTD
Operator: ab
Method File: /chem/msd7.i/7-07nov.b/t14qO18d.m
Misc Info: 5.0"Hg ->5psi

Calibration Date: 07-NOV-2007
Calibration Time: 08:52

Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
81 Bromochloromethan	695461	417277	973645	570367	-17.99
97 1,4-Difluorobenze	2265681	1359409	3171953	1814662	-19.91
126 Chlorobenzene-d5	1765821	1059493	2472149	1287470	-27.09

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
81 Bromochloromethan	14.42	14.09	14.75	14.42	0.00
97 1,4-Difluorobenze	16.16	15.83	16.49	16.19	0.17
126 Chlorobenzene-d5	21.36	21.03	21.69	21.36	0.00

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Air Toxics Ltd.

RECOVERY REPORT

Client Name: Client SDG: 7-07nov
Sample Matrix: GAS Fraction: VOA
Lab Smp Id: 0711101-07A
Level: LOW Operator: ab
Data Type: MS DATA SampleType: SAMPLE
SpikeList File: 2926spectra.spk Quant Type: ISTD
Sublist File: Los2153.sub
Method File: /chem/msd7.i/7-07nov.b/t14qO18d.m
Misc Info: 5.0"Hg ->5psi

SURROGATE COMPOUND	CONC ADDED PPBV	CONC RECOVERED PPBV	% RECOVERED	LIMITS
$ 90 1,2-Dichloroethane	25.000	21.522	86.09	70-130
$ 113 Toluene-d8	25.000	23.154	92.62	70-130
$ 137 Bromofluorobenzene	25.000	24.191	96.76	70-130

Data File: /chem/msd7.i/7-07nov.b/7110725.d

Date : 08-NOV-2007 04:47

Client ID:

Sample Info: 200mL #35248

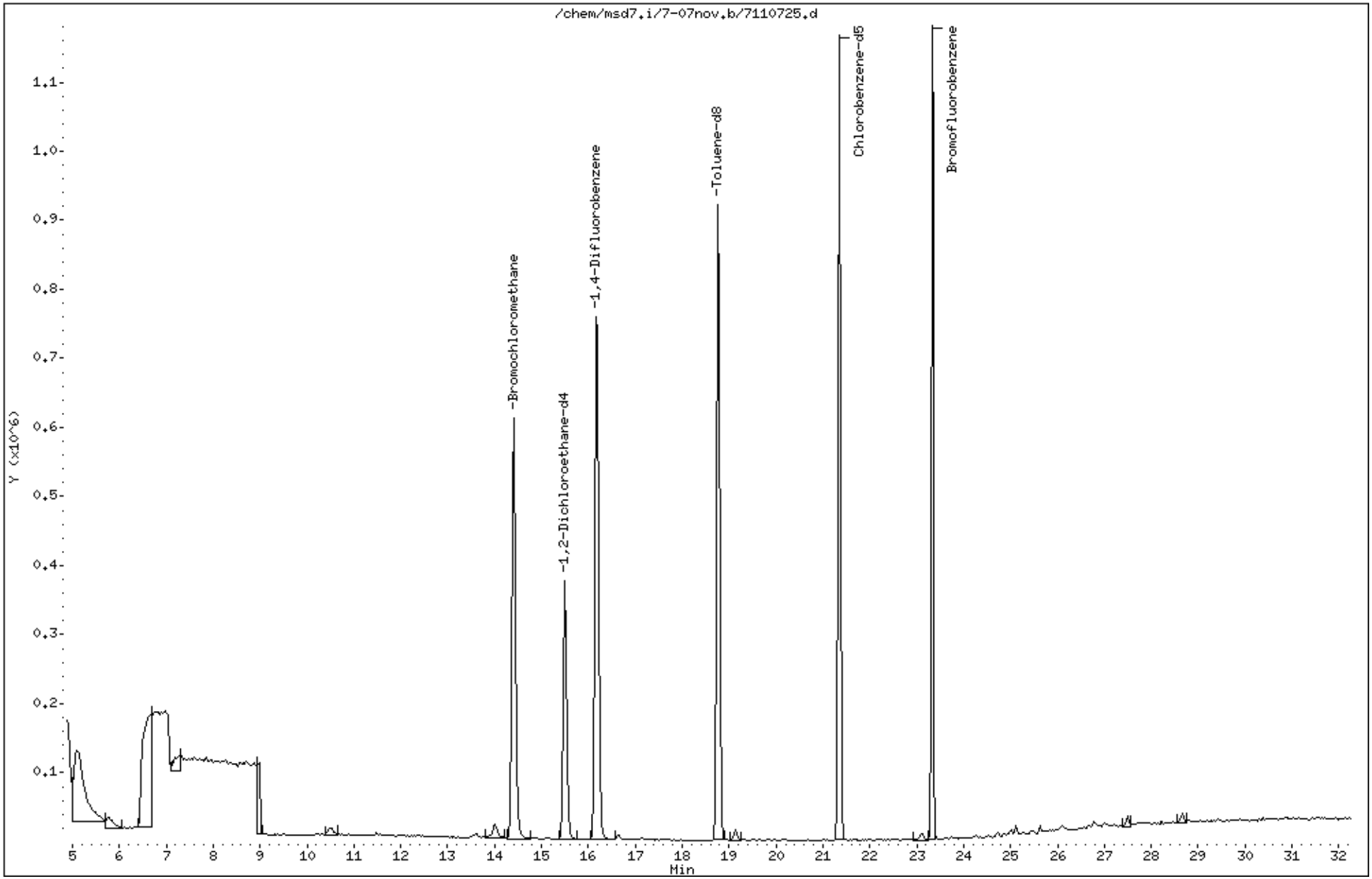
Column phase: RTx-624

Instrument: msd7.i

Operator: ab

Column diameter: 0.53

0258



AN ENVIRONMENTAL ANALYTICAL LABORATORY

Summary of Detected Compounds
MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

Client Sample ID: MD21-08-8445

Lab ID#: 0711101-08A

No Detections Were Found.

AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: MD21-08-8445

Lab ID#: 0711101-08A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**7110726**	**Date of Collection:**	**11/3/07**
Dil. Factor:	**1.64**	**Date of Analysis:**	**11/8/07 05:30 AM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Freon 12	0.82	Not Detected	4.0	Not Detected
Freon 114	0.82	Not Detected	5.7	Not Detected
Chloromethane	3.3	Not Detected	6.8	Not Detected
Vinyl Chloride	0.82	Not Detected	2.1	Not Detected
1,3-Butadiene	0.82	Not Detected	1.8	Not Detected
Bromomethane	0.82	Not Detected	3.2	Not Detected
Chloroethane	0.82	Not Detected	2.2	Not Detected
Freon 11	0.82	Not Detected	4.6	Not Detected
Ethanol	3.3	Not Detected	6.2	Not Detected
Freon 113	0.82	Not Detected	6.3	Not Detected
1,1-Dichloroethene	0.82	Not Detected	3.2	Not Detected
Acetone	3.3	Not Detected	7.8	Not Detected
2-Propanol	3.3	Not Detected	8.1	Not Detected
Carbon Disulfide	0.82	Not Detected	2.6	Not Detected
Methylene Chloride	0.82	Not Detected	2.8	Not Detected
Methyl tert-butyl ether	0.82	Not Detected	3.0	Not Detected
trans-1,2-Dichloroethene	0.82	Not Detected	3.2	Not Detected
Hexane	0.82	Not Detected	2.9	Not Detected
1,1-Dichloroethane	0.82	Not Detected	3.3	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.82	Not Detected	2.4	Not Detected
cis-1,2-Dichloroethene	0.82	Not Detected	3.2	Not Detected
Tetrahydrofuran	0.82	Not Detected	2.4	Not Detected
Chloroform	0.82	Not Detected	4.0	Not Detected
1,1,1-Trichloroethane	0.82	Not Detected	4.5	Not Detected
Cyclohexane	0.82	Not Detected	2.8	Not Detected
Carbon Tetrachloride	0.82	Not Detected	5.2	Not Detected
Benzene	0.82	Not Detected	2.6	Not Detected
1,2-Dichloroethane	0.82	Not Detected	3.3	Not Detected
Heptane	0.82	Not Detected	3.4	Not Detected
Trichloroethene	0.82	Not Detected	4.4	Not Detected
1,2-Dichloropropane	0.82	Not Detected	3.8	Not Detected
1,4-Dioxane	3.3	Not Detected	12	Not Detected
Bromodichloromethane	0.82	Not Detected	5.5	Not Detected
cis-1,3-Dichloropropene	0.82	Not Detected	3.7	Not Detected
4-Methyl-2-pentanone	0.82	Not Detected	3.4	Not Detected
Toluene	0.82	Not Detected	3.1	Not Detected
trans-1,3-Dichloropropene	0.82	Not Detected	3.7	Not Detected
1,1,2-Trichloroethane	0.82	Not Detected	4.5	Not Detected
Tetrachloroethene	0.82	Not Detected	5.6	Not Detected

AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: MD21-08-8445

Lab ID#: 0711101-08A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**7110726**	**Date of Collection:**	**11/3/07**
Dil. Factor:	**1.64**	**Date of Analysis:**	**11/8/07 05:30 AM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
2-Hexanone	3.3	Not Detected	13	Not Detected
Dibromochloromethane	0.82	Not Detected	7.0	Not Detected
1,2-Dibromoethane (EDB)	0.82	Not Detected	6.3	Not Detected
Chlorobenzene	0.82	Not Detected	3.8	Not Detected
Ethyl Benzene	0.82	Not Detected	3.6	Not Detected
m,p-Xylene	0.82	Not Detected	3.6	Not Detected
o-Xylene	0.82	Not Detected	3.6	Not Detected
Styrene	0.82	Not Detected	3.5	Not Detected
Bromoform	0.82	Not Detected	8.5	Not Detected
1,1,2,2-Tetrachloroethane	0.82	Not Detected	5.6	Not Detected
4-Ethyltoluene	0.82	Not Detected	4.0	Not Detected
1,3,5-Trimethylbenzene	0.82	Not Detected	4.0	Not Detected
1,2,4-Trimethylbenzene	0.82	Not Detected	4.0	Not Detected
1,3-Dichlorobenzene	0.82	Not Detected	4.9	Not Detected
1,4-Dichlorobenzene	0.82	Not Detected	4.9	Not Detected
alpha-Chlorotoluene	0.82	Not Detected	4.2	Not Detected
1,2-Dichlorobenzene	0.82	Not Detected	4.9	Not Detected
1,2,4-Trichlorobenzene	3.3	Not Detected	24	Not Detected
Hexachlorobutadiene	3.3	Not Detected	35	Not Detected
Chlorodifluoromethane	3.3	Not Detected	12	Not Detected
Methanol	82	Not Detected	110	Not Detected
n-Butanol	3.3	Not Detected	9.9	Not Detected
Propylene	3.3	Not Detected	5.6	Not Detected

Container Type: 6 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	93	70-130
1,2-Dichloroethane-d4	89	70-130
4-Bromofluorobenzene	98	70-130

Air Toxics Ltd.

AMBIENT AIR METHOD TO14

Data file : /chem/msd7.i/7-07nov.b/7110726.d
Lab Smp Id: 0711101-08A
Inj Date : 08-NOV-2007 05:30
Operator : ab Inst ID: msd7.i
Smp Info : 200mL #4025
Misc Info : 5.5"Hg ->5psi
Comment :
Method : /chem/msd7.i/7-07nov.b/t14qO18d.m
Meth Date : 07-Nov-2007 11:47 sruth Quant Type: ISTD
Cal Date : 05-NOV-2007 14:29 Cal File: 7110507.d
Als bottle: 1
Dil Factor: 1.64000
Integrator: HP RTE Compound Sublist: Los2153.sub
Target Version: 3.50 Sample Matrix: AIR
Processing Host: eeyore

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

RT	EXP RT (REL RT)	MASS	RESPONSE	CONCENTRATIONS ON-COL (PPBV)	FINAL (PPBV)	TARGET RANGE	RATIO
* 81 Bromochloromethane					CAS #: 74-97-5		
14.416	14.416 (1.000)	130	553375	25.0000		80.00- 120.00	100.00
14.416	14.416 (1.000)	128	419846			28.66- 128.66	75.87
14.416	14.416 (1.000)	49	787175			133.49- 233.49	142.25
* 97 1,4-Difluorobenzene					CAS #: 540-36-3		
16.186	16.158 (1.000)	114	1743458	25.0000		80.00- 120.00	100.00
16.186	16.158 (1.000)	88	262477			0.00- 65.23	15.05
* 126 Chlorobenzene-d5					CAS #: 3114-55-4		
21.356	21.356 (1.000)	117	1237454	25.0000		80.00- 120.00	100.00
21.356	21.356 (1.000)	82	659824			4.70- 104.70	53.32
$ 90 1,2-Dichloroethane-d4					CAS #: 17060-07-0		
15.494	15.494 (1.075)	65	664713	22.3596	22.360	80.00- 120.00	100.00
15.494	15.494 (1.075)	67	330577			2.91- 102.91	49.73
$ 113 Toluene-d8					CAS #: 2037-26-5		
18.757	18.757 (1.159)	98	1439235	23.2547	23.255	80.00- 120.00	100.00
18.757	18.757 (1.159)	70	155804			0.00- 61.46	10.83

RT	EXP RT	(REL RT)	MASS	RESPONSE	CONCENTRATIONS ON-COL (PPBV)	FINAL (PPBV)	TARGET RANGE	RATIO
$ 113 Toluene-d8 (continued)								
18.785	18.757	(1.161)	100	985366			19.18- 119.18	68.46
$ 137 Bromofluorobenzene						CAS #: 460-00-4		
23.347	23.347	(1.093)	174	721939	24.5172	24.517	80.00- 120.00	100.00
23.319	23.347	(1.092)	95	874890			73.89- 173.89	121.19
23.347	23.347	(1.093)	176	693516			48.20- 148.20	96.06

Air Toxics Ltd.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd7.i
Lab File ID: 7110726.d
Lab Smp Id: 0711101-08A
Analysis Type: VOA
Quant Type: ISTD
Operator: ab
Method File: /chem/msd7.i/7-07nov.b/t14qO18d.m
Misc Info: 5.5"Hg ->5psi

Calibration Date: 07-NOV-2007
Calibration Time: 08:52

Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
81 Bromochloromethan	695461	417277	973645	553375	-20.43
97 1,4-Difluorobenze	2265681	1359409	3171953	1743458	-23.05
126 Chlorobenzene-d5	1765821	1059493	2472149	1237454	-29.92

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
81 Bromochloromethan	14.42	14.09	14.75	14.42	0.00
97 1,4-Difluorobenze	16.16	15.83	16.49	16.19	0.17
126 Chlorobenzene-d5	21.36	21.03	21.69	21.36	0.00

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Air Toxics Ltd.

RECOVERY REPORT

Client Name: Client SDG: 7-07nov
Sample Matrix: GAS Fraction: VOA
Lab Smp Id: 0711101-08A
Level: LOW Operator: ab
Data Type: MS DATA SampleType: SAMPLE
SpikeList File: 2926spectra.spk Quant Type: ISTD
Sublist File: Los2153.sub
Method File: /chem/msd7.i/7-07nov.b/t14qO18d.m
Misc Info: 5.5"Hg ->5psi

SURROGATE COMPOUND	CONC ADDED PPBV	CONC RECOVERED PPBV	% RECOVERED	LIMITS
$ 90 1,2-Dichloroethane	25.000	22.360	89.44	70-130
$ 113 Toluene-d8	25.000	23.255	93.02	70-130
$ 137 Bromofluorobenzene	25.000	24.517	98.07	70-130

Data File: /chem/msd7.i/7-07nov.b/7110726.d

Date : 08-NOV-2007 05:30

Client ID:

Sample Info: 200mL #4025

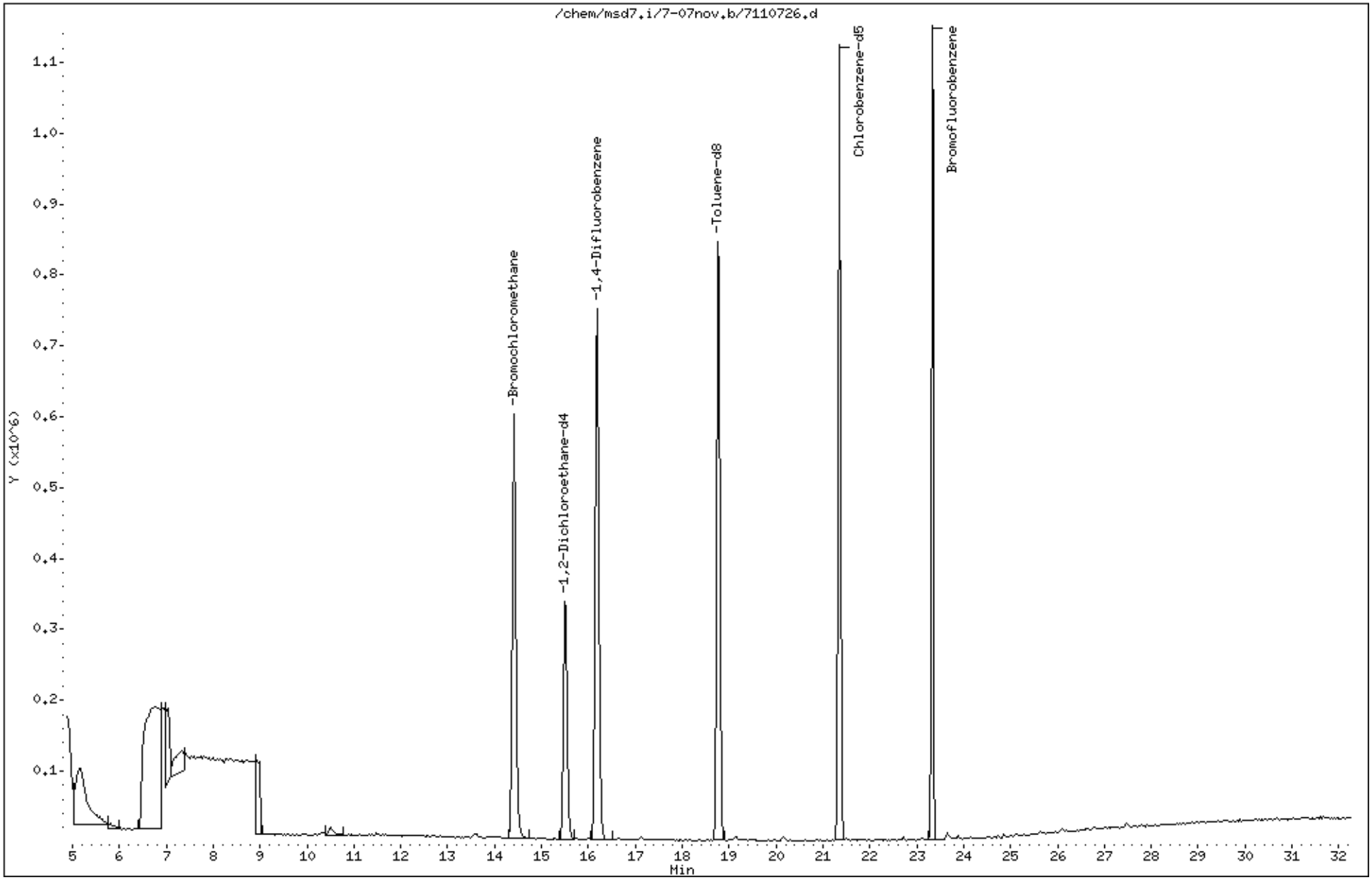
Column phase: RTx-624

Instrument: msd7.i

Operator: ab

Column diameter: 0.53

0266



QC Results and Raw Data

AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: Lab Blank

Lab ID#: 0711101-09A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**7110706c**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 11/7/07 12:05 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Freon 12	0.50	Not Detected	2.5	Not Detected
Freon 114	0.50	Not Detected	3.5	Not Detected
Chloromethane	2.0	Not Detected	4.1	Not Detected
Vinyl Chloride	0.50	Not Detected	1.3	Not Detected
1,3-Butadiene	0.50	Not Detected	1.1	Not Detected
Bromomethane	0.50	Not Detected	1.9	Not Detected
Chloroethane	0.50	Not Detected	1.3	Not Detected
Freon 11	0.50	Not Detected	2.8	Not Detected
Ethanol	2.0	Not Detected	3.8	Not Detected
Freon 113	0.50	Not Detected	3.8	Not Detected
1,1-Dichloroethene	0.50	Not Detected	2.0	Not Detected
Acetone	2.0	Not Detected	4.8	Not Detected
2-Propanol	2.0	Not Detected	4.9	Not Detected
Carbon Disulfide	0.50	Not Detected	1.6	Not Detected
Methylene Chloride	0.50	Not Detected	1.7	Not Detected
Methyl tert-butyl ether	0.50	Not Detected	1.8	Not Detected
trans-1,2-Dichloroethene	0.50	Not Detected	2.0	Not Detected
Hexane	0.50	Not Detected	1.8	Not Detected
1,1-Dichloroethane	0.50	Not Detected	2.0	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.50	Not Detected	1.5	Not Detected
cis-1,2-Dichloroethene	0.50	Not Detected	2.0	Not Detected
Tetrahydrofuran	0.50	Not Detected	1.5	Not Detected
Chloroform	0.50	Not Detected	2.4	Not Detected
1,1,1-Trichloroethane	0.50	Not Detected	2.7	Not Detected
Cyclohexane	0.50	Not Detected	1.7	Not Detected
Carbon Tetrachloride	0.50	Not Detected	3.1	Not Detected
Benzene	0.50	Not Detected	1.6	Not Detected
1,2-Dichloroethane	0.50	Not Detected	2.0	Not Detected
Heptane	0.50	Not Detected	2.0	Not Detected
Trichloroethene	0.50	Not Detected	2.7	Not Detected
1,2-Dichloropropane	0.50	Not Detected	2.3	Not Detected
1,4-Dioxane	2.0	Not Detected	7.2	Not Detected
Bromodichloromethane	0.50	Not Detected	3.4	Not Detected
cis-1,3-Dichloropropene	0.50	Not Detected	2.3	Not Detected
4-Methyl-2-pentanone	0.50	Not Detected	2.0	Not Detected
Toluene	0.50	Not Detected	1.9	Not Detected
trans-1,3-Dichloropropene	0.50	Not Detected	2.3	Not Detected
1,1,2-Trichloroethane	0.50	Not Detected	2.7	Not Detected
Tetrachloroethene	0.50	Not Detected	3.4	Not Detected

AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: Lab Blank

Lab ID#: 0711101-09A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**7110706c**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 11/7/07 12:05 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
2-Hexanone	2.0	Not Detected	8.2	Not Detected
Dibromochloromethane	0.50	Not Detected	4.2	Not Detected
1,2-Dibromoethane (EDB)	0.50	Not Detected	3.8	Not Detected
Chlorobenzene	0.50	Not Detected	2.3	Not Detected
Ethyl Benzene	0.50	Not Detected	2.2	Not Detected
m,p-Xylene	0.50	Not Detected	2.2	Not Detected
o-Xylene	0.50	Not Detected	2.2	Not Detected
Styrene	0.50	Not Detected	2.1	Not Detected
Bromoform	0.50	Not Detected	5.2	Not Detected
1,1,2,2-Tetrachloroethane	0.50	Not Detected	3.4	Not Detected
4-Ethyltoluene	0.50	Not Detected	2.4	Not Detected
1,3,5-Trimethylbenzene	0.50	Not Detected	2.4	Not Detected
1,2,4-Trimethylbenzene	0.50	Not Detected	2.4	Not Detected
1,3-Dichlorobenzene	0.50	Not Detected	3.0	Not Detected
1,4-Dichlorobenzene	0.50	Not Detected	3.0	Not Detected
alpha-Chlorotoluene	0.50	Not Detected	2.6	Not Detected
1,2-Dichlorobenzene	0.50	Not Detected	3.0	Not Detected
1,2,4-Trichlorobenzene	2.0	Not Detected	15	Not Detected
Hexachlorobutadiene	2.0	Not Detected	21	Not Detected
Chlorodifluoromethane	2.0	Not Detected	7.1	Not Detected
Methanol	50	Not Detected	66	Not Detected
n-Butanol	2.0	Not Detected	6.1	Not Detected
Propylene	2.0	Not Detected	3.4	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	94	70-130
1,2-Dichloroethane-d4	88	70-130
4-Bromofluorobenzene	98	70-130

Air Toxics Ltd.

AMBIENT AIR METHOD TO14

Data file : /chem/msd7.i/7-07nov.b/7110706c.d
Lab Smp Id: Lab blank Client Smp ID: Lab blank
Inj Date : 07-NOV-2007 12:05
Operator : sjr Inst ID: msd7.i
Smp Info : 200mL #34190
Misc Info : humid
Comment :
Method : /chem/msd7.i/7-07nov.b/t14qO18d.m
Meth Date : 07-Nov-2007 11:47 sruth Quant Type: ISTD
Cal Date : 05-NOV-2007 14:29 Cal File: 7110507.d
Als bottle: 1
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: Los2153.sub
Target Version: 3.50 Sample Matrix: AIR
Processing Host: eeyore

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

RT	EXP RT (REL RT)	MASS	RESPONSE	CONCENTRATIONS ON-COL (PPBV)	FINAL (PPBV)	TARGET RANGE	RATIO
* 81 Bromochloromethane					CAS #: 74-97-5		
14.416	14.416 (1.000)	130	589519	25.0000		80.00- 120.00	100.00
14.416	14.416 (1.000)	128	457431			28.66- 128.66	77.59
14.388	14.416 (1.000)	49	832645			133.49- 233.49	141.24
* 97 1,4-Difluorobenzene					CAS #: 540-36-3		
16.158	16.158 (1.000)	114	1841261	25.0000		80.00- 120.00	100.00
16.158	16.158 (1.000)	88	283238			0.00- 65.23	15.38
* 126 Chlorobenzene-d5					CAS #: 3114-55-4		
21.356	21.356 (1.000)	117	1332804	25.0000		80.00- 120.00	100.00
21.356	21.356 (1.000)	82	723639			4.70- 104.70	54.29
$ 90 1,2-Dichloroethane-d4					CAS #: 17060-07-0		
15.494	15.494 (1.075)	65	695337	21.9557	21.956	80.00- 120.00	100.00
15.494	15.494 (1.075)	67	350192			2.91- 102.91	50.36
$ 113 Toluene-d8					CAS #: 2037-26-5		
18.757	18.757 (1.161)	98	1536030	23.5003	23.500	80.00- 120.00	100.00
18.757	18.757 (1.161)	70	167805			0.00- 61.46	10.92

RT	EXP RT	(REL RT)	MASS	RESPONSE	CONCENTRATIONS ON-COL (PPBV)	FINAL (PPBV)	TARGET RANGE	RATIO
$ 113 Toluene-d8 (continued)								
18.757	18.757	(1.161)	100	1064591			19.18- 119.18	69.31
$ 137 Bromofluorobenzene						CAS #: 460-00-4		
23.347	23.347	(1.093)	174	780395	24.6064	24.606	80.00- 120.00	100.00
23.319	23.347	(1.092)	95	960380			73.89- 173.89	123.06
23.347	23.347	(1.093)	176	759262			48.20- 148.20	97.29

Report Date: 07-Nov-2007 12:47

Air Toxics Ltd.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd7.i
Lab File ID: 7110706c.d
Lab Smp Id: Lab blank
Analysis Type: VOA
Quant Type: ISTD
Operator: sjr
Method File: /chem/msd7.i/7-07nov.b/t14qO18d.m
Misc Info: humid

Calibration Date: 07-NOV-2007
Calibration Time: 08:52
Client Smp ID: Lab blank
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
81 Bromochloromethan	695461	417277	973645	589519	-15.23
97 1,4-Difluorobenze	2265681	1359409	3171953	1841261	-18.73
126 Chlorobenzene-d5	1765821	1059493	2472149	1332804	-24.52

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
81 Bromochloromethan	14.42	14.09	14.75	14.42	0.00
97 1,4-Difluorobenze	16.16	15.83	16.49	16.16	0.00
126 Chlorobenzene-d5	21.36	21.03	21.69	21.36	0.00

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Report Date: 07-Nov-2007 12:47

Air Toxics Ltd.

RECOVERY REPORT

Client Name:
Client SDG: 7-07nov
Sample Matrix: GAS
Fraction: VOA
Lab Smp Id: Lab blank
Client Smp ID: Lab blank
Level: LOW
Operator: sjr
Data Type: MS DATA
SampleType: SAMPLE
SpikeList File: 2926spectra.spk
Quant Type: ISTD
Sublist File: Los2153.sub
Method File: /chem/msd7.i/7-07nov.b/t14qO18d.m
Misc Info: humid

SURROGATE COMPOUND	CONC ADDED PPBV	CONC RECOVERED PPBV	% RECOVERED	LIMITS
$ 90 1,2-Dichloroethane	25.000	21.956	87.82	70-130
$ 113 Toluene-d8	25.000	23.500	94.00	70-130
$ 137 Bromofluorobenzene	25.000	24.606	98.43	70-130

Data File: /chem/msd7.i/7-07nov.b/7110706c.d

Date : 07-NOV-2007 12:05

Client ID: Lab blank

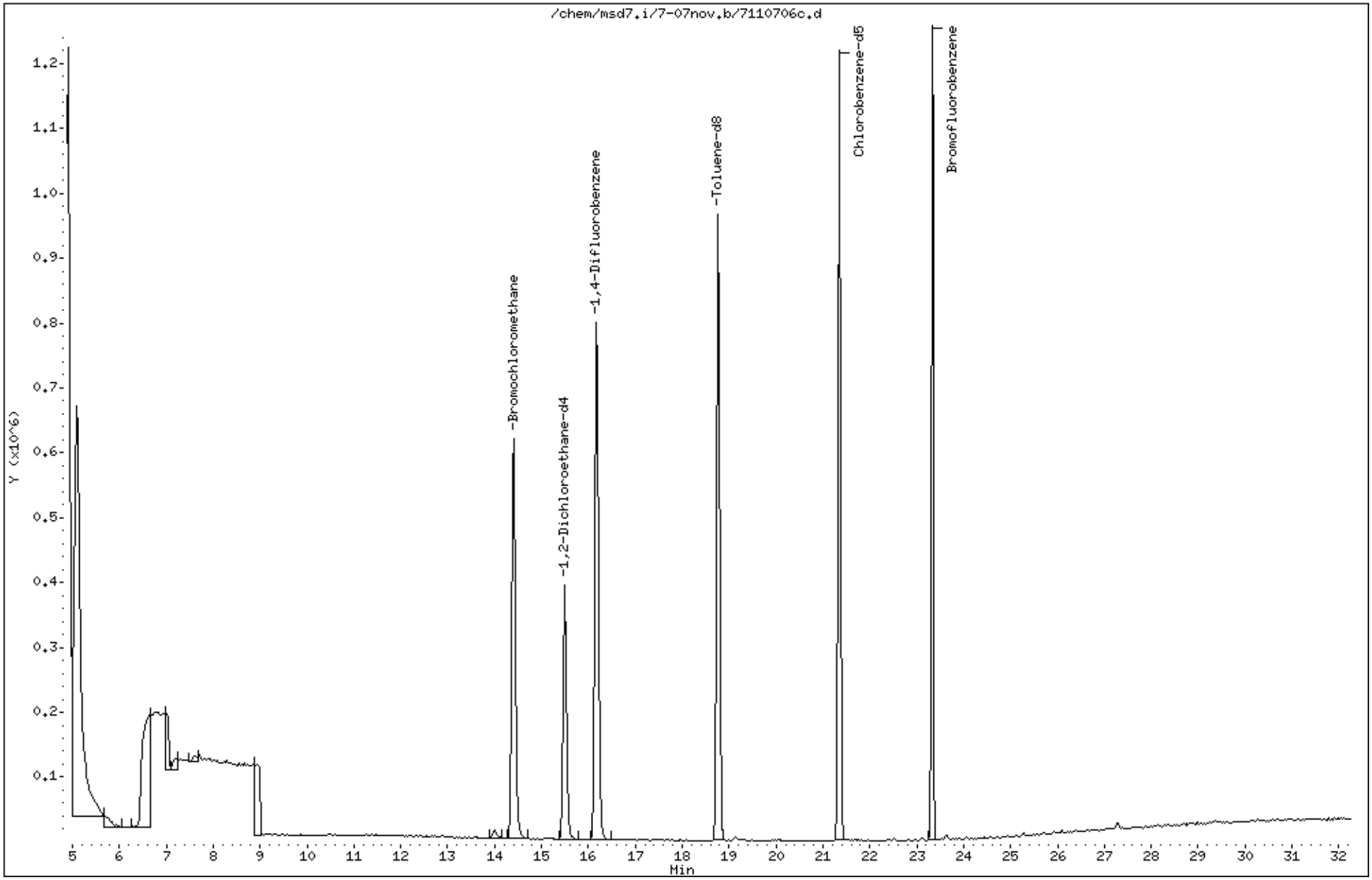
Sample Info: 200mL #34190

Column phase: RTx-624

Instrument: msd7.i

Operator: sjr

Column diameter: 0.53



LEVEL-IV VALIDATABLE

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

SURROGATE RECOVERY FORM

Lab Name: AIR TOXICS LIMITED. SDG No.: 0711101

	CLIENT SAMPLE NO.	SURROGATE % RECOVERY								
		1,2-Dichloroethane-d4	#	Toluene-d8	#	4-Bromofluorobenzene	#		#	TOTAL OUT
01	MD21-07-6800	99		91		95				0
02	MD21-07-6800 Lab Duplicate	96		92		96				0
03	MD21-07-6801	96		94		104				0
04	MD21-07-6802	97		89		99				0
05	MD21-07-6803	93		92		99				0
06	MD21-07-6804	92		94		100				0
07	MD21-07-6806	94		90		93				0
08	MD21-07-6806 Lab Duplicate	95		90		94				0
09	MD21-07-6818	86		93		97				0
10	MD21-08-8445	89		93		98				0
11	Lab Blank	88		94		98				0
12	CCV	92		99		99				0
13	LCS	91		101		102				0
14										0
15										0
16										0
17										0
18										0
19										0
20										0
21										0
22										0
23										0
24										0

Surrogate Recovery Limits

1,2-Dichloroethane-d4 70 - 130
Toluene-d8 70 - 130
4-Bromofluorobenzene 70 - 130

* Designates values outside of QC limits

LEVEL-IV VALIDATABLE

Modified EPA Method TO-15 GC/MS Full Scan

INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: AIR TOXICS, LTD

SDG No: 0711101

Lab File ID: 7110702.d

Date Analyzed: 11/07/2007

Instrument ID: msd7.i

Time Analyzed: 08:52 AM

		Chlorobenzene-d5 Area	#	RT	#	1,4-Difluorobenzene Area	#	RT	#	Bromochloromethane Area	#	RT	#
	24-HOUR STD	1765821		21.36		2265681		16.16		695461		14.42	
	UPPER LIMIT	2472149		21.69		3171953		16.49		973645		14.75	
	LOWER LIMIT	1059493		21.03		1359409		15.83		417277		14.09	
	CLIENT SAMPLE NO												
01	MD21-07-6800	1365466		21.36		2034114		16.19		606983		14.42	
02	MD21-07-6800 Lab Duplicate	1378856		21.36		1945218		16.16		577711		14.42	
03	MD21-07-6801	1630873		21.36		2157343		16.16		641418		14.42	
04	MD21-07-6802	1408613		21.36		2127784		16.19		632631		14.42	
05	MD21-07-6803	1480617		21.36		2091766		16.19		619105		14.42	
06	MD21-07-6804	1556200		21.36		2032361		16.19		584784		14.42	
07	MD21-07-6806	1440777		21.36		2128372		16.19		622353		14.42	
08	MD21-07-6806 Lab Duplicate	1413093		21.36		2123911		16.19		625844		14.42	
09	MD21-07-6818	1287470		21.36		1814662		16.19		570367		14.42	
10	MD21-08-8445	1237454		21.36		1743458		16.19		553375		14.42	
11	Lab Blank	1332804		21.36		1841261		16.16		589519		14.42	
12	CCV	1765821		21.36		2265681		16.16		695461		14.42	
13	LCS	1750820		21.36		2227472		16.16		686073		14.42	
14													
15													
16													
17													
18													
19													
20													
21													
22													

'Area Upper Limit=+40% of internal standard area'

'Area Lower Limit=-40% of internal standard area'

RT Upper Limit=+0.33 minutes of internal standard RT

RT Lower Limit=-0.33 minutes of internal standard RT

* Designates values outside of QC limits

SAMPLE RESULTS/SAMPLE RESULTS DUPLICATE

Lab Name: Air Toxics Ltd.

Lab File ID: 7110718.d & 7110719.d

Lab Sample ID: 01A & 01AA

Dilution: 3.36 & 1.68

Client Sample ID: &

Date Analyzed: 11/8/07 & 11/7/07

		Original		Duplicate		
CAS Number	Compound	Amount	Flags	Amount	Flags	RPD
71-55-6	1,1,1-Trichloroethane	1.508		ND	U	-->200<--
79-34-5	1,1,2,2-Tetrachloroethane	ND	U	ND	U	0
79-00-5	1,1,2-Trichloroethane	14.82		13.898		6.4
75-34-3	1,1-Dichloroethane	ND	U	ND	U	0
75-35-4	1,1-Dichloroethene	8.32		8.727		4.8
120-82-1	1,2,4-Trichlorobenzene	ND	U	ND	U	0
95-63-6	1,2,4-Trimethylbenzene	ND	U	ND	U	0
106-93-4	1,2-Dibromoethane (EDB)	ND	U	ND	U	0
95-50-1	1,2-Dichlorobenzene	ND	U	ND	U	0
107-06-2	1,2-Dichloroethane	2.724		2.508		8.2
78-87-5	1,2-Dichloropropane	ND	U	ND	U	0
108-67-8	1,3,5-Trimethylbenzene	ND	U	ND	U	0
106-99-0	1,3-Butadiene	0.9648		ND	U	-->200<--
541-73-1	1,3-Dichlorobenzene	ND	U	ND	U	0
106-46-7	1,4-Dichlorobenzene	ND	U	ND	U	0
123-91-1	1,4-Dioxane	ND	U	ND	U	0
78-93-3	2-Butanone (Methyl Ethyl Ketone)	1.257		ND	U	-->200<--
591-78-6	2-Hexanone	ND	U	ND	U	0
67-63-0	2-Propanol	ND	U	ND	U	0
622-96-8	4-Ethyltoluene	ND	U	ND	U	0
108-10-1	4-Methyl-2-pentanone	ND	U	ND	U	0
67-64-1	Acetone	55.447		58.379		5.2
100-44-7	alpha-Chlorotoluene	ND	U	ND	U	0
71-43-2	Benzene	1.03		ND	U	-->200<--
75-27-4	Bromodichloromethane	1.094		ND	U	-->200<--
75-25-2	Bromoform	ND	U	ND	U	0
74-83-9	Bromomethane	ND	U	ND	U	0
75-15-0	Carbon Disulfide	0.912		ND	U	-->200<--
56-23-5	Carbon Tetrachloride	56.263		55.246		1.8
108-90-7	Chlorobenzene	ND	U	ND	U	0
75-45-6	Chlorodifluoromethane	ND	U	ND	U	0
75-00-3	Chloroethane	ND	U	ND	U	0
67-66-3	Chloroform	111.09		112.72		1.4
74-87-3	Chloromethane	ND	U	ND	U	0
156-59-2	cis-1,2-Dichloroethene	ND	U	ND	U	0
10061-01-5	cis-1,3-Dichloropropene	ND	U	ND	U	0
110-82-7	Cyclohexane	ND	U	ND	U	0
124-48-1	Dibromochloromethane	ND	U	ND	U	0
64-17-5	Ethanol	ND	U	ND	U	0
100-41-4	Ethyl Benzene	ND	U	ND	U	0
75-69-4	Freon 11	ND	U	ND	U	0
76-13-1	Freon 113	2.141		2.164		1.1
76-14-2	Freon 114	ND	U	ND	U	0
75-71-8	Freon 12	ND	U	ND	U	0
142-82-5	Heptane	ND	U	ND	U	0
87-68-3	Hexachlorobutadiene	ND	U	ND	U	0

Note: The results appearing in the Amount columns are the raw, unrounded numbers acquired from the instrument.

SAMPLE RESULTS/SAMPLE RESULTS DUPLICATE

Lab Name: Air Toxics Ltd.

Lab File ID: 7110718.d & 7110719.d

Lab Sample ID: 01A & 01AA

Dilution: 3.36 & 1.68

Client Sample ID: &

Date Analyzed: 11/8/07 & 11/7/07

		Original		Duplicate		
CAS Number	Compound	Amount	Flags	Amount	Flags	RPD
110-54-3	Hexane	ND	U	ND	U	0
108-38-3	m,p-Xylene	ND	U	ND	U	0
67-56-1	Methanol	ND	U	ND	U	0
1634-04-4	Methyl tert-butyl ether	ND	U	ND	U	0
75-09-2	Methylene Chloride	208.36		212.04		1.8
71-36-3	n-Butanol	ND	U	ND	U	0
95-47-6	o-Xylene	ND	U	ND	U	0
115-07-1	Propylene	23.072		24.567		6.3
100-42-5	Styrene	ND	U	ND	U	0
127-18-4	Tetrachloroethene	11.496		11.062		3.8
109-99-9	Tetrahydrofuran	ND	U	ND	U	0
108-88-3	Toluene	1.349		ND	U	-->200<--
156-60-5	trans-1,2-Dichloroethene	ND	U	ND	U	0
10061-02-6	trans-1,3-Dichloropropene	ND	U	ND	U	0
79-01-6	Trichloroethene	148.8		151.44		1.8
75-01-4	Vinyl Chloride	ND	U	ND	U	0

Note: The results appearing in the Amount columns are the raw, unrounded numbers acquired from the instrument.

SAMPLE RESULTS/SAMPLE RESULTS DUPLICATE

Lab Name: Air Toxics Ltd.

Lab File ID: 7110724.d & 7110723.d

Lab Sample ID: 06A & 06AA

Dilution: 1.61 & 1.61

Client Sample ID: &

Date Analyzed: 11/8/07 & 11/8/07

		Original		Duplicate		
CAS Number	Compound	Amount	Flags	Amount	Flags	RPD
71-55-6	1,1,1-Trichloroethane	2.4		2.352		2.0
79-34-5	1,1,2,2-Tetrachloroethane	ND	U	ND	U	0
79-00-5	1,1,2-Trichloroethane	21.006		21.393		1.8
75-34-3	1,1-Dichloroethane	ND	U	ND	U	0
75-35-4	1,1-Dichloroethene	13.974		13.54		3.2
120-82-1	1,2,4-Trichlorobenzene	ND	U	ND	U	0
95-63-6	1,2,4-Trimethylbenzene	ND	U	ND	U	0
106-93-4	1,2-Dibromoethane (EDB)	ND	U	ND	U	0
95-50-1	1,2-Dichlorobenzene	ND	U	ND	U	0
107-06-2	1,2-Dichloroethane	3.529		3.412		3.4
78-87-5	1,2-Dichloropropane	ND	U	ND	U	0
108-67-8	1,3,5-Trimethylbenzene	ND	U	ND	U	0
106-99-0	1,3-Butadiene	ND	U	ND	U	0
541-73-1	1,3-Dichlorobenzene	ND	U	ND	U	0
106-46-7	1,4-Dichlorobenzene	0.8134		0.802		1.4
123-91-1	1,4-Dioxane	ND	U	ND	U	0
78-93-3	2-Butanone (Methyl Ethyl Ketone)	0.8289		0.8908		7.2
591-78-6	2-Hexanone	ND	U	ND	U	0
67-63-0	2-Propanol	ND	U	ND	U	0
622-96-8	4-Ethyltoluene	ND	U	ND	U	0
108-10-1	4-Methyl-2-pentanone	ND	U	ND	U	0
67-64-1	Acetone	60.168		58.455		2.9
100-44-7	alpha-Chlorotoluene	ND	U	ND	U	0
71-43-2	Benzene	1.472		1.358		8.0
75-27-4	Bromodichloromethane	1.554		1.474		5.3
75-25-2	Bromoform	ND	U	ND	U	0
74-83-9	Bromomethane	ND	U	ND	U	0
75-15-0	Carbon Disulfide	1.073		1.019		5.2
56-23-5	Carbon Tetrachloride	87.198		86.003		1.4
108-90-7	Chlorobenzene	ND	U	ND	U	0
75-45-6	Chlorodifluoromethane	ND	U	ND	U	0
75-00-3	Chloroethane	ND	U	ND	U	0
67-66-3	Chloroform	160.89		157.81		1.9
74-87-3	Chloromethane	ND	U	ND	U	0
156-59-2	cis-1,2-Dichloroethene	1.169		1.15		1.6
10061-01-5	cis-1,3-Dichloropropene	ND	U	ND	U	0
110-82-7	Cyclohexane	ND	U	ND	U	0
124-48-1	Dibromochloromethane	ND	U	ND	U	0
64-17-5	Ethanol	ND	U	ND	U	0
100-41-4	Ethyl Benzene	ND	U	ND	U	0
75-69-4	Freon 11	ND	U	ND	U	0
76-13-1	Freon 113	3.654		3.69		0.98
76-14-2	Freon 114	ND	U	ND	U	0
75-71-8	Freon 12	0.8881		0.8871		0.11
142-82-5	Heptane	ND	U	ND	U	0
87-68-3	Hexachlorobutadiene	ND	U	ND	U	0

Note: The results appearing in the Amount columns are the raw, unrounded numbers acquired from the instrument.

SAMPLE RESULTS/SAMPLE RESULTS DUPLICATE

Lab Name: Air Toxics Ltd.

Lab File ID: 7110724.d & 7110723.d

Lab Sample ID: 06A & 06AA

Dilution: 1.61 & 1.61

Client Sample ID: &

Date Analyzed: 11/8/07 & 11/8/07

		Original		Duplicate		
CAS Number	Compound	Amount	Flags	Amount	Flags	RPD
110-54-3	Hexane	0.8316		0.8769		5.3
108-38-3	m,p-Xylene	ND	U	ND	U	0
67-56-1	Methanol	ND	U	ND	U	0
1634-04-4	Methyl tert-butyl ether	ND	U	ND	U	0
75-09-2	Methylene Chloride	296.04		285.69		3.6
71-36-3	n-Butanol	ND	U	ND	U	0
95-47-6	o-Xylene	ND	U	ND	U	0
115-07-1	Propylene	33.098		31.817		3.9
100-42-5	Styrene	ND	U	ND	U	0
127-18-4	Tetrachloroethene	17.154		17.108		0.27
109-99-9	Tetrahydrofuran	ND	U	ND	U	0
108-88-3	Toluene	1.996		1.891		5.4
156-60-5	trans-1,2-Dichloroethene	ND	U	ND	U	0
10061-02-6	trans-1,3-Dichloropropene	ND	U	ND	U	0
79-01-6	Trichloroethene	219.57		215.74		1.8
75-01-4	Vinyl Chloride	ND	U	ND	U	0

Note: The results appearing in the Amount columns are the raw, unrounded numbers acquired from the instrument.

Air Toxics Ltd.

INITIAL CALIBRATION DATA

Start Cal Date : 18-OCT-2007 12:17
End Cal Date : 05-NOV-2007 14:29
Quant Method : ISTD
Origin : Disabled
Target Version : 3.50
Integrator : HP RTE
Method file : /chem/msd7.i/7-05nov.b/t14qO18d.m
Cal Date : 05-Nov-2007 16:13 ealcan
Curve Type : Average

Calibration File Names:
Level 1: /chem/msd7.i/7-18oct.b/7101802.d
Level 2: /chem/msd7.i/7-18oct.b/7101803.d
Level 3: /chem/msd7.i/7-05nov.b/7110505.d
Level 4: /chem/msd7.i/7-30oct.b/7103003.d
Level 5: /chem/msd7.i/7-05nov.b/7110506.d
Level 6: /chem/msd7.i/7-18oct.b/7101807.d
Level 7: /chem/msd7.i/7-05nov.b/7110507.d

Compound	0.30000 Level 1	0.50000 Level 2	2.000 Level 3	25.000 Level 4	50.000 Level 5	100.000 Level 6	200.000 Level 7	___ RRF	% RSD
1 Dimethyl Ether	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
2 Isobutylene	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
3 Acetaldehyde	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
4 2-Methyl-1-Butene	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
5 Freon 143a	+++++	+++++	0.55395	+++++	0.55199	+++++	0.52936	0.54510	2.507
6 Freon142b	+++++	+++++	2.28105	+++++	2.26472	+++++	2.12470	2.22349	3.865
7 Propanal	+++++	+++++	+++++	+++++	+++++	+++++	+++++		

Air Toxics Ltd.

INITIAL CALIBRATION DATA

Start Cal Date : 18-OCT-2007 12:17
End Cal Date : 05-NOV-2007 14:29
Quant Method : ISTD
Origin : Disabled
Target Version : 3.50
Integrator : HP RTE
Method file : /chem/msd7.i/7-05nov.b/t14qO18d.m
Cal Date : 05-Nov-2007 16:13 ealcan
Curve Type : Average

Compound	0.30000 Level 1	0.50000 Level 2	2.000 Level 3	25.000 Level 4	50.000 Level 5	100.000 Level 6	200.000 Level 7	___ RRF	% RSD
8 Freon 14	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
9 Freon 13	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
10 Bromoethane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
11 Propylene	+++++	+++++	1.12508	1.03756	1.03506	1.07736	1.11245	1.07750	3.849
12 Dichlorodifluoromethane/Fr12	+++++	3.99832	4.01542	3.93538	3.87538	3.94362	3.93588	3.95067	1.272
13 Freon 134a	+++++	+++++	1.08885	+++++	1.07331	+++++	1.03422	1.06546	2.642
14 2,3-Dimethylbutane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
15 Freon 152a	+++++	+++++	0.79822	+++++	0.77199	+++++	0.73740	0.76921	3.966
16 Freon 114	+++++	2.75763	2.94175	2.80659	2.67187	2.54264	2.41290	2.68890	7.063
17 Freon 22	+++++	+++++	2.64018	+++++	2.47048	+++++	2.34449	2.48505	5.971

Air Toxics Ltd.

INITIAL CALIBRATION DATA

Start Cal Date : 18-OCT-2007 12:17
End Cal Date : 05-NOV-2007 14:29
Quant Method : ISTD
Origin : Disabled
Target Version : 3.50
Integrator : HP RTE
Method file : /chem/msd7.i/7-05nov.b/t14qO18d.m
Cal Date : 05-Nov-2007 16:13 ealcan
Curve Type : Average

Compound	0.30000 Level 1	0.50000 Level 2	2.000 Level 3	25.000 Level 4	50.000 Level 5	100.000 Level 6	___ RRF	% RSD
	200.000 Level 7							
18 Chloromethane	+++++	+++++	1.35842	1.27523	1.23888	1.27208		
	1.35173						1.29926	4.075
19 Butane	+++++	+++++	0.27760	0.27318	0.27001	0.28033		
	0.29063						0.27835	2.849
20 Vinyl Chloride	+++++	1.61123	1.66709	1.62947	1.58710	1.59115		
	1.64603						1.62201	1.940
21 Isobutane	+++++	+++++	2.34934	+++++	2.27508	+++++		
	2.09561						2.24001	5.824
22 1,3-Butadiene	+++++	0.98714	1.11899	1.17713	1.17364	1.20853		
	1.30571						1.16186	9.077
23 Methyl acetate	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++						+++++	+++++
24 Chloroprene	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++						+++++	+++++
25 Bromomethane	+++++	1.36911	1.38030	1.38465	1.43147	1.47189		
	1.57973						1.43619	5.586
26 Methanol	+++++	+++++	+++++	0.49521	0.41205	+++++		
	0.37348						0.42691	14.573
27 Chloroethane	+++++	0.56164	0.59106	0.70880	0.75786	0.81456		
	0.88356						0.71958	17.463

Air Toxics Ltd.

INITIAL CALIBRATION DATA

Start Cal Date : 18-OCT-2007 12:17
End Cal Date : 05-NOV-2007 14:29
Quant Method : ISTD
Origin : Disabled
Target Version : 3.50
Integrator : HP RTE
Method file : /chem/msd7.i/7-05nov.b/t14qO18d.m
Cal Date : 05-Nov-2007 16:13 ealcan
Curve Type : Average

Compound	0.30000 Level 1	0.50000 Level 2	2.000 Level 3	25.000 Level 4	50.000 Level 5	100.000 Level 6	200.000 Level 7	___ RRF	% RSD
28 2,4-Dimethylpentane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	
29 Isopentane	+++++	+++++	1.72200	1.68471	1.74289	1.82023	1.94043	1.78205	5.692
30 2-Butanol	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	
31 Trichlorofluoromethane/Fr11	+++++	3.30692	3.64793	3.69780	3.75036	3.79137	3.91953	3.68565	5.627
32 3-Methyl-1-Hexene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	
33 Vinyl Bromide	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	
34 Dichlorofluoromethane/Fr21	+++++	+++++	2.18670	+++++	2.24831	+++++	2.17912	2.20471	1.721
35 1-Pentene	+++++	+++++	1.66100	+++++	1.62245	+++++	1.53088	1.60478	4.165
36 Methacrylonitrile	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	
37 Pentane	+++++	+++++	2.82400	+++++	2.66340	+++++	2.42663	2.63801	7.578

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Target Version : 3.50
Integrator : HP RTE
Method file : /chem/msd7.i/7-05nov.b/t14qO18d.m
Cal Date : 05-Nov-2007 16:13 ealcan
Curve Type : Average

Compound	0.30000 Level 1	0.50000 Level 2	2.000 Level 3	25.000 Level 4	50.000 Level 5	100.000 Level 6	200.000 Level 7	___ RRF	% RSD
38 Ethanol	+++++	+++++	0.40835	0.46701	0.50651	0.55509	0.57654	0.50270	13.487
39 Ethyl Ether	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
40 Freon123a	+++++	+++++	1.12892	+++++	1.34813	+++++	1.26008	1.24571	8.855
41 Freon123	+++++	+++++	2.17978	+++++	2.29407	+++++	2.15449	2.20945	3.366
42 Freon 113	+++++	1.87915	1.96071	2.08299	2.10265	2.12197	2.15175	2.04987	5.188
43 1,1-Dichloroethene	+++++	1.93487	2.07684	2.19744	2.20280	2.28145	2.39408	2.18125	7.326
44 Acrolein	+++++	+++++	0.36672	+++++	0.39522	+++++	0.38347	0.38180	3.751
45 Acetone	+++++	+++++	0.57485	0.65835	0.66872	0.70599	0.76315	0.67421	10.242
46 2-Propanol	+++++	+++++	1.73749	2.29338	2.44395	2.63284	2.85245	2.39202	17.623
47 Carbon Disulfide	+++++	3.64316	3.89848	4.16293	4.20624	4.40983	4.64911	4.16162	8.592

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Compound	0.30000 Level 1	0.50000 Level 2	2.000 Level 3	25.000 Level 4	50.000 Level 5	100.000 Level 6	200.000 Level 7	___ RRF	% RSD
48 Ethyl acrylate	+++++	+++++	0.05569	+++++	0.08473	+++++	0.08291	0.07444	21.850
49 Iodomethane	+++++	+++++	3.47871	+++++	4.11936	+++++	3.64727	3.74845	8.860
50 Methyl Methacrylate	+++++	+++++	0.53347	+++++	0.79820	+++++	0.74642	0.69270	20.254
51 3-Chloropropene	+++++	+++++	0.47791	0.67053	0.69517	0.71004	0.83257	0.67724	18.866
52 Acetonitrile	+++++	+++++	0.83678	+++++	0.92045	+++++	0.79421	0.85048	7.551
53 2-Methylpentane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
54 Methylene Chloride	+++++	1.50433	1.50940	1.55545	1.57830	1.66547	1.80906	1.60367	7.258
55 Cyclopentene	+++++	+++++	4.55063	+++++	4.84748	+++++	4.57554	4.65788	3.535
56 Cyclopentane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
57 tert-Butyl-Alcohol	+++++	+++++	2.48873	+++++	2.67379	+++++	1.79281	2.31844	20.036

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Compound	0.30000 Level 1	0.50000 Level 2	2.000 Level 3	25.000 Level 4	50.000 Level 5	100.000 Level 6	200.000 Level 7	___ RRF	% RSD
58 Freon143a	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
59 2,3,4-Trimethylpentane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
60 MTBE	+++++	2.56761	2.53475	2.73045	2.62429	2.12688	2.03593	2.43665	11.678
61 trans-1,2-Dichloroethene	+++++	1.27767	1.25807	1.53893	1.55545	1.59786	1.66426	1.48204	11.576
62 Acrylonitrile	+++++	+++++	0.80524	+++++	0.90069	+++++	0.87661	0.86085	5.767
63 2-Pentanone	+++++	+++++	1.02380	+++++	1.52198	+++++	1.46126	1.33568	20.349
64 Pentanal	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
65 Hexane	+++++	1.69745	1.86588	2.11588	2.20087	2.32069	2.48851	2.11488	13.795
66 1-Hexene	+++++	+++++	0.93076	+++++	0.98451	+++++	0.92095	0.94541	3.619
67 2,4,4-Trimethyl-1-pentene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++

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Compound	0.30000 Level 1	0.50000 Level 2	2.000 Level 3	25.000 Level 4	50.000 Level 5	100.000 Level 6	200.000 Level 7	___ RRF	% RSD
68 Isopropyl ether	+++++	+++++	4.21268	+++++	4.73884	+++++	4.43254	4.46135	5.923
69 Vinyl Acetate	+++++	+++++	0.22424	0.31548	0.33299	0.35296	0.37207	0.31955	17.946
70 1,1-Dichloroethane	+++++	2.06984	2.31882	2.66506	2.63329	2.70399	2.80833	2.53322	11.066
71 1-Propanol	+++++	+++++	0.22951	+++++	0.30666	+++++	0.30318	0.27978	15.573
72 2,4,4-Trimethyl-2-pentene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
73 t-Butylethyl Ether	+++++	+++++	3.43943	+++++	4.07078	+++++	3.89822	3.80281	8.581
74 Butanal	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
75 2-Butanone	+++++	0.38112	0.37327	0.57250	0.59883	0.64860	0.67445	0.54146	24.420
76 cis-1,2-Dichloroethene	+++++	1.44231	1.58756	1.86427	1.87388	1.90834	1.96251	1.77314	11.735
77 Ethyl Acetate	+++++	+++++	0.39111	+++++	0.44693	+++++	0.43572	0.42459	6.954

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Compound	0.30000 Level 1	0.50000 Level 2	2.000 Level 3	25.000 Level 4	50.000 Level 5	100.000 Level 6	200.000 Level 7	___ RRF	% RSD
78 2,2-Dichloropropane	+++++	+++++	2.76326	+++++	3.07482	+++++	2.91201	2.91670	5.343
79 Methyl Acrylate	+++++	+++++	1.96462	+++++	2.41001	+++++	2.35930	2.24464	10.863
80 Tetrahydrofuran	+++++	1.02790	1.12367	1.48422	1.53795	1.59990	1.69691	1.41176	19.223
82 Chloroform	2.05933	2.30448	2.48203	2.71876	2.69631	2.67566	2.68331	2.51713	10.018
83 1,1,1-Trichloroethane	+++++	2.13993	2.49116	2.73073	2.66320	2.61212	2.57161	2.53479	8.276
84 2,3-Dimethylpentane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
85 Cyclohexane	+++++	1.13455	1.20463	1.54480	1.56422	1.61154	1.65129	1.45184	15.351
86 1-Bromo-2-Chloroethane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
87 Carbon Tetrachloride	+++++	1.91512	2.28619	2.65822	2.53314	2.44673	2.41712	2.37608	10.837
88 1,1-Dichloropropene	+++++	+++++	0.32293	+++++	0.36098	+++++	0.32719	0.33704	6.186

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Compound	0.30000 Level 1	0.50000 Level 2	2.000 Level 3	25.000 Level 4	50.000 Level 5	100.000 Level 6	200.000 Level 7	___ RRF	% RSD
89 2,2,4-Trimethylpentane	+++++	3.81973	4.40383	5.32986	5.44906	5.60503	5.84105	5.07476	15.513
91 Benzene	0.86624	0.88889	0.91154	1.08544	1.09104	1.07270	1.03741	0.99332	10.069
92 tert-amyl-Methyl Ether	+++++	+++++	2.47283	+++++	2.98882	+++++	2.87645	2.77937	9.763
93 1,2-Dichloroethane	+++++	0.47713	0.50816	0.58724	0.55560	0.53375	0.50473	0.52777	7.497
94 Heptane	+++++	0.21787	0.25494	0.33625	0.34694	0.34672	0.33023	0.30549	18.053
95 Thiophene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
96 2-Heptanone	+++++	+++++	1.17667	+++++	1.87950	+++++	1.94397	1.66671	25.536
98 1-Butanol	+++++	+++++	0.16640	+++++	0.27504	+++++	0.29172	0.24439	27.845
99 Isobutanol	+++++	+++++	0.01857	+++++	0.03090	+++++	0.03265	0.02737	28.046
100 trans-1,4-dichloro-2-butene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++

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Compound	0.30000 Level 1	0.50000 Level 2	2.000 Level 3	25.000 Level 4	50.000 Level 5	100.000 Level 6	200.000 Level 7	___ RRF	% RSD
101 Trichloroethene	+++++	0.36757	0.41682	0.48608	0.47584	0.46333	0.43779	0.44124	9.999
102 Methyl Cyclohexane	+++++	1.39533	1.53464	1.88425	1.91342	1.96394	2.03008	1.78694	14.440
103 Alphamethylstyrene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
104 1,2-Dichloropropane	+++++	0.31221	0.33815	0.41169	0.41161	0.41161	0.40196	0.38121	11.628
105 Dibromomethane	+++++	+++++	0.51979	+++++	0.62028	+++++	0.54666	0.56225	9.253
106 1,4-Dioxane	+++++	+++++	0.17948	0.26051	0.26452	0.26965	0.26552	0.24794	15.489
107 Bromodichloromethane	+++++	0.61038	0.69769	0.87294	0.84576	0.81437	0.75521	0.76606	12.941
108 Epichlorohydrin	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
109 Dodecane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
110 cis-1,3-Dichloropropene	+++++	0.38818	0.43431	0.60245	0.61448	0.61397	0.57859	0.53866	18.678

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Compound	0.30000 Level 1	0.50000 Level 2	2.000 Level 3	25.000 Level 4	50.000 Level 5	100.000 Level 6	200.000 Level 7	___ RRF	% RSD
111 4-Methyl-2-pentanone	+++++	0.17517	0.22135	0.33428	0.34745	0.35414	0.35115	0.29726	26.358
112 Octane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
114 Toluene	+++++	0.88659	0.96936	1.20407	1.18877	1.16407	1.11507	1.08799	11.969
115 Undecane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
116 trans-1,3-Dichloropropene	+++++	0.53047	0.59368	0.77535	0.80087	0.79044	0.76929	0.71002	16.458
117 1,1,2-Trichloroethane	+++++	0.41044	0.46882	0.56509	0.56186	0.55694	0.54374	0.51782	12.308
118 1,3-Dichloropropane	+++++	+++++	0.95658	+++++	1.08832	+++++	0.96579	1.00356	7.328
119 Butyl Acetate	+++++	+++++	0.28247	+++++	0.41163	+++++	0.39768	0.36393	19.478
120 Tetrachloroethene	+++++	0.58842	0.66370	0.75326	0.72549	0.67756	0.62110	0.67159	9.213
121 2-Hexanone	+++++	+++++	0.36161	0.55434	0.60179	0.62391	0.63307	0.55495	20.234

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Compound	0.30000 Level 1	0.50000 Level 2	2.000 Level 3	25.000 Level 4	50.000 Level 5	100.000 Level 6	200.000 Level 7	___ RRF	% RSD
122 Dibromochloromethane	+++++	0.69168	0.84946	1.07299	1.03098	0.96547	0.89431	0.91748	15.065
123 1,2-Dibromoethane	+++++	0.62218	0.76958	0.96047	0.95014	0.91717	0.87375	0.84888	15.420
124 Nonane	+++++	+++++	1.02484	+++++	1.13232	+++++	0.98482	1.04733	7.283
125 1,1,1,2-Tetrachloroethane	+++++	+++++	0.89946	+++++	0.96238	+++++	0.81264	0.89149	8.434
127 Chlorobenzene	+++++	0.98017	1.09978	1.22139	1.20798	1.16672	1.10992	1.13099	7.863
128 Ethyl Benzene	+++++	0.45805	0.54406	0.64040	0.62635	0.60750	0.58753	0.57731	11.679
129 m,p-Xylene	+++++	0.59617	0.64876	0.79109	0.79390	0.76602	0.73972	0.72261	11.309
130 o-Xylene	+++++	0.50098	0.57853	0.70214	0.68839	0.66302	0.62421	0.62621	12.150
131 Styrene	0.70099	0.69787	0.85261	1.17931	1.15472	1.12570	1.06862	0.96855	21.987
132 alpha-Pinene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++

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Compound	0.30000 Level 1	0.50000 Level 2	2.000 Level 3	25.000 Level 4	50.000 Level 5	100.000 Level 6	200.000 Level 7	___ RRF	% RSD
133 Bromoform	+++++	0.63213	0.75943	0.95882	0.91283	0.83481	0.73582	0.80564	14.990
134 Cumene	1.37424	1.32202	1.52398	1.81837	1.75252	1.68271	1.59504	1.58127	11.814
135 Cyclohexanone	+++++	+++++	0.42554	+++++	0.51533	+++++	0.55003	0.49697	12.926
136 Bromobenzene	+++++	+++++	1.09324	+++++	1.15192	+++++	0.89292	1.04603	12.983
138 1,2,3-Trichloropropane	+++++	+++++	0.49256	+++++	0.53270	+++++	0.44323	0.48949	9.155
139 Decane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
140 1,1,2,2-Tetrachloroethane	+++++	0.90901	1.02955	1.12854	1.10800	1.08214	1.01864	1.04598	7.618
141 2-Chlorotoluene	+++++	+++++	0.77382	+++++	0.83371	+++++	0.71021	0.77258	7.994
142 Propylbenzene	+++++	1.80614	2.07039	2.37103	2.29000	2.22770	1.95985	2.12085	10.116
143 4-Chlorotoluene	+++++	+++++	0.80068	+++++	0.91055	+++++	0.76155	0.82426	9.372

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144 beta-Pinene	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
145 4-Ethyltoluene	+++++	1.44347	1.70757	2.13595	2.07919	1.99040	1.88068	1.87287	13.869
146 Diisobutyl Ketone	+++++	+++++	1.03326	+++++	1.20971	+++++	1.11764	1.12021	7.878
147 1,3,5-Trimethylbenzene	+++++	1.41316	1.61240	1.56055	1.49171	1.41942	1.32949	1.47112	7.095
148 tert-Butylbenzene	+++++	+++++	2.45687	+++++	2.30546	+++++	1.84295	2.20176	14.526
149 sec-Butylbenzene	+++++	+++++	3.43467	+++++	3.26882	+++++	2.43915	3.04755	17.502
150 1,2,4-Trimethylbenzene	+++++	1.05335	1.33499	1.48885	1.43630	1.39785	1.31045	1.33697	11.480
151 bis(2-chloroethyl)ether	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
152 D-Limonene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
153 p-Cymene	+++++	+++++	2.65193	+++++	2.61222	+++++	2.06279	2.44232	13.482

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154 1,2,3-Trimethylbenzene	+++++	+++++	0.97569	+++++	1.04736	+++++	0.88396	0.96900	8.453
155 1,3-Dichlorobenzene	+++++	0.93407	1.06260	1.12258	1.08075	1.04027	0.96733	1.03460	6.878
156 1,4-Dichlorobenzene	+++++	1.02926	1.10239	1.15450	1.11647	1.07554	0.99126	1.07824	5.539
157 Indan	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
158 Butylbenzene	+++++	+++++	0.66658	+++++	0.69760	+++++	0.60595	0.65671	7.099
159 alpha-Chlorotoluene	+++++	1.02301	1.25741	1.52918	1.58500	1.63564	1.55835	1.43143	16.768
160 Indene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
161 1,2-Dichlorobenzene	+++++	0.94286	1.02179	0.99757	0.96941	0.96223	0.88582	0.96328	4.881
162 1,2-Dibromo-3-Chloropropane	+++++	+++++	0.76234	+++++	0.80959	+++++	0.79238	0.78810	3.035
163 Aniline	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++

Air Toxics Ltd.

INITIAL CALIBRATION DATA

Start Cal Date : 18-OCT-2007 12:17
End Cal Date : 05-NOV-2007 14:29
Quant Method : ISTD
Origin : Disabled
Target Version : 3.50
Integrator : HP RTE
Method file : /chem/msd7.i/7-05nov.b/t14qO18d.m
Cal Date : 05-Nov-2007 16:13 ealcan
Curve Type : Average

Compound	0.30000 Level 1	0.50000 Level 2	2.000 Level 3	25.000 Level 4	50.000 Level 5	100.000 Level 6	200.000 Level 7	___ RRF	% RSD	
164 Isooctyl Alcohol	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
165 1,2,4-Trichlorobenzene	+++++	+++++	0.51018	0.27800	0.34560	0.40681	0.42931	0.39398	22.239	
166 Hexachlorobutadiene	+++++	+++++	0.50925	0.26779	0.28274	0.29299	0.28486	0.32753	31.141	<-
167 Naphthalene	+++++	+++++	0.92717	0.46092	0.62590	0.80276	0.87395	0.73814	26.042	
168 Quinoline	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	
169 1,3,5-Trichlorobenzene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	
170 Isooctyl Acrylate	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	
199 Vinyl Fluoride	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	
200 2-Chloroethyl vinyl ether	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	
201 Pentachloroethane	+++++	+++++	0.71063	+++++	0.70263	+++++	0.56154	0.65826	12.740	

Air Toxics Ltd.

INITIAL CALIBRATION DATA

Start Cal Date : 18-OCT-2007 12:17
End Cal Date : 05-NOV-2007 14:29
Quant Method : ISTD
Origin : Disabled
Target Version : 3.50
Integrator : HP RTE
Method file : /chem/msd7.i/7-05nov.b/t14qO18d.m
Cal Date : 05-Nov-2007 16:13 ealcan
Curve Type : Average

Compound	0.30000 Level 1	0.50000 Level 2	2.000 Level 3	25.000 Level 4	50.000 Level 5	100.000 Level 6	200.000 Level 7	___ RRF	% RSD
202 1,2,3-Trichlorobenzene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
203 Hexachloroethane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
$ 90 1,2-Dichloroethane-d4	1.32140	1.33936	1.38524	1.34768	1.31998	1.31873	1.36890	1.34304	1.941
$ 113 Toluene-d8	0.87123	0.85458	0.85764	0.89757	0.90205	0.91537	0.91380	0.88746	2.917
$ 137 Bromofluorobenzene	0.59803	0.60119	0.59463	0.60774	0.59840	0.58089	0.58339	0.59489	1.617

Calibration History

Method : /chem/msd7.i/7-05nov.b/t14qO18d.m
Start Cal Date: 18-OCT-2007 12:17
End Cal Date : 05-NOV-2007 14:29

Initial Calibration

Injection Date	Sublist	Calibration File
Cal Level: 1 , Cal Amount: 0.30000		
18-OCT-2007 12:17	AFCEElow	/chem/msd7.i/7-18oct.b/7101802.d

Injection Date	Sublist	Calibration File
Cal Level: 2 , Cal Amount: 0.50000		
18-OCT-2007 12:56	AT04low+ENSR	/chem/msd7.i/7-18oct.b/7101803.d

Injection Date	Sublist	Calibration File
Cal Level: 3 , Cal Amount: 2.00000		
05-NOV-2007 12:47	sp14d	/chem/msd7.i/7-05nov.b/7110505.d
22-OCT-2007 10:55	sp16b	/chem/msd7.i/7-22oct.b/7102205.d
19-OCT-2007 10:22	sp22a	/chem/msd7.i/7-19oct.b/7101903.d
18-OCT-2007 14:09	AT04mdl+ENSR	/chem/msd7.i/7-18oct.b/7101804.d

Injection Date	Sublist	Calibration File
Cal Level: 4 , Cal Amount: 25.00000		
30-OCT-2007 09:51	sp1c	/chem/msd7.i/7-30oct.b/7103003.d
18-OCT-2007 14:47	AT04mdl+ENSR	/chem/msd7.i/7-18oct.b/7101805.d

Injection Date	Sublist	Calibration File
Cal Level: 5 , Cal Amount: 50.00000		
05-NOV-2007 13:30	sp14d	/chem/msd7.i/7-05nov.b/7110506.d
30-OCT-2007 10:29	sp1c	/chem/msd7.i/7-30oct.b/7103004.d
22-OCT-2007 11:44	sp16b	/chem/msd7.i/7-22oct.b/7102206.d
19-OCT-2007 11:00	sp22a	/chem/msd7.i/7-19oct.b/7101904.d
18-OCT-2007 15:26	AT04mdl+ENSR	/chem/msd7.i/7-18oct.b/7101806.d

Injection Date	Sublist	Calibration File
Cal Level: 6 , Cal Amount: 100.00000		
18-OCT-2007 16:15	AT04mdl+ENSR	/chem/msd7.i/7-18oct.b/7101807.d

Injection Date	Sublist	Calibration File
Cal Level: 7 , Cal Amount: 200.00000		

```
+=================================================================================+
|05-NOV-2007 14:29 |sp14d            |/chem/msd7.i/7-05nov.b/7110507.d        |
|30-OCT-2007 11:10 |sp1c             |/chem/msd7.i/7-30oct.b/7103005.d        |
|22-OCT-2007 12:34 |sp16b            |/chem/msd7.i/7-22oct.b/7102207.d        |
|19-OCT-2007 11:41 |sp22a            |/chem/msd7.i/7-19oct.b/7101905.d        |
|18-OCT-2007 17:39 |AT04mdl+ENSR     |/chem/msd7.i/7-18oct.b/7101808.d        |
+------------------+-----------------+----------------------------------------+


Continuing Calibration
Ccal Level Mode: GLOBAL LEVEL 5
+------------------+-----------------+----------------------------------------+
| Ccal Level: 5 , Ccal Amount: 50.000                                          |
+=================================================================================+
|05-NOV-2007 11:13 |AT04ENSR         |/chem/msd7.i/7-05nov.b/7110503.d        |
+------------------+-----------------+----------------------------------------+
| Ccal Level: 5 , Ccal Amount: 50.000                                          |
+=================================================================================+
|05-NOV-2007 15:26 |sp22aNsp16       |/chem/msd7.i/7-05nov.b/7110508.d        |
+------------------+-----------------+----------------------------------------+
| Ccal Level: 5 , Ccal Amount: 50.000                                          |
+=================================================================================+
|05-NOV-2007 13:30 |sp14dccv         |/chem/msd7.i/7-05nov.b/7110506a.d       |
+------------------+-----------------+----------------------------------------+
| Ccal Level: 5 , Ccal Amount: 50.000                                          |
+=================================================================================+
|05-NOV-2007 13:30 |sp14d            |/chem/msd7.i/7-05nov.b/7110506.d        |
+------------------+-----------------+----------------------------------------+
```

Initial Calibration Narrative

A seven point and four point initial calibration was analyzed on MSD-7 on 10-18-2007.:

The following compounds used 0.2 ppbv as the lowest calibration concentration:
Chloroform, Benzene, Cumene and Styrene.

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MSD-7

Logbook #: 1594

m/z	ION ABUNDANCE CRITERIA	% REL. ABUNDANCE
50	15.0 – 40.0% of mass 95	18.61
75	30.0 – 60.0% of mass 95	39.71
95	Base peak, 100.00% relative abundance	100.00
96	5.0 – 9.0% of mass 95	6.78
173	Less than 2.0% of mass 174	(0.49)[1]
174	Greater than 50.0% of mass 95	81.70
175	5.0 – 9.0% of mass 174	(6.88)[1]
176	Greater than 95.0% but less than 101.0% of mass 174	(96.40)[1]
177	5.0 – 9.0% of mass 176	(6.69)[2]

[1] - value in parenthesis is % mass 174 [2] - value in parenthesis is % mass 176

BFB Injection Date: 10/18/07

BFB Injection Time: 1150

BFB File ID: 7101807

Tekmar Purge Flow: 17.9 mL/min

Vacuum: 2.8×10^{-5} torr

IS/S Std.#:	1443-339	Exp. Date: 12/26/07
BCM	683549	
1,4-DFB	2204815	
CB-d5	1812979	

Verified CCV IS vs ICAL mid-point (- 40%D) CB *initials*

0302

Verify 176/174 m/z Ratio: 1072385 / 1112403 × 100 =

NOAH Cart #: N/A **File #:** N/A

Calculation Check:

ppbv of compound $= \frac{Area_{Sample}}{Area_{IS}} \times \frac{Conc._{IS}}{RRF} = \frac{(\ 902272\ )}{(\ 683549\ )} \times \frac{(\ 25.0\ )}{(\ 1.34304\ )} = 24.571$

Reported Result 24.571

File ID:	7101806
Compound:	1,2-DCA-d4
Initials:	CB

	Use	File #	Sample / Client Name	Can #	Pressure	Amt Loaded	DF	Date Analyzed	Time Analyzed	Review Init.	Comments
1	✓	7101807	BFB Tune Check	1467-64	50 ng	2uL	1.00	10/18/07	1150	CB	
2	✓	02	ICAL Level 1	1576-50	200 ppbv 0.2 ppbv	0.2mL			1217	CB	
3	✓	03	2		200 ppbv 0.5 ppbv	0.5mL			1256	CB	
4	✓	04	3		200 ppbv 2 ppbv	2mL			1409	CB	
5	✓	05	4		200 ppbv 25 ppbv	25mL			1447	CB	
6	✓	06	5		200 ppbv 50 ppbv	50mL			1526	CB	ccv
7	✓	07	6		200 ppbv 100 ppbv	100mL			1615	DW/CB	
8	✓	08	7		200 ppbv → 200 ppbv	200mL			1739	DW/CB	1 out Hexach for substracting
9	X	09	System Blank	34190					1847	DW	

Laura Derringer
Signature

10/22/07
Date

10	✓	7101810	ICAL LCS-1 (200ppbv)	1443-302	50ppbv	50mL	1.00	10/18/07	1929	dm/CB	ø ouf ICALCS
11		↓ 11	System Blank	34190	Humid	200mL			0828	CB	
12											
13											
14											
15											
16											
17											
18											
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31											
32											

FQ 10/22/07

0303

Comments: Flow controller SN # AA9123141 Nominal: 23.6 mL/min

NIST Flowmeter # 200-7744 Actual: 25.0 mL/min CB 10/22/07

Exp 8/27/08

Signature

10/18/07

Date

@ Air Toxics Ltd.

MSD-7

Logbook #: 1594

m/z	ION ABUNDANCE CRITERIA	% REL. ABUNDANCE
50	15.0 – 40.0% of mass 95	18.32
75	30.0 – 60.0% of mass 95	40.25
95	Base peak, 100.00% relative abundance	100.00
96	5.0 – 9.0% of mass 95	6.83
173	Less than 2.0% of mass 174	(0.49)[1]
174	Greater than 50.0% of mass 95	81.69
175	5.0 – 9.0% of mass 174	(7.11)[1]
176	Greater than 95.0% but less than 101.0% of mass 174	(97.18)[1]
177	5.0 – 9.0% of mass 176	(6.67)[2]

[1] - value in parenthesis is % mass 174 [2] - value in parenthesis is % mass 176

BFB Injection Date: 10/19/07
BFB Injection Time: 0909
BFB File ID: 7101901
Tekmar Purge Flow: 17.8 mL/min
Vacuum: 3.0×10^{-5} torr

0304

IS/S Std.#:	1443-339	Exp. Date:	12/26/07
BCM	709290		
1,4-DFB	2353553		
CB-d5	1919987		

Verified CCV IS vs ICAL mid-point (- 40%D) CB *initials*

Verify 176/174 m/z Ratio: 1015727 / 1045184 x 100 = 97.18%

NOAH Cart #: NA **File #:** NA

Calculation Check:

ppbv of compound $= \frac{Area_{Sample}}{Area_{IS}} \times \frac{Conc._{IS}}{RRF} = \frac{(\ 919940\ )}{(\ 709290\ )} \times \frac{(\ 25.0\ )}{(\ 1.34304\ )} = 24.143$

Reported Result 24.143

File ID:	7101902
Compound:	1,2-DCA-d4
Initials:	CB

	Use	File #	Sample / Client Name	Can #	Pressure	Amt Loaded	DF	Date Analyzed	Time Analyzed	Review Init.	Comments
1	✓	7101901	BFB Tune Check	1467-64	50 mg	2uL	1.00	10/19/07	0909	CB	
2	✓	02	CCV-1 (200 ppbv)	1576-50	50 ppbv	50mL			0929	CB	
3	✓	03	ICAL Level 3	1487-400	200 ppbv - 2 ppbv	2mL			1022	CB	sp229 tl40189
4	✓	04	5		200 ppbv - 50 ppbv	50mL			1100	CB	CCV
5	✓	05	7		200 ppbv	200mL			1141	CB	
6	✓	06	LCS-1 (200 ppbv)	1443-302	50 ppbv	50mL			1226	CB	~~ICAL LCS~~ fo 10/22/07
7	✓	07	Gas Std (100 ppmv)	1576-14	2500 ppbv	5mL			1310	CB	
8	✗ CB 10/19/07	08	Lab Blank	12009	Humid	200mL			1400	CB	
9		09	Lab Blank								CB 10/19/07 not run

Signature: [signature] Date: 10/19/07

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MSD-7

Logbook #: 1594

m/z	ION ABUNDANCE CRITERIA	% REL. ABUNDANCE
50	15.0 – 40.0% of mass 95	17.85
75	30.0 – 60.0% of mass 95	39.75
95	Base peak, 100.00% relative abundance	100.00
96	5.0 – 9.0% of mass 95	6.75
173	Less than 2.0% of mass 174	(0.53)[1]
174	Greater than 50.0% of mass 95	86.46
175	5.0 – 9.0% of mass 174	(6.92)[1]
176	Greater than 95.0% but less than 101.0% of mass 174	(96.63)[1]
177	5.0 – 9.0% of mass 176	(6.48)[2]

[1] - value in parenthesis is % mass 174 [2] - value in parenthesis is % mass 176

BFB Injection Date: 10/22/07
BFB Injection Time: 0822
BFB File ID: 7102201
Tekmar Purge Flow: 17.9 mL/min
Vacuum: 2.8×10^{-5} torr

0305

IS/S Std.#:	1443-339	Exp. Date: 12/26/07
BCM	691202	
1,4-DFB	2257140	
CB-d5	1885010	

Verified CCV IS vs ICAL mid-point (- 40%D) CB *initials*

Verify 176/174 m/z Ratio: 1142984 / 1182801 × 100 = 96.63%

NOAH Cart #: N/A **File #:** N/A

Calculation Check:

ppbv of compound $= \frac{Area_{Sample}}{Area_{IS}} \times \frac{Conc._{IS}}{RRF} = \frac{(892172)}{(691202)} \times \frac{(25.0)}{(1.34304)} = 24.027$

Reported Result 24.027

File ID:	7102202
Compound:	1,2-DCA-d4
Initials:	CB

	Use	File #	Sample / Client Name	Can #	Pressure	Amt Loaded	DF	Date Analyzed	Time Analyzed	Review Init.	Comments
1	✓	7102201	BFB Tune Check	1462-64	50ng	2uL	1.00	10/22/07	0822	CB	
2	✓	02	CCV-1 (200ppbv)	1576-50	50ppbv	50mL			0843	CB	
3	✓	03	LCS-1 (200ppbv)	1443-302	50ppbv	50mL			0925	CB	
4	✓	04	CCVsp (200ppbv)	1487-400	50ppbv	50mL			1007	CB	
5	✓	05	ICAL Level 3	1487-370	200ppbv – 2ppbv	2mL			1055	CB	spl66 T1490186
6	✓	06	5		200ppbv – 50ppbv	50mL			1144	CB	CCV
7	✓	07	7		200ppbv	200mL			1234	CB	
8	✗	08	Lab Blank	34190	Humid	200mL			1317	CB	
9	✓	09	Lab Blank	~~3449~~ 34190	Humid	200mL			1422	CB	

CB 10/22/07

Signature

10/22/07
Date

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MSD-7

Logbook #: 1594

m/z	ION ABUNDANCE CRITERIA	% REL. ABUNDANCE
50	15.0 – 40.0% of mass 95	18.22
75	30.0 – 60.0% of mass 95	39.23
95	Base peak, 100.00% relative abundance	100.00
96	5.0 – 9.0% of mass 95	6.64
173	Less than 2.0% of mass 174	(0.52)[1]
174	Greater than 50.0% of mass 95	86.75
175	5.0 – 9.0% of mass 174	(7.12)[1]
176	Greater than 95.0% but less than 101.0% of mass 174	(97.72)[1]
177	5.0 – 9.0% of mass 176	(-6.45)[2]

[1] - value in parenthesis is % mass 174 [2] - value in parenthesis is % mass 176

BFB Injection Date: 10/30/07
BFB Injection Time: 0826
BFB File ID: 7103001
Tekmar Purge Flow: 17.7 mL/min
Vacuum: 2.9×10^{-5} torr

IS/S Std.#:	1443-339	Exp. Date: 12/26/07
BCM	537758	
1,4-DFB	1771865	
CB-d5	1414884	

Verified CCV IS vs ICAL mid-point (- 40%D) CB *initials*

0306

Verify 176/174 m/z Ratio: 835758 / 855253 x 100 = 97.72%

NOAH Cart #: N/A **File #:** N/A

Calculation Check:

ppbv of compound $= \frac{Area_{Sample}}{Area_{IS}} \times \frac{Conc._{IS}}{RRF} = \frac{(\ 692227\ )}{(\ 537758\ )} \times \frac{(\ 25.0\ )}{(\ 1.34304\ )} =$ 23.961

Reported Result 23.961

File ID:	7103006
Compound:	1,2-DCA-d4
Initials:	CB

	Use	File #	Sample / Client Name	Can #	Pressure	Amt Loaded	DF	Date Analyzed	Time Analyzed	Review Init.	Comments
1	✓	7103001	BFB Tune Check	1467-64	50ng	2mL	1.00	10/30/07	0826	CB	
2	✓	02	System Blank	34190	Humid	200mL			0858	CB	
3	✓	03	ICAL Level 4	1487-400	200/1200 ppbv → 8/48 ppbv	8mL			0951	CB	spc t14q018c
4	✓	04	5		200/1200 ppbv 50/300 ppbv	50mL*			1029	CB	CCV
5	✓	05	7		200/1200 ppbv	200mL			1110	CB	
6	✓	06	CCV-1 (100 ppbv)	1576-50A	50 ppbv	100mL			1215	CB	
7	✓	07	LCS-1 (200 ppbv)	1443-302	50 ppbv	50mL			1253	CB	
8	✓	08	Lab Blank	34190	Humid	200mL			1336	CB	
9											CB 10/30/07

Signature

10/30/07
Date

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MSD-7

Logbook #: 1594

m/z	ION ABUNDANCE CRITERIA	% REL. ABUNDANCE
50	15.0 – 40.0% of mass 95	17.19
75	30.0 – 60.0% of mass 95	38.08
95	Base peak, 100.00% relative abundance	100.00
96	5.0 – 9.0% of mass 95	6.74
173	Less than 2.0% of mass 174	(0.49)[1]
174	Greater than 50.0% of mass 95	86.03
175	5.0 – 9.0% of mass 174	(6.80)[1]
176	Greater than 95.0% but less than 101.0% of mass 174	(96.32)[1]
177	5.0 – 9.0% of mass 176	(6.75)[2]

[1] - value in parenthesis is % mass 174 [2] - value in parenthesis is % mass 176

BFB Injection Date: 11/5/07

BFB Injection Time: 0931

BFB File ID: 7110501

Tekmar Purge Flow: 18.1 ml/min

Vacuum: 2.5×10^{-5}

IS/S Std.#:	1443-339	Exp. Date:	12/26/07
BCM	720196		
1,4-DFB	2301315		
CB-d5	1029492		

Verified CCV IS vs ICAL mid-point (- 40%D) ED *initials*

0307

Verify 176/174 m/z Ratio: 1270632 / 1319198 X100 = 96.32

NOAH Cart #: M **File #:** M

Calculation Check:

ppbv of compound $= \frac{Area_{Sample}}{Area_{IS}} \times \frac{Conc._{IS}}{RRF} = \frac{(2090909)}{(2301315)} \times \frac{(25.0)}{(0.88746)} = 25.595$

Reported Result 25.595

File ID:	7110503
Compound:	Tol-d8
Initials:	EA

	Use	File #	Sample / Client Name	Can #	Pressure	Amt Loaded	DF	Date Analyzed	Time Analyzed	Review Init.	Comments
1	✓	7110501	BFB TUNE CHECK	1467-64	50mg	2.0uL	1.00	11/5/07	0931	EA	
2	✓	02	sensitivity check	1576-50A	0.5ppbv	1.0ml			1125	EA	
3	✓	03	ICW-1 (100ppbv)	1576-50A	100ml STD 50ppbv				1113	EA	ϕ mt
4	✓	04	LCS-1 (200ppbv)	1443-302	50ppbv	50ml			1201	EA	ϕ mt
5	✓	05	ICAL level 3	1443-361	2ppbv	2.0ml			1247	EA	
6	✓	06	5		5ppbv	10ml			1330	EA	spl4d/spl4dccv
7	✓	07	7		20ppbv	20ml			1429	EA	
8	✓	08	CCV50 (20ppbv)	1487-370 1487-400	50ppbv	50ml			1526	EA	spl2aNspl6
9	✓	09	Gas std (100ppmv)	1576-14	25ppbv	5ml			1622	EA	

Kevin Pen

Signature

11-5-07

Date

Air Toxics Ltd.
Modified EPA Methods TO-14A/TO-15
Internal Standard and Associated Target Compounds and Surrogates

Bromochloromethane
Target Compounds:
Freon 12
Freon 114
Chloromethane
Vinyl Chloride
1,3-Butadiene
Bromomethane
Chloroethane
Freon 11
Ethanol
Freon 113
1,1-Dichloroethene
Acetone
2-Propanol
Carbon Disulfide
3-Chloropropene
Methylene Chloride
Methyl tert-butyl ether
trans-1,2-Dichloroethene
Hexane
1,1-Dichloroethane
2-Butanone (Methyl Ethyl Ketone)
cis-1,2-Dichloroethene
Tetrahydrofuran
Chloroform
1,1,1-Trichloroethane
Cyclohexane
Carbon Tetrachloride
2,2,4-Trimethylpentane
Surrogates:
1,2-Dichloroethane-d4

1,4-Difluorobenzene
Target Compounds:
Benzene
1,2-Dichloroethane
Heptane
Trichloroethene
1,2-Dichloropropane
1,4-Dioxane
Bromodichloromethane
cis-1,3-Dichloropropene
4-Methyl-2-pentanone
Toluene
Surrogates:
Toluene-d8

Chlorobenzene-d5
Target Compounds:
trans-1,3-Dichloropropene
1,1,2-Trichloroethane
Tetrachloroethene
2-Hexanone
Dibromochloromethane
1,2-Dibromoethane (EDB)
Chlorobenzene
Ethyl Benzene
m,p-Xylene
o-Xylene
Styrene
Bromoform
Cumene
1,1,2,2-Tetrachloroethane
Propylbenzene
4-Ethyltoluene
1,3,5-Trimethylbenzene
1,2,4-Trimethylbenzene
1,3-Dichlorobenzene
1,4-Dichlorobenzene
alpha-Chlorotoluene
1,2-Dichlorobenzene
1,2,4-Trichlorobenzene
Hexachlorobutadiene
Surrogates:
Bromofluorobenzene

Air Toxics Ltd.

AMBIENT AIR METHOD TO14

Data file : /chem/msd7.i/7-18oct.b/7101810.d
Lab Smp Id: lcs-1 Client Smp ID: lcs-1
Inj Date : 18-OCT-2007 19:29
Operator : dm Inst ID: msd7.i
Smp Info : 50mL #1443-302
Misc Info : 200ppbv-50ppbv
Comment :
Method : /chem/msd7.i/7-18oct.b/t14qO18a.m
Meth Date : 22-Oct-2007 16:12 dmendoza Quant Type: ISTD
Cal Date : 18-OCT-2007 17:39 Cal File: 7101808.d
Als bottle: 1 QC Sample: LCS
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: AT04ENSR.sub
Target Version: 3.50 Sample Matrix: AIR
Processing Host: eeyore

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

RT	EXP RT (REL RT)	MASS	RESPONSE	CONCENTRATIONS ON-COL (PPBV)	FINAL (PPBV)	TARGET RANGE	RATIO
* 81 Bromochloromethane						CAS #: 74-97-5	
14.402	14.402 (1.000)	130	693629	25.0000		80.00- 120.00	100.00
14.402	14.402 (1.000)	128	530078			26.95- 126.95	76.42
14.402	14.402 (1.000)	49	1393802			141.62- 241.62	200.94
* 97 1,4-Difluorobenzene						CAS #: 540-36-3	
16.172	16.172 (1.000)	114	2281320	25.0000		80.00- 120.00	100.00
16.172	16.172 (1.000)	88	352159			0.00- 65.69	15.44
* 126 Chlorobenzene-d5						CAS #: 3114-55-4	
21.342	21.370 (1.000)	117	1855833	25.0000		80.00- 120.00	100.00
21.342	21.370 (1.000)	82	1005254			5.32- 105.32	54.17
$ 90 1,2-Dichloroethane-d4						CAS #: 17060-07-0	
15.481	15.508 (1.075)	65	876557	23.5236	23.524	80.00- 120.00	100.00
15.481	15.508 (1.075)	67	486395			2.91- 102.91	55.49
$ 113 Toluene-d8						CAS #: 2037-26-5	
18.771	18.771 (1.161)	98	2088005	25.7831	25.783	80.00- 120.00	100.00
18.771	18.771 (1.161)	70	225307			0.00- 61.46	10.79

RT	EXP RT (REL RT)	MASS	RESPONSE	CONCENTRATIONS ON-COL (PPBV)	FINAL (PPBV)	TARGET RANGE	RATIO
$ 113 Toluene-d8 (continued)							
18.771	18.771 (1.161)	100	1458124			19.18- 119.18	69.83
$ 137 Bromofluorobenzene						CAS #: 460-00-4	
23.333	23.333 (1.093)	174	1059533	23.9925	23.992	80.00- 120.00	100.00
23.333	23.333 (1.093)	95	1390500			76.80- 176.80	131.24
23.333	23.333 (1.093)	176	1023241			46.06- 146.06	96.57
11 Propylene						CAS #: 115-07-1	
5.638	5.610 (0.391)	41	1534698	51.3354	51.335	80.00- 120.00	100.00
5.638	5.610 (0.391)	42	1071619			21.19- 121.19	69.83
5.638	5.610 (0.391)	39	1149702			24.83- 124.83	74.91
12 Dichlorodifluoromethane/Fr12						CAS #: 75-71-8	
5.776	5.748 (0.401)	85	5279130	48.1620	48.162	80.00- 120.00	100.00
5.776	5.748 (0.401)	87	1711789			0.00- 83.07	32.43
16 Freon 114						CAS #: 76-14-2	
6.218	6.218 (0.432)	135	3664358	49.1175	49.117	80.00- 120.00	100.00
6.218	6.218 (0.432)	137	1157150			0.00- 81.81	31.58
18 Chloromethane						CAS #: 74-87-3	
6.522	6.522 (0.453)	50	1695497	47.0340	47.034	80.00- 120.00	100.00
6.522	6.522 (0.453)	52	575964			0.00- 84.80	33.97
20 Vinyl Chloride						CAS #: 75-01-4	
6.882	6.882 (0.478)	62	2274469	50.5403	50.540	80.00- 120.00	100.00
6.882	6.882 (0.478)	64	710275			0.00- 83.25	31.23
22 1,3-Butadiene						CAS #: 106-99-0	
6.965	6.937 (0.484)	54	1686114	52.3055	52.306	80.00- 120.00	100.00
6.965	6.937 (0.484)	39	1613662			55.97- 155.97	95.70
25 Bromomethane						CAS #: 74-83-9	
8.043	8.043 (0.558)	94	1971163	49.4678	49.468	80.00- 120.00	100.00
8.043	8.043 (0.558)	96	1847772			43.77- 143.77	93.74
27 Chloroethane						CAS #: 75-00-3	
8.375	8.375 (0.581)	64	1113775	55.7868	55.787	80.00- 120.00	100.00
8.375	8.375 (0.581)	49	303751			0.00- 79.34	27.27
8.375	8.375 (0.581)	66	350600			0.00- 83.15	31.48
31 Trichlorofluoromethane/Fr11						CAS #: 75-69-4	
8.983	8.956 (0.624)	101	5275187	51.5865	51.586	80.00- 120.00	100.00
8.983	8.956 (0.624)	103	3407790			14.33- 114.33	64.60

RT	EXP RT (REL RT)	MASS	RESPONSE	CONCENTRATIONS ON-COL (PPBV)	FINAL (PPBV)	TARGET RANGE	RATIO
38 Ethanol					CAS #: 64-17-5		
9.453	9.453 (0.656)	45	850282	60.9628	60.963	80.00- 120.00	100.00
9.453	9.453 (0.656)	43	163721			0.00- 72.83	19.25
9.453	9.453 (0.656)	46	316936			0.00- 88.20	37.27
42 Freon 113					CAS #: 76-13-1		
10.227	10.227 (0.710)	151	3359898	59.0761	59.076	80.00- 120.00	100.00
10.227	10.227 (0.710)	153	2146359			13.49- 113.49	63.88
10.200	10.227 (0.708)	101	4204443			73.17- 173.17	125.14
43 1,1-Dichloroethene					CAS #: 75-35-4		
10.338	10.338 (0.718)	61	3633905	60.0456	60.046	80.00- 120.00	100.00
10.338	10.338 (0.718)	96	2250431			11.42- 111.42	61.93
10.338	10.338 (0.718)	98	1429998			0.00- 89.70	39.35
45 Acetone					CAS #: 67-64-1		
10.504	10.504 (0.729)	58	1068582	57.1246	57.125	80.00- 120.00	100.00
10.504	10.504 (0.729)	43	3184271			247.10- 347.10	297.99
46 2-Propanol					CAS #: 67-63-0		
10.670	10.697 (0.741)	45	3852062	58.0418	58.042	80.00- 120.00	100.00
10.670	10.697 (0.741)	43	890934			0.00- 75.54	23.13
10.697	10.697 (0.743)	59	147038			0.00- 53.72	3.82
47 Carbon Disulfide					CAS #: 75-15-0		
10.891	10.891 (0.756)	76	6273161	54.3296	54.330	80.00- 120.00	100.00
51 3-Chloropropene					CAS #: 107-05-1		
11.167	11.168 (0.775)	76	1091929	58.1115	58.111	80.00- 120.00	100.00
11.167	11.168 (0.775)	41	2818682			224.96- 324.96	258.14
54 Methylene Chloride					CAS #: 75-09-2		
11.472	11.472 (0.796)	49	2611233	58.6871	58.687	80.00- 120.00	100.00
11.472	11.472 (0.796)	84	1889884			23.49- 123.49	72.38
11.472	11.472 (0.796)	51	797893			0.00- 80.85	30.56
60 MTBE					CAS #: 1634-04-4		
11.831	11.831 (0.821)	73	3974575	58.7909	58.791	80.00- 120.00	100.00
11.831	11.831 (0.821)	57	914186			0.00- 73.11	23.00
11.831	11.831 (0.821)	41	882141			0.00- 76.16	22.19
61 trans-1,2-Dichloroethene					CAS #: 156-60-5		
11.942	11.942 (0.829)	96	2352862	57.2201	57.220	80.00- 120.00	100.00
11.942	11.942 (0.829)	61	3353273			93.77- 193.77	142.52
11.942	11.942 (0.829)	98	1487360			11.77- 111.77	63.21

RT	EXP RT (REL RT)	MASS	RESPONSE	CONCENTRATIONS ON-COL (PPBV)	FINAL (PPBV)	TARGET RANGE	RATIO
65 Hexane					CAS #: 110-54-3		
12.301	12.301 (0.854)	57	3482505	59.3497	59.350	80.00- 120.00	100.00
12.301	12.301 (0.854)	43	2243596			17.84- 117.84	64.42
12.301	12.301 (0.854)	86	532459			0.00- 65.07	15.29
69 Vinyl Acetate					CAS #: 108-05-4		
12.799	12.799 (0.889)	86	519165	58.5571	58.557	80.00- 120.00	100.00
12.799	12.799 (0.889)	43	6034912			1150.46-1250.46	1162.43
70 1,1-Dichloroethane					CAS #: 75-34-3		
12.826	12.826 (0.891)	63	4119087	58.6057	58.606	80.00- 120.00	100.00
12.826	12.826 (0.891)	65	1300555			0.00- 81.66	31.57
75 2-Butanone					CAS #: 78-93-3		
13.905	13.905 (0.965)	72	943974	62.8355	62.835	80.00- 120.00	100.00
13.877	13.905 (0.964)	43	4198247			412.95- 512.95	444.74
13.877	13.905 (0.964)	57	321401			0.00- 86.57	34.05
76 cis-1,2-Dichloroethene					CAS #: 156-59-2		
13.932	13.932 (0.967)	61	2818744	57.2959	57.296	80.00- 120.00	100.00
13.932	13.932 (0.967)	96	2119143			24.70- 124.70	75.18
13.932	13.932 (0.967)	98	1360701			0.00- 97.31	48.27
80 Tetrahydrofuran					CAS #: 109-99-9		
14.402	14.402 (1.000)	42	2315081	59.1042	59.104	80.00- 120.00	100.00
14.402	14.402 (1.000)	71	837123			0.00- 85.86	36.16
14.402	14.402 (1.000)	72	904656			0.00- 87.82	39.08
82 Chloroform					CAS #: 67-66-3		
14.485	14.485 (1.006)	83	3930935	56.2864	56.286	80.00- 120.00	100.00
14.485	14.485 (1.006)	85	2555017			15.30- 115.30	65.00
83 1,1,1-Trichloroethane					CAS #: 71-55-6		
14.845	14.845 (1.031)	97	3724675	52.9613	52.961	80.00- 120.00	100.00
14.845	14.845 (1.031)	99	2372213			14.42- 114.42	63.69
85 Cyclohexane					CAS #: 110-82-7		
14.845	14.845 (1.031)	84	2370220	58.8413	58.841	80.00- 120.00	100.00
14.845	14.845 (1.031)	56	3004824			77.14- 177.14	126.77
14.845	14.845 (1.031)	41	1640647			22.96- 122.96	69.22
87 Carbon Tetrachloride					CAS #: 56-23-5		
15.094	15.094 (1.048)	119	3436673	52.1301	52.130	80.00- 120.00	100.00
15.094	15.094 (1.048)	117	3538970			54.22- 154.22	102.98
89 2,2,4-Trimethylpentane					CAS #: 540-84-1		
15.425	15.426 (1.071)	57	8189957	58.1672	58.167	80.00- 120.00	100.00

RT	EXP RT (REL RT)	MASS	RESPONSE	CONCENTRATIONS ON-COL (PPBV)	FINAL (PPBV)	TARGET RANGE	RATIO
89 2,2,4-Trimethylpentane (continued)							
15.425	15.426 (1.071)	56	2800725			0.00- 84.62	34.20
15.425	15.426 (1.071)	41	2129961			0.00- 79.27	26.01
91 Benzene					CAS #: 71-43-2		
15.508	15.508 (0.959)	78	5250569	57.9255	57.926	80.00- 120.00	100.00
15.508	15.508 (0.959)	77	1159247			0.00- 71.87	22.08
93 1,2-Dichloroethane					CAS #: 107-06-2		
15.619	15.647 (0.966)	62	2535064	52.6380	52.638	80.00- 120.00	100.00
15.619	15.647 (0.966)	64	812550			0.00- 82.89	32.05
94 Heptane					CAS #: 142-82-5		
15.730	15.730 (0.973)	71	1662367	59.6323	59.632	80.00- 120.00	100.00
15.730	15.730 (0.973)	43	3281313			158.53- 258.53	197.39
15.730	15.730 (0.973)	57	1733443			59.34- 159.34	104.28
101 Trichloroethene					CAS #: 79-01-6		
16.642	16.642 (1.029)	95	2236263	55.5396	55.540	80.00- 120.00	100.00
16.642	16.642 (1.029)	130	2188821			49.05- 149.05	97.88
16.642	16.642 (1.029)	97	1443160			14.93- 114.93	64.53
104 1,2-Dichloropropane					CAS #: 78-87-5		
17.112	17.112 (1.058)	63	1961854	56.3976	56.398	80.00- 120.00	100.00
17.112	17.112 (1.058)	62	1436905			23.52- 123.52	73.24
17.112	17.112 (1.058)	41	1184177			12.01- 112.01	60.36
106 1,4-Dioxane					CAS #: 123-91-1		
17.250	17.250 (1.067)	88	1295263	57.2493	57.249	80.00- 120.00	100.00
17.250	17.250 (1.067)	58	909525			21.50- 121.50	70.22
17.250	17.250 (1.067)	57	298072			0.00- 74.60	23.01
107 Bromodichloromethane					CAS #: 75-27-4		
17.554	17.555 (1.085)	83	3863276	55.2648	55.265	80.00- 120.00	100.00
17.554	17.555 (1.085)	85	2471704			14.37- 114.37	63.98
110 cis-1,3-Dichloropropene					CAS #: 10061-01-5		
18.329	18.329 (1.133)	75	2863012	58.2452	58.245	80.00- 120.00	100.00
18.329	18.329 (1.133)	77	910017			0.00- 81.97	31.79
18.329	18.329 (1.133)	39	1608662			6.88- 106.88	56.19
111 4-Methyl-2-pentanone					CAS #: 108-10-1		
18.522	18.522 (1.145)	58	1713423	63.1663	63.166	80.00- 120.00	100.00
18.522	18.522 (1.145)	43	4340769			222.97- 322.97	253.34
18.522	18.522 (1.145)	85	654176			0.00- 90.48	38.18

RT	EXP RT (REL RT)	MASS	RESPONSE	CONCENTRATIONS ON-COL (PPBV)	FINAL (PPBV)	TARGET RANGE	RATIO
114 Toluene					CAS #: 108-88-3		
18.882	18.882 (1.168)	91	5892033	59.3464	59.346	80.00- 120.00	100.00
18.882	18.882 (1.168)	92	3757464			13.04- 113.04	63.77
116 trans-1,3-Dichloropropene					CAS #: 10061-02-6		
19.324	19.324 (0.905)	75	2965147	56.2573	56.257	80.00- 120.00	100.00
19.324	19.324 (0.905)	77	951982			0.00- 81.65	32.11
19.296	19.324 (0.904)	39	1582175			2.52- 102.52	53.36
117 1,1,2-Trichloroethane					CAS #: 79-00-5		
19.656	19.656 (0.921)	97	2167076	56.3767	56.377	80.00- 120.00	100.00
19.656	19.656 (0.921)	99	1363207			13.08- 113.08	62.91
19.656	19.656 (0.921)	83	1839848			35.32- 135.32	84.90
120 Tetrachloroethene					CAS #: 127-18-4		
19.822	19.822 (0.929)	166	2735490	54.8698	54.870	80.00- 120.00	100.00
19.822	19.822 (0.929)	129	1961918			22.39- 122.39	71.72
19.822	19.822 (0.929)	131	1871157			19.80- 119.80	68.40
121 2-Hexanone					CAS #: 591-78-6		
19.960	19.960 (0.935)	58	2350277	57.0518	57.052	80.00- 120.00	100.00
19.960	19.960 (0.935)	43	4343393			138.63- 238.63	184.80
19.960	19.960 (0.935)	100	396598			0.00- 67.05	16.87
122 Dibromochloromethane					CAS #: 124-48-1		
20.347	20.347 (0.953)	129	3740615	54.9220	54.922	80.00- 120.00	100.00
20.347	20.347 (0.953)	127	2884723			27.62- 127.62	77.12
123 1,2-Dibromoethane					CAS #: 106-93-4		
20.624	20.624 (0.966)	107	3462202	54.9423	54.942	80.00- 120.00	100.00
20.624	20.624 (0.966)	109	3257401			44.67- 144.67	94.08
127 Chlorobenzene					CAS #: 108-90-7		
21.398	21.398 (1.003)	112	4557104	54.2787	54.279	80.00- 120.00	100.00
21.398	21.398 (1.003)	114	1454447			0.00- 82.43	31.92
21.398	21.398 (1.003)	77	2729875			10.75- 110.75	59.90
128 Ethyl Benzene					CAS #: 100-41-4		
21.481	21.481 (1.006)	106	2354756	54.9458	54.946	80.00- 120.00	100.00
21.481	21.481 (1.006)	91	7312230			261.69- 361.69	310.53
129 m,p-Xylene					CAS #: 108-38-3		
21.674	21.674 (1.016)	106	2946846	54.9356	54.936	80.00- 120.00	100.00
21.674	21.674 (1.016)	91	5783687			145.05- 245.05	196.27
130 o-Xylene					CAS #: 95-47-6		
22.393	22.393 (1.049)	106	2582216	55.5485	55.548	80.00- 120.00	100.00

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                                        CONCENTRATIONS
                                        ON-COL    FINAL
   RT   EXP RT (REL RT)  MASS  RESPONSE ( PPBV)  ( PPBV)   TARGET RANGE    RATIO
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  130 o-Xylene (continued)
 22.393  22.393 (1.049)    91   5281441                  154.65- 254.65   204.53
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  131 Styrene                                       CAS #: 100-42-5
 22.421  22.421 (1.051)   104   4275480 59.4656   59.466  80.00- 120.00   100.00
 22.421  22.421 (1.051)    78   2112552                    1.69- 101.69    49.41
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  133 Bromoform                                     CAS #: 75-25-2
 22.836  22.836 (1.070)   173   3258113 54.4786   54.478  80.00- 120.00   100.00
 22.836  22.836 (1.070)   171   1681615                    1.22- 101.22    51.61
-------------------------------------------------------------------------------
  134 Cumene                                        CAS #: 98-82-8
 22.974  22.974 (1.076)   105   6690351 56.9959   56.996  80.00- 120.00   100.00
 22.974  22.974 (1.076)   120   1839176                    0.00-  78.08    27.49
 22.946  22.974 (1.075)    51    710641                    0.00-  61.43    10.62
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  140 1,1,2,2-Tetrachloroethane                     CAS #: 79-34-5
 23.527  23.527 (1.102)    83   4104155 52.8570   52.857  80.00- 120.00   100.00
 23.527  23.527 (1.102)    85   2636394                   14.35- 114.35    64.24
-------------------------------------------------------------------------------
  142 Propylbenzene                                 CAS #: 103-65-1
 23.637  23.637 (1.108)    91   8737607 55.4988   55.499  80.00- 120.00   100.00
 23.637  23.637 (1.108)   120   1980514                    0.00-  72.94    22.67
 23.637  23.637 (1.108)   105    321331                    0.00-  54.03     3.68
-------------------------------------------------------------------------------
  145 4-Ethyltoluene                                CAS #: 622-96-8
 23.831  23.831 (1.117)   105   7699834 55.3826   55.383  80.00- 120.00   100.00
 23.831  23.831 (1.117)   120   2210219                    0.00-  78.42    28.70
-------------------------------------------------------------------------------
  147 1,3,5-Trimethylbenzene                        CAS #: 108-67-8
 23.914  23.914 (1.120)   105   5550045 50.8217   50.822  80.00- 120.00   100.00
 23.914  23.914 (1.120)   120   3171171                    3.80- 103.80    57.14
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  150 1,2,4-Trimethylbenzene                        CAS #: 95-63-6
 24.550  24.550 (1.150)   105   5276389 53.1640   53.164  80.00- 120.00   100.00
 24.550  24.550 (1.150)   120   2593089                    0.00-  98.95    49.15
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  155 1,3-Dichlorobenzene                           CAS #: 541-73-1
 25.130  25.130 (1.177)   146   3931611 51.1917   51.192  80.00- 120.00   100.00
 25.130  25.130 (1.177)   148   2506642                   14.48- 114.48    63.76
 25.130  25.130 (1.177)   111   1529949                    0.00-  89.68    38.91
-------------------------------------------------------------------------------
  156 1,4-Dichlorobenzene                           CAS #: 106-46-7
 25.269  25.269 (1.184)   146   3971732 49.6212   49.621  80.00- 120.00   100.00
 25.269  25.269 (1.184)   148   2535255                   13.81- 113.81    63.83
 25.269  25.269 (1.184)   111   1499689                    0.00-  87.35    37.76
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RT	EXP RT (REL RT)	MASS	RESPONSE	CONCENTRATIONS ON-COL (PPBV)	FINAL (PPBV)	TARGET RANGE	RATIO
159 alpha-Chlorotoluene					CAS #: 100-44-7		
25.490	25.490 (1.194)	91	5941365	55.9136	55.914	80.00- 120.00	100.00
25.490	25.490 (1.194)	126	1232677			0.00- 71.29	20.75
161 1,2-Dichlorobenzene					CAS #: 95-50-1		
25.932	25.932 (1.215)	146	3481887	48.6925	48.692	80.00- 120.00	100.00
25.932	25.932 (1.215)	148	2225326			14.30- 114.30	63.91
25.905	25.932 (1.214)	111	1403109			0.00- 90.50	40.30
165 1,2,4-Trichlorobenzene					CAS #: 120-82-1		
28.808	28.808 (1.350)	180	1206637	41.2578	41.258	80.00- 120.00	100.00
28.808	28.808 (1.350)	182	1149274			45.65- 145.65	95.25
166 Hexachlorobutadiene					CAS #: 87-68-3		
29.001	29.001 (1.359)	225	972258	39.9886	39.989	80.00- 120.00	100.00
29.001	29.001 (1.359)	223	608395			12.64- 112.64	62.58
29 Isopentane					CAS #: 78-78-4		
8.375	8.375 (0.581)	43	2583203	52.2457	52.246	80.00- 120.00	100.00
8.375	8.375 (0.581)	57	1731177			16.48- 116.48	67.02
19 Butane					CAS #: 106-97-8		
6.771	6.771 (0.470)	58	408645	52.9140	52.914	80.00- 120.00	100.00
6.771	6.771 (0.470)	43	3169804			757.70- 857.70	775.69
102 Methyl Cyclohexane					CAS #: 108-87-2		
16.919	16.919 (1.175)	83	2859963	57.6850	57.685	80.00- 120.00	100.00
16.919	16.919 (1.175)	98	1333582			0.00- 96.13	46.63
16.919	16.919 (1.175)	55	2537608			38.51- 138.51	88.73
167 Naphthalene					CAS #: 91-20-3		
29.388	29.388 (1.377)	128	2149760	39.2330	39.233	80.00- 120.00	100.00
29.388	29.388 (1.377)	127	251185			0.00- 62.50	11.68

Report Date: 23-Oct-2007 09:41

Air Toxics Ltd.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd7.i
Lab File ID: 7101810.d
Lab Smp Id: lcs-1
Analysis Type: VOA
Quant Type: ISTD
Operator: dm
Method File: /chem/msd7.i/7-18oct.b/t14qO18a.m
Misc Info: 200ppbv-50ppbv

Calibration Date: 18-OCT-2007
Calibration Time: 15:26
Client Smp ID: lcs-1
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
81 Bromochloromethan	683549	410129	956969	693629	1.47
97 1,4-Difluorobenze	2204815	1322889	3086741	2281320	3.47
126 Chlorobenzene-d5	1812979	1087787	2538171	1855833	2.36

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
81 Bromochloromethan	14.40	14.07	14.73	14.40	0.00
97 1,4-Difluorobenze	16.17	15.84	16.50	16.17	0.00
126 Chlorobenzene-d5	21.37	21.04	21.70	21.34	-0.13

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Report Date: 23-Oct-2007 09:41

Air Toxics Ltd.

RECOVERY REPORT

Client Name:
Client SDG: 7-18oct
Sample Matrix: GAS
Fraction: VOA
Lab Smp Id: lcs-1
Client Smp ID: lcs-1
Level: LOW
Operator: dm
Data Type: MS DATA
SampleType: LCS
SpikeList File: 2926spectra.spk
Quant Type: ISTD
Sublist File: AT04ENSR.sub
Method File: /chem/msd7.i/7-18oct.b/t14qO18a.m
Misc Info: 200ppbv-50ppbv

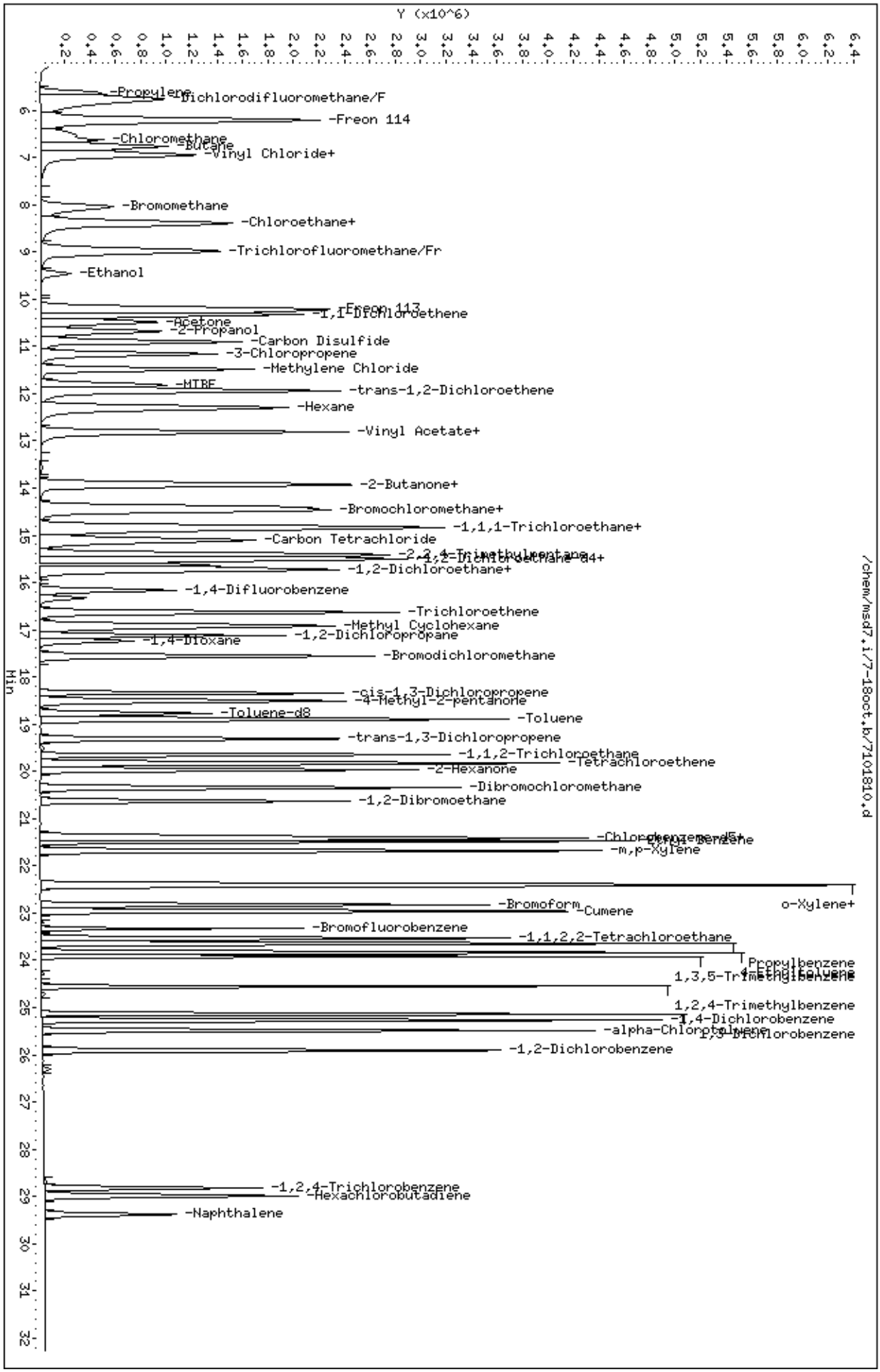
SPIKE COMPOUND	CONC ADDED PPBV	CONC RECOVERED PPBV	% RECOVERED	LIMITS
12 Dichlorodifluorome	50.000	48.162	96.32	70-130
16 Freon 114	50.000	49.117	98.23	70-130
18 Chloromethane	50.000	47.034	94.07	70-130
20 Vinyl Chloride	50.000	50.540	101.08	70-130
22 1,3-Butadiene	50.000	52.306	104.61	60-140
25 Bromomethane	50.000	49.468	98.94	70-130
27 Chloroethane	50.000	55.787	111.57	70-130
31 Trichlorofluoromet	50.000	51.586	103.17	70-130
38 Ethanol	50.000	60.963	121.93	60-140
42 Freon 113	50.000	59.076	118.15	70-130
43 1,1-Dichloroethene	50.000	60.046	120.09	70-130
45 Acetone	50.000	57.125	114.25	60-140
47 Carbon Disulfide	50.000	54.330	108.66	60-140
46 2-Propanol	50.000	58.042	116.08	60-140
54 Methylene Chloride	50.000	58.687	117.37	70-130
60 MTBE	50.000	58.791	117.58	60-140
61 trans-1,2-Dichloro	50.000	57.220	114.44	60-140
65 Hexane	50.000	59.350	118.70	60-140
69 Vinyl Acetate	50.000	58.557	117.11	60-140
70 1,1-Dichloroethane	50.000	58.606	117.21	70-130
76 cis-1,2-Dichloroet	50.000	57.296	114.59	70-130
75 2-Butanone	50.000	62.835	125.67	60-140
80 Tetrahydrofuran	50.000	59.104	118.21	60-140
82 Chloroform	50.000	56.286	112.57	70-130
85 Cyclohexane	50.000	58.841	117.68	60-140
83 1,1,1-Trichloroeth	50.000	52.961	105.92	70-130
87 Carbon Tetrachlori	50.000	52.130	104.26	70-130
91 Benzene	50.000	57.926	115.85	70-130
93 1,2-Dichloroethane	50.000	52.638	105.28	70-130
94 Heptane	50.000	59.632	119.26	60-140
101 Trichloroethene	50.000	55.540	111.08	70-130
104 1,2-Dichloropropan	50.000	56.398	112.80	70-130
106 1,4-Dioxane	50.000	57.249	114.50	60-140

SPIKE COMPOUND	CONC ADDED PPBV	CONC RECOVERED PPBV	% RECOVERED	LIMITS
107 Bromodichlorometha	50.000	55.265	110.53	60-140
110 cis-1,3-Dichloropr	50.000	58.245	116.49	70-130
111 4-Methyl-2-pentano	50.000	63.166	126.33	60-140
114 Toluene	50.000	59.346	118.69	70-130
116 trans-1,3-Dichloro	50.000	56.257	112.51	70-130
117 1,1,2-Trichloroeth	50.000	56.377	112.75	70-130
120 Tetrachloroethene	50.000	54.870	109.74	70-130
121 2-Hexanone	50.000	57.052	114.10	60-140
122 Dibromochlorometha	50.000	54.922	109.84	60-140
123 1,2-Dibromoethane	50.000	54.942	109.88	70-130
127 Chlorobenzene	50.000	54.279	108.56	70-130
128 Ethyl Benzene	50.000	54.946	109.89	70-130
129 m,p-Xylene	50.000	54.936	109.87	70-130
130 o-Xylene	50.000	55.548	111.10	70-130
131 Styrene	50.000	59.466	118.93	70-130
133 Bromoform	50.000	54.478	108.96	60-140
140 1,1,2,2-Tetrachlor	50.000	52.857	105.71	70-130
145 4-Ethyltoluene	50.000	55.383	110.77	60-140
147 1,3,5-Trimethylben	50.000	50.822	101.64	70-130
150 1,2,4-Trimethylben	50.000	53.164	106.33	70-130
155 1,3-Dichlorobenzen	50.000	51.192	102.38	70-130
156 1,4-Dichlorobenzen	50.000	49.621	99.24	70-130
159 alpha-Chlorotoluen	50.000	55.914	111.83	70-130
161 1,2-Dichlorobenzen	50.000	48.692	97.39	70-130
165 1,2,4-Trichloroben	50.000	41.258	82.52	70-130
166 Hexachlorobutadien	50.000	39.989	79.98	70-130
142 Propylbenzene	50.000	55.499	111.00	60-140
134 Cumene	50.000	56.996	113.99	60-140
51 3-Chloropropene	50.000	58.111	116.22	60-140
89 2,2,4-Trimethylpen	50.000	58.167	116.33	60-140
29 Isopentane	50.000	52.246	104.49	70-130
19 Butane	50.000	52.914	105.83	70-130
102 Methyl Cyclohexane	50.000	57.685	115.37	70-130
11 Propylene	50.000	51.335	102.67	60-140
167 Naphthalene	50.000	39.233	78.47	60-140

SURROGATE COMPOUND	CONC ADDED PPBV	CONC RECOVERED PPBV	% RECOVERED	LIMITS
$ 90 1,2-Dichloroethane	25.000	23.524	94.09	70-130
$ 113 Toluene-d8	25.000	25.783	103.13	70-130
$ 137 Bromofluorobenzene	25.000	23.992	95.97	70-130

Data File: /chem/msd7.i/7-18oct.b/7101810.d
Date : 18-OCT-2007 19:29
Client ID: lcs-1
Sample Info: 50mL #1443-302
Column phase: RTx-624

Instrument: msd7.i
Operator: dm
Column diameter: 0.53



Air Toxics Ltd.

AMBIENT AIR METHOD TO14

Data file : /chem/msd7.i/7-18oct.b/7101802.d
Lab Smp Id: ICAL Client Smp ID: Level 1
Inj Date : 18-OCT-2007 12:17
Operator : cb Inst ID: msd7.i
Smp Info : 0.2mL #1576-50
Misc Info : 200ppbv --> 0.2ppbv
Comment :
Method : /chem/msd7.i/7-18oct.b/t14qO18a.m
Meth Date : 18-Oct-2007 15:54 cbond Quant Type: ISTD
Cal Date : 18-OCT-2007 12:17 Cal File: 7101802.d
Als bottle: 1 Calibration Sample, Level: 1
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: AFCEElow.sub
Target Version: 3.50 Sample Matrix: AIR
Processing Host: eeyore

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS CAL-AMT (PPBV)	AMOUNTS ON-COL (PPBV)	TARGET RANGE	RATIO
* 81 Bromochloromethane					CAS #: 74-97-5		
14.375	14.375 (1.000)	130	636189	25.0000		50.00- 150.00	100.00
14.375	14.375 (1.000)	128	490559			27.11- 127.11	77.11
14.375	14.375 (1.000)	49	923525			95.17- 195.17	145.17
* 97 1,4-Difluorobenzene					CAS #: 540-36-3		
16.144	16.144 (1.000)	114	2066548	25.0000		50.00- 150.00	100.00
16.144	16.144 (1.000)	88	323845			0.00- 65.67	15.67
* 126 Chlorobenzene-d5					CAS #: 3114-55-4		
21.343	21.343 (1.000)	117	1699390	25.0000		50.00- 150.00	100.00
21.343	21.343 (1.000)	82	942443			5.46- 105.46	55.46
$ 90 1,2-Dichloroethane-d4					CAS #: 17060-07-0		
15.481	15.481 (1.077)	65	840662	25.0000	25.000	50.00- 150.00	100.00
15.481	15.481 (1.077)	67	425930			0.67- 100.67	50.67
$ 113 Toluene-d8					CAS #: 2037-26-5		
18.771	18.771 (1.163)	98	1800430	25.0000	25.000	50.00- 150.00	100.00
18.744	18.744 (1.161)	70	203256			0.00- 61.29	11.29

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS CAL-AMT (PPBV)	AMOUNTS ON-COL (PPBV)	TARGET RANGE	RATIO
$ 113 Toluene-d8 (continued)							
18.771	18.771 (1.163)	100	1235223			18.61- 118.61	68.61
$ 137 Bromofluorobenzene						CAS #: 460-00-4	
23.333	23.333 (1.093)	174	1016286	25.0000	25.000	50.00- 150.00	100.00
23.333	23.333 (1.093)	95	1276863			75.64- 175.64	125.64
23.333	23.333 (1.093)	176	976731			46.11- 146.11	96.11
82 Chloroform						CAS #: 67-66-3	
14.458	14.458 (1.006)	83	10481	0.20000	0.2000	50.00- 150.00	100.00(a)
14.458	14.458 (1.006)	85	6627			13.23- 113.23	63.23
91 Benzene						CAS #: 71-43-2	
15.508	15.508 (0.961)	78	14321	0.20000	0.2000	50.00- 150.00	100.00(a)
15.508	15.508 (0.961)	77	3194			0.00- 72.30	22.30
131 Styrene						CAS #: 100-42-5	
22.421	22.421 (1.051)	104	9530	0.20000	0.2000	50.00- 150.00	100.00(a)
22.421	22.421 (1.051)	78	6488			18.08- 118.08	68.08
134 Cumene						CAS #: 98-82-8	
22.946	22.946 (1.075)	105	18683	0.20000	0.2000	50.00- 150.00	100.00(a)
22.974	22.974 (1.076)	120	5104			0.00- 77.32	27.32
22.946	22.946 (1.075)	51	2569			0.00- 63.75	13.75

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).

Report Date: 18-Oct-2007 15:54

Air Toxics Ltd.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd7.i
Lab File ID: 7101802.d
Lab Smp Id: ICAL
Analysis Type: VOA
Quant Type: ISTD
Operator: cb
Method File: /chem/msd7.i/7-18oct.b/t14qO18a.m
Misc Info: 200ppbv --> 0.2ppbv

Calibration Date: 18-OCT-2007
Calibration Time: 15:26
Client Smp ID: Level 1
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
81 Bromochloromethan	683549	410129	956969	636189	-6.93
97 1,4-Difluorobenze	2204815	1322889	3086741	2066548	-6.27
126 Chlorobenzene-d5	1812979	1087787	2538171	1699390	-6.27

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
81 Bromochloromethan	14.40	14.07	14.73	14.37	-0.19
97 1,4-Difluorobenze	16.17	15.84	16.50	16.14	-0.17
126 Chlorobenzene-d5	21.37	21.04	21.70	21.34	-0.13

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /chem/msd7.i/7-18oct.b/7101802.d

Date : 18-OCT-2007 12:17

Client ID: Level 1

Sample Info: 0.2mL #1576-50

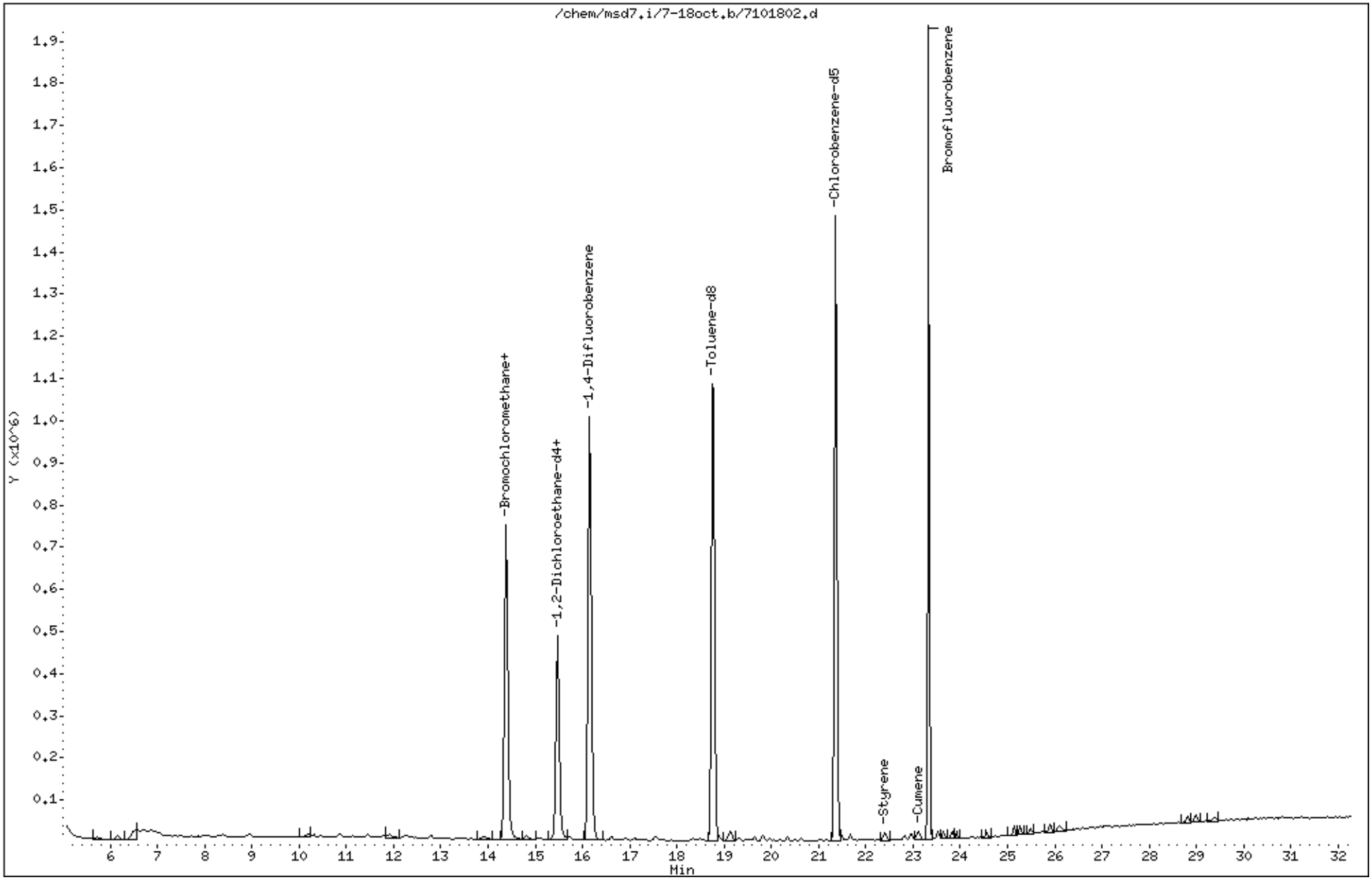
Column phase: RTx-624

Instrument: msd7.i

Operator: cb

Column diameter: 0.53

0324



Air Toxics Ltd.

AMBIENT AIR METHOD TO14

Data file : /chem/msd7.i/7-18oct.b/7101803.d
Lab Smp Id: ICAL Client Smp ID: Level 2
Inj Date : 18-OCT-2007 12:56
Operator : cb Inst ID: msd7.i
Smp Info : 0.5mL #1576-50
Misc Info : 200ppbv --> 0.5ppbv
Comment :
Method : /chem/msd7.i/7-18oct.b/t14qO18a.m
Meth Date : 18-Oct-2007 15:55 cbond Quant Type: ISTD
Cal Date : 18-OCT-2007 12:56 Cal File: 7101803.d
Als bottle: 1 Calibration Sample, Level: 2
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: AT04low+ENSR.sub
Target Version: 3.50 Sample Matrix: AIR
Processing Host: eeyore

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS CAL-AMT (PPBV)	AMOUNTS ON-COL (PPBV)	TARGET RANGE	RATIO
* 81 Bromochloromethane					CAS #: 74-97-5		
14.402	14.402 (1.000)	130	594950	25.0000		50.00- 150.00	100.00
14.402	14.402 (1.000)	128	451286			26.48- 126.48	75.85
14.402	14.402 (1.000)	49	865261			95.30- 195.30	145.43
* 97 1,4-Difluorobenzene					CAS #: 540-36-3		
16.172	16.172 (1.000)	114	1954618	25.0000		50.00- 150.00	100.00
16.172	16.172 (1.000)	88	303029			0.00- 65.59	15.50
* 126 Chlorobenzene-d5					CAS #: 3114-55-4		
21.342	21.342 (1.000)	117	1592069	25.0000		50.00- 150.00	100.00
21.342	21.342 (1.000)	82	884524			5.51- 105.51	55.56
$ 90 1,2-Dichloroethane-d4					CAS #: 17060-07-0		
15.481	15.481 (1.075)	65	796855	25.0000	25.169	50.00- 150.00	100.00
15.481	15.481 (1.075)	67	397861			0.30- 100.30	49.93
$ 113 Toluene-d8					CAS #: 2037-26-5		
18.771	18.771 (1.161)	98	1670382	25.0000	24.759	50.00- 150.00	100.00
18.771	18.771 (1.161)	70	190048			0.00- 61.33	11.38

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS CAL-AMT (PPBV)	AMOUNTS ON-COL (PPBV)	TARGET RANGE	RATIO
$ 113 Toluene-d8 (continued)							
18.771	18.771 (1.161)	100	1154070			18.85- 118.85	69.09
$ 137 Bromofluorobenzene						CAS #: 460-00-4	
23.333	23.333 (1.093)	174	957131	25.0000	25.066	50.00- 150.00	100.00
23.333	23.333 (1.093)	95	1220204			76.56- 176.56	127.49
23.333	23.333 (1.093)	176	932560			46.77- 146.77	97.43
12 Dichlorodifluoromethane/Fr12						CAS #: 75-71-8	
5.721	5.721 (0.397)	85	47576	0.50000	0.5000	50.00- 150.00	100.00
5.748	5.748 (0.399)	87	17035			0.00- 85.81	35.81
16 Freon 114						CAS #: 76-14-2	
6.163	6.163 (0.428)	135	32813	0.50000	0.5000	50.00- 150.00	100.00
6.163	6.163 (0.428)	137	10433			0.00- 81.80	31.80
20 Vinyl Chloride						CAS #: 75-01-4	
6.882	6.882 (0.478)	62	19172	0.50000	0.5000	50.00- 150.00	100.00
6.882	6.882 (0.478)	64	6960			0.00- 86.30	36.30
22 1,3-Butadiene						CAS #: 106-99-0	
6.882	6.882 (0.478)	54	11746	0.50000	0.5000	50.00- 150.00	100.00
6.882	6.882 (0.478)	39	13765			67.19- 167.19	117.19
25 Bromomethane						CAS #: 74-83-9	
8.015	8.015 (0.557)	94	16291	0.50000	0.5000	50.00- 150.00	100.00
8.015	8.015 (0.557)	96	14944			41.73- 141.73	91.73
27 Chloroethane						CAS #: 75-00-3	
8.347	8.347 (0.580)	64	6683	0.50000	0.5000	50.00- 150.00	100.00
8.347	8.347 (0.580)	49	2473			0.00- 87.00	37.00
8.320	8.320 (0.578)	66	2148			0.00- 82.14	32.14
31 Trichlorofluoromethane/Fr11						CAS #: 75-69-4	
8.955	8.955 (0.622)	101	39349	0.50000	0.5000	50.00- 150.00	100.00
8.928	8.928 (0.620)	103	26784			18.07- 118.07	68.07
42 Freon 113						CAS #: 76-13-1	
10.200	10.200 (0.708)	151	22360	0.50000	0.5000	50.00- 150.00	100.00
10.200	10.200 (0.708)	153	13095			8.56- 108.56	58.56
10.200	10.200 (0.708)	101	27629			73.56- 173.56	123.56
43 1,1-Dichloroethene						CAS #: 75-35-4	
10.310	10.310 (0.716)	61	23023	0.50000	0.5000	50.00- 150.00	100.00
10.310	10.310 (0.716)	96	18764			31.50- 131.50	81.50
10.338	10.338 (0.718)	98	8228			0.00- 85.74	35.74

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS CAL-AMT (PPBV)	AMOUNTS ON-COL (PPBV)	TARGET RANGE	RATIO
47 Carbon Disulfide					CAS #: 75-15-0		
10.863	10.863 (0.754)	76	43350	0.50000	0.5000	50.00- 150.00	100.00
54 Methylene Chloride					CAS #: 75-09-2		
11.472	11.472 (0.796)	49	17900	0.50000	0.5000	50.00- 150.00	100.00
11.472	11.472 (0.796)	84	12530			20.00- 120.00	70.00
11.444	11.444 (0.795)	51	5834			0.00- 82.59	32.59
60 MTBE					CAS #: 1634-04-4		
11.831	11.831 (0.821)	73	30552	0.50000	0.5000	50.00- 150.00	100.00
11.831	11.831 (0.821)	57	6497			0.00- 71.27	21.27
11.803	11.803 (0.820)	41	8855			0.00- 78.98	28.98
61 trans-1,2-Dichloroethene					CAS #: 156-60-5		
11.942	11.942 (0.829)	96	15203	0.50000	0.5000	50.00- 150.00	100.00
11.914	11.914 (0.827)	61	21746			93.04- 193.04	143.04
11.914	11.914 (0.827)	98	7588			0.00- 99.91	49.91
65 Hexane					CAS #: 110-54-3		
12.301	12.301 (0.854)	57	20198	0.50000	0.5000	50.00- 150.00	100.00
12.301	12.301 (0.854)	43	15411			26.30- 126.30	76.30
12.301	12.301 (0.854)	86	3271			0.00- 66.19	16.19
70 1,1-Dichloroethane					CAS #: 75-34-3		
12.826	12.826 (0.891)	63	24629	0.50000	0.5000	50.00- 150.00	100.00
12.826	12.826 (0.891)	65	8401			0.00- 84.11	34.11
75 2-Butanone					CAS #: 78-93-3		
13.905	13.905 (0.965)	72	4535	0.50000	0.5000	50.00- 150.00	100.00
13.877	13.877 (0.964)	43	22514			446.45- 546.45	496.45
13.905	13.905 (0.965)	57	1741			0.00- 88.39	38.39
76 cis-1,2-Dichloroethene					CAS #: 156-59-2		
13.932	13.932 (0.967)	61	17162	0.50000	0.5000	50.00- 150.00	100.00
13.932	13.932 (0.967)	96	15482			40.21- 140.21	90.21
13.932	13.932 (0.967)	98	8217			0.00- 97.88	47.88
80 Tetrahydrofuran					CAS #: 109-99-9		
14.375	14.375 (0.998)	42	12231	0.50000	0.5000	50.00- 150.00	100.00
14.402	14.402 (1.000)	71	4285			0.00- 85.03	35.03
14.402	14.402 (1.000)	72	4117			0.00- 83.66	33.66
82 Chloroform					CAS #: 67-66-3		
14.458	14.458 (1.004)	83	27421	0.50000	0.5281	50.00- 150.00	100.00
14.458	14.458 (1.004)	85	17112			12.82- 112.82	62.40

AMOUNTS

RT	EXP RT (REL RT)	MASS	RESPONSE	CAL-AMT (PPBV)	ON-COL (PPBV)	TARGET RANGE	RATIO
83 1,1,1-Trichloroethane					CAS #: 71-55-6		
14.817	14.817 (1.029)	97	25463	0.50000	0.5000	50.00- 150.00	100.00
14.845	14.845 (1.031)	99	16821			16.06- 116.06	66.06
85 Cyclohexane					CAS #: 110-82-7		
14.845	14.845 (1.031)	84	13500	0.50000	0.5000	50.00- 150.00	100.00
14.845	14.845 (1.031)	56	17496			79.60- 179.60	129.60
14.845	14.845 (1.031)	41	15222			62.76- 162.76	112.76
87 Carbon Tetrachloride					CAS #: 56-23-5		
15.094	15.094 (1.048)	119	22788	0.50000	0.5000	50.00- 150.00	100.00
15.094	15.094 (1.048)	117	25102			60.15- 160.15	110.15
91 Benzene					CAS #: 71-43-2		
15.508	15.508 (0.959)	78	34749	0.50000	0.5064	50.00- 150.00	100.00
15.536	15.536 (0.961)	77	7253			0.00- 71.59	20.87
89 2,2,4-Trimethylpentane					CAS #: 540-84-1		
15.425	15.425 (1.071)	57	45451	0.50000	0.5000	50.00- 150.00	100.00
15.425	15.425 (1.071)	56	16216			0.00- 85.68	35.68
15.425	15.425 (1.071)	41	15793			0.00- 84.75	34.75
93 1,2-Dichloroethane					CAS #: 107-06-2		
15.619	15.619 (0.966)	62	18652	0.50000	0.5000	50.00- 150.00	100.00
15.619	15.619 (0.966)	64	6553			0.00- 85.13	35.13
94 Heptane					CAS #: 142-82-5		
15.730	15.730 (0.973)	71	8517	0.50000	0.5000	50.00- 150.00	100.00
15.730	15.730 (0.973)	43	19632			180.50- 280.50	230.50
15.730	15.730 (0.973)	57	10427			72.43- 172.43	122.43
101 Trichloroethene					CAS #: 79-01-6		
16.642	16.642 (1.029)	95	14369	0.50000	0.5000	50.00- 150.00	100.00
16.642	16.642 (1.029)	130	14236			49.07- 149.07	99.07
16.642	16.642 (1.029)	97	9543			16.41- 116.41	66.41
104 1,2-Dichloropropane					CAS #: 78-87-5		
17.140	17.140 (1.060)	63	12205	0.50000	0.5000	50.00- 150.00	100.00
17.112	17.112 (1.058)	62	9174			25.17- 125.17	75.17
17.140	17.140 (1.060)	41	11048			40.52- 140.52	90.52
107 Bromodichloromethane					CAS #: 75-27-4		
17.554	17.554 (1.085)	83	23861	0.50000	0.5000	50.00- 150.00	100.00
17.554	17.554 (1.085)	85	15506			14.98- 114.98	64.98
110 cis-1,3-Dichloropropene					CAS #: 10061-01-5		
18.329	18.329 (1.133)	75	15175	0.50000	0.5000	50.00- 150.00	100.00

AMOUNTS

RT	EXP RT (REL RT)	MASS	RESPONSE	CAL-AMT (PPBV)	ON-COL (PPBV)	TARGET RANGE	RATIO
110 cis-1,3-Dichloropropene (continued)							
18.329	18.329 (1.133)	77	4797			0.00- 81.61	31.61
18.329	18.329 (1.133)	39	9773			14.40- 114.40	64.40
111 4-Methyl-2-pentanone					CAS #: 108-10-1		
18.522	18.522 (1.145)	58	6848	0.50000	0.5000	50.00- 150.00	100.00
18.522	18.522 (1.145)	43	20498			249.33- 349.33	299.33
18.495	18.495 (1.144)	85	3016			0.00- 94.04	44.04
114 Toluene					CAS #: 108-88-3		
18.882	18.882 (1.168)	91	34659	0.50000	0.5000	50.00- 150.00	100.00
18.882	18.882 (1.168)	92	21595			12.31- 112.31	62.31
116 trans-1,3-Dichloropropene					CAS #: 10061-02-6		
19.324	19.324 (0.905)	75	16891	0.50000	0.5000	50.00- 150.00	100.00
19.324	19.324 (0.905)	77	5788			0.00- 84.27	34.27
19.296	19.296 (0.904)	39	11612			18.75- 118.75	68.75
117 1,1,2-Trichloroethane					CAS #: 79-00-5		
19.656	19.656 (0.921)	97	13069	0.50000	0.5000	50.00- 150.00	100.00
19.656	19.656 (0.921)	99	8163			12.46- 112.46	62.46
19.656	19.656 (0.921)	83	11292			36.40- 136.40	86.40
120 Tetrachloroethene					CAS #: 127-18-4		
19.849	19.849 (0.930)	166	18736	0.50000	0.5000	50.00- 150.00	100.00
19.822	19.822 (0.929)	129	13781			23.55- 123.55	73.55
19.822	19.822 (0.929)	131	12940			19.06- 119.06	69.06
122 Dibromochloromethane					CAS #: 124-48-1		
20.347	20.347 (0.953)	129	22024	0.50000	0.5000	50.00- 150.00	100.00
20.347	20.347 (0.953)	127	17127			27.77- 127.77	77.77
123 1,2-Dibromoethane					CAS #: 106-93-4		
20.624	20.624 (0.966)	107	19811	0.50000	0.5000	50.00- 150.00	100.00
20.624	20.624 (0.966)	109	19821			50.05- 150.05	100.05
127 Chlorobenzene					CAS #: 108-90-7		
21.398	21.398 (1.003)	112	31210	0.50000	0.5000	50.00- 150.00	100.00
21.398	21.398 (1.003)	114	11029			0.00- 85.34	35.34
21.398	21.398 (1.003)	77	31887			52.17- 152.17	102.17
128 Ethyl Benzene					CAS #: 100-41-4		
21.481	21.481 (1.006)	106	14585	0.50000	0.5000	50.00- 150.00	100.00
21.481	21.481 (1.006)	91	47369			274.78- 374.78	324.78
129 m,p-Xylene					CAS #: 108-38-3		
21.674	21.674 (1.016)	106	18983	0.50000	0.5000	50.00- 150.00	100.00

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                                          AMOUNTS
                                       CAL-AMT   ON-COL
   RT   EXP RT (REL RT)  MASS  RESPONSE ( PPBV)  ( PPBV)   TARGET RANGE    RATIO
   ==   ====== ========  ====  ======== =======  =======   ============    =====

  129 m,p-Xylene (continued)
 21.674  21.674 (1.016)    91     36102                  140.18- 240.18   190.18
-------------------------------------------------------------------------------
  130 o-Xylene                                      CAS #: 95-47-6
 22.393  22.393 (1.049)   106     15952 0.50000   0.5000  50.00- 150.00   100.00
 22.393  22.393 (1.049)    91     33173                  157.96- 257.96   207.96
-------------------------------------------------------------------------------
  131 Styrene                                       CAS #: 100-42-5
 22.421  22.421 (1.051)   104     22221 0.50000   0.4989  50.00- 150.00   100.00(a)
 22.421  22.421 (1.051)    78     12270                   11.65- 111.65    55.22
-------------------------------------------------------------------------------
  133 Bromoform                                     CAS #: 75-25-2
 22.835  22.835 (1.070)   173     20128 0.50000   0.5000  50.00- 150.00   100.00
 22.835  22.835 (1.070)   171     10294                    1.14- 101.14    51.14
-------------------------------------------------------------------------------
  134 Cumene                                        CAS #: 98-82-8
 22.974  22.974 (1.076)   105     42095 0.50000   0.4903  50.00- 150.00   100.00(a)
 22.974  22.974 (1.076)   120     13036                    0.00-  79.14    30.97
 22.946  22.946 (1.075)    51      4671                    0.00-  62.42    11.10
-------------------------------------------------------------------------------
  140 1,1,2,2-Tetrachloroethane                     CAS #: 79-34-5
 23.527  23.527 (1.102)    83     28944 0.50000   0.5000  50.00- 150.00   100.00
 23.527  23.527 (1.102)    85     18819                   15.02- 115.02    65.02
-------------------------------------------------------------------------------
  142 Propylbenzene                                 CAS #: 103-65-1
 23.637  23.637 (1.108)    91     57510 0.50000   0.5000  50.00- 150.00   100.00
 23.637  23.637 (1.108)   120     13859                    0.00-  74.10    24.10
 23.637  23.637 (1.108)   105      2745                    0.00-  54.77     4.77
-------------------------------------------------------------------------------
  145 4-Ethyltoluene                                CAS #: 622-96-8
 23.831  23.831 (1.117)   105     45962 0.50000   0.5000  50.00- 150.00   100.00
 23.831  23.831 (1.117)   120     14743                    0.00-  82.08    32.08
-------------------------------------------------------------------------------
  147 1,3,5-Trimethylbenzene                        CAS #: 108-67-8
 23.914  23.914 (1.120)   105     44997 0.50000   0.5000  50.00- 150.00   100.00
 23.914  23.914 (1.120)   120     22622                    0.27- 100.27    50.27
-------------------------------------------------------------------------------
  150 1,2,4-Trimethylbenzene                        CAS #: 95-63-6
 24.550  24.550 (1.150)   105     33540 0.50000   0.5000  50.00- 150.00   100.00
 24.550  24.550 (1.150)   120     16903                    0.40- 100.40    50.40
-------------------------------------------------------------------------------
  155 1,3-Dichlorobenzene                           CAS #: 541-73-1
 25.130  25.130 (1.177)   146     29742 0.50000   0.5000  50.00- 150.00   100.00
 25.130  25.130 (1.177)   148     19728                   16.33- 116.33    66.33
 25.130  25.130 (1.177)   111     12094                    0.00-  90.66    40.66
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RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS CAL-AMT (PPBV)	AMOUNTS ON-COL (PPBV)	TARGET RANGE	RATIO
156 1,4-Dichlorobenzene					CAS #: 106-46-7		
25.269	25.269 (1.184)	146	32773	0.50000	0.5000	50.00- 150.00	100.00
25.269	25.269 (1.184)	148	20634			12.96- 112.96	62.96
25.269	25.269 (1.184)	111	12309			0.00- 87.56	37.56
159 alpha-Chlorotoluene					CAS #: 100-44-7		
25.490	25.490 (1.194)	91	32574	0.50000	0.5000	50.00- 150.00	100.00
25.490	25.490 (1.194)	126	7503			0.00- 73.03	23.03
161 1,2-Dichlorobenzene					CAS #: 95-50-1		
25.932	25.932 (1.215)	146	30022	0.50000	0.5000	50.00- 150.00	100.00
25.932	25.932 (1.215)	148	18673			12.20- 112.20	62.20
25.905	25.905 (1.214)	111	11890			0.00- 89.60	39.60
102 Methyl Cyclohexane					CAS #: 108-87-2		
16.919	16.919 (1.175)	83	16603	0.50000	0.5000	50.00- 150.00	100.00
16.919	16.919 (1.175)	98	7709			0.00- 96.43	46.43
16.919	16.919 (1.175)	55	14202			35.54- 135.54	85.54

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).

Report Date: 18-Oct-2007 15:55

Air Toxics Ltd.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd7.i
Lab File ID: 7101803.d
Lab Smp Id: ICAL
Analysis Type: VOA
Quant Type: ISTD
Operator: cb
Method File: /chem/msd7.i/7-18oct.b/t14qO18a.m
Misc Info: 200ppbv --> 0.5ppbv

Calibration Date: 18-OCT-2007
Calibration Time: 15:26
Client Smp ID: Level 2
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
81 Bromochloromethan	683549	410129	956969	594950	-12.96
97 1,4-Difluorobenze	2204815	1322889	3086741	1954618	-11.35
126 Chlorobenzene-d5	1812979	1087787	2538171	1592069	-12.18

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
81 Bromochloromethan	14.40	14.07	14.73	14.40	0.00
97 1,4-Difluorobenze	16.17	15.84	16.50	16.17	0.00
126 Chlorobenzene-d5	21.37	21.04	21.70	21.34	-0.13

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /chem/msd7.i/7-18oct.b/7101803.d

Date : 18-OCT-2007 12:56

Client ID: Level 2

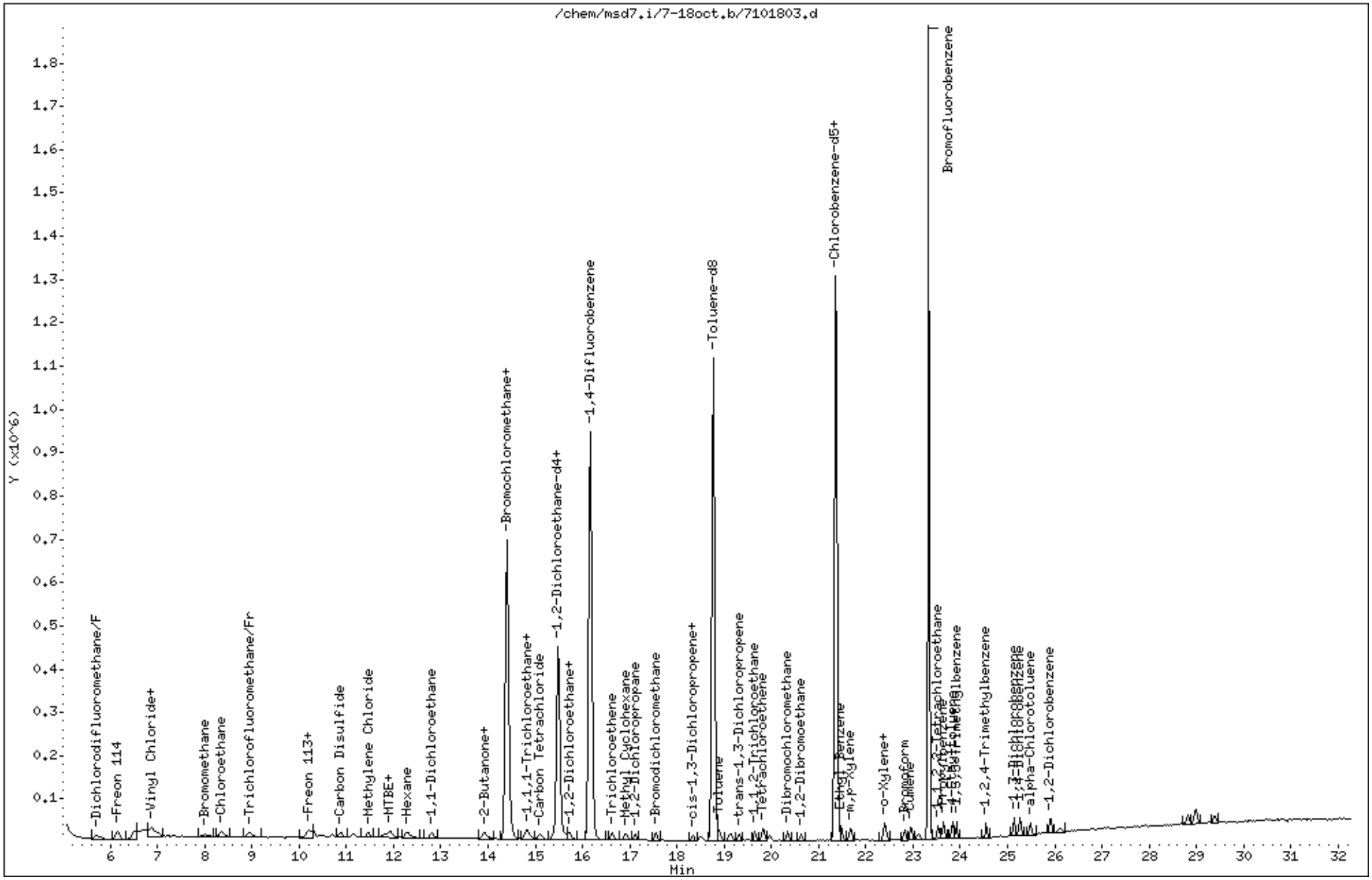
Sample Info: 0.5mL #1576-50

Column phase: RTx-624

Instrument: msd7.i

Operator: cb

Column diameter: 0.53



Air Toxics Ltd.

AMBIENT AIR METHOD TO14

Data file : /chem/msd7.i/7-05nov.b/7110505.d
Lab Smp Id: ical level 3
Inj Date : 05-NOV-2007 12:47
Operator : ea Inst ID: msd7.i
Smp Info : 2.0ml #1443-361
Misc Info : 200ppbv-2.0ppbv
Comment :
Method : /chem/msd7.i/7-05nov.b/t14qO18d.m
Meth Date : 05-Nov-2007 15:03 ealcan Quant Type: ISTD
Cal Date : 05-NOV-2007 12:47 Cal File: 7110505.d
Als bottle: 1 Calibration Sample, Level: 3
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: sp14d.sub
Target Version: 3.50 Sample Matrix: AIR
Processing Host: eeyore

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS CAL-AMT (PPBV)	AMOUNTS ON-COL (PPBV)	TARGET RANGE	RATIO
* 81 Bromochloromethane					CAS #: 74-97-5		
14.402	14.402 (1.000)	130	590819	25.0000		50.00- 150.00	100.00
14.402	14.402 (1.000)	128	459854			27.15- 127.15	77.83
14.402	14.402 (1.000)	49	860514			111.39- 211.39	145.65
* 97 1,4-Difluorobenzene					CAS #: 540-36-3		
16.172	16.172 (1.000)	114	1893977	25.0000		50.00- 150.00	100.00
16.172	16.172 (1.000)	88	297293			0.00- 65.49	15.70
* 126 Chlorobenzene-d5					CAS #: 3114-55-4		
21.342	21.342 (1.000)	117	1442784	25.0000		50.00- 150.00	100.00
21.342	21.342 (1.000)	82	783695			4.70- 104.70	54.32
66 1-Hexene					CAS #: 592-41-6		
12.190	12.190 (0.846)	55	43993	2.00000	1.969	50.00- 150.00	100.00(a)
12.190	12.190 (0.846)	41	68131			102.84- 202.84	154.87
12.163	12.163 (0.844)	84	15742			0.00- 86.65	35.78
37 Pentane					CAS #: 109-66-0		
9.121	9.121 (0.633)	43	133478	2.00000	2.141	50.00- 150.00	100.00

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS CAL-AMT (PPBV)	AMOUNTS ON-COL (PPBV)	TARGET RANGE	RATIO
37 Pentane (continued)							
9.121	9.121 (0.633)	57	20646			0.00- 65.22	15.47
9.121	9.121 (0.633)	72	11866			0.00- 59.09	8.89
35 1-Pentene					CAS #: 109-67-1		
8.983	8.983 (0.624)	55	78508	2.00000	2.070	50.00- 150.00	100.00
8.983	8.983 (0.624)	42	177093			175.46- 275.46	225.57
0.000	1.000 (0.000)	0	0			0.00- 50.00	0.00
124 Nonane					CAS #: 111-84-2		
21.481	21.481 (1.006)	43	118290	2.00000	1.957	50.00- 150.00	100.00(a)
21.481	21.481 (1.006)	57	108780			41.17- 141.17	91.96
21.481	21.481 (1.006)	85	37974			0.00- 81.55	32.10
62 Acrylonitrile					CAS #: 107-13-1		
12.025	12.025 (0.835)	52	38060	2.00000	1.871	50.00- 150.00	100.00(a)
12.025	12.025 (0.835)	53	45358			69.26- 169.26	119.17
105 Dibromomethane					CAS #: 74-95-3		
17.361	17.361 (0.813)	174	59996	2.00000	1.849	50.00- 150.00	100.00(a)
17.361	17.361 (0.813)	93	61978			53.48- 153.48	103.30
17.361	17.361 (0.813)	95	52155			36.52- 136.52	86.93
44 Acrolein					CAS #: 107-02-8		
10.172	10.172 (0.706)	55	17333	2.00000	1.921	50.00- 150.00	100.00(a)
10.172	10.172 (0.706)	56	23999			90.98- 190.98	138.46
63 2-Pentanone					CAS #: 107-87-9		
16.918	16.918 (0.793)	43	118170	2.00000	1.533	50.00- 150.00	100.00(a)
16.918	16.918 (0.793)	58	9156			0.00- 57.79	7.75
16.918	16.918 (0.793)	86	18073			0.00- 65.81	15.29
52 Acetonitrile					CAS #: 75-05-8		
11.250	11.250 (0.781)	40	39551	2.00000	1.968	50.00- 150.00	100.00(a)
11.250	11.250 (0.781)	41	68442			116.58- 216.58	173.05
11.250	11.250 (0.781)	38	11569			0.00- 80.94	29.25
50 Methyl Methacrylate					CAS #: 80-62-6		
17.112	17.112 (0.802)	41	61575	2.00000	1.540	50.00- 150.00	100.00(a)
17.112	17.112 (0.802)	69	46155			22.16- 122.16	74.96
17.112	17.112 (0.802)	100	16382			0.00- 76.23	26.60
79 Methyl Acrylate					CAS #: 96-33-3		
14.015	14.015 (0.973)	55	92859	2.00000	1.750	50.00- 150.00	100.00(a)
14.015	14.015 (0.973)	85	15733			0.00- 66.55	16.94
14.015	14.015 (0.973)	58	9356			0.00- 59.80	10.08

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS CAL-AMT (PPBV)	AMOUNTS ON-COL (PPBV)	TARGET RANGE	RATIO
48 Ethyl acrylate					CAS #: 140-88-5		
16.697	16.697 (0.782)	99	6428	2.00000	1.496	50.00- 150.00	100.00(a)
16.697	16.697 (0.782)	45	9735			93.69- 193.69	151.45
16.697	16.697 (0.782)	55	93010			1387.00-1487.00	1446.95
49 Iodomethane					CAS #: 74-88-4		
10.780	10.780 (0.748)	142	164423	2.00000	1.856	50.00- 150.00	100.00(a)
10.780	10.780 (0.748)	127	60828			0.00- 87.23	36.99
21 Isobutane					CAS #: 75-28-5		
6.301	6.301 (0.438)	43	111043	2.00000	2.098	50.00- 150.00	100.00
6.301	6.301 (0.438)	42	49096			0.00- 89.47	44.21
6.273	6.273 (0.436)	58	1575			0.00- 51.94	1.42

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).

Report Date: 05-Nov-2007 15:03

Air Toxics Ltd.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd7.i
Lab File ID: 7110505.d
Lab Smp Id: ical level 3
Analysis Type: VOA
Quant Type: ISTD
Operator: ea
Method File: /chem/msd7.i/7-05nov.b/t14qO18d.m
Misc Info: 200ppbv-2.0ppbv

Calibration Date: 05-NOV-2007
Calibration Time: 13:30

Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
81 Bromochloromethan	700965	420579	981351	590819	-15.71
97 1,4-Difluorobenze	2091522	1254913	2928131	1893977	-9.45
126 Chlorobenzene-d5	1523313	913988	2132638	1442784	-5.29

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
81 Bromochloromethan	14.40	14.07	14.73	14.40	0.00
97 1,4-Difluorobenze	16.17	15.84	16.50	16.17	0.00
126 Chlorobenzene-d5	21.34	21.01	21.67	21.34	0.00

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /chem/msd7.i/7-05nov.b/7110505.d

Date : 05-NOV-2007 12:47

Client ID:

Sample Info: 2.0ml #1443-361

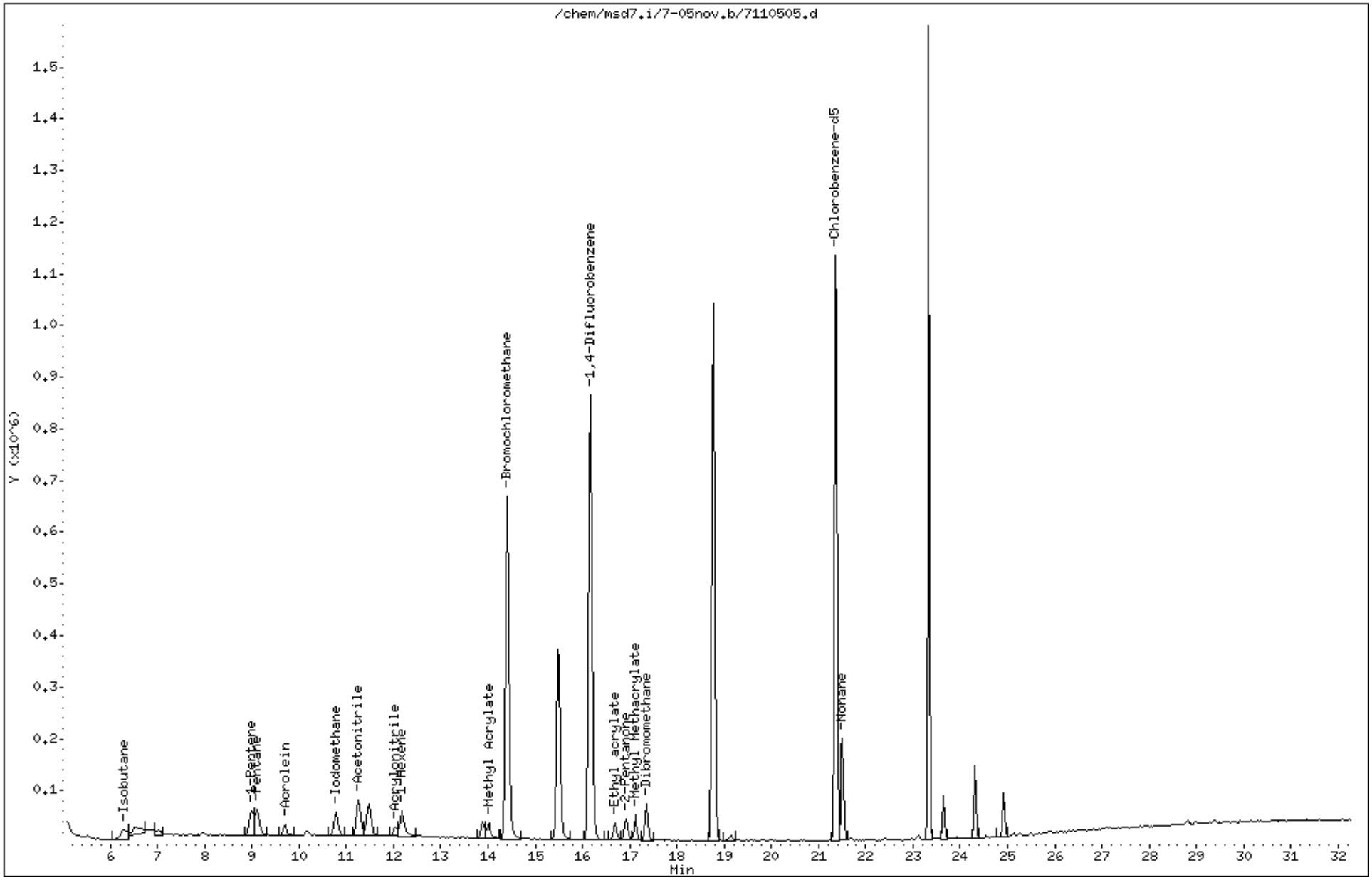
Column phase: RTx-624

Instrument: msd7.i

Operator: ea

Column diameter: 0.53

0338



Air Toxics Ltd.

AMBIENT AIR METHOD TO14

Data file : /chem/msd7.i/7-22oct.b/7102205.d
Lab Smp Id: ICAL Client Smp ID: Level 3
Inj Date : 22-OCT-2007 10:55
Operator : cb Inst ID: msd7.i
Smp Info : 2mL #1487-370
Misc Info : 200ppbv --> 2ppbv
Comment :
Method : /chem/msd7.i/7-22oct.b/t14qO18b.m
Meth Date : 22-Oct-2007 13:49 sscott Quant Type: ISTD
Cal Date : 22-OCT-2007 10:55 Cal File: 7102205.d
Als bottle: 1 Calibration Sample, Level: 3
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: sp16b.sub
Target Version: 3.50 Sample Matrix: AIR
Processing Host: eeyore

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS CAL-AMT (PPBV)	AMOUNTS ON-COL (PPBV)	TARGET RANGE	RATIO
* 81 Bromochloromethane					CAS #: 74-97-5		
14.403	14.403 (1.000)	130	639032	25.0000		50.00- 150.00	100.00
14.403	14.403 (1.000)	128	485011			26.49- 126.49	75.90
14.375	14.375 (1.000)	49	961966			116.97- 216.97	150.53
* 97 1,4-Difluorobenzene					CAS #: 540-36-3		
16.172	16.172 (1.000)	114	2072294	25.0000		50.00- 150.00	100.00
16.172	16.172 (1.000)	88	319608			0.00- 65.57	15.42
* 126 Chlorobenzene-d5					CAS #: 3114-55-4		
21.343	21.343 (1.000)	117	1627678	25.0000		50.00- 150.00	100.00
21.343	21.343 (1.000)	82	894614			5.19- 105.19	54.96
55 Cyclopentene					CAS #: 142-29-0		
11.251	11.251 (0.781)	67	232640	2.00000	1.954	50.00- 150.00	100.00(a)
11.251	11.251 (0.781)	68	93477			0.00- 90.48	40.18
11.251	11.251 (0.781)	53	48369			0.00- 70.85	20.79
78 2,2-Dichloropropane					CAS #: 594-20-7		
13.877	13.877 (0.964)	77	141265	2.00000	1.895	50.00- 150.00	100.00(a)

```
                                          AMOUNTS
                                       CAL-AMT   ON-COL
   RT   EXP RT (REL RT)  MASS  RESPONSE ( PPBV)  ( PPBV)   TARGET RANGE    RATIO
   ==   ====== ========  ====  ======== =======  =======   ============    =====

   78 2,2-Dichloropropane (continued)
 13.877  13.877 (0.964)    79     50942                     0.00-  84.30    36.06
 13.877  13.877 (0.964)    97     28410                     0.00-  70.03    20.11
-------------------------------------------------------------------------------
   88 1,1-Dichloropropene                          CAS #: 563-58-6
 15.121  15.121 (0.935)   110     53537 2.00000    1.916  50.00- 150.00   100.00(a)
 15.121  15.121 (0.935)    75    140199                   218.22- 318.22   261.87
-------------------------------------------------------------------------------
  118 1,3-Dichloropropane                          CAS #: 142-28-9
 19.988  19.988 (1.236)    76    158585 2.00000    1.906  50.00- 150.00   100.00(a)
 19.988  19.988 (1.236)    41    112138                    21.54- 121.54    70.71
 19.988  19.988 (1.236)    78     50086                     0.00-  81.77    31.58
-------------------------------------------------------------------------------
  125 1,1,1,2-Tetrachloroethane                    CAS #: 630-20-6
 21.536  21.536 (1.009)   131    117122 2.00000    2.018  50.00- 150.00   100.00
 21.536  21.536 (1.009)   117     80894                    18.93- 118.93    69.07
 21.536  21.536 (1.009)    95     46412                     0.00-  89.37    39.63
-------------------------------------------------------------------------------
  136 Bromobenzene                                 CAS #: 108-86-1
 23.610  23.610 (1.106)   156    142356 2.00000    2.090  50.00- 150.00   100.00
 23.610  23.610 (1.106)   158    137653                    46.65- 146.65    96.70
 23.610  23.610 (1.106)    77    279379                   147.77- 247.77   196.25
-------------------------------------------------------------------------------
  138 1,2,3-Trichloropropane                       CAS #: 96-18-4
 23.665  23.665 (1.109)   110     64138 2.00000    2.012  50.00- 150.00   100.00
 23.665  23.665 (1.109)    75    194965                   252.90- 352.90   303.98
 23.665  23.665 (1.109)    61     48439                    26.84- 126.84    75.52
-------------------------------------------------------------------------------
  141 2-Chlorotoluene                              CAS #: 95-49-8
 23.886  23.886 (1.119)   126    100762 2.00000    2.003  50.00- 150.00   100.00
 23.886  23.886 (1.119)    91    297542                   243.86- 343.86   295.29
 23.886  23.886 (1.119)    65     28529                     0.00-  78.37    28.31
-------------------------------------------------------------------------------
  143 4-Chlorotoluene                              CAS #: 106-43-4
 24.080  24.080 (1.128)   126    104260 2.00000    1.943  50.00- 150.00   100.00(a)
 24.080  24.080 (1.128)    91    315277                   249.00- 349.00   302.39
 24.052  24.052 (1.127)    63     39933                     0.00-  88.24    38.30
-------------------------------------------------------------------------------
  153 p-Cymene                                     CAS #: 99-87-6
 25.020  25.020 (1.172)   119    345319 2.00000    2.172  50.00- 150.00   100.00
 25.020  25.020 (1.172)   134     97423                     0.00-  77.89    28.21
 25.020  25.020 (1.172)    91     84154                     0.00-  74.89    24.37
-------------------------------------------------------------------------------
  154 1,2,3-Trimethylbenzene                       CAS #: 526-73-8
 25.269  25.269 (1.184)   120    127049 2.00000    2.014  50.00- 150.00   100.00
 25.269  25.269 (1.184)   105    280842                   168.18- 268.18   221.05
```

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS CAL-AMT (PPBV)	AMOUNTS ON-COL (PPBV)	TARGET RANGE	RATIO
154 1,2,3-Trimethylbenzene (continued)							
25.269	25.269 (1.184)	77	37584			0.00- 78.76	29.58
158 Butylbenzene					CAS #: 104-51-8		
25.711	25.711 (1.205)	134	86798	2.00000	2.030	50.00- 150.00	100.00
25.684	25.684 (1.203)	91	365378			362.01- 462.01	420.95
25.684	25.684 (1.203)	92	204191			181.94- 281.94	235.25
148 tert-Butylbenzene					CAS #: 98-06-6		
24.467	24.467 (1.146)	119	319919	2.00000	2.232	50.00- 150.00	100.00
24.467	24.467 (1.146)	134	78445			0.00- 74.64	24.52
24.467	24.467 (1.146)	91	224250			20.96- 120.96	70.10
149 sec-Butylbenzene					CAS #: 135-98-8		
24.826	24.826 (1.163)	105	447243	2.00000	2.254	50.00- 150.00	100.00
24.826	24.826 (1.163)	134	88393			0.00- 69.71	19.76
24.826	24.826 (1.163)	91	69536			0.00- 65.99	15.55
162 1,2-Dibromo-3-Chloropropane					CAS #: 96-12-8		
27.287	27.287 (1.279)	157	99267	2.00000	1.935	50.00- 150.00	100.00(a)
27.287	27.287 (1.279)	75	92577			39.96- 139.96	93.26
27.287	27.287 (1.279)	155	79486			28.87- 128.87	80.07
201 Pentachloroethane					CAS #: 76-01-7		
24.605	24.605 (1.153)	167	92534	2.00000	2.159	50.00- 150.00	100.00
24.605	24.605 (1.153)	117	92152			54.36- 154.36	99.59
24.605	24.605 (1.153)	169	43387			0.00- 97.70	46.89

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).

Report Date: 22-Oct-2007 13:49

Air Toxics Ltd.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd7.i
Lab File ID: 7102205.d
Lab Smp Id: ICAL
Analysis Type: VOA
Quant Type: ISTD
Operator: cb
Method File: /chem/msd7.i/7-22oct.b/t14qO18b.m
Misc Info: 200ppbv --> 2ppbv

Calibration Date: 22-OCT-2007
Calibration Time: 10:55
Client Smp ID: Level 3
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
81 Bromochloromethan	639032	383419	894645	639032	0.00
97 1,4-Difluorobenze	2072294	1243376	2901212	2072294	0.00
126 Chlorobenzene-d5	1627678	976607	2278749	1627678	0.00

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
81 Bromochloromethan	14.40	14.07	14.73	14.40	0.00
97 1,4-Difluorobenze	16.17	15.84	16.50	16.17	0.00
126 Chlorobenzene-d5	21.34	21.01	21.67	21.34	0.00

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /chem/msd7.i/7-22oct.b/7102205.d

Date : 22-OCT-2007 10:55

Client ID: Level 3

Sample Info: 2mL #1487-370

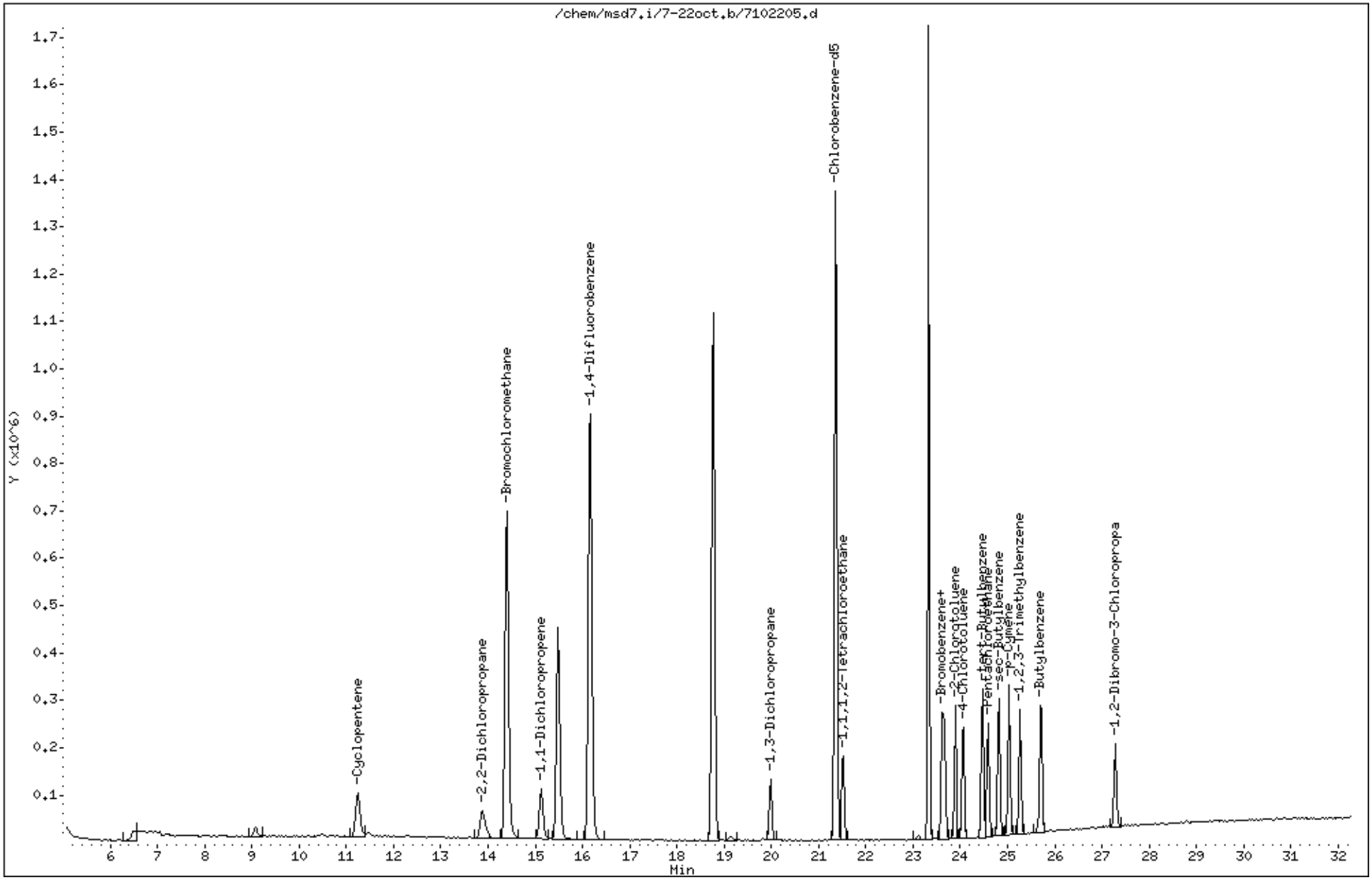
Column phase: RTx-624

Instrument: msd7.i

Operator: cb

Column diameter: 0.53

0343



Air Toxics Ltd.

AMBIENT AIR METHOD TO14

Data file : /chem/msd7.i/7-19oct.b/7101903.d
Lab Smp Id: ICAL Client Smp ID: Level 3
Inj Date : 19-OCT-2007 10:22
Operator : cb Inst ID: msd7.i
Smp Info : 2mL #1487-400
Misc Info : 200ppbv --> 2ppbv
Comment :
Method : /chem/msd7.i/7-19oct.b/t14qO18a.m
Meth Date : 19-Oct-2007 12:11 cbond Quant Type: ISTD
Cal Date : 19-OCT-2007 10:22 Cal File: 7101903.d
Als bottle: 1 Calibration Sample, Level: 3
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: sp22a.sub
Target Version: 3.50 Sample Matrix: AIR
Processing Host: eeyore

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS CAL-AMT (PPBV)	AMOUNTS ON-COL (PPBV)	TARGET RANGE	RATIO
* 81 Bromochloromethane					CAS #: 74-97-5		
14.403	14.403 (1.000)	130	680683	25.0000		50.00- 150.00	100.00
14.403	14.403 (1.000)	128	521822			26.64- 126.64	76.66
14.403	14.403 (1.000)	49	1021902			124.30- 224.30	150.13
* 97 1,4-Difluorobenzene					CAS #: 540-36-3		
16.172	16.172 (1.000)	114	2218849	25.0000		50.00- 150.00	100.00
16.172	16.172 (1.000)	88	345014			0.00- 65.60	15.55
* 126 Chlorobenzene-d5					CAS #: 3114-55-4		
21.343	21.343 (1.000)	117	1717856	25.0000		50.00- 150.00	100.00
21.343	21.343 (1.000)	82	948281			5.36- 105.36	55.20
5 Freon 143a					CAS #: 420-46-2		
5.334	5.334 (0.370)	65	30165	2.00000	2.000	50.00- 150.00	100.00
5.278	5.278 (0.366)	69	276074			0.00- 50.00	915.21
5.334	5.334 (0.370)	64	6959			0.00- 73.07	23.07
6 Freon142b					CAS #: 75-68-3		
6.357	6.357 (0.441)	65	124214	2.00000	2.000	50.00- 150.00	100.00

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS CAL-AMT (PPBV)	AMOUNTS ON-COL (PPBV)	TARGET RANGE	RATIO
6 Freon142b (continued)							
6.357	6.357 (0.441)	45	30229			0.00- 74.34	24.34
13 Freon 134a					CAS #: 811-97-2		
5.472	5.472 (0.380)	83	59293	2.00000	2.000	50.00- 150.00	100.00
5.278	5.278 (0.366)	69	276074			415.61- 515.61	465.61
5.472	5.472 (0.380)	63	8387			0.00- 64.15	14.15
15 Freon 152a					CAS #: 75-37-6		
5.665	5.665 (0.393)	65	43467	2.00000	2.000	50.00- 150.00	100.00
5.665	5.665 (0.393)	51	69568			110.05- 210.05	160.05
5.693	5.693 (0.395)	47	17369			0.00- 89.96	39.96
17 Freon 22					CAS #: 75-45-6		
5.831	5.831 (0.405)	51	143770	2.00000	2.000	50.00- 150.00	100.00
5.831	5.831 (0.405)	67	16779			0.00- 61.67	11.67
5.831	5.831 (0.405)	85	2871			0.00- 52.00	2.00
34 Dichlorofluoromethane/Fr21					CAS #: 75-43-4		
8.900	8.900 (0.618)	67	119076	2.00000	2.000	50.00- 150.00	100.00
8.900	8.900 (0.618)	69	36680			0.00- 80.80	30.80
8.900	8.900 (0.618)	35	5758			0.00- 54.84	4.84
40 Freon123a					CAS #: 354-23-4		
9.813	9.813 (0.681)	117	61475	2.00000	2.000	50.00- 150.00	100.00
9.813	9.813 (0.681)	67	108040			125.75- 225.75	175.75
41 Freon123					CAS #: 306-83-2		
9.951	9.951 (0.691)	83	118699	2.00000	2.000	50.00- 150.00	100.00
9.951	9.951 (0.691)	133	22948			0.00- 69.33	19.33
9.979	9.979 (0.693)	85	87037			23.33- 123.33	73.33
57 tert-Butyl-Alcohol					CAS #: 75-65-0		
11.527	11.527 (0.800)	59	135523	2.00000	2.000	50.00- 150.00	100.00
11.499	11.499 (0.798)	41	31744			0.00- 73.42	23.42
11.499	11.499 (0.798)	57	13899			0.00- 60.26	10.26
68 Isopropyl ether					CAS #: 108-20-3		
12.716	12.716 (0.883)	45	229400	2.00000	2.000	50.00- 150.00	100.00
12.716	12.716 (0.883)	87	53932			0.00- 73.51	23.51
12.716	12.716 (0.883)	59	19957			0.00- 58.70	8.70
71 1-Propanol					CAS #: 71-23-8		
12.854	12.854 (0.892)	42	12498	2.00000	2.000	50.00- 150.00	100.00
12.827	12.827 (0.891)	59	17728			91.85- 191.85	141.85
12.716	12.716 (0.883)	41	42674			291.45- 391.45	341.45

AMOUNTS

RT	EXP RT (REL RT)	MASS	RESPONSE	CAL-AMT (PPBV)	ON-COL (PPBV)	TARGET RANGE	RATIO
73 t-Butylethyl Ether					CAS #: 637-92-3		
13.380	13.380 (0.929)	59	187293	2.00000	2.000	50.00- 150.00	100.00
13.380	13.380 (0.929)	87	73600			0.00- 89.30	39.30
13.380	13.380 (0.929)	41	34474			0.00- 68.41	18.41
77 Ethyl Acetate					CAS #: 141-78-6		
13.877	13.877 (0.964)	45	21298	2.00000	2.000	50.00- 150.00	100.00
13.877	13.877 (0.964)	61	21673			51.76- 151.76	101.76
13.877	13.877 (0.964)	43	139113			603.17- 703.17	653.17
92 tert-amyl-Methyl Ether					CAS #: 994-05-8		
15.536	15.536 (1.079)	73	134657	2.00000	2.000	50.00- 150.00	100.00
15.536	15.536 (1.079)	87	32299			0.00- 73.99	23.99
15.536	15.536 (1.079)	55	41294			0.00- 80.67	30.67
96 2-Heptanone					CAS #: 110-43-0		
22.504	22.504 (1.562)	58	64075	2.00000	2.000	50.00- 150.00	100.00
22.504	22.504 (1.562)	43	102414			109.83- 209.83	159.83
98 1-Butanol					CAS #: 71-36-3		
16.310	16.310 (1.009)	56	29538	2.00000	2.000	50.00- 150.00	100.00
16.310	16.310 (1.009)	41	21168			21.66- 121.66	71.66
16.310	16.310 (1.009)	43	18572			12.87- 112.87	62.87
99 Isobutanol					CAS #: 78-83-1		
15.121	15.121 (1.050)	59	1011	2.00000	2.000	50.00- 150.00	100.00
15.149	15.149 (1.052)	41	29081			2826.46-2926.46	2876.46
15.149	15.149 (1.052)	43	41133			4018.55-4118.55	4068.55
119 Butyl Acetate					CAS #: 123-86-4		
20.071	20.071 (1.241)	56	50141	2.00000	2.000	50.00- 150.00	100.00
20.071	20.071 (1.241)	73	17033			0.00- 83.97	33.97
20.071	20.071 (1.241)	43	123513			196.33- 296.33	246.33
135 Cyclohexanone					CAS #: 108-94-1		
23.278	23.278 (1.091)	55	58482	2.00000	2.000	50.00- 150.00	100.00
23.278	23.278 (1.091)	98	22335			0.00- 88.19	38.19
23.278	23.278 (1.091)	42	37611			14.31- 114.31	64.31
146 Diisobutyl Ketone					CAS #: 108-83-8		
24.080	24.080 (1.128)	57	142000	2.00000	2.000	50.00- 150.00	100.00
24.080	24.080 (1.128)	85	115778			31.53- 131.53	81.53
0.000	1.000 (0.000)	0	0			0.00- 50.00	0.00

Report Date: 19-Oct-2007 12:11

Air Toxics Ltd.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd7.i
Lab File ID: 7101903.d
Lab Smp Id: ICAL
Analysis Type: VOA
Quant Type: ISTD
Operator: cb
Method File: /chem/msd7.i/7-19oct.b/t14qO18a.m
Misc Info: 200ppbv --> 2ppbv

Calibration Date: 19-OCT-2007
Calibration Time: 11:00
Client Smp ID: Level 3
Level: LOW
Sample Type: AIR

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
81 Bromochloromethan	694127	416476	971778	680683	-1.94
97 1,4-Difluorobenze	2223212	1333927	3112497	2218849	-0.20
126 Chlorobenzene-d5	1779964	1067978	2491950	1717856	-3.49

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
81 Bromochloromethan	14.40	14.07	14.73	14.40	0.00
97 1,4-Difluorobenze	16.17	15.84	16.50	16.17	0.00
126 Chlorobenzene-d5	21.37	21.04	21.70	21.34	-0.13

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /chem/msd7.i/7-19oct.b/7101903.d

Date : 19-OCT-2007 10:22

Client ID: Level 3

Sample Info: 2mL #1487-400

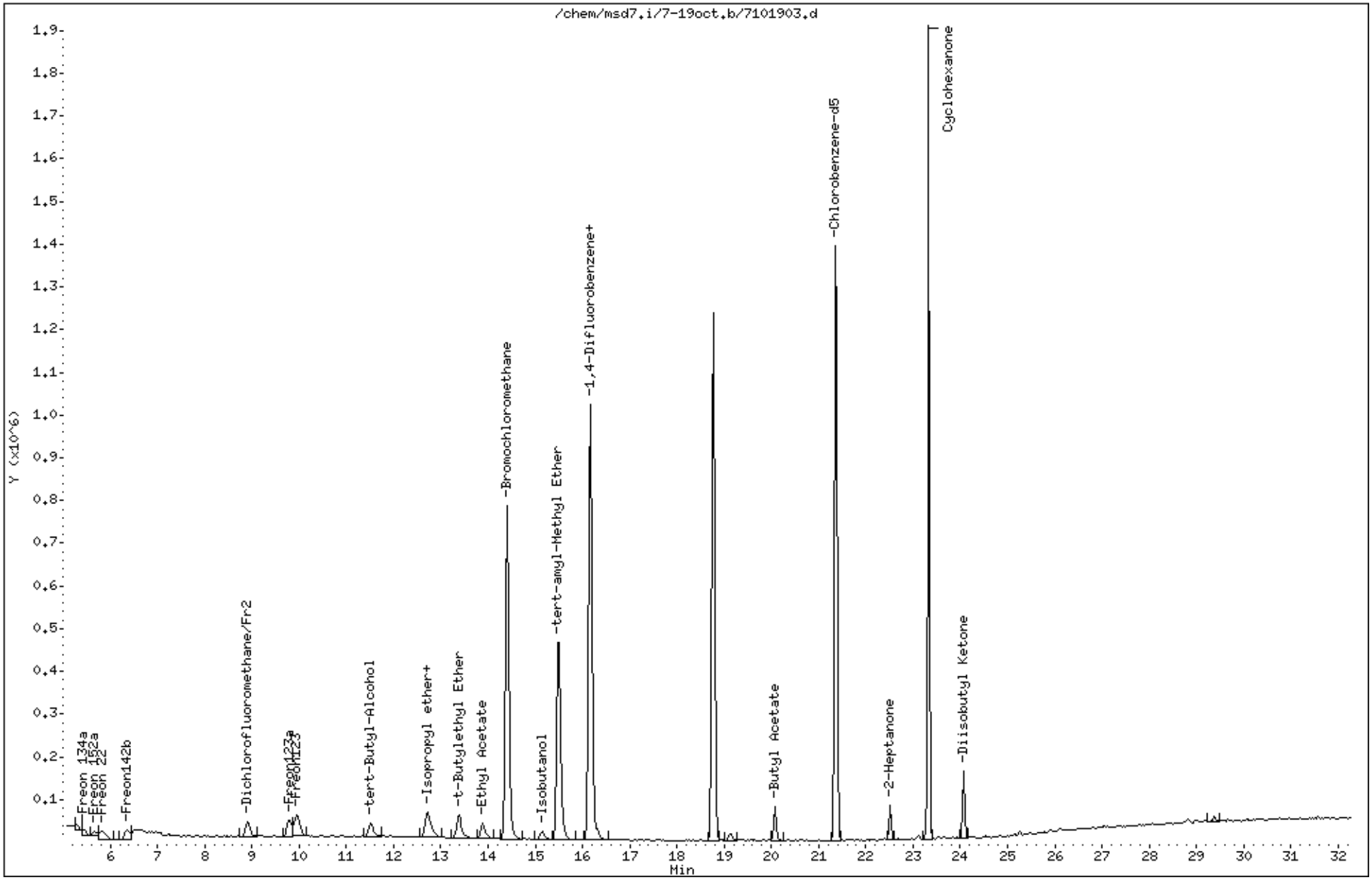
Column phase: RTx-624

Instrument: msd7.i

Operator: cb

Column diameter: 0.53

0348



Air Toxics Ltd.

AMBIENT AIR METHOD TO14

Data file : /chem/msd7.i/7-18oct.b/7101804.d
Lab Smp Id: ICAL Client Smp ID: Level 3
Inj Date : 18-OCT-2007 14:09
Operator : cb Inst ID: msd7.i
Smp Info : 2mL #1576-50
Misc Info : 200ppbv --> 2ppbv
Comment :
Method : /chem/msd7.i/7-18oct.b/t14qO18a.m
Meth Date : 18-Oct-2007 15:55 cbond Quant Type: ISTD
Cal Date : 18-OCT-2007 14:09 Cal File: 7101804.d
Als bottle: 1 Calibration Sample, Level: 3
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: AT04mdl+ENSR.sub
Target Version: 3.50 Sample Matrix: AIR
Processing Host: eeyore

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS CAL-AMT (PPBV)	AMOUNTS ON-COL (PPBV)	TARGET RANGE	RATIO
* 81 Bromochloromethane					CAS #: 74-97-5		
14.403	14.403 (1.000)	130	611723	25.0000		50.00- 150.00	100.00
14.403	14.403 (1.000)	128	473201			26.77- 126.77	77.36
14.375	14.375 (1.000)	49	892530			95.50- 195.50	145.90
* 97 1,4-Difluorobenzene					CAS #: 540-36-3		
16.172	16.172 (1.000)	114	2006513	25.0000		50.00- 150.00	100.00
16.144	16.144 (1.000)	88	308736			0.00- 65.52	15.39
* 126 Chlorobenzene-d5					CAS #: 3114-55-4		
21.343	21.343 (1.000)	117	1607236	25.0000		50.00- 150.00	100.00
21.343	21.343 (1.000)	82	882896			5.32- 105.32	54.93
$ 90 1,2-Dichloroethane-d4					CAS #: 17060-07-0		
15.481	15.481 (1.075)	65	847384	25.0000	25.678	50.00- 150.00	100.00
15.481	15.481 (1.075)	67	417312			0.00- 99.95	49.25
$ 113 Toluene-d8					CAS #: 2037-26-5		
18.771	18.771 (1.161)	98	1720868	25.0000	24.898	50.00- 150.00	100.00
18.771	18.771 (1.161)	70	197220			0.00- 61.38	11.46

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS CAL-AMT (PPBV)	AMOUNTS ON-COL (PPBV)	TARGET RANGE	RATIO
$ 113 Toluene-d8 (continued)							
18.771	18.771 (1.161)	100	1174360			18.65- 118.65	68.24
$ 137 Bromofluorobenzene						CAS #: 460-00-4	
23.333	23.333 (1.093)	174	955710	25.0000	24.861	50.00- 150.00	100.00
23.333	23.333 (1.093)	95	1240664			77.65- 177.65	129.82
23.333	23.333 (1.093)	176	928938			46.91- 146.91	97.20
11 Propylene						CAS #: 115-07-1	
5.638	5.638 (0.391)	41	55059	2.00000	2.000	50.00- 150.00	100.00
5.638	5.638 (0.391)	42	41800			25.92- 125.92	75.92
5.638	5.638 (0.391)	39	42003			26.29- 126.29	76.29
12 Dichlorodifluoromethane/Fr12						CAS #: 75-71-8	
5.748	5.748 (0.399)	85	196506	2.00000	2.004	50.00- 150.00	100.00
5.748	5.748 (0.399)	87	64388			0.00- 84.29	32.77
16 Freon 114						CAS #: 76-14-2	
6.191	6.191 (0.430)	135	143963	2.00000	2.065	50.00- 150.00	100.00
6.191	6.191 (0.430)	137	47951			0.00- 82.55	33.31
18 Chloromethane						CAS #: 74-87-3	
6.495	6.495 (0.451)	50	66478	2.00000	2.000	50.00- 150.00	100.00
6.522	6.522 (0.453)	52	25502			0.00- 88.36	38.36
20 Vinyl Chloride						CAS #: 75-01-4	
6.854	6.854 (0.476)	62	81584	2.00000	2.034	50.00- 150.00	100.00
6.882	6.882 (0.478)	64	28755			0.00- 85.77	35.25
22 1,3-Butadiene						CAS #: 106-99-0	
6.910	6.910 (0.480)	54	54761	2.00000	2.125	50.00- 150.00	100.00
6.910	6.910 (0.480)	39	59315			62.75- 162.75	108.32
25 Bromomethane						CAS #: 74-83-9	
8.016	8.016 (0.557)	94	67549	2.00000	2.008	50.00- 150.00	100.00
8.016	8.016 (0.557)	96	61778			41.59- 141.59	91.46
27 Chloroethane						CAS #: 75-00-3	
8.347	8.347 (0.580)	64	28925	2.00000	2.051	50.00- 150.00	100.00
8.347	8.347 (0.580)	49	8422			0.00- 83.06	29.12
8.347	8.347 (0.580)	66	11614			0.00- 86.15	40.15
31 Trichlorofluoromethane/Fr11						CAS #: 75-69-4	
8.956	8.956 (0.622)	101	178522	2.00000	2.098	50.00- 150.00	100.00
8.928	8.928 (0.620)	103	116828			16.75- 116.75	65.44

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS CAL-AMT (PPBV)	AMOUNTS ON-COL (PPBV)	TARGET RANGE	RATIO
38 Ethanol					CAS #: 64-17-5		
9.453	9.453 (0.656)	45	19984	2.00000	2.000	50.00- 150.00	100.00
9.426	9.426 (0.654)	43	6027			0.00- 80.16	30.16
9.453	9.453 (0.656)	46	7749			0.00- 88.78	38.78
42 Freon 113					CAS #: 76-13-1		
10.200	10.200 (0.708)	151	95953	2.00000	2.042	50.00- 150.00	100.00
10.200	10.200 (0.708)	153	60629			10.88- 110.88	63.19
10.200	10.200 (0.708)	101	118187			73.37- 173.37	123.17
43 1,1-Dichloroethene					CAS #: 75-35-4		
10.310	10.310 (0.716)	61	101636	2.00000	2.071	50.00- 150.00	100.00
10.310	10.310 (0.716)	96	59924			20.23- 120.23	58.96
10.310	10.310 (0.716)	98	36886			0.00- 86.02	36.29
45 Acetone					CAS #: 67-64-1		
10.476	10.476 (0.727)	58	28132	2.00000	2.000	50.00- 150.00	100.00
10.476	10.476 (0.727)	43	77574			225.75- 325.75	275.75
46 2-Propanol					CAS #: 67-63-0		
10.670	10.670 (0.741)	45	85029	2.00000	2.000	50.00- 150.00	100.00
10.670	10.670 (0.741)	43	26641			0.00- 81.33	31.33
10.670	10.670 (0.741)	59	2836			0.00- 53.34	3.34
47 Carbon Disulfide					CAS #: 75-15-0		
10.863	10.863 (0.754)	76	190783	2.00000	2.068	50.00- 150.00	100.00
51 3-Chloropropene					CAS #: 107-05-1		
11.140	11.140 (0.773)	76	23388	2.00000	2.000	50.00- 150.00	100.00
11.140	11.140 (0.773)	41	70379			250.92- 350.92	300.92
54 Methylene Chloride					CAS #: 75-09-2		
11.444	11.444 (0.795)	49	73867	2.00000	2.003	50.00- 150.00	100.00
11.444	11.444 (0.795)	84	53508			21.22- 121.22	72.44
11.444	11.444 (0.795)	51	22507			0.00- 81.53	30.47
60 MTBE					CAS #: 1634-04-4		
11.803	11.803 (0.820)	73	124045	2.00000	1.987	50.00- 150.00	100.00
11.831	11.831 (0.821)	57	32126			0.00- 73.58	25.90
11.831	11.831 (0.821)	41	37992			0.00- 79.81	30.63
61 trans-1,2-Dichloroethene					CAS #: 156-60-5		
11.914	11.914 (0.827)	96	61567	2.00000	1.984	50.00- 150.00	100.00
11.914	11.914 (0.827)	61	95052			98.71- 198.71	154.39
11.914	11.914 (0.827)	98	41669			8.80- 108.80	67.68

AMOUNTS

RT	EXP RT (REL RT)	MASS	RESPONSE	CAL-AMT (PPBV)	ON-COL (PPBV)	TARGET RANGE	RATIO
65 Hexane					CAS #: 110-54-3		
12.301	12.301 (0.854)	57	91312	2.00000	2.094	50.00- 150.00	100.00
12.301	12.301 (0.854)	43	60919			21.51- 121.51	66.72
12.301	12.301 (0.854)	86	13027			0.00- 65.23	14.27
69 Vinyl Acetate					CAS #: 108-05-4		
12.799	12.799 (0.889)	86	10974	2.00000	2.000	50.00- 150.00	100.00
12.771	12.771 (0.887)	43	135828			1187.73-1287.73	1237.73
70 1,1-Dichloroethane					CAS #: 75-34-3		
12.799	12.799 (0.889)	63	113478	2.00000	2.113	50.00- 150.00	100.00
12.827	12.827 (0.891)	65	36220			0.00- 83.01	31.92
75 2-Butanone					CAS #: 78-93-3		
13.877	13.877 (0.964)	72	18267	2.00000	1.979	50.00- 150.00	100.00
13.877	13.877 (0.964)	43	102063			477.59- 577.59	558.73
13.877	13.877 (0.964)	57	7363			0.00- 89.35	40.31
76 cis-1,2-Dichloroethene					CAS #: 156-59-2		
13.905	13.905 (0.965)	61	77692	2.00000	2.096	50.00- 150.00	100.00
13.905	13.905 (0.965)	96	56850			31.69- 131.69	73.17
13.932	13.932 (0.967)	98	39327			0.00- 99.25	50.62
80 Tetrahydrofuran					CAS #: 109-99-9		
14.375	14.375 (0.998)	42	54990	2.00000	2.089	50.00- 150.00	100.00
14.375	14.375 (0.998)	71	21394			0.00- 86.97	38.91
14.375	14.375 (0.998)	72	20571			0.00- 85.53	37.41
82 Chloroform					CAS #: 67-66-3		
14.458	14.458 (1.004)	83	121465	2.00000	2.175	50.00- 150.00	100.00
14.458	14.458 (1.004)	85	77359			13.11- 113.11	63.69
83 1,1,1-Trichloroethane					CAS #: 71-55-6		
14.817	14.817 (1.029)	97	121912	2.00000	2.152	50.00- 150.00	100.00
14.817	14.817 (1.029)	99	77448			14.79- 114.79	63.53
85 Cyclohexane					CAS #: 110-82-7		
14.845	14.845 (1.031)	84	58952	2.00000	2.060	50.00- 150.00	100.00
14.817	14.817 (1.029)	56	78258			81.17- 181.17	132.75
14.845	14.845 (1.031)	41	49098			48.02- 148.02	83.28
87 Carbon Tetrachloride					CAS #: 56-23-5		
15.094	15.094 (1.048)	119	111881	2.00000	2.177	50.00- 150.00	100.00
15.094	15.094 (1.048)	117	115224			56.57- 156.57	102.99
91 Benzene					CAS #: 71-43-2		
15.509	15.509 (0.959)	78	146321	2.00000	2.051	50.00- 150.00	100.00

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                                          AMOUNTS
                                       CAL-AMT   ON-COL
   RT   EXP RT (REL RT)  MASS  RESPONSE ( PPBV)  ( PPBV)   TARGET RANGE    RATIO
   ==   ====== ========  ====  ======== =======  =======   ============    =====

   91 Benzene (continued)
 15.509  15.509 (0.959)    77     32260                     0.00-  71.74    22.05
-------------------------------------------------------------------------------
   89 2,2,4-Trimethylpentane                        CAS #: 540-84-1
 15.398  15.398 (1.069)    57    215514 2.00000    2.142  50.00- 150.00   100.00
 15.398  15.398 (1.069)    56     76082                     0.00-  85.49    35.30
 15.398  15.398 (1.069)    41     64009                     0.00-  82.22    29.70
-------------------------------------------------------------------------------
   93 1,2-Dichloroethane                            CAS #: 107-06-2
 15.619  15.619 (0.966)    62     81570 2.00000    2.063  50.00- 150.00   100.00
 15.619  15.619 (0.966)    64     27245                     0.00-  84.27    33.40
-------------------------------------------------------------------------------
   94 Heptane                                       CAS #: 142-82-5
 15.702  15.702 (0.971)    71     40924 2.00000    2.157  50.00- 150.00   100.00
 15.730  15.730 (0.973)    43     88731                   173.66- 273.66   216.82
 15.730  15.730 (0.973)    57     45995                    67.41- 167.41   112.39
-------------------------------------------------------------------------------
  101 Trichloroethene                               CAS #: 79-01-6
 16.642  16.642 (1.029)    95     66909 2.00000    2.126  50.00- 150.00   100.00
 16.642  16.642 (1.029)   130     64888                    48.03- 148.03    96.98
 16.642  16.642 (1.029)    97     42720                    15.13- 115.13    63.85
-------------------------------------------------------------------------------
  104 1,2-Dichloropropane                           CAS #: 78-87-5
 17.112  17.112 (1.058)    63     54280 2.00000    2.080  50.00- 150.00   100.00
 17.112  17.112 (1.058)    62     41230                    25.56- 125.56    75.96
 17.112  17.112 (1.058)    41     37018                    29.36- 129.36    68.20
-------------------------------------------------------------------------------
  106 1,4-Dioxane                                   CAS #: 123-91-1
 17.250  17.250 (1.067)    88     28811 2.00000    2.000  50.00- 150.00   100.00
 17.250  17.250 (1.067)    58     21286                    23.88- 123.88    73.88
 17.250  17.250 (1.067)    57      7846                     0.00-  77.23    27.23
-------------------------------------------------------------------------------
  107 Bromodichloromethane                          CAS #: 75-27-4
 17.555  17.555 (1.085)    83    111994 2.00000    2.134  50.00- 150.00   100.00
 17.555  17.555 (1.085)    85     74286                    15.66- 115.66    66.33
-------------------------------------------------------------------------------
  110 cis-1,3-Dichloropropene                       CAS #: 10061-01-5
 18.329  18.329 (1.133)    75     69716 2.00000    2.112  50.00- 150.00   100.00
 18.329  18.329 (1.133)    77     24661                     0.00-  83.49    35.37
 18.329  18.329 (1.133)    39     42103                    12.40- 112.40    60.39
-------------------------------------------------------------------------------
  111 4-Methyl-2-pentanone                          CAS #: 108-10-1
 18.522  18.522 (1.145)    58     35532 2.00000    2.233  50.00- 150.00   100.00
 18.522  18.522 (1.145)    43     97570                   236.96- 336.96   274.60
 18.522  18.522 (1.145)    85     14552                     0.00-  92.50    40.95
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RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS CAL-AMT (PPBV)	AMOUNTS ON-COL (PPBV)	TARGET RANGE	RATIO
114 Toluene					CAS #: 108-88-3		
18.882	18.882 (1.168)	91	155602	2.00000	2.089	50.00- 150.00	100.00
18.882	18.882 (1.168)	92	102747			14.17- 114.17	66.03
116 trans-1,3-Dichloropropene					CAS #: 10061-02-6		
19.297	19.297 (0.904)	75	76335	2.00000	2.112	50.00- 150.00	100.00
19.297	19.297 (0.904)	77	26580			0.00- 84.54	34.82
19.297	19.297 (0.904)	39	42907			12.48- 112.48	56.21
117 1,1,2-Trichloroethane					CAS #: 79-00-5		
19.656	19.656 (0.921)	97	60280	2.00000	2.133	50.00- 150.00	100.00
19.656	19.656 (0.921)	99	38629			13.27- 113.27	64.08
19.656	19.656 (0.921)	83	51953			36.29- 136.29	86.19
120 Tetrachloroethene					CAS #: 127-18-4		
19.822	19.822 (0.929)	166	85338	2.00000	2.120	50.00- 150.00	100.00
19.822	19.822 (0.929)	129	59944			21.90- 121.90	70.24
19.822	19.822 (0.929)	131	59586			19.44- 119.44	69.82
121 2-Hexanone					CAS #: 591-78-6		
19.960	19.960 (0.935)	58	46496	2.00000	2.000	50.00- 150.00	100.00
19.960	19.960 (0.935)	43	88457			140.25- 240.25	190.25
19.960	19.960 (0.935)	100	8137			0.00- 67.50	17.50
122 Dibromochloromethane					CAS #: 124-48-1		
20.347	20.347 (0.953)	129	109223	2.00000	2.205	50.00- 150.00	100.00
20.347	20.347 (0.953)	127	86550			28.50- 128.50	79.24
123 1,2-Dibromoethane					CAS #: 106-93-4		
20.624	20.624 (0.966)	107	98952	2.00000	2.212	50.00- 150.00	100.00
20.624	20.624 (0.966)	109	92195			46.61- 146.61	93.17
127 Chlorobenzene					CAS #: 108-90-7		
21.398	21.398 (1.003)	112	141408	2.00000	2.115	50.00- 150.00	100.00
21.398	21.398 (1.003)	114	45440			0.00- 83.74	32.13
21.398	21.398 (1.003)	77	99139			36.14- 136.14	70.11
128 Ethyl Benzene					CAS #: 100-41-4		
21.481	21.481 (1.006)	106	69955	2.00000	2.172	50.00- 150.00	100.00
21.481	21.481 (1.006)	91	212527			264.29- 364.29	303.81
129 m,p-Xylene					CAS #: 108-38-3		
21.674	21.674 (1.016)	106	83417	2.00000	2.084	50.00- 150.00	100.00
21.674	21.674 (1.016)	91	163670			143.19- 243.19	196.21
130 o-Xylene					CAS #: 95-47-6		
22.393	22.393 (1.049)	106	74387	2.00000	2.144	50.00- 150.00	100.00

AMOUNTS

RT	EXP RT (REL RT)	MASS	RESPONSE	CAL-AMT (PPBV)	ON-COL (PPBV)	TARGET RANGE	RATIO
130 o-Xylene (continued)							
22.393	22.393 (1.049)	91	161137			162.29- 262.29	216.62
131 Styrene					CAS #: 100-42-5		
22.421	22.421 (1.051)	104	109628	2.00000	2.272	50.00- 150.00	100.00
22.421	22.421 (1.051)	78	62288			10.04- 110.04	56.82
133 Bromoform					CAS #: 75-25-2		
22.836	22.836 (1.070)	173	97647	2.00000	2.183	50.00- 150.00	100.00
22.836	22.836 (1.070)	171	51493			1.94- 101.94	52.73
134 Cumene					CAS #: 98-82-8		
22.974	22.974 (1.076)	105	195952	2.00000	2.167	50.00- 150.00	100.00
22.974	22.974 (1.076)	120	53445			0.00- 78.52	27.27
22.946	22.946 (1.075)	51	22911			0.00- 62.18	11.69
140 1,1,2,2-Tetrachloroethane					CAS #: 79-34-5		
23.527	23.527 (1.102)	83	132378	2.00000	2.124	50.00- 150.00	100.00
23.527	23.527 (1.102)	85	87270			15.47- 115.47	65.92
142 Propylbenzene					CAS #: 103-65-1		
23.637	23.637 (1.108)	91	266209	2.00000	2.136	50.00- 150.00	100.00
23.637	23.637 (1.108)	120	60173			0.00- 73.35	22.60
23.637	23.637 (1.108)	105	11173			0.00- 54.49	4.20
145 4-Ethyltoluene					CAS #: 622-96-8		
23.831	23.831 (1.117)	105	219557	2.00000	2.168	50.00- 150.00	100.00
23.831	23.831 (1.117)	120	69116			0.00- 81.78	31.48
147 1,3,5-Trimethylbenzene					CAS #: 108-67-8		
23.914	23.914 (1.120)	105	207321	2.00000	2.132	50.00- 150.00	100.00
23.914	23.914 (1.120)	120	98647			0.00- 98.93	47.58
150 1,2,4-Trimethylbenzene					CAS #: 95-63-6		
24.550	24.550 (1.150)	105	171652	2.00000	2.236	50.00- 150.00	100.00
24.550	24.550 (1.150)	120	81863			0.00- 99.04	47.69
155 1,3-Dichlorobenzene					CAS #: 541-73-1		
25.131	25.131 (1.177)	146	136628	2.00000	2.129	50.00- 150.00	100.00
25.131	25.131 (1.177)	148	88189			15.44- 115.44	64.55
25.131	25.131 (1.177)	111	54874			0.00- 90.41	40.16
156 1,4-Dichlorobenzene					CAS #: 106-46-7		
25.269	25.269 (1.184)	146	141744	2.00000	2.069	50.00- 150.00	100.00
25.269	25.269 (1.184)	148	91243			13.67- 113.67	64.37
25.269	25.269 (1.184)	111	51928			0.00- 87.10	36.64

AMOUNTS

RT	EXP RT (REL RT)	MASS	RESPONSE	CAL-AMT (PPBV)	ON-COL (PPBV)	TARGET RANGE	RATIO
159 alpha-Chlorotoluene					CAS #: 100-44-7		
25.490	25.490 (1.194)	91	161676	2.00000	2.206	50.00- 150.00	100.00
25.490	25.490 (1.194)	126	33956			0.00- 72.02	21.00
161 1,2-Dichlorobenzene					CAS #: 95-50-1		
25.932	25.932 (1.215)	146	131381	2.00000	2.080	50.00- 150.00	100.00
25.932	25.932 (1.215)	148	85098			13.48- 113.48	64.77
25.905	25.905 (1.214)	111	51832			0.00- 89.53	39.45
165 1,2,4-Trichlorobenzene					CAS #: 120-82-1		
28.808	28.808 (1.350)	180	65598	2.00000	2.000	50.00- 150.00	100.00
28.808	28.808 (1.350)	182	63637			47.01- 147.01	97.01
166 Hexachlorobutadiene					CAS #: 87-68-3		
29.001	29.001 (1.359)	225	65479	2.00000	2.000	50.00- 150.00	100.00
29.001	29.001 (1.359)	223	41018			12.64- 112.64	62.64
167 Naphthalene					CAS #: 91-20-3		
29.361	29.361 (1.376)	128	119215	2.00000	2.000	50.00- 150.00	100.00
29.361	29.361 (1.376)	127	16389			0.00- 63.75	13.75
29 Isopentane					CAS #: 78-78-4		
8.347	8.347 (0.580)	43	84271	2.00000	2.000	50.00- 150.00	100.00
8.347	8.347 (0.580)	57	54396			14.55- 114.55	64.55
19 Butane					CAS #: 106-97-8		
6.744	6.744 (0.468)	58	13585	2.00000	2.000	50.00- 150.00	100.00
6.744	6.744 (0.468)	43	112427			777.58- 877.58	827.58
102 Methyl Cyclohexane					CAS #: 108-87-2		
16.891	16.891 (1.173)	83	75102	2.00000	2.095	50.00- 150.00	100.00
16.919	16.919 (1.175)	98	34610			0.00- 96.26	46.08
16.891	16.891 (1.173)	55	68355			38.28- 138.28	91.02

Report Date: 18-Oct-2007 15:55

Air Toxics Ltd.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd7.i
Lab File ID: 7101804.d
Lab Smp Id: ICAL
Analysis Type: VOA
Quant Type: ISTD
Operator: cb
Method File: /chem/msd7.i/7-18oct.b/t14qO18a.m
Misc Info: 200ppbv --> 2ppbv

Calibration Date: 18-OCT-2007
Calibration Time: 15:26
Client Smp ID: Level 3
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
81 Bromochloromethan	683549	410129	956969	611723	-10.51
97 1,4-Difluorobenze	2204815	1322889	3086741	2006513	-8.99
126 Chlorobenzene-d5	1812979	1087787	2538171	1607236	-11.35

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
81 Bromochloromethan	14.40	14.07	14.73	14.40	0.00
97 1,4-Difluorobenze	16.17	15.84	16.50	16.17	0.00
126 Chlorobenzene-d5	21.37	21.04	21.70	21.34	-0.13

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /chem/msd7.i/7-18oct.b/7101804.d

Date : 18-OCT-2007 14:09

Client ID: Level 3

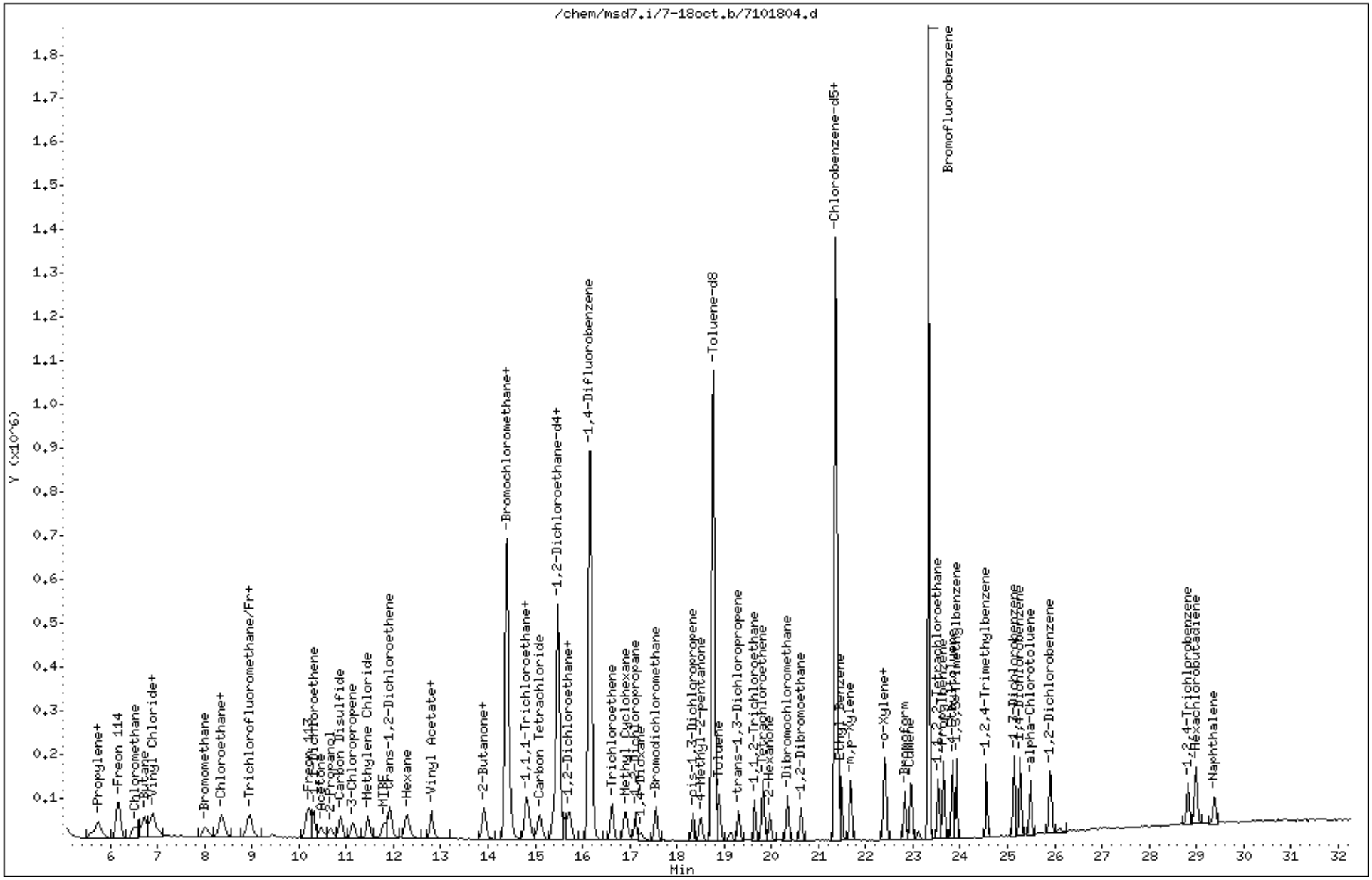
Sample Info: 2mL #1576-50

Column phase: RTx-624

Instrument: msd7.i

Operator: cb

Column diameter: 0.53



Air Toxics Ltd.

AMBIENT AIR METHOD TO14

Data file : /chem/msd7.i/7-30oct.b/7103003.d
Lab Smp Id: ICAL Client Smp ID: Level 4
Inj Date : 30-OCT-2007 09:51
Operator : cb Inst ID: msd7.i
Smp Info : 8mL #1487-400
Misc Info : 200ppbv --> 8ppbv 1200ppbv --> 48ppbv MeOH
Comment :
Method : /chem/msd7.i/7-30oct.b/t14qO18b.m
Meth Date : 30-Oct-2007 11:34 cbond Quant Type: ISTD
Cal Date : 30-OCT-2007 09:51 Cal File: 7103003.d
Als bottle: 1 Calibration Sample, Level: 4
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: sp1c.sub
Target Version: 3.50 Sample Matrix: AIR
Processing Host: eeyore

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS CAL-AMT (PPBV)	AMOUNTS ON-COL (PPBV)	TARGET RANGE	RATIO
* 81 Bromochloromethane					CAS #: 74-97-5		
14.388	14.388 (1.000)	130	457095	25.0000		50.00- 150.00	100.00
14.388	14.388 (1.000)	128	356706			26.81- 126.81	78.04
14.388	14.388 (1.000)	49	651489			112.06- 212.06	142.53
* 97 1,4-Difluorobenzene					CAS #: 540-36-3		
16.158	16.158 (1.000)	114	1520028	25.0000		50.00- 150.00	100.00
16.158	16.158 (1.000)	88	231032			0.00- 65.39	15.20
* 126 Chlorobenzene-d5					CAS #: 3114-55-4		
21.356	21.356 (1.000)	117	1109895	25.0000		50.00- 150.00	100.00
21.356	21.356 (1.000)	82	594855			4.45- 104.45	53.60
26 Methanol					CAS #: 67-56-1		
7.560	7.560 (0.525)	31	434609	48.0000	55.679	50.00- 150.00	100.00
7.560	7.560 (0.525)	32	984446			96.19- 196.19	226.51

Report Date: 30-Oct-2007 11:34

Air Toxics Ltd.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd7.i
Lab File ID: 7103003.d
Lab Smp Id: ICAL
Analysis Type: VOA
Quant Type: ISTD
Operator: cb
Method File: /chem/msd7.i/7-30oct.b/t14qO18b.m
Misc Info: 200ppbv --> 8ppbv 1200ppbv --> 48ppbv MeOH

Calibration Date: 30-OCT-2007
Calibration Time: 10:29
Client Smp ID: Level 4
Level: LOW
Sample Type: AIR

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
81 Bromochloromethan	486199	291719	680679	457095	-5.99
97 1,4-Difluorobenze	1616415	969849	2262981	1520028	-5.96
126 Chlorobenzene-d5	1130394	678236	1582552	1109895	-1.81

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
81 Bromochloromethan	14.42	14.09	14.75	14.39	-0.19
97 1,4-Difluorobenze	16.19	15.86	16.52	16.16	-0.17
126 Chlorobenzene-d5	21.36	21.03	21.69	21.36	0.00

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /chem/msd7.i/7-30oct.b/7103003.d

Date : 30-OCT-2007 09:51

Client ID: Level 4

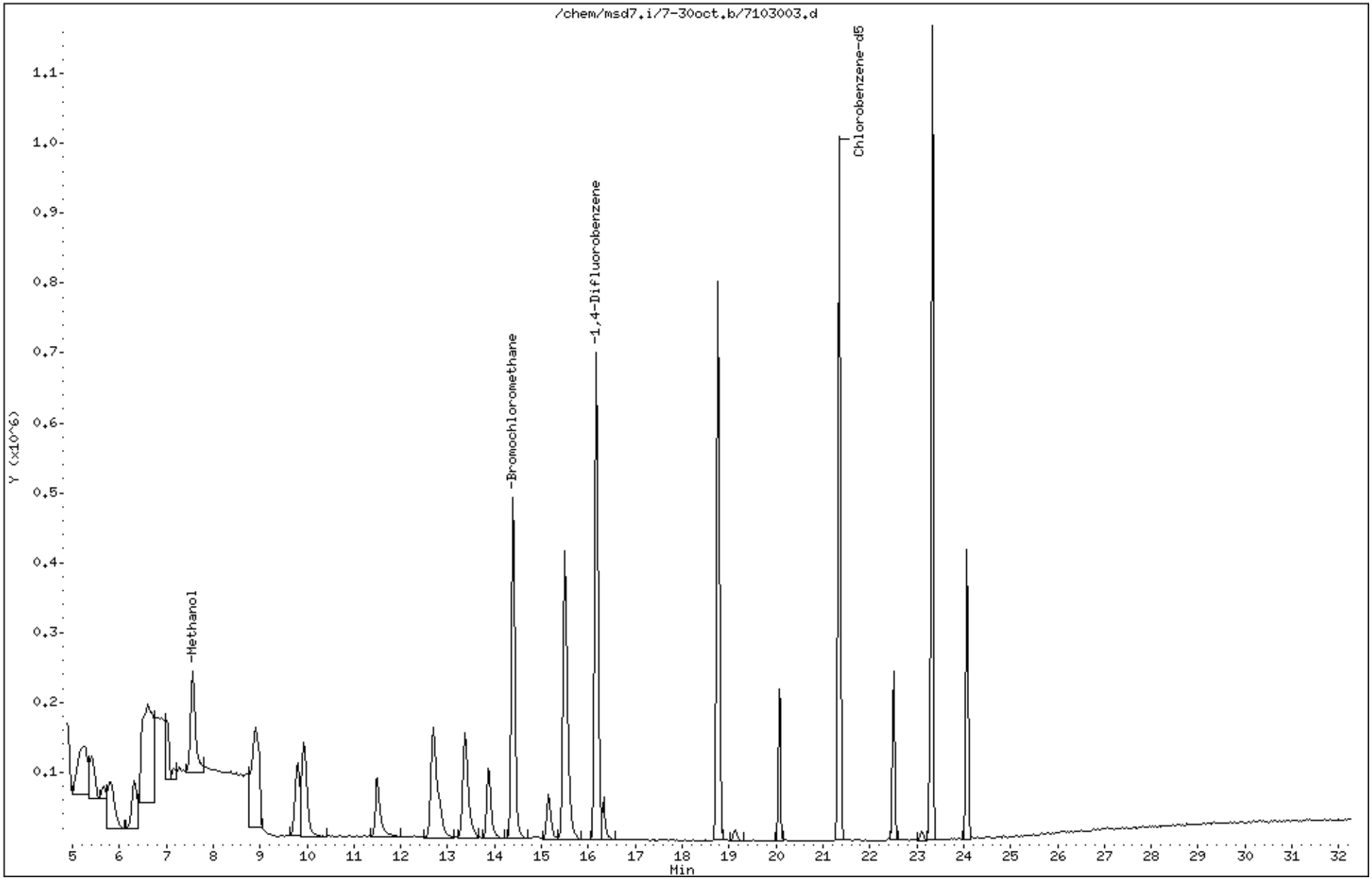
Sample Info: 8mL #1487-400

Column phase: RTx-624

Instrument: msd7.i

Operator: cb

Column diameter: 0.53



Air Toxics Ltd.

AMBIENT AIR METHOD TO14

Data file : /chem/msd7.i/7-18oct.b/7101805.d
Lab Smp Id: ICAL Client Smp ID: Level 4
Inj Date : 18-OCT-2007 14:47
Operator : cb Inst ID: msd7.i
Smp Info : 25mL #1576-50
Misc Info : 200ppbv --> 25ppbv
Comment :
Method : /chem/msd7.i/7-18oct.b/t14qO18a.m
Meth Date : 18-Oct-2007 15:55 cbond Quant Type: ISTD
Cal Date : 18-OCT-2007 14:47 Cal File: 7101805.d
Als bottle: 1 Calibration Sample, Level: 4
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: AT04mdl+ENSR.sub
Target Version: 3.50 Sample Matrix: AIR
Processing Host: eeyore

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS CAL-AMT (PPBV)	AMOUNTS ON-COL (PPBV)	TARGET RANGE	RATIO
* 81 Bromochloromethane					CAS #: 74-97-5		
14.403	14.403 (1.000)	130	648629	25.0000		50.00- 150.00	100.00
14.403	14.403 (1.000)	128	493340			26.59- 126.59	76.06
14.403	14.403 (1.000)	49	1078175			100.68- 200.68	166.22
* 97 1,4-Difluorobenzene					CAS #: 540-36-3		
16.172	16.172 (1.000)	114	2091071	25.0000		50.00- 150.00	100.00
16.172	16.172 (1.000)	88	329502			0.00- 65.58	15.76
* 126 Chlorobenzene-d5					CAS #: 3114-55-4		
21.343	21.343 (1.000)	117	1761271	25.0000		50.00- 150.00	100.00
21.343	21.343 (1.000)	82	970978			5.27- 105.27	55.13
$ 90 1,2-Dichloroethane-d4					CAS #: 17060-07-0		
15.481	15.481 (1.075)	65	874142	25.0000	24.986	50.00- 150.00	100.00
15.481	15.481 (1.075)	67	456837			0.53- 100.53	52.26
$ 113 Toluene-d8					CAS #: 2037-26-5		
18.771	18.771 (1.161)	98	1876890	25.0000	25.785	50.00- 150.00	100.00
18.771	18.771 (1.161)	70	216509			0.00- 61.42	11.54

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS CAL-AMT (PPBV)	AMOUNTS ON-COL (PPBV)	TARGET RANGE	RATIO
$ 113 Toluene-d8 (continued)							
18.771	18.771 (1.161)	100	1297632			18.77- 118.77	69.14
$ 137 Bromofluorobenzene						CAS #: 460-00-4	
23.333	23.333 (1.093)	174	1070391	25.0000	25.306	50.00- 150.00	100.00
23.333	23.333 (1.093)	95	1338336			76.99- 176.99	125.03
23.333	23.333 (1.093)	176	1032203			46.79- 146.79	96.43
11 Propylene						CAS #: 115-07-1	
5.610	5.610 (0.390)	41	672994	25.0000	23.988	50.00- 150.00	100.00
5.610	5.610 (0.390)	42	475290			23.27- 123.27	70.62
5.610	5.610 (0.390)	39	505709			25.72- 125.72	75.14
12 Dichlorodifluoromethane/Fr12						CAS #: 75-71-8	
5.748	5.748 (0.399)	85	2552602	25.0000	24.701	50.00- 150.00	100.00
5.748	5.748 (0.399)	87	837020			0.00- 83.79	32.79
16 Freon 114						CAS #: 76-14-2	
6.163	6.163 (0.428)	135	1820434	25.0000	24.747	50.00- 150.00	100.00
6.191	6.191 (0.430)	137	576965			0.00- 82.27	31.69
18 Chloromethane						CAS #: 74-87-3	
6.467	6.467 (0.449)	50	827148	25.0000	24.210	50.00- 150.00	100.00
6.495	6.495 (0.451)	52	276375			0.00- 85.89	33.41
20 Vinyl Chloride						CAS #: 75-01-4	
6.854	6.854 (0.476)	62	1056924	25.0000	24.901	50.00- 150.00	100.00
6.854	6.854 (0.476)	64	331879			0.00- 84.32	31.40
22 1,3-Butadiene						CAS #: 106-99-0	
6.910	6.910 (0.480)	54	763518	25.0000	26.889	50.00- 150.00	100.00
6.910	6.910 (0.480)	39	775774			59.04- 159.04	101.61
25 Bromomethane						CAS #: 74-83-9	
8.016	8.016 (0.557)	94	898127	25.0000	25.120	50.00- 150.00	100.00
8.016	8.016 (0.557)	96	847084			42.50- 142.50	94.32
27 Chloroethane						CAS #: 75-00-3	
8.347	8.347 (0.580)	64	459746	25.0000	28.558	50.00- 150.00	100.00
8.347	8.347 (0.580)	49	124278			0.00- 81.05	27.03
8.347	8.347 (0.580)	66	146980			0.00- 84.75	31.97
31 Trichlorofluoromethane/Fr11						CAS #: 75-69-4	
8.956	8.956 (0.622)	101	2398500	25.0000	26.034	50.00- 150.00	100.00
8.956	8.956 (0.622)	103	1563188			16.23- 116.23	65.17

AMOUNTS

RT	EXP RT	(REL RT)	MASS	RESPONSE	CAL-AMT (PPBV)	ON-COL (PPBV)	TARGET RANGE	RATIO
38 Ethanol						CAS #: 64-17-5		
9.453	9.453	(0.656)	45	302916	25.0000	26.675	50.00- 150.00	100.00
9.453	9.453	(0.656)	43	64833			0.00- 75.78	21.40
9.453	9.453	(0.656)	46	115857			0.00- 88.51	38.25
42 Freon 113						CAS #: 76-13-1		
10.200	10.200	(0.708)	151	1351088	25.0000	26.376	50.00- 150.00	100.00
10.200	10.200	(0.708)	153	864179			11.90- 111.90	63.96
10.200	10.200	(0.708)	101	1679257			73.68- 173.68	124.29
43 1,1-Dichloroethene						CAS #: 75-35-4		
10.310	10.310	(0.716)	61	1425325	25.0000	26.543	50.00- 150.00	100.00
10.338	10.338	(0.718)	96	884308			17.50- 117.50	62.04
10.338	10.338	(0.718)	98	559311			0.00- 87.09	39.24
45 Acetone						CAS #: 67-64-1		
10.476	10.476	(0.727)	58	427023	25.0000	26.693	50.00- 150.00	100.00
10.476	10.476	(0.727)	43	1298978			239.97- 339.97	304.19
46 2-Propanol						CAS #: 67-63-0		
10.670	10.670	(0.741)	45	1487551	25.0000	28.448	50.00- 150.00	100.00
10.670	10.670	(0.741)	43	360829			0.00- 77.79	24.26
10.670	10.670	(0.741)	59	57359			0.00- 53.60	3.86
47 Carbon Disulfide						CAS #: 75-15-0		
10.891	10.891	(0.756)	76	2700196	25.0000	26.675	50.00- 150.00	100.00
51 3-Chloropropene						CAS #: 107-05-1		
11.168	11.168	(0.775)	76	434925	25.0000	29.193	50.00- 150.00	100.00
11.168	11.168	(0.775)	41	1150405			232.71- 332.71	264.51
54 Methylene Chloride						CAS #: 75-09-2		
11.472	11.472	(0.796)	49	1008912	25.0000	25.532	50.00- 150.00	100.00
11.472	11.472	(0.796)	84	739684			21.92- 121.92	73.32
11.472	11.472	(0.796)	51	306196			0.00- 81.14	30.35
60 MTBE						CAS #: 1634-04-4		
11.831	11.831	(0.821)	73	1771052	25.0000	26.144	50.00- 150.00	100.00
11.831	11.831	(0.821)	57	420256			0.00- 73.63	23.73
11.831	11.831	(0.821)	41	443279			0.00- 78.21	25.03
61 trans-1,2-Dichloroethene						CAS #: 156-60-5		
11.942	11.942	(0.829)	96	998196	25.0000	28.326	50.00- 150.00	100.00
11.942	11.942	(0.829)	61	1447625			97.48- 197.48	145.02
11.942	11.942	(0.829)	98	642993			10.67- 110.67	64.42

AMOUNTS

RT	EXP RT (REL RT)	MASS	RESPONSE	CAL-AMT (PPBV)	ON-COL (PPBV)	TARGET RANGE	RATIO
65 Hexane					CAS #: 110-54-3		
12.301	12.301 (0.854)	57	1372419	25.0000	27.942	50.00- 150.00	100.00
12.301	12.301 (0.854)	43	911424			19.81- 119.81	66.41
12.301	12.301 (0.854)	86	203564			0.00- 65.10	14.83
69 Vinyl Acetate					CAS #: 108-05-4		
12.799	12.799 (0.889)	86	204632	25.0000	29.226	50.00- 150.00	100.00
12.799	12.799 (0.889)	43	2462047			1170.44-1270.44	1203.16
70 1,1-Dichloroethane					CAS #: 75-34-3		
12.827	12.827 (0.891)	63	1728636	25.0000	28.337	50.00- 150.00	100.00
12.827	12.827 (0.891)	65	537140			0.00- 82.37	31.07
75 2-Butanone					CAS #: 78-93-3		
13.905	13.905 (0.965)	72	371338	25.0000	32.359	50.00- 150.00	100.00
13.877	13.877 (0.964)	43	1736763			457.63- 557.63	467.70
13.905	13.905 (0.965)	57	128669			0.00- 87.78	34.65
76 cis-1,2-Dichloroethene					CAS #: 156-59-2		
13.933	13.933 (0.967)	61	1209222	25.0000	28.569	50.00- 150.00	100.00
13.933	13.933 (0.967)	96	897782			29.21- 129.21	74.24
13.933	13.933 (0.967)	98	571260			0.00- 98.58	47.24
80 Tetrahydrofuran					CAS #: 109-99-9		
14.403	14.403 (1.000)	42	962709	25.0000	30.617	50.00- 150.00	100.00
14.403	14.403 (1.000)	71	343205			0.00- 86.53	35.65
14.403	14.403 (1.000)	72	380604			0.00- 86.87	39.53
82 Chloroform					CAS #: 67-66-3		
14.458	14.458 (1.004)	83	1763467	25.0000	28.425	50.00- 150.00	100.00
14.458	14.458 (1.004)	85	1152392			13.67- 113.67	65.35
83 1,1,1-Trichloroethane					CAS #: 71-55-6		
14.845	14.845 (1.031)	97	1771233	25.0000	27.820	50.00- 150.00	100.00
14.845	14.845 (1.031)	99	1152307			14.88- 114.88	65.06
85 Cyclohexane					CAS #: 110-82-7		
14.845	14.845 (1.031)	84	1002003	25.0000	29.830	50.00- 150.00	100.00
14.845	14.845 (1.031)	56	1263499			79.48- 179.48	126.10
14.845	14.845 (1.031)	41	737802			39.89- 139.89	73.63
87 Carbon Tetrachloride					CAS #: 56-23-5		
15.094	15.094 (1.048)	119	1724198	25.0000	29.064	50.00- 150.00	100.00
15.094	15.094 (1.048)	117	1781371			55.49- 155.49	103.32
91 Benzene					CAS #: 71-43-2		
15.509	15.509 (0.959)	78	2269732	25.0000	28.929	50.00- 150.00	100.00

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS CAL-AMT (PPBV)	AMOUNTS ON-COL (PPBV)	TARGET RANGE	RATIO
91 Benzene (continued)							
15.509	15.509 (0.959)	77	498689			0.00- 71.80	21.97
89 2,2,4-Trimethylpentane						CAS #: 540-84-1	
15.426	15.426 (1.071)	57	3457104	25.0000	29.494	50.00- 150.00	100.00
15.426	15.426 (1.071)	56	1170008			0.00- 84.94	33.84
15.426	15.426 (1.071)	41	977669			0.00- 80.91	28.28
93 1,2-Dichloroethane						CAS #: 107-06-2	
15.619	15.619 (0.966)	62	1227957	25.0000	28.008	50.00- 150.00	100.00
15.619	15.619 (0.966)	64	393216			0.00- 83.52	32.02
94 Heptane						CAS #: 142-82-5	
15.730	15.730 (0.973)	71	703132	25.0000	31.170	50.00- 150.00	100.00
15.730	15.730 (0.973)	43	1425110			166.67- 266.67	202.68
15.730	15.730 (0.973)	57	737513			63.24- 163.24	104.89
101 Trichloroethene						CAS #: 79-01-6	
16.642	16.642 (1.029)	95	1016424	25.0000	28.695	50.00- 150.00	100.00
16.642	16.642 (1.029)	130	1015319			48.65- 148.65	99.89
16.642	16.642 (1.029)	97	658135			15.00- 115.00	64.75
104 1,2-Dichloropropane						CAS #: 78-87-5	
17.112	17.112 (1.058)	63	860882	25.0000	29.073	50.00- 150.00	100.00
17.112	17.112 (1.058)	62	627970			24.69- 124.69	72.94
17.112	17.112 (1.058)	41	556404			24.45- 124.45	64.63
106 1,4-Dioxane						CAS #: 123-91-1	
17.250	17.250 (1.067)	88	544742	25.0000	29.604	50.00- 150.00	100.00
17.250	17.250 (1.067)	58	388755			22.62- 122.62	71.36
17.250	17.250 (1.067)	57	130892			0.00- 75.63	24.03
107 Bromodichloromethane						CAS #: 75-27-4	
17.555	17.555 (1.085)	83	1825381	25.0000	30.018	50.00- 150.00	100.00
17.555	17.555 (1.085)	85	1169739			15.13- 115.13	64.08
110 cis-1,3-Dichloropropene						CAS #: 10061-01-5	
18.329	18.329 (1.133)	75	1259763	25.0000	31.709	50.00- 150.00	100.00
18.329	18.329 (1.133)	77	405185			0.00- 83.05	32.16
18.329	18.329 (1.133)	39	734636			11.04- 111.04	58.32
111 4-Methyl-2-pentanone						CAS #: 108-10-1	
18.522	18.522 (1.145)	58	699008	25.0000	34.306	50.00- 150.00	100.00
18.522	18.522 (1.145)	43	1880425			230.98- 330.98	269.01
18.522	18.522 (1.145)	85	276238			0.00- 91.51	39.52

AMOUNTS

RT	EXP RT (REL RT)	MASS	RESPONSE	CAL-AMT (PPBV)	ON-COL (PPBV)	TARGET RANGE	RATIO
114 Toluene					CAS #: 108-88-3		
18.882	18.882 (1.168)	91	2517803	25.0000	29.511	50.00- 150.00	100.00
18.882	18.882 (1.168)	92	1570697			13.57- 113.57	62.38
116 trans-1,3-Dichloropropene					CAS #: 10061-02-6		
19.324	19.324 (0.905)	75	1365604	25.0000	30.614	50.00- 150.00	100.00
19.324	19.324 (0.905)	77	431910			0.00- 83.57	31.63
19.297	19.297 (0.904)	39	741173			9.74- 109.74	54.27
117 1,1,2-Trichloroethane					CAS #: 79-00-5		
19.656	19.656 (0.921)	97	995281	25.0000	29.343	50.00- 150.00	100.00
19.656	19.656 (0.921)	99	611788			12.67- 112.67	61.47
19.656	19.656 (0.921)	83	830549			35.35- 135.35	83.45
120 Tetrachloroethene					CAS #: 127-18-4		
19.822	19.822 (0.929)	166	1326702	25.0000	28.172	50.00- 150.00	100.00
19.822	19.822 (0.929)	129	951582			21.84- 121.84	71.73
19.822	19.822 (0.929)	131	918961			19.38- 119.38	69.27
121 2-Hexanone					CAS #: 591-78-6		
19.960	19.960 (0.935)	58	976339	25.0000	30.260	50.00- 150.00	100.00
19.960	19.960 (0.935)	43	1898544			142.35- 242.35	194.46
19.960	19.960 (0.935)	100	167728			0.00- 67.34	17.18
122 Dibromochloromethane					CAS #: 124-48-1		
20.347	20.347 (0.953)	129	1889826	25.0000	30.784	50.00- 150.00	100.00
20.347	20.347 (0.953)	127	1451142			27.93- 127.93	76.79
123 1,2-Dibromoethane					CAS #: 106-93-4		
20.624	20.624 (0.966)	107	1691649	25.0000	30.624	50.00- 150.00	100.00
20.624	20.624 (0.966)	109	1595981			45.86- 145.86	94.34
127 Chlorobenzene					CAS #: 108-90-7		
21.398	21.398 (1.003)	112	2151202	25.0000	27.748	50.00- 150.00	100.00
21.398	21.398 (1.003)	114	697219			0.00- 83.29	32.41
21.398	21.398 (1.003)	77	1306142			27.66- 127.66	60.72
128 Ethyl Benzene					CAS #: 100-41-4		
21.481	21.481 (1.006)	106	1127919	25.0000	29.242	50.00- 150.00	100.00
21.481	21.481 (1.006)	91	3464186			261.90- 361.90	307.13
129 m,p-Xylene					CAS #: 108-38-3		
21.674	21.674 (1.016)	106	1393326	25.0000	29.141	50.00- 150.00	100.00
21.674	21.674 (1.016)	91	2764534			144.93- 244.93	198.41
130 o-Xylene					CAS #: 95-47-6		
22.393	22.393 (1.049)	106	1236660	25.0000	29.557	50.00- 150.00	100.00

```
                                          AMOUNTS
                                       CAL-AMT   ON-COL
   RT   EXP RT (REL RT)  MASS  RESPONSE ( PPBV)  ( PPBV)   TARGET RANGE    RATIO
   ==   ====== ========  ====  ======== =======  =======   ============    =====

  130 o-Xylene (continued)
 22.393  22.393 (1.049)    91   2558031                  160.47- 260.47   206.85
--------------------------------------------------------------------------------
  131 Styrene                                       CAS #: 100-42-5
 22.421  22.421 (1.051)   104   2077088 25.0000   34.374  50.00- 150.00   100.00
 22.421  22.421 (1.051)    78   1061823                    7.81- 107.81    51.12
--------------------------------------------------------------------------------
  133 Bromoform                                     CAS #: 75-25-2
 22.836  22.836 (1.070)   173   1688739 25.0000   30.596  50.00- 150.00   100.00
 22.836  22.836 (1.070)   171    867217                    1.74- 101.74    51.35
--------------------------------------------------------------------------------
  134 Cumene                                        CAS #: 98-82-8
 22.974  22.974 (1.076)   105   3202644 25.0000   30.112  50.00- 150.00   100.00
 22.974  22.974 (1.076)   120    877707                    0.00-  78.24    27.41
 22.946  22.946 (1.075)    51    336852                    0.00-  61.76    10.52
--------------------------------------------------------------------------------
  140 1,1,2,2-Tetrachloroethane                     CAS #: 79-34-5
 23.527  23.527 (1.102)    83   1987656 25.0000   27.596  50.00- 150.00   100.00
 23.527  23.527 (1.102)    85   1274611                   15.02- 115.02    64.13
--------------------------------------------------------------------------------
  142 Propylbenzene                                 CAS #: 103-65-1
 23.637  23.637 (1.108)    91   4176023 25.0000   28.463  50.00- 150.00   100.00
 23.637  23.637 (1.108)   120    934951                    0.00-  73.03    22.39
 23.637  23.637 (1.108)   105    154058                    0.00-  54.22     3.69
--------------------------------------------------------------------------------
  145 4-Ethyltoluene                                CAS #: 622-96-8
 23.831  23.831 (1.117)   105   3761987 25.0000   30.300  50.00- 150.00   100.00
 23.831  23.831 (1.117)   120   1081840                    0.00-  80.77    28.76
--------------------------------------------------------------------------------
  147 1,3,5-Trimethylbenzene                        CAS #: 108-67-8
 23.914  23.914 (1.120)   105   2748553 25.0000   25.521  50.00- 150.00   100.00
 23.914  23.914 (1.120)   120   1560080                    1.54- 101.54    56.76
--------------------------------------------------------------------------------
  150 1,2,4-Trimethylbenzene                        CAS #: 95-63-6
 24.550  24.550 (1.150)   105   2622270 25.0000   28.800  50.00- 150.00   100.00
 24.550  24.550 (1.150)   120   1282211                    0.00-  98.99    48.90
--------------------------------------------------------------------------------
  155 1,3-Dichlorobenzene                           CAS #: 541-73-1
 25.131  25.131 (1.177)   146   1977163 25.0000   26.992  50.00- 150.00   100.00
 25.131  25.131 (1.177)   148   1259144                   14.85- 114.85    63.68
 25.131  25.131 (1.177)   111    766458                    0.00-  89.86    38.77
--------------------------------------------------------------------------------
  156 1,4-Dichlorobenzene                           CAS #: 106-46-7
 25.269  25.269 (1.184)   146   2033388 25.0000   26.349  50.00- 150.00   100.00
 25.269  25.269 (1.184)   148   1297512                   13.71- 113.71    63.81
 25.269  25.269 (1.184)   111    752714                    0.00-  87.07    37.02
--------------------------------------------------------------------------------
```

AMOUNTS

RT	EXP RT (REL RT)	MASS	RESPONSE	CAL-AMT (PPBV)	ON-COL (PPBV)	TARGET RANGE	RATIO
159 alpha-Chlorotoluene					CAS #: 100-44-7		
25.490	25.490 (1.194)	91	2693301	25.0000	30.105	50.00- 150.00	100.00
25.490	25.490 (1.194)	126	562707			0.00- 71.64	20.89
161 1,2-Dichlorobenzene					CAS #: 95-50-1		
25.932	25.932 (1.215)	146	1756987	25.0000	25.257	50.00- 150.00	100.00
25.932	25.932 (1.215)	148	1110267			13.39- 113.39	63.19
25.905	25.905 (1.214)	111	707034			0.00- 89.77	40.24
165 1,2,4-Trichlorobenzene					CAS #: 120-82-1		
28.808	28.808 (1.350)	180	489632	25.0000	17.636	50.00- 150.00	100.00
28.808	28.808 (1.350)	182	471701			46.67- 146.67	96.34
166 Hexachlorobutadiene					CAS #: 87-68-3		
29.001	29.001 (1.359)	225	471653	25.0000	17.231	50.00- 150.00	100.00
29.001	29.001 (1.359)	223	296659			12.77- 112.77	62.90
167 Naphthalene					CAS #: 91-20-3		
29.361	29.361 (1.376)	128	811801	25.0000	16.602	50.00- 150.00	100.00
29.361	29.361 (1.376)	127	99474			0.00- 63.00	12.25
29 Isopentane					CAS #: 78-78-4		
8.375	8.375 (0.581)	43	1092752	25.0000	24.726	50.00- 150.00	100.00
8.375	8.375 (0.581)	57	731967			15.77- 115.77	66.98
19 Butane					CAS #: 106-97-8		
6.744	6.744 (0.468)	58	177191	25.0000	24.799	50.00- 150.00	100.00
6.744	6.744 (0.468)	43	1417940			763.91- 863.91	800.23
102 Methyl Cyclohexane					CAS #: 108-87-2		
16.919	16.919 (1.175)	83	1222177	25.0000	29.354	50.00- 150.00	100.00
16.919	16.919 (1.175)	98	569027			0.00- 96.36	46.56
16.919	16.919 (1.175)	55	1091840			38.63- 138.63	89.34

Report Date: 18-Oct-2007 15:55

Air Toxics Ltd.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd7.i
Lab File ID: 7101805.d
Lab Smp Id: ICAL
Analysis Type: VOA
Quant Type: ISTD
Operator: cb
Method File: /chem/msd7.i/7-18oct.b/t14qO18a.m
Misc Info: 200ppbv --> 25ppbv

Calibration Date: 18-OCT-2007
Calibration Time: 15:26
Client Smp ID: Level 4
Level: LOW
Sample Type: AIR

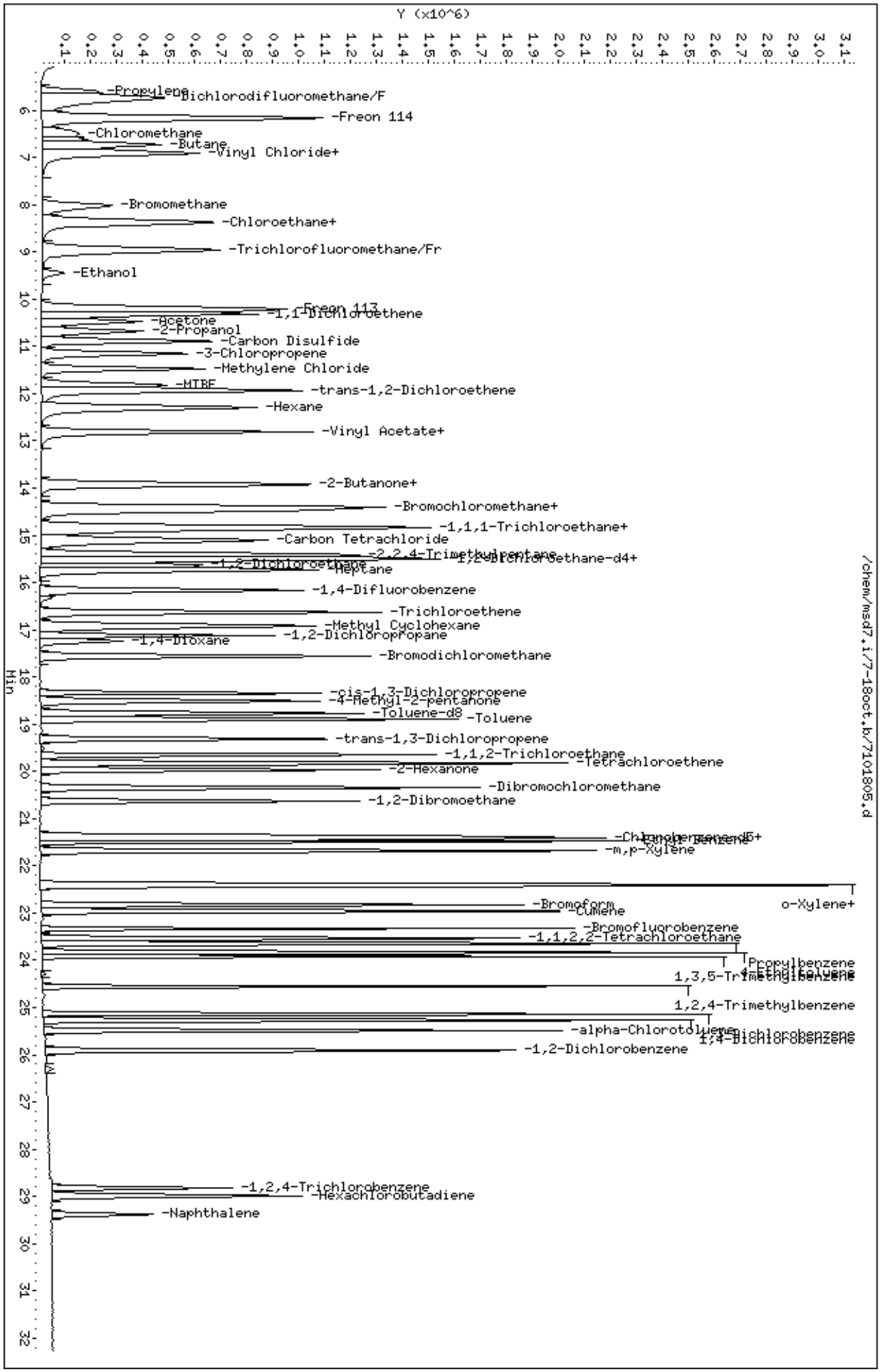
COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
81 Bromochloromethan	683549	410129	956969	648629	-5.11
97 1,4-Difluorobenze	2204815	1322889	3086741	2091071	-5.16
126 Chlorobenzene-d5	1812979	1087787	2538171	1761271	-2.85

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
81 Bromochloromethan	14.40	14.07	14.73	14.40	0.00
97 1,4-Difluorobenze	16.17	15.84	16.50	16.17	0.00
126 Chlorobenzene-d5	21.37	21.04	21.70	21.34	-0.13

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /chem/msd7.i/7-18oct.b/7101805.d
Date : 18-OCT-2007 14:47
Client ID: Level 4
Sample Info: 25mL #1576-50
Column phase: RTx-624

Instrument: msd7.i
Operator: cb
Column diameter: 0.53



Air Toxics Ltd.

AMBIENT AIR METHOD TO14

Data file : /chem/msd7.i/7-05nov.b/7110506.d
Lab Smp Id: ical level 5
Inj Date : 05-NOV-2007 13:30
Operator : ea Inst ID: msd7.i
Smp Info : 50ml #1443-361
Misc Info : 200ppbv-50ppbv
Comment :
Method : /chem/msd7.i/7-05nov.b/t14qO18d.m
Meth Date : 05-Nov-2007 15:03 ealcan Quant Type: ISTD
Cal Date : 05-NOV-2007 13:30 Cal File: 7110506.d
Als bottle: 1 Calibration Sample, Level: 5
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: sp14d.sub
Target Version: 3.50 Sample Matrix: AIR
Processing Host: eeyore

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS CAL-AMT (PPBV)	AMOUNTS ON-COL (PPBV)	TARGET RANGE	RATIO
* 81 Bromochloromethane					CAS #: 74-97-5		
14.403	14.403 (1.000)	130	700965	25.0000		80.00- 120.00	100.00
14.403	14.403 (1.000)	128	538841			26.87- 126.87	76.87
14.403	14.403 (1.000)	49	998077			92.39- 192.39	142.39
* 97 1,4-Difluorobenzene					CAS #: 540-36-3		
16.172	16.172 (1.000)	114	2091522	25.0000		80.00- 120.00	100.00
16.172	16.172 (1.000)	88	323962			0.00- 65.49	15.49
* 126 Chlorobenzene-d5					CAS #: 3114-55-4		
21.343	21.343 (1.000)	117	1523313	25.0000		80.00- 120.00	100.00
21.343	21.343 (1.000)	82	832008			4.70- 104.70	54.62
66 1-Hexene					CAS #: 592-41-6		
12.163	12.163 (0.844)	55	1380210	50.0000	52.068	80.00- 120.00	100.00
12.163	12.163 (0.844)	41	2081439			102.84- 202.84	150.81
12.163	12.163 (0.844)	84	517732			0.00- 86.65	37.51
37 Pentane					CAS #: 109-66-0		
9.094	9.094 (0.631)	43	3733903	50.0000	50.481	80.00- 120.00	100.00

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS CAL-AMT (PPBV)	AMOUNTS ON-COL (PPBV)	TARGET RANGE	RATIO
37 Pentane (continued)							
9.094	9.094 (0.631)	57	559106			0.00- 65.22	14.97
9.094	9.094 (0.631)	72	347169			0.00- 59.09	9.30
35 1-Pentene					CAS #: 109-67-1		
8.956	8.956 (0.622)	55	2274566	50.0000	50.551	80.00- 120.00	100.00
8.956	8.956 (0.622)	42	5125590			175.46- 275.46	225.34
0.000	1.000 (0.000)	0	0			0.00- 50.00	0.00
124 Nonane					CAS #: 111-84-2		
21.481	21.481 (1.006)	43	3449751	50.0000	54.058	80.00- 120.00	100.00
21.481	21.481 (1.006)	57	3099005			41.17- 141.17	89.83
21.481	21.481 (1.006)	85	1079161			0.00- 81.55	31.28
62 Acrylonitrile					CAS #: 107-13-1		
12.025	12.025 (0.835)	52	1262711	50.0000	52.314	80.00- 120.00	100.00
12.025	12.025 (0.835)	53	1506941			69.26- 169.26	119.34
105 Dibromomethane					CAS #: 74-95-3		
17.361	17.361 (0.813)	174	1889769	50.0000	55.161	80.00- 120.00	100.00
17.361	17.361 (0.813)	93	1958925			53.48- 153.48	103.66
17.361	17.361 (0.813)	95	1627313			36.52- 136.52	86.11
44 Acrolein					CAS #: 107-02-8		
10.145	10.145 (0.704)	55	554064	50.0000	51.757	80.00- 120.00	100.00
10.145	10.145 (0.704)	56	795129			90.98- 190.98	143.51
63 2-Pentanone					CAS #: 107-87-9		
16.919	16.919 (0.793)	43	4636913	50.0000	56.974	80.00- 120.00	100.00
16.919	16.919 (0.793)	58	363219			0.00- 57.79	7.83
16.919	16.919 (0.793)	86	757389			0.00- 65.81	16.33
52 Acetonitrile					CAS #: 75-05-8		
11.223	11.223 (0.779)	40	1290400	50.0000	54.113	80.00- 120.00	100.00
11.223	11.223 (0.779)	41	2065995			116.58- 216.58	160.11
11.223	11.223 (0.779)	38	421065			0.00- 80.94	32.63
50 Methyl Methacrylate					CAS #: 80-62-6		
17.112	17.112 (0.802)	41	2431806	50.0000	57.615	80.00- 120.00	100.00
17.112	17.112 (0.802)	69	1686960			22.16- 122.16	69.37
17.112	17.112 (0.802)	100	628571			0.00- 76.23	25.85
79 Methyl Acrylate					CAS #: 96-33-3		
14.015	14.015 (0.973)	55	3378666	50.0000	53.684	80.00- 120.00	100.00
14.015	14.015 (0.973)	85	550474			0.00- 66.55	16.29
14.015	14.015 (0.973)	58	328735			0.00- 59.80	9.73

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS CAL-AMT (PPBV)	AMOUNTS ON-COL (PPBV)	TARGET RANGE	RATIO
48 Ethyl acrylate					CAS #: 140-88-5		
16.697	16.697 (0.782)	99	258141	50.0000	56.908	80.00- 120.00	100.00
16.697	16.697 (0.782)	45	350878			85.92- 185.92	135.92
16.697	16.697 (0.782)	55	3683824			1377.06-1477.06	1427.06
49 Iodomethane					CAS #: 74-88-4		
10.753	10.753 (0.747)	142	5775061	50.0000	54.948	80.00- 120.00	100.00
10.753	10.753 (0.747)	127	2157283			0.00- 87.23	37.36
21 Isobutane					CAS #: 75-28-5		
6.246	6.246 (0.434)	43	3189499	50.0000	50.783	80.00- 120.00	100.00
6.246	6.246 (0.434)	42	1107656			0.00- 89.47	34.73
6.246	6.246 (0.434)	58	78582			0.00- 51.94	2.46

Report Date: 05-Nov-2007 15:03

Air Toxics Ltd.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd7.i
Lab File ID: 7110506.d
Lab Smp Id: ical level 5
Analysis Type: VOA
Quant Type: ISTD
Operator: ea
Method File: /chem/msd7.i/7-05nov.b/t14qO18d.m
Misc Info: 200ppbv-50ppbv

Calibration Date: 05-NOV-2007
Calibration Time: 13:30

Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
81 Bromochloromethan	700965	420579	981351	700965	0.00
97 1,4-Difluorobenze	2091522	1254913	2928131	2091522	0.00
126 Chlorobenzene-d5	1523313	913988	2132638	1523313	0.00

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
81 Bromochloromethan	14.40	14.07	14.73	14.40	0.00
97 1,4-Difluorobenze	16.17	15.84	16.50	16.17	0.00
126 Chlorobenzene-d5	21.34	21.01	21.67	21.34	0.00

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /chem/msd7.i/7-05nov.b/7110506.d

Date : 05-NOV-2007 13:30

Client ID:

Sample Info: 50ml #1443-361

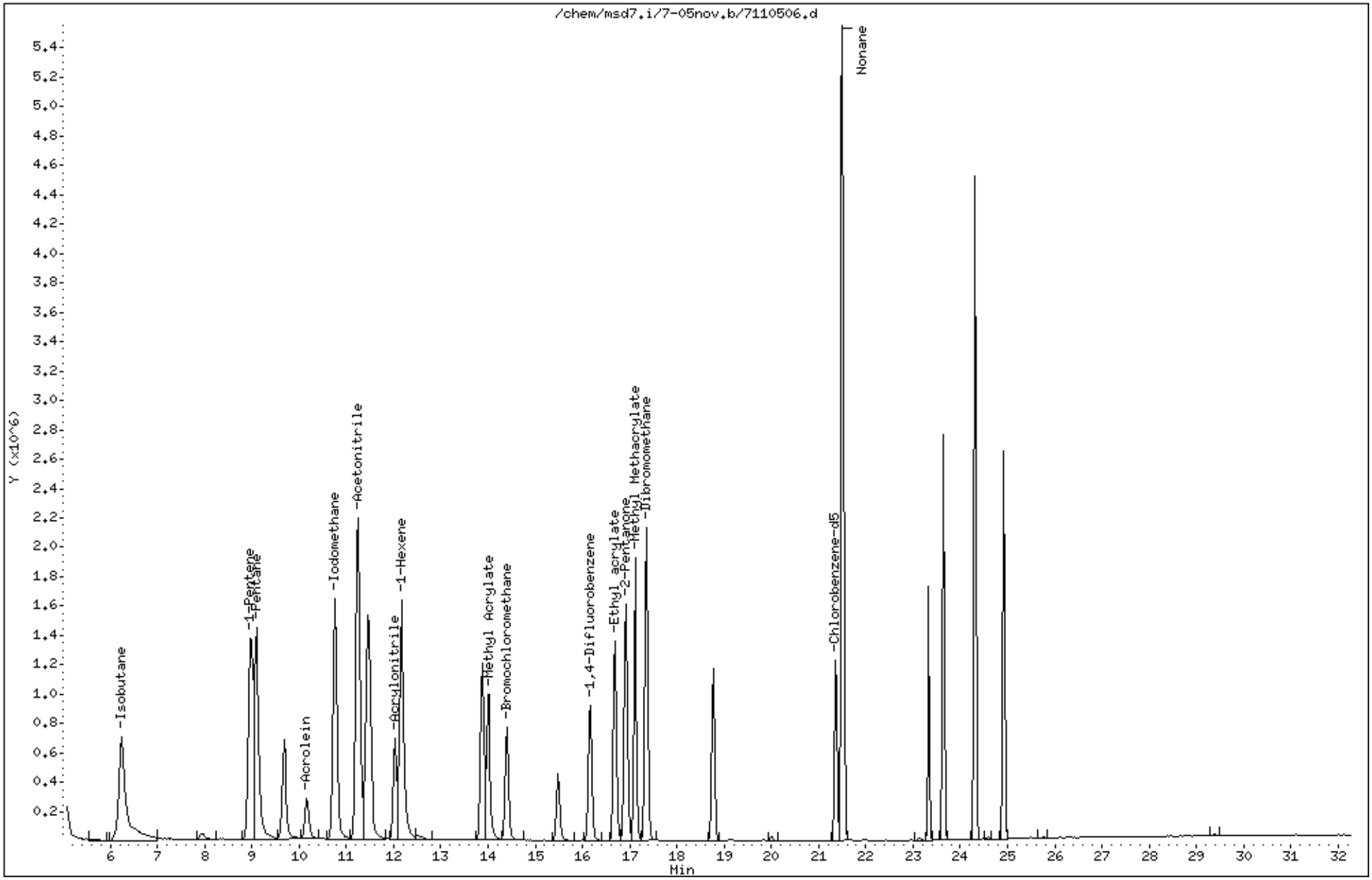
Column phase: RTx-624

Instrument: msd7.i

Operator: ea

Column diameter: 0.53

0376



Air Toxics Ltd.

AMBIENT AIR METHOD TO14

Data file : /chem/msd7.i/7-30oct.b/7103004.d
Lab Smp Id: ICAL Client Smp ID: Level 5
Inj Date : 30-OCT-2007 10:29
Operator : cb Inst ID: msd7.i
Smp Info : 50mL #1487-400
Misc Info : 200ppbv --> 50ppbv 1200ppbv --> 300ppbv MeOH
Comment :
Method : /chem/msd7.i/7-30oct.b/t14qO18b.m
Meth Date : 30-Oct-2007 11:34 cbond Quant Type: ISTD
Cal Date : 30-OCT-2007 10:29 Cal File: 7103004.d
Als bottle: 1 Calibration Sample, Level: 5
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: sp1c.sub
Target Version: 3.50 Sample Matrix: AIR
Processing Host: eeyore

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS CAL-AMT (PPBV)	AMOUNTS ON-COL (PPBV)	TARGET RANGE	RATIO
* 81 Bromochloromethane					CAS #: 74-97-5		
14.416	14.416 (1.000)	130	486199	25.0000		80.00- 120.00	100.00
14.416	14.416 (1.000)	128	373087			26.74- 126.74	76.74
14.416	14.416 (1.000)	49	687796			91.46- 191.46	141.46
* 97 1,4-Difluorobenzene					CAS #: 540-36-3		
16.186	16.186 (1.000)	114	1616415	25.0000		80.00- 120.00	100.00
16.158	16.158 (1.000)	88	244505			0.00- 65.13	15.13
* 126 Chlorobenzene-d5					CAS #: 3114-55-4		
21.356	21.356 (1.000)	117	1130394	25.0000		80.00- 120.00	100.00
21.356	21.356 (1.000)	82	593319			4.45- 104.45	52.49
26 Methanol					CAS #: 67-56-1		
7.588	7.588 (0.526)	31	2404086	300.000	289.56	80.00- 120.00	100.00
7.588	7.588 (0.526)	32	1583298			15.86- 115.86	65.86

Report Date: 30-Oct-2007 11:34

Air Toxics Ltd.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd7.i
Lab File ID: 7103004.d
Lab Smp Id: ICAL
Analysis Type: VOA
Quant Type: ISTD
Operator: cb
Method File: /chem/msd7.i/7-30oct.b/t14qO18b.m
Misc Info: 200ppbv --> 50ppbv 1200ppbv --> 300ppbv MeOH

Calibration Date: 30-OCT-2007
Calibration Time: 10:29
Client Smp ID: Level 5
Level: LOW
Sample Type: AIR

		AREA LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
81 Bromochloromethan	486199	291719	680679	486199	0.00
97 1,4-Difluorobenze	1616415	969849	2262981	1616415	0.00
126 Chlorobenzene-d5	1130394	678236	1582552	1130394	0.00

		RT LIMIT			
COMPOUND	STANDARD	LOWER	UPPER	SAMPLE	%DIFF
81 Bromochloromethan	14.42	14.09	14.75	14.42	0.00
97 1,4-Difluorobenze	16.19	15.86	16.52	16.19	0.00
126 Chlorobenzene-d5	21.36	21.03	21.69	21.36	0.00

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /chem/msd7.i/7-30oct.b/7103004.d

Date : 30-OCT-2007 10:29

Client ID: Level 5

Sample Info: 50mL #1487-400

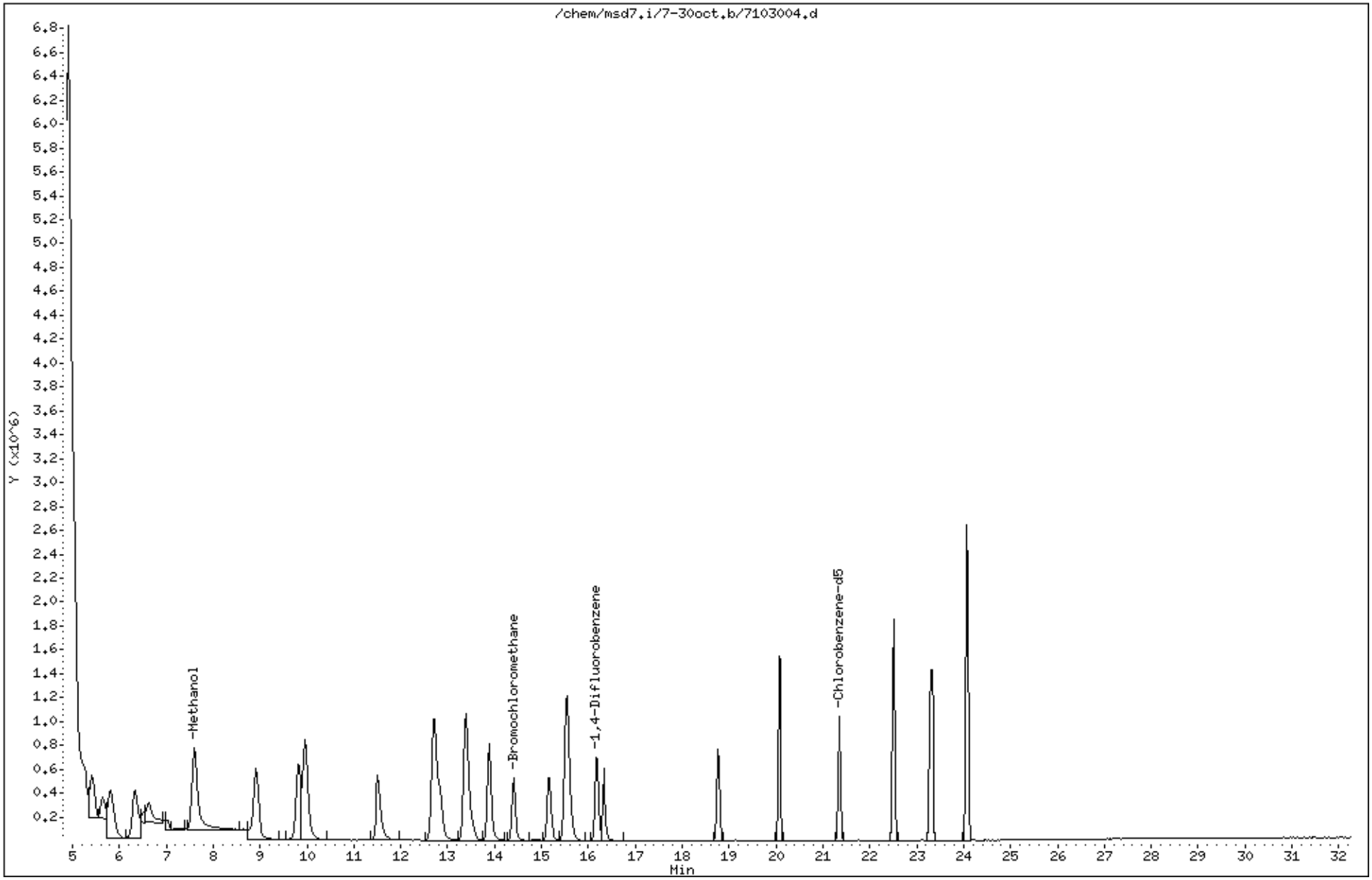
Column phase: RTx-624

Instrument: msd7.i

Operator: cb

Column diameter: 0.53

0379



Air Toxics Ltd.

AMBIENT AIR METHOD TO14

Data file : /chem/msd7.i/7-22oct.b/7102206.d
Lab Smp Id: ICAL Client Smp ID: Level 5
Inj Date : 22-OCT-2007 11:44
Operator : cb Inst ID: msd7.i
Smp Info : 50mL #1487-370
Misc Info : 200ppbv --> 50ppbv
Comment :
Method : /chem/msd7.i/7-22oct.b/t14qO18b.m
Meth Date : 22-Oct-2007 13:49 sscott Quant Type: ISTD
Cal Date : 22-OCT-2007 11:44 Cal File: 7102206.d
Als bottle: 1 Calibration Sample, Level: 5
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: sp16b.sub
Target Version: 3.50 Sample Matrix: AIR
Processing Host: eeyore

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS CAL-AMT (PPBV)	AMOUNTS ON-COL (PPBV)	TARGET RANGE	RATIO
* 81 Bromochloromethane					CAS #: 74-97-5		
14.402	14.402 (1.000)	130	653745	25.0000		80.00- 120.00	100.00
14.402	14.402 (1.000)	128	501927			26.78- 126.78	76.78
14.402	14.402 (1.000)	49	962603			97.24- 197.24	147.24
* 97 1,4-Difluorobenzene					CAS #: 540-36-3		
16.172	16.172 (1.000)	114	2055535	25.0000		80.00- 120.00	100.00
16.172	16.172 (1.000)	88	321836			0.00- 65.66	15.66
* 126 Chlorobenzene-d5					CAS #: 3114-55-4		
21.342	21.342 (1.000)	117	1681036	25.0000		80.00- 120.00	100.00
21.342	21.342 (1.000)	82	930753			5.19- 105.19	55.37
55 Cyclopentene					CAS #: 142-29-0		
11.250	11.250 (0.781)	67	6338028	50.0000	52.035	80.00- 120.00	100.00
11.250	11.250 (0.781)	68	2569210			0.00- 90.48	40.54
11.250	11.250 (0.781)	53	1314450			0.00- 70.85	20.74
78 2,2-Dichloropropane					CAS #: 594-20-7		
13.877	13.877 (0.964)	77	4020302	50.0000	52.711	80.00- 120.00	100.00

```
                                          AMOUNTS
                                       CAL-AMT   ON-COL
   RT   EXP RT (REL RT)  MASS  RESPONSE ( PPBV)  ( PPBV)   TARGET RANGE    RATIO
   ==   ====== ========  ====  ======== =======  =======   ============    =====

   78 2,2-Dichloropropane (continued)
 13.877  13.877 (0.964)    79   1308053                     0.00-  82.54    32.54
 13.877  13.877 (0.964)    97    801913                     0.00-  70.03    19.95
-------------------------------------------------------------------------------
   88 1,1-Dichloropropene                          CAS #: 563-58-6
 15.121  15.121 (0.935)   110   1484028 50.0000   53.552  80.00- 120.00   100.00
 15.121  15.121 (0.935)    75   4019552                   218.22- 318.22   270.85
-------------------------------------------------------------------------------
  118 1,3-Dichloropropane                          CAS #: 142-28-9
 19.988  19.988 (1.236)    76   4474167 50.0000   54.223  80.00- 120.00   100.00
 19.988  19.988 (1.236)    41   3238032                    22.37- 122.37    72.37
 19.988  19.988 (1.236)    78   1429445                     0.00-  81.77    31.95
-------------------------------------------------------------------------------
  125 1,1,1,2-Tetrachloroethane                    CAS #: 630-20-6
 21.536  21.536 (1.009)   131   3235607 50.0000   53.976  80.00- 120.00   100.00
 21.536  21.536 (1.009)   117   2225982                    18.93- 118.93    68.80
 21.508  21.508 (1.008)    95   1265610                     0.00-  89.37    39.12
-------------------------------------------------------------------------------
  136 Bromobenzene                                 CAS #: 108-86-1
 23.610  23.610 (1.106)   156   3872849 50.0000   55.062  80.00- 120.00   100.00
 23.610  23.610 (1.106)   158   3741648                    46.61- 146.61    96.61
 23.610  23.610 (1.106)    77   7718215                   147.77- 247.77   199.29
-------------------------------------------------------------------------------
  138 1,2,3-Trichloropropane                       CAS #: 96-18-4
 23.665  23.665 (1.109)   110   1790961 50.0000   54.413  80.00- 120.00   100.00
 23.665  23.665 (1.109)    75   5405655                   251.83- 351.83   301.83
 23.665  23.665 (1.109)    61   1399772                    26.84- 126.84    78.16
-------------------------------------------------------------------------------
  141 2-Chlorotoluene                              CAS #: 95-49-8
 23.886  23.886 (1.119)   126   2802997 50.0000   53.956  80.00- 120.00   100.00
 23.886  23.886 (1.119)    91   8196683                   242.43- 342.43   292.43
 23.886  23.886 (1.119)    65    796656                     0.00-  78.37    28.42
-------------------------------------------------------------------------------
  143 4-Chlorotoluene                              CAS #: 106-43-4
 24.080  24.080 (1.128)   126   3061327 50.0000   55.234  80.00- 120.00   100.00
 24.080  24.080 (1.128)    91   9049733                   245.61- 345.61   295.61
 24.052  24.052 (1.127)    63   1168807                     0.00-  88.24    38.18
-------------------------------------------------------------------------------
  153 p-Cymene                                     CAS #: 99-87-6
 25.020  25.020 (1.172)   119   8782477 50.0000   53.478  80.00- 120.00   100.00
 25.020  25.020 (1.172)   134   2420527                     0.00-  77.89    27.56
 25.020  25.020 (1.172)    91   2231273                     0.00-  74.89    25.41
-------------------------------------------------------------------------------
  154 1,2,3-Trimethylbenzene                       CAS #: 526-73-8
 25.269  25.269 (1.184)   120   3521301 50.0000   54.043  80.00- 120.00   100.00
 25.269  25.269 (1.184)   105   7581391                   165.30- 265.30   215.30
```

```
                                          AMOUNTS
                                       CAL-AMT   ON-COL
   RT   EXP RT (REL RT)  MASS  RESPONSE ( PPBV)  ( PPBV)   TARGET RANGE    RATIO
   ==   ====== ========  ====  ======== =======  =======   ============    =====

  154 1,2,3-Trimethylbenzene (continued)
 25.269  25.269 (1.184)    77    983859                     0.00-  78.76    27.94
-------------------------------------------------------------------------------
  158 Butylbenzene                                 CAS #: 104-51-8
 25.711  25.711 (1.205)   134   2345394 50.0000   53.114  80.00- 120.00   100.00
 25.683  25.683 (1.203)    91   9453400                  353.06- 453.06   403.06
 25.683  25.683 (1.203)    92   5362392                  181.94- 281.94   228.64
-------------------------------------------------------------------------------
  148 tert-Butylbenzene                            CAS #: 98-06-6
 24.467  24.467 (1.146)   119   7751126 50.0000   52.355  80.00- 120.00   100.00
 24.467  24.467 (1.146)   134   1919419                     0.00-  74.76    24.76
 24.467  24.467 (1.146)    91   5566932                    20.96- 120.96    71.82
-------------------------------------------------------------------------------
  149 sec-Butylbenzene                             CAS #: 135-98-8
 24.826  24.826 (1.163)   105  10990002 50.0000   53.630  80.00- 120.00   100.00
 24.826  24.826 (1.163)   134   2159111                     0.00-  69.65    19.65
 24.826  24.826 (1.163)    91   1806199                     0.00-  65.99    16.43
-------------------------------------------------------------------------------
  162 1,2-Dibromo-3-Chloropropane                  CAS #: 96-12-8
 27.287  27.287 (1.279)   157   2721900 50.0000   51.363  80.00- 120.00   100.00
 27.287  27.287 (1.279)    75   2358984                    36.67- 136.67    86.67
 27.287  27.287 (1.279)   155   2114262                    28.87- 128.87    77.68
-------------------------------------------------------------------------------
  201 Pentachloroethane                            CAS #: 76-01-7
 24.605  24.605 (1.153)   167   2362276 50.0000   53.370  80.00- 120.00   100.00
 24.605  24.605 (1.153)   117   2494933                    54.36- 154.36   105.62
 24.605  24.605 (1.153)   169   1140247                     0.00-  97.70    48.27
-------------------------------------------------------------------------------
```

Report Date: 22-Oct-2007 13:49

Air Toxics Ltd.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd7.i
Lab File ID: 7102206.d
Lab Smp Id: ICAL
Analysis Type: VOA
Quant Type: ISTD
Operator: cb
Method File: /chem/msd7.i/7-22oct.b/t14qO18b.m
Misc Info: 200ppbv --> 50ppbv

Calibration Date: 22-OCT-2007
Calibration Time: 11:44
Client Smp ID: Level 5
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
81 Bromochloromethan	653745	392247	915243	653745	0.00
97 1,4-Difluorobenze	2055535	1233321	2877749	2055535	0.00
126 Chlorobenzene-d5	1681036	1008622	2353450	1681036	0.00

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
81 Bromochloromethan	14.40	14.07	14.73	14.40	0.00
97 1,4-Difluorobenze	16.17	15.84	16.50	16.17	0.00
126 Chlorobenzene-d5	21.34	21.01	21.67	21.34	0.00

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /chem/msd7.i/7-22oct.b/7102206.d

Date : 22-OCT-2007 11:44

Client ID: Level 5

Sample Info: 50mL #1487-370

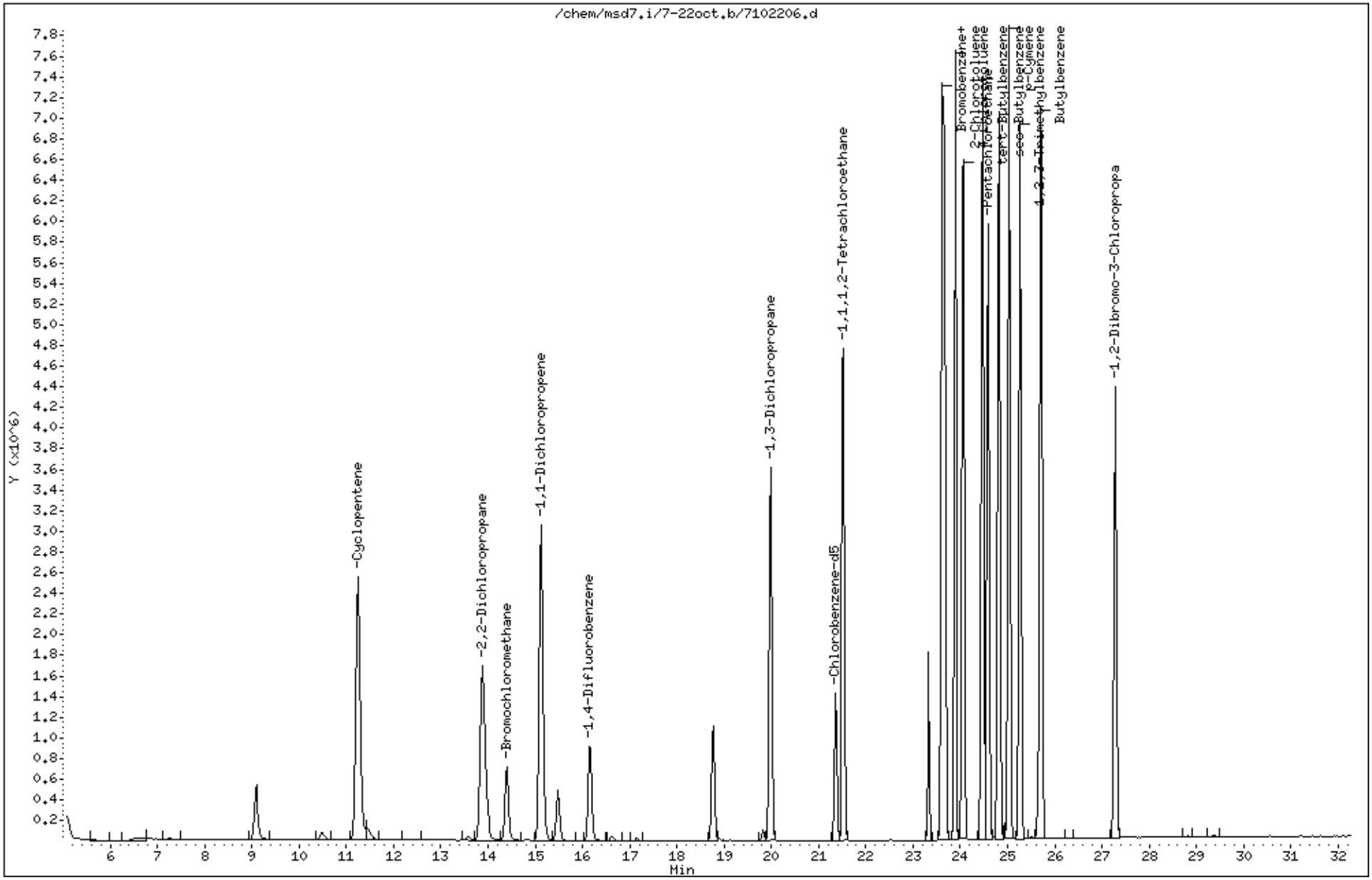
Column phase: RTx-624

Instrument: msd7.i

Operator: cb

Column diameter: 0.53

0384



Air Toxics Ltd.

AMBIENT AIR METHOD TO14

Data file : /chem/msd7.i/7-19oct.b/7101904.d
Lab Smp Id: ICAL Client Smp ID: Level 5
Inj Date : 19-OCT-2007 11:00
Operator : cb Inst ID: msd7.i
Smp Info : 50mL #1487-400
Misc Info : 200ppbv --> 50ppbv
Comment :
Method : /chem/msd7.i/7-19oct.b/t14qO18a.m
Meth Date : 19-Oct-2007 12:11 cbond Quant Type: ISTD
Cal Date : 19-OCT-2007 11:00 Cal File: 7101904.d
Als bottle: 1 Calibration Sample, Level: 5
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: sp22a.sub
Target Version: 3.50 Sample Matrix: AIR
Processing Host: eeyore

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS CAL-AMT (PPBV)	AMOUNTS ON-COL (PPBV)	TARGET RANGE	RATIO
* 81 Bromochloromethane					CAS #: 74-97-5		
14.402	14.402 (1.000)	130	694127	25.0000		80.00- 120.00	100.00
14.402	14.402 (1.000)	128	531772			26.61- 126.61	76.61
14.402	14.402 (1.000)	49	1021801			97.21- 197.21	147.21
* 97 1,4-Difluorobenzene					CAS #: 540-36-3		
16.172	16.172 (1.000)	114	2223212	25.0000		80.00- 120.00	100.00
16.172	16.172 (1.000)	88	354725			0.00- 65.96	15.96
* 126 Chlorobenzene-d5					CAS #: 3114-55-4		
21.370	21.370 (1.000)	117	1779964	25.0000		80.00- 120.00	100.00
21.342	21.342 (1.000)	82	986509			5.24- 105.24	55.42
5 Freon 143a					CAS #: 420-46-2		
5.306	5.306 (0.368)	65	766302	50.0000	49.911	80.00- 120.00	100.00
5.223	5.223 (0.363)	69	6741914			0.00- 50.00	879.80
5.278	5.278 (0.366)	64	224377			0.00- 76.18	29.28
6 Freon142b					CAS #: 75-68-3		
6.356	6.356 (0.441)	65	3144007	50.0000	49.820	80.00- 120.00	100.00

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS CAL-AMT (PPBV)	AMOUNTS ON-COL (PPBV)	TARGET RANGE	RATIO
6 Freon142b (continued)							
6.329	6.329 (0.439)	45	770144			0.00- 74.42	24.50
13 Freon 134a					CAS #: 811-97-2		
5.444	5.444 (0.378)	83	1490027	50.0000	49.641	80.00- 120.00	100.00
5.223	5.223 (0.363)	69	6741914			409.04- 509.04	452.47
5.444	5.444 (0.378)	63	197636			0.00- 63.70	13.26
15 Freon 152a					CAS #: 75-37-6		
5.665	5.665 (0.393)	65	1071725	50.0000	49.165	80.00- 120.00	100.00
5.665	5.665 (0.393)	51	1716739			110.12- 210.12	160.18
5.665	5.665 (0.393)	47	437796			0.00- 90.40	40.85
17 Freon 22					CAS #: 75-45-6		
5.803	5.803 (0.403)	51	3429656	50.0000	48.340	80.00- 120.00	100.00
5.803	5.803 (0.403)	67	407051			0.00- 61.77	11.87
5.831	5.831 (0.405)	85	45824			0.00- 51.67	1.34
34 Dichlorofluoromethane/Fr21					CAS #: 75-43-4		
8.928	8.928 (0.620)	67	3121227	50.0000	50.694	80.00- 120.00	100.00
8.928	8.928 (0.620)	69	981436			0.00- 81.12	31.44
8.928	8.928 (0.620)	35	88167			0.00- 53.83	2.82
40 Freon123a					CAS #: 354-23-4		
9.813	9.813 (0.681)	117	1871544	50.0000	54.425	80.00- 120.00	100.00
9.813	9.813 (0.681)	67	2736149			110.97- 210.97	146.20
41 Freon123					CAS #: 306-83-2		
9.978	9.978 (0.693)	83	3184755	50.0000	51.277	80.00- 120.00	100.00
9.978	9.978 (0.693)	133	627762			0.00- 69.52	19.71
9.978	9.978 (0.693)	85	2260913			22.16- 122.16	70.99
57 tert-Butyl-Alcohol					CAS #: 75-65-0		
11.527	11.527 (0.800)	59	3711893	50.0000	51.792	80.00- 120.00	100.00
11.527	11.527 (0.800)	41	752755			0.00- 73.42	20.28
11.527	11.527 (0.800)	57	362771			0.00- 60.26	9.77
68 Isopropyl ether					CAS #: 108-20-3		
12.716	12.716 (0.883)	45	6578708	50.0000	52.939	80.00- 120.00	100.00
12.716	12.716 (0.883)	87	1520476			0.00- 73.31	23.11
12.716	12.716 (0.883)	59	520306			0.00- 58.30	7.91
71 1-Propanol					CAS #: 71-23-8		
12.854	12.854 (0.892)	42	425719	50.0000	57.194	80.00- 120.00	100.00
12.854	12.854 (0.892)	59	638506			95.91- 195.91	149.98
12.716	12.716 (0.883)	41	1236325			265.93- 365.93	290.41

AMOUNTS

RT	EXP RT (REL RT)	MASS	RESPONSE	CAL-AMT (PPBV)	ON-COL (PPBV)	TARGET RANGE	RATIO
73 t-Butylethyl Ether					CAS #: 637-92-3		
13.379	13.379 (0.929)	59	5651281	50.0000	54.203	80.00- 120.00	100.00
13.379	13.379 (0.929)	87	2181708			0.00- 88.95	38.61
13.379	13.379 (0.929)	41	981804			0.00- 67.89	17.37
77 Ethyl Acetate					CAS #: 141-78-6		
13.877	13.877 (0.964)	45	620455	50.0000	53.330	80.00- 120.00	100.00
13.877	13.877 (0.964)	61	597626			49.04- 149.04	96.32
13.877	13.877 (0.964)	43	4293069			622.55- 722.55	691.92
92 tert-amyl-Methyl Ether					CAS #: 994-05-8		
15.536	15.536 (1.079)	73	4149237	50.0000	54.724	80.00- 120.00	100.00
15.564	15.564 (1.081)	87	972129			0.00- 73.71	23.43
15.536	15.536 (1.079)	55	1097280			0.00- 78.56	26.45
96 2-Heptanone					CAS #: 110-43-0		
22.504	22.504 (1.562)	58	2609217	50.0000	61.498	80.00- 120.00	100.00
22.504	22.504 (1.562)	43	4102315			108.53- 208.53	157.22
98 1-Butanol					CAS #: 71-36-3		
16.338	16.338 (1.010)	56	1222941	50.0000	62.304	80.00- 120.00	100.00
16.338	16.338 (1.010)	41	881157			21.86- 121.86	72.05
16.338	16.338 (1.010)	43	677934			9.15- 109.15	55.43
99 Isobutanol					CAS #: 78-83-1		
15.149	15.149 (1.052)	59	42901	50.0000	62.469	80.00- 120.00	100.00
15.149	15.149 (1.052)	41	1065866			2630.47-2730.47	2484.48
15.149	15.149 (1.052)	43	1475416			3703.83-3803.83	3439.12
119 Butyl Acetate					CAS #: 123-86-4		
20.070	20.070 (1.241)	56	1830296	50.0000	59.304	80.00- 120.00	100.00
20.070	20.070 (1.241)	73	585535			0.00- 81.99	31.99
20.070	20.070 (1.241)	43	4559849			199.13- 299.13	249.13
135 Cyclohexanone					CAS #: 108-94-1		
23.278	23.278 (1.089)	55	1834532	50.0000	54.771	80.00- 120.00	100.00
23.278	23.278 (1.089)	98	769278			0.00- 90.06	41.93
23.278	23.278 (1.089)	42	1263933			16.60- 116.60	68.90
146 Diisobutyl Ketone					CAS #: 108-83-8		
24.080	24.080 (1.127)	57	4306488	50.0000	53.933	80.00- 120.00	100.00
24.080	24.080 (1.127)	85	3477655			30.75- 130.75	80.75
0.000	1.000 (0.000)	0	0			0.00- 50.00	0.00

Report Date: 19-Oct-2007 12:11

Air Toxics Ltd.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd7.i
Lab File ID: 7101904.d
Lab Smp Id: ICAL
Analysis Type: VOA
Quant Type: ISTD
Operator: cb
Method File: /chem/msd7.i/7-19oct.b/t14qO18a.m
Misc Info: 200ppbv --> 50ppbv

Calibration Date: 19-OCT-2007
Calibration Time: 11:00
Client Smp ID: Level 5
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
81 Bromochloromethan	694127	416476	971778	694127	0.00
97 1,4-Difluorobenze	2223212	1333927	3112497	2223212	0.00
126 Chlorobenzene-d5	1779964	1067978	2491950	1779964	0.00

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
81 Bromochloromethan	14.40	14.07	14.73	14.40	0.00
97 1,4-Difluorobenze	16.17	15.84	16.50	16.17	0.00
126 Chlorobenzene-d5	21.37	21.04	21.70	21.37	0.00

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /chem/msd7.i/7-19oct.b/7101904.d

Date : 19-OCT-2007 11:00

Client ID: Level 5

Sample Info: 50mL #1487-400

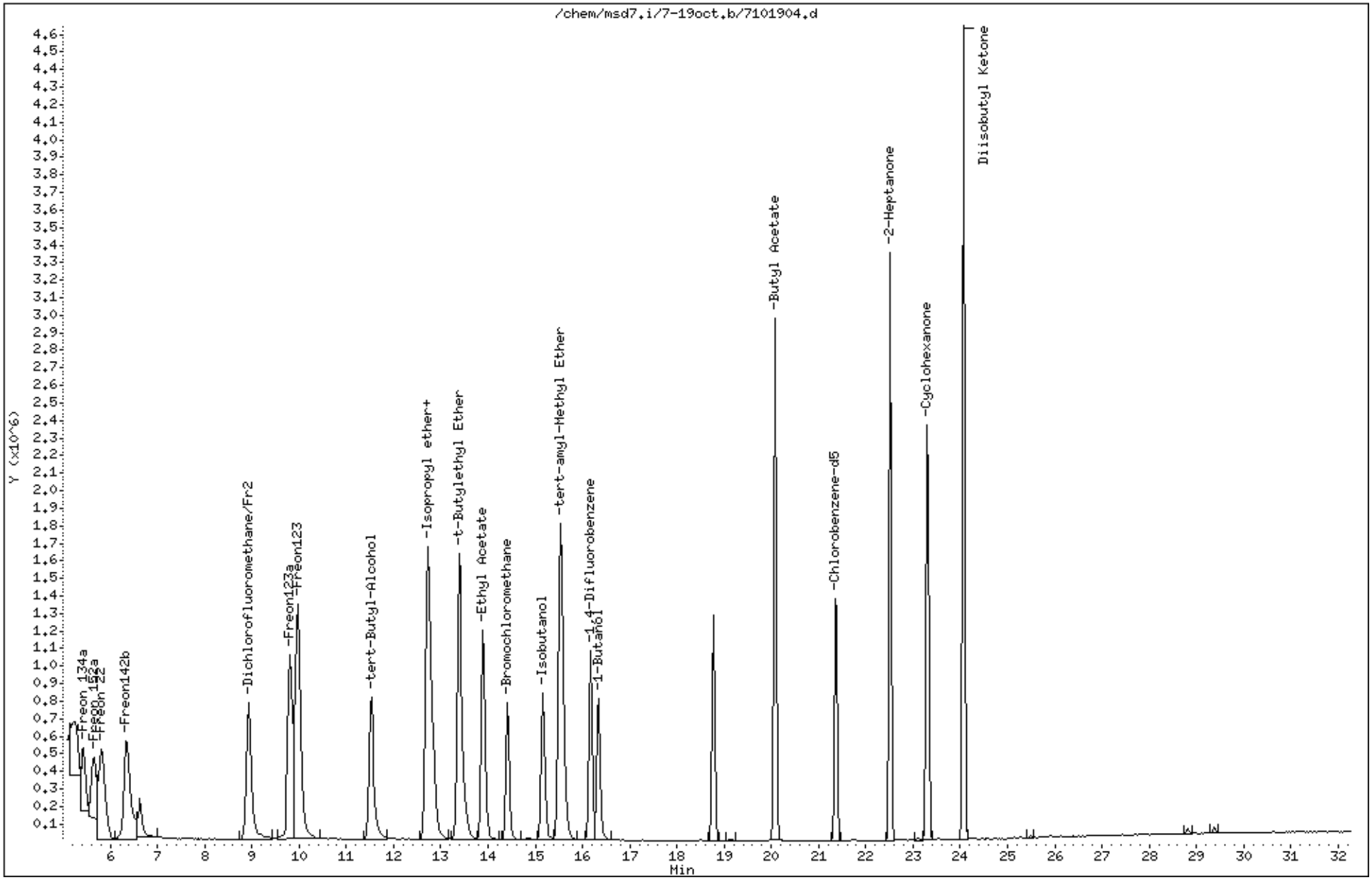
Column phase: RTx-624

Instrument: msd7.i

Operator: cb

Column diameter: 0.53

0389



Air Toxics Ltd.

AMBIENT AIR METHOD TO14

Data file : /chem/msd7.i/7-18oct.b/7101806.d
Lab Smp Id: ICAL Client Smp ID: Level 5
Inj Date : 18-OCT-2007 15:26
Operator : cb Inst ID: msd7.i
Smp Info : 50mL #1576-50
Misc Info : 200ppbv --> 50ppbv
Comment :
Method : /chem/msd7.i/7-18oct.b/t14qO18a.m
Meth Date : 18-Oct-2007 15:55 cbond Quant Type: ISTD
Cal Date : 18-OCT-2007 15:26 Cal File: 7101806.d
Als bottle: 1 Calibration Sample, Level: 5
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: AT04mdl+ENSR.sub
Target Version: 3.50 Sample Matrix: AIR
Processing Host: eeyore

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS CAL-AMT (PPBV)	AMOUNTS ON-COL (PPBV)	TARGET RANGE	RATIO
* 81 Bromochloromethane					CAS #: 74-97-5		
14.402	14.402 (1.000)	130	683549	25.0000		80.00- 120.00	100.00
14.402	14.402 (1.000)	128	526020			26.95- 126.95	76.95
14.402	14.402 (1.000)	49	1309838			141.62- 241.62	191.62
* 97 1,4-Difluorobenzene					CAS #: 540-36-3		
16.172	16.172 (1.000)	114	2204815	25.0000		80.00- 120.00	100.00
16.172	16.172 (1.000)	88	346032			0.00- 65.69	15.69
* 126 Chlorobenzene-d5					CAS #: 3114-55-4		
21.370	21.370 (1.000)	117	1812979	25.0000		80.00- 120.00	100.00
21.342	21.342 (1.000)	82	1018657			5.45- 105.45	56.19
$ 90 1,2-Dichloroethane-d4					CAS #: 17060-07-0		
15.508	15.508 (1.077)	65	902272	25.0000	24.576	80.00- 120.00	100.00
15.508	15.508 (1.077)	67	497167			1.44- 101.44	55.10
$ 113 Toluene-d8					CAS #: 2037-26-5		
18.771	18.771 (1.161)	98	1988860	25.0000	25.725	80.00- 120.00	100.00
18.771	18.771 (1.161)	70	232527			0.00- 61.47	11.69

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS CAL-AMT (PPBV)	AMOUNTS ON-COL (PPBV)	TARGET RANGE	RATIO
$ 113 Toluene-d8 (continued)							
18.771	18.771 (1.161)	100	1398815			19.08- 119.08	70.33
$ 137 Bromofluorobenzene						CAS #: 460-00-4	
23.333	23.333 (1.092)	174	1084886	25.0000	24.933	80.00- 120.00	100.00
23.333	23.333 (1.092)	95	1375583			76.80- 176.80	126.80
23.333	23.333 (1.092)	176	1042148			46.06- 146.06	96.06
11 Propylene						CAS #: 115-07-1	
5.610	5.610 (0.390)	41	1415032	50.0000	48.553	80.00- 120.00	100.00
5.610	5.610 (0.390)	42	982874			22.00- 122.00	69.46
5.610	5.610 (0.390)	39	1047010			25.14- 125.14	73.99
12 Dichlorodifluoromethane/Fr12						CAS #: 75-71-8	
5.748	5.748 (0.399)	85	5298030	50.0000	48.980	80.00- 120.00	100.00
5.748	5.748 (0.399)	87	1667645			0.00- 83.21	31.48
16 Freon 114						CAS #: 76-14-2	
6.218	6.218 (0.432)	135	3652709	50.0000	47.806	80.00- 120.00	100.00
6.218	6.218 (0.432)	137	1161951			0.00- 81.81	31.81
18 Chloromethane						CAS #: 74-87-3	
6.522	6.522 (0.453)	50	1693664	50.0000	47.987	80.00- 120.00	100.00
6.522	6.522 (0.453)	52	575628			0.00- 85.25	33.99
20 Vinyl Chloride						CAS #: 75-01-4	
6.882	6.882 (0.478)	62	2169718	50.0000	48.872	80.00- 120.00	100.00
6.882	6.882 (0.478)	64	690774			0.00- 83.70	31.84
22 1,3-Butadiene						CAS #: 106-99-0	
6.937	6.937 (0.482)	54	1604484	50.0000	52.666	80.00- 120.00	100.00
6.937	6.937 (0.482)	39	1626075			57.11- 157.11	101.35
25 Bromomethane						CAS #: 74-83-9	
8.043	8.043 (0.558)	94	1956954	50.0000	51.440	80.00- 120.00	100.00
8.043	8.043 (0.558)	96	1834965			43.77- 143.77	93.77
27 Chloroethane						CAS #: 75-00-3	
8.375	8.375 (0.581)	64	1036064	50.0000	57.866	80.00- 120.00	100.00
8.375	8.375 (0.581)	49	276958			0.00- 79.97	26.73
8.375	8.375 (0.581)	66	325306			0.00- 83.92	31.40
31 Trichlorofluoromethane/Fr11						CAS #: 75-69-4	
8.956	8.956 (0.622)	101	5127114	50.0000	52.077	80.00- 120.00	100.00
8.983	8.983 (0.624)	103	3298307			14.33- 114.33	64.33

AMOUNTS

RT	EXP RT (REL RT)	MASS	RESPONSE	CAL-AMT (PPBV)	ON-COL (PPBV)	TARGET RANGE	RATIO
38 Ethanol					CAS #: 64-17-5		
9.453	9.453 (0.656)	45	692455	50.0000	54.981	80.00- 120.00	100.00
9.453	9.453 (0.656)	43	138038			0.00- 73.83	19.93
9.453	9.453 (0.656)	46	261445			0.00- 88.26	37.76
42 Freon 113					CAS #: 76-13-1		
10.227	10.227 (0.710)	151	2874533	50.0000	52.399	80.00- 120.00	100.00
10.227	10.227 (0.710)	153	1825117			13.49- 113.49	63.49
10.200	10.200 (0.708)	101	3540517			73.17- 173.17	123.17
43 1,1-Dichloroethene					CAS #: 75-35-4		
10.338	10.338 (0.718)	61	3011437	50.0000	52.373	80.00- 120.00	100.00
10.338	10.338 (0.718)	96	1849526			11.42- 111.42	61.42
10.338	10.338 (0.718)	98	1195426			0.00- 89.70	39.70
45 Acetone					CAS #: 67-64-1		
10.504	10.504 (0.729)	58	914212	50.0000	52.741	80.00- 120.00	100.00
10.504	10.504 (0.729)	43	2796075			245.26- 345.26	305.85
46 2-Propanol					CAS #: 67-63-0		
10.697	10.697 (0.743)	45	3341125	50.0000	56.618	80.00- 120.00	100.00
10.697	10.697 (0.743)	43	786824			0.00- 76.38	23.55
10.670	10.670 (0.741)	59	124809			0.00- 53.64	3.74
47 Carbon Disulfide					CAS #: 75-15-0		
10.891	10.891 (0.756)	76	5750337	50.0000	52.873	80.00- 120.00	100.00
51 3-Chloropropene					CAS #: 107-05-1		
11.168	11.168 (0.775)	76	950362	50.0000	56.560	80.00- 120.00	100.00
11.168	11.168 (0.775)	41	2534016			227.35- 327.35	266.64
54 Methylene Chloride					CAS #: 75-09-2		
11.472	11.472 (0.796)	49	2157693	50.0000	51.348	80.00- 120.00	100.00
11.472	11.472 (0.796)	84	1585590			23.49- 123.49	73.49
11.472	11.472 (0.796)	51	653724			0.00- 80.93	30.30
60 MTBE					CAS #: 1634-04-4		
11.831	11.831 (0.821)	73	3587655	50.0000	50.191	80.00- 120.00	100.00
11.831	11.831 (0.821)	57	828957			0.00- 73.11	23.11
11.831	11.831 (0.821)	41	846055			0.00- 77.06	23.58
61 trans-1,2-Dichloroethene					CAS #: 156-60-5		
11.942	11.942 (0.829)	96	2126458	50.0000	55.255	80.00- 120.00	100.00
11.942	11.942 (0.829)	61	3057162			93.77- 193.77	143.77
11.942	11.942 (0.829)	98	1345621			11.32- 111.32	63.28

AMOUNTS

RT	EXP RT (REL RT)	MASS	RESPONSE	CAL-AMT (PPBV)	ON-COL (PPBV)	TARGET RANGE	RATIO
65 Hexane					CAS #: 110-54-3		
12.301	12.301 (0.854)	57	3008806	50.0000	55.859	80.00- 120.00	100.00
12.301	12.301 (0.854)	43	1950873			18.57- 118.57	64.84
12.301	12.301 (0.854)	86	447575			0.00- 65.04	14.88
69 Vinyl Acetate					CAS #: 108-05-4		
12.799	12.799 (0.889)	86	455231	50.0000	57.233	80.00- 120.00	100.00
12.799	12.799 (0.889)	43	5401152			1159.12-1259.12	1186.46
70 1,1-Dichloroethane					CAS #: 75-34-3		
12.826	12.826 (0.891)	63	3599964	50.0000	54.367	80.00- 120.00	100.00
12.826	12.826 (0.891)	65	1139875			0.00- 81.66	31.66
75 2-Butanone					CAS #: 78-93-3		
13.905	13.905 (0.965)	72	818664	50.0000	62.193	80.00- 120.00	100.00
13.905	13.905 (0.965)	43	3790041			412.95- 512.95	462.95
13.905	13.905 (0.965)	57	288123			0.00- 87.14	35.19
76 cis-1,2-Dichloroethene					CAS #: 156-59-2		
13.932	13.932 (0.967)	61	2561771	50.0000	55.374	80.00- 120.00	100.00
13.932	13.932 (0.967)	96	1913669			24.70- 124.70	74.70
13.932	13.932 (0.967)	98	1211977			0.00- 97.31	47.31
80 Tetrahydrofuran					CAS #: 109-99-9		
14.402	14.402 (1.000)	42	2102531	50.0000	59.452	80.00- 120.00	100.00
14.402	14.402 (1.000)	71	754061			0.00- 85.86	35.86
14.402	14.402 (1.000)	72	820596			0.00- 87.41	39.03
82 Chloroform					CAS #: 67-66-3		
14.485	14.485 (1.006)	83	3686125	50.0000	54.978	80.00- 120.00	100.00
14.485	14.485 (1.006)	85	2406880			15.30- 115.30	65.30
83 1,1,1-Trichloroethane					CAS #: 71-55-6		
14.845	14.845 (1.031)	97	3640858	50.0000	53.131	80.00- 120.00	100.00
14.845	14.845 (1.031)	99	2345271			14.42- 114.42	64.42
85 Cyclohexane					CAS #: 110-82-7		
14.845	14.845 (1.031)	84	2138441	50.0000	57.422	80.00- 120.00	100.00
14.845	14.845 (1.031)	56	2718812			77.14- 177.14	127.14
14.845	14.845 (1.031)	41	1560161			22.96- 122.96	72.96
87 Carbon Tetrachloride					CAS #: 56-23-5		
15.094	15.094 (1.048)	119	3463048	50.0000	53.939	80.00- 120.00	100.00
15.094	15.094 (1.048)	117	3609254			54.22- 154.22	104.22
91 Benzene					CAS #: 71-43-2		
15.508	15.508 (0.959)	78	4811071	50.0000	56.318	80.00- 120.00	100.00

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS CAL-AMT (PPBV)	AMOUNTS ON-COL (PPBV)	TARGET RANGE	RATIO
91 Benzene (continued)							
15.508	15.508 (0.959)	77	1049814			0.00- 71.80	21.82
89 2,2,4-Trimethylpentane					CAS #: 540-84-1		
15.426	15.426 (1.071)	57	7449400	50.0000	57.351	80.00- 120.00	100.00
15.426	15.426 (1.071)	56	2538112			0.00- 84.72	34.07
15.426	15.426 (1.071)	41	2024280			0.00- 79.98	27.17
93 1,2-Dichloroethane					CAS #: 107-06-2		
15.647	15.647 (0.968)	62	2450001	50.0000	52.215	80.00- 120.00	100.00
15.647	15.647 (0.968)	64	778826			0.00- 83.09	31.79
94 Heptane					CAS #: 142-82-5		
15.730	15.730 (0.973)	71	1529856	50.0000	60.023	80.00- 120.00	100.00
15.730	15.730 (0.973)	43	2998586			161.50- 261.50	196.00
15.730	15.730 (0.973)	57	1580456			60.75- 160.75	103.31
101 Trichloroethene					CAS #: 79-01-6		
16.642	16.642 (1.029)	95	2098294	50.0000	54.497	80.00- 120.00	100.00
16.642	16.642 (1.029)	130	2078430			49.05- 149.05	99.05
16.642	16.642 (1.029)	97	1362364			14.93- 114.93	64.93
104 1,2-Dichloropropane					CAS #: 78-87-5		
17.112	17.112 (1.058)	63	1815045	50.0000	55.862	80.00- 120.00	100.00
17.140	17.140 (1.060)	62	1334457			23.52- 123.52	73.52
17.112	17.112 (1.058)	41	1125501			12.01- 112.01	62.01
106 1,4-Dioxane					CAS #: 123-91-1		
17.250	17.250 (1.067)	88	1166444	50.0000	56.320	80.00- 120.00	100.00
17.250	17.250 (1.067)	58	834019			21.50- 121.50	71.50
17.250	17.250 (1.067)	57	275329			0.00- 74.96	23.60
107 Bromodichloromethane					CAS #: 75-27-4		
17.555	17.555 (1.085)	83	3729470	50.0000	55.885	80.00- 120.00	100.00
17.555	17.555 (1.085)	85	2400491			14.37- 114.37	64.37
110 cis-1,3-Dichloropropene					CAS #: 10061-01-5		
18.329	18.329 (1.133)	75	2709608	50.0000	60.260	80.00- 120.00	100.00
18.329	18.329 (1.133)	77	866280			0.00- 81.97	31.97
18.329	18.329 (1.133)	39	1541138			6.88- 106.88	56.88
111 4-Methyl-2-pentanone					CAS #: 108-10-1		
18.522	18.522 (1.145)	58	1532118	50.0000	64.446	80.00- 120.00	100.00
18.522	18.522 (1.145)	43	4010581			226.18- 326.18	261.77
18.522	18.522 (1.145)	85	598542			0.00- 90.90	39.07

AMOUNTS

RT	EXP RT (REL RT)	MASS	RESPONSE	CAL-AMT (PPBV)	ON-COL (PPBV)	TARGET RANGE	RATIO
114 Toluene					CAS #: 108-88-3		
18.882	18.882 (1.168)	91	5242049	50.0000	55.958	80.00- 120.00	100.00
18.882	18.882 (1.168)	92	3304331			13.04- 113.04	63.04
116 trans-1,3-Dichloropropene					CAS #: 10061-02-6		
19.324	19.324 (0.904)	75	2903918	50.0000	59.315	80.00- 120.00	100.00
19.324	19.324 (0.904)	77	919192			0.00- 81.65	31.65
19.296	19.296 (0.903)	39	1525103			2.52- 102.52	52.52
117 1,1,2-Trichloroethane					CAS #: 79-00-5		
19.656	19.656 (0.920)	97	2037297	50.0000	56.012	80.00- 120.00	100.00
19.656	19.656 (0.920)	99	1285217			13.08- 113.08	63.08
19.656	19.656 (0.920)	83	1738135			35.32- 135.32	85.32
120 Tetrachloroethene					CAS #: 127-18-4		
19.822	19.822 (0.928)	166	2630580	50.0000	53.132	80.00- 120.00	100.00
19.822	19.822 (0.928)	129	1904175			22.39- 122.39	72.39
19.822	19.822 (0.928)	131	1836103			19.80- 119.80	69.80
121 2-Hexanone					CAS #: 591-78-6		
19.960	19.960 (0.934)	58	2182082	50.0000	59.476	80.00- 120.00	100.00
19.960	19.960 (0.934)	43	4116153			138.63- 238.63	188.63
19.960	19.960 (0.934)	100	368946			0.00- 67.20	16.91
122 Dibromochloromethane					CAS #: 124-48-1		
20.347	20.347 (0.952)	129	3738274	50.0000	56.568	80.00- 120.00	100.00
20.347	20.347 (0.952)	127	2895663			27.81- 127.81	77.46
123 1,2-Dibromoethane					CAS #: 106-93-4		
20.624	20.624 (0.965)	107	3445162	50.0000	57.543	80.00- 120.00	100.00
20.624	20.624 (0.965)	109	3261446			44.67- 144.67	94.67
127 Chlorobenzene					CAS #: 108-90-7		
21.398	21.398 (1.001)	112	4380087	50.0000	53.577	80.00- 120.00	100.00
21.398	21.398 (1.001)	114	1420303			0.00- 82.43	32.43
21.398	21.398 (1.001)	77	2660829			10.75- 110.75	60.75
128 Ethyl Benzene					CAS #: 100-41-4		
21.481	21.481 (1.005)	106	2271121	50.0000	55.213	80.00- 120.00	100.00
21.481	21.481 (1.005)	91	7073632			261.79- 361.79	311.46
129 m,p-Xylene					CAS #: 108-38-3		
21.674	21.674 (1.014)	106	2878647	50.0000	56.107	80.00- 120.00	100.00
21.674	21.674 (1.014)	91	5612675			144.94- 244.94	194.98
130 o-Xylene					CAS #: 95-47-6		
22.393	22.393 (1.048)	106	2496065	50.0000	55.739	80.00- 120.00	100.00

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                                          AMOUNTS
                                       CAL-AMT   ON-COL
   RT   EXP RT (REL RT)  MASS  RESPONSE ( PPBV)  ( PPBV)   TARGET RANGE    RATIO
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  130 o-Xylene (continued)
 22.393  22.393 (1.048)    91   5108173                  154.65- 254.65   204.65
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  131 Styrene                                       CAS #: 100-42-5
 22.421  22.421 (1.049)   104   4186975 50.0000   62.955  80.00- 120.00   100.00
 22.421  22.421 (1.049)    78   2164094                    1.69- 101.69    51.69
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  133 Bromoform                                     CAS #: 75-25-2
 22.836  22.836 (1.069)   173   3309894 50.0000   55.947  80.00- 120.00   100.00
 22.836  22.836 (1.069)   171   1695247                    1.22- 101.22    51.22
--------------------------------------------------------------------------------
  134 Cumene                                        CAS #: 98-82-8
 22.974  22.974 (1.075)   105   6354552 50.0000   56.234  80.00- 120.00   100.00
 22.974  22.974 (1.075)   120   1765060                    0.00-  78.15    27.78
 22.946  22.946 (1.074)    51    673484                    0.00-  61.53    10.60
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  140 1,1,2,2-Tetrachloroethane                     CAS #: 79-34-5
 23.527  23.527 (1.101)    83   4017577 50.0000   53.077  80.00- 120.00   100.00
 23.527  23.527 (1.101)    85   2585413                   14.35- 114.35    64.35
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  142 Propylbenzene                                 CAS #: 103-65-1
 23.637  23.637 (1.106)    91   8303428 50.0000   53.645  80.00- 120.00   100.00
 23.637  23.637 (1.106)   120   1899976                    0.00-  72.99    22.88
 23.637  23.637 (1.106)   105    309581                    0.00-  54.10     3.73
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  145 4-Ethyltoluene                                CAS #: 622-96-8
 23.831  23.831 (1.115)   105   7539048 50.0000   56.452  80.00- 120.00   100.00
 23.831  23.831 (1.115)   120   2142451                    0.00-  78.42    28.42
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  147 1,3,5-Trimethylbenzene                        CAS #: 108-67-8
 23.914  23.914 (1.119)   105   5408871 50.0000   49.087  80.00- 120.00   100.00
 23.914  23.914 (1.119)   120   3102305                    2.99- 102.99    57.36
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  150 1,2,4-Trimethylbenzene                        CAS #: 95-63-6
 24.550  24.550 (1.149)   105   5207980 50.0000   54.062  80.00- 120.00   100.00
 24.550  24.550 (1.149)   120   2539167                    0.00-  98.94    48.76
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  155 1,3-Dichlorobenzene                           CAS #: 541-73-1
 25.130  25.130 (1.176)   146   3918753 50.0000   51.464  80.00- 120.00   100.00
 25.130  25.130 (1.176)   148   2506551                   14.63- 114.63    63.96
 25.130  25.130 (1.176)   111   1546766                    0.00-  89.77    39.47
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  156 1,4-Dichlorobenzene                           CAS #: 106-46-7
 25.269  25.269 (1.182)   146   4048283 50.0000   50.718  80.00- 120.00   100.00
 25.269  25.269 (1.182)   148   2596227                   13.82- 113.82    64.13
 25.269  25.269 (1.182)   111   1524194                    0.00-  87.22    37.65
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                                          AMOUNTS
                                       CAL-AMT   ON-COL
   RT   EXP RT (REL RT)  MASS  RESPONSE ( PPBV)  ( PPBV)   TARGET RANGE    RATIO
   ==   ====== ========  ====  ======== =======  =======   ============    =====

  159 alpha-Chlorotoluene                          CAS #: 100-44-7
 25.490  25.490 (1.193)    91   5747139 50.0000   58.762  80.00- 120.00   100.00
 25.490  25.490 (1.193)   126   1192032                     0.00-  71.42    20.74
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  161 1,2-Dichlorobenzene                          CAS #: 95-50-1
 25.932  25.932 (1.213)   146   3515051 50.0000   49.313  80.00- 120.00   100.00
 25.932  25.932 (1.213)   148   2260098                    14.30- 114.30    64.30
 25.905  25.905 (1.212)   111   1423581                     0.00-  90.50    40.50
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  165 1,2,4-Trichlorobenzene                       CAS #: 120-82-1
 28.808  28.808 (1.348)   180   1253115 50.0000   45.723  80.00- 120.00   100.00
 28.808  28.808 (1.348)   182   1198592                    45.65- 145.65    95.65
-------------------------------------------------------------------------------
  166 Hexachlorobutadiene                          CAS #: 87-68-3
 29.001  29.001 (1.357)   225   1025202 50.0000   40.018  80.00- 120.00   100.00
 29.001  29.001 (1.357)   223    641430                    12.70- 112.70    62.57
-------------------------------------------------------------------------------
  167 Naphthalene                                  CAS #: 91-20-3
 29.388  29.388 (1.375)   128   2269503 50.0000   46.617  80.00- 120.00   100.00
 29.388  29.388 (1.375)   127    270609                     0.00-  62.64    11.92
-------------------------------------------------------------------------------
   29 Isopentane                                   CAS #: 78-78-4
  8.375   8.375 (0.581)    43   2382695 50.0000   50.768  80.00- 120.00   100.00
  8.375   8.375 (0.581)    57   1600924                    16.24- 116.24    67.19
-------------------------------------------------------------------------------
   19 Butane                                       CAS #: 106-97-8
  6.771   6.771 (0.470)    58    369130 50.0000   49.345  80.00- 120.00   100.00
  6.771   6.771 (0.470)    43   2976625                   761.40- 861.40   806.39
-------------------------------------------------------------------------------
  102 Methyl Cyclohexane                           CAS #: 108-87-2
 16.919  16.919 (1.175)    83   2615829 50.0000   56.882  80.00- 120.00   100.00
 16.919  16.919 (1.175)    98   1205235                     0.00-  96.29    46.07
 16.919  16.919 (1.175)    55   2319276                    38.64- 138.64    88.66
-------------------------------------------------------------------------------
```

Report Date: 18-Oct-2007 15:55

Air Toxics Ltd.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd7.i
Lab File ID: 7101806.d
Lab Smp Id: ICAL
Analysis Type: VOA
Quant Type: ISTD
Operator: cb
Method File: /chem/msd7.i/7-18oct.b/t14qO18a.m
Misc Info: 200ppbv --> 50ppbv

Calibration Date: 18-OCT-2007
Calibration Time: 15:26
Client Smp ID: Level 5
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
81 Bromochloromethan	683549	410129	956969	683549	0.00
97 1,4-Difluorobenze	2204815	1322889	3086741	2204815	0.00
126 Chlorobenzene-d5	1812979	1087787	2538171	1812979	0.00

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
81 Bromochloromethan	14.40	14.07	14.73	14.40	0.00
97 1,4-Difluorobenze	16.17	15.84	16.50	16.17	0.00
126 Chlorobenzene-d5	21.37	21.04	21.70	21.37	0.00

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /chem/msd7.i/7-18oct.b/7101806.d

Date : 18-OCT-2007 15:26

Client ID: Level 5

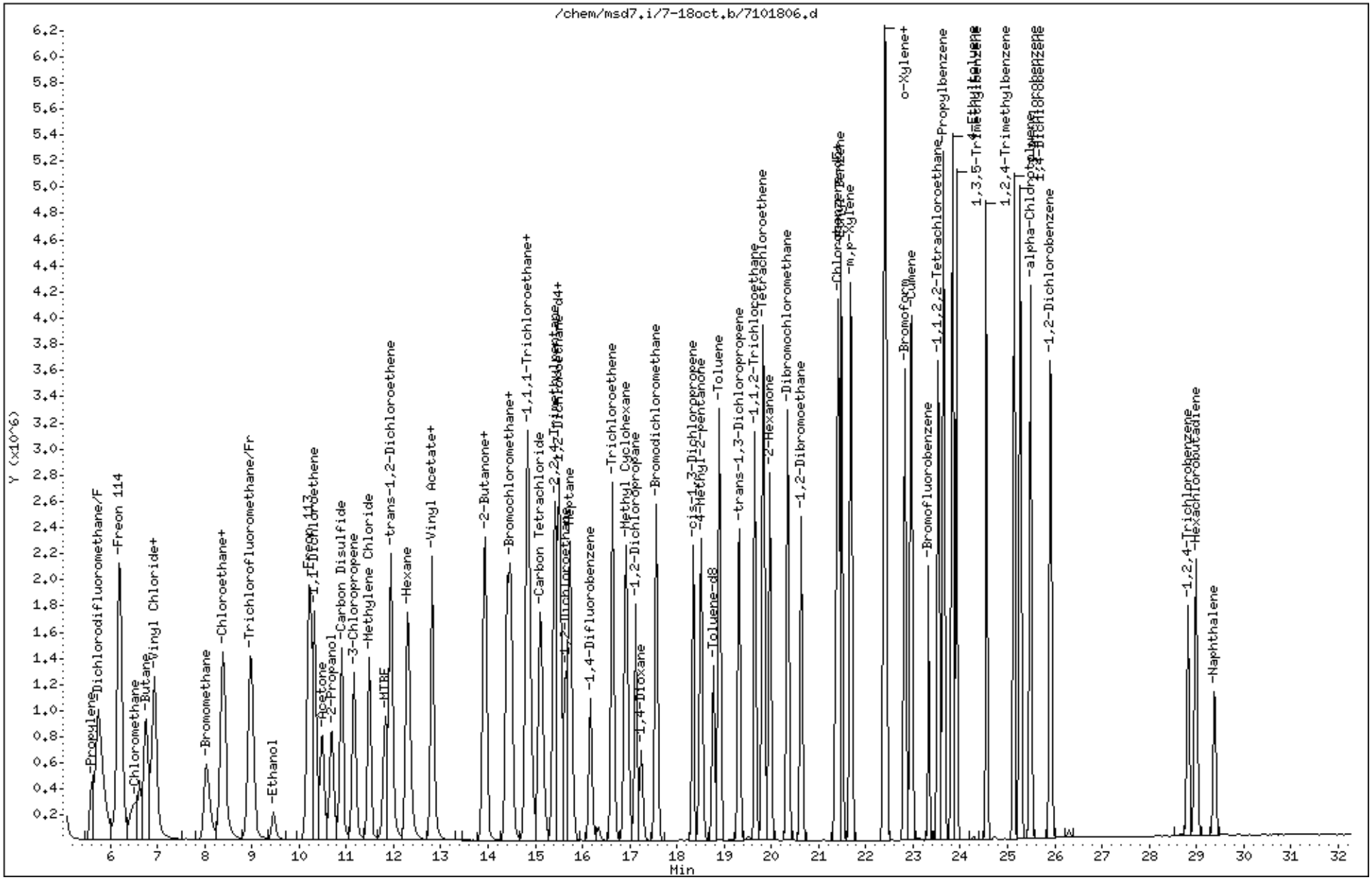
Sample Info: 50mL #1576-50

Column phase: RTx-624

Instrument: msd7.i

Operator: cb

Column diameter: 0.53



Air Toxics Ltd.

AMBIENT AIR METHOD TO14

Data file : /chem/msd7.i/7-18oct.b/7101807.d
Lab Smp Id: ICAL Client Smp ID: Level 6
Inj Date : 18-OCT-2007 16:15
Operator : cb Inst ID: msd7.i
Smp Info : 100mL #1576-50
Misc Info : 200ppbv --> 100ppbv
Comment :
Method : /chem/msd7.i/7-18oct.b/t14qO18a.m
Meth Date : 22-Oct-2007 16:12 dmendoza Quant Type: ISTD
Cal Date : 18-OCT-2007 16:15 Cal File: 7101807.d
Als bottle: 1 Calibration Sample, Level: 6
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: AT04mdl+ENSR.sub
Target Version: 3.50 Sample Matrix: AIR
Processing Host: eeyore

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS CAL-AMT (PPBV)	AMOUNTS ON-COL (PPBV)	TARGET RANGE	RATIO
* 81 Bromochloromethane					CAS #: 74-97-5		
14.402	14.402 (1.000)	130	692933	25.0000		80.00- 120.00	100.00
14.402	14.402 (1.000)	128	535123			26.95- 126.95	77.23
14.402	14.402 (1.000)	49	1712983			141.62- 241.62	247.21
* 97 1,4-Difluorobenzene					CAS #: 540-36-3		
16.172	16.172 (1.000)	114	2281331	25.0000		80.00- 120.00	100.00
16.144	16.172 (1.000)	88	351386			0.00- 65.69	15.40
* 126 Chlorobenzene-d5					CAS #: 3114-55-4		
21.342	21.370 (1.000)	117	1862597	25.0000		80.00- 120.00	100.00
21.342	21.370 (1.000)	82	1017930			5.32- 105.32	54.65
$ 90 1,2-Dichloroethane-d4					CAS #: 17060-07-0		
15.481	15.508 (1.075)	65	913793	25.0000	24.626	80.00- 120.00	100.00
15.481	15.508 (1.075)	67	550511			2.91- 102.91	60.24
$ 113 Toluene-d8					CAS #: 2037-26-5		
18.771	18.771 (1.161)	98	2088251	25.0000	25.914	80.00- 120.00	100.00
18.771	18.771 (1.161)	70	237587			0.00- 61.46	11.38

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS CAL-AMT (PPBV)	AMOUNTS ON-COL (PPBV)	TARGET RANGE	RATIO
$ 113 Toluene-d8 (continued)							
18.771	18.771 (1.161)	100	1454452			19.18- 119.18	69.65
$ 137 Bromofluorobenzene						CAS #: 460-00-4	
23.333	23.333 (1.093)	174	1081956	25.0000	24.333	80.00- 120.00	100.00
23.333	23.333 (1.093)	95	1400916			76.80- 176.80	129.48
23.333	23.333 (1.093)	176	1039964			46.06- 146.06	96.12
11 Propylene						CAS #: 115-07-1	
5.610	5.610 (0.390)	41	2986150	100.000	100.80	80.00- 120.00	100.00
5.610	5.610 (0.390)	42	2053059			21.19- 121.19	68.75
5.610	5.610 (0.390)	39	2206631			24.83- 124.83	73.90
12 Dichlorodifluoromethane/Fr12						CAS #: 75-71-8	
5.748	5.748 (0.399)	85	10930653	100.000	99.747	80.00- 120.00	100.00
5.748	5.748 (0.399)	87	3552505			0.00- 83.07	32.50
16 Freon 114						CAS #: 76-14-2	
6.218	6.218 (0.432)	135	7047529	100.000	92.659	80.00- 120.00	100.00
6.218	6.218 (0.432)	137	2245736			0.00- 81.81	31.87
18 Chloromethane						CAS #: 74-87-3	
6.522	6.522 (0.453)	50	3525852	100.000	98.906	80.00- 120.00	100.00
6.522	6.522 (0.453)	52	1179186			0.00- 84.80	33.44
20 Vinyl Chloride						CAS #: 75-01-4	
6.854	6.882 (0.476)	62	4410236	100.000	98.388	80.00- 120.00	100.00
6.854	6.882 (0.476)	64	1387722			0.00- 83.25	31.47
22 1,3-Butadiene						CAS #: 106-99-0	
6.937	6.937 (0.482)	54	3349709	100.000	106.66	80.00- 120.00	100.00
6.937	6.937 (0.482)	39	3396133			55.97- 155.97	101.39
25 Bromomethane						CAS #: 74-83-9	
8.015	8.043 (0.557)	94	4079688	100.000	104.58	80.00- 120.00	100.00
8.015	8.043 (0.557)	96	3868112			43.77- 143.77	94.81
27 Chloroethane						CAS #: 75-00-3	
8.347	8.375 (0.580)	64	2257754	100.000	118.60	80.00- 120.00	100.00
8.347	8.375 (0.580)	49	605583			0.00- 79.34	26.82
8.347	8.375 (0.580)	66	706033			0.00- 83.15	31.27
31 Trichlorofluoromethane/Fr11						CAS #: 75-69-4	
8.955	8.956 (0.622)	101	10508664	100.000	104.19	80.00- 120.00	100.00
8.955	8.956 (0.622)	103	6789159			14.33- 114.33	64.61

AMOUNTS

RT	EXP RT	(REL RT)	MASS	RESPONSE	CAL-AMT (PPBV)	ON-COL (PPBV)	TARGET RANGE	RATIO
38 Ethanol						CAS #: 64-17-5		
9.453	9.453	(0.656)	45	1538559	100.000	114.63	80.00- 120.00	100.00
9.453	9.453	(0.656)	43	304971			0.00- 72.83	19.82
9.453	9.453	(0.656)	46	585137			0.00- 88.20	38.03
42 Freon 113						CAS #: 76-13-1		
10.200	10.227	(0.708)	151	5881542	100.000	104.56	80.00- 120.00	100.00
10.200	10.227	(0.708)	153	3752567			13.49- 113.49	63.80
10.200	10.227	(0.708)	101	7271712			73.17- 173.17	123.64
43 1,1-Dichloroethene						CAS #: 75-35-4		
10.310	10.338	(0.716)	61	6323571	100.000	106.68	80.00- 120.00	100.00
10.310	10.338	(0.716)	96	3889755			11.42- 111.42	61.51
10.310	10.338	(0.716)	98	2479983			0.00- 89.70	39.22
45 Acetone						CAS #: 67-64-1		
10.476	10.504	(0.727)	58	1956828	100.000	108.28	80.00- 120.00	100.00
10.476	10.504	(0.727)	43	5921961			247.10- 347.10	302.63
46 2-Propanol						CAS #: 67-63-0		
10.670	10.697	(0.741)	45	7297517	100.000	115.63	80.00- 120.00	100.00
10.670	10.697	(0.741)	43	1679125			0.00- 75.54	23.01
10.670	10.697	(0.741)	59	288762			0.00- 53.72	3.96
47 Carbon Disulfide						CAS #: 75-15-0		
10.891	10.891	(0.756)	76	12222860	100.000	108.51	80.00- 120.00	100.00
51 3-Chloropropene						CAS #: 107-05-1		
11.140	11.168	(0.773)	76	1968053	100.000	111.22	80.00- 120.00	100.00
11.140	11.168	(0.773)	41	5269936			224.96- 324.96	267.77
54 Methylene Chloride						CAS #: 75-09-2		
11.472	11.472	(0.796)	49	4616250	100.000	106.58	80.00- 120.00	100.00
11.472	11.472	(0.796)	84	3385429			23.49- 123.49	73.34
11.472	11.472	(0.796)	51	1409490			0.00- 80.85	30.53
60 MTBE						CAS #: 1634-04-4		
11.803	11.831	(0.820)	73	5895128	100.000	84.507	80.00- 120.00	100.00
11.803	11.831	(0.820)	57	1393845			0.00- 73.11	23.64
11.803	11.831	(0.820)	41	1331231			0.00- 76.16	22.58
61 trans-1,2-Dichloroethene						CAS #: 156-60-5		
11.914	11.942	(0.827)	96	4428835	100.000	110.53	80.00- 120.00	100.00
11.914	11.942	(0.827)	61	6358416			93.77- 193.77	143.57
11.914	11.942	(0.827)	98	2816096			11.77- 111.77	63.59

AMOUNTS

RT	EXP RT (REL RT)	MASS	RESPONSE	CAL-AMT (PPBV)	ON-COL (PPBV)	TARGET RANGE	RATIO
65 Hexane					CAS #: 110-54-3		
12.301	12.301 (0.854)	57	6432321	100.000	113.75	80.00- 120.00	100.00
12.301	12.301 (0.854)	43	4176945			17.84- 117.84	64.94
12.301	12.301 (0.854)	86	975109			0.00- 65.07	15.16
69 Vinyl Acetate					CAS #: 108-05-4		
12.799	12.799 (0.889)	86	978320	100.000	115.19	80.00- 120.00	100.00
12.771	12.799 (0.887)	43	11490251			1150.46-1250.46	1174.49
70 1,1-Dichloroethane					CAS #: 75-34-3		
12.799	12.826 (0.889)	63	7494739	100.000	109.11	80.00- 120.00	100.00
12.826	12.826 (0.891)	65	2364614			0.00- 81.66	31.55
75 2-Butanone					CAS #: 78-93-3		
13.877	13.905 (0.964)	72	1797732	100.000	125.97	80.00- 120.00	100.00
13.877	13.905 (0.964)	43	8012978			412.95- 512.95	445.73
13.877	13.905 (0.964)	57	616575			0.00- 86.57	34.30
76 cis-1,2-Dichloroethene					CAS #: 156-59-2		
13.905	13.932 (0.965)	61	5289406	100.000	109.97	80.00- 120.00	100.00
13.932	13.932 (0.967)	96	3957657			24.70- 124.70	74.82
13.932	13.932 (0.967)	98	2537854			0.00- 97.31	47.98
80 Tetrahydrofuran					CAS #: 109-99-9		
14.375	14.402 (0.998)	42	4434496	100.000	118.10	80.00- 120.00	100.00
14.375	14.402 (0.998)	71	1625228			0.00- 85.86	36.65
14.375	14.402 (0.998)	72	1749407			0.00- 87.82	39.45
82 Chloroform					CAS #: 67-66-3		
14.458	14.485 (1.004)	83	7416210	100.000	107.48	80.00- 120.00	100.00
14.458	14.485 (1.004)	85	4828164			15.30- 115.30	65.10
83 1,1,1-Trichloroethane					CAS #: 71-55-6		
14.817	14.845 (1.029)	97	7240093	100.000	103.35	80.00- 120.00	100.00
14.817	14.845 (1.029)	99	4660096			14.42- 114.42	64.37
85 Cyclohexane					CAS #: 110-82-7		
14.845	14.845 (1.031)	84	4466769	100.000	114.14	80.00- 120.00	100.00
14.845	14.845 (1.031)	56	5668418			77.14- 177.14	126.90
14.845	14.845 (1.031)	41	3159222			22.96- 122.96	70.73
87 Carbon Tetrachloride					CAS #: 56-23-5		
15.094	15.094 (1.048)	119	6781673	100.000	103.33	80.00- 120.00	100.00
15.094	15.094 (1.048)	117	7039047			54.22- 154.22	103.80
91 Benzene					CAS #: 71-43-2		
15.508	15.508 (0.959)	78	9788721	100.000	108.80	80.00- 120.00	100.00

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS CAL-AMT (PPBV)	AMOUNTS ON-COL (PPBV)	TARGET RANGE	RATIO
91 Benzene (continued)							
15.508	15.508 (0.959)	77	2175873			0.00- 71.87	22.23
89 2,2,4-Trimethylpentane					CAS #: 540-84-1		
15.398	15.426 (1.069)	57	15535652	100.000	113.89	80.00- 120.00	100.00
15.398	15.426 (1.069)	56	5317737			0.00- 84.62	34.23
15.398	15.426 (1.069)	41	4107948			0.00- 79.27	26.44
93 1,2-Dichloroethane					CAS #: 107-06-2		
15.619	15.647 (0.966)	62	4870654	100.000	100.26	80.00- 120.00	100.00
15.619	15.647 (0.966)	64	1562832			0.00- 82.89	32.09
94 Heptane					CAS #: 142-82-5		
15.702	15.730 (0.971)	71	3163902	100.000	115.36	80.00- 120.00	100.00
15.702	15.730 (0.971)	43	6221004			158.53- 258.53	196.62
15.702	15.730 (0.971)	57	3280251			59.34- 159.34	103.68
101 Trichloroethene					CAS #: 79-01-6		
16.642	16.642 (1.029)	95	4228075	100.000	104.84	80.00- 120.00	100.00
16.642	16.642 (1.029)	130	4128816			49.05- 149.05	97.65
16.642	16.642 (1.029)	97	2716108			14.93- 114.93	64.24
104 1,2-Dichloropropane					CAS #: 78-87-5		
17.112	17.112 (1.058)	63	3756119	100.000	109.16	80.00- 120.00	100.00
17.112	17.112 (1.058)	62	2777792			23.52- 123.52	73.95
17.112	17.112 (1.058)	41	2270112			12.01- 112.01	60.44
106 1,4-Dioxane					CAS #: 123-91-1		
17.250	17.250 (1.067)	88	2460610	100.000	110.72	80.00- 120.00	100.00
17.250	17.250 (1.067)	58	1758611			21.50- 121.50	71.47
17.250	17.250 (1.067)	57	579042			0.00- 74.60	23.53
107 Bromodichloromethane					CAS #: 75-27-4		
17.554	17.555 (1.085)	83	7431432	100.000	106.01	80.00- 120.00	100.00
17.554	17.555 (1.085)	85	4773361			14.37- 114.37	64.23
110 cis-1,3-Dichloropropene					CAS #: 10061-01-5		
18.329	18.329 (1.133)	75	5602642	100.000	115.69	80.00- 120.00	100.00
18.329	18.329 (1.133)	77	1775227			0.00- 81.97	31.69
18.329	18.329 (1.133)	39	3130655			6.88- 106.88	55.88
111 4-Methyl-2-pentanone					CAS #: 108-10-1		
18.522	18.522 (1.145)	58	3231617	100.000	123.62	80.00- 120.00	100.00
18.494	18.522 (1.144)	43	8407133			222.97- 322.97	260.15
18.522	18.522 (1.145)	85	1253983			0.00- 90.48	38.80

AMOUNTS

RT	EXP RT (REL RT)	MASS	RESPONSE	CAL-AMT (PPBV)	ON-COL (PPBV)	TARGET RANGE	RATIO
114 Toluene					CAS #: 108-88-3		
18.882	18.882 (1.168)	91	10622557	100.000	107.53	80.00- 120.00	100.00
18.882	18.882 (1.168)	92	6779189			13.04- 113.04	63.82
116 trans-1,3-Dichloropropene					CAS #: 10061-02-6		
19.296	19.324 (0.904)	75	5889075	100.000	113.22	80.00- 120.00	100.00
19.296	19.324 (0.904)	77	1891543			0.00- 81.65	32.12
19.296	19.324 (0.904)	39	3137203			2.52- 102.52	53.27
117 1,1,2-Trichloroethane					CAS #: 79-00-5		
19.656	19.656 (0.921)	97	4149436	100.000	108.64	80.00- 120.00	100.00
19.656	19.656 (0.921)	99	2605800			13.08- 113.08	62.80
19.656	19.656 (0.921)	83	3504268			35.32- 135.32	84.45
120 Tetrachloroethene					CAS #: 127-18-4		
19.822	19.822 (0.929)	166	5048096	100.000	99.395	80.00- 120.00	100.00
19.822	19.822 (0.929)	129	3627743			22.39- 122.39	71.86
19.822	19.822 (0.929)	131	3514583			19.80- 119.80	69.62
121 2-Hexanone					CAS #: 591-78-6		
19.960	19.960 (0.935)	58	4648378	100.000	116.53	80.00- 120.00	100.00
19.960	19.960 (0.935)	43	8666932			138.63- 238.63	186.45
19.960	19.960 (0.935)	100	771717			0.00- 67.05	16.60
122 Dibromochloromethane					CAS #: 124-48-1		
20.347	20.347 (0.953)	129	7193156	100.000	104.70	80.00- 120.00	100.00
20.347	20.347 (0.953)	127	5526699			27.62- 127.62	76.83
123 1,2-Dibromoethane					CAS #: 106-93-4		
20.623	20.624 (0.966)	107	6833270	100.000	108.68	80.00- 120.00	100.00
20.623	20.624 (0.966)	109	6483894			44.67- 144.67	94.89
127 Chlorobenzene					CAS #: 108-90-7		
21.398	21.398 (1.003)	112	8692529	100.000	102.78	80.00- 120.00	100.00
21.398	21.398 (1.003)	114	2809468			0.00- 82.43	32.32
21.398	21.398 (1.003)	77	5295683			10.75- 110.75	60.92
128 Ethyl Benzene					CAS #: 100-41-4		
21.481	21.481 (1.006)	106	4526085	100.000	105.60	80.00- 120.00	100.00
21.481	21.481 (1.006)	91	14088042			261.69- 361.69	311.26
129 m,p-Xylene					CAS #: 108-38-3		
21.674	21.674 (1.016)	106	5707165	100.000	106.51	80.00- 120.00	100.00
21.674	21.674 (1.016)	91	11155051			145.05- 245.05	195.46
130 o-Xylene					CAS #: 95-47-6		
22.393	22.393 (1.049)	106	4939741	100.000	105.81	80.00- 120.00	100.00

AMOUNTS

RT	EXP RT (REL RT)	MASS	RESPONSE	CAL-AMT (PPBV)	ON-COL (PPBV)	TARGET RANGE	RATIO
130 o-Xylene (continued)							
22.393	22.393 (1.049)	91	10133037			154.65- 254.65	205.13
131 Styrene					CAS #: 100-42-5		
22.421	22.421 (1.051)	104	8386880	100.000	118.26	80.00- 120.00	100.00
22.421	22.421 (1.051)	78	4228696			1.69- 101.69	50.42
133 Bromoform					CAS #: 75-25-2		
22.835	22.836 (1.070)	173	6219626	100.000	101.85	80.00- 120.00	100.00
22.835	22.836 (1.070)	171	3232278			1.22- 101.22	51.97
134 Cumene					CAS #: 98-82-8		
22.974	22.974 (1.076)	105	12536875	100.000	106.57	80.00- 120.00	100.00
22.974	22.974 (1.076)	120	3479782			0.00- 78.08	27.76
22.946	22.974 (1.075)	51	1373233			0.00- 61.43	10.95
140 1,1,2,2-Tetrachloroethane					CAS #: 79-34-5		
23.527	23.527 (1.102)	83	8062379	100.000	102.92	80.00- 120.00	100.00
23.527	23.527 (1.102)	85	5184917			14.35- 114.35	64.31
142 Propylbenzene					CAS #: 103-65-1		
23.637	23.637 (1.108)	91	16597227	100.000	103.47	80.00- 120.00	100.00
23.637	23.637 (1.108)	120	3775008			0.00- 72.94	22.74
23.637	23.637 (1.108)	105	628127			0.00- 54.03	3.78
145 4-Ethyltoluene					CAS #: 622-96-8		
23.831	23.831 (1.117)	105	14829235	100.000	106.36	80.00- 120.00	100.00
23.831	23.831 (1.117)	120	4239290			0.00- 78.42	28.59
147 1,3,5-Trimethylbenzene					CAS #: 108-67-8		
23.914	23.914 (1.120)	105	10575210	100.000	94.663	80.00- 120.00	100.00
23.914	23.914 (1.120)	120	6029821			3.80- 103.80	57.02
150 1,2,4-Trimethylbenzene					CAS #: 95-63-6		
24.550	24.550 (1.150)	105	10414533	100.000	104.14	80.00- 120.00	100.00
24.550	24.550 (1.150)	120	5104145			0.00- 98.95	49.01
155 1,3-Dichlorobenzene					CAS #: 541-73-1		
25.130	25.130 (1.177)	146	7750426	100.000	99.257	80.00- 120.00	100.00
25.130	25.130 (1.177)	148	4950703			14.48- 114.48	63.88
25.130	25.130 (1.177)	111	3048873			0.00- 89.68	39.34
156 1,4-Dichlorobenzene					CAS #: 106-46-7		
25.269	25.269 (1.184)	146	8013173	100.000	98.166	80.00- 120.00	100.00
25.269	25.269 (1.184)	148	5111044			13.81- 113.81	63.78
25.269	25.269 (1.184)	111	3035431			0.00- 87.35	37.88

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS CAL-AMT (PPBV)	AMOUNTS ON-COL (PPBV)	TARGET RANGE	RATIO
159 alpha-Chlorotoluene					CAS #: 100-44-7		
25.490	25.490 (1.194)	91	12186141	100.000	116.33	80.00- 120.00	100.00
25.490	25.490 (1.194)	126	2530175			0.00- 71.29	20.76
161 1,2-Dichlorobenzene					CAS #: 95-50-1		
25.932	25.932 (1.215)	146	7169014	100.000	98.310	80.00- 120.00	100.00
25.932	25.932 (1.215)	148	4537423			14.30- 114.30	63.29
25.905	25.932 (1.214)	111	2874063			0.00- 90.50	40.09
165 1,2,4-Trichlorobenzene					CAS #: 120-82-1		
28.808	28.808 (1.350)	180	3030873	100.000	105.62	80.00- 120.00	100.00
28.808	28.808 (1.350)	182	2886523			45.65- 145.65	95.24
166 Hexachlorobutadiene					CAS #: 87-68-3		
29.001	29.001 (1.359)	225	2182918	100.000	86.635	80.00- 120.00	100.00
29.001	29.001 (1.359)	223	1362900			12.64- 112.64	62.43
167 Naphthalene					CAS #: 91-20-3		
29.361	29.388 (1.376)	128	5980908	100.000	114.00	80.00- 120.00	100.00(A)
29.361	29.388 (1.376)	127	723074			0.00- 62.50	12.09
29 Isopentane					CAS #: 78-78-4		
8.375	8.375 (0.581)	43	5045198	100.000	104.46	80.00- 120.00	100.00
8.375	8.375 (0.581)	57	3389808			16.48- 116.48	67.19
19 Butane					CAS #: 106-97-8		
6.771	6.771 (0.470)	58	777002	100.000	101.84	80.00- 120.00	100.00
6.771	6.771 (0.470)	43	6189652			757.70- 857.70	796.61
102 Methyl Cyclohexane					CAS #: 108-87-2		
16.918	16.919 (1.175)	83	5443508	100.000	112.98	80.00- 120.00	100.00
16.918	16.919 (1.175)	98	2475787			0.00- 96.13	45.48
16.891	16.919 (1.173)	55	4789110			38.51- 138.51	87.98

QC Flag Legend

A - Target compound detected but, quantitated amount exceeded maximum amount.

Report Date: 23-Oct-2007 09:33

Air Toxics Ltd.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd7.i
Lab File ID: 7101807.d
Lab Smp Id: ICAL
Analysis Type: VOA
Quant Type: ISTD
Operator: cb
Method File: /chem/msd7.i/7-18oct.b/t14qO18a.m
Misc Info: 200ppbv --> 100ppbv

Calibration Date: 18-OCT-2007
Calibration Time: 15:26
Client Smp ID: Level 6
Level: LOW
Sample Type: AIR

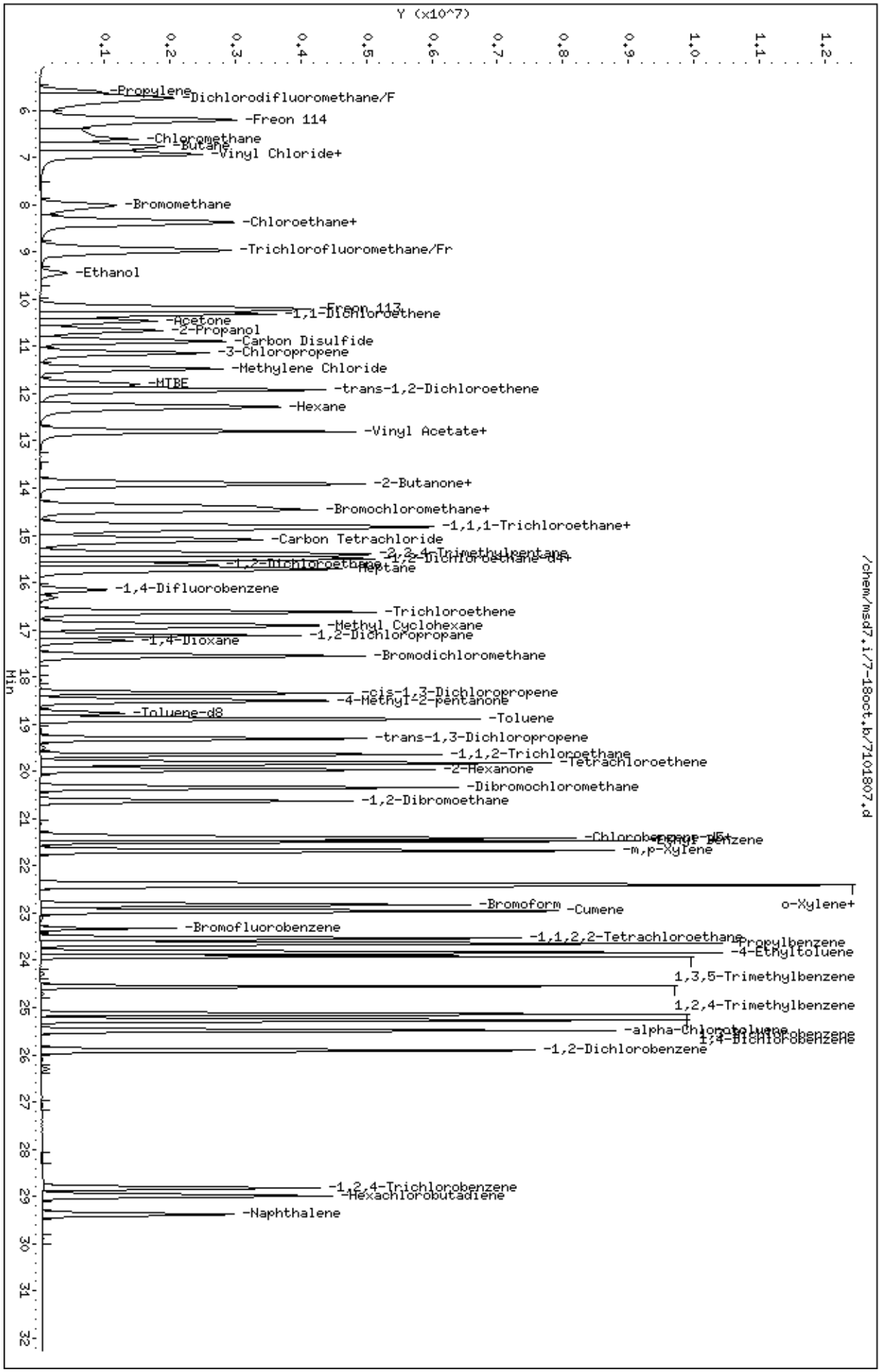
COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
81 Bromochloromethan	683549	410129	956969	692933	1.37
97 1,4-Difluorobenze	2204815	1322889	3086741	2281331	3.47
126 Chlorobenzene-d5	1812979	1087787	2538171	1862597	2.74

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
81 Bromochloromethan	14.40	14.07	14.73	14.40	0.00
97 1,4-Difluorobenze	16.17	15.84	16.50	16.17	0.00
126 Chlorobenzene-d5	21.37	21.04	21.70	21.34	-0.13

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /chem/msd7.i/7-18oct.b/7101807.d
Date : 18-OCT-2007 16:15
Client ID: Level 6
Sample Info: 100mL #1576-50
Column phase: RTx-624

Instrument: msd7.i
Operator: cb
Column diameter: 0.53



Air Toxics Ltd.

AMBIENT AIR METHOD TO14

Data file : /chem/msd7.i/7-05nov.b/7110507.d
Lab Smp Id: ical level 7
Inj Date : 05-NOV-2007 14:29
Operator : ea Inst ID: msd7.i
Smp Info : 200ml #1443-361
Misc Info : 200ppbv
Comment :
Method : /chem/msd7.i/7-05nov.b/t14qO18d.m
Meth Date : 05-Nov-2007 15:03 ealcan Quant Type: ISTD
Cal Date : 05-NOV-2007 14:29 Cal File: 7110507.d
Als bottle: 1 Calibration Sample, Level: 7
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: sp14d.sub
Target Version: 3.50 Sample Matrix: AIR
Processing Host: eeyore

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS CAL-AMT (PPBV)	AMOUNTS ON-COL (PPBV)	TARGET RANGE	RATIO
* 81 Bromochloromethane					CAS #: 74-97-5		
14.403	14.403 (1.000)	130	743892	25.0000		50.00- 150.00	100.00
14.403	14.403 (1.000)	128	585801			27.15- 127.15	78.75
14.403	14.403 (1.000)	49	1071451			111.39- 211.39	144.03
* 97 1,4-Difluorobenzene					CAS #: 540-36-3		
16.172	16.172 (1.000)	114	2217626	25.0000		50.00- 150.00	100.00
16.172	16.172 (1.000)	88	340035			0.00- 65.49	15.33
* 126 Chlorobenzene-d5					CAS #: 3114-55-4		
21.343	21.343 (1.000)	117	1617176	25.0000		50.00- 150.00	100.00
21.343	21.343 (1.000)	82	880112			4.70- 104.70	54.42
66 1-Hexene					CAS #: 592-41-6		
12.163	12.163 (0.844)	55	5480702	200.000	194.83	50.00- 150.00	100.00
12.163	12.163 (0.844)	41	8227231			102.84- 202.84	150.11
12.191	12.191 (0.846)	84	2066951			0.00- 86.65	37.71
37 Pentane					CAS #: 109-66-0		
9.121	9.121 (0.633)	43	14441187	200.000	183.97	50.00- 150.00	100.00

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS CAL-AMT (PPBV)	AMOUNTS ON-COL (PPBV)	TARGET RANGE	RATIO
37 Pentane (continued)							
9.121	9.121 (0.633)	57	2169968			0.00- 65.22	15.03
9.121	9.121 (0.633)	72	1329297			0.00- 59.09	9.20
35 1-Pentene					CAS #: 109-67-1		
8.983	8.983 (0.624)	55	9110481	200.000	190.79	50.00- 150.00	100.00
8.983	8.983 (0.624)	42	20064566			175.46- 275.46	220.24
0.000	1.000 (0.000)	0	0			0.00- 50.00	0.00
124 Nonane					CAS #: 111-84-2		
21.481	21.481 (1.006)	43	12741048	200.000	188.06	50.00- 150.00	100.00
21.481	21.481 (1.006)	57	11684992			41.17- 141.17	91.71
21.481	21.481 (1.006)	85	3982101			0.00- 81.55	31.25
62 Acrylonitrile					CAS #: 107-13-1		
12.025	12.025 (0.835)	52	5216826	200.000	203.66	50.00- 150.00	100.00
12.025	12.025 (0.835)	53	6244056			69.26- 169.26	119.69
105 Dibromomethane					CAS #: 74-95-3		
17.361	17.361 (0.813)	174	7072379	200.000	194.46	50.00- 150.00	100.00
17.361	17.361 (0.813)	93	7506318			53.48- 153.48	106.14
17.361	17.361 (0.813)	95	6253342			36.52- 136.52	88.42
44 Acrolein					CAS #: 107-02-8		
10.172	10.172 (0.706)	55	2282107	200.000	200.88	50.00- 150.00	100.00
10.172	10.172 (0.706)	56	3269684			90.98- 190.98	143.27
63 2-Pentanone					CAS #: 107-87-9		
16.919	16.919 (0.793)	43	18904980	200.000	218.80	50.00- 150.00	100.00(A)
16.919	16.919 (0.793)	58	1502095			0.00- 57.79	7.95
16.919	16.919 (0.793)	86	3117705			0.00- 65.81	16.49
52 Acetonitrile					CAS #: 75-05-8		
11.251	11.251 (0.781)	40	4726467	200.000	186.77	50.00- 150.00	100.00
11.251	11.251 (0.781)	41	8027386			116.58- 216.58	169.84
11.251	11.251 (0.781)	38	1565931			0.00- 80.94	33.13
50 Methyl Methacrylate					CAS #: 80-62-6		
17.112	17.112 (0.802)	41	9656728	200.000	215.51	50.00- 150.00	100.00(A)
17.112	17.112 (0.802)	69	6794698			22.16- 122.16	70.36
17.112	17.112 (0.802)	100	2537427			0.00- 76.23	26.28
79 Methyl Acrylate					CAS #: 96-33-3		
14.015	14.015 (0.973)	55	14040492	200.000	210.22	50.00- 150.00	100.00(A)
14.015	14.015 (0.973)	85	2304963			0.00- 66.55	16.42
14.015	14.015 (0.973)	58	1345556			0.00- 59.80	9.58

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS CAL-AMT (PPBV)	AMOUNTS ON-COL (PPBV)	TARGET RANGE	RATIO
48 Ethyl acrylate					CAS #: 140-88-5		
16.697	16.697 (0.782)	99	1072662	200.000	222.75	50.00- 150.00	100.00(A)
16.697	16.697 (0.782)	45	1508737			93.69- 193.69	140.65
16.697	16.697 (0.782)	55	15482712			1387.00-1487.00	1443.39
49 Iodomethane					CAS #: 74-88-4		
10.780	10.780 (0.748)	142	21705380	200.000	194.60	50.00- 150.00	100.00
10.780	10.780 (0.748)	127	8107074			0.00- 87.23	37.35
21 Isobutane					CAS #: 75-28-5		
6.301	6.301 (0.438)	43	12471282	200.000	187.11	50.00- 150.00	100.00
6.301	6.301 (0.438)	42	4283700			0.00- 89.47	34.35
6.301	6.301 (0.438)	58	297757			0.00- 51.94	2.39

QC Flag Legend

A - Target compound detected but, quantitated amount exceeded maximum amount.

Report Date: 05-Nov-2007 15:03

Air Toxics Ltd.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd7.i
Lab File ID: 7110507.d
Lab Smp Id: ical level 7
Analysis Type: VOA
Quant Type: ISTD
Operator: ea
Method File: /chem/msd7.i/7-05nov.b/t14qO18d.m
Misc Info: 200ppbv

Calibration Date: 05-NOV-2007
Calibration Time: 13:30

Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
81 Bromochloromethan	700965	420579	981351	743892	6.12
97 1,4-Difluorobenze	2091522	1254913	2928131	2217626	6.03
126 Chlorobenzene-d5	1523313	913988	2132638	1617176	6.16

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
81 Bromochloromethan	14.40	14.07	14.73	14.40	0.00
97 1,4-Difluorobenze	16.17	15.84	16.50	16.17	0.00
126 Chlorobenzene-d5	21.34	21.01	21.67	21.34	0.00

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /chem/msd7.i/7-05nov.b/7110507.d

Date : 05-NOV-2007 14:29

Client ID:

Sample Info: 200ml #1443-361

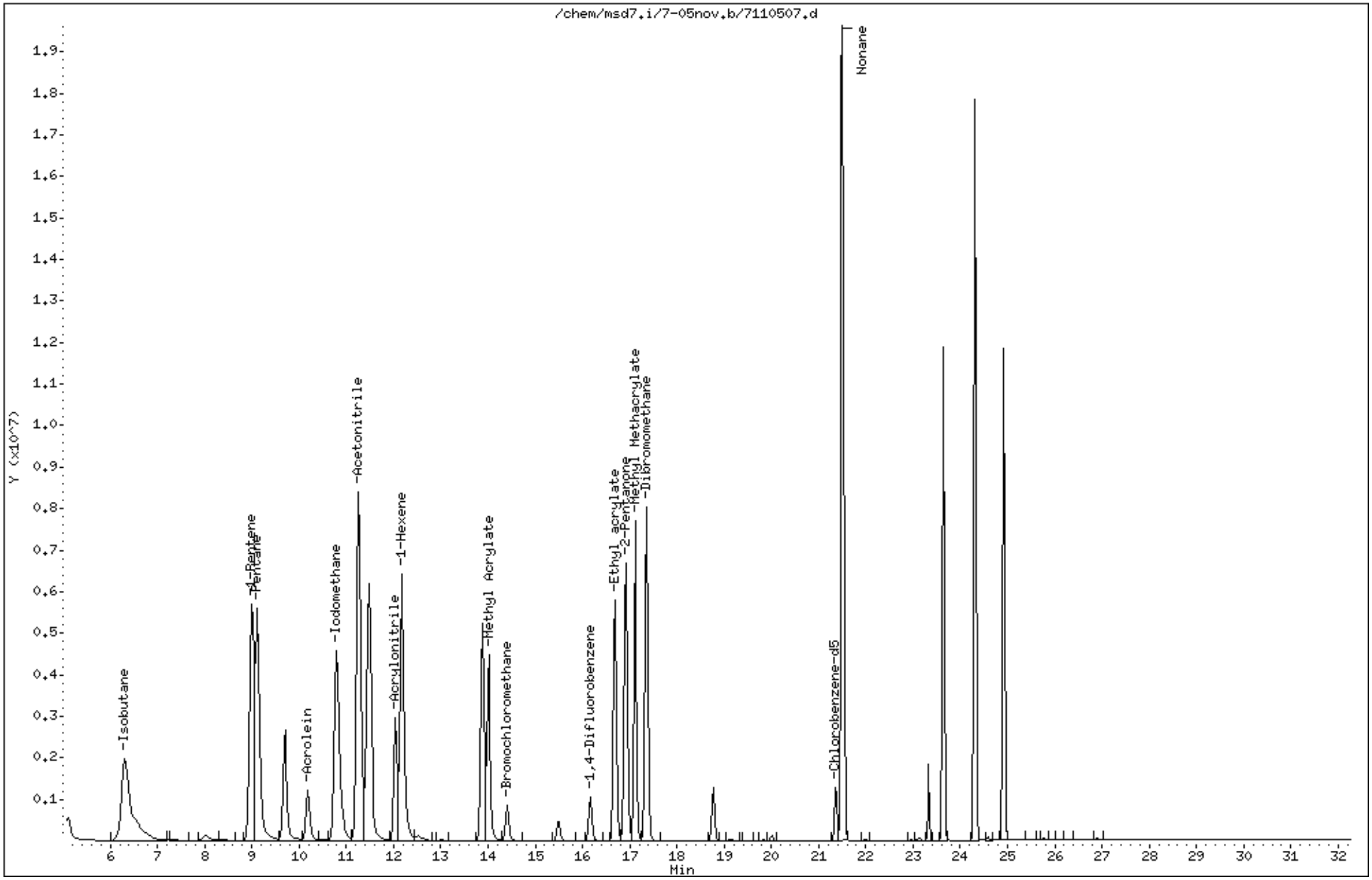
Column phase: RTx-624

Instrument: msd7.i

Operator: ea

Column diameter: 0.53

0414



Air Toxics Ltd.

AMBIENT AIR METHOD TO14

Data file : /chem/msd7.i/7-30oct.b/7103005.d
Lab Smp Id: ICAL Client Smp ID: Level 7
Inj Date : 30-OCT-2007 11:10
Operator : cb Inst ID: msd7.i
Smp Info : 200mL #1487-400
Misc Info : 200ppbv / 1200ppbv MeOH
Comment :
Method : /chem/msd7.i/7-30oct.b/t14qO18b.m
Meth Date : 30-Oct-2007 11:34 cbond Quant Type: ISTD
Cal Date : 30-OCT-2007 11:10 Cal File: 7103005.d
Als bottle: 1 Calibration Sample, Level: 7
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: sp1c.sub
Target Version: 3.50 Sample Matrix: AIR
Processing Host: eeyore

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS CAL-AMT (PPBV)	AMOUNTS ON-COL (PPBV)	TARGET RANGE	RATIO
* 81 Bromochloromethane					CAS #: 74-97-5		
14.416	14.416 (1.000)	130	522806	25.0000		50.00- 150.00	100.00
14.416	14.416 (1.000)	128	396127			26.81- 126.81	75.77
14.416	14.416 (1.000)	49	725431			112.06- 212.06	138.76
* 97 1,4-Difluorobenzene					CAS #: 540-36-3		
16.186	16.186 (1.000)	114	1724754	25.0000		50.00- 150.00	100.00
16.158	16.158 (1.000)	88	263120			0.00- 65.39	15.26
* 126 Chlorobenzene-d5					CAS #: 3114-55-4		
21.356	21.356 (1.000)	117	1260309	25.0000		50.00- 150.00	100.00
21.356	21.356 (1.000)	82	666153			4.45- 104.45	52.86
26 Methanol					CAS #: 67-56-1		
7.616	7.616 (0.528)	31	9372295	1200.00	1049.8	50.00- 150.00	100.00
7.616	7.616 (0.528)	32	6569144			96.19- 196.19	70.09

Report Date: 30-Oct-2007 11:34

Air Toxics Ltd.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd7.i
Lab File ID: 7103005.d
Lab Smp Id: ICAL
Analysis Type: VOA
Quant Type: ISTD
Operator: cb
Method File: /chem/msd7.i/7-30oct.b/t14qO18b.m
Misc Info: 200ppbv / 1200ppbv MeOH

Calibration Date: 30-OCT-2007
Calibration Time: 10:29
Client Smp ID: Level 7
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
81 Bromochloromethan	486199	291719	680679	522806	7.53
97 1,4-Difluorobenze	1616415	969849	2262981	1724754	6.70
126 Chlorobenzene-d5	1130394	678236	1582552	1260309	11.49

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
81 Bromochloromethan	14.42	14.09	14.75	14.42	0.00
97 1,4-Difluorobenze	16.19	15.86	16.52	16.19	0.00
126 Chlorobenzene-d5	21.36	21.03	21.69	21.36	0.00

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /chem/msd7.i/7-30oct.b/7103005.d

Date : 30-OCT-2007 11:10

Client ID: Level 7

Sample Info: 200mL #1487-400

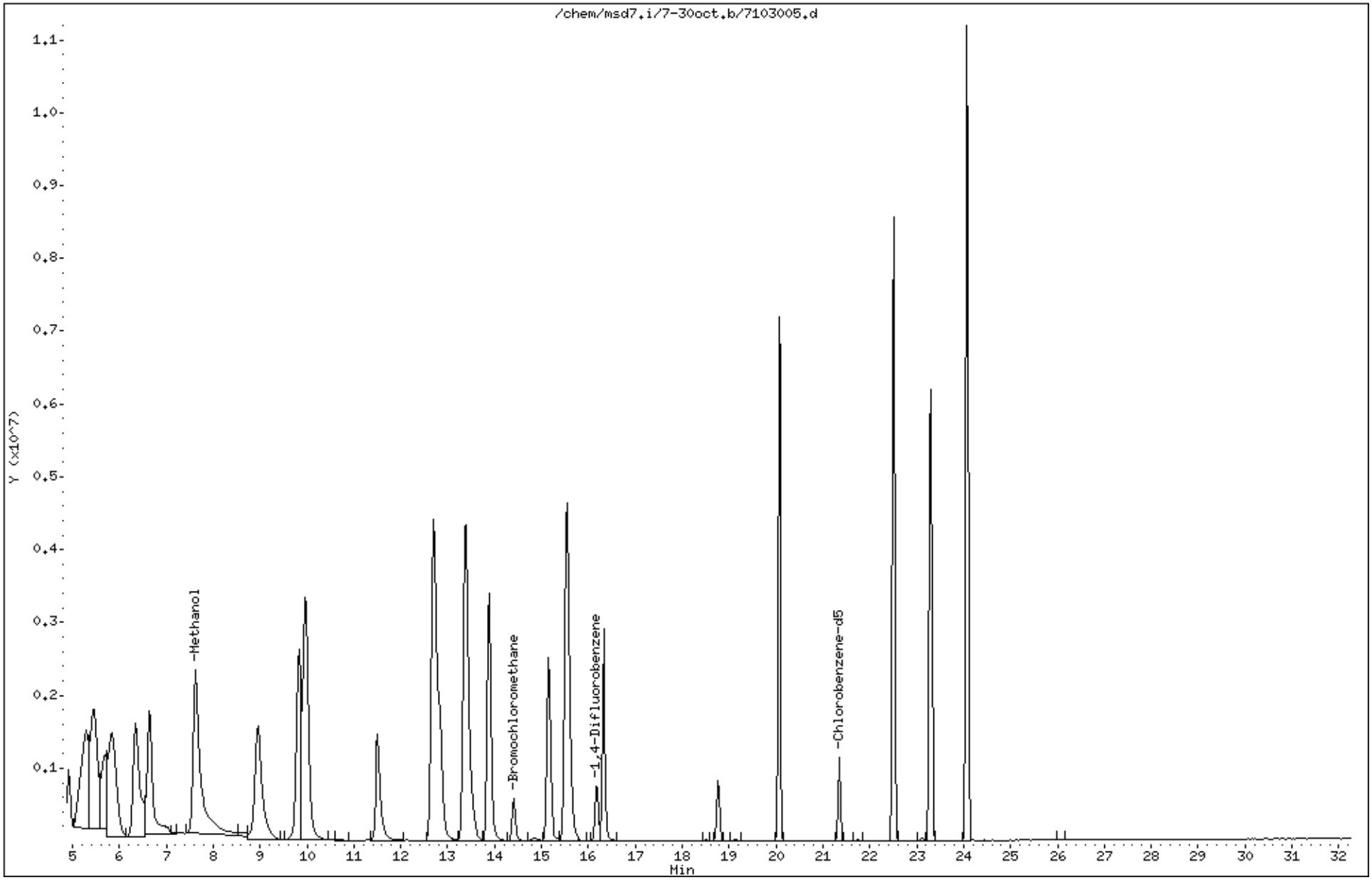
Column phase: RTx-624

Instrument: msd7.i

Operator: cb

Column diameter: 0.53

0417



Air Toxics Ltd.

AMBIENT AIR METHOD TO14

Data file : /chem/msd7.i/7-22oct.b/7102207.d
Lab Smp Id: ICAL Client Smp ID: Level 7
Inj Date : 22-OCT-2007 12:34
Operator : cb Inst ID: msd7.i
Smp Info : 200mL #1487-370
Misc Info : 200ppbv
Comment :
Method : /chem/msd7.i/7-22oct.b/t14qO18b.m
Meth Date : 22-Oct-2007 13:49 sscott Quant Type: ISTD
Cal Date : 22-OCT-2007 12:34 Cal File: 7102207.d
Als bottle: 1 Calibration Sample, Level: 7
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: sp16b.sub
Target Version: 3.50 Sample Matrix: AIR
Processing Host: eeyore

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS CAL-AMT (PPBV)	AMOUNTS ON-COL (PPBV)	TARGET RANGE	RATIO
* 81 Bromochloromethane					CAS #: 74-97-5		
14.403	14.403 (1.000)	130	673561	25.0000		50.00- 150.00	100.00
14.403	14.403 (1.000)	128	516226			26.49- 126.49	76.64
14.403	14.403 (1.000)	49	984353			116.97- 216.97	146.14
* 97 1,4-Difluorobenzene					CAS #: 540-36-3		
16.172	16.172 (1.000)	114	2139015	25.0000		50.00- 150.00	100.00
16.144	16.144 (1.000)	88	336134			0.00- 65.57	15.71
* 126 Chlorobenzene-d5					CAS #: 3114-55-4		
21.343	21.343 (1.000)	117	1735730	25.0000		50.00- 150.00	100.00
21.343	21.343 (1.000)	82	959991			5.19- 105.19	55.31
55 Cyclopentene					CAS #: 142-29-0		
11.250	11.250 (0.781)	67	24655264	200.000	196.46	50.00- 150.00	100.00
11.250	11.250 (0.781)	68	10041444			0.00- 90.48	40.73
11.250	11.250 (0.781)	53	5185944			0.00- 70.85	21.03
78 2,2-Dichloropropane					CAS #: 594-20-7		
13.877	13.877 (0.964)	77	15691308	200.000	199.68	50.00- 150.00	100.00

```
                                          AMOUNTS
                                       CAL-AMT   ON-COL
   RT   EXP RT (REL RT)  MASS  RESPONSE ( PPBV)  ( PPBV)   TARGET RANGE    RATIO
   ==   ====== ========  ====  ======== =======  =======   ============    =====

   78 2,2-Dichloropropane (continued)
 13.877  13.877 (0.964)    79   5093949                     0.00-  84.30    32.46
 13.877  13.877 (0.964)    97   3105546                     0.00-  70.03    19.79
-------------------------------------------------------------------------------
   88 1,1-Dichloropropene                          CAS #: 563-58-6
 15.121  15.121 (0.935)   110   5598961 200.000   194.16  50.00- 150.00   100.00
 15.121  15.121 (0.935)    75  15225105                   218.22- 318.22   271.93
-------------------------------------------------------------------------------
  118 1,3-Dichloropropane                          CAS #: 142-28-9
 19.988  19.988 (1.236)    76  16526790 200.000   192.47  50.00- 150.00   100.00
 19.988  19.988 (1.236)    41  12361559                    21.54- 121.54    74.80
 19.988  19.988 (1.236)    78   5401543                     0.00-  81.77    32.68
-------------------------------------------------------------------------------
  125 1,1,1,2-Tetrachloroethane                    CAS #: 630-20-6
 21.536  21.536 (1.009)   131  11284242 200.000   182.31  50.00- 150.00   100.00
 21.536  21.536 (1.009)   117   7823289                    18.93- 118.93    69.33
 21.508  21.508 (1.008)    95   4494362                     0.00-  89.37    39.83
-------------------------------------------------------------------------------
  136 Bromobenzene                                 CAS #: 108-86-1
 23.610  23.610 (1.106)   156  12398942 200.000   170.72  50.00- 150.00   100.00
 23.610  23.610 (1.106)   158  11947029                    46.65- 146.65    96.36
 23.610  23.610 (1.106)    77  25141267                   147.77- 247.77   202.77
-------------------------------------------------------------------------------
  138 1,2,3-Trichloropropane                       CAS #: 96-18-4
 23.665  23.665 (1.109)   110   6154610 200.000   181.10  50.00- 150.00   100.00
 23.665  23.665 (1.109)    75  18226348                   252.90- 352.90   296.14
 23.665  23.665 (1.109)    61   5029833                    26.84- 126.84    81.72
-------------------------------------------------------------------------------
  141 2-Chlorotoluene                              CAS #: 95-49-8
 23.886  23.886 (1.119)   126   9861927 200.000   183.86  50.00- 150.00   100.00
 23.886  23.886 (1.119)    91  27734828                   243.86- 343.86   281.23
 23.886  23.886 (1.119)    65   2849980                     0.00-  78.37    28.90
-------------------------------------------------------------------------------
  143 4-Chlorotoluene                              CAS #: 106-43-4
 24.080  24.080 (1.128)   126  10574734 200.000   184.78  50.00- 150.00   100.00
 24.080  24.080 (1.128)    91  31217904                   249.00- 349.00   295.21
 24.052  24.052 (1.127)    63   4277338                     0.00-  88.24    40.45
-------------------------------------------------------------------------------
  153 p-Cymene                                     CAS #: 99-87-6
 25.020  25.020 (1.172)   119  28643628 200.000   168.92  50.00- 150.00   100.00
 25.020  25.020 (1.172)   134   8292866                     0.00-  77.89    28.95
 25.020  25.020 (1.172)    91   7805069                     0.00-  74.89    27.25
-------------------------------------------------------------------------------
  154 1,2,3-Trimethylbenzene                       CAS #: 526-73-8
 25.269  25.269 (1.184)   120  12274481 200.000   182.45  50.00- 150.00   100.00
 25.269  25.269 (1.184)   105  26523849                   168.18- 268.18   216.09
```

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS CAL-AMT (PPBV)	AMOUNTS ON-COL (PPBV)	TARGET RANGE	RATIO
154 1,2,3-Trimethylbenzene (continued)							
25.269	25.269 (1.184)	77	3529142			0.00- 78.76	28.75
158 Butylbenzene					CAS #: 104-51-8		
25.711	25.711 (1.205)	134	8414072	200.000	184.54	50.00- 150.00	100.00
25.683	25.683 (1.203)	91	32519787			362.01- 462.01	386.49
25.683	25.683 (1.203)	92	19592755			181.94- 281.94	232.86
148 tert-Butylbenzene					CAS #: 98-06-6		
24.467	24.467 (1.146)	119	25590950	200.000	167.41	50.00- 150.00	100.00
24.467	24.467 (1.146)	134	6336082			0.00- 74.64	24.76
24.467	24.467 (1.146)	91	18525334			20.96- 120.96	72.39
149 sec-Butylbenzene					CAS #: 135-98-8		
24.826	24.826 (1.163)	105	33869689	200.000	160.07	50.00- 150.00	100.00
24.826	24.826 (1.163)	134	7347588			0.00- 69.71	21.69
24.826	24.826 (1.163)	91	6246168			0.00- 65.99	18.44
162 1,2-Dibromo-3-Chloropropane					CAS #: 96-12-8		
27.287	27.287 (1.279)	157	11002854	200.000	201.08	50.00- 150.00	100.00(A)
27.287	27.287 (1.279)	75	9943412			39.96- 139.96	90.37
27.287	27.287 (1.279)	155	8612482			28.87- 128.87	78.27
201 Pentachloroethane					CAS #: 76-01-7		
24.605	24.605 (1.153)	167	7797399	200.000	170.61	50.00- 150.00	100.00
24.605	24.605 (1.153)	117	8410733			54.36- 154.36	107.87
24.605	24.605 (1.153)	169	3738433			0.00- 97.70	47.94

QC Flag Legend

A - Target compound detected but, quantitated amount exceeded maximum amount.

Report Date: 22-Oct-2007 13:49

Air Toxics Ltd.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd7.i
Lab File ID: 7102207.d
Lab Smp Id: ICAL
Analysis Type: VOA
Quant Type: ISTD
Operator: cb
Method File: /chem/msd7.i/7-22oct.b/t14qO18b.m
Misc Info: 200ppbv

Calibration Date: 22-OCT-2007
Calibration Time: 11:44
Client Smp ID: Level 7
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
81 Bromochloromethan	653745	392247	915243	673561	3.03
97 1,4-Difluorobenze	2055535	1233321	2877749	2139015	4.06
126 Chlorobenzene-d5	1681036	1008622	2353450	1735730	3.25

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
81 Bromochloromethan	14.40	14.07	14.73	14.40	0.00
97 1,4-Difluorobenze	16.17	15.84	16.50	16.17	0.00
126 Chlorobenzene-d5	21.34	21.01	21.67	21.34	0.00

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /chem/msd7.i/7-22oct.b/7102207.d

Date : 22-OCT-2007 12:34

Client ID: Level 7

Sample Info: 200mL #1487-370

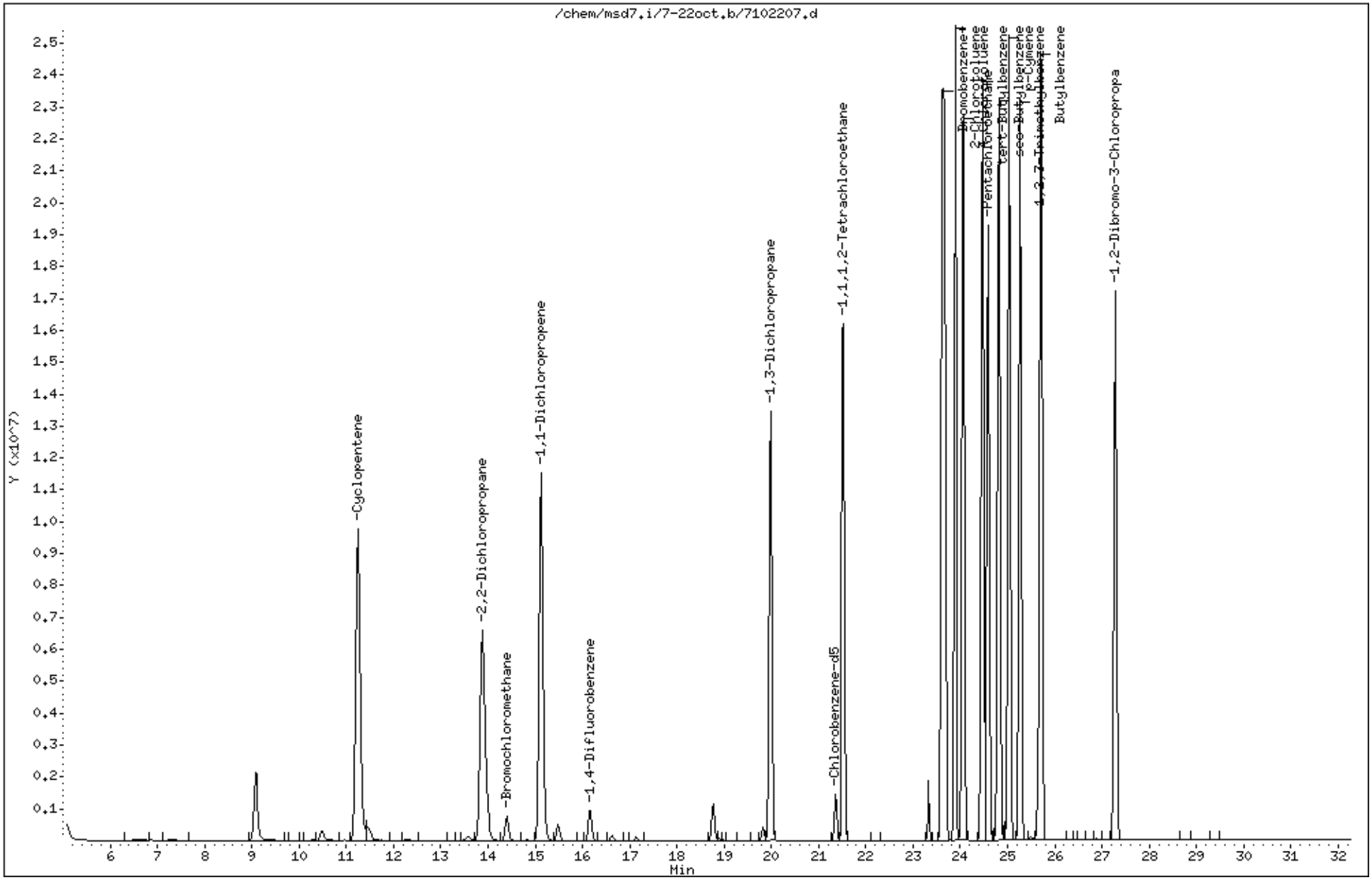
Column phase: RTx-624

Instrument: msd7.i

Operator: cb

Column diameter: 0.53

0422



Air Toxics Ltd.

AMBIENT AIR METHOD TO14

Data file : /chem/msd7.i/7-19oct.b/7101905.d
Lab Smp Id: ICAL Client Smp ID: Level 7
Inj Date : 19-OCT-2007 11:41
Operator : cb Inst ID: msd7.i
Smp Info : 200mL #1487-400
Misc Info : 200ppbv
Comment :
Method : /chem/msd7.i/7-19oct.b/t14qO18a.m
Meth Date : 19-Oct-2007 12:11 cbond Quant Type: ISTD
Cal Date : 19-OCT-2007 11:41 Cal File: 7101905.d
Als bottle: 1 Calibration Sample, Level: 7
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: sp22a.sub
Target Version: 3.50 Sample Matrix: AIR
Processing Host: eeyore

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS CAL-AMT (PPBV)	AMOUNTS ON-COL (PPBV)	TARGET RANGE	RATIO
* 81 Bromochloromethane					CAS #: 74-97-5		
14.403	14.403 (1.000)	130	719204	25.0000		50.00- 150.00	100.00
14.403	14.403 (1.000)	128	554464			26.59- 126.59	77.09
14.403	14.403 (1.000)	49	1056116			116.89- 216.89	146.85
* 97 1,4-Difluorobenzene					CAS #: 540-36-3		
16.172	16.172 (1.000)	114	2349296	25.0000		50.00- 150.00	100.00
16.172	16.172 (1.000)	88	359832			0.00- 65.64	15.32
* 126 Chlorobenzene-d5					CAS #: 3114-55-4		
21.343	21.343 (1.000)	117	1844247	25.0000		50.00- 150.00	100.00
21.343	21.343 (1.000)	82	1019868			5.24- 105.24	55.30
5 Freon 143a					CAS #: 420-46-2		
5.334	5.334 (0.370)	65	3045734	200.000	194.22	50.00- 150.00	100.00
5.278	5.278 (0.366)	69	25389070			0.00- 50.00	833.59
5.334	5.334 (0.370)	64	879543			0.00- 77.08	28.88
6 Freon142b					CAS #: 75-68-3		
6.357	6.357 (0.441)	65	12224721	200.000	191.11	50.00- 150.00	100.00

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS CAL-AMT (PPBV)	AMOUNTS ON-COL (PPBV)	TARGET RANGE	RATIO
6 Freon142b (continued)							
6.357	6.357 (0.441)	45	2982983			0.00- 74.42	24.40
13 Freon 134a						CAS #: 811-97-2	
5.472	5.472 (0.380)	83	5950549	200.000	194.14	50.00- 150.00	100.00
5.278	5.278 (0.366)	69	25368047			398.13- 498.13	426.31
5.472	5.472 (0.380)	63	881809			0.00- 64.08	14.82
15 Freon 152a						CAS #: 75-37-6	
5.693	5.693 (0.395)	65	4242747	200.000	191.73	50.00- 150.00	100.00
5.693	5.693 (0.395)	51	6723031			109.56- 209.56	158.46
5.693	5.693 (0.395)	47	1728528			0.00- 90.52	40.74
17 Freon 22						CAS #: 75-45-6	
5.831	5.831 (0.405)	51	13489320	200.000	188.69	50.00- 150.00	100.00
5.831	5.831 (0.405)	67	1587590			0.00- 61.77	11.77
5.831	5.831 (0.405)	85	174736			0.00- 51.67	1.30
34 Dichlorofluoromethane/Fr21						CAS #: 75-43-4	
8.956	8.956 (0.622)	67	12537837	200.000	197.68	50.00- 150.00	100.00
8.956	8.956 (0.622)	69	3925693			0.00- 81.12	31.31
8.956	8.956 (0.622)	35	312263			0.00- 53.83	2.49
40 Freon123a						CAS #: 354-23-4	
9.813	9.813 (0.681)	117	7250064	200.000	202.31	50.00- 150.00	100.00
9.813	9.813 (0.681)	67	10592599			110.97- 210.97	146.10
41 Freon123						CAS #: 306-83-2	
9.979	9.979 (0.693)	83	12396163	200.000	195.02	50.00- 150.00	100.00
9.979	9.979 (0.693)	133	2428184			0.00- 69.52	19.59
9.979	9.979 (0.693)	85	8627843			22.16- 122.16	69.60
57 tert-Butyl-Alcohol						CAS #: 75-65-0	
11.499	11.499 (0.798)	59	10315180	200.000	154.66	50.00- 150.00	100.00
11.499	11.499 (0.798)	41	2017442			0.00- 73.42	19.56
11.499	11.499 (0.798)	57	995118			0.00- 60.26	9.65
68 Isopropyl ether						CAS #: 108-20-3	
12.716	12.716 (0.883)	45	25503179	200.000	198.71	50.00- 150.00	100.00
12.716	12.716 (0.883)	87	5827965			0.00- 73.31	22.85
12.716	12.716 (0.883)	59	2197946			0.00- 58.30	8.62
71 1-Propanol						CAS #: 71-23-8	
12.827	12.827 (0.891)	42	1744378	200.000	216.72	50.00- 150.00	100.00(A)
12.827	12.827 (0.891)	59	2451515			95.91- 195.91	140.54
12.716	12.716 (0.883)	41	4841849			265.93- 365.93	277.57

AMOUNTS

RT	EXP RT (REL RT)	MASS	RESPONSE	CAL-AMT (PPBV)	ON-COL (PPBV)	TARGET RANGE	RATIO
73 t-Butylethyl Ether					CAS #: 637-92-3		
13.380	13.380 (0.929)	59	22428943	200.000	205.02	50.00- 150.00	100.00(A)
13.380	13.380 (0.929)	87	8578877			0.00- 88.95	38.25
13.380	13.380 (0.929)	41	3840776			0.00- 67.89	17.12
77 Ethyl Acetate					CAS #: 141-78-6		
13.877	13.877 (0.964)	45	2506944	200.000	205.24	50.00- 150.00	100.00(A)
13.877	13.877 (0.964)	61	2395467			49.04- 149.04	95.55
13.877	13.877 (0.964)	43	17175833			622.55- 722.55	685.13
92 tert-amyl-Methyl Ether					CAS #: 994-05-8		
15.536	15.536 (1.079)	73	16550042	200.000	206.99	50.00- 150.00	100.00(A)
15.536	15.536 (1.079)	87	3917490			0.00- 73.71	23.67
15.536	15.536 (1.079)	55	4261857			0.00- 78.56	25.75
96 2-Heptanone					CAS #: 110-43-0		
22.504	22.504 (1.562)	58	11184866	200.000	233.27	50.00- 150.00	100.00(A)
22.504	22.504 (1.562)	43	17315235			108.53- 208.53	154.81
98 1-Butanol					CAS #: 71-36-3		
16.310	16.310 (1.009)	56	5482757	200.000	238.74	50.00- 150.00	100.00(A)
16.310	16.310 (1.009)	41	3917821			21.86- 121.86	71.46
16.310	16.310 (1.009)	43	3065816			9.15- 109.15	55.92
99 Isobutanol					CAS #: 78-83-1		
15.149	15.149 (1.052)	59	187856	200.000	238.56	50.00- 150.00	100.00(A)
15.149	15.149 (1.052)	41	4506517			2630.47-2730.47	2398.92
15.149	15.149 (1.052)	43	6310018			3703.83-3803.83	3358.97
119 Butyl Acetate					CAS #: 123-86-4		
20.071	20.071 (1.241)	56	7474090	200.000	218.55	50.00- 150.00	100.00(A)
20.071	20.071 (1.241)	73	2366289			0.00- 82.98	31.66
20.071	20.071 (1.241)	43	18435926			197.73- 297.73	246.66
135 Cyclohexanone					CAS #: 108-94-1		
23.278	23.278 (1.091)	55	8115059	200.000	221.35	50.00- 150.00	100.00(A)
23.278	23.278 (1.091)	98	3387837			0.00- 90.62	41.75
23.278	23.278 (1.091)	42	5606169			17.43- 117.43	69.08
146 Diisobutyl Ketone					CAS #: 108-83-8		
24.080	24.080 (1.128)	57	16489699	200.000	199.54	50.00- 150.00	100.00
24.080	24.080 (1.128)	85	13022144			31.14- 131.14	78.97
0.000	1.000 (0.000)	0	0			0.00- 50.00	0.00

QC Flag Legend

A - Target compound detected but, quantitated amount
exceeded maximum amount.

Report Date: 19-Oct-2007 12:11

Air Toxics Ltd.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd7.i
Lab File ID: 7101905.d
Lab Smp Id: ICAL
Analysis Type: VOA
Quant Type: ISTD
Operator: cb
Method File: /chem/msd7.i/7-19oct.b/t14qO18a.m
Misc Info: 200ppbv

Calibration Date: 19-OCT-2007
Calibration Time: 11:00
Client Smp ID: Level 7
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
81 Bromochloromethan	694127	416476	971778	719204	3.61
97 1,4-Difluorobenze	2223212	1333927	3112497	2349296	5.67
126 Chlorobenzene-d5	1779964	1067978	2491950	1844247	3.61

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
81 Bromochloromethan	14.40	14.07	14.73	14.40	0.00
97 1,4-Difluorobenze	16.17	15.84	16.50	16.17	0.00
126 Chlorobenzene-d5	21.37	21.04	21.70	21.34	-0.13

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /chem/msd7.i/7-19oct.b/7101905.d

Date : 19-OCT-2007 11:41

Client ID: Level 7

Sample Info: 200mL #1487-400

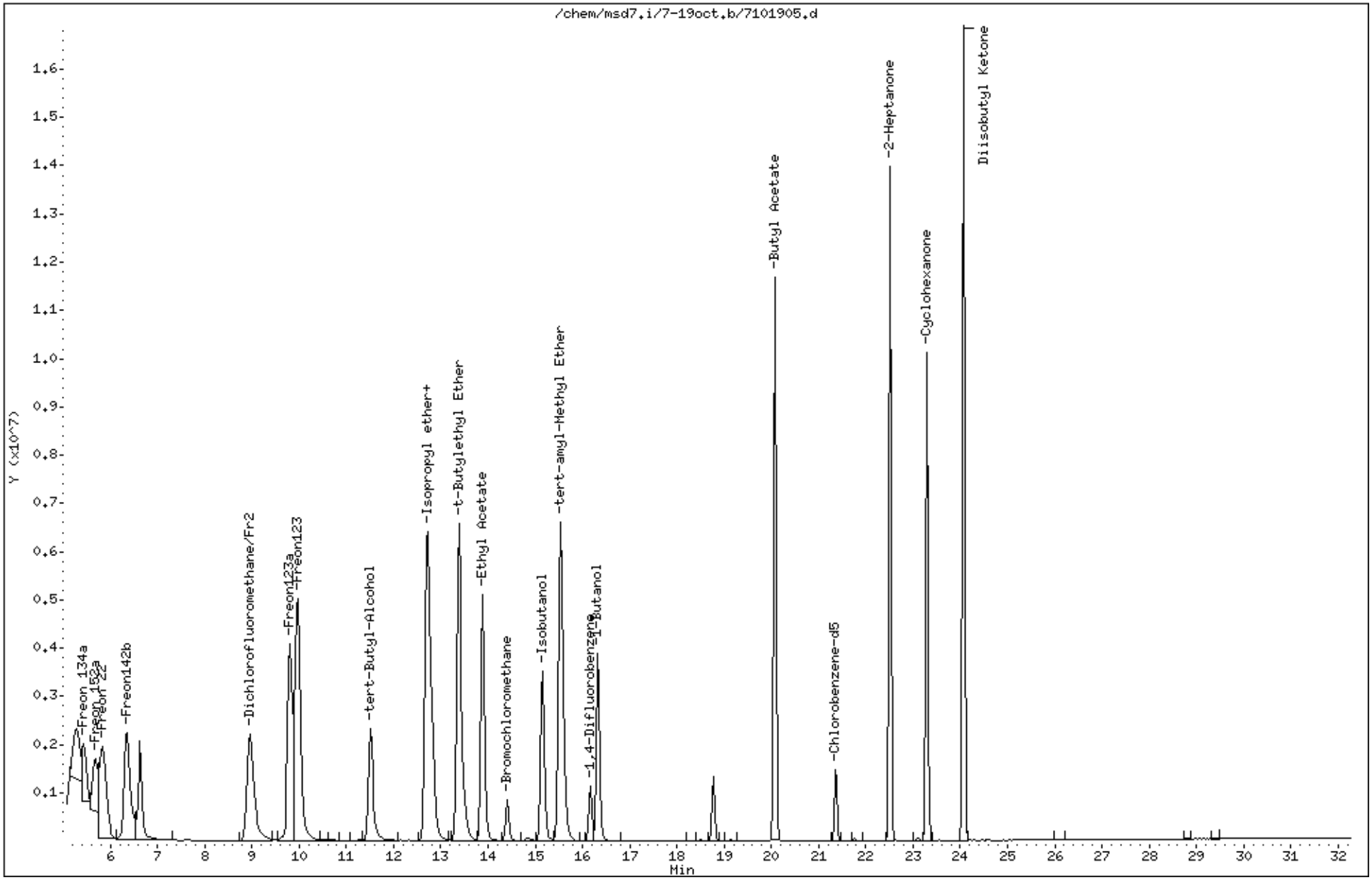
Column phase: RTx-624

Instrument: msd7.i

Operator: cb

Column diameter: 0.53

0428



Air Toxics Ltd.

AMBIENT AIR METHOD TO14

Data file : /chem/msd7.i/7-18oct.b/7101808.d
Lab Smp Id: ICAL Client Smp ID: Level 7
Inj Date : 18-OCT-2007 17:39
Operator : cb Inst ID: msd7.i
Smp Info : 200mL #1576-50
Misc Info : 200ppbv --> 200ppbv
Comment :
Method : /chem/msd7.i/7-18oct.b/t14qO18a.m
Meth Date : 22-Oct-2007 16:12 dmendoza Quant Type: ISTD
Cal Date : 18-OCT-2007 17:39 Cal File: 7101808.d
Als bottle: 1 Calibration Sample, Level: 7
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: AT04mdl+ENSR.sub
Target Version: 3.50 Sample Matrix: AIR
Processing Host: eeyore

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS CAL-AMT (PPBV)	AMOUNTS ON-COL (PPBV)	TARGET RANGE	RATIO
* 81 Bromochloromethane					CAS #: 74-97-5		
14.402	14.402 (1.000)	130	676936	25.0000		80.00- 120.00	100.00
14.402	14.402 (1.000)	128	529899			26.95- 126.95	78.28
14.458	14.402 (1.000)	49	2421312			141.62- 241.62	357.69
* 97 1,4-Difluorobenzene					CAS #: 540-36-3		
16.172	16.172 (1.000)	114	2378077	25.0000		80.00- 120.00	100.00
16.172	16.172 (1.000)	88	364352			0.00- 65.69	15.32
* 126 Chlorobenzene-d5					CAS #: 3114-55-4		
21.342	21.370 (1.000)	117	1869726	25.0000		80.00- 120.00	100.00
21.342	21.370 (1.000)	82	1037631			5.32- 105.32	55.50
$ 90 1,2-Dichloroethane-d4					CAS #: 17060-07-0		
15.481	15.508 (1.075)	65	926657	25.0000	25.481	80.00- 120.00	100.00
15.481	15.508 (1.075)	67	627207			2.91- 102.91	67.68
$ 113 Toluene-d8					CAS #: 2037-26-5		
18.771	18.771 (1.161)	98	2173091	25.0000	25.742	80.00- 120.00	100.00
18.771	18.771 (1.161)	70	240988			0.00- 61.46	11.09

```
                                          AMOUNTS
                                       CAL-AMT   ON-COL
   RT   EXP RT (REL RT)  MASS  RESPONSE ( PPBV)  ( PPBV)   TARGET RANGE    RATIO
   ==   ====== ========  ====  ======== =======  =======   ============    =====

$ 113 Toluene-d8 (continued)
 18.771  18.771 (1.161)   100   1512682                   19.18- 119.18    69.61
-------------------------------------------------------------------------------
$ 137 Bromofluorobenzene                            CAS #: 460-00-4
 23.333  23.333 (1.093)   174   1090787 25.0000   24.517  80.00- 120.00   100.00
 23.333  23.333 (1.093)    95   1407511                   76.80- 176.80   129.04
 23.333  23.333 (1.093)   176   1052507                   46.06- 146.06    96.49
-------------------------------------------------------------------------------
   11 Propylene                                     CAS #: 115-07-1
  5.638   5.610 (0.391)    41   6024485 200.000   206.49  80.00- 120.00   100.00(A)
  5.638   5.610 (0.391)    42   4229291                   21.19- 121.19    70.20
  5.638   5.610 (0.391)    39   4559811                   24.83- 124.83    75.69
-------------------------------------------------------------------------------
   12 Dichlorodifluoromethane/Fr12                  CAS #: 75-71-8
  5.776   5.748 (0.401)    85  21314692 200.000   199.25  80.00- 120.00   100.00
  5.776   5.748 (0.401)    87   7050808                    0.00-  83.07    33.08
-------------------------------------------------------------------------------
   16 Freon 114                                     CAS #: 76-14-2
  6.246   6.218 (0.434)   135  13067052 200.000   179.47  80.00- 120.00   100.00
  6.246   6.218 (0.434)   137   4161827                    0.00-  81.81    31.85
-------------------------------------------------------------------------------
   18 Chloromethane                                 CAS #: 74-87-3
  6.550   6.522 (0.455)    50   7320258 200.000   208.08  80.00- 120.00   100.00(A)
  6.550   6.522 (0.455)    52   2424741                    0.00-  84.80    33.12
-------------------------------------------------------------------------------
   20 Vinyl Chloride                                CAS #: 75-01-4
  6.882   6.882 (0.478)    62   8914081 200.000   202.96  80.00- 120.00   100.00(A)
  6.882   6.882 (0.478)    64   2806611                    0.00-  83.25    31.49
-------------------------------------------------------------------------------
   22 1,3-Butadiene                                 CAS #: 106-99-0
  6.992   6.937 (0.485)    54   7071038 200.000   224.76  80.00- 120.00   100.00(A)
  6.992   6.937 (0.485)    39   7381307                   55.97- 155.97   104.39
-------------------------------------------------------------------------------
   25 Bromomethane                                  CAS #: 74-83-9
  8.043   8.043 (0.558)    94   8554987 200.000   219.99  80.00- 120.00   100.00(A)
  8.043   8.043 (0.558)    96   8052509                   43.77- 143.77    94.13
-------------------------------------------------------------------------------
   27 Chloroethane                                  CAS #: 75-00-3
  8.375   8.375 (0.581)    64   4784892 200.000   245.58  80.00- 120.00   100.00(A)
  8.375   8.375 (0.581)    49   1297505                    0.00-  79.34    27.12
  8.375   8.375 (0.581)    66   1528927                    0.00-  83.15    31.95
-------------------------------------------------------------------------------
   31 Trichlorofluoromethane/Fr11                   CAS #: 75-69-4
  8.983   8.956 (0.624)   101  21226149 200.000   212.69  80.00- 120.00   100.00(A)
  8.983   8.956 (0.624)   103  13713885                   14.33- 114.33    64.61
-------------------------------------------------------------------------------
```

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS CAL-AMT (PPBV)	AMOUNTS ON-COL (PPBV)	TARGET RANGE	RATIO
38 Ethanol					CAS #: 64-17-5		
9.481	9.453 (0.658)	45	3122247	200.000	229.38	80.00- 120.00	100.00(A)
9.481	9.453 (0.658)	43	609786			0.00- 72.83	19.53
9.481	9.453 (0.658)	46	1215909			0.00- 88.20	38.94
42 Freon 113					CAS #: 76-13-1		
10.227	10.227 (0.710)	151	11652787	200.000	209.94	80.00- 120.00	100.00(A)
10.227	10.227 (0.710)	153	7437320			13.49- 113.49	63.82
10.200	10.227 (0.708)	101	14619562			73.17- 173.17	125.46
43 1,1-Dichloroethene					CAS #: 75-35-4		
10.338	10.338 (0.718)	61	12965105	200.000	219.51	80.00- 120.00	100.00(A)
10.338	10.338 (0.718)	96	7908848			11.42- 111.42	61.00
10.338	10.338 (0.718)	98	5068711			0.00- 89.70	39.10
45 Acetone					CAS #: 67-64-1		
10.476	10.504 (0.727)	58	4132810	200.000	226.38	80.00- 120.00	100.00(A)
10.476	10.504 (0.727)	43	12250219			247.10- 347.10	296.41
46 2-Propanol					CAS #: 67-63-0		
10.670	10.697 (0.741)	45	15447383	200.000	238.50	80.00- 120.00	100.00(A)
10.670	10.697 (0.741)	43	3565283			0.00- 75.54	23.08
10.670	10.697 (0.741)	59	612054			0.00- 53.72	3.96
47 Carbon Disulfide					CAS #: 75-15-0		
10.891	10.891 (0.756)	76	25177181	200.000	223.43	80.00- 120.00	100.00(A)
51 3-Chloropropene					CAS #: 107-05-1		
11.167	11.168 (0.775)	76	4508750	200.000	245.87	80.00- 120.00	100.00(A)
11.167	11.168 (0.775)	41	11027823			224.96- 324.96	244.59
54 Methylene Chloride					CAS #: 75-09-2		
11.472	11.472 (0.796)	49	9796957	200.000	225.62	80.00- 120.00	100.00(A)
11.472	11.472 (0.796)	84	7143181			23.49- 123.49	72.91
11.472	11.472 (0.796)	51	3006658			0.00- 80.85	30.69
60 MTBE					CAS #: 1634-04-4		
11.803	11.831 (0.820)	73	11025528	200.000	167.11	80.00- 120.00	100.00
11.803	11.831 (0.820)	57	2595297			0.00- 73.11	23.54
11.803	11.831 (0.820)	41	2404900			0.00- 76.16	21.81
61 trans-1,2-Dichloroethene					CAS #: 156-60-5		
11.942	11.942 (0.829)	96	9012807	200.000	224.59	80.00- 120.00	100.00(A)
11.942	11.942 (0.829)	61	12893816			93.77- 193.77	143.06
11.942	11.942 (0.829)	98	5726329			11.77- 111.77	63.54

AMOUNTS

RT	EXP RT (REL RT)	MASS	RESPONSE	CAL-AMT (PPBV)	ON-COL (PPBV)	TARGET RANGE	RATIO
65 Hexane					CAS #: 110-54-3		
12.301	12.301 (0.854)	57	13476499	200.000	235.33	80.00- 120.00	100.00(A)
12.301	12.301 (0.854)	43	8689968			17.84- 117.84	64.48
12.301	12.301 (0.854)	86	2045178			0.00- 65.07	15.18
69 Vinyl Acetate					CAS #: 108-05-4		
12.799	12.799 (0.889)	86	2014922	200.000	232.87	80.00- 120.00	100.00(A)
12.799	12.799 (0.889)	43	23503120			1150.46-1250.46	1166.45
70 1,1-Dichloroethane					CAS #: 75-34-3		
12.826	12.826 (0.891)	63	15208502	200.000	221.72	80.00- 120.00	100.00(A)
12.826	12.826 (0.891)	65	4797143			0.00- 81.66	31.54
75 2-Butanone					CAS #: 78-93-3		
13.877	13.905 (0.964)	72	3652475	200.000	249.12	80.00- 120.00	100.00(A)
13.877	13.905 (0.964)	43	16402680			412.95- 512.95	449.08
13.877	13.905 (0.964)	57	1277677			0.00- 86.57	34.98
76 cis-1,2-Dichloroethene					CAS #: 156-59-2		
13.932	13.932 (0.967)	61	10627950	200.000	221.36	80.00- 120.00	100.00(A)
13.932	13.932 (0.967)	96	7912975			24.70- 124.70	74.45
13.932	13.932 (0.967)	98	5079116			0.00- 97.31	47.79
80 Tetrahydrofuran					CAS #: 109-99-9		
14.375	14.402 (0.998)	42	9189583	200.000	240.40	80.00- 120.00	100.00(A)
14.375	14.402 (0.998)	71	3311270			0.00- 85.86	36.03
14.375	14.402 (0.998)	72	3616002			0.00- 87.82	39.35
82 Chloroform					CAS #: 67-66-3		
14.458	14.485 (1.004)	83	14531456	200.000	213.20	80.00- 120.00	100.00(A)
14.458	14.485 (1.004)	85	9504871			15.30- 115.30	65.41
83 1,1,1-Trichloroethane					CAS #: 71-55-6		
14.817	14.845 (1.029)	97	13926518	200.000	202.90	80.00- 120.00	100.00(A)
14.817	14.845 (1.029)	99	8949810			14.42- 114.42	64.26
85 Cyclohexane					CAS #: 110-82-7		
14.845	14.845 (1.031)	84	8942562	200.000	227.48	80.00- 120.00	100.00(A)
14.845	14.845 (1.031)	56	11510364			77.14- 177.14	128.71
14.845	14.845 (1.031)	41	6322961			22.96- 122.96	70.71
87 Carbon Tetrachloride					CAS #: 56-23-5		
15.094	15.094 (1.048)	119	13089871	200.000	203.45	80.00- 120.00	100.00(A)
15.094	15.094 (1.048)	117	13611237			54.22- 154.22	103.98
91 Benzene					CAS #: 71-43-2		
15.508	15.508 (0.959)	78	19736309	200.000	208.88	80.00- 120.00	100.00(A)

```
                                          AMOUNTS
                                       CAL-AMT   ON-COL
   RT   EXP RT (REL RT)  MASS  RESPONSE ( PPBV)  ( PPBV)   TARGET RANGE    RATIO
   ==   ====== ========  ====  ======== =======  =======   ============    =====

   91 Benzene (continued)
 15.508  15.508 (0.959)    77   4339447                     0.00-  71.87    21.99
-------------------------------------------------------------------------------
   89 2,2,4-Trimethylpentane                        CAS #: 540-84-1
 15.398  15.426 (1.069)    57  31632116 200.000   230.20  80.00- 120.00   100.00(A)
 15.398  15.426 (1.069)    56  10900526                     0.00-  84.62    34.46
 15.398  15.426 (1.069)    41   8227297                     0.00-  79.27    26.01
-------------------------------------------------------------------------------
   93 1,2-Dichloroethane                            CAS #: 107-06-2
 15.619  15.647 (0.966)    62   9602381 200.000   191.27  80.00- 120.00   100.00
 15.619  15.647 (0.966)    64   3054754                     0.00-  82.89    31.81
-------------------------------------------------------------------------------
   94 Heptane                                       CAS #: 142-82-5
 15.702  15.730 (0.971)    71   6282483 200.000   216.20  80.00- 120.00   100.00(A)
 15.702  15.730 (0.971)    43  12514936                   158.53- 258.53   199.20
 15.702  15.730 (0.971)    57   6727545                    59.34- 159.34   107.08
-------------------------------------------------------------------------------
  101 Trichloroethene                               CAS #: 79-01-6
 16.642  16.642 (1.029)    95   8328807 200.000   198.44  80.00- 120.00   100.00
 16.642  16.642 (1.029)   130   8066565                    49.05- 149.05    96.85
 16.642  16.642 (1.029)    97   5388543                    14.93- 114.93    64.70
-------------------------------------------------------------------------------
  104 1,2-Dichloropropane                           CAS #: 78-87-5
 17.112  17.112 (1.058)    63   7647118 200.000   210.89  80.00- 120.00   100.00(A)
 17.112  17.112 (1.058)    62   5629589                    23.52- 123.52    73.62
 17.112  17.112 (1.058)    41   4567700                    12.01- 112.01    59.73
-------------------------------------------------------------------------------
  106 1,4-Dioxane                                   CAS #: 123-91-1
 17.250  17.250 (1.067)    88   5051505 200.000   214.19  80.00- 120.00   100.00(A)
 17.250  17.250 (1.067)    58   3620228                    21.50- 121.50    71.67
 17.250  17.250 (1.067)    57   1192718                     0.00-  74.60    23.61
-------------------------------------------------------------------------------
  107 Bromodichloromethane                          CAS #: 75-27-4
 17.554  17.555 (1.085)    83  14367494 200.000   197.17  80.00- 120.00   100.00
 17.554  17.555 (1.085)    85   9277547                    14.37- 114.37    64.57
-------------------------------------------------------------------------------
  110 cis-1,3-Dichloropropene                       CAS #: 10061-01-5
 18.329  18.329 (1.133)    75  11007513 200.000   214.82  80.00- 120.00   100.00(A)
 18.329  18.329 (1.133)    77   3583647                     0.00-  81.97    32.56
 18.329  18.329 (1.133)    39   6277823                     6.88- 106.88    57.03
-------------------------------------------------------------------------------
  111 4-Methyl-2-pentanone                          CAS #: 108-10-1
 18.522  18.522 (1.145)    58   6680445 200.000   236.26  80.00- 120.00   100.00(A)
 18.494  18.522 (1.144)    43  16914065                   222.97- 322.97   253.19
 18.522  18.522 (1.145)    85   2542376                     0.00-  90.48    38.06
-------------------------------------------------------------------------------
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                                          AMOUNTS
                                       CAL-AMT   ON-COL
   RT   EXP RT (REL RT)  MASS  RESPONSE ( PPBV)  ( PPBV)   TARGET RANGE    RATIO
   ==   ====== ========  ====  ======== =======  =======   ============    =====

  114 Toluene                                        CAS #: 108-88-3
 18.882  18.882 (1.168)    91  21213764 200.000   204.98  80.00- 120.00   100.00(A)
 18.882  18.882 (1.168)    92  13605027                   13.04- 113.04    64.13
-------------------------------------------------------------------------------
  116 trans-1,3-Dichloropropene                      CAS #: 10061-02-6
 19.296  19.324 (0.904)    75  11506838 200.000   216.70  80.00- 120.00   100.00(A)
 19.296  19.324 (0.904)    77   3666959                    0.00-  81.65    31.87
 19.296  19.324 (0.904)    39   6234784                    2.52- 102.52    54.18
-------------------------------------------------------------------------------
  117 1,1,2-Trichloroethane                          CAS #: 79-00-5
 19.656  19.656 (0.921)    97   8133154 200.000   210.01  80.00- 120.00   100.00(A)
 19.656  19.656 (0.921)    99   5125477                   13.08- 113.08    63.02
 19.656  19.656 (0.921)    83   6859943                   35.32- 135.32    84.35
-------------------------------------------------------------------------------
  120 Tetrachloroethene                              CAS #: 127-18-4
 19.822  19.822 (0.929)   166   9290283 200.000   184.96  80.00- 120.00   100.00
 19.822  19.822 (0.929)   129   6818614                   22.39- 122.39    73.40
 19.822  19.822 (0.929)   131   6582279                   19.80- 119.80    70.85
-------------------------------------------------------------------------------
  121 2-Hexanone                                     CAS #: 591-78-6
 19.960  19.960 (0.935)    58   9469386 200.000   228.16  80.00- 120.00   100.00(A)
 19.960  19.960 (0.935)    43  17305893                  138.63- 238.63   182.76
 19.960  19.960 (0.935)   100   1575326                    0.00-  67.05    16.64
-------------------------------------------------------------------------------
  122 Dibromochloromethane                           CAS #: 124-48-1
 20.347  20.347 (0.953)   129  13376992 200.000   194.95  80.00- 120.00   100.00
 20.347  20.347 (0.953)   127  10423775                   27.62- 127.62    77.92
-------------------------------------------------------------------------------
  123 1,2-Dibromoethane                              CAS #: 106-93-4
 20.624  20.624 (0.966)   107  13069323 200.000   205.86  80.00- 120.00   100.00(A)
 20.624  20.624 (0.966)   109  12296113                   44.67- 144.67    94.08
-------------------------------------------------------------------------------
  127 Chlorobenzene                                  CAS #: 108-90-7
 21.398  21.398 (1.003)   112  16601996 200.000   196.27  80.00- 120.00   100.00
 21.398  21.398 (1.003)   114   5394737                    0.00-  82.43    32.49
 21.398  21.398 (1.003)    77  10031248                   10.75- 110.75    60.42
-------------------------------------------------------------------------------
  128 Ethyl Benzene                                  CAS #: 100-41-4
 21.481  21.481 (1.006)   106   8788124 200.000   203.54  80.00- 120.00   100.00(A)
 21.481  21.481 (1.006)    91  26914189                  261.69- 361.69   306.26
-------------------------------------------------------------------------------
  129 m,p-Xylene                                     CAS #: 108-38-3
 21.674  21.674 (1.016)   106  11064572 200.000   204.73  80.00- 120.00   100.00(A)
 21.674  21.674 (1.016)    91  21363976                  145.05- 245.05   193.08
-------------------------------------------------------------------------------
  130 o-Xylene                                       CAS #: 95-47-6
 22.393  22.393 (1.049)   106   9336788 200.000   199.36  80.00- 120.00   100.00
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                                          AMOUNTS
                                       CAL-AMT   ON-COL
   RT   EXP RT (REL RT)  MASS  RESPONSE ( PPBV)  ( PPBV)   TARGET RANGE    RATIO
   ==   ====== ========  ====  ======== =======  =======   ============    =====

  130 o-Xylene (continued)
 22.393  22.393 (1.049)    91  18842407                  154.65- 254.65   201.81
--------------------------------------------------------------------------------
  131 Styrene                                       CAS #: 100-42-5
 22.421  22.421 (1.051)   104  15984259 200.000   220.66  80.00- 120.00   100.00(A)
 22.421  22.421 (1.051)    78   7823852                    1.69- 101.69    48.95
--------------------------------------------------------------------------------
  133 Bromoform                                     CAS #: 75-25-2
 22.835  22.836 (1.070)   173  11006294 200.000   182.67  80.00- 120.00   100.00
 22.835  22.836 (1.070)   171   5759605                    1.22- 101.22    52.33
--------------------------------------------------------------------------------
  134 Cumene                                        CAS #: 98-82-8
 22.974  22.974 (1.076)   105  23858342 200.000   201.74  80.00- 120.00   100.00(A)
 22.974  22.974 (1.076)   120   6668314                    0.00-  78.08    27.95
 22.946  22.974 (1.075)    51   2635407                    0.00-  61.43    11.05
--------------------------------------------------------------------------------
  140 1,1,2,2-Tetrachloroethane                     CAS #: 79-34-5
 23.527  23.527 (1.102)    83  15236549 200.000   194.77  80.00- 120.00   100.00
 23.527  23.527 (1.102)    85   9937979                   14.35- 114.35    65.22
--------------------------------------------------------------------------------
  142 Propylbenzene                                 CAS #: 103-65-1
 23.637  23.637 (1.108)    91  29315025 200.000   184.82  80.00- 120.00   100.00
 23.637  23.637 (1.108)   120   7179772                    0.00-  72.94    24.49
 23.637  23.637 (1.108)   105   1208835                    0.00-  54.03     4.12
--------------------------------------------------------------------------------
  145 4-Ethyltoluene                                CAS #: 622-96-8
 23.831  23.831 (1.117)   105  28130830 200.000   200.83  80.00- 120.00   100.00(A)
 23.831  23.831 (1.117)   120   8039568                    0.00-  78.42    28.58
--------------------------------------------------------------------------------
  147 1,3,5-Trimethylbenzene                        CAS #: 108-67-8
 23.914  23.914 (1.120)   105  19886270 200.000   180.74  80.00- 120.00   100.00
 23.914  23.914 (1.120)   120  11506570                    3.80- 103.80    57.86
--------------------------------------------------------------------------------
  150 1,2,4-Trimethylbenzene                        CAS #: 95-63-6
 24.550  24.550 (1.150)   105  19601387 200.000   196.03  80.00- 120.00   100.00
 24.550  24.550 (1.150)   120   9673988                    0.00-  98.95    49.35
--------------------------------------------------------------------------------
  155 1,3-Dichlorobenzene                           CAS #: 541-73-1
 25.130  25.130 (1.177)   146  14469122 200.000   187.00  80.00- 120.00   100.00
 25.130  25.130 (1.177)   148   9170698                   14.48- 114.48    63.38
 25.130  25.130 (1.177)   111   5741172                    0.00-  89.68    39.68
--------------------------------------------------------------------------------
  156 1,4-Dichlorobenzene                           CAS #: 106-46-7
 25.269  25.269 (1.184)   146  14827054 200.000   183.87  80.00- 120.00   100.00
 25.269  25.269 (1.184)   148   9476740                   13.81- 113.81    63.92
 25.269  25.269 (1.184)   111   5716851                    0.00-  87.35    38.56
--------------------------------------------------------------------------------
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RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS CAL-AMT (PPBV)	AMOUNTS ON-COL (PPBV)	TARGET RANGE	RATIO
159 alpha-Chlorotoluene					CAS #: 100-44-7		
25.490	25.490 (1.194)	91	23309446	200.000	217.73	80.00- 120.00	100.00(A)
25.490	25.490 (1.194)	126	4853718			0.00- 71.29	20.82
161 1,2-Dichlorobenzene					CAS #: 95-50-1		
25.932	25.932 (1.215)	146	13249955	200.000	183.92	80.00- 120.00	100.00
25.932	25.932 (1.215)	148	8480902			14.30- 114.30	64.01
25.905	25.932 (1.214)	111	5527605			0.00- 90.50	41.72
165 1,2,4-Trichlorobenzene					CAS #: 120-82-1		
28.808	28.808 (1.350)	180	6421549	200.000	217.94	80.00- 120.00	100.00(A)
28.808	28.808 (1.350)	182	6143942			45.65- 145.65	95.68
166 Hexachlorobutadiene					CAS #: 87-68-3		
29.001	29.001 (1.359)	225	4260828	200.000	173.94	80.00- 120.00	100.00
29.001	29.001 (1.359)	223	2664913			12.64- 112.64	62.54
167 Naphthalene					CAS #: 91-20-3		
29.388	29.388 (1.377)	128	13072303	200.000	236.80	80.00- 120.00	100.00(A)
29.388	29.388 (1.377)	127	1572392			0.00- 62.50	12.03
29 Isopentane					CAS #: 78-78-4		
8.402	8.375 (0.583)	43	10508368	200.000	217.77	80.00- 120.00	100.00(A)
8.402	8.375 (0.583)	57	7144223			16.48- 116.48	67.99
19 Butane					CAS #: 106-97-8		
6.826	6.771 (0.474)	58	1573883	200.000	208.82	80.00- 120.00	100.00(A)
6.799	6.771 (0.472)	43	12494796			757.70- 857.70	793.88
102 Methyl Cyclohexane					CAS #: 108-87-2		
16.918	16.919 (1.175)	83	10993866	200.000	227.21	80.00- 120.00	100.00(A)
16.918	16.919 (1.175)	98	5086864			0.00- 96.13	46.27
16.891	16.919 (1.173)	55	9808425			38.51- 138.51	89.22

QC Flag Legend

A - Target compound detected but, quantitated amount exceeded maximum amount.

Report Date: 23-Oct-2007 09:34

Air Toxics Ltd.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd7.i
Lab File ID: 7101808.d
Lab Smp Id: ICAL
Analysis Type: VOA
Quant Type: ISTD
Operator: cb
Method File: /chem/msd7.i/7-18oct.b/t14qO18a.m
Misc Info: 200ppbv --> 200ppbv

Calibration Date: 18-OCT-2007
Calibration Time: 15:26
Client Smp ID: Level 7
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
81 Bromochloromethan	683549	410129	956969	676936	-0.97
97 1,4-Difluorobenze	2204815	1322889	3086741	2378077	7.86
126 Chlorobenzene-d5	1812979	1087787	2538171	1869726	3.13

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
81 Bromochloromethan	14.40	14.07	14.73	14.40	0.00
97 1,4-Difluorobenze	16.17	15.84	16.50	16.17	0.00
126 Chlorobenzene-d5	21.37	21.04	21.70	21.34	-0.13

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

0438

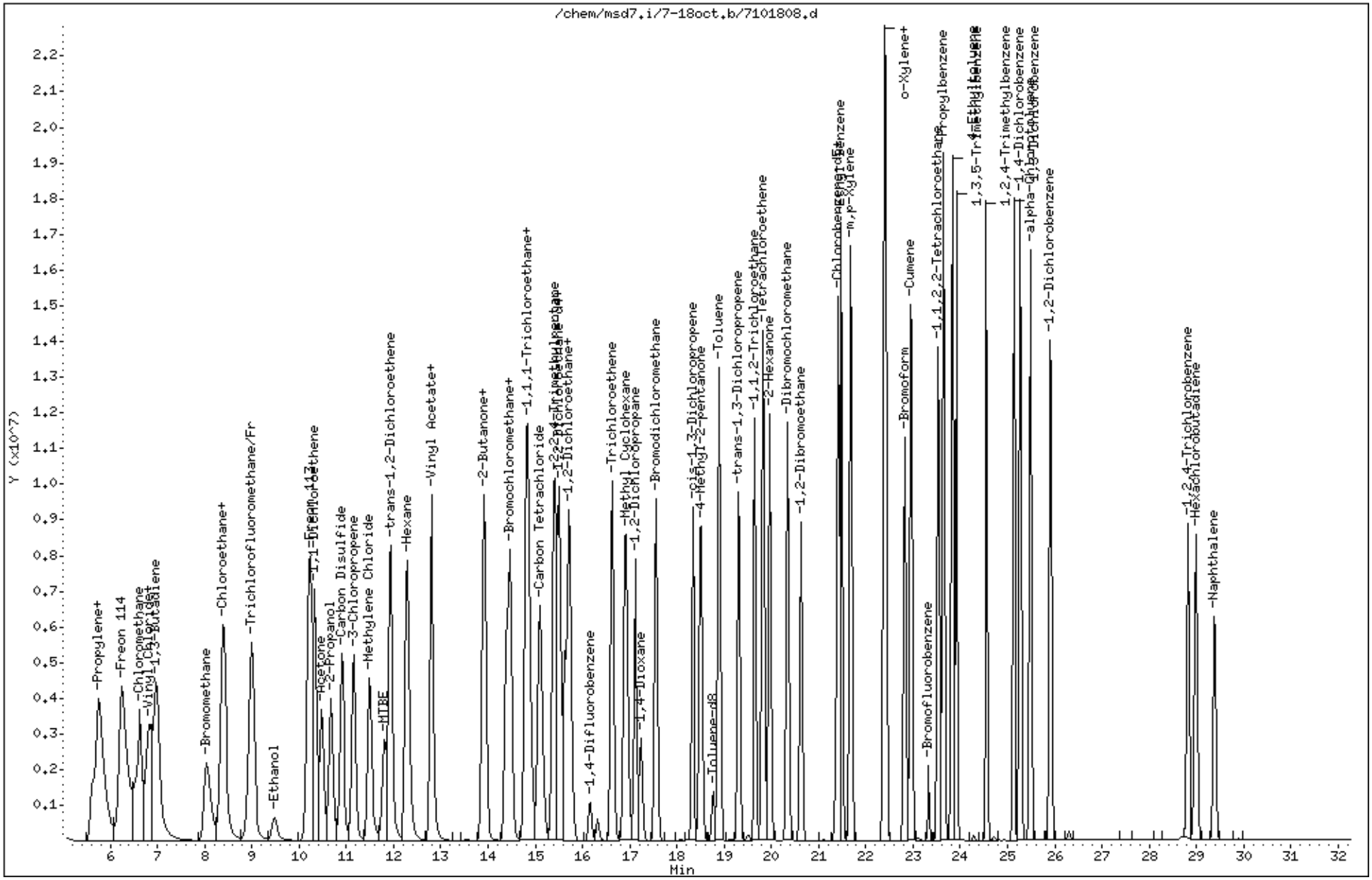
Data File: /chem/msd7.i/7-18oct.b/7101808.d
Date : 18-OCT-2007 17:39
Client ID: Level 7
Sample Info: 200mL #1576-50

Instrument: msd7.i

Operator: cb

Column phase: RTx-624

Column diameter: 0.53



AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: CCV

Lab ID#: 0711101-10A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**7110702**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 11/7/07 08:52 AM**	

Compound	%Recovery
Freon 12	87
Freon 114	87
Chloromethane	87
Vinyl Chloride	85
1,3-Butadiene	92
Bromomethane	85
Chloroethane	94
Freon 11	92
Ethanol	93
Freon 113	95
1,1-Dichloroethene	93
Acetone	91
2-Propanol	96
Carbon Disulfide	89
Methylene Chloride	92
Methyl tert-butyl ether	93
trans-1,2-Dichloroethene	95
Hexane	97
1,1-Dichloroethane	94
2-Butanone (Methyl Ethyl Ketone)	98
cis-1,2-Dichloroethene	93
Tetrahydrofuran	96
Chloroform	95
1,1,1-Trichloroethane	93
Cyclohexane	96
Carbon Tetrachloride	94
Benzene	96
1,2-Dichloroethane	89
Heptane	98
Trichloroethene	96
1,2-Dichloropropane	94
1,4-Dioxane	95
Bromodichloromethane	96
cis-1,3-Dichloropropene	98
4-Methyl-2-pentanone	101
Toluene	97
trans-1,3-Dichloropropene	101
1,1,2-Trichloroethane	102
Tetrachloroethene	104

AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: CCV

Lab ID#: 0711101-10A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**7110702**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 11/7/07 08:52 AM**	

Compound	**%Recovery**
2-Hexanone	98
Dibromochloromethane	105
1,2-Dibromoethane (EDB)	102
Chlorobenzene	98
Ethyl Benzene	100
m,p-Xylene	100
o-Xylene	102
Styrene	110
Bromoform	105
1,1,2,2-Tetrachloroethane	97
4-Ethyltoluene	97
1,3,5-Trimethylbenzene	98
1,2,4-Trimethylbenzene	101
1,3-Dichlorobenzene	101
1,4-Dichlorobenzene	101
alpha-Chlorotoluene	86
1,2-Dichlorobenzene	100
1,2,4-Trichlorobenzene	107
Hexachlorobutadiene	100
Chlorodifluoromethane	92
Methanol	88
n-Butanol	103
Propylene	87

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
Toluene-d8	99	70-130
1,2-Dichloroethane-d4	92	70-130
4-Bromofluorobenzene	99	70-130

Air Toxics Ltd.

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: msd7.i Injection Date: 07-NOV-2007 08:52
Lab File ID: 7110702.d Init. Cal. Date(s): 18-OCT-2007 05-NOV-2007
Analysis Type: AIR Init. Cal. Times: 12:17 14:29
Lab Sample ID: CCV-1 Quant Type: ISTD
Method: /chem/msd7.i/7-07nov.b/t14qO18d.m

COMPOUND	RRF / AMOUNT	RF50	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
$ 90 1,2-Dichloroethane-d4	1.34304	1.23326	0.010	8.17451	30.00000	Averaged
$ 113 Toluene-d8	0.88746	0.88010	0.010	0.82974	30.00000	Averaged
$ 137 Bromofluorobenzene	0.59489	0.58838	0.010	1.09586	30.00000	Averaged
11 Propylene	1.07750	0.93545	0.010	13.18375	30.00000	Averaged
12 Dichlorodifluoromethane/Fr1	3.95067	3.45642	0.010	12.51047	30.00000	Averaged
16 Freon 114	2.68890	2.33664	0.010	13.10031	30.00000	Averaged
18 Chloromethane	1.29926	1.12709	0.010	13.25161	30.00000	Averaged
20 Vinyl Chloride	1.62201	1.38452	0.010	14.64196	30.00000	Averaged
22 1,3-Butadiene	1.16186	1.07459	0.010	7.51080	30.00000	Averaged
25 Bromomethane	1.43619	1.21993	0.010	15.05813	30.00000	Averaged
27 Chloroethane	0.71958	0.67672	0.010	5.95610	30.00000	Averaged
31 Trichlorofluoromethane/Fr11	3.68565	3.40664	0.010	7.57015	30.00000	Averaged
38 Ethanol	0.50270	0.46972	0.010	6.56073	30.00000	Averaged
42 Freon 113	2.04987	1.95601	0.010	4.57903	30.00000	Averaged
43 1,1-Dichloroethene	2.18125	2.02692	0.010	7.07495	30.00000	Averaged
45 Acetone	0.67421	0.61234	0.010	9.17664	30.00000	Averaged
46 2-Propanol	2.39202	2.28566	0.010	4.44659	30.00000	Averaged
47 Carbon Disulfide	4.16162	3.72147	0.010	10.57643	30.00000	Averaged
51 3-Chloropropene	0.67724	0.57789	0.010	14.66990	30.00000	Averaged
54 Methylene Chloride	1.60367	1.47545	0.010	7.99518	30.00000	Averaged
60 MTBE	2.43665	2.27605	0.010	6.59097	30.00000	Averaged
61 trans-1,2-Dichloroethene	1.48204	1.40356	0.010	5.29553	30.00000	Averaged
65 Hexane	2.11488	2.05188	0.010	2.97876	30.00000	Averaged
69 Vinyl Acetate	0.31955	0.29419	0.010	7.93524	30.00000	Averaged
70 1,1-Dichloroethane	2.53322	2.38991	0.010	5.65743	30.00000	Averaged
75 2-Butanone	0.54146	0.53205	0.010	1.73738	30.00000	Averaged
76 cis-1,2-Dichloroethene	1.77314	1.65702	0.010	6.54887	30.00000	Averaged
80 Tetrahydrofuran	1.41176	1.36243	0.010	3.49414	30.00000	Averaged
82 Chloroform	2.51713	2.38605	0.010	5.20746	30.00000	Averaged
83 1,1,1-Trichloroethane	2.53479	2.34997	0.010	7.29129	30.00000	Averaged
85 Cyclohexane	1.45184	1.38861	0.010	4.35545	30.00000	Averaged
87 Carbon Tetrachloride	2.37608	2.24706	0.010	5.43026	30.00000	Averaged
89 2,2,4-Trimethylpentane	5.07476	4.78251	0.010	5.75887	30.00000	Averaged
91 Benzene	0.99332	0.95895	0.010	3.45998	30.00000	Averaged
93 1,2-Dichloroethane	0.52777	0.47221	0.010	10.52724	30.00000	Averaged

Air Toxics Ltd.

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: msd7.i Injection Date: 07-NOV-2007 08:52
Lab File ID: 7110702.d Init. Cal. Date(s): 18-OCT-2007 05-NOV-2007
Analysis Type: AIR Init. Cal. Times: 12:17 14:29
Lab Sample ID: CCV-1 Quant Type: ISTD
Method: /chem/msd7.i/7-07nov.b/t14qO18d.m

COMPOUND	RRF / AMOUNT	RF50	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
94 Heptane	0.30549	0.29974	0.010	1.88115	30.00000	Averaged
101 Trichloroethene	0.44124	0.42316	0.010	4.09797	30.00000	Averaged
104 1,2-Dichloropropane	0.38121	0.35662	0.010	6.44989	30.00000	Averaged
106 1,4-Dioxane	0.24794	0.23479	0.010	5.30142	30.00000	Averaged
107 Bromodichloromethane	0.76606	0.73653	0.010	3.85441	30.00000	Averaged
110 cis-1,3-Dichloropropene	0.53866	0.52947	0.010	1.70724	30.00000	Averaged
111 4-Methyl-2-pentanone	0.29726	0.30041	0.010	-1.05891	30.00000	Averaged
114 Toluene	1.08799	1.05122	0.010	3.37941	30.00000	Averaged
116 trans-1,3-Dichloropropene	0.71002	0.71807	0.010	-1.13377	30.00000	Averaged
117 1,1,2-Trichloroethane	0.51782	0.52831	0.010	-2.02712	30.00000	Averaged
120 Tetrachloroethene	0.67159	0.69914	0.010	-4.10292	30.00000	Averaged
121 2-Hexanone	0.55495	0.54564	0.010	1.67747	30.00000	Averaged
122 Dibromochloromethane	0.91748	0.96243	0.010	-4.89885	30.00000	Averaged
123 1,2-Dibromoethane	0.84888	0.87086	0.010	-2.58948	30.00000	Averaged
127 Chlorobenzene	1.13099	1.11382	0.010	1.51859	30.00000	Averaged
128 Ethyl Benzene	0.57731	0.57742	0.010	-0.01869	30.00000	Averaged
129 m,p-Xylene	0.72261	0.72423	0.010	-0.22468	30.00000	Averaged
130 o-Xylene	0.62621	0.63700	0.010	-1.72329	30.00000	Averaged
131 Styrene	0.96855	1.06722	0.010	-10.18786	30.00000	Averaged
133 Bromoform	0.80564	0.84930	0.010	-5.41894	30.00000	Averaged
134 Cumene	1.58127	1.64188	0.010	-3.83316	30.00000	Averaged
140 1,1,2,2-Tetrachloroethane	1.04598	1.01720	0.010	2.75171	30.00000	Averaged
142 Propylbenzene	2.12085	2.12761	0.010	-0.31855	30.00000	Averaged
145 4-Ethyltoluene	1.87287	1.81577	0.010	3.04926	30.00000	Averaged
147 1,3,5-Trimethylbenzene	1.47112	1.43531	0.010	2.43414	30.00000	Averaged
150 1,2,4-Trimethylbenzene	1.33697	1.35507	0.010	-1.35408	30.00000	Averaged
155 1,3-Dichlorobenzene	1.03460	1.04339	0.010	-0.84970	30.00000	Averaged
156 1,4-Dichlorobenzene	1.07824	1.08708	0.010	-0.82036	30.00000	Averaged
159 alpha-Chlorotoluene	1.43143	1.22605	0.010	14.34772	30.00000	Averaged
161 1,2-Dichlorobenzene	0.96328	0.96249	0.010	0.08193	30.00000	Averaged
165 1,2,4-Trichlorobenzene	0.39398	0.42051	0.010	-6.73475	30.00000	Averaged
166 Hexachlorobutadiene	0.32753	0.32774	0.010	-0.06462	30.00000	Averaged
29 Isopentane	1.78205	1.60596	0.010	9.88136	30.00000	Averaged
19 Butane	0.27835	0.24206	0.010	13.03589	30.00000	Averaged
102 Methyl Cyclohexane	1.78694	1.69787	0.010	4.98464	30.00000	Averaged
167 Naphthalene	0.73814	0.83205	0.010	-12.72235	30.00000	Averaged

Air Toxics Ltd.

AMBIENT AIR METHOD TO14

Data file : /chem/msd7.i/7-07nov.b/7110702.d
Lab Smp Id: CCV-1 Client Smp ID: CCV-1
Inj Date : 07-NOV-2007 08:52
Operator : sjr Inst ID: msd7.i
Smp Info : 200mL #1576-50B
Misc Info : 50ppbv -> 50ppbv
Comment :
Method : /chem/msd7.i/7-07nov.b/t14qO18d.m
Meth Date : 07-Nov-2007 11:36 sruth Quant Type: ISTD
Cal Date : 05-NOV-2007 14:29 Cal File: 7110507.d
Als bottle: 1 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: AT04ENSR.sub
Target Version: 3.50 Sample Matrix: AIR
Processing Host: eeyore

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS CAL-AMT (PPBV)	AMOUNTS ON-COL (PPBV)	TARGET RANGE	RATIO
* 81 Bromochloromethane					CAS #: 74-97-5		
14.416	14.416 (1.000)	130	695461	25.0000		80.00- 120.00	100.00
14.416	14.416 (1.000)	128	547040			28.66- 128.66	78.66
14.388	14.388 (1.000)	49	1276119			133.49- 233.49	183.49
* 97 1,4-Difluorobenzene					CAS #: 540-36-3		
16.158	16.158 (1.000)	114	2265681	25.0000		80.00- 120.00	100.00
16.158	16.158 (1.000)	88	345043			0.00- 65.23	15.23
* 126 Chlorobenzene-d5					CAS #: 3114-55-4		
21.356	21.356 (1.000)	117	1765821	25.0000		80.00- 120.00	100.00
21.356	21.356 (1.000)	82	934026			4.70- 104.70	52.89
$ 90 1,2-Dichloroethane-d4					CAS #: 17060-07-0		
15.494	15.494 (1.075)	65	857681	25.0000	22.956	80.00- 120.00	100.00
15.494	15.494 (1.075)	67	473551			2.91- 102.91	55.21
$ 113 Toluene-d8					CAS #: 2037-26-5		
18.757	18.757 (1.161)	98	1994025	25.0000	24.792	80.00- 120.00	100.00
18.757	18.757 (1.161)	70	219062			0.00- 61.46	10.99

```
                                          AMOUNTS
                                       CAL-AMT   ON-COL
   RT   EXP RT (REL RT)  MASS  RESPONSE ( PPBV)  ( PPBV)   TARGET RANGE    RATIO
   ==   ====== ========  ====  ======== =======  =======   ============    =====

$ 113 Toluene-d8 (continued)
 18.757  18.757 (1.161)   100   1389670                   19.18- 119.18    69.69
-------------------------------------------------------------------------------
$ 137 Bromofluorobenzene                            CAS #: 460-00-4
 23.347  23.347 (1.093)   174   1038966 25.0000   24.726  80.00- 120.00   100.00
 23.319  23.319 (1.092)    95   1287218                   73.89- 173.89   123.89
 23.347  23.347 (1.093)   176   1020299                   48.20- 148.20    98.20
-------------------------------------------------------------------------------
   11 Propylene                                     CAS #: 115-07-1
  5.617   5.617 (0.390)    41   1301136 50.0000   43.408  80.00- 120.00   100.00
  5.617   5.617 (0.390)    42    913111                   21.19- 121.19    70.18
  5.617   5.617 (0.390)    39    960183                   24.83- 124.83    73.80
-------------------------------------------------------------------------------
   12 Dichlorodifluoromethane/Fr12                  CAS #: 75-71-8
  5.758   5.758 (0.399)    85   4807610 50.0000   43.745  80.00- 120.00   100.00
  5.758   5.758 (0.399)    87   1556067                    0.00-  83.07    32.37
-------------------------------------------------------------------------------
   16 Freon 114                                     CAS #: 76-14-2
  6.208   6.208 (0.431)   135   3250089 50.0000   43.450  80.00- 120.00   100.00
  6.208   6.208 (0.431)   137   1017351                    0.00-  81.30    31.30
-------------------------------------------------------------------------------
   18 Chloromethane                                 CAS #: 74-87-3
  6.546   6.546 (0.454)    50   1567695 50.0000   43.374  80.00- 120.00   100.00
  6.518   6.518 (0.452)    52    508061                    0.00-  84.80    32.41
-------------------------------------------------------------------------------
   20 Vinyl Chloride                                CAS #: 75-01-4
  6.856   6.856 (0.476)    62   1925757 50.0000   42.679  80.00- 120.00   100.00
  6.856   6.856 (0.476)    64    608325                    0.00-  83.25    31.59
-------------------------------------------------------------------------------
   22 1,3-Butadiene                                 CAS #: 106-99-0
  6.940   6.940 (0.481)    54   1494672 50.0000   46.244  80.00- 120.00   100.00
  6.940   6.940 (0.481)    39   1510026                   55.97- 155.97   101.03
-------------------------------------------------------------------------------
   25 Bromomethane                                  CAS #: 74-83-9
  8.039   8.039 (0.558)    94   1696824 50.0000   42.471  80.00- 120.00   100.00
  8.039   8.039 (0.558)    96   1591967                   43.82- 143.82    93.82
-------------------------------------------------------------------------------
   27 Chloroethane                                  CAS #: 75-00-3
  8.348   8.348 (0.579)    64    941265 50.0000   47.022  80.00- 120.00   100.00
  8.348   8.348 (0.579)    49    259951                    0.00-  79.34    27.62
  8.348   8.348 (0.579)    66    284730                    0.00-  83.15    30.25
-------------------------------------------------------------------------------
   31 Trichlorofluoromethane/Fr11                   CAS #: 75-69-4
  8.968   8.968 (0.622)   101   4738374 50.0000   46.215  80.00- 120.00   100.00
  8.968   8.968 (0.622)   103   3056650                   14.51- 114.51    64.51
-------------------------------------------------------------------------------
```

AMOUNTS

RT	EXP RT (REL RT)	MASS	RESPONSE	CAL-AMT (PPBV)	ON-COL (PPBV)	TARGET RANGE	RATIO
38 Ethanol					CAS #: 64-17-5		
9.467	9.467 (0.657)	45	653345	50.0000	46.720	80.00- 120.00	100.00
9.467	9.467 (0.657)	43	130564			0.00- 72.83	19.98
9.467	9.467 (0.657)	46	248961			0.00- 88.20	38.11
42 Freon 113					CAS #: 76-13-1		
10.186	10.186 (0.707)	151	2720654	50.0000	47.710	80.00- 120.00	100.00
10.186	10.186 (0.707)	153	1717247			13.12- 113.12	63.12
10.186	10.186 (0.707)	101	3190661			67.28- 167.28	117.28
43 1,1-Dichloroethene					CAS #: 75-35-4		
10.324	10.324 (0.716)	61	2819293	50.0000	46.462	80.00- 120.00	100.00
10.324	10.324 (0.716)	96	1685284			9.78- 109.78	59.78
10.324	10.324 (0.716)	98	1078478			0.00- 88.25	38.25
45 Acetone					CAS #: 67-64-1		
10.490	10.490 (0.728)	58	851721	50.0000	45.412	80.00- 120.00	100.00
10.490	10.490 (0.728)	43	2581858			247.10- 347.10	303.13
46 2-Propanol					CAS #: 67-63-0		
10.683	10.683 (0.741)	45	3179171	50.0000	47.777	80.00- 120.00	100.00
10.683	10.683 (0.741)	43	759982			0.00- 75.54	23.91
10.683	10.683 (0.741)	59	125172			0.00- 53.72	3.94
47 Carbon Disulfide					CAS #: 75-15-0		
10.877	10.877 (0.754)	76	5176277	50.0000	44.712	80.00- 120.00	100.00
51 3-Chloropropene					CAS #: 107-05-1		
11.153	11.153 (0.774)	76	803804	50.0000	42.665	80.00- 120.00	100.00
11.153	11.153 (0.774)	41	2255116			224.96- 324.96	280.56
54 Methylene Chloride					CAS #: 75-09-2		
11.457	11.457 (0.795)	49	2052242	50.0000	46.002	80.00- 120.00	100.00
11.485	11.485 (0.797)	84	1436237			19.98- 119.98	69.98
11.457	11.457 (0.795)	51	622780			0.00- 80.85	30.35
60 MTBE					CAS #: 1634-04-4		
11.817	11.817 (0.820)	73	3165809	50.0000	46.704	80.00- 120.00	100.00
11.817	11.817 (0.820)	57	755188			0.00- 73.85	23.85
11.817	11.817 (0.820)	41	725324			0.00- 76.16	22.91
61 trans-1,2-Dichloroethene					CAS #: 156-60-5		
11.928	11.928 (0.827)	96	1952241	50.0000	47.352	80.00- 120.00	100.00
11.928	11.928 (0.827)	61	2811319			94.00- 194.00	144.00
11.928	11.928 (0.827)	98	1240429			11.77- 111.77	63.54

AMOUNTS

RT	EXP RT (REL RT)	MASS	RESPONSE	CAL-AMT (PPBV)	ON-COL (PPBV)	TARGET RANGE	RATIO
65 Hexane					CAS #: 110-54-3		
12.287	12.287 (0.852)	57	2854008	50.0000	48.511	80.00- 120.00	100.00
12.287	12.287 (0.852)	43	1825767			17.84- 117.84	63.97
12.315	12.315 (0.854)	86	429496			0.00- 65.07	15.05
69 Vinyl Acetate					CAS #: 108-05-4		
12.785	12.785 (0.887)	86	409199	50.0000	46.032	80.00- 120.00	100.00
12.785	12.785 (0.887)	43	4990471			1150.46-1250.46	1219.57
70 1,1-Dichloroethane					CAS #: 75-34-3		
12.812	12.812 (0.889)	63	3324174	50.0000	47.171	80.00- 120.00	100.00
12.812	12.812 (0.889)	65	1040554			0.00- 81.30	31.30
75 2-Butanone					CAS #: 78-93-3		
13.891	13.891 (0.964)	72	740046	50.0000	49.131	80.00- 120.00	100.00
13.891	13.891 (0.964)	43	3422563			412.48- 512.48	462.48
13.891	13.891 (0.964)	57	258927			0.00- 86.57	34.99
76 cis-1,2-Dichloroethene					CAS #: 156-59-2		
13.918	13.918 (0.965)	61	2304791	50.0000	46.726	80.00- 120.00	100.00
13.918	13.918 (0.965)	96	1760990			26.41- 126.41	76.41
13.918	13.918 (0.965)	98	1118817			0.00- 98.54	48.54
80 Tetrahydrofuran					CAS #: 109-99-9		
14.388	14.388 (0.998)	42	1895034	50.0000	48.253	80.00- 120.00	100.00
14.388	14.388 (0.998)	71	689002			0.00- 86.36	36.36
14.388	14.388 (0.998)	72	742657			0.00- 87.82	39.19
82 Chloroform					CAS #: 67-66-3		
14.471	14.471 (1.004)	83	3318807	50.0000	47.396	80.00- 120.00	100.00
14.471	14.471 (1.004)	85	2180130			15.69- 115.69	65.69
83 1,1,1-Trichloroethane					CAS #: 71-55-6		
14.831	14.831 (1.029)	97	3268629	50.0000	46.354	80.00- 120.00	100.00
14.831	14.831 (1.029)	99	2092976			14.03- 114.03	64.03
85 Cyclohexane					CAS #: 110-82-7		
14.831	14.831 (1.029)	84	1931442	50.0000	47.822	80.00- 120.00	100.00
14.831	14.831 (1.029)	56	2436720			76.16- 176.16	126.16
14.831	14.831 (1.029)	41	1348032			19.79- 119.79	69.79
87 Carbon Tetrachloride					CAS #: 56-23-5		
15.107	15.107 (1.048)	119	3125481	50.0000	47.285	80.00- 120.00	100.00
15.107	15.107 (1.048)	117	3223578			53.14- 153.14	103.14
89 2,2,4-Trimethylpentane					CAS #: 540-84-1		
15.411	15.411 (1.069)	57	6652102	50.0000	47.120	80.00- 120.00	100.00

```
                                          AMOUNTS
                                       CAL-AMT   ON-COL
   RT   EXP RT (REL RT)  MASS  RESPONSE ( PPBV)  ( PPBV)   TARGET RANGE    RATIO
   ==   ====== ========  ====  ======== =======  =======   ============    =====

   89 2,2,4-Trimethylpentane (continued)
 15.411  15.411 (1.069)    56   2260342                     0.00-  84.62    33.98
 15.411  15.411 (1.069)    41   1724308                     0.00-  79.27    25.92
-------------------------------------------------------------------------------
   91 Benzene                                        CAS #: 71-43-2
 15.522  15.522 (0.961)    78   4345366 50.0000   48.270  80.00- 120.00   100.00
 15.522  15.522 (0.961)    77    951437                     0.00-  71.87    21.90
-------------------------------------------------------------------------------
   93 1,2-Dichloroethane                             CAS #: 107-06-2
 15.633  15.633 (0.967)    62   2139750 50.0000   44.736  80.00- 120.00   100.00
 15.633  15.633 (0.967)    64    681653                     0.00-  82.89    31.86
-------------------------------------------------------------------------------
   94 Heptane                                        CAS #: 142-82-5
 15.715  15.715 (0.973)    71   1358252 50.0000   49.059  80.00- 120.00   100.00
 15.715  15.715 (0.973)    43   2646821                   158.53- 258.53   194.87
 15.715  15.715 (0.973)    57   1423287                    59.34- 159.34   104.79
-------------------------------------------------------------------------------
  101 Trichloroethene                                CAS #: 79-01-6
 16.628  16.628 (1.029)    95   1917480 50.0000   47.951  80.00- 120.00   100.00
 16.628  16.628 (1.029)   130   1938735                    51.11- 151.11   101.11
 16.628  16.628 (1.029)    97   1247203                    15.04- 115.04    65.04
-------------------------------------------------------------------------------
  104 1,2-Dichloropropane                           CAS #: 78-87-5
 17.126  17.126 (1.060)    63   1615968 50.0000   46.775  80.00- 120.00   100.00
 17.126  17.126 (1.060)    62   1194565                    23.92- 123.92    73.92
 17.126  17.126 (1.060)    41    989654                    11.24- 111.24    61.24
-------------------------------------------------------------------------------
  106 1,4-Dioxane                                   CAS #: 123-91-1
 17.264  17.264 (1.068)    88   1063932 50.0000   47.349  80.00- 120.00   100.00
 17.236  17.236 (1.067)    58    732157                    18.82- 118.82    68.82
 17.236  17.236 (1.067)    57    249266                     0.00-  74.60    23.43
-------------------------------------------------------------------------------
  107 Bromodichloromethane                          CAS #: 75-27-4
 17.540  17.540 (1.086)    83   3337484 50.0000   48.073  80.00- 120.00   100.00
 17.568  17.568 (1.087)    85   2137025                    14.03- 114.03    64.03
-------------------------------------------------------------------------------
  110 cis-1,3-Dichloropropene                       CAS #: 10061-01-5
 18.342  18.342 (1.135)    75   2399205 50.0000   49.146  80.00- 120.00   100.00
 18.342  18.342 (1.135)    77    767959                     0.00-  82.01    32.01
 18.342  18.342 (1.135)    39   1314445                     4.79- 104.79    54.79
-------------------------------------------------------------------------------
  111 4-Methyl-2-pentanone                          CAS #: 108-10-1
 18.508  18.508 (1.145)    58   1361244 50.0000   50.529  80.00- 120.00   100.00
 18.508  18.508 (1.145)    43   3494192                   222.97- 322.97   256.69
 18.508  18.508 (1.145)    85    536155                     0.00-  90.48    39.39
-------------------------------------------------------------------------------
```

AMOUNTS

RT	EXP RT (REL RT)	MASS	RESPONSE	CAL-AMT (PPBV)	ON-COL (PPBV)	TARGET RANGE	RATIO
114 Toluene					CAS #: 108-88-3		
18.895	18.895 (1.169)	91	4763468	50.0000	48.310	80.00- 120.00	100.00
18.895	18.895 (1.169)	92	2996420			12.90- 112.90	62.90
116 trans-1,3-Dichloropropene					CAS #: 10061-02-6		
19.310	19.310 (0.904)	75	2535955	50.0000	50.567	80.00- 120.00	100.00
19.310	19.310 (0.904)	77	825072			0.00- 82.53	32.53
19.310	19.310 (0.904)	39	1300062			1.27- 101.27	51.27
117 1,1,2-Trichloroethane					CAS #: 79-00-5		
19.669	19.669 (0.921)	97	1865812	50.0000	51.014	80.00- 120.00	100.00
19.669	19.669 (0.921)	99	1164336			12.40- 112.40	62.40
19.669	19.669 (0.921)	83	1540257			32.55- 132.55	82.55
120 Tetrachloroethene					CAS #: 127-18-4		
19.835	19.835 (0.929)	166	2469122	50.0000	52.051	80.00- 120.00	100.00
19.835	19.835 (0.929)	129	1754691			21.07- 121.07	71.07
19.835	19.835 (0.929)	131	1687231			18.33- 118.33	68.33
121 2-Hexanone					CAS #: 591-78-6		
19.973	19.973 (0.935)	58	1926995	50.0000	49.161	80.00- 120.00	100.00
19.973	19.973 (0.935)	43	3560746			134.78- 234.78	184.78
19.973	19.973 (0.935)	100	341999			0.00- 67.05	17.75
122 Dibromochloromethane					CAS #: 124-48-1		
20.361	20.361 (0.953)	129	3398954	50.0000	52.449	80.00- 120.00	100.00
20.361	20.361 (0.953)	127	2601663			27.62- 127.62	76.54
123 1,2-Dibromoethane					CAS #: 106-93-4		
20.637	20.637 (0.966)	107	3075574	50.0000	51.295	80.00- 120.00	100.00
20.637	20.637 (0.966)	109	2924880			45.10- 145.10	95.10
127 Chlorobenzene					CAS #: 108-90-7		
21.411	21.411 (1.003)	112	3933609	50.0000	49.241	80.00- 120.00	100.00
21.411	21.411 (1.003)	114	1257316			0.00- 81.96	31.96
21.411	21.411 (1.003)	77	2746745			19.83- 119.83	69.83
128 Ethyl Benzene					CAS #: 100-41-4		
21.494	21.494 (1.006)	106	2039251	50.0000	50.009	80.00- 120.00	100.00
21.494	21.494 (1.006)	91	6256067			261.69- 361.69	306.78
129 m,p-Xylene					CAS #: 108-38-3		
21.688	21.688 (1.016)	106	2557738	50.0000	50.112	80.00- 120.00	100.00
21.688	21.688 (1.016)	91	4945986			145.05- 245.05	193.37
130 o-Xylene					CAS #: 95-47-6		
22.379	22.379 (1.048)	106	2249667	50.0000	50.862	80.00- 120.00	100.00

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS CAL-AMT (PPBV)	AMOUNTS ON-COL (PPBV)	TARGET RANGE	RATIO
130 o-Xylene (continued)							
22.379	22.379 (1.048)	91	4508999			150.43- 250.43	200.43
131 Styrene					CAS #: 100-42-5		
22.407	22.407 (1.049)	104	3769038	50.0000	55.094	80.00- 120.00	100.00
22.407	22.407 (1.049)	78	1833787			0.00- 98.65	48.65
133 Bromoform					CAS #: 75-25-2		
22.821	22.821 (1.069)	173	2999417	50.0000	52.709	80.00- 120.00	100.00
22.821	22.821 (1.069)	171	1534316			1.15- 101.15	51.15
134 Cumene					CAS #: 98-82-8		
22.960	22.960 (1.075)	105	5798543	50.0000	51.916	80.00- 120.00	100.00
22.960	22.960 (1.075)	120	1599327			0.00- 78.08	27.58
22.960	22.960 (1.075)	51	577197			0.00- 61.43	9.95
140 1,1,2,2-Tetrachloroethane					CAS #: 79-34-5		
23.540	23.540 (1.102)	83	3592372	50.0000	48.624	80.00- 120.00	100.00
23.540	23.540 (1.102)	85	2317608			14.51- 114.51	64.51
142 Propylbenzene					CAS #: 103-65-1		
23.651	23.651 (1.107)	91	7513946	50.0000	50.159	80.00- 120.00	100.00
23.651	23.651 (1.107)	120	1747152			0.00- 72.94	23.25
23.651	23.651 (1.107)	105	266423			0.00- 54.03	3.55
145 4-Ethyltoluene					CAS #: 622-96-8		
23.817	23.817 (1.115)	105	6412635	50.0000	48.475	80.00- 120.00	100.00
23.817	23.817 (1.115)	120	2043953			0.00- 81.87	31.87
147 1,3,5-Trimethylbenzene					CAS #: 108-67-8		
23.927	23.927 (1.120)	105	5069011	50.0000	48.783	80.00- 120.00	100.00
23.927	23.927 (1.120)	120	2652601			3.80- 103.80	52.33
150 1,2,4-Trimethylbenzene					CAS #: 95-63-6		
24.563	24.563 (1.150)	105	4785618	50.0000	50.677	80.00- 120.00	100.00
24.563	24.563 (1.150)	120	2355788			0.00- 98.95	49.23
155 1,3-Dichlorobenzene					CAS #: 541-73-1		
25.116	25.116 (1.176)	146	3684881	50.0000	50.425	80.00- 120.00	100.00
25.116	25.116 (1.176)	148	2333424			14.48- 114.48	63.32
25.116	25.116 (1.176)	111	1410496			0.00- 89.68	38.28
156 1,4-Dichlorobenzene					CAS #: 106-46-7		
25.282	25.282 (1.184)	146	3839183	50.0000	50.410	80.00- 120.00	100.00
25.282	25.282 (1.184)	148	2474409			13.81- 113.81	64.45
25.282	25.282 (1.184)	111	1414056			0.00- 87.35	36.83

AMOUNTS

RT	EXP RT	(REL RT)	MASS	RESPONSE	CAL-AMT (PPBV)	ON-COL (PPBV)	TARGET RANGE	RATIO
159 alpha-Chlorotoluene						CAS #: 100-44-7		
25.476	25.476	(1.193)	91	4329978	50.0000	42.826	80.00- 120.00	100.00
25.476	25.476	(1.193)	126	921873			0.00- 71.29	21.29
161 1,2-Dichlorobenzene						CAS #: 95-50-1		
25.918	25.918	(1.214)	146	3399179	50.0000	49.959	80.00- 120.00	100.00
25.918	25.918	(1.214)	148	2169865			13.83- 113.83	63.83
25.918	25.918	(1.214)	111	1354104			0.00- 89.84	39.84
165 1,2,4-Trichlorobenzene						CAS #: 120-82-1		
28.821	28.821	(1.350)	180	1485096	50.0000	53.367	80.00- 120.00	100.00
28.821	28.821	(1.350)	182	1389223			43.54- 143.54	93.54
166 Hexachlorobutadiene						CAS #: 87-68-3		
28.987	28.987	(1.357)	225	1157454	50.0000	50.032	80.00- 120.00	100.00
28.987	28.987	(1.357)	223	728048			12.64- 112.64	62.90
29 Isopentane						CAS #: 78-78-4		
8.377	8.377	(0.581)	43	2233766	50.0000	45.059	80.00- 120.00	100.00
8.377	8.377	(0.581)	57	1510561			16.48- 116.48	67.62
19 Butane						CAS #: 106-97-8		
6.771	6.771	(0.470)	58	336691	50.0000	43.482	80.00- 120.00	100.00
6.771	6.771	(0.470)	43	2708806			757.70- 857.70	804.54
102 Methyl Cyclohexane						CAS #: 108-87-2		
16.904	16.904	(1.173)	83	2361603	50.0000	47.508	80.00- 120.00	100.00
16.904	16.904	(1.173)	98	1109675			0.00- 96.13	46.99
16.904	16.904	(1.173)	55	2013072			38.51- 138.51	85.24
167 Naphthalene						CAS #: 91-20-3		
29.374	29.374	(1.375)	128	2938503	50.0000	56.361	80.00- 120.00	100.00
29.374	29.374	(1.375)	127	346745			0.00- 62.50	11.80

Report Date: 07-Nov-2007 11:36

Air Toxics Ltd.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd7.i
Lab File ID: 7110702.d
Lab Smp Id: CCV-1
Analysis Type: VOA
Quant Type: ISTD
Operator: sjr
Method File: /chem/msd7.i/7-07nov.b/t14qO18d.m
Misc Info: 50ppbv -> 50ppbv

Calibration Date: 07-NOV-2007
Calibration Time: 11:15
Client Smp ID: CCV-1
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
81 Bromochloromethan	695093	417056	973130	695461	0.05
97 1,4-Difluorobenze	2194138	1316483	3071793	2265681	3.26
126 Chlorobenzene-d5	1603205	961923	2244487	1765821	10.14

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
81 Bromochloromethan	14.42	14.09	14.75	14.42	0.00
97 1,4-Difluorobenze	16.16	15.83	16.49	16.16	0.00
126 Chlorobenzene-d5	21.36	21.03	21.69	21.36	0.00

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /chem/msd7.i/7-07nov.b/7110702.d

Date : 07-NOV-2007 08:52

Client ID: CCV-1

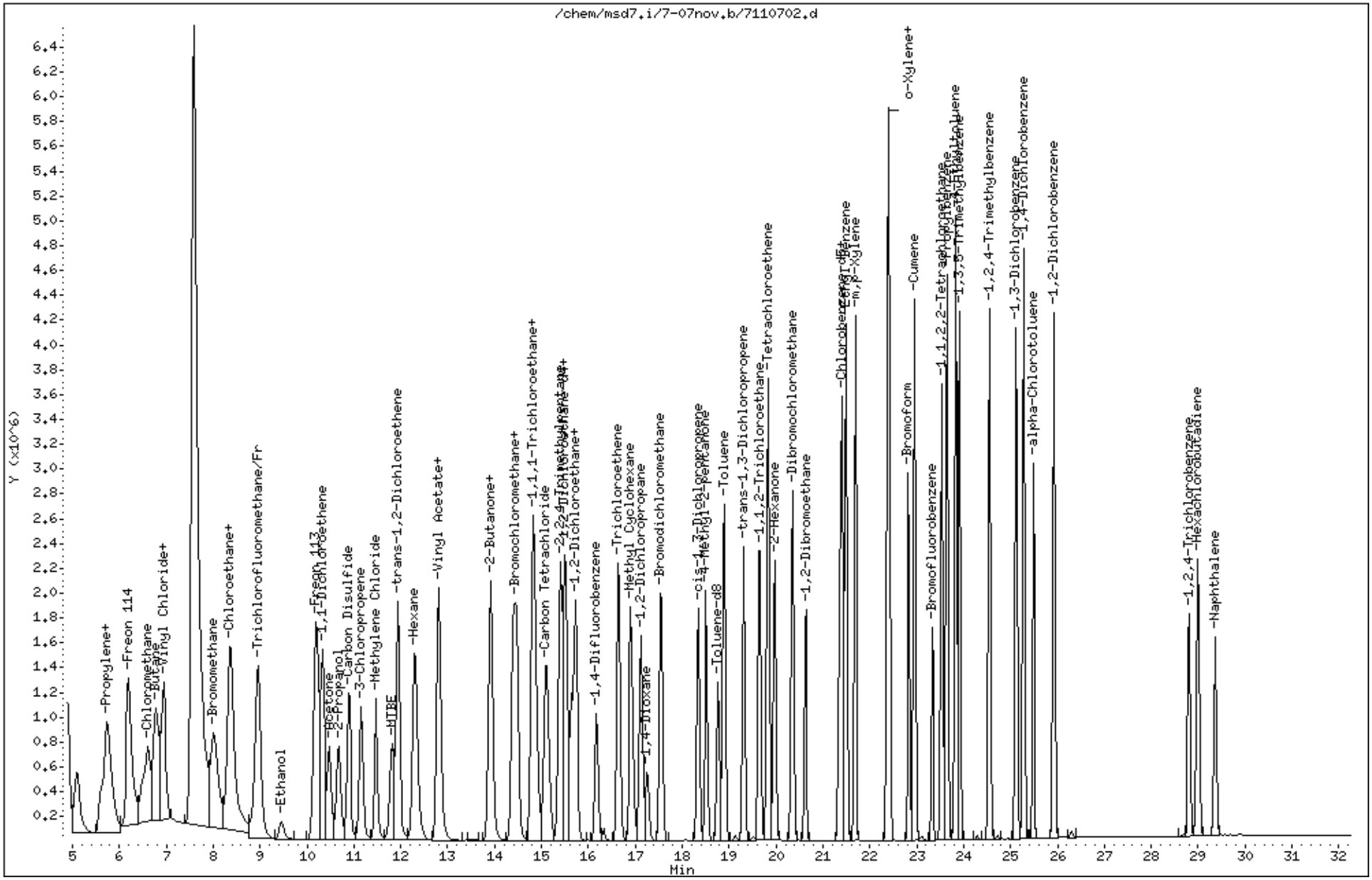
Sample Info: 200mL #1576-50B

Column phase: RTx-624

Instrument: msd7.i

Operator: sjr

Column diameter: 0.53



Air Toxics Ltd.

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: msd7.i Injection Date: 07-NOV-2007 11:15
Lab File ID: 7110705.d Init. Cal. Date(s): 18-OCT-2007 05-NOV-2007
Analysis Type: AIR Init. Cal. Times: 12:17 14:29
Lab Sample ID: CCV Quant Type: ISTD
Method: /chem/msd7.i/7-07nov.b/t14qO18d.m

COMPOUND	RRF / AMOUNT	RF50	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
$ 90 1,2-Dichloroethane-d4	1.34304	1.20883	0.010	9.99299	30.00000	Averaged
$ 113 Toluene-d8	0.88746	0.78915	0.010	11.07832	30.00000	Averaged
$ 137 Bromofluorobenzene	0.59489	0.65147	0.010	-9.50939	30.00000	Averaged
5 Freon 143a	0.54510	0.49167	0.010	9.80146	40.00000	Averaged
6 Freon142b	2.22349	1.99041	0.010	10.48280	40.00000	Averaged
13 Freon 134a	1.06546	0.98345	0.010	7.69728	40.00000	Averaged
15 Freon 152a	0.76921	0.69285	0.010	9.92661	40.00000	Averaged
17 Freon 22	2.48505	2.28916	0.010	7.88270	40.00000	Averaged
26 Methanol	0.42691	0.37521	0.010	12.11069	40.00000	Averaged
34 Dichlorofluoromethane/Fr21	2.20471	1.98383	0.010	10.01875	40.00000	Averaged
40 Freon123a	1.24571	1.22275	0.010	1.84311	40.00000	Averaged
41 Freon123	2.20945	2.02061	0.010	8.54689	40.00000	Averaged
57 tert-Butyl-Alcohol	2.31844	2.55562	0.010	-10.22995	40.00000	Averaged
68 Isopropyl ether	4.46135	4.24197	0.010	4.91738	40.00000	Averaged
71 1-Propanol	0.27978	0.27757	0.010	0.78987	40.00000	Averaged
73 t-Butylethyl Ether	3.80281	3.66486	0.010	3.62767	40.00000	Averaged
77 Ethyl Acetate	0.42459	0.41275	0.010	2.78763	40.00000	Averaged
92 tert-amyl-Methyl Ether	2.77937	2.69823	0.010	2.91920	40.00000	Averaged
96 2-Heptanone	1.66671	1.69813	0.010	-1.88510	40.00000	Averaged
98 1-Butanol	0.24439	0.25091	0.010	-2.66861	40.00000	Averaged
99 Isobutanol	0.02737	0.03638	0.010	-32.89731	40.00000	Averaged
119 Butyl Acetate	0.36393	0.37478	0.010	-2.98100	40.00000	Averaged
135 Cyclohexanone	0.49697	0.48955	0.010	1.49330	40.00000	Averaged
146 Diisobutyl Ketone	1.12021	1.22670	0.010	-9.50681	40.00000	Averaged
55 Cyclopentene	4.65788	4.46479	0.010	4.14545	40.00000	Averaged
78 2,2-Dichloropropane	2.91670	2.90299	0.010	0.46991	40.00000	Averaged
88 1,1-Dichloropropene	0.33704	0.35543	0.010	-5.45758	40.00000	Averaged
118 1,3-Dichloropropane	1.00356	0.94173	0.010	6.16106	40.00000	Averaged
125 1,1,1,2-Tetrachloroethane	0.89149	1.02131	0.010	-14.56117	40.00000	Averaged
136 Bromobenzene	1.04603	1.28815	0.010	-23.14672	40.00000	Averaged
138 1,2,3-Trichloropropane	0.48949	0.59052	0.010	-20.63959	40.00000	Averaged
141 2-Chlorotoluene	0.77258	0.94049	0.010	-21.73297	40.00000	Averaged
143 4-Chlorotoluene	0.82426	0.99363	0.010	-20.54849	40.00000	Averaged
153 p-Cymene	2.44232	2.92327	0.010	-19.69271	40.00000	Averaged
154 1,2,3-Trimethylbenzene	0.96900	1.17407	0.010	-21.16278	40.00000	Averaged

Air Toxics Ltd.

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: msd7.i Injection Date: 07-NOV-2007 11:15
Lab File ID: 7110705.d Init. Cal. Date(s): 18-OCT-2007 05-NOV-2007
Analysis Type: AIR Init. Cal. Times: 12:17 14:29
Lab Sample ID: CCV Quant Type: ISTD
Method: /chem/msd7.i/7-07nov.b/t14qO18d.m

COMPOUND	RRF / AMOUNT	RF50	MIN RRF	%D / %DRIFT	%D / %DRIFT	CURVE TYPE
158 Butylbenzene	0.65671	0.81976	0.010	-24.82910	40.00000	Averaged
148 tert-Butylbenzene	2.20176	2.55555	0.010	-16.06843	40.00000	Averaged
149 sec-Butylbenzene	3.04755	3.61709	0.010	-18.68868	40.00000	Averaged
162 1,2-Dibromo-3-Chloropropane	0.78810	1.02997	0.010	-30.68957	40.00000	Averaged
201 Pentachloroethane	0.65826	0.80699	0.010	-22.59305	40.00000	Averaged

Air Toxics Ltd.

AMBIENT AIR METHOD TO14

Data file : /chem/msd7.i/7-07nov.b/7110705.d
Lab Smp Id: CCV Client Smp ID: CCVsp
Inj Date : 07-NOV-2007 11:15
Operator : sjr Inst ID: msd7.i
Smp Info : 50mL/100mL #1487-370/1487-400A
Misc Info : 200ppbv/100ppbv -> 50ppbv
Comment :
Method : /chem/msd7.i/7-07nov.b/t14qO18d.m
Meth Date : 07-Nov-2007 11:36 sruth Quant Type: ISTD
Cal Date : 05-NOV-2007 14:29 Cal File: 7110507.d
Als bottle: 1 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: sp22aNsp16.sub
Target Version: 3.50 Sample Matrix: AIR
Processing Host: eeyore

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

RT	EXP RT (REL RT)	MASS	RESPONSE	AMOUNTS CAL-AMT (PPBV)	AMOUNTS ON-COL (PPBV)	TARGET RANGE	RATIO
* 81 Bromochloromethane					CAS #: 74-97-5		
14.416	14.416 (1.000)	130	695093	25.0000		80.00- 120.00	100.00
14.416	14.416 (1.000)	128	532063			26.55- 126.55	76.55
14.388	14.388 (1.000)	49	981981			91.27- 191.27	141.27
* 97 1,4-Difluorobenzene					CAS #: 540-36-3		
16.158	16.158 (1.000)	114	2194138	25.0000		80.00- 120.00	100.00
16.158	16.158 (1.000)	88	340642			0.00- 65.53	15.53
* 126 Chlorobenzene-d5					CAS #: 3114-55-4		
21.356	21.356 (1.000)	117	1603205	25.0000		80.00- 120.00	100.00
21.356	21.356 (1.000)	82	862382			4.70- 104.70	53.79
$ 90 1,2-Dichloroethane-d4					CAS #: 17060-07-0		
15.494	15.494 (1.075)	65	840251	25.0000	22.502	80.00- 120.00	100.00
15.494	15.494 (1.075)	67	427373			2.91- 102.91	50.86
$ 113 Toluene-d8					CAS #: 2037-26-5		
18.757	18.757 (1.161)	98	1731498	25.0000	22.230	80.00- 120.00	100.00
18.757	18.757 (1.161)	70	188172			0.00- 61.46	10.87

```
                                          AMOUNTS
                                       CAL-AMT   ON-COL
   RT   EXP RT (REL RT)  MASS  RESPONSE ( PPBV)  ( PPBV)   TARGET RANGE    RATIO
   ==   ====== ========  ====  ======== =======  =======   ============    =====

$ 113 Toluene-d8 (continued)
 18.757  18.757 (1.161)   100   1212855                   19.18- 119.18    70.05
-------------------------------------------------------------------------------
$ 137 Bromofluorobenzene                            CAS #: 460-00-4
 23.347  23.347 (1.093)   174   1044433 25.0000   27.377  80.00- 120.00   100.00
 23.319  23.319 (1.092)    95   1276252                   72.20- 172.20   122.20
 23.347  23.347 (1.093)   176    998698                   45.62- 145.62    95.62
-------------------------------------------------------------------------------
    5 Freon 143a                                    CAS #: 420-46-2
  5.279   5.279 (0.366)    65    683514 50.0000   45.099  80.00- 120.00   100.00
  5.251   5.251 (0.364)    69   6546207                    0.00-  50.00   957.73
  5.279   5.279 (0.366)    64    199242                    0.00-  77.08    29.15
-------------------------------------------------------------------------------
    6 Freon142b                                     CAS #: 75-68-3
  6.321   6.321 (0.438)    65   2767035 50.0000   44.758  80.00- 120.00   100.00
  6.321   6.321 (0.438)    45    663042                    0.00-  74.42    23.96
-------------------------------------------------------------------------------
   13 Freon 134a                                    CAS #: 811-97-2
  5.420   5.420 (0.376)    83   1367179 50.0000   46.151  80.00- 120.00   100.00
  5.251   5.251 (0.364)    69   6546207                  398.13- 498.13   478.81
  5.420   5.420 (0.376)    63    176478                    0.00-  64.08    12.91
-------------------------------------------------------------------------------
   15 Freon 152a                                    CAS #: 75-37-6
  5.645   5.645 (0.392)    65    963192 50.0000   45.037  80.00- 120.00   100.00
  5.645   5.645 (0.392)    51   1465320                  109.56- 209.56   152.13
  5.645   5.645 (0.392)    47    390460                    0.00-  90.52    40.54
-------------------------------------------------------------------------------
   17 Freon 22                                      CAS #: 75-45-6
  5.814   5.814 (0.403)    51   3182359 50.0000   46.059  80.00- 120.00   100.00
  5.814   5.814 (0.403)    67    363923                    0.00-  61.77    11.44
  5.786   5.786 (0.401)    85     41694                    0.00-  51.67     1.31
-------------------------------------------------------------------------------
   26 Methanol                                      CAS #: 67-56-1
  7.588   7.588 (0.526)    31   3129689 300.000   263.67  80.00- 120.00   100.00
  7.588   7.588 (0.526)    32   2095746                   16.96- 116.96    66.96
-------------------------------------------------------------------------------
   34 Dichlorofluoromethane/Fr21                    CAS #: 75-43-4
  8.912   8.912 (0.618)    67   2757886 50.0000   44.991  80.00- 120.00   100.00
  8.912   8.912 (0.618)    69    849275                    0.00-  81.12    30.79
  8.912   8.912 (0.618)    35    130823                    0.00-  53.83     4.74
-------------------------------------------------------------------------------
   40 Freon123a                                     CAS #: 354-23-4
  9.798   9.798 (0.680)   117   1699852 50.0000   49.078  80.00- 120.00   100.00
  9.798   9.798 (0.680)    67   2414440                  110.97- 210.97   142.04
-------------------------------------------------------------------------------
   41 Freon123                                      CAS #: 306-83-2
  9.937   9.937 (0.689)    83   2809022 50.0000   45.726  80.00- 120.00   100.00
```

AMOUNTS

RT	EXP RT (REL RT)	MASS	RESPONSE	CAL-AMT (PPBV)	ON-COL (PPBV)	TARGET RANGE	RATIO
41 Freon123 (continued)							
9.964	9.964 (0.691)	133	581333			0.00- 69.52	20.70
9.937	9.937 (0.689)	85	1952826			22.16- 122.16	69.52
57 tert-Butyl-Alcohol					CAS #: 75-65-0		
11.485	11.485 (0.797)	59	3552785	50.0000	55.115	80.00- 120.00	100.00
11.485	11.485 (0.797)	41	809369			0.00- 73.42	22.78
11.513	11.513 (0.799)	57	356377			0.00- 60.26	10.03
68 Isopropyl ether					CAS #: 108-20-3		
12.702	12.702 (0.881)	45	5897126	50.0000	47.541	80.00- 120.00	100.00
12.702	12.702 (0.881)	87	1341992			0.00- 73.31	22.76
12.702	12.702 (0.881)	59	466379			0.00- 58.30	7.91
71 1-Propanol					CAS #: 71-23-8		
12.840	12.840 (0.891)	42	385878	50.0000	49.605	80.00- 120.00	100.00
12.812	12.812 (0.889)	59	563522			95.91- 195.91	146.04
12.702	12.702 (0.881)	41	1086836			265.93- 365.93	281.65
73 t-Butylethyl Ether					CAS #: 637-92-3		
13.365	13.365 (0.927)	59	5094836	50.0000	48.186	80.00- 120.00	100.00
13.365	13.365 (0.927)	87	1963338			0.00- 88.95	38.54
13.365	13.365 (0.927)	41	875781			0.00- 67.89	17.19
77 Ethyl Acetate					CAS #: 141-78-6		
13.863	13.863 (0.962)	45	573801	50.0000	48.606	80.00- 120.00	100.00
13.863	13.863 (0.962)	61	1119093			49.04- 149.04	195.03
13.863	13.863 (0.962)	43	3943587			622.55- 722.55	687.27
92 tert-amyl-Methyl Ether					CAS #: 994-05-8		
15.522	15.522 (1.077)	73	3751042	50.0000	48.540	80.00- 120.00	100.00
15.549	15.549 (1.079)	87	894990			0.00- 73.71	23.86
15.522	15.522 (1.077)	55	966642			0.00- 78.56	25.77
96 2-Heptanone					CAS #: 110-43-0		
22.517	22.517 (1.562)	58	2360715	50.0000	50.942	80.00- 120.00	100.00
22.517	22.517 (1.562)	43	3645910			108.53- 208.53	154.44
98 1-Butanol					CAS #: 71-36-3		
16.324	16.324 (1.010)	56	1101065	50.0000	51.334	80.00- 120.00	100.00
16.324	16.324 (1.010)	41	770923			21.86- 121.86	70.02
16.324	16.324 (1.010)	43	606850			9.15- 109.15	55.11
99 Isobutanol					CAS #: 78-83-1		
15.135	15.135 (1.050)	59	50572	50.0000	66.449	80.00- 120.00	100.00
15.135	15.135 (1.050)	41	946072			2630.47-2730.47	1870.74

```
                                          AMOUNTS
                                       CAL-AMT   ON-COL
   RT   EXP RT (REL RT)  MASS  RESPONSE ( PPBV)  ( PPBV)   TARGET RANGE    RATIO
   ==   ====== ========  ====  ======== =======  =======   ============    =====

   99 Isobutanol (continued)
 15.135  15.135 (1.050)    43   1312899                  3703.83-3803.83  2596.10
-------------------------------------------------------------------------------
  119 Butyl Acetate                                CAS #: 123-86-4
 20.056  20.056 (1.241)    56   1644621 50.0000   51.490  80.00- 120.00   100.00
 20.056  20.056 (1.241)    73    568899                    0.00-  84.59    34.59
 20.056  20.056 (1.241)    43   4066598                  197.27- 297.27   247.27
-------------------------------------------------------------------------------
  135 Cyclohexanone                                CAS #: 108-94-1
 23.291  23.291 (1.091)    55   1569682 50.0000   49.253  80.00- 120.00   100.00
 23.291  23.291 (1.091)    98    658433                    0.00-  90.62    41.95
 23.291  23.291 (1.091)    42   1085506                   17.43- 117.43    69.15
-------------------------------------------------------------------------------
  146 Diisobutyl Ketone                            CAS #: 108-83-8
 24.066  24.066 (1.127)    57   3933313 50.0000   54.753  80.00- 120.00   100.00
 24.066  24.066 (1.127)    85   3305957                   34.05- 134.05    84.05
  0.000   1.000 (0.000)     0         0                    0.00-  50.00     0.00
-------------------------------------------------------------------------------
   55 Cyclopentene                                 CAS #: 142-29-0
 11.264  11.264 (0.781)    67   6206895 50.0000   47.927  80.00- 120.00   100.00
 11.264  11.264 (0.781)    68   2527589                    0.00-  90.48    40.72
 11.264  11.264 (0.781)    53   1362809                    0.00-  70.85    21.96
-------------------------------------------------------------------------------
   78 2,2-Dichloropropane                          CAS #: 594-20-7
 13.891  13.891 (0.964)    77   4035698 50.0000   49.765  80.00- 120.00   100.00
 13.891  13.891 (0.964)    79   1327591                    0.00-  82.90    32.90
 13.891  13.891 (0.964)    97    807966                    0.00-  70.03    20.02
-------------------------------------------------------------------------------
   88 1,1-Dichloropropene                          CAS #: 563-58-6
 15.135  15.135 (0.937)   110   1559727 50.0000   52.729  80.00- 120.00   100.00
 15.135  15.135 (0.937)    75   4093701                  218.22- 318.22   262.46
-------------------------------------------------------------------------------
  118 1,3-Dichloropropane                          CAS #: 142-28-9
 19.973  19.973 (1.236)    76   4132592 50.0000   46.919  80.00- 120.00   100.00
 19.973  19.973 (1.236)    41   3020085                   23.08- 123.08    73.08
 19.973  19.973 (1.236)    78   1324137                    0.00-  81.77    32.04
-------------------------------------------------------------------------------
  125 1,1,1,2-Tetrachloroethane                    CAS #: 630-20-6
 21.522  21.522 (1.008)   131   3274729 50.0000   57.280  80.00- 120.00   100.00
 21.522  21.522 (1.008)   117   2292172                   18.93- 118.93    70.00
 21.522  21.522 (1.008)    95   1253410                    0.00-  89.37    38.28
-------------------------------------------------------------------------------
  136 Bromobenzene                                 CAS #: 108-86-1
 23.623  23.623 (1.106)   156   4130339 50.0000   61.573  80.00- 120.00   100.00
 23.623  23.623 (1.106)   158   3995417                   46.73- 146.73    96.73
 23.623  23.623 (1.106)    77   7839126                  147.77- 247.77   189.79
-------------------------------------------------------------------------------
```

AMOUNTS

RT	EXP RT (REL RT)	MASS	RESPONSE	CAL-AMT (PPBV)	ON-COL (PPBV)	TARGET RANGE	RATIO
138 1,2,3-Trichloropropane					CAS #: 96-18-4		
23.678	23.678 (1.109)	110	1893461	50.0000	60.320	80.00- 120.00	100.00
23.678	23.678 (1.109)	75	5515158			241.27- 341.27	291.27
23.651	23.651 (1.107)	61	1429454			26.84- 126.84	75.49
141 2-Chlorotoluene					CAS #: 95-49-8		
23.900	23.900 (1.119)	126	3015583	50.0000	60.866	80.00- 120.00	100.00
23.900	23.900 (1.119)	91	8628412			236.13- 336.13	286.13
23.872	23.872 (1.118)	65	814091			0.00- 78.37	27.00
143 4-Chlorotoluene					CAS #: 106-43-4		
24.066	24.066 (1.127)	126	3185990	50.0000	60.274	80.00- 120.00	100.00
24.066	24.066 (1.127)	91	9254039			240.46- 340.46	290.46
24.066	24.066 (1.127)	63	1164725			0.00- 88.24	36.56
153 p-Cymene					CAS #: 99-87-6		
25.033	25.033 (1.172)	119	9373212	50.0000	59.846	80.00- 120.00	100.00
25.033	25.033 (1.172)	134	2592466			0.00- 77.89	27.66
25.033	25.033 (1.172)	91	2282221			0.00- 74.89	24.35
154 1,2,3-Trimethylbenzene					CAS #: 526-73-8		
25.282	25.282 (1.184)	120	3764553	50.0000	60.581	80.00- 120.00	100.00
25.282	25.282 (1.184)	105	8058394			164.06- 264.06	214.06
25.282	25.282 (1.184)	77	1025882			0.00- 78.76	27.25
158 Butylbenzene					CAS #: 104-51-8		
25.697	25.697 (1.203)	134	2628501	50.0000	62.414	80.00- 120.00	100.00
25.697	25.697 (1.203)	91	10249755			339.95- 439.95	389.95
25.697	25.697 (1.203)	92	5803995			181.94- 281.94	220.81
148 tert-Butylbenzene					CAS #: 98-06-6		
24.453	24.453 (1.145)	119	8194136	50.0000	58.034	80.00- 120.00	100.00
24.453	24.453 (1.145)	134	2042361			0.00- 74.92	24.92
24.453	24.453 (1.145)	91	5676387			20.96- 120.96	69.27
149 sec-Butylbenzene					CAS #: 135-98-8		
24.812	24.812 (1.162)	105	11597885	50.0000	59.344	80.00- 120.00	100.00
24.812	24.812 (1.162)	134	2312901			0.00- 69.94	19.94
24.812	24.812 (1.162)	91	1842591			0.00- 65.99	15.89
162 1,2-Dibromo-3-Chloropropane					CAS #: 96-12-8		
27.300	27.300 (1.278)	157	3302496	50.0000	65.345	80.00- 120.00	100.00
27.273	27.273 (1.277)	75	2739286			32.95- 132.95	82.95
27.300	27.300 (1.278)	155	2589780			28.87- 128.87	78.42
201 Pentachloroethane					CAS #: 76-01-7		
24.591	24.591 (1.151)	167	2587525	50.0000	61.296	80.00- 120.00	100.00

RT	EXP RT	(REL RT)	MASS	RESPONSE	AMOUNTS CAL-AMT (PPBV)	AMOUNTS ON-COL (PPBV)	TARGET RANGE	RATIO
201 Pentachloroethane (continued)								
24.591	24.591	(1.151)	117	2698355			54.36- 154.36	104.28
24.591	24.591	(1.151)	169	1250161			0.00- 97.70	48.31

Report Date: 07-Nov-2007 11:36

Air Toxics Ltd.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd7.i
Lab File ID: 7110705.d
Lab Smp Id: CCV
Analysis Type: VOA
Quant Type: ISTD
Operator: sjr
Method File: /chem/msd7.i/7-07nov.b/t14qO18d.m
Misc Info: 200ppbv/100ppbv -> 50ppbv

Calibration Date: 07-NOV-2007
Calibration Time: 10:30
Client Smp ID: CCVsp
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
81 Bromochloromethan	685348	411209	959487	695093	1.42
97 1,4-Difluorobenze	2041148	1224689	2857607	2194138	7.50
126 Chlorobenzene-d5	1487389	892433	2082345	1603205	7.79

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
81 Bromochloromethan	14.39	14.06	14.72	14.42	0.19
97 1,4-Difluorobenze	16.16	15.83	16.49	16.16	0.00
126 Chlorobenzene-d5	21.36	21.03	21.69	21.36	0.00

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /chem/msd7.i/7-07nov.b/7110705.d

Date : 07-NOV-2007 11:15

Client ID: CCVsp

Sample Info: 50mL/100mL #1487-370/1487-400A

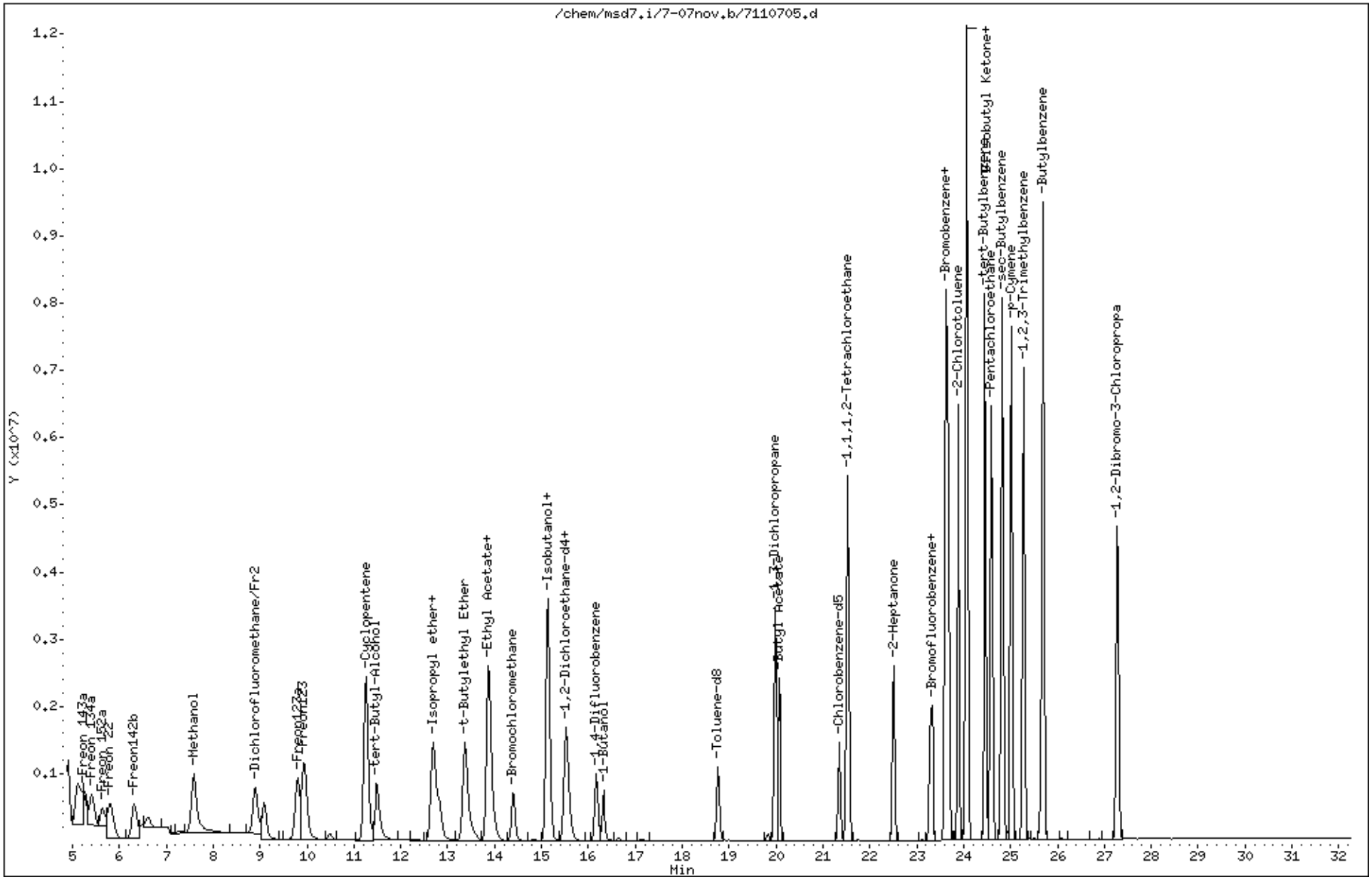
Column phase: RTx-624

Instrument: msd7.i

Operator: sjr

Column diameter: 0.53

0462



AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: LCS

Lab ID#: 0711101-11A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**7110703**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 11/7/07 09:45 AM**	

Compound	%Recovery
Freon 12	97
Freon 114	101
Chloromethane	89
Vinyl Chloride	98
1,3-Butadiene	100
Bromomethane	94
Chloroethane	105
Freon 11	102
Ethanol	117
Freon 113	120
1,1-Dichloroethene	116
Acetone	108
2-Propanol	112
Carbon Disulfide	101
Methylene Chloride	112
Methyl tert-butyl ether	126
trans-1,2-Dichloroethene	109
Hexane	112
1,1-Dichloroethane	113
2-Butanone (Methyl Ethyl Ketone)	115
cis-1,2-Dichloroethene	109
Tetrahydrofuran	111
Chloroform	110
1,1,1-Trichloroethane	106
Cyclohexane	109
Carbon Tetrachloride	106
Benzene	112
1,2-Dichloroethane	104
Heptane	115
Trichloroethene	110
1,2-Dichloropropane	108
1,4-Dioxane	110
Bromodichloromethane	110
cis-1,3-Dichloropropene	112
4-Methyl-2-pentanone	119
Toluene	115
trans-1,3-Dichloropropene	115
1,1,2-Trichloroethane	116
Tetrachloroethene	119

AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: LCS

Lab ID#: 0711101-11A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**7110703**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 11/7/07 09:45 AM**	

Compound	**%Recovery**
2-Hexanone	112
Dibromochloromethane	117
1,2-Dibromoethane (EDB)	114
Chlorobenzene	112
Ethyl Benzene	112
m,p-Xylene	112
o-Xylene	113
Styrene	120
Bromoform	119
1,1,2,2-Tetrachloroethane	107
4-Ethyltoluene	108
1,3,5-Trimethylbenzene	109
1,2,4-Trimethylbenzene	112
1,3-Dichlorobenzene	111
1,4-Dichlorobenzene	108
alpha-Chlorotoluene	118
1,2-Dichlorobenzene	107
1,2,4-Trichlorobenzene	93
Hexachlorobutadiene	90
Chlorodifluoromethane	Not Spiked
Methanol	Not Spiked
n-Butanol	Not Spiked
Propylene	104

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
Toluene-d8	101	70-130
1,2-Dichloroethane-d4	91	70-130
4-Bromofluorobenzene	102	70-130

Report Date: 07-Nov-2007 10:06

Air Toxics Ltd.

RECOVERY REPORT

Client Name:
Client SDG: 7-07nov
Sample Matrix: GAS
Fraction: VOA
Lab Smp Id: LCS-1
Client Smp ID: LCS-1
Level: LOW
Operator: sjr
Data Type: MS DATA
SampleType: LCS
SpikeList File: 2926spectra.spk
Quant Type: ISTD
Sublist File: AT04ENSR.sub
Method File: /chem/msd7.i/7-07nov.b/t14qO18d.m
Misc Info: 100ppbv -> 50ppbv

SPIKE COMPOUND	CONC ADDED PPBV	CONC RECOVERED PPBV	% RECOVERED	LIMITS
12 Dichlorodifluorome	50.000	48.475	96.95	70-130
16 Freon 114	50.000	50.481	100.96	70-130
18 Chloromethane	50.000	44.356	88.71	70-130
20 Vinyl Chloride	50.000	48.987	97.97	70-130
22 1,3-Butadiene	50.000	50.153	100.31	60-140
25 Bromomethane	50.000	47.176	94.35	70-130
27 Chloroethane	50.000	52.339	104.68	70-130
31 Trichlorofluoromet	50.000	51.019	102.04	70-130
38 Ethanol	50.000	58.691	117.38	60-140
42 Freon 113	50.000	59.786	119.57	70-130
43 1,1-Dichloroethene	50.000	57.819	115.64	70-130
45 Acetone	50.000	54.227	108.45	60-140
47 Carbon Disulfide	50.000	50.348	100.70	60-140
46 2-Propanol	50.000	56.084	112.17	60-140
54 Methylene Chloride	50.000	55.929	111.86	70-130
60 MTBE	50.000	63.056	126.11	60-140
61 trans-1,2-Dichloro	50.000	54.353	108.71	60-140
65 Hexane	50.000	55.911	111.82	60-140
69 Vinyl Acetate	50.000	54.500	109.00	60-140
70 1,1-Dichloroethane	50.000	56.530	113.06	70-130
76 cis-1,2-Dichloroet	50.000	54.732	109.46	70-130
75 2-Butanone	50.000	57.555	115.11	60-140
80 Tetrahydrofuran	50.000	55.451	110.90	60-140
82 Chloroform	50.000	55.143	110.29	70-130
85 Cyclohexane	50.000	54.695	109.39	60-140
83 1,1,1-Trichloroeth	50.000	52.961	105.92	70-130
87 Carbon Tetrachlori	50.000	53.098	106.20	70-130
91 Benzene	50.000	55.877	111.75	70-130
93 1,2-Dichloroethane	50.000	51.845	103.69	70-130
94 Heptane	50.000	57.473	114.95	60-140
101 Trichloroethene	50.000	55.239	110.48	70-130
104 1,2-Dichloropropan	50.000	54.163	108.33	70-130
106 1,4-Dioxane	50.000	54.984	109.97	60-140

SPIKE COMPOUND	CONC ADDED PPBV	CONC RECOVERED PPBV	% RECOVERED	LIMITS
107 Bromodichlorometha	50.000	55.155	110.31	60-140
110 cis-1,3-Dichloropr	50.000	55.889	111.78	70-130
111 4-Methyl-2-pentano	50.000	59.618	119.24	60-140
114 Toluene	50.000	57.727	115.45	70-130
116 trans-1,3-Dichloro	50.000	57.442	114.88	70-130
117 1,1,2-Trichloroeth	50.000	58.030	116.06	70-130
120 Tetrachloroethene	50.000	59.311	118.62	70-130
121 2-Hexanone	50.000	55.773	111.55	60-140
122 Dibromochlorometha	50.000	58.722	117.45	60-140
123 1,2-Dibromoethane	50.000	56.880	113.76	70-130
127 Chlorobenzene	50.000	55.826	111.65	70-130
128 Ethyl Benzene	50.000	55.838	111.68	70-130
129 m,p-Xylene	50.000	56.133	112.27	70-130
130 o-Xylene	50.000	56.600	113.20	70-130
131 Styrene	50.000	59.774	119.55	70-130
133 Bromoform	50.000	59.546	119.09	60-140
140 1,1,2,2-Tetrachlor	50.000	53.637	107.27	70-130
145 4-Ethyltoluene	50.000	54.242	108.48	60-140
147 1,3,5-Trimethylben	50.000	54.319	108.64	70-130
150 1,2,4-Trimethylben	50.000	55.971	111.94	70-130
155 1,3-Dichlorobenzen	50.000	55.412	110.82	70-130
156 1,4-Dichlorobenzen	50.000	54.277	108.55	70-130
159 alpha-Chlorotoluen	50.000	58.906	117.81	70-130
161 1,2-Dichlorobenzen	50.000	53.356	106.71	70-130
165 1,2,4-Trichloroben	50.000	46.632	93.26	70-130
166 Hexachlorobutadien	50.000	45.199	90.40	70-130
142 Propylbenzene	50.000	56.803	113.61	60-140
134 Cumene	50.000	59.231	118.46	60-140
51 3-Chloropropene	50.000	52.998	106.00	60-140
89 2,2,4-Trimethylpen	50.000	54.528	109.06	60-140
29 Isopentane	50.000	50.225	100.45	70-130
19 Butane	50.000	50.253	100.51	70-130
102 Methyl Cyclohexane	50.000	55.126	110.25	70-130
11 Propylene	50.000	52.104	104.21	60-140
167 Naphthalene	50.000	44.876	89.75	60-140

SURROGATE COMPOUND	CONC ADDED PPBV	CONC RECOVERED PPBV	% RECOVERED	LIMITS
$ 90 1,2-Dichloroethane	25.000	22.784	91.14	70-130
$ 113 Toluene-d8	25.000	25.213	100.85	70-130
$ 137 Bromofluorobenzene	25.000	25.395	101.58	70-130

Air Toxics Ltd.

AMBIENT AIR METHOD TO14

Data file : /chem/msd7.i/7-07nov.b/7110703.d
Lab Smp Id: LCS-1 Client Smp ID: LCS-1
Inj Date : 07-NOV-2007 09:45
Operator : sjr Inst ID: msd7.i
Smp Info : 100mL #1443-302A
Misc Info : 100ppbv -> 50ppbv
Comment :
Method : /chem/msd7.i/7-07nov.b/t14qO18d.m
Meth Date : 07-Nov-2007 09:17 sruth Quant Type: ISTD
Cal Date : 05-NOV-2007 14:29 Cal File: 7110507.d
Als bottle: 1 QC Sample: LCS
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: AT04ENSR.sub
Target Version: 3.50 Sample Matrix: AIR
Processing Host: eeyore

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

RT	EXP RT (REL RT)	MASS	RESPONSE	CONCENTRATIONS ON-COL (PPBV)	FINAL (PPBV)	TARGET RANGE	RATIO
* 81 Bromochloromethane					CAS #: 74-97-5		
14.416	14.416 (1.000)	130	686073	25.0000		80.00- 120.00	100.00
14.416	14.416 (1.000)	128	537674			28.66- 128.66	78.37
14.416	14.388 (1.000)	49	1314192			133.49- 233.49	191.55
* 97 1,4-Difluorobenzene					CAS #: 540-36-3		
16.158	16.158 (1.000)	114	2227472	25.0000		80.00- 120.00	100.00
16.158	16.158 (1.000)	88	335917			0.00- 65.23	15.08
* 126 Chlorobenzene-d5					CAS #: 3114-55-4		
21.356	21.356 (1.000)	117	1750820	25.0000		80.00- 120.00	100.00
21.356	21.356 (1.000)	82	945127			4.70- 104.70	53.98
$ 90 1,2-Dichloroethane-d4					CAS #: 17060-07-0		
15.494	15.494 (1.075)	65	839742	22.7838	22.784	80.00- 120.00	100.00
15.494	15.494 (1.075)	67	469755			2.91- 102.91	55.94
$ 113 Toluene-d8					CAS #: 2037-26-5		
18.757	18.757 (1.161)	98	1993650	25.2131	25.213	80.00- 120.00	100.00
18.757	18.757 (1.161)	70	218911			0.00- 61.46	10.98

RT	EXP RT (REL RT)	MASS	RESPONSE	CONCENTRATIONS ON-COL (PPBV)	FINAL (PPBV)	TARGET RANGE	RATIO
$ 113 Toluene-d8 (continued)							
18.757	18.757 (1.161)	100	1392202			19.18- 119.18	69.83
$ 137 Bromofluorobenzene					CAS #: 460-00-4		
23.347	23.347 (1.093)	174	1058013	25.3951	25.395	80.00- 120.00	100.00
23.319	23.319 (1.092)	95	1311548			73.89- 173.89	123.96
23.347	23.347 (1.093)	176	1020464			48.20- 148.20	96.45
11 Propylene					CAS #: 115-07-1		
5.645	5.617 (0.392)	41	1540699	52.1037	52.104	80.00- 120.00	100.00
5.617	5.617 (0.390)	42	1084017			21.19- 121.19	70.36
5.617	5.617 (0.390)	39	1155303			24.83- 124.83	74.99
12 Dichlorodifluoromethane/Fr12					CAS #: 75-71-8		
5.758	5.758 (0.399)	85	5255583	48.4753	48.475	80.00- 120.00	100.00
5.758	5.758 (0.399)	87	1683393			0.00- 83.07	32.03
16 Freon 114					CAS #: 76-14-2		
6.208	6.208 (0.431)	135	3725076	50.4813	50.481	80.00- 120.00	100.00
6.208	6.208 (0.431)	137	1155769			0.00- 81.30	31.03
18 Chloromethane					CAS #: 74-87-3		
6.518	6.546 (0.452)	50	1581528	44.3557	44.356	80.00- 120.00	100.00
6.518	6.518 (0.452)	52	541668			0.00- 84.80	34.25
20 Vinyl Chloride					CAS #: 75-01-4		
6.884	6.856 (0.478)	62	2180551	48.9871	48.987	80.00- 120.00	100.00
6.884	6.856 (0.478)	64	682635			0.00- 83.25	31.31
22 1,3-Butadiene					CAS #: 106-99-0		
6.940	6.940 (0.481)	54	1599105	50.1527	50.153	80.00- 120.00	100.00
6.940	6.940 (0.481)	39	1549414			55.97- 155.97	96.89
25 Bromomethane					CAS #: 74-83-9		
8.039	8.039 (0.558)	94	1859379	47.1765	47.176	80.00- 120.00	100.00
8.039	8.039 (0.558)	96	1749030			43.82- 143.82	94.07
27 Chloroethane					CAS #: 75-00-3		
8.377	8.348 (0.581)	64	1033564	52.3394	52.339	80.00- 120.00	100.00
8.377	8.348 (0.581)	49	286274			0.00- 79.34	27.70
8.377	8.348 (0.581)	66	320310			0.00- 83.15	30.99
31 Trichlorofluoromethane/Fr11					CAS #: 75-69-4		
8.968	8.968 (0.622)	101	5160297	51.0188	51.019	80.00- 120.00	100.00
8.968	8.968 (0.622)	103	3351392			14.51- 114.51	64.95

RT	EXP RT (REL RT)	MASS	RESPONSE	CONCENTRATIONS ON-COL (PPBV)	FINAL (PPBV)	TARGET RANGE	RATIO
38 Ethanol					CAS #: 64-17-5		
9.467	9.467 (0.657)	45	809676	58.6909	58.691	80.00- 120.00	100.00
9.467	9.467 (0.657)	43	158687			0.00- 72.83	19.60
9.467	9.467 (0.657)	46	307404			0.00- 88.20	37.97
42 Freon 113					CAS #: 76-13-1		
10.213	10.186 (0.708)	151	3363235	59.7861	59.786	80.00- 120.00	100.00
10.213	10.186 (0.708)	153	2140831			13.12- 113.12	63.65
10.213	10.186 (0.708)	101	3978460			67.28- 167.28	118.29
43 1,1-Dichloroethene					CAS #: 75-35-4		
10.324	10.324 (0.716)	61	3461034	57.8190	57.819	80.00- 120.00	100.00
10.324	10.324 (0.716)	96	2106709			9.78- 109.78	60.87
10.352	10.324 (0.718)	98	1355982			0.00- 88.25	39.18
45 Acetone					CAS #: 67-64-1		
10.490	10.490 (0.728)	58	1003330	54.2271	54.227	80.00- 120.00	100.00
10.490	10.490 (0.728)	43	3025302			247.10- 347.10	301.53
46 2-Propanol					CAS #: 67-63-0		
10.683	10.683 (0.741)	45	3681589	56.0841	56.084	80.00- 120.00	100.00
10.683	10.683 (0.741)	43	884353			0.00- 75.54	24.02
10.683	10.683 (0.741)	59	142019			0.00- 53.72	3.86
47 Carbon Disulfide					CAS #: 75-15-0		
10.905	10.877 (0.756)	76	5750128	50.3483	50.348	80.00- 120.00	100.00
51 3-Chloropropene					CAS #: 107-05-1		
11.153	11.153 (0.774)	76	984998	52.9981	52.998	80.00- 120.00	100.00
11.153	11.153 (0.774)	41	2673163			224.96- 324.96	271.39
54 Methylene Chloride					CAS #: 75-09-2		
11.457	11.457 (0.795)	49	2461396	55.9289	55.929	80.00- 120.00	100.00
11.485	11.485 (0.797)	84	1746418			19.98- 119.98	70.95
11.457	11.457 (0.795)	51	758289			0.00- 80.85	30.81
60 MTBE					CAS #: 1634-04-4		
11.817	11.817 (0.820)	73	4216511	63.0565	63.056	80.00- 120.00	100.00
11.817	11.817 (0.820)	57	1001036			0.00- 73.85	23.74
11.817	11.817 (0.820)	41	951185			0.00- 76.16	22.56
61 trans-1,2-Dichloroethene					CAS #: 156-60-5		
11.928	11.928 (0.827)	96	2210637	54.3534	54.353	80.00- 120.00	100.00
11.928	11.928 (0.827)	61	3149190			94.00- 194.00	142.46
11.928	11.928 (0.827)	98	1415040			11.77- 111.77	64.01

RT	EXP RT (REL RT)	MASS	RESPONSE	CONCENTRATIONS ON-COL (PPBV)	FINAL (PPBV)	TARGET RANGE	RATIO
65 Hexane					CAS #: 110-54-3		
12.315	12.287 (0.854)	57	3245015	55.9115	55.911	80.00- 120.00	100.00
12.287	12.287 (0.852)	43	2084458			17.84- 117.84	64.24
12.315	12.315 (0.854)	86	484185			0.00- 65.07	14.92
69 Vinyl Acetate					CAS #: 108-05-4		
12.785	12.785 (0.887)	86	477930	54.4999	54.500	80.00- 120.00	100.00
12.785	12.785 (0.887)	43	5687520			1150.46-1250.46	1190.03
70 1,1-Dichloroethane					CAS #: 75-34-3		
12.812	12.812 (0.889)	63	3929948	56.5305	56.530	80.00- 120.00	100.00
12.812	12.812 (0.889)	65	1225997			0.00- 81.30	31.20
75 2-Butanone					CAS #: 78-93-3		
13.891	13.891 (0.964)	72	855221	57.5547	57.555	80.00- 120.00	100.00
13.891	13.891 (0.964)	43	3915055			412.48- 512.48	457.78
13.891	13.891 (0.964)	57	294679			0.00- 86.57	34.46
76 cis-1,2-Dichloroethene					CAS #: 156-59-2		
13.918	13.918 (0.965)	61	2663290	54.7323	54.732	80.00- 120.00	100.00
13.918	13.918 (0.965)	96	2032442			26.41- 126.41	76.31
13.918	13.918 (0.965)	98	1291728			0.00- 98.54	48.50
80 Tetrahydrofuran					CAS #: 109-99-9		
14.388	14.388 (0.998)	42	2148322	55.4509	55.451	80.00- 120.00	100.00
14.388	14.388 (0.998)	71	771469			0.00- 86.36	35.91
14.388	14.388 (0.998)	72	839885			0.00- 87.82	39.09
82 Chloroform					CAS #: 67-66-3		
14.471	14.471 (1.004)	83	3809122	55.1429	55.143	80.00- 120.00	100.00
14.471	14.471 (1.004)	85	2490066			15.69- 115.69	65.37
83 1,1,1-Trichloroethane					CAS #: 71-55-6		
14.831	14.831 (1.029)	97	3684075	52.9610	52.961	80.00- 120.00	100.00
14.831	14.831 (1.029)	99	2378045			14.03- 114.03	64.55
85 Cyclohexane					CAS #: 110-82-7		
14.858	14.831 (1.031)	84	2179212	54.6954	54.695	80.00- 120.00	100.00
14.831	14.831 (1.029)	56	2754400			76.16- 176.16	126.39
14.831	14.831 (1.029)	41	1518558			19.79- 119.79	69.68
87 Carbon Tetrachloride					CAS #: 56-23-5		
15.107	15.107 (1.048)	119	3462355	53.0982	53.098	80.00- 120.00	100.00
15.107	15.107 (1.048)	117	3606997			53.14- 153.14	104.18
89 2,2,4-Trimethylpentane					CAS #: 540-84-1		
15.411	15.411 (1.069)	57	7593941	54.5282	54.528	80.00- 120.00	100.00

RT	EXP RT (REL RT)	MASS	RESPONSE	CONCENTRATIONS ON-COL (PPBV)	FINAL (PPBV)	TARGET RANGE	RATIO
89 2,2,4-Trimethylpentane (continued)							
15.411	15.411 (1.069)	56	2562982			0.00- 84.62	33.75
15.411	15.411 (1.069)	41	1956004			0.00- 79.27	25.76
91 Benzene						CAS #: 71-43-2	
15.522	15.522 (0.961)	78	4945352	55.8772	55.877	80.00- 120.00	100.00
15.522	15.522 (0.961)	77	1085871			0.00- 71.87	21.96
93 1,2-Dichloroethane						CAS #: 107-06-2	
15.633	15.633 (0.967)	62	2437920	51.8446	51.845	80.00- 120.00	100.00
15.633	15.633 (0.967)	64	793972			0.00- 82.89	32.57
94 Heptane						CAS #: 142-82-5	
15.716	15.715 (0.973)	71	1564357	57.4731	57.473	80.00- 120.00	100.00
15.716	15.715 (0.973)	43	2999139			158.53- 258.53	191.72
15.716	15.715 (0.973)	57	1596186			59.34- 159.34	102.03
101 Trichloroethene						CAS #: 79-01-6	
16.628	16.628 (1.029)	95	2171661	55.2390	55.239	80.00- 120.00	100.00
16.628	16.628 (1.029)	130	2202986			51.11- 151.11	101.44
16.628	16.628 (1.029)	97	1400114			15.04- 115.04	64.47
104 1,2-Dichloropropane						CAS #: 78-87-5	
17.126	17.126 (1.060)	63	1839663	54.1635	54.163	80.00- 120.00	100.00
17.126	17.126 (1.060)	62	1351922			23.92- 123.92	73.49
17.126	17.126 (1.060)	41	1091013			11.24- 111.24	59.31
106 1,4-Dioxane						CAS #: 123-91-1	
17.236	17.264 (1.067)	88	1214660	54.9846	54.984	80.00- 120.00	100.00
17.236	17.236 (1.067)	58	856216			18.82- 118.82	70.49
17.236	17.236 (1.067)	57	276948			0.00- 74.60	22.80
107 Bromodichloromethane						CAS #: 75-27-4	
17.540	17.540 (1.086)	83	3764613	55.1553	55.155	80.00- 120.00	100.00
17.540	17.568 (1.086)	85	2413628			14.03- 114.03	64.11
110 cis-1,3-Dichloropropene						CAS #: 10061-01-5	
18.342	18.342 (1.135)	75	2682342	55.8888	55.889	80.00- 120.00	100.00
18.342	18.342 (1.135)	77	864245			0.00- 82.01	32.22
18.342	18.342 (1.135)	39	1475376			4.79- 104.79	55.00
111 4-Methyl-2-pentanone						CAS #: 108-10-1	
18.508	18.508 (1.145)	58	1578999	59.6179	59.618	80.00- 120.00	100.00
18.508	18.508 (1.145)	43	3998714			222.97- 322.97	253.24
18.508	18.508 (1.145)	85	613140			0.00- 90.48	38.83

RT	EXP RT (REL RT)	MASS	RESPONSE	CONCENTRATIONS ON-COL (PPBV)	FINAL (PPBV)	TARGET RANGE	RATIO
114 Toluene					CAS #: 108-88-3		
18.895	18.895 (1.169)	91	5595999	57.7272	57.727	80.00- 120.00	100.00
18.895	18.895 (1.169)	92	3562047			12.90- 112.90	63.65
116 trans-1,3-Dichloropropene					CAS #: 10061-02-6		
19.310	19.310 (0.904)	75	2856279	57.4421	57.442	80.00- 120.00	100.00
19.310	19.310 (0.904)	77	910778			0.00- 82.53	31.89
19.310	19.310 (0.904)	39	1459706			1.27- 101.27	51.11
117 1,1,2-Trichloroethane					CAS #: 79-00-5		
19.669	19.669 (0.921)	97	2104403	58.0299	58.030	80.00- 120.00	100.00
19.669	19.669 (0.921)	99	1306444			12.40- 112.40	62.08
19.642	19.669 (0.920)	83	1747282			32.55- 132.55	83.03
120 Tetrachloroethene					CAS #: 127-18-4		
19.835	19.835 (0.929)	166	2789570	59.3107	59.311	80.00- 120.00	100.00
19.835	19.835 (0.929)	129	1950320			21.07- 121.07	69.91
19.835	19.835 (0.929)	131	1904366			18.33- 118.33	68.27
121 2-Hexanone					CAS #: 591-78-6		
19.974	19.973 (0.935)	58	2167582	55.7729	55.773	80.00- 120.00	100.00
19.974	19.973 (0.935)	43	3990768			134.78- 234.78	184.11
19.974	19.973 (0.935)	100	383712			0.00- 67.05	17.70
122 Dibromochloromethane					CAS #: 124-48-1		
20.361	20.361 (0.953)	129	3773149	58.7225	58.722	80.00- 120.00	100.00
20.361	20.361 (0.953)	127	2926562			27.62- 127.62	77.56
123 1,2-Dibromoethane					CAS #: 106-93-4		
20.637	20.637 (0.966)	107	3381476	56.8798	56.880	80.00- 120.00	100.00
20.637	20.637 (0.966)	109	3189210			45.10- 145.10	94.31
127 Chlorobenzene					CAS #: 108-90-7		
21.411	21.411 (1.003)	112	4421782	55.8259	55.826	80.00- 120.00	100.00
21.411	21.411 (1.003)	114	1415865			0.00- 81.96	32.02
21.411	21.411 (1.003)	77	3095269			19.83- 119.83	70.00
128 Ethyl Benzene					CAS #: 100-41-4		
21.494	21.494 (1.006)	106	2257576	55.8378	55.838	80.00- 120.00	100.00
21.494	21.494 (1.006)	91	6935286			261.69- 361.69	307.20
129 m,p-Xylene					CAS #: 108-38-3		
21.688	21.688 (1.016)	106	2840674	56.1326	56.133	80.00- 120.00	100.00
21.688	21.688 (1.016)	91	5471476			145.05- 245.05	192.61
130 o-Xylene					CAS #: 95-47-6		
22.379	22.379 (1.048)	106	2482212	56.6000	56.600	80.00- 120.00	100.00

RT	EXP RT (REL RT)	MASS	RESPONSE	CONCENTRATIONS ON-COL (PPBV)	FINAL (PPBV)	TARGET RANGE	RATIO
130 o-Xylene (continued)							
22.379	22.379 (1.048)	91	5060568			150.43- 250.43	203.87
131 Styrene						CAS #: 100-42-5	
22.407	22.407 (1.049)	104	4054509	59.7746	59.774	80.00- 120.00	100.00
22.407	22.407 (1.049)	78	1988973			0.00- 98.65	49.06
133 Bromoform						CAS #: 75-25-2	
22.821	22.821 (1.069)	173	3359674	59.5462	59.546	80.00- 120.00	100.00
22.821	22.821 (1.069)	171	1732830			1.15- 101.15	51.58
134 Cumene						CAS #: 98-82-8	
22.960	22.960 (1.075)	105	6559326	59.2313	59.231	80.00- 120.00	100.00
22.960	22.960 (1.075)	120	1831489			0.00- 78.08	27.92
22.960	22.960 (1.075)	51	653563			0.00- 61.43	9.96
140 1,1,2,2-Tetrachloroethane						CAS #: 79-34-5	
23.540	23.540 (1.102)	83	3929085	53.6373	53.637	80.00- 120.00	100.00
23.540	23.540 (1.102)	85	2531530			14.51- 114.51	64.43
142 Propylbenzene						CAS #: 103-65-1	
23.651	23.651 (1.107)	91	8436869	56.8028	56.803	80.00- 120.00	100.00
23.651	23.651 (1.107)	120	1938229			0.00- 72.94	22.97
23.651	23.651 (1.107)	105	301030			0.00- 54.03	3.57
145 4-Ethyltoluene						CAS #: 622-96-8	
23.817	23.817 (1.115)	105	7114568	54.2423	54.242	80.00- 120.00	100.00
23.817	23.817 (1.115)	120	2260331			0.00- 81.87	31.77
147 1,3,5-Trimethylbenzene						CAS #: 108-67-8	
23.927	23.927 (1.120)	105	5596362	54.3195	54.319	80.00- 120.00	100.00
23.927	23.927 (1.120)	120	2941518			3.80- 103.80	52.56
150 1,2,4-Trimethylbenzene						CAS #: 95-63-6	
24.563	24.563 (1.150)	105	5240639	55.9709	55.971	80.00- 120.00	100.00
24.563	24.563 (1.150)	120	2583041			0.00- 98.95	49.29
155 1,3-Dichlorobenzene						CAS #: 541-73-1	
25.116	25.116 (1.176)	146	4014891	55.4115	55.412	80.00- 120.00	100.00
25.116	25.116 (1.176)	148	2562720			14.48- 114.48	63.83
25.116	25.116 (1.176)	111	1556414			0.00- 89.68	38.77
156 1,4-Dichlorobenzene						CAS #: 106-46-7	
25.282	25.282 (1.184)	146	4098541	54.2768	54.277	80.00- 120.00	100.00
25.282	25.282 (1.184)	148	2602465			13.81- 113.81	63.50
25.282	25.282 (1.184)	111	1510244			0.00- 87.35	36.85

RT	EXP RT (REL RT)	MASS	RESPONSE	CONCENTRATIONS ON-COL (PPBV)	FINAL (PPBV)	TARGET RANGE	RATIO
159 alpha-Chlorotoluene					CAS #: 100-44-7		
25.476	25.476 (1.193)	91	5905125	58.9057	58.906	80.00- 120.00	100.00
25.476	25.476 (1.193)	126	1261022			0.00- 71.29	21.35
161 1,2-Dichlorobenzene					CAS #: 95-50-1		
25.918	25.918 (1.214)	146	3599434	53.3555	53.356	80.00- 120.00	100.00
25.918	25.918 (1.214)	148	2292678			13.83- 113.83	63.70
25.918	25.918 (1.214)	111	1400031			0.00- 89.84	38.90
165 1,2,4-Trichlorobenzene					CAS #: 120-82-1		
28.821	28.821 (1.350)	180	1286635	46.6318	46.632	80.00- 120.00	100.00
28.821	28.821 (1.350)	182	1218153			43.54- 143.54	94.68
166 Hexachlorobutadiene					CAS #: 87-68-3		
28.987	28.987 (1.357)	225	1036750	45.1987	45.199	80.00- 120.00	100.00
28.987	28.987 (1.357)	223	652348			12.64- 112.64	62.92
29 Isopentane					CAS #: 78-78-4		
8.377	8.377 (0.581)	43	2456261	50.2255	50.225	80.00- 120.00	100.00
8.377	8.377 (0.581)	57	1643768			16.48- 116.48	66.92
19 Butane					CAS #: 106-97-8		
6.771	6.771 (0.470)	58	383870	50.2534	50.253	80.00- 120.00	100.00
6.771	6.771 (0.470)	43	3039801			757.70- 857.70	791.88
102 Methyl Cyclohexane					CAS #: 108-87-2		
16.904	16.904 (1.173)	83	2703317	55.1260	55.126	80.00- 120.00	100.00
16.904	16.904 (1.173)	98	1267788			0.00- 96.13	46.90
16.904	16.904 (1.173)	55	2332342			38.51- 138.51	86.28
167 Naphthalene					CAS #: 91-20-3		
29.374	29.374 (1.375)	128	2319807	44.8757	44.876	80.00- 120.00	100.00
29.374	29.374 (1.375)	127	277846			0.00- 62.50	11.98

Report Date: 07-Nov-2007 10:06

Air Toxics Ltd.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: msd7.i
Lab File ID: 7110703.d
Lab Smp Id: LCS-1
Analysis Type: VOA
Quant Type: ISTD
Operator: sjr
Method File: /chem/msd7.i/7-07nov.b/t14qO18d.m
Misc Info: 100ppbv -> 50ppbv

Calibration Date: 07-NOV-2007
Calibration Time: 08:52
Client Smp ID: LCS-1
Level: LOW
Sample Type: AIR

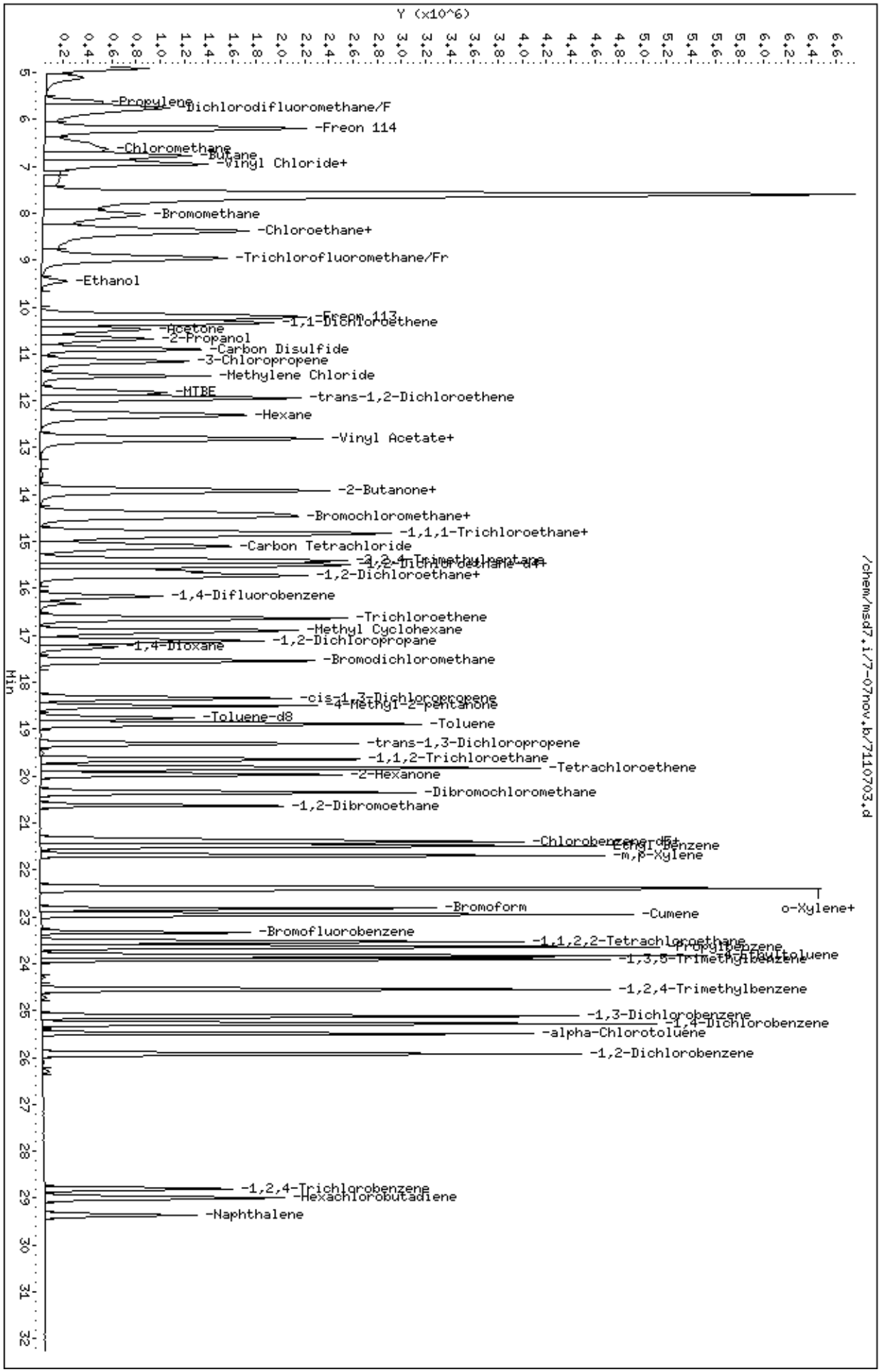
COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
81 Bromochloromethan	695461	417277	973645	686073	-1.35
97 1,4-Difluorobenze	2265681	1359409	3171953	2227472	-1.69
126 Chlorobenzene-d5	1765821	1059493	2472149	1750820	-0.85

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
81 Bromochloromethan	14.42	14.09	14.75	14.42	0.00
97 1,4-Difluorobenze	16.16	15.83	16.49	16.16	0.00
126 Chlorobenzene-d5	21.36	21.03	21.69	21.36	0.00

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /chem/msd7.i/7-07nov.b/7110703.d
Date : 07-NOV-2007 09:45
Client ID: LCS-1
Sample Info: 100mL #1443-302A
Column phase: RTx-624

Instrument: msd7.i
Operator: sjr
Column diameter: 0.53



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MSD-7

Logbook #: 1594

m/z	ION ABUNDANCE CRITERIA	% REL. ABUNDANCE
50	15.0 – 40.0% of mass 95	18.49
75	30.0 – 60.0% of mass 95	39.68
95	Base peak, 100.00% relative abundance	100
96	5.0 – 9.0% of mass 95	6.67
173	Less than 2.0% of mass 174	(0.50)[1]
174	Greater than 50.0% of mass 95	86.45
175	5.0 – 9.0% of mass 174	(6.85)[1]
176	Greater than 95.0% but less than 101.0% of mass 174	(97.00)[1]
177	5.0 – 9.0% of mass 176	(6.37)[2]

[1] - value in parenthesis is % mass 174 [2] - value in parenthesis is % mass 176

BFB Injection Date: 11/7/07
BFB Injection Time: 0822
BFB File ID: 7110701
Tekmar Purge Flow: 17.7mL/min
Vacuum: 4.1e-5

IS/S Std.#:	1443-339	Exp. Date:	12/26/07
BCM	695461		
1,4-DFB	2265681		
CB-d5	1765821		

Verified CCV IS vs ICAL mid-point (- 40%D) SJR Initials

0477

Verify 176/174 m/z Ratio: 1156664/1192444 x 100 = 97.00

NOAH Cart #: NA File #: NA

Calculation Check:

$$\text{ppbv of compound} = \frac{\text{Area}_{\text{Sample}}}{\text{Area}_{\text{IS}}} \times \frac{\text{Conc.}_{\text{IS}}}{\text{RRF}} = \frac{(1994025)}{(2265681)} \times \frac{(25.0)}{(0.88746)} = 24.792$$

File ID:	7110702
Compound:	Tol-d8
Initials:	SJR

Reported Result 24.792

	Use	File #	Sample / Client Name	Can #	Pressure	Amt Loaded	DF	Date Analyzed	Time Analyzed	Review Init.	Comments
1	✓	7110701	BFB Tune Check	1467-64	50mg	2µL	1.00	11/7/07	0822	SJR	
2	✓	02	CCV-1 (50ppbv)	1576-50B	50ppbv	200mL			0852	SJR	
3	✓	03	LCS-1 (100ppbv)	1443-302A		100mL			0945	SJR	
4	✓	04	CCVsp (200ppbv)	1443-361		50mL			1030	SJR	sp14d
5	✓	05	CCVsp (200ppbv/100ppbv)	1487-370 / 1487-400A		50mL/100mL			1115	SJR	sp22aNspK
6	✓	06	Lab blank	34190	Humid	200mL			1205	SJR	
7	✓	07	0710664-10A	34619	6.5"Hg-15psi	200mL	2.58		1317	KS	
8	✓	08	-11A	11335	5.5"Hg-15psi	200mL	2.47		1419	KS	
9	✓	09	12A	30824	4.5"Hg-15psi	200mL	2.38		1516	KS	

Signature

11/7/07
Date

10	X	7110710	0710664-15AA	9313	5.5"Hg-15psi	100ml	4.94	11/7/07	1613	SS	RE@200ml		
11	✓	11	-15A	9313	5.5"Hg-15psi	200ml	2.47		1703	SM/JO			
12	✓	12	-16A	21022	6.0"Hg-15psi		2.53		1758	SM			
13	✓	13	-17A	35601	5.5"Hg-15psi		2.47		1852	SM			
14	X	14	-19A	34645	2.0"Hg-15psi		2.16		1944	SM			
15	X	15	20A	35614	1.5"Hg-15psi		2.13		2032	SM	out of clock		
16	X	16	18A	31765	7.5"Hg-15psi		2.69		2123	SM			
17	✓	17	0711101 -03A	35154	6.0"Hg-5psi		1.68		2225	RL/JO			
18	✓	18	-01AA	34447	6.0"Hg-5psi	100ml	3.36		2308	RL			
19	✓	19	-01A			200ml	1.68	11/8/07	0000	RL			
20	✓	20	-02A	34749	6.5"Hg-5psi	200ml	1.71		0050	RL			
21	✓	21	-04A	4199	7.5"Hg-5psi		1.79		0131	RL			
22	✓	22	-05A	25259	7.0"Hg-5psi		1.75		0210	RL			
23	✓	23	-06A	21005	5.0"Hg-5psi		1.61		0258	RL			
24	✓	24	-06AA						0355	RL			
25	✓	25	-07A	35248					0447	RL			
26	✓	26	-08A	~~4205~~ 4025 10/18/07	5.5"Hg-5psi		1.64		0530	JO			
27	X	27	0711089A-01A	1L bag	Electrolyte vessel	1mL	200		0706	JO	RE 200		
28	✓	28	01A			20mL	1.00		0753	SM			
29													
30													
31													
32													

Comments:

SM 11/8/07

Signature

11/8/07
Date

0478

Air Toxics Ltd.

Data file : /var/chem/msd7.i/7-18oct.b/7101801.d
Lab Smp Id: Client Smp ID: BFB
Inj Date : 18-OCT-2007 11:50
Operator : cb Inst ID: msd7.i
Smp Info : 2uL #1467-64;BFB tune check;BFB tune check
Misc Info : 50ng
Comment :
Method : /var/chem/msd7.i/7-18oct.b/bfb105.m
Meth Date : 18-Oct-2007 11:45 Quant Type: ESTD
Cal Date : Cal File:
Als bottle: 1 QC Sample: BFB
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 3.50 Sample Matrix: WATER
Processing Host: eeyore

Concentration Formula: Amt * DF * Uf * Vf * Vi * CpndVariable

Name	Value	Description
DF	1.00000	Dilution Factor
Uf	1.00000	ng unit correction factor
Vf	1.00000	Volumetric correction factor
Vi	2.00000	Injection Volume

Cpnd Variable Local Compound Variable

RT	EXP RT	DLT RT	MASS	RESPONSE	CONCENTRATIONS ON-COL (ug/L)	FINAL (ug/L)	TARGET RANGE	RATIO
1 bfb						CAS #: 460-00-4		
8.204	8.232	-0.028	95	1361542			100.00- 100.00	100.00
8.204	8.232	-0.028	50	253402			15.00- 40.00	18.61
8.204	8.232	-0.028	75	540735			30.00- 60.00	39.71
8.204	8.232	-0.028	96	92275			5.00- 9.00	6.78
8.204	8.232	-0.028	173	5478			0.00- 2.00	0.49
8.204	8.232	-0.028	174	1112403			50.00- 100.00	81.70
8.204	8.232	-0.028	175	76512			5.00- 9.00	6.88
8.204	8.232	-0.028	176	1072385			95.00- 101.00	96.40
8.204	8.232	-0.028	177	71737			5.00- 9.00	6.69

Data File: /var/chem/msd7.i/7-18oct.b/7101801.d

Date : 18-OCT-2007 11:50

Client ID: BFB

Instrument: msd7.i

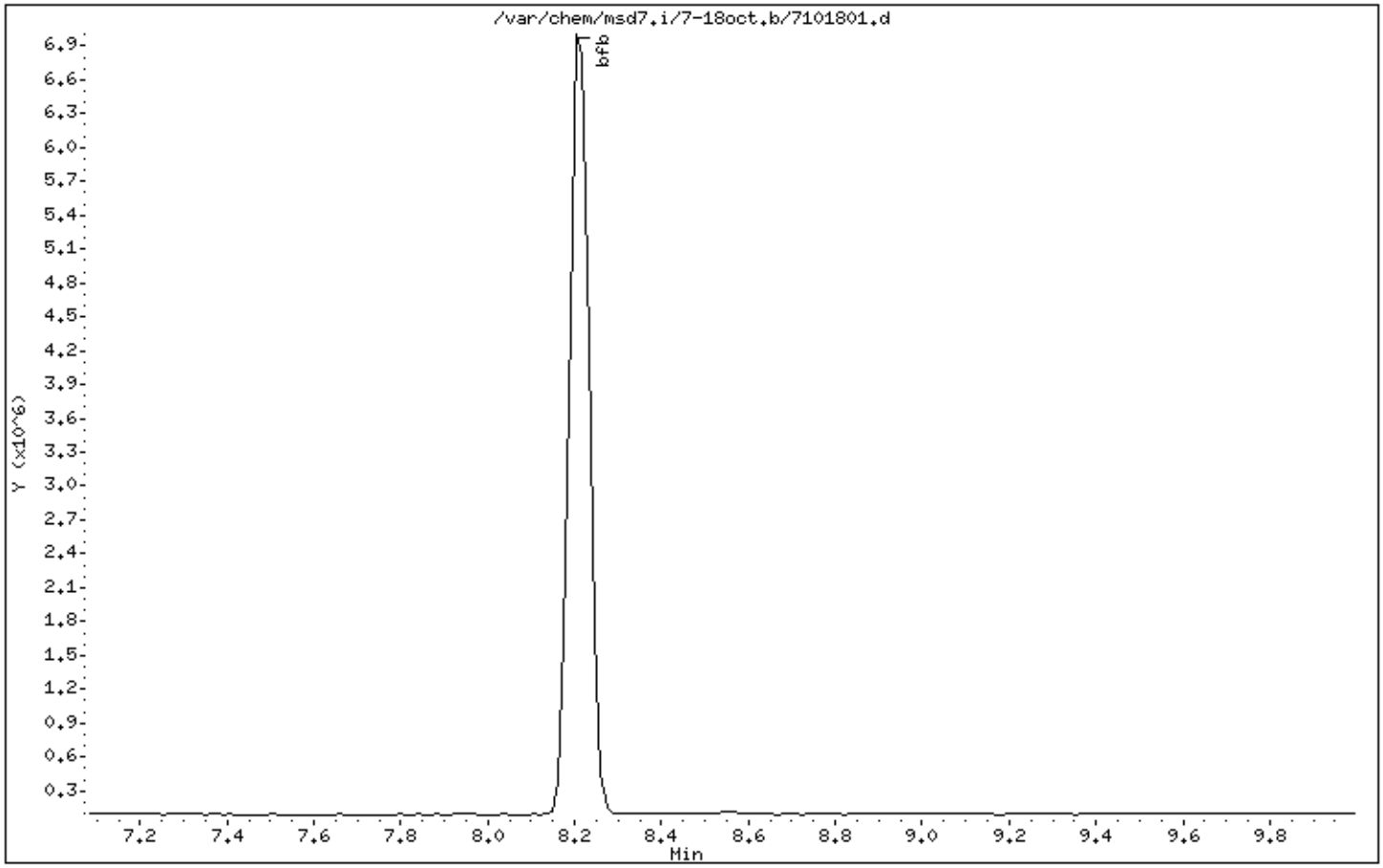
Sample Info: 2uL #1467-64;BFB tune check;BFB tune check

Volume Injected (uL): 2.0

Operator: cb

Column phase:

Column diameter: 0.53



Data File: /var/chem/msd7.i/7-18oct.b/7101801.d

Date : 18-OCT-2007 11:50

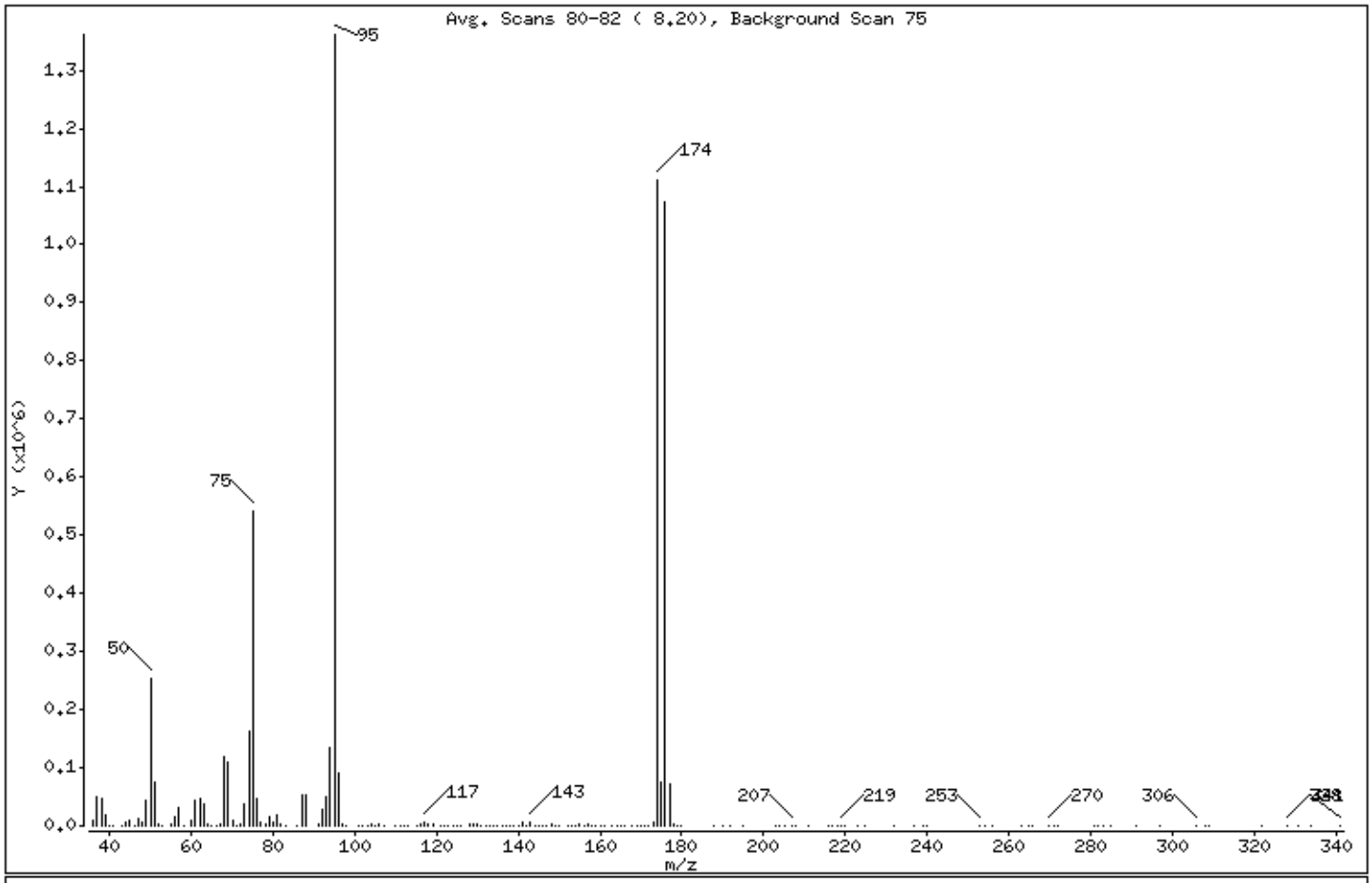
Client ID: BFB Instrument: msd7.i

Sample Info: 2uL #1467-64;BFB tune check;BFB tune check

Volume Injected (uL): 2.0 Operator: cb

Column phase: Column diameter: 0.53

1 bfb



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
95	Base Peak, 100% relative abundance	100.00
50	15.00 - 40.00% of mass 95	18.61
75	30.00 - 60.00% of mass 95	39.71
96	5.00 - 9.00% of mass 95	6.78
173	Less than 2.00% of mass 174	0.40 (0.49)
174	50.00 - 100.00% of mass 95	81.70
175	5.00 - 9.00% of mass 174	5.62 (6.88)
176	95.00 - 101.00% of mass 174	78.76 (96.40)
177	5.00 - 9.00% of mass 176	5.27 (6.69)

Data File: /var/chem/msd7.i/7-18oct.b/7101801.d

Date : 18-OCT-2007 11:50

Client ID: BFB

Instrument: msd7.i

Sample Info: 2uL #1467-64;BFB tune check;BFB tune check

Volume Injected (uL): 2.0

Operator: cb

Column phase:

Column diameter: 0.53

Data File: 7101801.d
Spectrum: Avg. Scans 80-82 (8.20), Background Scan 75
Location of Maximum: 95.00
Number of points: 172

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	8158	83.00	554	138.00	104	203.00	51
37.00	49192	86.00	1313	139.00	375	204.00	50
38.00	45528	87.00	54192	140.00	632	205.00	189
39.00	18720	88.00	53800	141.00	6507	207.00	741
40.00	732	91.00	2816	142.00	957	208.00	504
41.00	74	92.00	27664	143.00	6881	211.00	169
43.00	497	93.00	48888	144.00	483	216.00	66
44.00	4997	94.00	133568	145.00	361	217.00	63
45.00	9825	95.00	1361408	146.00	1560	218.00	35
46.00	873	96.00	92272	147.00	676	219.00	212
47.00	13741	97.00	2838	148.00	2309	220.00	15
48.00	5492	98.00	75	149.00	1043	223.00	146
49.00	42264	101.00	135	150.00	871	225.00	51
50.00	253376	102.00	118	152.00	549	232.00	107
51.00	73776	103.00	426	153.00	862	237.00	53
52.00	3233	104.00	3526	154.00	656	239.00	108
53.00	104	105.00	1311	155.00	2400	240.00	51
55.00	2446	106.00	3382	156.00	486	253.00	738
56.00	14834	107.00	1234	157.00	1946	254.00	63
57.00	31320	110.00	477	158.00	503	256.00	73
58.00	1332	111.00	643	159.00	927	263.00	50
60.00	8076	112.00	546	160.00	166	265.00	164
61.00	44952	113.00	773	161.00	951	266.00	131
62.00	46256	115.00	711	163.00	50	270.00	379
63.00	36824	116.00	3373	164.00	6	271.00	115
64.00	3340	117.00	5525	165.00	191	272.00	119
65.00	65	118.00	2784	166.00	52	281.00	44
66.00	128	119.00	4176	168.00	237	282.00	150
67.00	2479	121.00	195	169.00	104	283.00	43
68.00	119376	122.00	240	170.00	388	285.00	69
69.00	110568	123.00	240	171.00	532	291.00	52
70.00	8062	124.00	581	172.00	1047	297.00	50
71.00	416	125.00	238	173.00	5478	306.00	182
72.00	4070	126.00	222	174.00	1112064	308.00	72
73.00	38304	128.00	3372	175.00	76512	309.00	53

Data File: /var/chem/msd7.i/7-18oct.b/7101801.d

Date : 18-OCT-2007 11:50

Client ID: BFB

Instrument: msd7.i

Sample Info: 2uL #1467-64;BFB tune check;BFB tune check

Volume Injected (uL): 2.0

Operator: cb

Column phase:

Column diameter: 0.53

Data File: 7101801.d
Spectrum: Avg. Scans 80-82 (8.20), Background Scan 75
Location of Maximum: 95.00
Number of points: 172

m/z	Y	m/z	Y	m/z	Y	m/z	Y
74.00	163648	129.00	1628	176.00	1072128	322.00	66
75.00	540672	130.00	3411	177.00	71736	328.00	157
76.00	45504	131.00	1190	178.00	1947	331.00	61
77.00	6657	132.00	336	179.00	187	334.00	27
78.00	3945	133.00	196	180.00	198	341.00	150
79.00	17176	134.00	119	188.00	83		
80.00	5949	135.00	1488	190.00	234		
81.00	17288	136.00	367	192.00	279		
82.00	3829	137.00	1534	195.00	264		

Air Toxics Ltd.

Data file : /chem/msd7.i/7-19oct.b/7101901.d
Lab Smp Id: Client Smp ID: BFB
Inj Date : 19-OCT-2007 09:09
Operator : cb Inst ID: msd7.i
Smp Info : 2uL #1467-64;BFB tune check;BFB tune check
Misc Info : 50ng
Comment :
Method : /var/chem/msd7.i/7-19oct.b/bfb105.m
Meth Date : 19-Oct-2007 09:04 Quant Type: ESTD
Cal Date : Cal File:
Als bottle: 1 QC Sample: BFB
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 3.50 Sample Matrix: WATER
Processing Host: eeyore

Concentration Formula: Amt * DF * Uf * Vf * Vi * CpndVariable

Name	Value	Description
DF	1.00000	Dilution Factor
Uf	1.00000	ng unit correction factor
Vf	1.00000	Volumetric correction factor
Vi	2.00000	Injection Volume

Cpnd Variable Local Compound Variable

RT	EXP RT	DLT RT	MASS	RESPONSE	CONCENTRATIONS ON-COL (ug/L)	FINAL (ug/L)	TARGET RANGE	RATIO
1 bfb						CAS #: 460-00-4		
8.218	8.232	-0.014	95	1279483			100.00- 100.00	100.00
8.218	8.232	-0.014	50	234402			15.00- 40.00	18.32
8.218	8.232	-0.014	75	514967			30.00- 60.00	40.25
8.218	8.232	-0.014	96	87384			5.00- 9.00	6.83
8.218	8.232	-0.014	173	5154			0.00- 2.00	0.49
8.218	8.232	-0.014	174	1045184			50.00- 100.00	81.69
8.218	8.232	-0.014	175	74282			5.00- 9.00	7.11
8.218	8.232	-0.014	176	1015727			95.00- 101.00	97.18
8.218	8.232	-0.014	177	67754			5.00- 9.00	6.67

Data File: /chem/msd7.i/7-19oct.b/7101901.d

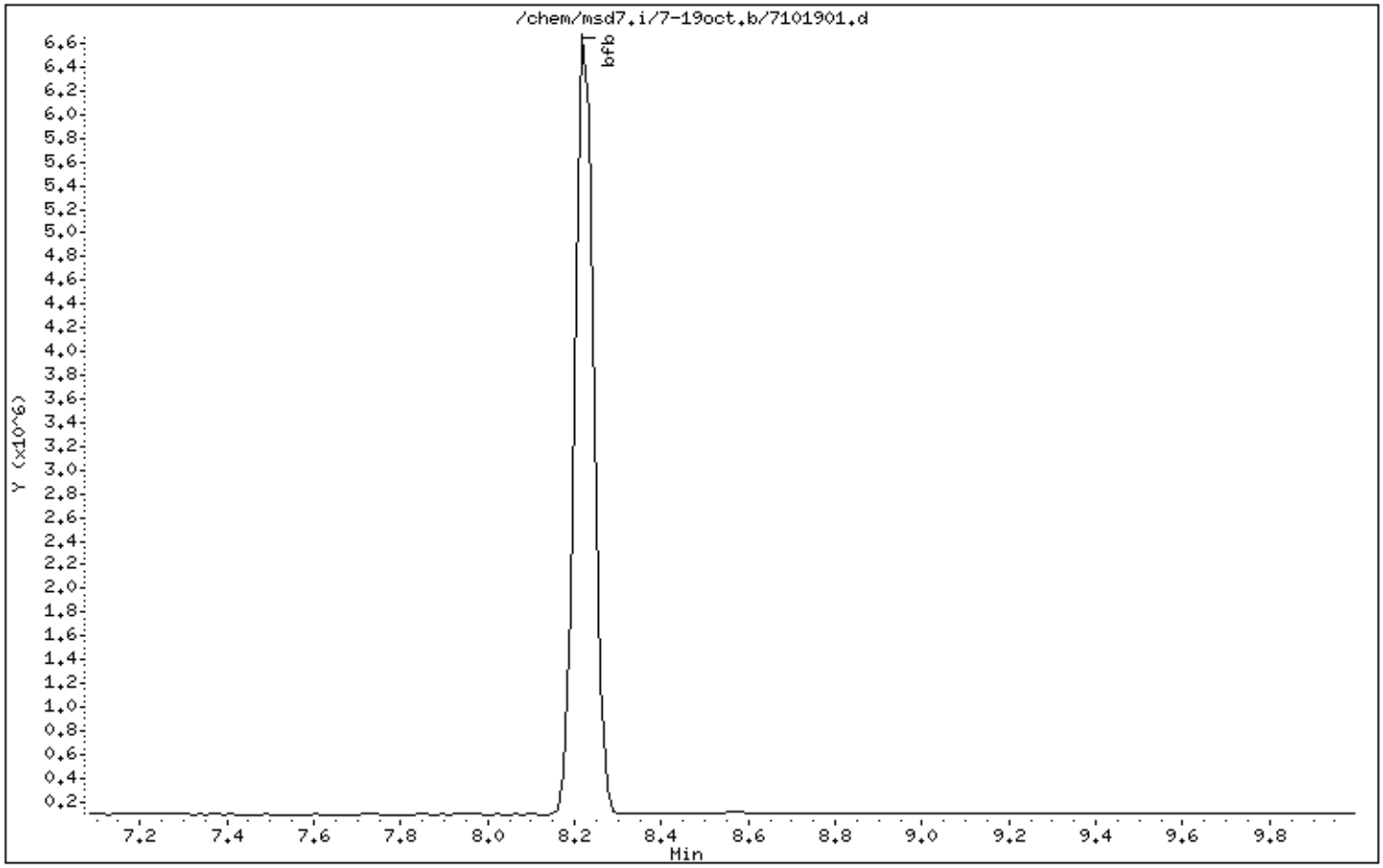
Date : 19-OCT-2007 09:09

Client ID: BFB Instrument: msd7.i

Sample Info: 2uL #1467-64;BFB tune check;BFB tune check

Volume Injected (uL): 2.0 Operator: cb

Column phase: Column diameter: 0.53



Data File: /chem/msd7.i/7-19oct.b/7101901.d

Date : 19-OCT-2007 09:09

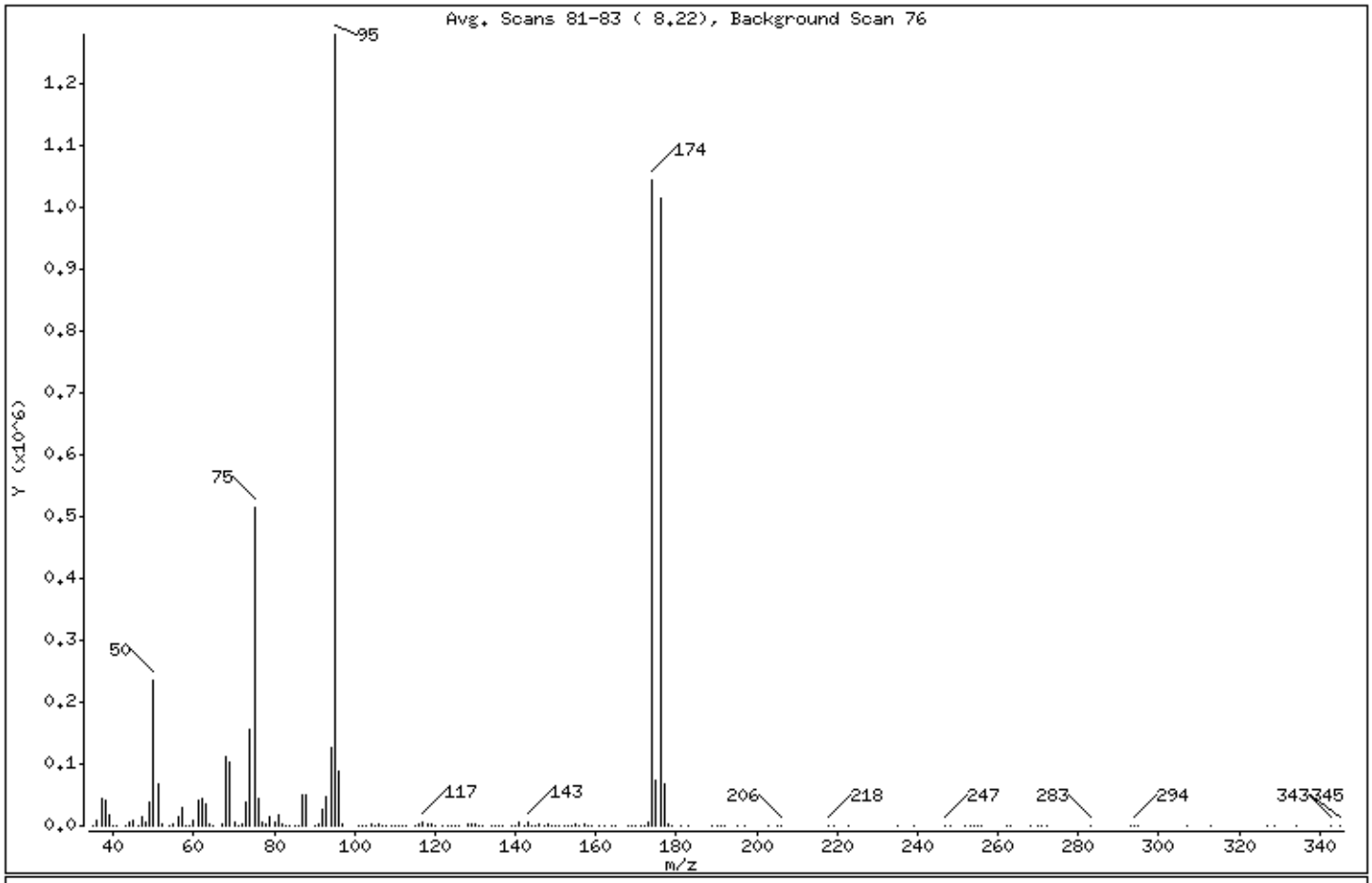
Client ID: BFB Instrument: msd7.i

Sample Info: 2uL #1467-64;BFB tune check;BFB tune check

Volume Injected (uL): 2.0 Operator: cb

Column phase: Column diameter: 0.53

1 bfb



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
95	Base Peak, 100% relative abundance	100.00
50	15.00 - 40.00% of mass 95	18.32
75	30.00 - 60.00% of mass 95	40.25
96	5.00 - 9.00% of mass 95	6.83
173	Less than 2.00% of mass 174	0.40 (0.49)
174	50.00 - 100.00% of mass 95	81.69
175	5.00 - 9.00% of mass 174	5.81 (7.11)
176	95.00 - 101.00% of mass 174	79.39 (97.18)
177	5.00 - 9.00% of mass 176	5.30 (6.67)

Data File: /chem/msd7.i/7-19oct.b/7101901.d

Date : 19-OCT-2007 09:09

Client ID: BFB

Instrument: msd7.i

Sample Info: 2uL #1467-64;BFB tune check;BFB tune check

Volume Injected (uL): 2.0

Operator: cb

Column phase:

Column diameter: 0.53

Data File: 7101901.d
Spectrum: Avg. Scans 81-83 (8.22), Background Scan 76
Location of Maximum: 95.00
Number of points: 169

m/z	Y	m/z	Y	m/z	Y	m/z	Y
35.00	72	81.00	16704	131.00	1146	181.00	171
36.00	7566	82.00	3637	132.00	454	183.00	50
37.00	45072	83.00	479	134.00	161	189.00	206
38.00	40240	84.00	53	135.00	1280	190.00	52
39.00	17640	85.00	82	136.00	225	191.00	120
40.00	628	86.00	903	137.00	1337	192.00	19
41.00	514	87.00	50640	139.00	320	195.00	40
43.00	189	88.00	48824	140.00	552	197.00	61
44.00	4493	90.00	132	141.00	6532	203.00	123
45.00	9647	91.00	2770	142.00	943	205.00	82
46.00	741	92.00	27528	143.00	7001	206.00	177
47.00	14368	93.00	47072	144.00	545	218.00	236
48.00	5164	94.00	125368	145.00	738	219.00	161
49.00	39688	95.00	1278976	146.00	1511	223.00	27
50.00	234368	96.00	87384	147.00	819	235.00	67
51.00	68168	97.00	2415	148.00	2386	239.00	107
52.00	2980	101.00	172	149.00	484	247.00	182
54.00	63	102.00	133	150.00	1007	248.00	62
55.00	2156	103.00	141	151.00	144	252.00	66
56.00	13491	104.00	2803	152.00	540	253.00	19
57.00	28776	105.00	1086	153.00	901	254.00	160
58.00	1021	106.00	3164	154.00	676	255.00	25
59.00	272	107.00	1031	155.00	2357	256.00	50
60.00	7740	108.00	15	156.00	629	262.00	82
61.00	41792	109.00	150	157.00	1793	263.00	50
62.00	43952	110.00	458	158.00	360	268.00	131
63.00	34352	111.00	504	159.00	1015	270.00	109
64.00	3135	112.00	313	161.00	1159	271.00	85
65.00	478	113.00	444	162.00	295	272.00	57
67.00	2376	115.00	640	164.00	102	283.00	471
68.00	112072	116.00	2542	165.00	171	293.00	77
69.00	101736	117.00	4565	168.00	62	294.00	66
70.00	7312	118.00	2517	169.00	215	295.00	52
71.00	405	119.00	4082	170.00	464	307.00	60
72.00	4296	120.00	347	171.00	397	313.00	52

Data File: /chem/msd7.i/7-19oct.b/7101901.d

Date : 19-OCT-2007 09:09

Client ID: BFB

Instrument: msd7.i

Sample Info: 2uL #1467-64;BFB tune check;BFB tune check

Volume Injected (uL): 2.0

Operator: cb

Column phase:

Column diameter: 0.53

Data File: 7101901.d
Spectrum: Avg. Scans 81-83 (8.22), Background Scan 76
Location of Maximum: 95.00
Number of points: 169

m/z	Y	m/z	Y	m/z	Y	m/z	Y
73.00	37336	122.00	296	172.00	834	327.00	42
74.00	157248	123.00	375	173.00	5154	329.00	64
75.00	514944	124.00	587	174.00	1045184	334.00	39
76.00	44472	125.00	107	175.00	74280	343.00	346
77.00	6177	126.00	562	176.00	1015680	345.00	241
78.00	4351	128.00	3477	177.00	67752		
79.00	15940	129.00	1800	178.00	1868		
80.00	5885	130.00	3276	179.00	89		

Air Toxics Ltd.

Data file : /var/chem/msd7.i/7-22oct.b/7102201.d
Lab Smp Id: Client Smp ID: BFB
Inj Date : 22-OCT-2007 08:22
Operator : cb Inst ID: msd7.i
Smp Info : 2uL #1467-64;BFB tune check;BFB tune check
Misc Info : 50ng
Comment :
Method : /var/chem/msd7.i/7-22oct.b/bfb105.m
Meth Date : 22-Oct-2007 08:17 Quant Type: ESTD
Cal Date : Cal File:
Als bottle: 1 QC Sample: BFB
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 3.50 Sample Matrix: WATER
Processing Host: eeyore

Concentration Formula: Amt * DF * Uf * Vf * Vi * CpndVariable

Name	Value	Description
DF	1.00000	Dilution Factor
Uf	1.00000	ng unit correction factor
Vf	1.00000	Volumetric correction factor
Vi	2.00000	Injection Volume

Cpnd Variable Local Compound Variable

RT	EXP RT	DLT RT	MASS	RESPONSE	CONCENTRATIONS ON-COL (ug/L)	FINAL (ug/L)	TARGET RANGE	RATIO
1 bfb						CAS #: 460-00-4		
8.218	8.232	-0.014	95	1368062			100.00- 100.00	100.00
8.218	8.232	-0.014	50	244266			15.00- 40.00	17.85
8.218	8.232	-0.014	75	543796			30.00- 60.00	39.75
8.218	8.232	-0.014	96	92363			5.00- 9.00	6.75
8.218	8.232	-0.014	173	6310			0.00- 2.00	0.53
8.218	8.232	-0.014	174	1182801			50.00- 100.00	86.46
8.218	8.232	-0.014	175	81821			5.00- 9.00	6.92
8.218	8.232	-0.014	176	1142984			95.00- 101.00	96.63
8.218	8.232	-0.014	177	74057			5.00- 9.00	6.48

Data File: /var/chem/msd7.i/7-22oct.b/7102201.d

Date : 22-OCT-2007 08:22

Client ID: BFB

Instrument: msd7.i

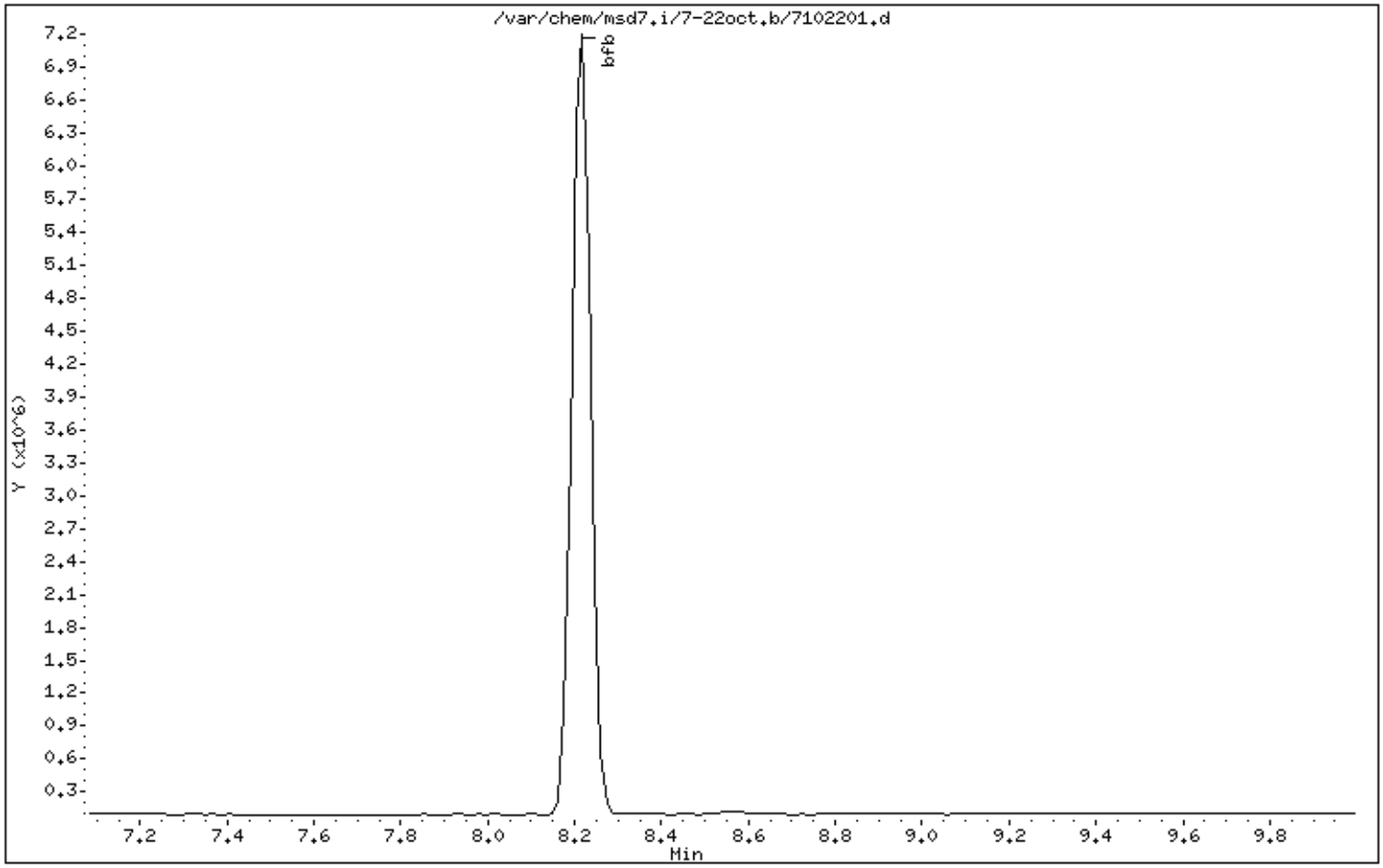
Sample Info: 2uL #1467-64;BFB tune check;BFB tune check

Volume Injected (uL): 2.0

Operator: cb

Column phase:

Column diameter: 0.53



Data File: /var/chem/msd7.i/7-22oct.b/7102201.d

Date : 22-OCT-2007 08:22

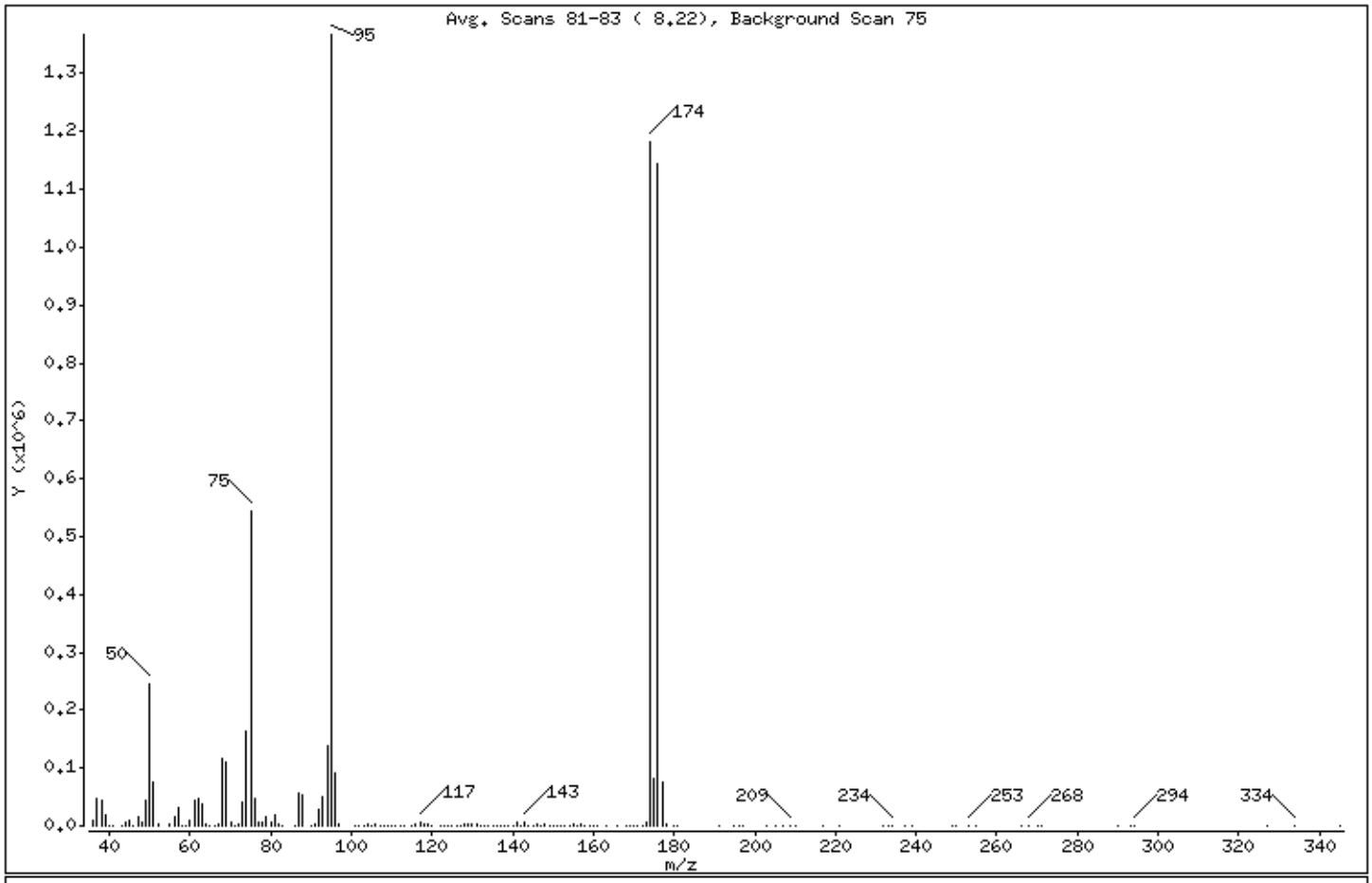
Client ID: BFB Instrument: msd7.i

Sample Info: 2uL #1467-64;BFB tune check;BFB tune check

Volume Injected (uL): 2.0 Operator: cb

Column phase: Column diameter: 0.53

1 bfb



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
95	Base Peak, 100% relative abundance	100.00
50	15.00 - 40.00% of mass 95	17.85
75	30.00 - 60.00% of mass 95	39.75
96	5.00 - 9.00% of mass 95	6.75
173	Less than 2.00% of mass 174	0.46 (0.53)
174	50.00 - 100.00% of mass 95	86.46
175	5.00 - 9.00% of mass 174	5.98 (6.92)
176	95.00 - 101.00% of mass 174	83.55 (96.63)
177	5.00 - 9.00% of mass 176	5.41 (6.48)

Data File: /var/chem/msd7.i/7-22oct.b/7102201.d

Date : 22-OCT-2007 08:22

Client ID: BFB

Instrument: msd7.i

Sample Info: 2uL #1467-64;BFB tune check;BFB tune check

Volume Injected (uL): 2.0

Operator: cb

Column phase:

Column diameter: 0.53

Data File: 7102201.d
Spectrum: Avg. Scans 81-83 (8.22), Background Scan 75
Location of Maximum: 95.00
Number of points: 160

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	7934	80.00	6507	129.00	1848	174.00	1182720
37.00	46400	81.00	17392	130.00	3596	175.00	81816
38.00	43896	82.00	4057	131.00	1722	176.00	1142784
39.00	18320	83.00	366	132.00	246	177.00	74056
40.00	466	86.00	1209	133.00	474	178.00	1906
41.00	102	87.00	55040	134.00	351	180.00	63
43.00	446	88.00	52696	135.00	1238	181.00	60
44.00	5254	90.00	94	136.00	390	191.00	49
45.00	10160	91.00	2596	137.00	1212	195.00	127
46.00	749	92.00	28584	138.00	67	196.00	50
47.00	14258	93.00	49208	139.00	329	197.00	54
48.00	4923	94.00	136960	140.00	640	203.00	23
49.00	44064	95.00	1367552	141.00	6885	205.00	114
50.00	244224	96.00	92360	142.00	1006	207.00	64
51.00	74240	97.00	2784	143.00	7115	209.00	162
52.00	2711	101.00	64	144.00	424	210.00	61
55.00	2537	102.00	33	145.00	525	217.00	109
56.00	14247	103.00	527	146.00	1988	221.00	104
57.00	30944	104.00	3615	147.00	642	232.00	114
58.00	1172	105.00	1276	148.00	2214	233.00	24
59.00	16	106.00	3588	149.00	812	234.00	201
60.00	8822	107.00	1268	150.00	1058	237.00	52
61.00	43248	108.00	66	151.00	149	239.00	80
62.00	45912	109.00	216	152.00	573	249.00	279
63.00	37216	110.00	357	153.00	1089	250.00	65
64.00	3029	111.00	609	154.00	769	253.00	409
65.00	121	112.00	147	155.00	2837	255.00	19
66.00	148	113.00	586	156.00	132	266.00	68
67.00	2227	115.00	534	157.00	1838	268.00	195
68.00	116288	116.00	2972	158.00	266	270.00	108
69.00	109120	117.00	5461	159.00	1124	271.00	4
70.00	7621	118.00	2641	160.00	100	290.00	51
71.00	436	119.00	4156	161.00	871	293.00	50
72.00	4566	120.00	149	163.00	80	294.00	54
73.00	39520	122.00	241	166.00	50	327.00	35

Data File: /var/chem/msd7.i/7-22oct.b/7102201.d

Date : 22-OCT-2007 08:22

Client ID: BFB

Instrument: msd7.i

Sample Info: 2uL #1467-64;BFB tune check;BFB tune check

Volume Injected (uL): 2.0

Operator: cb

Column phase:

Column diameter: 0.53

Data File: 7102201.d
Spectrum: Avg. Scans 81-83 (8.22), Background Scan 75
Location of Maximum: 95.00
Number of points: 160

m/z	Y	m/z	Y	m/z	Y	m/z	Y
74.00	164672	123.00	275	168.00	118	334.00	71
75.00	543744	124.00	566	169.00	146	345.00	25
76.00	47160	125.00	204	170.00	403		
77.00	6258	126.00	206	171.00	332		
78.00	4752	127.00	159	172.00	1080		
79.00	16057	128.00	3594	173.00	6310		

Air Toxics Ltd.

Data file : /var/chem/msd7.i/7-30oct.b/7103001.d
Lab Smp Id: Client Smp ID: BFB
Inj Date : 30-OCT-2007 08:26
Operator : cb Inst ID: msd7.i
Smp Info : 2uL #1467-64;BFB tune check;BFB tune check
Misc Info : 50ng
Comment :
Method : /var/chem/msd7.i/7-30oct.b/bfb105.m
Meth Date : 30-Oct-2007 08:20 Quant Type: ESTD
Cal Date : Cal File:
Als bottle: 1 QC Sample: BFB
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 3.50 Sample Matrix: WATER
Processing Host: eeyore

Concentration Formula: Amt * DF * Uf * Vf * Vi * CpndVariable

Name	Value	Description
DF	1.00000	Dilution Factor
Uf	1.00000	ng unit correction factor
Vf	1.00000	Volumetric correction factor
Vi	2.00000	Injection Volume

Cpnd Variable Local Compound Variable

RT	EXP RT	DLT RT	MASS	RESPONSE	CONCENTRATIONS ON-COL (ug/L)	FINAL (ug/L)	TARGET RANGE	RATIO
1 bfb						CAS #: 460-00-4		
8.218	8.232	-0.014	95	985898			100.00- 100.00	100.00
8.218	8.232	-0.014	50	179605			15.00- 40.00	18.22
8.218	8.232	-0.014	75	386803			30.00- 60.00	39.23
8.218	8.232	-0.014	96	65481			5.00- 9.00	6.64
8.218	8.232	-0.014	173	4443			0.00- 2.00	0.52
8.218	8.232	-0.014	174	855253			50.00- 100.00	86.75
8.218	8.232	-0.014	175	60898			5.00- 9.00	7.12
8.218	8.232	-0.014	176	835758			95.00- 101.00	97.72
8.218	8.232	-0.014	177	53944			5.00- 9.00	6.45

Data File: /var/chem/msd7.i/7-30oct.b/7103001.d

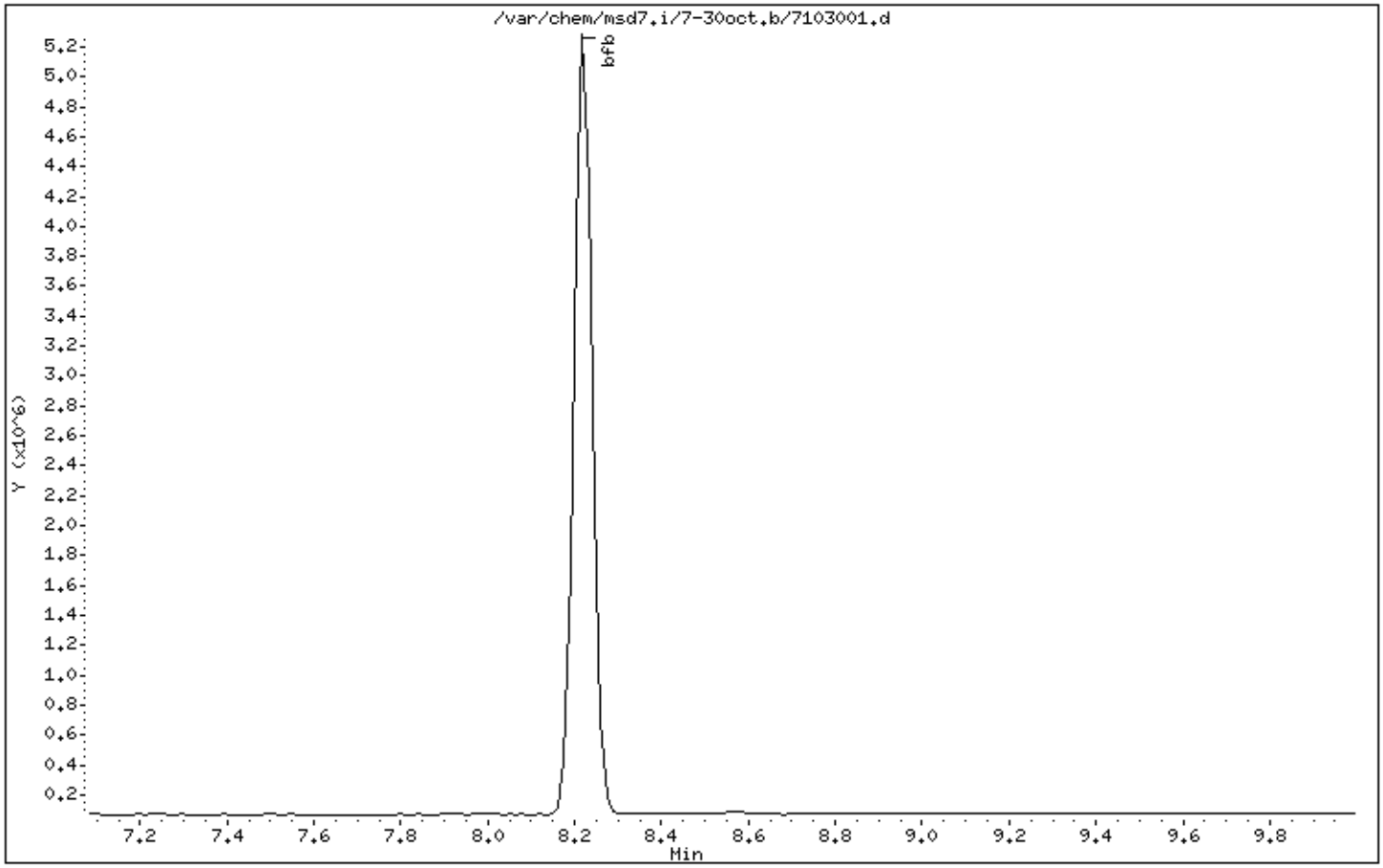
Date : 30-OCT-2007 08:26

Client ID: BFB Instrument: msd7.i

Sample Info: 2uL #1467-64;BFB tune check;BFB tune check

Volume Injected (uL): 2.0 Operator: cb

Column phase: Column diameter: 0.53



Data File: /var/chem/msd7.i/7-30oct.b/7103001.d

Date : 30-OCT-2007 08:26

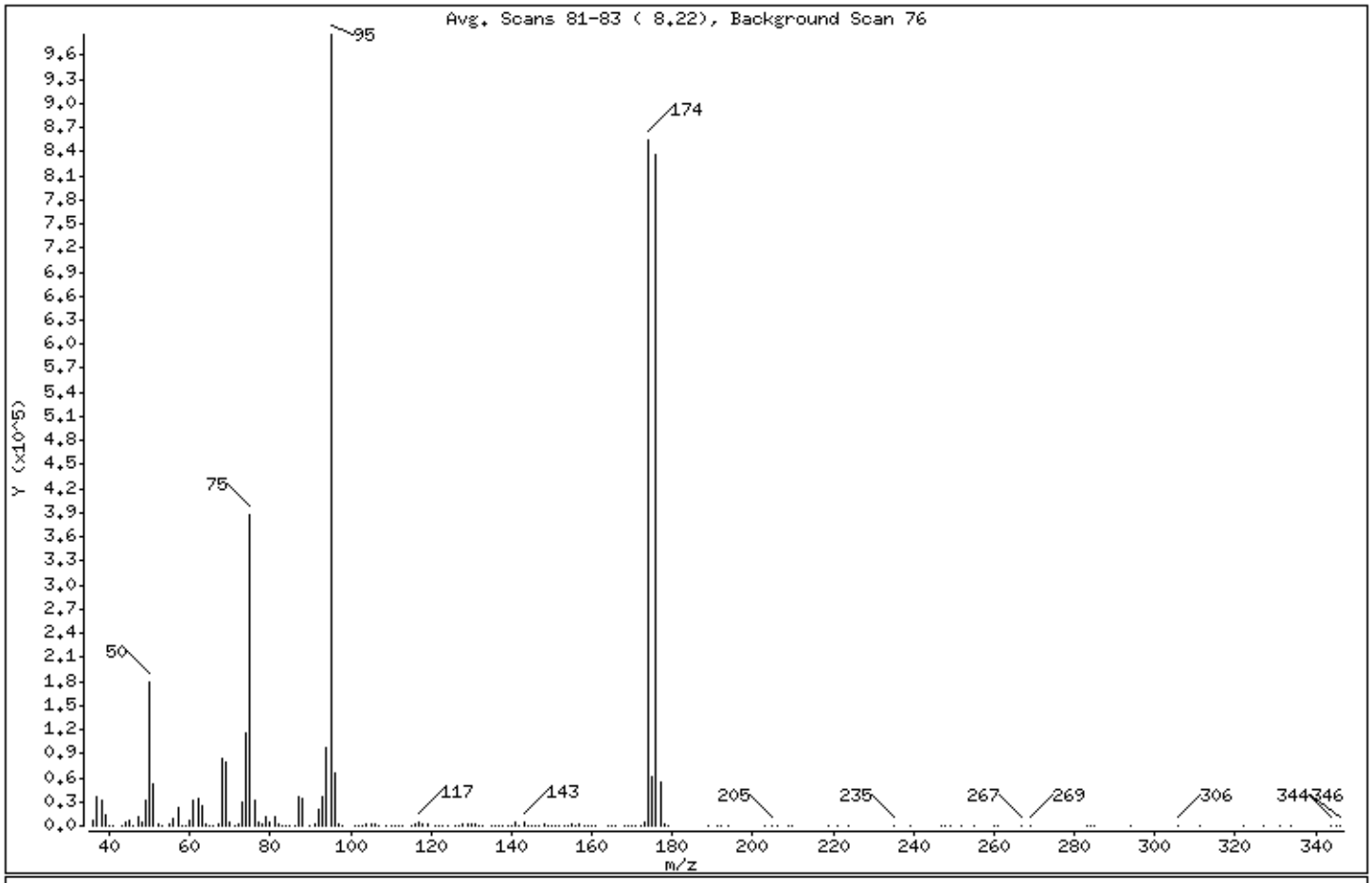
Client ID: BFB Instrument: msd7.i

Sample Info: 2uL #1467-64;BFB tune check;BFB tune check

Volume Injected (uL): 2.0 Operator: cb

Column phase: Column diameter: 0.53

1 bfb



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
95	Base Peak, 100% relative abundance	100.00
50	15.00 - 40.00% of mass 95	18.22
75	30.00 - 60.00% of mass 95	39.23
96	5.00 - 9.00% of mass 95	6.64
173	Less than 2.00% of mass 174	0.45 (0.52)
174	50.00 - 100.00% of mass 95	86.75
175	5.00 - 9.00% of mass 174	6.18 (7.12)
176	95.00 - 101.00% of mass 174	84.77 (97.72)
177	5.00 - 9.00% of mass 176	5.47 (6.45)

Data File: /var/chem/msd7.i/7-30oct.b/7103001.d

Date : 30-OCT-2007 08:26

Client ID: BFB Instrument: msd7.i

Sample Info: 2uL #1467-64;BFB tune check;BFB tune check

Volume Injected (uL): 2.0 Operator: cb

Column phase: Column diameter: 0.53

Data File: 7103001.d
Spectrum: Avg. Scans 81-83 (8.22), Background Scan 76
Location of Maximum: 95.00
Number of points: 167

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	5864	80.00	4195	129.00	1278	175.00	60896
37.00	35984	81.00	12097	130.00	2851	176.00	835712
38.00	32616	82.00	2437	131.00	1250	177.00	53944
39.00	13375	83.00	269	132.00	40	178.00	1321
40.00	252	84.00	56	133.00	221	179.00	25
41.00	118	85.00	51	135.00	850	189.00	147
43.00	194	86.00	972	136.00	239	191.00	119
44.00	3444	87.00	35968	137.00	991	192.00	85
45.00	7216	88.00	33456	138.00	108	194.00	76
46.00	550	90.00	115	139.00	64	203.00	51
47.00	10457	91.00	1553	140.00	426	205.00	142
48.00	4077	92.00	20376	141.00	4690	206.00	91
49.00	30808	93.00	35520	142.00	663	209.00	22
50.00	179584	94.00	96568	143.00	4970	210.00	105
51.00	53056	95.00	985856	144.00	322	219.00	106
52.00	2430	96.00	65480	145.00	447	221.00	68
53.00	124	97.00	1839	146.00	920	224.00	52
55.00	1522	98.00	50	147.00	386	235.00	132
56.00	9728	101.00	140	148.00	1872	239.00	74
57.00	22088	102.00	66	149.00	667	247.00	32
58.00	909	103.00	111	150.00	776	248.00	64
59.00	161	104.00	2660	151.00	123	249.00	223
60.00	5809	105.00	1235	152.00	504	252.00	106
61.00	30872	106.00	2288	153.00	738	255.00	1
62.00	34136	107.00	825	154.00	588	260.00	24
63.00	26000	109.00	263	155.00	2007	261.00	87
64.00	2039	110.00	310	156.00	425	267.00	404
65.00	308	111.00	281	157.00	1404	269.00	145
66.00	94	112.00	327	158.00	200	283.00	48
67.00	1714	113.00	417	159.00	927	284.00	39
68.00	83912	115.00	523	160.00	55	285.00	64
69.00	79304	116.00	1973	161.00	708	294.00	75
70.00	5473	117.00	4153	164.00	197	306.00	76
71.00	168	118.00	2490	165.00	28	311.00	53
72.00	2901	119.00	3262	166.00	172	322.00	151

Data File: /var/chem/msd7.i/7-30oct.b/7103001.d

Date : 30-OCT-2007 08:26

Client ID: BFB

Instrument: msd7.i

Sample Info: 2uL #1467-64;BFB tune check;BFB tune check

Volume Injected (uL): 2.0

Operator: cb

Column phase:

Column diameter: 0.53

Data File: 7103001.d
Spectrum: Avg. Scans 81-83 (8.22), Background Scan 76
Location of Maximum: 95.00
Number of points: 167

m/z	Y	m/z	Y	m/z	Y	m/z	Y
73.00	28448	121.00	198	168.00	123	327.00	38
74.00	115952	122.00	214	169.00	68	331.00	60
75.00	386752	123.00	289	170.00	319	334.00	24
76.00	32240	124.00	318	171.00	440	344.00	306
77.00	4494	126.00	237	172.00	936	345.00	85
78.00	2890	127.00	171	173.00	4443	346.00	56
79.00	11211	128.00	2629	174.00	855232		

Air Toxics Ltd.

Data file : /var/chem/msd7.i/7-05nov.b/7110501.d
Lab Smp Id: Client Smp ID: BFB
Inj Date : 05-NOV-2007 09:31
Operator : ea Inst ID: msd7.i
Smp Info : #1467-64;bfb tune check;bfb tune check
Misc Info : 2.0uL-50ng
Comment :
Method : /var/chem/msd7.i/7-05nov.b/bfb105.m
Meth Date : 05-Nov-2007 09:25 Quant Type: ESTD
Cal Date : Cal File:
Als bottle: 1 QC Sample: BFB
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 3.50 Sample Matrix: WATER
Processing Host: eeyore

Concentration Formula: Amt * DF * Uf * Vf * Vi * CpndVariable

Name	Value	Description
DF	1.00000	Dilution Factor
Uf	1.00000	ng unit correction factor
Vf	1.00000	Volumetric correction factor
Vi	2.00000	Injection Volume

Cpnd Variable Local Compound Variable

RT	EXP RT	DLT RT	MASS	RESPONSE	CONCENTRATIONS ON-COL (ug/L)	FINAL (ug/L)	TARGET RANGE	RATIO
1 bfb						CAS #: 460-00-4		
8.204	8.232	-0.028	95	1533486			100.00- 100.00	100.00
8.204	8.232	-0.028	50	263560			15.00- 40.00	17.19
8.204	8.232	-0.028	75	583889			30.00- 60.00	38.08
8.204	8.232	-0.028	96	103388			5.00- 9.00	6.74
8.204	8.232	-0.028	173	6486			0.00- 2.00	0.49
8.204	8.232	-0.028	174	1319198			50.00- 100.00	86.03
8.204	8.232	-0.028	175	89771			5.00- 9.00	6.80
8.204	8.232	-0.028	176	1270632			95.00- 101.00	96.32
8.204	8.232	-0.028	177	85723			5.00- 9.00	6.75

Data File: /var/chem/msd7.i/7-05nov.b/7110501.d

Date : 05-NOV-2007 09:31

Client ID: BFB

Instrument: msd7.i

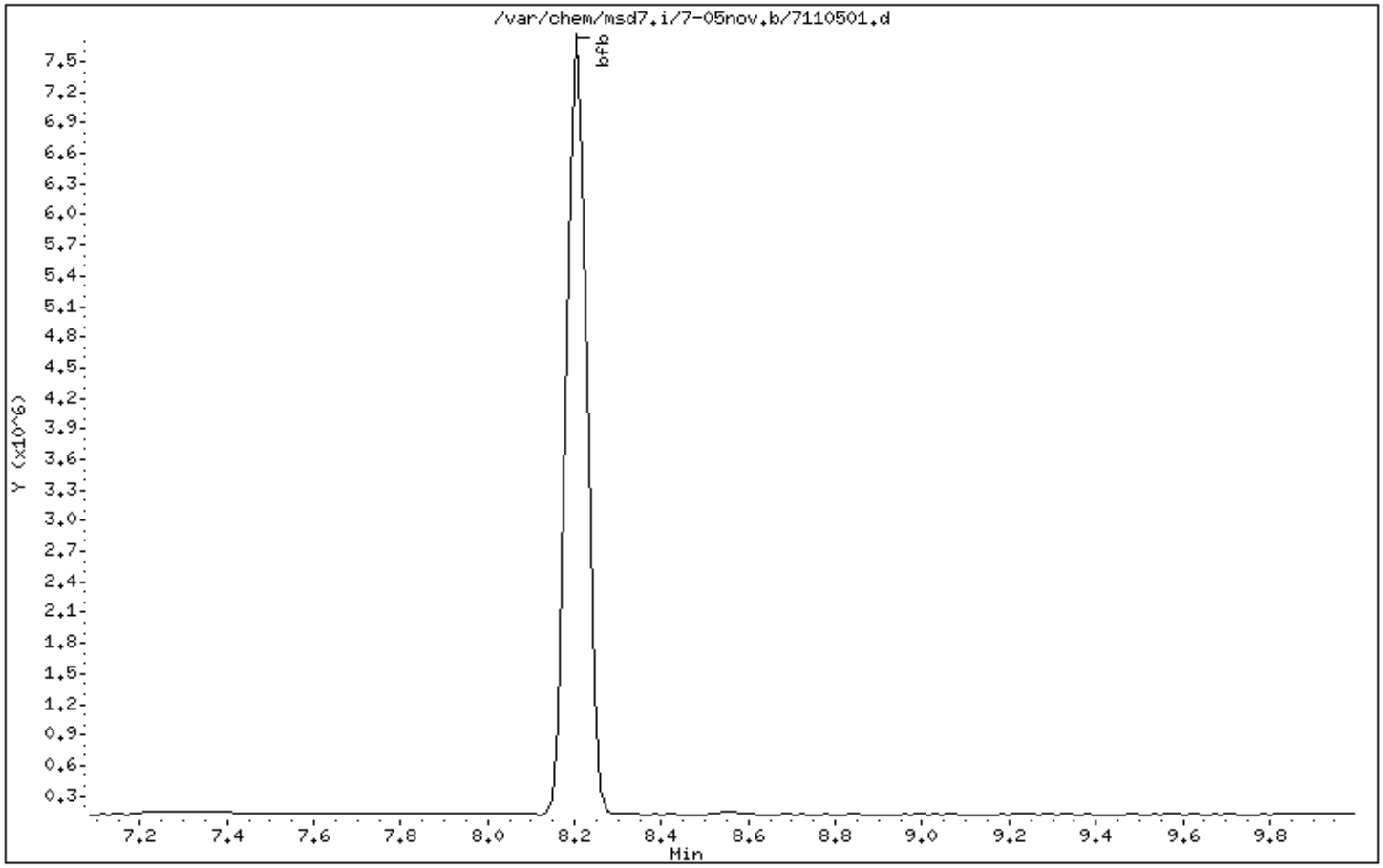
Sample Info: #1467-64;bfb tune check;bfb tune check

Volume Injected (uL): 2.0

Operator: ea

Column phase:

Column diameter: 0.53



Data File: /var/chem/msd7.i/7-05nov.b/7110501.d

Date : 05-NOV-2007 09:31

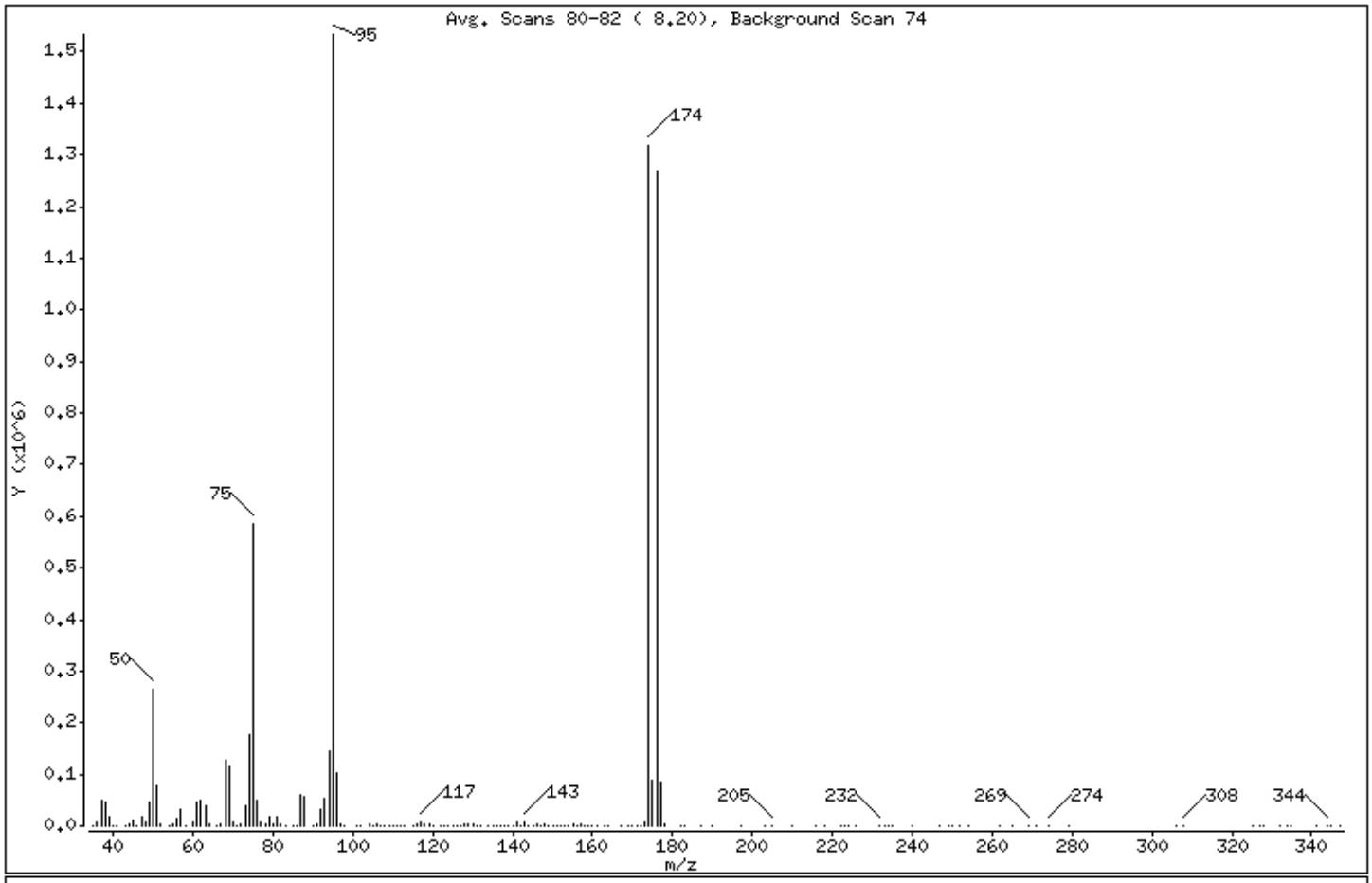
Client ID: BFB Instrument: msd7.i

Sample Info: #1467-64;bfb tune check;bfb tune check

Volume Injected (uL): 2.0 Operator: ea

Column phase: Column diameter: 0.53

1 bfb



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
95	Base Peak, 100% relative abundance	100.00
50	15.00 - 40.00% of mass 95	17.19
75	30.00 - 60.00% of mass 95	38.08
96	5.00 - 9.00% of mass 95	6.74
173	Less than 2.00% of mass 174	0.42 (0.49)
174	50.00 - 100.00% of mass 95	86.03
175	5.00 - 9.00% of mass 174	5.85 (6.80)
176	95.00 - 101.00% of mass 174	82.86 (96.32)
177	5.00 - 9.00% of mass 176	5.59 (6.75)

Data File: /var/chem/msd7.i/7-05nov.b/7110501.d

Date : 05-NOV-2007 09:31

Client ID: BFB

Instrument: msd7.i

Sample Info: #1467-64;bfb tune check;bfb tune check

Volume Injected (uL): 2.0

Operator: ea

Column phase:

Column diameter: 0.53

Data File: 7110501.d
Spectrum: Avg. Scans 80-82 (8.20), Background Scan 74
Location of Maximum: 95.00
Number of points: 170

m/z	Y	m/z	Y	m/z	Y	m/z	Y
35.00	148	82.00	3857	132.00	16	183.00	51
36.00	7417	83.00	306	134.00	316	187.00	173
37.00	47872	85.00	263	135.00	1161	190.00	186
38.00	47312	86.00	1328	136.00	171	197.00	63
39.00	19072	87.00	59848	137.00	1631	203.00	53
40.00	431	88.00	57920	138.00	241	205.00	147
41.00	464	90.00	197	139.00	511	210.00	44
43.00	455	91.00	2587	140.00	735	216.00	52
44.00	4271	92.00	30616	141.00	7168	218.00	188
45.00	10804	93.00	53024	142.00	1135	222.00	106
46.00	725	94.00	145536	143.00	7209	223.00	194
47.00	16052	95.00	1533440	144.00	533	224.00	113
48.00	5667	96.00	103384	145.00	462	226.00	58
49.00	44784	97.00	3017	146.00	1993	232.00	266
50.00	263552	98.00	290	147.00	1181	233.00	74
51.00	78144	101.00	160	148.00	2606	234.00	78
52.00	3337	102.00	189	149.00	1023	235.00	142
54.00	27	104.00	3564	150.00	1118	240.00	52
55.00	2391	105.00	1246	151.00	229	247.00	65
56.00	15127	106.00	3592	152.00	624	249.00	179
57.00	32144	107.00	1167	153.00	983	250.00	235
58.00	982	108.00	162	154.00	906	252.00	55
60.00	8673	109.00	120	155.00	3300	254.00	68
61.00	46016	110.00	447	156.00	478	262.00	130
62.00	48264	111.00	518	157.00	2356	265.00	37
63.00	38256	112.00	430	158.00	301	269.00	389
64.00	2839	113.00	537	159.00	958	271.00	46
66.00	46	115.00	859	160.00	191	274.00	52
67.00	2006	116.00	3106	161.00	1066	279.00	50
68.00	125912	117.00	5966	163.00	271	306.00	70
69.00	116648	118.00	3223	164.00	244	308.00	73
70.00	8458	119.00	4359	167.00	232	325.00	58
71.00	303	120.00	255	169.00	271	327.00	133
72.00	3930	122.00	297	170.00	357	328.00	78
73.00	39808	123.00	265	171.00	676	332.00	118

Data File: /var/chem/msd7.i/7-05nov.b/7110501.d

Date : 05-NOV-2007 09:31

Client ID: BFB

Instrument: msd7.i

Sample Info: #1467-64;bfb tune check;bfb tune check

Volume Injected (uL): 2.0

Operator: ea

Column phase:

Column diameter: 0.53

Data File: 7110501.d
Spectrum: Avg. Scans 80-82 (8.20), Background Scan 74
Location of Maximum: 95.00
Number of points: 170

m/z	Y	m/z	Y	m/z	Y	m/z	Y
74.00	174528	124.00	579	172.00	1083	334.00	54
75.00	583872	125.00	385	173.00	6486	335.00	95
76.00	49768	126.00	123	174.00	1318912	341.00	177
77.00	6824	127.00	181	175.00	89768	344.00	218
78.00	3314	128.00	4080	176.00	1270272	345.00	186
79.00	16384	129.00	1781	177.00	85720	347.00	50
80.00	5189	130.00	4069	178.00	2106		
81.00	17088	131.00	1543	182.00	65		

Air Toxics Ltd.

Data file : /var/chem/msd7.i/7-07nov.b/7110701.d
Lab Smp Id: Client Smp ID: BFB
Inj Date : 07-NOV-2007 08:22
Operator : sjr Inst ID: msd7.i
Smp Info : 2uL #1467-64;BFB Tune check;BFB Tune check
Misc Info : 50ng
Comment :
Method : /var/chem/msd7.i/7-07nov.b/bfb105.m
Meth Date : 07-Nov-2007 08:17 Quant Type: ESTD
Cal Date : Cal File:
Als bottle: 1 QC Sample: BFB
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 3.50 Sample Matrix: WATER
Processing Host: eeyore

Concentration Formula: Amt * DF * Uf * Vf * Vi * CpndVariable

Name	Value	Description
DF	1.00000	Dilution Factor
Uf	1.00000	ng unit correction factor
Vf	1.00000	Volumetric correction factor
Vi	2.00000	Injection Volume

Cpnd Variable Local Compound Variable

RT	EXP RT	DLT RT	MASS	RESPONSE	CONCENTRATIONS ON-COL (ug/L)	FINAL (ug/L)	TARGET RANGE	RATIO
1 bfb						CAS #: 460-00-4		
8.204	8.232	-0.028	95	1379350			100.00- 100.00	100.00
8.204	8.232	-0.028	50	254982			15.00- 40.00	18.49
8.204	8.232	-0.028	75	547265			30.00- 60.00	39.68
8.204	8.232	-0.028	96	92024			5.00- 9.00	6.67
8.204	8.232	-0.028	173	5910			0.00- 2.00	0.50
8.204	8.232	-0.028	174	1192444			50.00- 100.00	86.45
8.204	8.232	-0.028	175	81714			5.00- 9.00	6.85
8.204	8.232	-0.028	176	1156664			95.00- 101.00	97.00
8.204	8.232	-0.028	177	73691			5.00- 9.00	6.37

Data File: /var/chem/msd7.i/7-07nov.b/7110701.d

Date : 07-NOV-2007 08:22

Client ID: BFB

Instrument: msd7.i

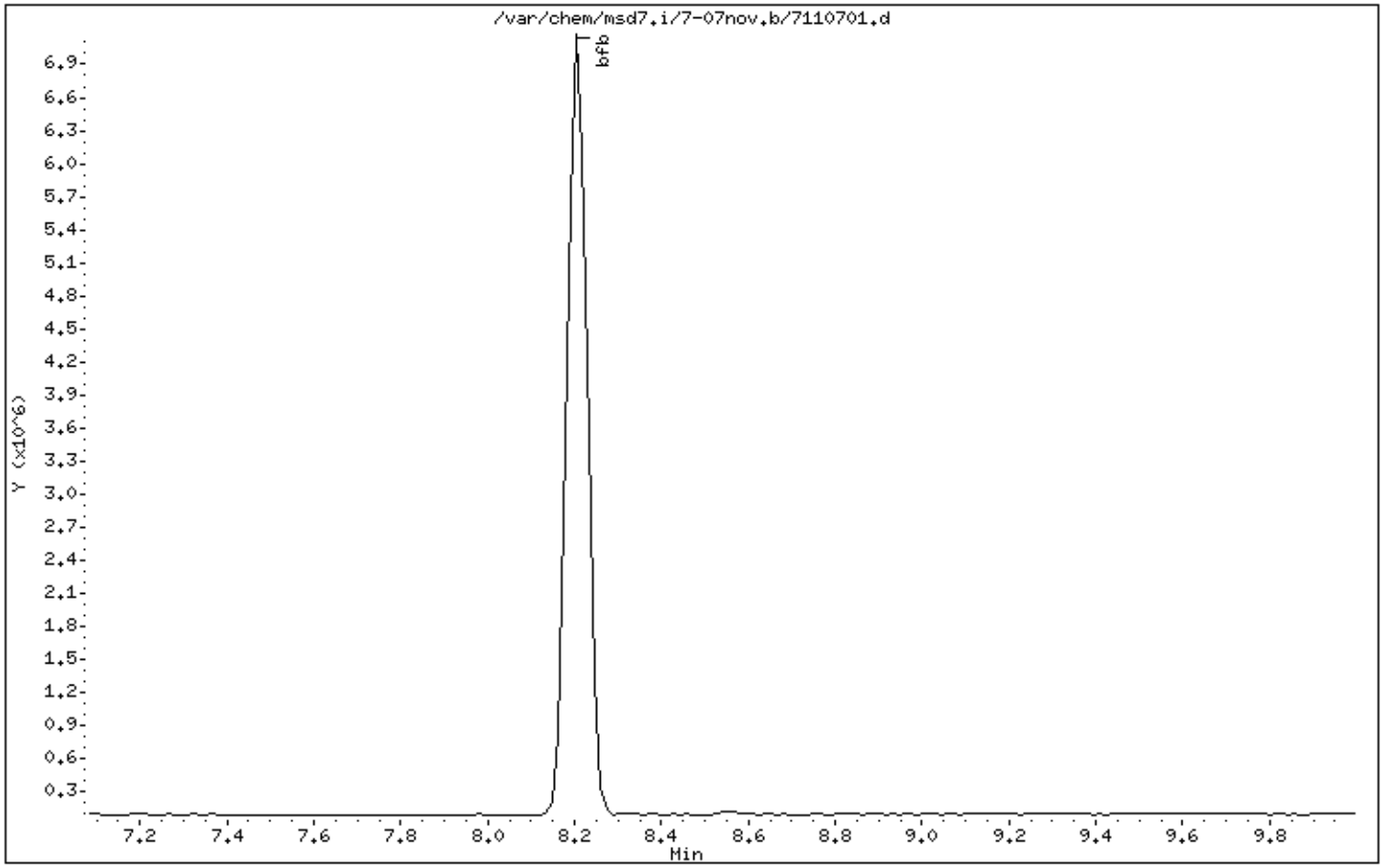
Sample Info: 2uL #1467-64;BFB Tune check;BFB Tune check

Volume Injected (uL): 2.0

Operator: sjr

Column phase:

Column diameter: 0.53



Data File: /var/chem/msd7.i/7-07nov.b/7110701.d

Date : 07-NOV-2007 08:22

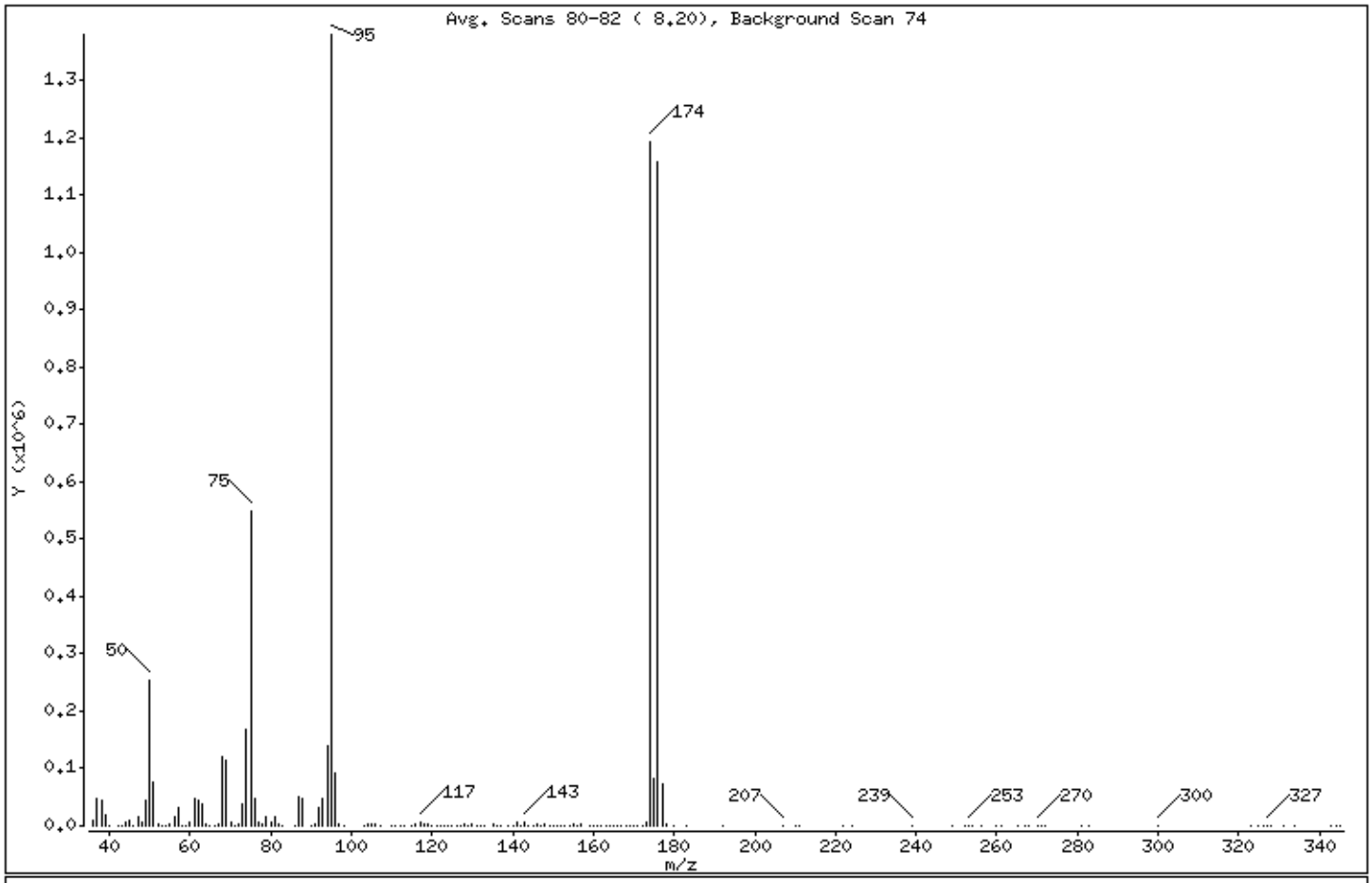
Client ID: BFB Instrument: msd7.i

Sample Info: 2uL #1467-64;BFB Tune check;BFB Tune check

Volume Injected (uL): 2.0 Operator: sjr

Column phase: Column diameter: 0.53

1 bfb



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
95	Base Peak, 100% relative abundance	100.00
50	15.00 - 40.00% of mass 95	18.49
75	30.00 - 60.00% of mass 95	39.68
96	5.00 - 9.00% of mass 95	6.67
173	Less than 2.00% of mass 174	0.43 (0.50)
174	50.00 - 100.00% of mass 95	86.45
175	5.00 - 9.00% of mass 174	5.92 (6.85)
176	95.00 - 101.00% of mass 174	83.86 (97.00)
177	5.00 - 9.00% of mass 176	5.34 (6.37)

Data File: /var/chem/msd7.i/7-07nov.b/7110701.d

Date : 07-NOV-2007 08:22

Client ID: BFB

Instrument: msd7.i

Sample Info: 2uL #1467-64;BFB Tune check;BFB Tune check

Volume Injected (uL): 2.0

Operator: sjr

Column phase:

Column diameter: 0.53

Data File: 7110701.d
Spectrum: Avg. Scans 80-82 (8.20), Background Scan 74
Location of Maximum: 95.00
Number of points: 164

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	8110	79.00	16464	131.00	1465	176.00	1156608
37.00	46400	80.00	5512	132.00	380	177.00	73688
38.00	44368	81.00	16880	133.00	362	178.00	2350
39.00	18832	82.00	4210	135.00	1854	180.00	89
40.00	292	83.00	430	136.00	435	183.00	78
42.00	49	86.00	1177	137.00	1297	192.00	15
43.00	177	87.00	50448	139.00	424	207.00	370
44.00	5102	88.00	48168	140.00	711	210.00	85
45.00	10121	90.00	168	141.00	6887	211.00	116
46.00	561	91.00	2485	142.00	730	222.00	58
47.00	15854	92.00	30232	143.00	7799	224.00	70
48.00	5940	93.00	48480	144.00	526	239.00	117
49.00	43800	94.00	138368	145.00	655	249.00	133
50.00	254976	95.00	1379328	146.00	1800	252.00	74
51.00	76096	96.00	92024	147.00	524	253.00	206
52.00	2700	97.00	2721	148.00	2833	254.00	15
53.00	29	98.00	240	149.00	625	256.00	106
54.00	191	103.00	297	150.00	972	260.00	42
55.00	2189	104.00	3485	151.00	153	261.00	72
56.00	15421	105.00	1684	152.00	594	265.00	123
57.00	31304	106.00	3196	153.00	628	267.00	147
58.00	565	107.00	972	154.00	655	268.00	208
59.00	203	110.00	398	155.00	2797	270.00	285
60.00	7539	111.00	492	156.00	492	271.00	56
61.00	46216	112.00	186	157.00	2487	272.00	90
62.00	45312	113.00	734	159.00	1216	281.00	91
63.00	37792	115.00	851	160.00	106	283.00	159
64.00	3273	116.00	3375	161.00	949	300.00	64
65.00	333	117.00	5353	162.00	207	323.00	53
66.00	235	118.00	3071	163.00	162	325.00	61
67.00	2398	119.00	4305	164.00	165	326.00	59
68.00	119368	120.00	290	165.00	226	327.00	426
69.00	114312	121.00	250	166.00	61	328.00	121
70.00	7240	122.00	162	167.00	118	331.00	135
71.00	420	123.00	299	168.00	124	334.00	220

Data File: /var/chem/msd7.i/7-07nov.b/7110701.d

Date : 07-NOV-2007 08:22

Client ID: BFB

Instrument: msd7.i

Sample Info: 2uL #1467-64;BFB Tune check;BFB Tune check

Volume Injected (uL): 2.0

Operator: sjr

Column phase:

Column diameter: 0.53

Data File: 7110701.d
Spectrum: Avg. Scans 80-82 (8.20), Background Scan 74
Location of Maximum: 95.00
Number of points: 164

m/z	Y	m/z	Y	m/z	Y	m/z	Y
72.00	4174	124.00	660	169.00	332	343.00	177
73.00	39320	125.00	519	170.00	405	344.00	62
74.00	166528	126.00	399	171.00	673	345.00	22
75.00	547264	127.00	144	172.00	1245		
76.00	47400	128.00	3589	173.00	5910		
77.00	6805	129.00	1512	174.00	1191936		
78.00	3516	130.00	3712	175.00	81712		

Shipping/ Receiving Documents

AN ENVIRONMENTAL ANALYTICAL LABORATORY

180 Blue Ravine Road, Suite B
Folsom, CA 95630

Phone (916) 985-1000 FAX (916) 985-1020
Hours 8:00 A.M. to 6:00 P.M. Pacific

COMPANY: Los Alamos National Laboratories
ATTENTION: Mr. Keith Greene
FAX #: 505-665-8855
FROM: Sample Receiving
Workorder #: 0711101
# of pages (Including Cover): 1

11/9/2007

Thank you for selecting Air Toxics Ltd. We have received your samples and have found no discrepancies. In order to expedite analysis and reporting, please review the attached information for accuracy. Corrections can be faxed to **Brandon Dunmore at 916-985-1020.**
ATL will proceed with the analysis as specified on the Chain of Custody and Sample Login page.

0711101

0511

Monday, November 05, 2007

REQUEST NUMBER: 08-124

LOS ALAMOS
NATIONAL LABORATORY

ATTN: Lisa Argento
Air Toxic LTD
180 Blue Ravine Rd. Suite B
Folsom, CA 95630

These Samples are on:
LANL Request Number:08-124
Per Agreement Number:TIPS#24256
Project Cost Code: MR8R0225FB00

Please analyse the enclosed samples according to the schedule indicated:

SHIP DATE: 11/5/2007
TURNAROUND/REPORT DUE: 11/9/2007
TURNAROUND REQ'D: 4 Days

Receipt
VTR 11/6/07

RAD SCREENING: Not Required
LAB REQUEST COMMENTS: DATA TO BE RECEIVED 11/9/07

Need Results by 11/8 - 11/9

LANL ER SMO CONTACT:
Signature:

PRIORITY	METHOD CODE		CNTNR	SAMPLE ID	SAMPLE MATRIX	DATE SAMPLED	SAMPLE COMMENTS	SPECIAL INSTRUCTIONS
	EPA:TO15	01A	1	MD21-07-6800	GAS	11/3/2007	6.0"Hg	
		02A	1	MD21-07-6801	GAS	11/3/2007	6.5"Hg	
		03A	1	MD21-07-6802	GAS	11/3/2007	6.0"Hg	
		04A	1	MD21-07-6803	GAS	11/3/2007	7.5"Hg	
		05A	1	MD21-07-6804	GAS	11/4/2007	7.0"Hg	
		06A	1	MD21-07-6806	GAS	11/3/2007	5.0"Hg	
		07A	1	MD21-07-6818	GAS	10/30/2007	5.0"Hg	
		08A	1	MD21-08-8445	GAS	11/3/2007	5.5"Hg	

Monday, November 05, 2007

LAB CHAIN OF CUSTODY DOCUMENT NUMBER: 08-124C

REQUEST NUMBER: 08-124

LOS ALAMOS

NATIONAL LABORATORY

ATTN: Lisa Argento

Air Toxic LTD

180 Blue Ravine Rd. Suite B

Folsom, CA 95630

TURNAROUND/REPORT DUE: 11/9/2007

TURNAROUND REQ'D: 4

LAB REQUEST COMMENTS: DATA TO BE RECEIVED 11/9/07

SAMPLE ID	CTNR	CTNR DESC	ORDER	PRESERV	MATRIX
MD21-07-6803	1	6 L SUMMA CANISTER	TO15	None	GAS
MD21-07-6801	1	6 L SUMMA CANISTER	TO15	None	GAS
MD21-07-6802	1	6 L SUMMA CANISTER	TO15	None	GAS
MD21-07-6800	1	6 L SUMMA CANISTER	TO15	None	GAS
MD21-07-6806	1	6 L SUMMA CANISTER	TO15	None	GAS
MD21-07-6804	1	6 L SUMMA CANISTER	TO15	None	GAS
MD21-07-6818	1	6 L SUMMA CANISTER	TO15	None	GAS
MD21-08-6445	1	6 L SUMMA CANISTER	TO15	None	GAS

Relinquished By:		Date	Time	Received By:		Date	Time
[illegible]	[illegible]	11/5/07	1400	A Scott	ATL	11/6/07	0845
Printed Name	Signature			Printed Name	Signature		
Printed Name	Signature			Printed Name	Signature		
Printed Name	Signature			Printed Name	Signature		

Received for DISPOSAL By: **Date** **Time** **Remarks:**

Printed Name Signature

CUSTODY SEAL INTACT?
Y N NONE TEMP NA

AN ENVIRONMENTAL ANALYTICAL LABORATORY

SAMPLE RECEIPT SUMMARY

WORKORDER 0711101

Client

Mr. Keith Greene
Los Alamos National Laboratories
Mail Stop 240
P.O. Box 1663
Los Alamos, NM 87545

Sales Rep: R6

Phone

505-665-9966

Fax

505-665-8855

Date Promised: 11/08/07 4:00 pm
Date Completed: 11/8/07
Date Received: 11/6/07
PO#: 47247-001-07
Project#: 08-124

Total $: $ 3,630.00
Logged By: MW

Fraction	Sample #	Analysis	Collected	Receipt Vac./Pres.	Amount$
01A	MD21-07-6800	Modified TO-15	11/3/2007	6.0 "Hg	$358.75
01AA	MD21-07-6800 Lab Duplicate	Modified TO-15	11/3/2007	6.0 "Hg	$0.00
02A	MD21-07-6801	Modified TO-15	11/3/2007	6.5 "Hg	$358.75
03A	MD21-07-6802	Modified TO-15	11/3/2007	6.0 "Hg	$358.75
04A	MD21-07-6803	Modified TO-15	11/3/2007	7.5 "Hg	$358.75
05A	MD21-07-6804	Modified TO-15	11/4/2007	7.0 "Hg	$358.75
06A	MD21-07-6806	Modified TO-15	11/3/2007	5.0 "Hg	$358.75
06AA	MD21-07-6806 Lab Duplicate	Modified TO-15	11/3/2007	5.0 "Hg	$0.00
07A	MD21-07-6818	Modified TO-15	10/30/2007	5.0 "Hg	$358.75
08A	MD21-08-8445	Modified TO-15	11/3/2007	5.5 "Hg	$358.75
09A	Lab Blank	Modified TO-15	NA	NA	$0.00
10A	CCV	Modified TO-15	NA	NA	$0.00
11A	LCS	Modified TO-15	NA	NA	$0.00

Misc. Charges	6 Liter Summa Canister (8) @ $60.00 each.	$480.00
	CVP (8) @ $20.00 each.	$160.00
	Client Specific EDD (8) @ $5.00 each.	$40.00
	eCVP (8) @ $10.00 each.	$80.00

Note: Samples received after 3 P.M. PST are considered to be received on the following work day.
Atlas Project Name/Profile#: LANL/2153

BILL TO: Accounts Payable
Los Alamos National Laboratories
P.O. Box 1663
Mail Stop P240
Los Alamos, NM 87545

Analysis Code: TO-14A

REMARKS: A 75% surcharge is applied for a 48 hour turnaround time.

TERMS:

Reporting Method: Modified TO-15 (Sp)-Los Alamos v2

180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 95630
(916) 985-1000 . (800) 985-5955 . FAX (916) 985-1020

Other Records

DILUTION FACTORS

$$\text{Dilution Factor} = \frac{\text{Final Pressure}}{\text{Initial Vacuum}} = \frac{\text{14.7 psi + Final Pressure (psi)}}{\text{14.7 psi - [(Initial Pressure ("Hg)) (14.7 psi / 30 "Hg)]}}$$

$$\text{Dilution Factor} = \frac{\text{Final Pressure}}{\text{Initial Pressure}} = \frac{\text{14.7 psi + Final Pressure (psi)}}{\text{14.7 psi + Initial Pressure (psi)}}$$

Initial Vacuum ("Hg)	**5 psi** Final Press. Dil. Factor	**10 psi** Final Press. Dil. Factor	**15 psi** Final Press. Dil. Factor
0.0	1.34	1.68	2.02
0.5	1.36	1.71	2.05
1.0	1.39	1.74	2.09
1.5	1.41	1.77	2.13
2.0	1.44	1.80	2.16
2.5	1.46	1.83	2.20
3.0	1.49	1.87	2.24
3.5	1.52	1.90	2.29
4.0	1.55	1.94	2.33
4.5	1.58	1.98	2.38
5.0	1.61	2.02	2.42
5.5	1.64	2.06	2.47
6.0	1.68	2.10	2.53
6.5	1.71	2.15	2.58
7.0	1.75	2.19	2.64
7.5	1.79	2.24	2.69
8.0	1.83	2.29	2.76
8.5	1.87	2.34	2.82
9.0	1.91	2.40	2.89
9.5	1.96	2.46	2.96
10.0	2.01	2.52	3.03
10.5	2.06	2.59	3.11
11.0	2.12	2.65	3.19
11.5	2.17	2.72	3.28
12.0	2.23	2.80	3.37
12.5	2.30	2.88	3.46
13.0	2.36	2.97	3.57
13.5	2.44	3.06	3.67
14.0	2.51	3.15	3.79
14.5	2.59	3.25	3.91
15.0	2.68	3.36	4.04
15.5	2.77	3.48	4.18
16.0	2.87	3.60	4.33
16.5	2.98	3.73	4.49
17.0	3.09	3.88	4.66
17.5	3.22	4.03	4.85
18.0	3.35	4.20	5.05
18.5	3.50	4.38	5.27
19.0	3.65	4.58	5.51
19.5	3.83	4.80	5.77
20.0	4.02	5.04	6.06
20.5	4.23	5.31	6.38

Initial Vacuum ("Hg)	**5 psi** Final Press. Dil. Factor	**10 psi** Final Press. Dil. Factor	**15 psi** Final Press. Dil. Factor
21.0	4.47	5.60	6.73
21.5	4.73	5.93	7.13
22.0	5.03	6.30	7.58
22.5	5.36	6.72	8.08
23.0	5.74	7.20	8.66
23.5	6.19	7.76	9.32
24.0	6.70	8.40	10.10
24.5	7.31	9.17	11.02
25.0	8.04	10.08	12.12
25.5	8.93	11.20	13.47
26.0	10.05	12.60	15.15
26.5	11.49	14.40	17.32
27.0	13.40	16.80	20.20
27.5	16.08	20.16	24.24
28.0	20.10	25.20	30.31
28.5	26.80	33.61	40.41
29.0	40.20	50.41	60.61

Initial Pressure (psi)	**5 psi** Final Press. Dil. Factor	**10 psi** Final Press. Dil. Factor	**15 psi** Final Press. Dil. Factor
0.0	1.34	1.68	2.02
0.2	1.32	1.66	1.99
0.4	1.30	1.64	1.97
0.6	1.29	1.61	1.94
0.8	1.27	1.59	1.92
1.0	1.25	1.57	1.89
1.2	1.24	1.55	1.87
1.4	1.22	1.53	1.84
1.6	1.21	1.52	1.82
1.8	1.19	1.50	1.80
2.0	1.18	1.48	1.78
2.2	1.17	1.46	1.76
2.4	1.15	1.44	1.74
2.6	1.14	1.43	1.72
2.8	1.13	1.41	1.70
3.0	1.11	1.40	1.68
3.2	1.10	1.38	1.66
3.4	1.09	1.36	1.64
3.6	1.08	1.35	1.62
3.8	1.06	1.34	1.61
4.0	1.05	1.32	1.59

DILUTION FACTORS

$$\text{Dilution Factor} = \frac{\text{Final Pressure}}{\text{Initial Pressure}} = \frac{14.7\text{ psi} + \text{Final Pressure (psi)}}{14.7\text{ psi} + \text{Initial Pressure (psi)}}$$

Initial Pressure (psi)	**5 psi** Final Press. Dil. Factor	**10 psi** Final Press. Dil. Factor	**15 psi** Final Press. Dil. Factor
0.0	1.34	1.68	2.02
0.2	1.32	1.66	1.99
0.4	1.30	1.64	1.97
0.6	1.29	1.61	1.94
0.8	1.27	1.59	1.92
1.0	1.25	1.57	1.89
1.2	1.24	1.55	1.87
1.4	1.22	1.53	1.84
1.6	1.21	1.52	1.82
1.8	1.19	1.50	1.80
2.0	1.18	1.48	1.78
2.2	1.17	1.46	1.76
2.4	1.15	1.44	1.74
2.6	1.14	1.43	1.72
2.8	1.13	1.41	1.70
3.0	1.11	1.40	1.68
3.2	1.10	1.38	1.66
3.4	1.09	1.36	1.64
3.6	1.08	1.35	1.62
3.8	1.06	1.34	1.61
4.0	1.05	1.32	1.59
4.2	1.04	1.31	1.57
4.4	1.03	1.29	1.55
4.6	1.02	1.28	1.54
4.8	1.01	1.27	1.52
5.0	1.00	1.25	1.51
5.2	NA	1.24	1.49
5.4	NA	1.23	1.48
5.6	NA	1.22	1.46
5.8	NA	1.20	1.45
6.0	NA	1.19	1.43
6.2	NA	1.18	1.42
6.4	NA	1.17	1.41
6.6	NA	1.16	1.39
6.8	NA	1.15	1.38
7.0	NA	1.14	1.37
7.2	NA	1.13	1.36
7.4	NA	1.12	1.34

Initial Pressure (psi)	**5 psi** Final Press. Dil. Factor	**10 psi** Final Press. Dil. Factor	**15 psi** Final Press. Dil. Factor
7.6	NA	1.11	1.33
7.8	NA	1.10	1.32
8.0	NA	1.09	1.31
8.2	NA	1.08	1.30
8.4	NA	1.07	1.29
8.6	NA	1.06	1.27
8.8	NA	1.05	1.26
9.0	NA	1.04	1.25
9.2	NA	1.03	1.24
9.4	NA	1.02	1.23
9.6	NA	1.02	1.22
9.8	NA	1.01	1.21
10.0	NA	1.00	1.20
10.2	NA	NA	1.19
10.4	NA	NA	1.18
10.6	NA	NA	1.17
10.8	NA	NA	1.16
11.0	NA	NA	1.16
11.2	NA	NA	1.15
11.4	NA	NA	1.14
11.6	NA	NA	1.13
11.8	NA	NA	1.12
12.0	NA	NA	1.11
12.2	NA	NA	1.10
12.4	NA	NA	1.10
12.6	NA	NA	1.09
12.8	NA	NA	1.08
13.0	NA	NA	1.07
13.2	NA	NA	1.06
13.4	NA	NA	1.06
13.6	NA	NA	1.05
13.8	NA	NA	1.04
14.0	NA	NA	1.03
14.2	NA	NA	1.03
14.4	NA	NA	1.02
14.6	NA	NA	1.01
14.8	NA	NA	1.01

Compound Listing

Modified TO-15 (Sp)-Los Alamos v2

CAS Number	Compound	Detection Limit ppbv	Type
67-66-3	Chloroform	0.50	
71-55-6	1,1,1-Trichloroethane	0.50	
75-25-2	Bromoform	0.50	
67-56-1	Methanol	50	
79-34-5	1,1,2,2-Tetrachloroethane	0.50	
71-36-3	n-Butanol	2.0	
622-96-8	4-Ethyltoluene	0.50	
108-67-8	1,3,5-Trimethylbenzene	0.50	
95-63-6	1,2,4-Trimethylbenzene	0.50	
541-73-1	1,3-Dichlorobenzene	0.50	
106-46-7	1,4-Dichlorobenzene	0.50	
100-44-7	alpha-Chlorotoluene	0.50	
95-50-1	1,2-Dichlorobenzene	0.50	
120-82-1	1,2,4-Trichlorobenzene	2.0	
87-68-3	Hexachlorobutadiene	2.0	
2037-26-5	Toluene-d8		
17060-07-0	1,2-Dichloroethane-d4		
460-00-4	4-Bromofluorobenzene		
115-07-1	Propylene	2.0	
75-71-8	Freon 12	0.50	
76-14-2	Freon 114	0.50	
74-87-3	Chloromethane	2.0	
75-01-4	Vinyl Chloride	0.50	
106-99-0	1,3-Butadiene	0.50	
74-83-9	Bromomethane	0.50	
75-00-3	Chloroethane	0.50	
75-69-4	Freon 11	0.50	
64-17-5	Ethanol	2.0	
76-13-1	Freon 113	0.50	
75-35-4	1,1-Dichloroethene	0.50	
67-64-1	Acetone	2.0	
67-63-0	2-Propanol	2.0	
75-15-0	Carbon Disulfide	0.50	
75-09-2	Methylene Chloride	0.50	
1634-04-4	Methyl tert-butyl ether	0.50	
156-60-5	trans-1,2-Dichloroethene	0.50	
110-54-3	Hexane	0.50	
75-34-3	1,1-Dichloroethane	0.50	
78-93-3	2-Butanone (Methyl Ethyl Ketone)	0.50	
156-59-2	cis-1,2-Dichloroethene	0.50	
109-99-9	Tetrahydrofuran	0.50	
110-82-7	Cyclohexane	0.50	
56-23-5	Carbon Tetrachloride	0.50	
75-45-6	Chlorodifluoromethane	2.0	
71-43-2	Benzene	0.50	
107-06-2	1,2-Dichloroethane	0.50	

Compound Listing

Modified TO-15 (Sp)-Los Alamos v2

CAS Number	Compound	Detection Limit ppbv	Type
142-82-5	Heptane	0.50	
79-01-6	Trichloroethene	0.50	
78-87-5	1,2-Dichloropropane	0.50	
123-91-1	1,4-Dioxane	2.0	
75-27-4	Bromodichloromethane	0.50	
10061-01-5	cis-1,3-Dichloropropene	0.50	
108-10-1	4-Methyl-2-pentanone	0.50	
108-88-3	Toluene	0.50	
10061-02-6	trans-1,3-Dichloropropene	0.50	
79-00-5	1,1,2-Trichloroethane	0.50	
127-18-4	Tetrachloroethene	0.50	
591-78-6	2-Hexanone	2.0	
124-48-1	Dibromochloromethane	0.50	
106-93-4	1,2-Dibromoethane (EDB)	0.50	
108-90-7	Chlorobenzene	0.50	
100-41-4	Ethyl Benzene	0.50	
108-38-3	m,p-Xylene	0.50	
95-47-6	o-Xylene	0.50	
100-42-5	Styrene	0.50	

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DATA REVIEW CHECKLIST

Work Order #: 0711101

A	R	T	M	Q	
☑	☑	☐	☑	☐	Analysis/Reporting vs. Project Profile/SOP requirements checked (i.e. 100% Dups, J-Flag to MDL, etc)
	☑	☐	☑	☐	The final report has the correct reporting list, special units, and header info.
	☑	☐	☑	☐	Lab Narrative is correct (proper method & description/Receiving & Analytical notes correct)
NA	NA	☐	☑	☐	Corrective Action issued - #_____
☑	☑	☐	☑	☐	Unusual circumstances have been documented in the notes section below

LUMEN *validation report present and initialed* ***CIRCLE (YES / NO)***

☑	☐	☐	☐	☐	Lab Blank, CCV, LCS and DUP met QC criteria
☑	☐	☐	☐	☐	Hold time is met for all samples
	☐	☐	☐	☐	Appropriate data qualifier flags are applied
	☐	☐	☐	☐	Manual integrations for samples and QC are properly documented
☑	☐	☐		☐	Samples analyzed within the project or method specific clock
	☐	☐			Retention times have been verified
☑	☐	☐		☐	Appropriate ICAL(s) included
	☐	☐	☐	☐	At least one result per sample is verified against the target quant sheets/raw data

☑	☑	☐		☐	Dilution factor correctly calculated (sample load volume, syringe and bag dilutions, can pressurization(s))
☑	☑	☐			Correct amount of sample analyzed (i.e. sample not over-diluted)
	☑	☐			Spectra verified - documentation of spectral defense included (Section 5A of eCVP pkg)
	NA	☐			TICs resemble reference spectra
	☐	☐			TICs between duplicate samples are consistent
NA	☐	☐	☐		Checked samples for trends (i.e. Influent>Effluent, Landfill or Ambient etc)
	☑		☐		Special units for all samples in the final report are correctly calculated
	☑	☐	☑		Manually entered results checked (i.e. special CCV compounds)
	NA	☐	☑		TPH/NMOC (verify calculations and correct reference compound used)
	☑				Chain of Custody scanned correctly
				☐	Verify sample id's vs. chain of custody
☑	☑				Samples pressurized w/ appropriate gas (N_2 or He) ☐ Tedlar Bag only
☑	☑				Final pressure consistent with canister size (6L vs. 1L)
☑	☑				Verify receipt pressures against logbook and Target
☑	☑				Verify canister ID #'s
	NA		☑		Extra printed copies are provided per client profile
	☑		☑		Final invoice amount correct (adjusted for TAT, Penalties, Re-issue Charges etc.)
	☑	☐	☑	☐	Client LUMEN report reviewed for accuracy and completeness

Notes: *(to include: noting samples with QA/QC problems, Blanks with positive hits, narratives, etc.)*

A/R: HCB 31% in ICAL. Ø out in CCV & LCS. CCV from multiple files.

M/Q:

A (Analytical Review/Date)	R/T (Reporting Review/Date)	M (Management Review/Date)	Q (QA Review/Date)
LO 11/8/07	R: LO 11/8/07	11/8/07	
	T:		

Note (1): Please check all the appropriate boxes. Indicate "NA" for any statement that does not apply. Rev. 08/29/05

Note (2): Management reviewer and reporting reviewer must be separate individuals.

Not Applicable

REQUEST_NUMBER|LAB_CODE|LAB_RECEIPT_DATE|ANALYSIS_DATE|CLIENT_SAMPLE_ID|LAB_SAMPLE_ID|LAB_MATRIX|ANALYSIS_METHOD|DILUTION_FACTOR|PERCENT_MOISTURE|ANALYTE_CODE|ANALYTE_NAME|MDL|DLC|MDA|QUANT_LMT|TEXT_RESULT|RESULT|UNCERTAINTY|RESULT_UNIT|LAB_QUALIFIER|QC_TYPE|COMMENTS
08-68|STSL|10/17/2007|10/18/2007|MD21-07-6797|F7J160279001|SO|EPA:300.0|1|4.2|NO3|Nitrate|0.090|||0.21||0.21||mg/kg|U|CS|
08-68|STSL|10/17/2007|10/18/2007|MD21-07-6773|F7J160279002|SO|EPA:300.0|1|2.9|NO3|Nitrate|0.089|||0.21||0.21||mg/kg|U|CS|
08-68|STSL|10/17/2007|10/18/2007|MD21-07-6786|F7J160279003|SO|EPA:300.0|1|2.3|NO3|Nitrate|0.088|||0.20||0.20||mg/kg|U|CS|
08-68|STSL|10/17/2007|10/18/2007|MD21-07-6770|F7J160279004|SO|EPA:300.0|1|2.7|NO3|Nitrate|0.088|||0.21||0.21||mg/kg|U|CS|
08-68|STSL|10/17/2007|10/18/2007|MD21-07-6726|F7J160279005|SO|EPA:300.0|1|12|NO3|Nitrate|0.098|||0.23||0.23||mg/kg|U|CS|
08-68|STSL|10/17/2007|10/18/2007|MD21-07-6785|F7J160279006|SO|EPA:300.0|1|10|NO3|Nitrate|0.096|||0.22||0.18||mg/kg|J|CS|
08-68|STSL|10/17/2007|10/18/2007|MD21-07-6732|F7J160279007|SO|EPA:300.0|1|3.0|NO3|Nitrate|0.089|||0.21||0.21||mg/kg|U|CS|
08-68|STSL|10/17/2007|10/18/2007|MD21-07-6761|F7J160279008|SO|EPA:300.0|1|9.5|NO3|Nitrate|0.095|||0.22||0.22||mg/kg|U|CS|
08-68|STSL|10/17/2007|10/18/2007|MD21-07-6756|F7J160279009|SO|EPA:300.0|1|14|NO3|Nitrate|0.10|||0.23||0.23||mg/kg|U|CS|
08-68|STSL|10/17/2007|10/18/2007|MD21-07-6777|F7J160279010|SO|EPA:300.0|1|6.5|NO3|Nitrate|0.092|||0.21||0.21||mg/kg|U|CS|
08-68|STSL|10/17/2007|10/18/2007|MD21-07-6775|F7J160279011|SO|EPA:300.0|1|15|NO3|Nitrate|0.10|||0.24||0.64||mg/kg||CS|
08-68|STSL|10/17/2007|10/18/2007|MD21-07-6755|F7J160279012|SO|EPA:300.0|1|14|NO3|Nitrate|0.10|||0.23||0.23||mg/kg|U|CS|
08-68|STSL|10/17/2007|10/18/2007|MD21-07-6771|F7J160279013|SO|EPA:300.0|1|4.4|NO3|Nitrate|0.090|||0.21||0.21||mg/kg|U|CS|
08-68|STSL|10/17/2007|10/18/2007|MD21-07-6792|F7J160279014|SO|EPA:300.0|1|4.1|NO3|Nitrate|0.090|||0.21||0.21||mg/kg|U|CS|
08-68|STSL|10/17/2007|10/18/2007|MD21-07-6783|F7J160279015|SO|EPA:300.0|1|5.4|NO3|Nitrate|0.091|||0.21||0.21||mg/kg|U|CS|
08-68|STSL|10/17/2007|10/18/2007|MD21-07-6763|F7J160279016|SO|EPA:300.0|1|9.3|NO3|Nitrate|0.095|||0.22||0.22||mg/kg|U|CS|
08-68|STSL|10/17/2007|10/18/2007|MD21-07-6742|F7J160279017|SO|EPA:300.0|1|6.8|NO3|Nitrate|0.092|||0.21||0.21||mg/kg|U|CS|
08-68|STSL|10/17/2007|10/18/2007|MD21-07-6733|F7J160279018|SO|EPA:300.0|1|2.5|NO3|Nitrate|0.088|||0.21||0.22||mg/kg||CS|
08-68|STSL|10/17/2007|10/18/2007|MD21-07-6784|F7J160279019|SO|EPA:300.0|1|3.2|NO3|Nitrate|0.089|||0.21||0.21||mg/kg|U|CS|
08-68|STSL|10/17/2007|10/18/2007|MD21-07-6769|F7J160279020|SO|EPA:300.0|1|8.4|NO3|Nitrate|0.094|||0.22||0.22||mg/kg|U|CS|
08-68|STSL|10/17/2007|10/18/2007|MD21-07-6754|F7J160279021|SO|EPA:300.0|1|9.9|NO3|Nitrate|0.095|||0.22||1.2||mg/kg||CS|
08-68|STSL|10/17/2007|10/18/2007|MD21-07-6787|F7J160279022|SO|EPA:300.0|1|1.6|NO3|Nitrate|0.087|||0.20||0.20||mg/kg|U|CS|
08-68|STSL|10/17/2007|10/18/2007|MD21-07-6795|F7J160279023|SO|EPA:300.0|1|9.6|NO3|Nitrate|0.095|||0.22||0.22||mg/kg|U|CS|
08-68|STSL|10/17/2007|10/18/2007|MD21-07-6741|F7J160279024|SO|EPA:300.0|1|9.6|NO3|Nitrate|0.095|||0.22||0.22||mg/kg|U|CS|
08-68|STSL|10/17/2007|10/18/2007|MD21-07-

6793|F7J160279025|SO|EPA:300.0|1|1.2|NO3|Nitrate|0.087|||0.20||0.20||mg/kg|U|CS|
08-68|STSL|10/17/2007|10/18/2007|MD21-07-
6772|F7J160279026|SO|EPA:300.0|1|6.4|NO3|Nitrate|0.092|||0.21||0.21||mg/kg|U|CS|
08-68|STSL|10/17/2007|10/18/2007|MD21-07-
6768|F7J160279027|SO|EPA:300.0|1|6.1|NO3|Nitrate|0.092|||0.21||0.21||mg/kg|U|CS|
08-68|STSL|10/17/2007|10/18/2007|MD21-07-
6798|F7J160279028|SO|EPA:300.0|1|15|NO3|Nitrate|0.10|||0.24||0.24||mg/kg|U|CS|
08-68|STSL|10/17/2007|10/18/2007|MD21-07-
6740|F7J160279029|SO|EPA:300.0|1|4.6|NO3|Nitrate|0.090|||0.21||0.21||mg/kg|U|CS|
08-68|STSL|10/17/2007|10/18/2007|MD21-07-
6776|F7J160279030|SO|EPA:300.0|1|15|NO3|Nitrate|0.10|||0.24||0.20||mg/kg|J|CS|
08-68|STSL|10/17/2007|10/18/2007|MD21-07-
6762|F7J160279031|SO|EPA:300.0|1|15|NO3|Nitrate|0.10|||0.24||0.24||mg/kg|U|CS|
08-68|STSL|10/17/2007|10/18/2007|MD21-07-
6757|F7J160279032|SO|EPA:300.0|1|6.2|NO3|Nitrate|0.092|||0.21||0.21||mg/kg|U|CS|
08-68|STSL|10/17/2007|10/18/2007|MD21-07-
6725|F7J160279033|SO|EPA:300.0|1|5.9|NO3|Nitrate|0.091|||0.21||0.21||mg/kg|U|CS|
08-68|STSL|10/17/2007|10/18/2007|MD21-07-
6727|F7J160279034|SO|EPA:300.0|1|6.9|NO3|Nitrate|0.092|||0.21||0.21||mg/kg|U|CS|
08-68|STSL|10/17/2007|10/18/2007|MD21-07-
7022|F7J160279037|SO|EPA:300.0|1|5.8|NO3|Nitrate|0.091|||0.21||0.18||mg/kg|J|CS|

REQUEST_NUMBER|LAB_CODE|LAB_RECEIPT_DATE|ANALYSIS_DATE|CLIENT_SAMPLE_ID|LAB_SAMPLE_ID|LAB_MATRIX|ANALYSIS_METHOD|DILUTION_FACTOR|PERCENT_MOISTURE|ANALYTE_CODE|ANALYTE_NAME|MDL|DLC|MDA|QUANT_LMT|TEXT_RESULT|RESULT|UNCERTAINTY|RESULT_UNIT|LAB_QUALIFIER|QC_TYPE|COMMENTS
08-68|STSL|10/17/2007|10/17/2007|MD21-07-6799|F7J160279035|W|EPA:353.1|1||NO3|Nitrate|15.0|||50.0||111||ug/L||CS|
08-68|STSL|10/17/2007|10/17/2007|MD21-07-6796|F7J160279036|W|EPA:353.1|1||NO3|Nitrate|15.0|||50.0||109||ug/L||CS|
08-68|STSL|10/17/2007|10/17/2007|MD21-08-7053|F7J160279038|W|EPA:353.1|1||NO3|Nitrate|15.0|||50.0||107||ug/L||CS|

REQUEST_NUMBER|LAB_CODE|LAB_RECEIPT_DATE|ANALYSIS_DATE|CLIENT_SAMPLE_ID|LAB_SAMPLE_ID|LAB_MATRIX|ANALYSIS_METHOD|DILUTION_FACTOR|PERCENT_MOISTURE|ANALYTE_CODE|ANALYTE_NAME|MDL|DLC|MDA|QUANT_LMT|TEXT_RESULT|RESULT|UNCERTAINTY|RESULT_UNIT|LAB_QUALIFIER|QC_TYPE|COMMENTS
08-68|STSL|10/17/2007|10/17/2007|MD21-07-6797|F7J160279001|SO|SW-846:6850|1|4.2|ClO4|Perchlorate - LC/MS/MS|2.1|||5.2||5.2||ug/kg|U|CS|
08-68|STSL|10/17/2007|10/17/2007|MD21-07-6773|F7J160279002|SO|SW-846:6850|1|2.9|ClO4|Perchlorate - LC/MS/MS|2.1|||5.2||5.2||ug/kg|U|CS|
08-68|STSL|10/17/2007|10/17/2007|MD21-07-6786|F7J160279003|SO|SW-846:6850|1|2.3|ClO4|Perchlorate - LC/MS/MS|2.0|||5.1||5.1||ug/kg|U|CS|
08-68|STSL|10/17/2007|10/17/2007|MD21-07-6770|F7J160279004|SO|SW-846:6850|1|2.7|ClO4|Perchlorate - LC/MS/MS|2.1|||5.1||5.1||ug/kg|U|CS|
08-68|STSL|10/17/2007|10/17/2007|MD21-07-6726|F7J160279005|SO|SW-846:6850|1|12|ClO4|Perchlorate - LC/MS/MS|2.3|||5.7||5.7||ug/kg|U|CS|
08-68|STSL|10/17/2007|10/17/2007|MD21-07-6785|F7J160279006|SO|SW-846:6850|1|10|ClO4|Perchlorate - LC/MS/MS|2.2|||5.6||5.6||ug/kg|U|CS|
08-68|STSL|10/17/2007|10/17/2007|MD21-07-6732|F7J160279007|SO|SW-846:6850|1|3.0|ClO4|Perchlorate - LC/MS/MS|2.1|||5.2||5.2||ug/kg|U|CS|
08-68|STSL|10/17/2007|10/17/2007|MD21-07-6761|F7J160279008|SO|SW-846:6850|1|9.5|ClO4|Perchlorate - LC/MS/MS|2.2|||5.5||5.5||ug/kg|U|CS|
08-68|STSL|10/17/2007|10/17/2007|MD21-07-6756|F7J160279009|SO|SW-846:6850|1|14|ClO4|Perchlorate - LC/MS/MS|2.3|||5.8||5.8||ug/kg|U|CS|
08-68|STSL|10/17/2007|10/17/2007|MD21-07-6777|F7J160279010|SO|SW-846:6850|1|6.5|ClO4|Perchlorate - LC/MS/MS|2.1|||5.3||5.3||ug/kg|U|CS|
08-68|STSL|10/17/2007|10/17/2007|MD21-07-6775|F7J160279011|SO|SW-846:6850|1|15|ClO4|Perchlorate - LC/MS/MS|2.4|||5.9||5.9||ug/kg|U|CS|
08-68|STSL|10/17/2007|10/17/2007|MD21-07-6755|F7J160279012|SO|SW-846:6850|1|14|ClO4|Perchlorate - LC/MS/MS|2.3|||5.8||5.8||ug/kg|U|CS|
08-68|STSL|10/17/2007|10/17/2007|MD21-07-6771|F7J160279013|SO|SW-846:6850|1|4.4|ClO4|Perchlorate - LC/MS/MS|2.1|||5.2||5.2||ug/kg|U|CS|
08-68|STSL|10/17/2007|10/17/2007|MD21-07-6792|F7J160279014|SO|SW-846:6850|1|4.1|ClO4|Perchlorate - LC/MS/MS|2.1|||5.2||5.2||ug/kg|U|CS|
08-68|STSL|10/17/2007|10/17/2007|MD21-07-6783|F7J160279015|SO|SW-846:6850|1|5.4|ClO4|Perchlorate - LC/MS/MS|2.1|||5.3||5.3||ug/kg|U|CS|
08-68|STSL|10/17/2007|10/17/2007|MD21-07-6763|F7J160279016|SO|SW-846:6850|1|9.3|ClO4|Perchlorate - LC/MS/MS|2.2|||5.5||5.5||ug/kg|U|CS|
08-68|STSL|10/17/2007|10/17/2007|MD21-07-6742|F7J160279017|SO|SW-846:6850|1|6.8|ClO4|Perchlorate - LC/MS/MS|2.1|||5.4||5.4||ug/kg|U|CS|
08-68|STSL|10/17/2007|10/17/2007|MD21-07-6733|F7J160279018|SO|SW-846:6850|1|2.5|ClO4|Perchlorate - LC/MS/MS|2.1|||5.1||5.1||ug/kg|U|CS|
08-68|STSL|10/17/2007|10/17/2007|MD21-07-6784|F7J160279019|SO|SW-846:6850|1|3.2|ClO4|Perchlorate - LC/MS/MS|2.1|||5.2||5.2||ug/kg|U|CS|
08-68|STSL|10/17/2007|10/17/2007|MD21-07-6769|F7J160279020|SO|SW-846:6850|1|8.4|ClO4|Perchlorate - LC/MS/MS|2.2|||5.5||5.5||ug/kg|U|CS|
08-68|STSL|10/17/2007|10/17/2007|MD21-07-6754|F7J160279021|SO|SW-846:6850|1|9.9|ClO4|Perchlorate - LC/MS/MS|2.2|||5.6||5.6||ug/kg|U|CS|
08-68|STSL|10/17/2007|10/17/2007|MD21-07-6787|F7J160279022|SO|SW-846:6850|1|1.6|ClO4|Perchlorate - LC/MS/MS|2.0|||5.1||5.1||ug/kg|U|CS|
08-68|STSL|10/17/2007|10/17/2007|MD21-07-6795|F7J160279023|SO|SW-846:6850|1|9.6|ClO4|Perchlorate - LC/MS/MS|2.2|||5.5||5.5||ug/kg|U|CS|
08-68|STSL|10/17/2007|10/17/2007|MD21-07-6741|F7J160279024|SO|SW-846:6850|1|9.6|ClO4|Perchlorate - LC/MS/MS|2.2|||5.5||5.5||ug/kg|U|CS|
08-68|STSL|10/17/2007|10/17/2007|MD21-07-6793|F7J160279025|SO|SW-846:6850|1|1.2|ClO4|Perchlorate -

LC/MS/MS|2.0|||5.1||5.1||ug/kg|U|CS|
08-68|STSL|10/17/2007|10/17/2007|MD21-07-6772|F7J160279026|SO|SW-846:6850|1|6.4|ClO4|Perchlorate -
LC/MS/MS|2.1|||5.3||5.3||ug/kg|U|CS|
08-68|STSL|10/17/2007|10/17/2007|MD21-07-6768|F7J160279027|SO|SW-846:6850|1|6.1|ClO4|Perchlorate -
LC/MS/MS|2.1|||5.3||5.3||ug/kg|U|CS|
08-68|STSL|10/17/2007|10/17/2007|MD21-07-6798|F7J160279028|SO|SW-846:6850|1|15|ClO4|Perchlorate -
LC/MS/MS|2.4|||5.9||5.9||ug/kg|U|CS|
08-68|STSL|10/17/2007|10/17/2007|MD21-07-6740|F7J160279029|SO|SW-846:6850|1|4.6|ClO4|Perchlorate -
LC/MS/MS|2.1|||5.2||5.2||ug/kg|U|CS|
08-68|STSL|10/17/2007|10/17/2007|MD21-07-6776|F7J160279030|SO|SW-846:6850|1|15|ClO4|Perchlorate -
LC/MS/MS|2.4|||5.9||5.9||ug/kg|U|CS|
08-68|STSL|10/17/2007|10/17/2007|MD21-07-6762|F7J160279031|SO|SW-846:6850|1|15|ClO4|Perchlorate -
LC/MS/MS|2.4|||5.9||5.9||ug/kg|U|CS|
08-68|STSL|10/17/2007|10/17/2007|MD21-07-6757|F7J160279032|SO|SW-846:6850|1|6.2|ClO4|Perchlorate -
LC/MS/MS|2.1|||5.3||5.3||ug/kg|U|CS|
08-68|STSL|10/17/2007|10/17/2007|MD21-07-6725|F7J160279033|SO|SW-846:6850|1|5.9|ClO4|Perchlorate -
LC/MS/MS|2.1|||5.3||5.3||ug/kg|U|CS|
08-68|STSL|10/17/2007|10/17/2007|MD21-07-6727|F7J160279034|SO|SW-846:6850|1|6.9|ClO4|Perchlorate -
LC/MS/MS|2.1|||5.4||5.4||ug/kg|U|CS|
08-68|STSL|10/17/2007|10/17/2007|MD21-07-6799|F7J160279035|W|SW-846:6850|1||ClO4|Perchlorate -
LC/MS/MS|0.20|||0.50||0.50||ug/L|U|CS|
08-68|STSL|10/17/2007|10/17/2007|MD21-07-6796|F7J160279036|W|SW-846:6850|1||ClO4|Perchlorate -
LC/MS/MS|0.20|||0.50||0.50||ug/L|U|CS|
08-68|STSL|10/17/2007|10/17/2007|MD21-07-7022|F7J160279037|SO|SW-846:6850|1|5.8|ClO4|Perchlorate -
LC/MS/MS|2.1|||5.3||5.3||ug/kg|U|CS|
08-68|STSL|10/17/2007|10/17/2007|MD21-08-7053|F7J160279038|W|SW-846:6850|1||ClO4|Perchlorate -
LC/MS/MS|0.20|||0.50||0.50||ug/L|U|CS|

REQUEST_NUMBER|COC_ID|REPORTING_NUMBER|LAB_CODE|COLLECTION_DATE|LAB_RECEIPT_DATE|PREP_DATE|ANALYSIS_DATE|CLIENT_SAMPLE_ID|LAB_SAMPLE_ID|LAB_MATRIX|PH|ANALYTE_SUITE|QC_BATCH ID|ANALYSIS_METHOD|DILUTION_FACTOR|PERCENT_MOISTURE|ANALYTE_CODE|ANALYTE_NAME|IDL|MDL|MDA|QUANT_LMT|TEXT_RESULT|RESULT|UNCERTAINTY|RESULT_UNIT|LAB_QUALIFIER|AMOUNT_ADDED|ANALYTE_TYPE|QC_TYPE|PERCENT_RECOVERY|RPD|COMMENTS|LAB_NAME
08-68||F7J160279|STSL|10/14/2007|10/17/2007|10/17/2007|10/18/2007|MD21-07-6797|F7J160279001|SOLID||MOISTURE|7291612|EPA:160.3|1|4.2|PCNT_MOIST|Percent moisture||||0.10||4.2||%|||TA|CS||||STSL
08-68||F7J160279|STSL|10/14/2007|10/17/2007|10/17/2007|10/18/2007|MD21-07-6797|F7J160279001|SOLID||NO3-N|7291371|EPA:300.0|1|4.2|NO3|Nitrate||0.090||0.21||0.090||mg/kg|U||TA|CS||||STSL
08-68||F7J160279|STSL|10/14/2007|10/17/2007|10/17/2007|10/17/2007|MD21-07-6797|F7J160279001|SOLID||LCMS|7290152|SW-846:6850|1|4.2|ClO4|Perchlorate - LC/MS/MS||2.1||5.2||2.1||ug/kg|U||TA|CS||||STSL
08-68||F7J160279|STSL|10/14/2007|10/17/2007|10/17/2007|10/17/2007|MD21-07-6797|F7J160279001D|SOLID||LCMS|7290152|SW-846:6850|1|4.2|ClO4|Perchlorate - LC/MS/MS||2.1||5.2||96.9||ug/kg||96.1|SP|MSD|101|1.2||STSL
08-68||F7J160279|STSL|10/14/2007|10/17/2007|10/17/2007|10/17/2007|MD21-07-6797|F7J160279001S|SOLID||LCMS|7290152|SW-846:6850|1|4.2|ClO4|Perchlorate - LC/MS/MS||2.1||5.2||98.2||ug/kg||99.4|SP|MS|99|1.2||STSL
08-68||F7J160279|STSL|10/14/2007|10/17/2007|10/17/2007|10/17/2007|MD21-07-6797|F7J160279001X|SOLID||LCMS|7290152|SW-846:6850|1|4.2|ClO4|Perchlorate - LC/MS/MS||2.1||5.2||2.1||ug/kg|U||SP|LR||0||STSL
08-68||F7J160279|STSL|10/14/2007|10/17/2007|10/17/2007|10/18/2007|MD21-07-6773|F7J160279002|SOLID||MOISTURE|7291612|EPA:160.3|1|2.9|PCNT_MOIST|Percent moisture||||0.10||2.9||%|||TA|CS||||STSL
08-68||F7J160279|STSL|10/14/2007|10/17/2007|10/17/2007|10/18/2007|MD21-07-6773|F7J160279002|SOLID||NO3-N|7291371|EPA:300.0|1|2.9|NO3|Nitrate||0.089||0.21||0.089||mg/kg|U||TA|CS||||STSL
08-68||F7J160279|STSL|10/14/2007|10/17/2007|10/17/2007|10/17/2007|MD21-07-6773|F7J160279002|SOLID||LCMS|7290152|SW-846:6850|1|2.9|ClO4|Perchlorate - LC/MS/MS||2.1||5.2||2.1||ug/kg|U||TA|CS||||STSL
08-68||F7J160279|STSL|10/14/2007|10/17/2007|10/17/2007|10/18/2007|MD21-07-6786|F7J160279003|SOLID||MOISTURE|7291612|EPA:160.3|1|2.3|PCNT_MOIST|Percent moisture||||0.10||2.3||%|||TA|CS||||STSL
08-68||F7J160279|STSL|10/14/2007|10/17/2007|10/17/2007|10/18/2007|MD21-07-6786|F7J160279003|SOLID||NO3-N|7291371|EPA:300.0|1|2.3|NO3|Nitrate||0.088||0.20||0.088||mg/kg|U||TA|CS||||STSL
08-68||F7J160279|STSL|10/14/2007|10/17/2007|10/17/2007|10/17/2007|MD21-07-6786|F7J160279003|SOLID||LCMS|7290152|SW-846:6850|1|2.3|ClO4|Perchlorate - LC/MS/MS||2.0||5.1||2.0||ug/kg|U||TA|CS||||STSL
08-68||F7J160279|STSL|10/14/2007|10/17/2007|10/17/2007|10/18/2007|MD21-07-6770|F7J160279004|SOLID||MOISTURE|7291612|EPA:160.3|1|2.7|PCNT_MOIST|Percent moisture||||0.10||2.7||%|||TA|CS||||STSL
08-68||F7J160279|STSL|10/14/2007|10/17/2007|10/17/2007|10/18/2007|MD21-07-6770|F7J160279004|SOLID||NO3-N|7291371|EPA:300.0|1|2.7|NO3|Nitrate||0.088||0.21||0.088||mg/kg|U||TA|CS||||STSL
08-68||F7J160279|STSL|10/14/2007|10/17/2007|10/17/2007|10/17/2007|MD21-07-6770|F7J160279004|SOLID||LCMS|7290152|SW-846:6850|1|2.7|ClO4|Perchlorate - LC/MS/MS||2.1||5.1||2.1||ug/kg|U||TA|CS||||STSL
08-68||F7J160279|STSL|10/14/2007|10/17/2007|10/17/2007|10/18/2007|MD21-07-6726|F7J160279005|SOLID||MOISTURE|7291612|EPA:160.3|1|12|PCNT_MOIST|Percent moisture||||0.10||12.1||%|||TA|CS||||STSL
08-68||F7J160279|STSL|10/14/2007|10/17/2007|10/17/2007|10/18/2007|MD21-07-6726|F7J160279005|SOLID||NO3-N|7291371|EPA:300.0|1|12|NO3|Nitrate||0.098||0.23||0.098||mg/kg|U||TA|CS||||STSL
08-68||F7J160279|STSL|10/14/2007|10/17/2007|10/17/2007|10/17/2007|MD21-07-

6726|F7J160279005|SOLID||LCMS|7290152|SW-846:6850|1|12|ClO4|Perchlorate -
LC/MS/MS||2.3||5.7||2.3||ug/kg|U||TA|CS||||STSL
08-68||F7J160279|STSL|10/14/2007|10/17/2007|10/17/2007|10/18/2007|MD21-07-
6785|F7J160279006|SOLID||MOISTURE|7291612|EPA:160.3|1|10|PCNT_MOIST|Percent
moisture||||0.10||10.1||%|||TA|CS||||STSL
08-68||F7J160279|STSL|10/14/2007|10/17/2007|10/17/2007|10/18/2007|MD21-07-6785|F7J160279006|SOLID||NO3-
N|7291371|EPA:300.0|1|10|NO3|Nitrate||0.096||0.22||0.18||mg/kg|J||TA|CS||||STSL
08-68||F7J160279|STSL|10/14/2007|10/17/2007|10/17/2007|10/17/2007|MD21-07-
6785|F7J160279006|SOLID||LCMS|7290152|SW-846:6850|1|10|ClO4|Perchlorate -
LC/MS/MS||2.2||5.6||2.2||ug/kg|U||TA|CS||||STSL
08-68||F7J160279|STSL|10/14/2007|10/17/2007|10/17/2007|10/18/2007|MD21-07-
6732|F7J160279007|SOLID||MOISTURE|7291612|EPA:160.3|1|3.0|PCNT_MOIST|Percent
moisture||||0.10||3.0||%|||TA|CS||||STSL
08-68||F7J160279|STSL|10/14/2007|10/17/2007|10/17/2007|10/18/2007|MD21-07-6732|F7J160279007|SOLID||NO3-
N|7291371|EPA:300.0|1|3.0|NO3|Nitrate||0.089||0.21||0.089||mg/kg|U||TA|CS||||STSL
08-68||F7J160279|STSL|10/14/2007|10/17/2007|10/17/2007|10/17/2007|MD21-07-
6732|F7J160279007|SOLID||LCMS|7290152|SW-846:6850|1|3.0|ClO4|Perchlorate -
LC/MS/MS||2.1||5.2||2.1||ug/kg|U||TA|CS||||STSL
08-68||F7J160279|STSL|10/13/2007|10/17/2007|10/17/2007|10/18/2007|MD21-07-
6761|F7J160279008|SOLID||MOISTURE|7291612|EPA:160.3|1|9.5|PCNT_MOIST|Percent
moisture||||0.10||9.5||%|||TA|CS||||STSL
08-68||F7J160279|STSL|10/13/2007|10/17/2007|10/17/2007|10/18/2007|MD21-07-6761|F7J160279008|SOLID||NO3-
N|7291371|EPA:300.0|1|9.5|NO3|Nitrate||0.095||0.22||0.095||mg/kg|U||TA|CS||||STSL
08-68||F7J160279|STSL|10/13/2007|10/17/2007|10/17/2007|10/17/2007|MD21-07-
6761|F7J160279008|SOLID||LCMS|7290152|SW-846:6850|1|9.5|ClO4|Perchlorate -
LC/MS/MS||2.2||5.5||2.2||ug/kg|U||TA|CS||||STSL
08-68||F7J160279|STSL|10/13/2007|10/17/2007|10/17/2007|10/18/2007|MD21-07-6761|F7J160279008S|SOLID||NO3-
N|7291371|EPA:300.0|1|9.5|NO3|Nitrate||0.095||0.22||5.32||mg/kg||5.53|SP|MS|96|||STSL
08-68||F7J160279|STSL|10/13/2007|10/17/2007|10/17/2007|10/18/2007|MD21-07-6761|F7J160279008X|SOLID||NO3-
N|7291371|EPA:300.0|1|9.5|NO3|Nitrate||0.095||0.22||0.095||mg/kg|U||SP|LR||0||STSL
08-68||F7J160279|STSL|10/13/2007|10/17/2007|10/17/2007|10/18/2007|MD21-07-
6756|F7J160279009|SOLID||MOISTURE|7291612|EPA:160.3|1|14|PCNT_MOIST|Percent
moisture||||0.10||14.4||%|||TA|CS||||STSL
08-68||F7J160279|STSL|10/13/2007|10/17/2007|10/17/2007|10/18/2007|MD21-07-6756|F7J160279009|SOLID||NO3-
N|7291371|EPA:300.0|1|14|NO3|Nitrate||0.10||0.23||0.10||mg/kg|U||TA|CS||||STSL
08-68||F7J160279|STSL|10/13/2007|10/17/2007|10/17/2007|10/17/2007|MD21-07-
6756|F7J160279009|SOLID||LCMS|7290152|SW-846:6850|1|14|ClO4|Perchlorate -
LC/MS/MS||2.3||5.8||2.3||ug/kg|U||TA|CS||||STSL
08-68||F7J160279|STSL|10/13/2007|10/17/2007|10/17/2007|10/18/2007|MD21-07-
6777|F7J160279010|SOLID||MOISTURE|7291612|EPA:160.3|1|6.5|PCNT_MOIST|Percent
moisture||||0.10||6.5||%|||TA|CS||||STSL
08-68||F7J160279|STSL|10/13/2007|10/17/2007|10/17/2007|10/18/2007|MD21-07-6777|F7J160279010|SOLID||NO3-
N|7291371|EPA:300.0|1|6.5|NO3|Nitrate||0.092||0.21||0.092||mg/kg|U||TA|CS||||STSL
08-68||F7J160279|STSL|10/13/2007|10/17/2007|10/17/2007|10/17/2007|MD21-07-
6777|F7J160279010|SOLID||LCMS|7290152|SW-846:6850|1|6.5|ClO4|Perchlorate -
LC/MS/MS||2.1||5.3||2.1||ug/kg|U||TA|CS||||STSL
08-68||F7J160279|STSL|10/13/2007|10/17/2007|10/17/2007|10/18/2007|MD21-07-
6775|F7J160279011|SOLID||MOISTURE|7291612|EPA:160.3|1|15|PCNT_MOIST|Percent
moisture||||0.10||15.4||%|||TA|CS||||STSL
08-68||F7J160279|STSL|10/13/2007|10/17/2007|10/17/2007|10/18/2007|MD21-07-6775|F7J160279011|SOLID||NO3-
N|7291371|EPA:300.0|1|15|NO3|Nitrate||0.10||0.24||0.64||mg/kg|||TA|CS||||STSL
08-68||F7J160279|STSL|10/13/2007|10/17/2007|10/17/2007|10/17/2007|MD21-07-
6775|F7J160279011|SOLID||LCMS|7290152|SW-846:6850|1|15|ClO4|Perchlorate -
LC/MS/MS||2.4||5.9||2.4||ug/kg|U||TA|CS||||STSL

08-68||F7J160279|STSL|10/13/2007|10/17/2007|10/17/2007|10/18/2007|MD21-07-
6755|F7J160279012|SOLID||MOISTURE|7291612|EPA:160.3|1|14|PCNT_MOIST|Percent
moisture||||0.10||13.6||%|||TA|CS||||STSL
08-68||F7J160279|STSL|10/13/2007|10/17/2007|10/17/2007|10/18/2007|MD21-07-6755|F7J160279012|SOLID||NO3-
N|7291371|EPA:300.0|1|14|NO3|Nitrate||0.10||0.23||0.10||mg/kg|U||TA|CS||||STSL
08-68||F7J160279|STSL|10/13/2007|10/17/2007|10/17/2007|10/17/2007|MD21-07-
6755|F7J160279012|SOLID||LCMS|7290152|SW-846:6850|1|14|ClO4|Perchlorate -
LC/MS/MS||2.3||5.8||2.3||ug/kg|U||TA|CS||||STSL
08-68||F7J160279|STSL|10/14/2007|10/17/2007|10/17/2007|10/18/2007|MD21-07-
6771|F7J160279013|SOLID||MOISTURE|7291612|EPA:160.3|1|4.4|PCNT_MOIST|Percent
moisture||||0.10||4.4||%|||TA|CS||||STSL
08-68||F7J160279|STSL|10/14/2007|10/17/2007|10/17/2007|10/18/2007|MD21-07-6771|F7J160279013|SOLID||NO3-
N|7291371|EPA:300.0|1|4.4|NO3|Nitrate||0.090||0.21||0.090||mg/kg|U||TA|CS||||STSL
08-68||F7J160279|STSL|10/14/2007|10/17/2007|10/17/2007|10/17/2007|MD21-07-
6771|F7J160279013|SOLID||LCMS|7290152|SW-846:6850|1|4.4|ClO4|Perchlorate -
LC/MS/MS||2.1||5.2||2.1||ug/kg|U||TA|CS||||STSL
08-68||F7J160279|STSL|10/14/2007|10/17/2007|10/17/2007|10/18/2007|MD21-07-
6792|F7J160279014|SOLID||MOISTURE|7291612|EPA:160.3|1|4.1|PCNT_MOIST|Percent
moisture||||0.10||4.1||%|||TA|CS||||STSL
08-68||F7J160279|STSL|10/14/2007|10/17/2007|10/17/2007|10/18/2007|MD21-07-6792|F7J160279014|SOLID||NO3-
N|7291371|EPA:300.0|1|4.1|NO3|Nitrate||0.090||0.21||0.090||mg/kg|U||TA|CS||||STSL
08-68||F7J160279|STSL|10/14/2007|10/17/2007|10/17/2007|10/17/2007|MD21-07-
6792|F7J160279014|SOLID||LCMS|7290152|SW-846:6850|1|4.1|ClO4|Perchlorate -
LC/MS/MS||2.1||5.2||2.1||ug/kg|U||TA|CS||||STSL
08-68||F7J160279|STSL|10/14/2007|10/17/2007|10/17/2007|10/18/2007|MD21-07-
6783|F7J160279015|SOLID||MOISTURE|7291605|EPA:160.3|1|5.4|PCNT_MOIST|Percent
moisture||||0.10||5.4||%|||TA|CS||||STSL
08-68||F7J160279|STSL|10/14/2007|10/17/2007|10/17/2007|10/18/2007|MD21-07-6783|F7J160279015|SOLID||NO3-
N|7291373|EPA:300.0|1|5.4|NO3|Nitrate||0.091||0.21||0.091||mg/kg|U||TA|CS||||STSL
08-68||F7J160279|STSL|10/14/2007|10/17/2007|10/17/2007|10/17/2007|MD21-07-
6783|F7J160279015|SOLID||LCMS|7290152|SW-846:6850|1|5.4|ClO4|Perchlorate -
LC/MS/MS||2.1||5.3||2.1||ug/kg|U||TA|CS||||STSL
08-68||F7J160279|STSL|10/14/2007|10/17/2007|10/17/2007|10/18/2007|MD21-07-6783|F7J160279015S|SOLID||NO3-
N|7291373|EPA:300.0|1|5.4|NO3|Nitrate||0.091||0.21||5.52||mg/kg||5.29|SP|MS|105|||STSL
08-68||F7J160279|STSL|10/14/2007|10/17/2007|10/17/2007|10/18/2007|MD21-07-6783|F7J160279015X|SOLID||NO3-
N|7291373|EPA:300.0|1|5.4|NO3|Nitrate||0.091||0.21||0.091||mg/kg|U||SP|LR||0||STSL
08-68||F7J160279|STSL|10/13/2007|10/17/2007|10/17/2007|10/18/2007|MD21-07-
6763|F7J160279016|SOLID||MOISTURE|7291612|EPA:160.3|1|9.3|PCNT_MOIST|Percent
moisture||||0.10||9.3||%|||TA|CS||||STSL
08-68||F7J160279|STSL|10/13/2007|10/17/2007|10/17/2007|10/18/2007|MD21-07-6763|F7J160279016|SOLID||NO3-
N|7291371|EPA:300.0|1|9.3|NO3|Nitrate||0.095||0.22||0.095||mg/kg|U||TA|CS||||STSL
08-68||F7J160279|STSL|10/13/2007|10/17/2007|10/17/2007|10/17/2007|MD21-07-
6763|F7J160279016|SOLID||LCMS|7290152|SW-846:6850|1|9.3|ClO4|Perchlorate -
LC/MS/MS||2.2||5.5||2.2||ug/kg|U||TA|CS||||STSL
08-68||F7J160279|STSL|10/14/2007|10/17/2007|10/17/2007|10/18/2007|MD21-07-
6742|F7J160279017|SOLID||MOISTURE|7291605|EPA:160.3|1|6.8|PCNT_MOIST|Percent
moisture||||0.10||6.8||%|||TA|CS||||STSL
08-68||F7J160279|STSL|10/14/2007|10/17/2007|10/17/2007|10/18/2007|MD21-07-6742|F7J160279017|SOLID||NO3-
N|7291373|EPA:300.0|1|6.8|NO3|Nitrate||0.092||0.21||0.092||mg/kg|U||TA|CS||||STSL
08-68||F7J160279|STSL|10/14/2007|10/17/2007|10/17/2007|10/17/2007|MD21-07-
6742|F7J160279017|SOLID||LCMS|7290152|SW-846:6850|1|6.8|ClO4|Perchlorate -
LC/MS/MS||2.1||5.4||2.1||ug/kg|U||TA|CS||||STSL
08-68||F7J160279|STSL|10/14/2007|10/17/2007|10/17/2007|10/18/2007|MD21-07-
6733|F7J160279018|SOLID||MOISTURE|7291605|EPA:160.3|1|2.5|PCNT_MOIST|Percent

moisture||||0.10||2.5||%|||TA|CS||||STSL
08-68||F7J160279|STSL|10/14/2007|10/17/2007|10/17/2007|10/18/2007|MD21-07-6733|F7J160279018|SOLID||NO3-N|7291373|EPA:300.0|1|2.5|NO3|Nitrate||0.088||0.21||0.22||mg/kg|||TA|CS||||STSL
08-68||F7J160279|STSL|10/14/2007|10/17/2007|10/17/2007|10/17/2007|MD21-07-6733|F7J160279018|SOLID||LCMS|7290152|SW-846:6850|1|2.5|ClO4|Perchlorate - LC/MS/MS||2.1||5.1||2.1||ug/kg|U||TA|CS||||STSL
08-68||F7J160279|STSL|10/14/2007|10/17/2007|10/17/2007|10/18/2007|MD21-07-6784|F7J160279019|SOLID||MOISTURE|7291605|EPA:160.3|1|3.2|PCNT_MOIST|Percent moisture||||0.10||3.2||%|||TA|CS||||STSL
08-68||F7J160279|STSL|10/14/2007|10/17/2007|10/17/2007|10/18/2007|MD21-07-6784|F7J160279019|SOLID||NO3-N|7291373|EPA:300.0|1|3.2|NO3|Nitrate||0.089||0.21||0.089||mg/kg|U||TA|CS||||STSL
08-68||F7J160279|STSL|10/14/2007|10/17/2007|10/17/2007|10/17/2007|MD21-07-6784|F7J160279019|SOLID||LCMS|7290152|SW-846:6850|1|3.2|ClO4|Perchlorate - LC/MS/MS||2.1||5.2||2.1||ug/kg|U||TA|CS||||STSL
08-68||F7J160279|STSL|10/14/2007|10/17/2007|10/17/2007|10/18/2007|MD21-07-6769|F7J160279020|SOLID||MOISTURE|7291605|EPA:160.3|1|8.4|PCNT_MOIST|Percent moisture||||0.10||8.4||%|||TA|CS||||STSL
08-68||F7J160279|STSL|10/14/2007|10/17/2007|10/17/2007|10/18/2007|MD21-07-6769|F7J160279020|SOLID||NO3-N|7291373|EPA:300.0|1|8.4|NO3|Nitrate||0.094||0.22||0.094||mg/kg|U||TA|CS||||STSL
08-68||F7J160279|STSL|10/14/2007|10/17/2007|10/17/2007|10/17/2007|MD21-07-6769|F7J160279020|SOLID||LCMS|7290152|SW-846:6850|1|8.4|ClO4|Perchlorate - LC/MS/MS||2.2||5.5||2.2||ug/kg|U||TA|CS||||STSL
08-68||F7J160279|STSL|10/13/2007|10/17/2007|10/17/2007|10/18/2007|MD21-07-6754|F7J160279021|SOLID||MOISTURE|7291612|EPA:160.3|1|9.9|PCNT_MOIST|Percent moisture||||0.10||9.9||%|||TA|CS||||STSL
08-68||F7J160279|STSL|10/13/2007|10/17/2007|10/17/2007|10/18/2007|MD21-07-6754|F7J160279021|SOLID||NO3-N|7291371|EPA:300.0|1|9.9|NO3|Nitrate||0.095||0.22||1.2||mg/kg|||TA|CS||||STSL
08-68||F7J160279|STSL|10/13/2007|10/17/2007|10/17/2007|10/17/2007|MD21-07-6754|F7J160279021|SOLID||LCMS|7290155|SW-846:6850|1|9.9|ClO4|Perchlorate - LC/MS/MS||2.2||5.6||2.2||ug/kg|U||TA|CS||||STSL
08-68||F7J160279|STSL|10/13/2007|10/17/2007|10/17/2007|10/17/2007|MD21-07-6754|F7J160279021D|SOLID||LCMS|7290155|SW-846:6850|1|9.9|ClO4|Perchlorate - LC/MS/MS||2.2||5.6||100||ug/kg||101|SP|MSD|99|2.5||STSL
08-68||F7J160279|STSL|10/13/2007|10/17/2007|10/17/2007|10/17/2007|MD21-07-6754|F7J160279021S|SOLID||LCMS|7290155|SW-846:6850|1|9.9|ClO4|Perchlorate - LC/MS/MS||2.2||5.6||103||ug/kg||105|SP|MS|98|2.5||STSL
08-68||F7J160279|STSL|10/13/2007|10/17/2007|10/17/2007|10/17/2007|MD21-07-6754|F7J160279021X|SOLID||LCMS|7290155|SW-846:6850|1|9.9|ClO4|Perchlorate - LC/MS/MS||2.2||5.6||2.2||ug/kg|U||SP|LR||0||STSL
08-68||F7J160279|STSL|10/14/2007|10/17/2007|10/17/2007|10/18/2007|MD21-07-6787|F7J160279022|SOLID||MOISTURE|7291605|EPA:160.3|1|1.6|PCNT_MOIST|Percent moisture||||0.10||1.6||%|||TA|CS||||STSL
08-68||F7J160279|STSL|10/14/2007|10/17/2007|10/17/2007|10/18/2007|MD21-07-6787|F7J160279022|SOLID||NO3-N|7291373|EPA:300.0|1|1.6|NO3|Nitrate||0.087||0.20||0.087||mg/kg|U||TA|CS||||STSL
08-68||F7J160279|STSL|10/14/2007|10/17/2007|10/17/2007|10/17/2007|MD21-07-6787|F7J160279022|SOLID||LCMS|7290155|SW-846:6850|1|1.6|ClO4|Perchlorate - LC/MS/MS||2.0||5.1||2.0||ug/kg|U||TA|CS||||STSL
08-68||F7J160279|STSL|10/14/2007|10/17/2007|10/17/2007|10/18/2007|MD21-07-6795|F7J160279023|SOLID||MOISTURE|7291605|EPA:160.3|1|9.6|PCNT_MOIST|Percent moisture||||0.10||9.6||%|||TA|CS||||STSL
08-68||F7J160279|STSL|10/14/2007|10/17/2007|10/17/2007|10/18/2007|MD21-07-6795|F7J160279023|SOLID||NO3-N|7291373|EPA:300.0|1|9.6|NO3|Nitrate||0.095||0.22||0.095||mg/kg|U||TA|CS||||STSL
08-68||F7J160279|STSL|10/14/2007|10/17/2007|10/17/2007|10/17/2007|MD21-07-6795|F7J160279023|SOLID||LCMS|7290155|SW-846:6850|1|9.6|ClO4|Perchlorate -

LC/MS/MS||2.2||5.5||2.2||ug/kg|U||TA|CS||||STSL
08-68||F7J160279|STSL|10/14/2007|10/17/2007|10/17/2007|10/18/2007|MD21-07-
6741|F7J160279024|SOLID||MOISTURE|7291605|EPA:160.3|1|9.6|PCNT_MOIST|Percent
moisture||||0.10||9.6||%|||TA|CS||||STSL
08-68||F7J160279|STSL|10/14/2007|10/17/2007|10/17/2007|10/18/2007|MD21-07-6741|F7J160279024|SOLID||NO3-
N|7291373|EPA:300.0|1|9.6|NO3|Nitrate||0.095||0.22||0.095||mg/kg|U||TA|CS||||STSL
08-68||F7J160279|STSL|10/14/2007|10/17/2007|10/17/2007|10/17/2007|MD21-07-
6741|F7J160279024|SOLID||LCMS|7290155|SW-846:6850|1|9.6|ClO4|Perchlorate -
LC/MS/MS||2.2||5.5||2.2||ug/kg|U||TA|CS||||STSL
08-68||F7J160279|STSL|10/14/2007|10/17/2007|10/17/2007|10/18/2007|MD21-07-
6793|F7J160279025|SOLID||MOISTURE|7291605|EPA:160.3|1|1.2|PCNT_MOIST|Percent
moisture||||0.10||1.2||%|||TA|CS||||STSL
08-68||F7J160279|STSL|10/14/2007|10/17/2007|10/17/2007|10/18/2007|MD21-07-6793|F7J160279025|SOLID||NO3-
N|7291373|EPA:300.0|1|1.2|NO3|Nitrate||0.087||0.20||0.087||mg/kg|U||TA|CS||||STSL
08-68||F7J160279|STSL|10/14/2007|10/17/2007|10/17/2007|10/17/2007|MD21-07-
6793|F7J160279025|SOLID||LCMS|7290155|SW-846:6850|1|1.2|ClO4|Perchlorate -
LC/MS/MS||2.0||5.1||2.0||ug/kg|U||TA|CS||||STSL
08-68||F7J160279|STSL|10/14/2007|10/17/2007|10/17/2007|10/18/2007|MD21-07-
6772|F7J160279026|SOLID||MOISTURE|7291605|EPA:160.3|1|6.4|PCNT_MOIST|Percent
moisture||||0.10||6.4||%|||TA|CS||||STSL
08-68||F7J160279|STSL|10/14/2007|10/17/2007|10/17/2007|10/18/2007|MD21-07-6772|F7J160279026|SOLID||NO3-
N|7291373|EPA:300.0|1|6.4|NO3|Nitrate||0.092||0.21||0.092||mg/kg|U||TA|CS||||STSL
08-68||F7J160279|STSL|10/14/2007|10/17/2007|10/17/2007|10/17/2007|MD21-07-
6772|F7J160279026|SOLID||LCMS|7290155|SW-846:6850|1|6.4|ClO4|Perchlorate -
LC/MS/MS||2.1||5.3||2.1||ug/kg|U||TA|CS||||STSL
08-68||F7J160279|STSL|10/14/2007|10/17/2007|10/17/2007|10/18/2007|MD21-07-
6768|F7J160279027|SOLID||MOISTURE|7291605|EPA:160.3|1|6.1|PCNT_MOIST|Percent
moisture||||0.10||6.1||%|||TA|CS||||STSL
08-68||F7J160279|STSL|10/14/2007|10/17/2007|10/17/2007|10/18/2007|MD21-07-6768|F7J160279027|SOLID||NO3-
N|7291373|EPA:300.0|1|6.1|NO3|Nitrate||0.092||0.21||0.092||mg/kg|U||TA|CS||||STSL
08-68||F7J160279|STSL|10/14/2007|10/17/2007|10/17/2007|10/17/2007|MD21-07-
6768|F7J160279027|SOLID||LCMS|7290155|SW-846:6850|1|6.1|ClO4|Perchlorate -
LC/MS/MS||2.1||5.3||2.1||ug/kg|U||TA|CS||||STSL
08-68||F7J160279|STSL|10/13/2007|10/17/2007|10/17/2007|10/18/2007|MD21-07-
6798|F7J160279028|SOLID||MOISTURE|7291612|EPA:160.3|1|15|PCNT_MOIST|Percent
moisture||||0.10||15.1||%|||TA|CS||||STSL
08-68||F7J160279|STSL|10/13/2007|10/17/2007|10/17/2007|10/18/2007|MD21-07-6798|F7J160279028|SOLID||NO3-
N|7291371|EPA:300.0|1|15|NO3|Nitrate||0.10||0.24||0.10||mg/kg|U||TA|CS||||STSL
08-68||F7J160279|STSL|10/13/2007|10/17/2007|10/17/2007|10/17/2007|MD21-07-
6798|F7J160279028|SOLID||LCMS|7290155|SW-846:6850|1|15|ClO4|Perchlorate -
LC/MS/MS||2.4||5.9||2.4||ug/kg|U||TA|CS||||STSL
08-68||F7J160279|STSL|10/14/2007|10/17/2007|10/17/2007|10/18/2007|MD21-07-
6740|F7J160279029|SOLID||MOISTURE|7291605|EPA:160.3|1|4.6|PCNT_MOIST|Percent
moisture||||0.10||4.6||%|||TA|CS||||STSL
08-68||F7J160279|STSL|10/14/2007|10/17/2007|10/17/2007|10/18/2007|MD21-07-6740|F7J160279029|SOLID||NO3-
N|7291373|EPA:300.0|1|4.6|NO3|Nitrate||0.090||0.21||0.090||mg/kg|U||TA|CS||||STSL
08-68||F7J160279|STSL|10/14/2007|10/17/2007|10/17/2007|10/17/2007|MD21-07-
6740|F7J160279029|SOLID||LCMS|7290155|SW-846:6850|1|4.6|ClO4|Perchlorate -
LC/MS/MS||2.1||5.2||2.1||ug/kg|U||TA|CS||||STSL
08-68||F7J160279|STSL|10/13/2007|10/17/2007|10/17/2007|10/18/2007|MD21-07-
6776|F7J160279030|SOLID||MOISTURE|7291612|EPA:160.3|1|15|PCNT_MOIST|Percent
moisture||||0.10||15.0||%|||TA|CS||||STSL
08-68||F7J160279|STSL|10/13/2007|10/17/2007|10/17/2007|10/18/2007|MD21-07-6776|F7J160279030|SOLID||NO3-
N|7291371|EPA:300.0|1|15|NO3|Nitrate||0.10||0.24||0.20||mg/kg|J||TA|CS||||STSL

08-68||F7J160279|STSL|10/13/2007|10/17/2007|10/17/2007|10/17/2007|MD21-07-6776|F7J160279030|SOLID||LCMS|7290155|SW-846:6850|1|15|ClO4|Perchlorate - LC/MS/MS||2.4||5.9||2.4||ug/kg|U||TA|CS||||STSL
08-68||F7J160279|STSL|10/13/2007|10/17/2007|10/17/2007|10/18/2007|MD21-07-6762|F7J160279031|SOLID||MOISTURE|7291612|EPA:160.3|1|15|PCNT_MOIST|Percent moisture||||0.10||15.4||%|||TA|CS||||STSL
08-68||F7J160279|STSL|10/13/2007|10/17/2007|10/17/2007|10/18/2007|MD21-07-6762|F7J160279031|SOLID||NO3-N|7291371|EPA:300.0|1|15|NO3|Nitrate||0.10||0.24||0.10||mg/kg|U||TA|CS||||STSL
08-68||F7J160279|STSL|10/13/2007|10/17/2007|10/17/2007|10/17/2007|MD21-07-6762|F7J160279031|SOLID||LCMS|7290155|SW-846:6850|1|15|ClO4|Perchlorate - LC/MS/MS||2.4||5.9||2.4||ug/kg|U||TA|CS||||STSL
08-68||F7J160279|STSL|10/13/2007|10/17/2007|10/17/2007|10/18/2007|MD21-07-6757|F7J160279032|SOLID||MOISTURE|7291612|EPA:160.3|1|6.2|PCNT_MOIST|Percent moisture||||0.10||6.2||%|||TA|CS||||STSL
08-68||F7J160279|STSL|10/13/2007|10/17/2007|10/17/2007|10/18/2007|MD21-07-6757|F7J160279032|SOLID||NO3-N|7291371|EPA:300.0|1|6.2|NO3|Nitrate||0.092||0.21||0.092||mg/kg|U||TA|CS||||STSL
08-68||F7J160279|STSL|10/13/2007|10/17/2007|10/17/2007|10/17/2007|MD21-07-6757|F7J160279032|SOLID||LCMS|7290155|SW-846:6850|1|6.2|ClO4|Perchlorate - LC/MS/MS||2.1||5.3||2.1||ug/kg|U||TA|CS||||STSL
08-68||F7J160279|STSL|10/14/2007|10/17/2007|10/17/2007|10/18/2007|MD21-07-6725|F7J160279033|SOLID||MOISTURE|7291605|EPA:160.3|1|5.9|PCNT_MOIST|Percent moisture||||0.10||5.9||%|||TA|CS||||STSL
08-68||F7J160279|STSL|10/14/2007|10/17/2007|10/17/2007|10/18/2007|MD21-07-6725|F7J160279033|SOLID||NO3-N|7291373|EPA:300.0|1|5.9|NO3|Nitrate||0.091||0.21||0.091||mg/kg|U||TA|CS||||STSL
08-68||F7J160279|STSL|10/14/2007|10/17/2007|10/17/2007|10/17/2007|MD21-07-6725|F7J160279033|SOLID||LCMS|7290155|SW-846:6850|1|5.9|ClO4|Perchlorate - LC/MS/MS||2.1||5.3||2.1||ug/kg|U||TA|CS||||STSL
08-68||F7J160279|STSL|10/14/2007|10/17/2007|10/17/2007|10/18/2007|MD21-07-6727|F7J160279034|SOLID||MOISTURE|7291605|EPA:160.3|1|6.9|PCNT_MOIST|Percent moisture||||0.10||6.9||%|||TA|CS||||STSL
08-68||F7J160279|STSL|10/14/2007|10/17/2007|10/17/2007|10/18/2007|MD21-07-6727|F7J160279034|SOLID||NO3-N|7291373|EPA:300.0|1|6.9|NO3|Nitrate||0.092||0.21||0.092||mg/kg|U||TA|CS||||STSL
08-68||F7J160279|STSL|10/14/2007|10/17/2007|10/17/2007|10/17/2007|MD21-07-6727|F7J160279034|SOLID||LCMS|7290155|SW-846:6850|1|6.9|ClO4|Perchlorate - LC/MS/MS||2.1||5.4||2.1||ug/kg|U||TA|CS||||STSL
08-68||F7J160279|STSL|10/14/2007|10/17/2007|10/17/2007|10/17/2007|MD21-07-6799|F7J160279035|WATER||NO2NO3|7290365|EPA:353.1|1||NO3|Nitrate||15.0||50.0||111||ug/L|||TA|CS||||STSL
08-68||F7J160279|STSL|10/14/2007|10/17/2007|10/17/2007|10/17/2007|MD21-07-6799|F7J160279035|WATER||LCMS|7290361|SW-846:6850|1||ClO4|Perchlorate - LC/MS/MS||0.20||0.50||0.20||ug/L|U||TA|CS||||STSL
08-68||F7J160279|STSL|10/14/2007|10/17/2007|10/17/2007|10/17/2007|MD21-07-6799|F7J160279035D|WATER||LCMS|7290361|SW-846:6850|1||ClO4|Perchlorate - LC/MS/MS||0.20||0.50||10.0||ug/L||10.0|SP|MSD|100|2.9||STSL
08-68||F7J160279|STSL|10/14/2007|10/17/2007|10/17/2007|10/17/2007|MD21-07-6799|F7J160279035S|WATER||NO2NO3|7290365|EPA:353.1|1||NO3|Nitrate||15.0||50.0||638||ug/L|N|400|SP|MS|132|||STSL
08-68||F7J160279|STSL|10/14/2007|10/17/2007|10/17/2007|10/17/2007|MD21-07-6799|F7J160279035S|WATER||LCMS|7290361|SW-846:6850|1||ClO4|Perchlorate - LC/MS/MS||0.20||0.50||10.3||ug/L||10.0|SP|MS|103|2.9||STSL
08-68||F7J160279|STSL|10/14/2007|10/17/2007|10/17/2007|10/17/2007|MD21-07-6799|F7J160279035X|WATER||NO2NO3|7290365|EPA:353.1|1||NO3|Nitrate||15.0||50.0||115||ug/L|||SP|LR||3.3||STSL
08-68||F7J160279|STSL|10/14/2007|10/17/2007|10/17/2007|10/17/2007|MD21-07-6799|F7J160279035X|WATER||LCMS|7290361|SW-846:6850|1||ClO4|Perchlorate - LC/MS/MS||0.20||0.50||0.20||ug/L|U||SP|LR||0||STSL

08-68||F7J160279|STSL|10/14/2007|10/17/2007|10/17/2007|10/17/2007|MD21-07-
6796|F7J160279036|WATER||NO2NO3|7290365|EPA:353.1|1||NO3|Nitrate||15.0||50.0||109||ug/L|||TA|CS||||STSL
08-68||F7J160279|STSL|10/14/2007|10/17/2007|10/17/2007|10/17/2007|MD21-07-
6796|F7J160279036|WATER||LCMS|7290361|SW-846:6850|1||ClO4|Perchlorate -
LC/MS/MS||0.20||0.50||0.20||ug/L|U||TA|CS||||STSL
08-68||F7J160279|STSL|10/14/2007|10/17/2007|10/17/2007|10/18/2007|MD21-07-
7022|F7J160279037|SOLID||MOISTURE|7291605|EPA:160.3|1|5.8|PCNT_MOIST|Percent
moisture||||0.10||5.8||%|||TA|CS||||STSL
08-68||F7J160279|STSL|10/14/2007|10/17/2007|10/17/2007|10/18/2007|MD21-07-7022|F7J160279037|SOLID||NO3-
N|7291373|EPA:300.0|1|5.8|NO3|Nitrate||0.091||0.21||0.18||mg/kg|J||TA|CS||||STSL
08-68||F7J160279|STSL|10/14/2007|10/17/2007|10/17/2007|10/17/2007|MD21-07-
7022|F7J160279037|SOLID||LCMS|7290155|SW-846:6850|1|5.8|ClO4|Perchlorate -
LC/MS/MS||2.1||5.3||2.1||ug/kg|U||TA|CS||||STSL
08-68||F7J160279|STSL|10/14/2007|10/17/2007|10/17/2007|10/17/2007|MD21-08-
7053|F7J160279038|WATER||NO2NO3|7290365|EPA:353.1|1||NO3|Nitrate||15.0||50.0||107||ug/L|||TA|CS||||STSL
08-68||F7J160279|STSL|10/14/2007|10/17/2007|10/17/2007|10/17/2007|MD21-08-
7053|F7J160279038|WATER||LCMS|7290361|SW-846:6850|1||ClO4|Perchlorate -
LC/MS/MS||0.20||0.50||0.20||ug/L|U||TA|CS||||STSL
08-
68||F7J160279|STSL|10/14/2007|10/17/2007|10/17/2007|10/17/2007|LABQC|MB7290152|SOLID||LCMS|7290152|SW-
846:6850|1|0.0|ClO4|Perchlorate - LC/MS/MS||2.0||5.0||2.0||ug/kg|U||TA|LB||||STSL
08-
68||F7J160279|STSL|10/14/2007|10/17/2007|10/17/2007|10/17/2007|LABQC|LCS7290152|SOLID||LCMS|7290152|SW
-846:6850|1|0.0|ClO4|Perchlorate - LC/MS/MS||2.0||5.0||95.9||ug/kg||100|SP|LCS|96|||STSL
08-
68||F7J160279|STSL|10/13/2007|10/17/2007|10/17/2007|10/17/2007|LABQC|MB7290155|SOLID||LCMS|7290155|SW-
846:6850|1|0.0|ClO4|Perchlorate - LC/MS/MS||2.0||5.0||2.0||ug/kg|U||TA|LB||||STSL
08-
68||F7J160279|STSL|10/13/2007|10/17/2007|10/17/2007|10/17/2007|LABQC|LCS7290155|SOLID||LCMS|7290155|SW
-846:6850|1|0.0|ClO4|Perchlorate - LC/MS/MS||2.0||5.0||100||ug/kg||100|SP|LCS|100|||STSL
08-
68||F7J160279|STSL|10/14/2007|10/17/2007|10/17/2007|10/17/2007|LABQC|MB7290361|WATER||LCMS|7290361|S
W-846:6850|1|100|ClO4|Perchlorate - LC/MS/MS||0.20||0.50||0.20||ug/L|U||TA|LB||||STSL
08-
68||F7J160279|STSL|10/14/2007|10/17/2007|10/17/2007|10/17/2007|LABQC|LCS7290361|WATER||LCMS|7290361|S
W-846:6850|1|100|ClO4|Perchlorate - LC/MS/MS||0.20||0.50||9.77||ug/L||10.0|SP|LCS|98|||STSL
08-
68||F7J160279|STSL|10/14/2007|10/17/2007|10/17/2007|10/17/2007|LABQC|MB7290365|WATER||NO2NO3|7290365|
EPA:353.1|1|100|NO3|Nitrate||15.0||50.0||15.0||ug/L|U||TA|LB||||STSL
08-
68||F7J160279|STSL|10/14/2007|10/17/2007|10/17/2007|10/17/2007|LABQC|LCS7290365|WATER||NO2NO3|7290365
|EPA:353.1|1|100|NO3|Nitrate||15.0||50.0||404||ug/L||400|SP|LCS|101|1.3||STSL
08-
68||F7J160279|STSL|10/14/2007|10/17/2007|10/17/2007|10/17/2007|LABQC|LCSD7290365|WATER||NO2NO3|72903
65|EPA:353.1|1|100|NO3|Nitrate||15.0||50.0||398||ug/L||400|SP|LCSD|100|1.3||STSL
08-68||F7J160279|STSL|10/13/2007|10/17/2007|10/17/2007|10/18/2007|LABQC|MB7291371|SOLID||NO3-
N|7291371|EPA:300.0|1|0.0|NO3|Nitrate||0.086||0.20||0.086||mg/kg|U||TA|LB||||STSL
08-68||F7J160279|STSL|10/13/2007|10/17/2007|10/17/2007|10/18/2007|LABQC|LCS7291371|SOLID||NO3-
N|7291371|EPA:300.0|1|0.0|NO3|Nitrate||0.086||0.20||3.79||mg/kg||4.00|SP|LCS|95|||STSL
08-68||F7J160279|STSL|10/14/2007|10/17/2007|10/17/2007|10/18/2007|LABQC|MB7291373|SOLID||NO3-
N|7291373|EPA:300.0|1|0.0|NO3|Nitrate||0.086||0.20||0.086||mg/kg|U||TA|LB||||STSL
08-68||F7J160279|STSL|10/14/2007|10/17/2007|10/17/2007|10/18/2007|LABQC|LCS7291373|SOLID||NO3-
N|7291373|EPA:300.0|1|0.0|NO3|Nitrate||0.086||0.20||3.59||mg/kg||4.00|SP|LCS|90|||STSL

AMERICAN RADIATION SERVICES, INC.

2609 North River Road • Port Allen, Louisiana 70767

1 (800) 401-4277 • Fax (225) 381-2996

American Radiation Services Analytical Reports

for

Los Alamos National Laboratory

Request Number: 08-99

AMERICAN RADIATION SERVICES, INC.

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American Radiation Services Analytical Reports

for

Los Alamos National Laboratory Request Number: 08-99

Original COC

Wednesday, October 31, 2007

LAB CHAIN OF CUSTODY DOCUMENT NUMBER: 08-99C

REQUEST NUMBER: 08-99

LOS ALAMOS

NATIONAL LABORATORY

ATTN: Danny Coleman

American Radiation Services - Primary

1726 Wooddale Court

Baton Rouge, LA 70806

TURNAROUND/REPORT DUE: 11/5/2007

TURNAROUND REQ'D: 5

LAB REQUEST COMMENTS:

SAMPLE ID	CTNR	CTNR DESC	ORDER	PRESERV	MATRIX
MD21-07-6810	1	SILICA GEL TUBE	H3	None	GAS
MD21-07-6807	1	SILICA GEL TUBE	H3	None	GAS
MD21-07-6811	1	SILICA GEL TUBE	H3	None	GAS
MD21-07-6809	1	SILICA GEL TUBE	H3	None	GAS
MD21-07-6808	1	SILICA GEL TUBE	H3	None	GAS
MD21-07-6812	1	SILICA GEL TUBE	H3	None	GAS

Relinquished By:		**Date**	**Time**	**Received By:**		**Date**	**Time**
		10/31/07	3:00	Shirley Clayton	Shirley Clayton		10:15
Printed Name	Signature			Printed Name	Signature		
Printed Name	Signature			Printed Name	Signature		
Printed Name	Signature			Printed Name	Signature		

Received for DISPOSAL By: **Date** **Time** **Remarks:**

Printed Name Signature

Wednesday, October 31, 2007

REQUEST NUMBER: 08-99

LOS ALAMOS
NATIONAL LABORATORY

ATTN: Danny Coleman
American Radiation Services - Primary
1726 Wooddale Court
Baton Rouge, LA 70806

These Samples are on:
LANL Request Number:08-99
Per Agreement Number:126310041
Project Cost Code: MR8R0225FB00

Please analyse the enclosed samples according to the schedule indicated:

SHIP DATE: 10/31/2007
TURNAROUND/REPORT DUE: 11/5/2007
TURNAROUND REQ'D: 5 Days

RAD SCREENING: Not Required
LAB REQUEST COMMENTS:

LANL ER SMO CONTACT:
Signature:

PRIORITY	METHOD CODE	CNTNR	SAMPLE ID	SAMPLE MATRIX	DATE SAMPLED	SAMPLE COMMENTS	SPECIAL INSTRUCTIONS
	EPA:906.0	1	MD21-07-6807	GAS	10/30/2007		
		1	MD21-07-6808	GAS	10/30/2007		
		1	MD21-07-6809	GAS	10/30/2007		
		1	MD21-07-6810	GAS	10/30/2007		
		1	MD21-07-6811	GAS	10/30/2007		
		1	MD21-07-6812	GAS	10/30/2007		

Final Page of REQUEST NUMBER 08-99

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American Radiation Services Analytical Reports

for

Los Alamos National Laboratory Request Number: 08-99

Case Narrative

AMERICAN RADIATION SERVICES, INC.

2609 North River Road • Port Allen, Louisiana 70767

1 (800) 401-4277 • Fax (225) 381-2996

November 5, 2007

LANL
Keith Greene
Drop Point MS H865
Los Alamos, NM 87545

Ref: LANL Request No. 08-99
LANL Sample ID: MD21-07-6810, MD21-07-6807, MD21-07-6811, MD21-07-6809, MD21-07-6808, MD21-07-6812

Dear Mr. Greene:

On November 1, 2007, American Radiation Services (ARS) received 6 Silica Gel Samples to be analyzed for Tritium.

The samples were processed and counted using the appropriate counting equipment and QA/QC for this type of analysis. Results of the analysis and QA/QC are attached in the data package.

The samples and QA/QC's were counted with a count time sufficient to meet a statistical sound detection limits.

Counting equipment Quality Assurance was with in acceptance criteria when the above referenced samples were processed.

If you have any questions please do not hesitate to call at 225-381-2991.

Sincerely,

for Virgene Mulligan

Laboratory Director
American Radiation Services

AMERICAN RADIATION SERVICES, INC.

2609 North River Road • Port Allen, Louisiana 70767

1 (800) 401-4277 • Fax (225) 381-2996

COVER PAGE

18980SOW0-8S
Statement of Work for Analytical Laboratories

PROJECT SAMPLE IDENTIFICATION CROSS-REFERENCE TO ARS SAMPLE LABORATORY IDs

Subcontract (LANL Agreement Number) 126310041

COC NUMBER	LANL PROJECT SAMPLE ID NUMBER	American Radiation Services SAMPLE ID NUMBER(S)
08-99	MD21-07-6810	ARS1-07-01760-001
08-99	MD21-07-6807	ARS1-07-01760-002
08-99	MD21-07-6811	ARS1-07-01760-003
08-99	MD21-07-6809	ARS1-07-01760-004
08-99	MD21-07-6808	ARS1-07-01760-005
08-99	MD21-07-6812	ARS1-07-01760-006

ANALYTICAL METHODS

Tritium analyses were performed using **ARS-054, "Tritium In Water".**

ANALYTICAL RESULTS

The result data that are flagged with "U" indicates that the activity is below the MDC.

AMERICAN RADIATION SERVICES, INC.

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American Radiation Services Project Manager/Laboratory Manager's Comments:
"I certify that this sample data package is in compliance with SOW requirements, both technically and for completeness, other than the conditions detailed above. Release of the data contained in this sample data package and the computer-readable EDD, as applicable, submitted on diskette or by modem, has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature."

"I certify that this electronic image, and all hardcopies produced from this image, accurately represents the data and is in compliance with the LANL specific requirements, both technically and for completeness, other than the conditions detailed above or in the sample data package narrative. Release, by submission through email, the data contained in this electronic image and the computer-readable EDD (as applicable), has been authorized by the laboratory Manager/Technical Director or the Manager's designee."

B J Steff	Lab Manager/Technical Director, American Radiation Services	11-5-07
Signature	**Title**	**Date**

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American Radiation Services Analytical Reports

for

Los Alamos National Laboratory

Tritium by Low Level Liquid Scintillation Counting

AMERICAN RADIATION SERVICES, INC.

2609 North River Road, Port Allen, Louisiana 70767

1 (800) 401-4277 FAX (225) 381-2996

ARS Sample Delivery Group:	ARS1-07-01760	**Request or PO Number:**	08-99
Client Sample ID:	MD21-07-6810	**ARS Sample ID:**	ARS1-07-01760-001
Sample Collection Date:	10/30/2007	**Date Received:**	11/01/07 10:15
Sample Matrix:	Aqueous	**Report Date:**	11/05/07 08:43

Analysis Description	Analysis Results	Analysis Error +/- 2 s	MDC	DLC	Qual	Analysis Units	Analysis Test Method	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
H-3	53.880	114.340	193.103	94.948	U	pCi/L	ARS-054/EPA 906.0	11/2/07 6:54	BS	NA

NOTES: Project Cost Code: MR8R0225FB00

Lindsay Larsenigne

Project Manager Review

Notes: American Radiation Services, Inc. assumes no liability for the use or interpretation of any analytical results provided other than the cost of the analysis itself. Reproduction of this report in less than full requires the written consent of the client.

LELAP Certificate# 30658 NELAP Certificate # E87558

AMERICAN RADIATION SERVICES, INC.

2609 North River Road, Port Allen, Louisiana 70767

1 (800) 401-4277 FAX (225) 381-2996

ARS Sample Delivery Group:	ARS1-07-01760	**Request or PO Number:**	08-99
Client Sample ID:	MD21-07-6807	**ARS Sample ID:**	ARS1-07-01760-002
Sample Collection Date:	10/30/2007	**Date Received:**	11/01/07 10:15
Sample Matrix:	Aqueous	**Report Date:**	11/05/07 08:43

Analysis Description	Analysis Results	Analysis Error +/- 2 s	MDC	DLC	Qual	Analysis Units	Analysis Test Method	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
H-3	139.683	117.280	193.959	95.369	U	pCi/L	ARS-054/EPA 906.0	11/2/07 10:01	BS	NA

NOTES: Project Cost Code: MR8R0225FB00

Lindsay Lanseigne

Project Manager Review

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ARS Sample Delivery Group:	ARS1-07-01760	**Request or PO Number:**	08-99
Client Sample ID:	MD21-07-6811	**ARS Sample ID:**	ARS1-07-01760-003
Sample Collection Date:	10/30/2007	**Date Received:**	11/01/07 10:15
Sample Matrix:	Aqueous	**Report Date:**	11/05/07 08:44

Analysis Description	Analysis Results	Analysis Error +/- 2 s	MDC	DLC	Qual	Analysis Units	Analysis Test Method	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
H-3	-22.054	114.437	196.054	96.400	U	pCi/L	ARS-054/EPA 906.0	11/2/07 13:08	BS	NA

NOTES: Project Cost Code: MR8R0225FB00

Lindsay Lanseigne

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ARS Sample Delivery Group:	ARS1-07-01760	**Request or PO Number:**	08-99
Client Sample ID:	MD21-07-6809	**ARS Sample ID:**	ARS1-07-01760-004
Sample Collection Date:	10/30/2007	**Date Received:**	11/01/07 10:15
Sample Matrix:	Aqueous	**Report Date:**	11/05/07 08:44

Analysis Description	Analysis Results	Analysis Error +/- 2 s	MDC	DLC	Qual	Analysis Units	Analysis Test Method	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
H-3	5.608	114.684	195.560	96.157	U	pCi/L	ARS-054/EPA 906.0	11/2/07 16:14	BS	NA

NOTES: Project Cost Code: MR8R0225FB00

Lindsay Lapeigne

Project Manager Review

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ARS Sample Delivery Group:	ARS1-07-01760	**Request or PO Number:**	08-99
Client Sample ID:	MD21-07-6808	**ARS Sample ID:**	ARS1-07-01760-005
Sample Collection Date:	10/30/2007	**Date Received:**	11/01/07 10:15
Sample Matrix:	Aqueous	**Report Date:**	11/05/07 08:44

Analysis Description	Analysis Results	Analysis Error +/- 2 s	MDC	DLC	Qual	Analysis Units	Analysis Test Method	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
H-3	816.721	156.335	199.126	97.910		pCi/L	ARS-054/EPA 906.0	11/2/07 19:21	BS	NA

NOTES: Project Cost Code: MR8R0225FB00

Lindsay Laneigne

Project Manager Review

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ARS Sample Delivery Group:	ARS1-07-01760	**Request or PO Number:**	08-99
Client Sample ID:	MD21-07-6812	**ARS Sample ID:**	ARS1-07-01760-006
Sample Collection Date:	10/30/2007	**Date Received:**	11/01/07 10:15
Sample Matrix:	Aqueous	**Report Date:**	11/05/07 08:44

Analysis Description	Analysis Results	Analysis Error +/- 2 s	MDC	DLC	Qual	Analysis Units	Analysis Test Method	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
H-3	121.936	118.546	197.083	96.905	U	pCi/L	ARS-054/EPA 906.0	11/2/07 22:28	BS	NA

NOTES: Project Cost Code: MR8R0225FB00

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QC Results Report

Sample Delivery Group: ARS1-07-01760

Date Received: 11/1/2007

Laboratory Control Sample Evaluation

Analysis Batch	QC Type	Analyte	Analysis Results	CSU 1 (1 s)	MDC	Expected Value	Qual	Report Units	Analysis Test Method	Analysis Date/Time	Analysis Technician	Percent Recovery (%)	LCS Acceptance Range
ARS1-B07-03107	LCS	H3	1080.86	169.2	184.29021	1210.90		pCi/L	ARS-055/EPA 906.0	11/1/07 21:34	BS	89	75%-125%

Blank Evaluation

Analysis Batch	QC Type	Analyte	Analysis Results	CSU 1 (1 s)	MDC	Expected Value	Qual	Report Units	Analysis Test Method	Analysis Date/Time	Analysis Technician
ARS1-B07-03107	MBL	H3	-6.661	110.44084	188.73786	NA	U	pCi/L	ARS-055/EPA 906.0	11/1/07 21:34	BS

RER Duplicate Evaluation

Analysis Batch	QC Type	Analysis Description	Result 1	CSU 1 (1 s)	Result 2	CSU 2 (1s)	Qual	Analysis Units	Analysis Test Method	Analysis Date/Time	Analysis Technician	RER	RER AcceptanceRange
ARS1-B07-03107	LCSD	H3	1080.86	169.2	1014.7783	165.9756		pCi/L	ARS-055/EPA 906.0	11/1/07 21:34	BS	0.20	< 1

DER Duplicate Evaluation

Analysis Batch	QC Type	Analysis Description	Result 1	CSU 1 (1 s)	Result 2	CSU 2 (1s)	Qual	Analysis Units	Analysis Test Method	Analysis Date/Time	Analysis Technician	DER	DER AcceptanceRange
ARS1-B07-03107	LCSD	H3	1080.86	169.2	1014.7783	165.9756		pCi/L	ARS-055/EPA 906.0	11/1/07 21:34	BS	0.56	< 3

Lindsay Laneigne

Project Manager Review

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American Radiation Services Analytical Reports

for

Los Alamos National Laboratory

Tritium by Low Level Liquid Scintillation Counting

Samples

Assay Definition-

Assay Description:
Tritium - DPM Mode

Assay Type: DPM (Single)
Report Name: Report1
Output Data Path: C:\Packard\Tricarb\Results\H3 Results\Tritium for Protocol 5\20071101_1822
Raw Results Path: C:\Packard\Tricarb\Results\H3 Results\Tritium for Protocol 5\20071101_1822\20071101_1822.results
RTF File Name: C:\Packard\Tricarb\Results\H3 Results\Tritium for Protocol 5\20071101_1822\H3 Results.rtf
Comma-Delimited File Name: C:\Packard\Tricarb\Results\H3 Results\Tritium for Protocol 5\20071101_1822\H3 Results.csv
Assay File Name: C:\Packard\TriCarb\Assays\Tritium for Protocol 5.lsa

Count Conditions-

Nuclide: H3
Quench Indicator: tSIE/AEC
External Std Terminator (sec): 0.5 2s%
Pre-Count Delay (min): 0.00
Quench Set:
Low Energy: H-3
Count Time (min): 180.00
Count Mode: Normal
Assay Count Cycles: 1 Repeat Sample Count: 1
#Vials/Sample: 1 Calculate % Reference: Off

Background Subtract: Off
Low CPM Threshold: Off
2 Sigma % Terminator: On - Any Region

Regions	LL	UL	2Sigma % Terminator
A	2.0	18.6	0.50
B	0.0	2000.0	0.00
C	0.0	2000.0	0.00

Count Corrections-

Static Controller: On Luminescence Correction: Off
Colored Samples: Off Heterogeneity Monitor: Off
Coincidence Time (nsec): 18 Delay Before Burst (nsec): 75

Half Life-

Half Life Correction: Off

Regions	Half Life	Units	Reference Date	Reference Time

A
B
C

Cycle 1 Results

P#	S#	SMPL_ID	CPMA	DPM1	tSIE	Eff Nucl In A	Count Time	DATE	TIME	MESSAGES
5	1	BACKGROUND	6.611	15.18	429.59	43.55	180.00	11/1/2007	6:27:34 PM	
5	2	B07-03107-01	11.929	27.11	434.80	44.00	180.00	11/1/2007	9:34:23 PM	
5	3	B07-03107-02	11.486	26.50	427.02	43.34	180.00	11/2/2007	12:41:01 AM	
5	4	B07-03107-03	6.579	15.15	428.03	43.42	180.00	11/2/2007	3:47:36 AM	
5	5	B07-03107-04	6.864	16.16	407.60	42.46	180.00	11/2/2007	6:54:10 AM	
5	6	B07-03107-05	7.264	17.15	405.34	42.35	180.00	11/2/2007	10:00:53 AM	
5	7	B07-03107-06	6.509	15.71	393.76	41.44	180.00	11/2/2007	1:07:40 PM	
5	8	B07-03107-07	6.637	15.95	396.03	41.62	180.00	11/2/2007	4:14:20 PM	
5	9	B07-03107-08	10.330	25.34	385.08	40.77	180.00	11/2/2007	7:21:01 PM	
5	10	B07-03107-09	7.172	17.27	394.97	41.54	180.00	11/2/2007	10:27:43 PM	

AMERICAN RADIATION SERVICES, INC.

LSC Instrument Data Transfer Report

\\Packard3170\Results\H3 Results\Tritium for Protocol

Batch Sample ID	Non-BKG Samples Transferred	Samples Eligible To Save
ARS1-B07-03107	9	9

LIMS Batch Sample ID	LSC P#	LSC PID	LSC S#	LSC Smpl. ID	LSC Count Date	LSC CPMA	LSC CSTE	LSC EFF	LSC Count Dur.	Anal/Ref Batch	LIMS SDG	LIMS Run
BKG	5		1	BACKGROUND	11/01/07 18:27	6.61	429.59	43.5500	180.00	ARS1-B07-03107		
ARS1-B07-03107-01	5		2	B07-03107-01	11/01/07 21:34	11.93	434.80	44.0000	180.00	ARS1-B07-03107		
ARS1-B07-03107-02	5		3	B07-03107-02	11/02/07 00:41	11.49	427.02	43.3400	180.00	ARS1-B07-03107		
ARS1-B07-03107-03	5		4	B07-03107-03	11/02/07 03:47	6.58	428.03	43.4200	180.00	ARS1-B07-03107		
ARS1-B07-03107-04	5		5	B07-03107-04	11/02/07 06:54	6.86	407.60	42.4600	180.00	ARS1-B07-03107	ARS1-07-01760	1
ARS1-B07-03107-05	5		6	B07-03107-05	11/02/07 10:00	7.26	405.34	42.3500	180.00	ARS1-B07-03107	ARS1-07-01760	1
ARS1-B07-03107-06	5		7	B07-03107-06	11/02/07 13:07	6.51	393.76	41.4400	180.00	ARS1-B07-03107	ARS1-07-01760	1
ARS1-B07-03107-07	5		8	B07-03107-07	11/02/07 16:14	6.64	396.03	41.6200	180.00	ARS1-B07-03107	ARS1-07-01760	1
ARS1-B07-03107-08	5		9	B07-03107-08	11/02/07 19:21	10.33	385.08	40.7700	180.00	ARS1-B07-03107	ARS1-07-01760	1
ARS1-B07-03107-09	5		10	B07-03107-09	11/02/07 22:27	7.17	394.97	41.5400	180.00	ARS1-B07-03107	ARS1-07-01760	1

Calculation Verification

Procedure	ARS-054
Variable	**Value**
Gross Count Rate	11.929000
Sample Count Mins	180.000000
BKG Count Rate	6.611000
BKG Count Mins	180.000000
Instrument Efficiency	0.440000
Sample Aliquot	5.037000
Dilution Factor	1.000000
Aliquot Conversion Factor	0.001000
Sample Collection Date (t1)	11/1/07 9:34 PM
Count Date (t2)	11/1/07 9:34 PM
Activity Units = pCi --- UCF =	2.2200
CF	1.9600
Nuclide Abundance	1.000000
Halflife Days 1 - Result Isotope	4499.800000
TPUF_Factor 1	0.041330
TPUF_Factor 2	0.020000
TPUF_Factor 3	0.000000
TPUF_Factor 4	0.025000
TPUF_Factor 5	0.000000
TPUF_Factor 6	0.000000
Activity Units	pCi
Aliquot Units	L
Variables Intact Test	**OK**

Isotope	H-3		
Calculated Values	**Excel**	**VBA**	**V/V**
ACT	**1080.863201**	**1080.863201**	**OK**
CU	**127.848925**	**127.848925**	**OK**
TPU	**169.150321**	**169.150321**	**OK**
MDA	**184.290205**	**184.290205**	**OK**
DL	**90.615110**	**90.615110**	**OK**
Net Count Rate	**5.318000**	**5.318000**	**OK**
D t 1 (t2 - t1)	**0.000000**	**0.000000**	**OK**
DF	**1.000000**	**1.000000**	**OK**
Sys Err	**0.052280**	**0.052280**	**OK**
K	**0.004920**	**0.004920**	**OK**
K MDA	**0.885625**	**0.885625**	**OK**

Batch Identifiers and Other Related Information	
Batch	ARS1-B07-03107
Batch ID	ARS1-B07-03107-01
Analysis Code	
SDG	ARS1-07-01760
Fraction	006
Run Number	1
Client	QC Sample
Client Profile	
Client ID	N/A QC Sample
Instr File Name	84
Instr Detector	P-5 - S-2
Instr keV	
Version/Date	1.0 -- 11/18/2005

Reviewed by: _____ **Date:** _____

Calculation Verification

Procedure	ARS-054
Variable	**Value**
Gross Count Rate	11.486000
Sample Count Mins	180.000000
BKG Count Rate	6.611000
BKG Count Mins	180.000000
Instrument Efficiency	0.433400
Sample Aliquot	4.993000
Dilution Factor	1.000000
Aliquot Conversion Factor	0.001000
Sample Collection Date (t1)	11/2/07 12:41 AM
Count Date (t2)	11/2/07 12:41 AM
Activity Units = pCi --- UCF =	2.2200
CF	1.9600
Nuclide Abundance	1.000000
Halflife Days 1 - Result Isotope	4499.800000
TPUF_Factor 1	0.041330
TPUF_Factor 2	0.020000
TPUF_Factor 3	0.000000
TPUF_Factor 4	0.025000
TPUF_Factor 5	0.000000
TPUF_Factor 6	0.000000
Activity Units	pCi
Aliquot Units	L
Variables Intact Test	OK

Isotope	H-3		
Calculated Values	**Excel**	**VBA**	**V/V**
ACT	**1014.778302**	**1014.778302**	**OK**
CU	**129.365855**	**129.365855**	**OK**
TPU	**165.975589**	**165.975589**	**OK**
MDA	**188.745414**	**188.745414**	**OK**
DL	**92.805727**	**92.805727**	**OK**
Net Count Rate	**4.875000**	**4.875000**	**OK**
D t 1 (t2 - t1)	**0.000000**	**0.000000**	**OK**
DF	**1.000000**	**1.000000**	**OK**
Sys Err	**0.052280**	**0.052280**	**OK**
K	**0.004804**	**0.004804**	**OK**
K MDA	**0.864721**	**0.864721**	**OK**

Batch Identifiers and Other Related Information	
Batch	ARS1-B07-03107
Batch ID	ARS1-B07-03107-02
Analysis Code	
SDG	ARS1-07-01760
Fraction	006
Run Number	1
Client	QC Sample
Client Profile	
Client ID	N/A QC Sample
Instr File Name	84
Instr Detector	P-5 - S-3
Instr keV	
Version/Date	1.0 -- 11/18/2005

Reviewed by: _____ **Date:** _____

Calculation Verification

Procedure	ARS-054
Variable	**Value**
Gross Count Rate	6.579000
Sample Count Mins	180.000000
BKG Count Rate	6.611000
BKG Count Mins	180.000000
Instrument Efficiency	0.434200
Sample Aliquot	4.984000
Dilution Factor	1.000000
Aliquot Conversion Factor	0.001000
Sample Collection Date (t1)	11/2/07 3:48 AM
Count Date (t2)	11/2/07 3:48 AM
Activity Units = pCi --- UCF =	2.2200
CF	1.9600
Nuclide Abundance	1.000000
Halflife Days 1 - Result Isotope	4499.800000
TPUF_Factor 1	0.041330
TPUF_Factor 2	0.020000
TPUF_Factor 3	0.000000
TPUF_Factor 4	0.025000
TPUF_Factor 5	0.000000
TPUF_Factor 6	0.000000
Activity Units	pCi
Aliquot Units	L
Variables Intact Test	OK

Isotope	H-3		
Calculated Values	**Excel**	**VBA**	**V/V**
ACT	**-6.660842**	**-6.660842**	**OK**
CU	**110.438726**	**110.438726**	**OK**
TPU	**110.440835**	**110.440835**	**OK**
MDA	**188.737861**	**188.737861**	**OK**
DL	**92.802013**	**92.802013**	**OK**
Net Count Rate	**-0.032000**	**-0.032000**	**OK**
D t 1 (t2 - t1)	**0.000000**	**0.000000**	**OK**
DF	**1.000000**	**1.000000**	**OK**
Sys Err	**0.052280**	**0.052280**	**OK**
K	**0.004804**	**0.004804**	**OK**
K MDA	**0.864755**	**0.864755**	**OK**

Batch Identifiers and Other Related Information	
Batch	ARS1-B07-03107
Batch ID	ARS1-B07-03107-03
Analysis Code	
SDG	ARS1-07-01760
Fraction	006
Run Number	1
Client	QC Sample
Client Profile	
Client ID	N/A QC Sample
Instr File Name	84
Instr Detector	P-5 - S-4
Instr keV	
Version/Date	1.0 -- 11/18/2005

Reviewed by: _____ **Date:** _____

Calculation Verification

Procedure	ARS-054
Variable	**Value**
Gross Count Rate	6.864000
Sample Count Mins	180.000000
BKG Count Rate	6.611000
BKG Count Mins	180.000000
Instrument Efficiency	0.424600
Sample Aliquot	4.984000
Dilution Factor	1.000000
Aliquot Conversion Factor	0.001000
Sample Collection Date (t1)	10/30/07 12:00 AM
Count Date (t2)	11/2/07 6:54 AM
Activity Units = pCi --- UCF =	2.2200
CF	1.9600
Nuclide Abundance	1.000000
Halflife Days 1 - Result Isotope	4499.800000
TPUF_Factor 1	0.041330
TPUF_Factor 2	0.020000
TPUF_Factor 3	0.000000
TPUF_Factor 4	0.025000
TPUF_Factor 5	0.000000
TPUF_Factor 6	0.000000
Activity Units	pCi
Aliquot Units	L
Variables Intact Test	OK

Isotope	H-3		
Calculated Values	**Excel**	**VBA**	**V/V**
ACT	**53.880231**	**53.880231**	**OK**
CU	**114.207109**	**114.207109**	**OK**
TPU	**114.340479**	**114.340479**	**OK**
MDA	**193.102896**	**193.102896**	**OK**
DL	**94.948292**	**94.948292**	**OK**
Net Count Rate	**0.253000**	**0.253000**	**OK**
D t 1 (t2 - t1)	**3.287500**	**3.287500**	**OK**
DF	**0.999494**	**0.999494**	**OK**
Sys Err	**0.052280**	**0.052280**	**OK**
K	**0.004696**	**0.004696**	**OK**
K MDA	**0.845208**	**0.845208**	**OK**

Batch Identifiers and Other Related Information	
Batch	ARS1-B07-03107
Batch ID	ARS1-B07-03107-04
Analysis Code	LSC-A-001
SDG	ARS1-07-01760
Fraction	001
Run Number	1
Client	Los Alamos National Laboratory
Client Profile	Los Alamos
Client ID	MD21-07-6810
Instr File Name	84
Instr Detector	P-5 - S-5
Instr keV	
Version/Date	1.0 -- 11/18/2005

Reviewed by: _____ **Date:** _____

Calculation Verification

Procedure	ARS-054
Variable	**Value**
Gross Count Rate	7.264000
Sample Count Mins	180.000000
BKG Count Rate	6.611000
BKG Count Mins	180.000000
Instrument Efficiency	0.423500
Sample Aliquot	4.975000
Dilution Factor	1.000000
Aliquot Conversion Factor	0.001000
Sample Collection Date (t1)	10/30/07 12:00 AM
Count Date (t2)	11/2/07 10:01 AM
Activity Units = pCi --- UCF =	2.2200
CF	1.9600
Nuclide Abundance	1.000000
Halflife Days 1 - Result Isotope	4499.800000
TPUF_Factor 1	0.041330
TPUF_Factor 2	0.020000
TPUF_Factor 3	0.000000
TPUF_Factor 4	0.025000
TPUF_Factor 5	0.000000
TPUF_Factor 6	0.000000
Activity Units	pCi
Aliquot Units	L
Variables Intact Test	OK

Isotope	H-3		
Calculated Values	**Excel**	**VBA**	**V/V**
ACT	**139.682604**	**139.682604**	**OK**
CU	**116.403344**	**116.403344**	**OK**
TPU	**117.280013**	**117.280013**	**OK**
MDA	**193.958581**	**193.958581**	**OK**
DL	**95.369031**	**95.369031**	**OK**
Net Count Rate	**0.653000**	**0.653000**	**OK**
D t 1 (t2 - t1)	**3.417361**	**3.417361**	**OK**
DF	**0.999474**	**0.999474**	**OK**
Sys Err	**0.052280**	**0.052280**	**OK**
K	**0.004675**	**0.004675**	**OK**
K MDA	**0.841479**	**0.841479**	**OK**

Batch Identifiers and Other Related Information	
Batch	ARS1-B07-03107
Batch ID	ARS1-B07-03107-05
Analysis Code	LSC-A-001
SDG	ARS1-07-01760
Fraction	002
Run Number	1
Client	Los Alamos National Laboratory
Client Profile	Los Alamos
Client ID	MD21-07-6807
Instr File Name	84
Instr Detector	P-5 - S-6
Instr keV	
Version/Date	1.0 -- 11/18/2005

Reviewed by: _____ **Date:** _____

Calculation Verification

Procedure	ARS-054
Variable	**Value**
Gross Count Rate	6.509000
Sample Count Mins	180.000000
BKG Count Rate	6.611000
BKG Count Mins	180.000000
Instrument Efficiency	0.414400
Sample Aliquot	5.030000
Dilution Factor	1.000000
Aliquot Conversion Factor	0.001000
Sample Collection Date (t1)	10/30/07 12:00 AM
Count Date (t2)	11/2/07 1:08 PM
Activity Units = pCi --- UCF =	2.2200
CF	1.9600
Nuclide Abundance	1.000000
Halflife Days 1 - Result Isotope	4499.800000
TPUF_Factor 1	0.041330
TPUF_Factor 2	0.020000
TPUF_Factor 3	0.000000
TPUF_Factor 4	0.025000
TPUF_Factor 5	0.000000
TPUF_Factor 6	0.000000
Activity Units	pCi
Aliquot Units	L
Variables Intact Test	OK

Isotope	H-3		
Calculated Values	**Excel**	**VBA**	**V/V**
ACT	**-22.054477**	**-22.054477**	**OK**
CU	**114.415097**	**114.415097**	**OK**
TPU	**114.437413**	**114.437413**	**OK**
MDA	**196.054337**	**196.054337**	**OK**
DL	**96.399509**	**96.399509**	**OK**
Net Count Rate	**-0.102000**	**-0.102000**	**OK**
D t 1 (t2 - t1)	**3.547222**	**3.547222**	**OK**
DF	**0.999454**	**0.999454**	**OK**
Sys Err	**0.052280**	**0.052280**	**OK**
K	**0.004625**	**0.004625**	**OK**
K MDA	**0.832484**	**0.832484**	**OK**

Batch Identifiers and Other Related Information	
Batch	ARS1-B07-03107
Batch ID	ARS1-B07-03107-06
Analysis Code	LSC-A-001
SDG	ARS1-07-01760
Fraction	003
Run Number	1
Client	Los Alamos National Laboratory
Client Profile	Los Alamos
Client ID	MD21-07-6811
Instr File Name	84
Instr Detector	P-5 - S-7
Instr keV	
Version/Date	1.0 -- 11/18/2005

Reviewed by: _____ **Date:** _____

Calculation Verification

Procedure	ARS-054
Variable	**Value**
Gross Count Rate	6.637000
Sample Count Mins	180.000000
BKG Count Rate	6.611000
BKG Count Mins	180.000000
Instrument Efficiency	0.416200
Sample Aliquot	5.021000
Dilution Factor	1.000000
Aliquot Conversion Factor	0.001000
Sample Collection Date (t1)	10/30/07 12:00 AM
Count Date (t2)	11/2/07 4:14 PM
Activity Units = pCi --- UCF =	2.2200
CF	1.9600
Nuclide Abundance	1.000000
Halflife Days 1 - Result Isotope	4499.800000
TPUF_Factor 1	0.041330
TPUF_Factor 2	0.020000
TPUF_Factor 3	0.000000
TPUF_Factor 4	0.025000
TPUF_Factor 5	0.000000
TPUF_Factor 6	0.000000
Activity Units	pCi
Aliquot Units	L
Variables Intact Test	OK

Isotope	H-3		
Calculated Values	**Excel**	**VBA**	**V/V**
ACT	**5.607561**	**5.607561**	**OK**
CU	**114.682104**	**114.682104**	**OK**
TPU	**114.683543**	**114.683543**	**OK**
MDA	**195.560225**	**195.560225**	**OK**
DL	**96.156556**	**96.156556**	**OK**
Net Count Rate	**0.026000**	**0.026000**	**OK**
D t 1 (t2 - t1)	**3.676389**	**3.676389**	**OK**
DF	**0.999434**	**0.999434**	**OK**
Sys Err	**0.052280**	**0.052280**	**OK**
K	**0.004637**	**0.004637**	**OK**
K MDA	**0.834587**	**0.834587**	**OK**

Batch Identifiers and Other Related Information	
Batch	ARS1-B07-03107
Batch ID	ARS1-B07-03107-07
Analysis Code	LSC-A-001
SDG	ARS1-07-01760
Fraction	004
Run Number	1
Client	Los Alamos National Laboratory
Client Profile	Los Alamos
Client ID	MD21-07-6809
Instr File Name	84
Instr Detector	P-5 - S-8
Instr keV	
Version/Date	1.0 -- 11/18/2005

Reviewed by: _____ **Date:** _____

Calculation Verification

Procedure	ARS-054
Variable	**Value**
Gross Count Rate	10.330000
Sample Count Mins	180.000000
BKG Count Rate	6.611000
BKG Count Mins	180.000000
Instrument Efficiency	0.407700
Sample Aliquot	5.034000
Dilution Factor	1.000000
Aliquot Conversion Factor	0.001000
Sample Collection Date (t1)	10/30/07 12:00 AM
Count Date (t2)	11/2/07 7:21 PM
Activity Units = pCi --- UCF =	2.2200
CF	1.9600
Nuclide Abundance	1.000000
Halflife Days 1 - Result Isotope	4499.800000
TPUF_Factor 1	0.041330
TPUF_Factor 2	0.020000
TPUF_Factor 3	0.000000
TPUF_Factor 4	0.025000
TPUF_Factor 5	0.000000
TPUF_Factor 6	0.000000
Activity Units	pCi
Aliquot Units	L
Variables Intact Test	OK

Isotope	H-3		
Calculated Values	**Excel**	**VBA**	**V/V**
ACT	**816.721360**	**816.721360**	**OK**
CU	**132.049596**	**132.049596**	**OK**
TPU	**156.335466**	**156.335466**	**OK**
MDA	**199.125826**	**199.125826**	**OK**
DL	**97.909754**	**97.909754**	**OK**
Net Count Rate	**3.719000**	**3.719000**	**OK**
D t 1 (t2 - t1)	**3.806250**	**3.806250**	**OK**
DF	**0.999414**	**0.999414**	**OK**
Sys Err	**0.052280**	**0.052280**	**OK**
K	**0.004554**	**0.004554**	**OK**
K MDA	**0.819643**	**0.819643**	**OK**

Batch Identifiers and Other Related Information	
Batch	ARS1-B07-03107
Batch ID	ARS1-B07-03107-08
Analysis Code	LSC-A-001
SDG	ARS1-07-01760
Fraction	005
Run Number	1
Client	Los Alamos National Laboratory
Client Profile	Los Alamos
Client ID	MD21-07-6808
Instr File Name	84
Instr Detector	P-5 - S-9
Instr keV	
Version/Date	1.0 -- 11/18/2005

Reviewed by: _____ **Date:** _____

Calculation Verification

Procedure	ARS-054
Variable	**Value**
Gross Count Rate	7.172000
Sample Count Mins	180.000000
BKG Count Rate	6.611000
BKG Count Mins	180.000000
Instrument Efficiency	0.415400
Sample Aliquot	4.992000
Dilution Factor	1.000000
Aliquot Conversion Factor	0.001000
Sample Collection Date (t1)	10/30/07 12:00 AM
Count Date (t2)	11/2/07 10:28 PM
Activity Units = pCi --- UCF =	2.2200
CF	1.9600
Nuclide Abundance	1.000000
Halflife Days 1 - Result Isotope	4499.800000
TPUF_Factor 1	0.041330
TPUF_Factor 2	0.020000
TPUF_Factor 3	0.000000
TPUF_Factor 4	0.025000
TPUF_Factor 5	0.000000
TPUF_Factor 6	0.000000
Activity Units	pCi
Aliquot Units	L
Variables Intact Test	OK

Isotope	H-3		
Calculated Values	**Excel**	**VBA**	**V/V**
ACT	**121.936054**	**121.936054**	**OK**
CU	**117.885658**	**117.885658**	**OK**
TPU	**118.545952**	**118.545952**	**OK**
MDA	**197.082985**	**197.082985**	**OK**
DL	**96.905294**	**96.905294**	**OK**
Net Count Rate	**0.561000**	**0.561000**	**OK**
D t 1 (t2 - t1)	**3.936111**	**3.936111**	**OK**
DF	**0.999394**	**0.999394**	**OK**
Sys Err	**0.052280**	**0.052280**	**OK**
K	**0.004601**	**0.004601**	**OK**
K MDA	**0.828139**	**0.828139**	**OK**

Batch Identifiers and Other Related Information	
Batch	ARS1-B07-03107
Batch ID	ARS1-B07-03107-09
Analysis Code	LSC-A-001
SDG	ARS1-07-01760
Fraction	006
Run Number	1
Client	Los Alamos National Laboratory
Client Profile	Los Alamos
Client ID	MD21-07-6812
Instr File Name	84
Instr Detector	P-5 - S-10
Instr keV	
Version/Date	1.0 -- 11/18/2005

Reviewed by: _____ **Date:** _____

Batch Result Verification Report

ABatch	ABatchSampleID	Isotope	ClientID	ACT	CU	TPU	DL	MDA	BP_DL	BP_MDA	Sb	SampleCounts	SampleCountMins	BKG_Counts	BKG_CountMins	EFF	ALIQ	UCF	CF	GrossCountRate
ARS1-B07-03107	ARS1-B07-03107-01	H-3	MD21-07-6812	1080.863201	127.8489254	169.1503211	90.61511	184.29021				0.06627	180.00000	0.03673	180.00000	0.44000	5.03700	2.22000	1.96000	11.92900
ARS1-B07-03107	ARS1-B07-03107-02	H-3	MD21-07-6812	1014.778302	129.3658554	165.9755886	92.80573	188.74541				0.06381	180.00000	0.03673	180.00000	0.43340	4.99300	2.22000	1.96000	11.48600
ARS1-B07-03107	ARS1-B07-03107-03	H-3	MD21-07-6812	-6.660842293	110.4387263	110.4408354	92.80201	188.73786				0.03655	180.00000	0.03673	180.00000	0.43420	4.98400	2.22000	1.96000	6.57900
ARS1-B07-03107	ARS1-B07-03107-04	H-3	MD21-07-6810	53.88023139	114.2071086	114.3404795	94.94829	193.10290				0.03813	180.00000	0.03673	180.00000	0.42460	4.98400	2.22000	1.96000	6.86400
ARS1-B07-03107	ARS1-B07-03107-05	H-3	MD21-07-6807	139.6826043	116.403344	117.2800127	95.36903	193.95858				0.04036	180.00000	0.03673	180.00000	0.42350	4.97500	2.22000	1.96000	7.26400
ARS1-B07-03107	ARS1-B07-03107-06	H-3	MD21-07-6811	-22.05447731	114.4150972	114.4374132	96.39951	196.05434				0.03616	180.00000	0.03673	180.00000	0.41440	5.03000	2.22000	1.96000	6.50900
ARS1-B07-03107	ARS1-B07-03107-07	H-3	MD21-07-6809	5.607561189	114.6821039	114.6835434	96.15656	195.56023				0.03687	180.00000	0.03673	180.00000	0.41620	5.02100	2.22000	1.96000	6.63700
ARS1-B07-03107	ARS1-B07-03107-08	H-3	MD21-07-6808	816.7213595	132.0495956	156.3354664	97.90975	199.12583				0.05739	180.00000	0.03673	180.00000	0.40770	5.03400	2.22000	1.96000	10.33000
ARS1-B07-03107	ARS1-B07-03107-09	H-3	MD21-07-6812	121.9360544	117.8856584	118.5459524	96.90529	197.08299				0.03984	180.00000	0.03673	180.00000	0.41540	4.99200	2.22000	1.96000	7.17200

Batch Result Verification Report

ABatch	ABatchSampleID	Isotope	ClientID	BKGCountRate	NetCountRate	ChemRecovery	TracerRecovery	PlatingRecovery	NuclideAbd	TracerMeasACT	TracerKnownACT	SampleCollDate	MidPointCountDate	Halflife1	Halflife2	Halflife3	TPUF_1
ARS1-B07-03107	ARS1-B07-03107-01	H-3	MD21-07-6812	6.61100	5.31800							11/5/07 7:14	11/1/07 21:34	4499.80000			0.04133
ARS1-B07-03107	ARS1-B07-03107-02	H-3	MD21-07-6812	6.61100	4.87500							11/5/07 7:14	11/2/07 0:41	4499.80000			0.04133
ARS1-B07-03107	ARS1-B07-03107-03	H-3	MD21-07-6812	6.61100	-0.03200							11/5/07 7:14	11/2/07 3:48	4499.80000			0.04133
ARS1-B07-03107	ARS1-B07-03107-04	H-3	MD21-07-6810	6.61100	0.25300							10/30/07 0:00	11/2/07 6:54	4499.80000			0.04133
ARS1-B07-03107	ARS1-B07-03107-05	H-3	MD21-07-6807	6.61100	0.65300							10/30/07 0:00	11/2/07 10:01	4499.80000			0.04133
ARS1-B07-03107	ARS1-B07-03107-06	H-3	MD21-07-6811	6.61100	-0.10200							10/30/07 0:00	11/2/07 13:08	4499.80000			0.04133
ARS1-B07-03107	ARS1-B07-03107-07	H-3	MD21-07-6809	6.61100	0.02600							10/30/07 0:00	11/2/07 16:14	4499.80000			0.04133
ARS1-B07-03107	ARS1-B07-03107-08	H-3	MD21-07-6808	6.61100	3.71900							10/30/07 0:00	11/2/07 19:21	4499.80000			0.04133
ARS1-B07-03107	ARS1-B07-03107-09	H-3	MD21-07-6812	6.61100	0.56100							10/30/07 0:00	11/2/07 22:28	4499.80000			0.04133

Batch Result Verification Report

ABatch	ABatchSampleID	Isotope	ClientID	TPUF_2	TPUF_3	TPUF_4	TPUF_5	TPUF_6	DeltaT1	DeltaT2	DeltaT3	DeltaT4	DeltaT5	DeltaT6	DF1	DF2	DF3	IF1	IF2	SysErr	K_Val	K_MDA	InstFileName	DetectorID	InstrumentKeV
ARS1-B07-03107	ARS1-B07-03107-01	H-3	MD21-07-6812	0.02000	0.00000	0.02500	0.00000	0.00000	0.00000						1.00000					0.05228	0.00492	0.88563	84	P-5 - S-2	
ARS1-B07-03107	ARS1-B07-03107-02	H-3	MD21-07-6812	0.02000	0.00000	0.02500	0.00000	0.00000	0.00000						1.00000					0.05228	0.00480	0.86472	84	P-5 - S-3	
ARS1-B07-03107	ARS1-B07-03107-03	H-3	MD21-07-6812	0.02000	0.00000	0.02500	0.00000	0.00000	0.00000						1.00000					0.05228	0.00480	0.86476	84	P-5 - S-4	
ARS1-B07-03107	ARS1-B07-03107-04	H-3	MD21-07-6810	0.02000	0.00000	0.02500	0.00000	0.00000	3.28750						0.99949					0.05228	0.00470	0.84521	84	P-5 - S-5	
ARS1-B07-03107	ARS1-B07-03107-05	H-3	MD21-07-6807	0.02000	0.00000	0.02500	0.00000	0.00000	3.41736						0.99947					0.05228	0.00467	0.84148	84	P-5 - S-6	
ARS1-B07-03107	ARS1-B07-03107-06	H-3	MD21-07-6811	0.02000	0.00000	0.02500	0.00000	0.00000	3.54722						0.99945					0.05228	0.00462	0.83248	84	P-5 - S-7	
ARS1-B07-03107	ARS1-B07-03107-07	H-3	MD21-07-6809	0.02000	0.00000	0.02500	0.00000	0.00000	3.67639						0.99943					0.05228	0.00464	0.83459	84	P-5 - S-8	
ARS1-B07-03107	ARS1-B07-03107-08	H-3	MD21-07-6808	0.02000	0.00000	0.02500	0.00000	0.00000	3.80625						0.99941					0.05228	0.00455	0.81964	84	P-5 - S-9	
ARS1-B07-03107	ARS1-B07-03107-09	H-3	MD21-07-6812	0.02000	0.00000	0.02500	0.00000	0.00000	3.93611						0.99939					0.05228	0.00460	0.82814	84	P-5 - S-10	

Batch Result Verification Report

ABatch	ABatchSampleID	Isotope	ClientID	TracerIsotope	TracerRefDate	TracerRefACT	TracerKnown	SDG	Run	Fraction	AnalysisCode	UserID	ModDate
ARS1-B07-03107	ARS1-B07-03107-01	H-3	MD21-07-6812					ARS1-07-01760	1	006		BSTEFFENS	11/5/07 7:13
ARS1-B07-03107	ARS1-B07-03107-02	H-3	MD21-07-6812					ARS1-07-01760	1	006		BSTEFFENS	11/5/07 7:13
ARS1-B07-03107	ARS1-B07-03107-03	H-3	MD21-07-6812					ARS1-07-01760	1	006		BSTEFFENS	11/5/07 7:14
ARS1-B07-03107	ARS1-B07-03107-04	H-3	MD21-07-6810					ARS1-07-01760	1	001	LSC-A-001	BSTEFFENS	11/5/07 7:14
ARS1-B07-03107	ARS1-B07-03107-05	H-3	MD21-07-6807					ARS1-07-01760	1	002	LSC-A-001	BSTEFFENS	11/5/07 7:14
ARS1-B07-03107	ARS1-B07-03107-06	H-3	MD21-07-6811					ARS1-07-01760	1	003	LSC-A-001	BSTEFFENS	11/5/07 7:14
ARS1-B07-03107	ARS1-B07-03107-07	H-3	MD21-07-6809					ARS1-07-01760	1	004	LSC-A-001	BSTEFFENS	11/5/07 7:14
ARS1-B07-03107	ARS1-B07-03107-08	H-3	MD21-07-6808					ARS1-07-01760	1	005	LSC-A-001	BSTEFFENS	11/5/07 7:14
ARS1-B07-03107	ARS1-B07-03107-09	H-3	MD21-07-6812					ARS1-07-01760	1	006	LSC-A-001	BSTEFFENS	11/5/07 7:14

AMERICAN RADIATION SERVICES, INC.

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American Radiation Services Analytical Reports

for

Los Alamos National Laboratory

Tritium by Low Level Liquid Scintillation Counting

Laboratory Records

Analysis Batch Report

Analysis Batch ID **ARS1-B07-03107**

Method **ARS-054** **Matrix** **AQ**

Description **TRITIUM IN WATER**

ABatch Sample ID	Type	Blind Iso1	Blind Iso2	Blind Iso3
ARS1-B07-03107-01	LCS	B-04013		
ARS1-B07-03107-02	LCSD	B-04014		
ARS1-B07-03107-03	MBL			
ARS1-B07-03107-04	TRG			
ARS1-B07-03107-05	TRG			
ARS1-B07-03107-06	TRG			
ARS1-B07-03107-07	TRG			
ARS1-B07-03107-08	TRG			
ARS1-B07-03107-09	TRG			

SDG	1	FR	Client ID	Client Deadline	Lab Deadline	Analysis Code
ARS1-07-01760	1	001	MD21-07-6810	11/05/07	11/03/07	LSC-A-001
ARS1-07-01760	1	002	MD21-07-6807	11/05/07	11/03/07	LSC-A-001
ARS1-07-01760	1	003	MD21-07-6811	11/05/07	11/03/07	LSC-A-001
ARS1-07-01760	1	004	MD21-07-6809	11/05/07	11/03/07	LSC-A-001
ARS1-07-01760	1	005	MD21-07-6808	11/05/07	11/03/07	LSC-A-001
ARS1-07-01760	1	006	MD21-07-6812	11/05/07	11/03/07	LSC-A-001

LCS Expected = 1210.9009
Range = 605.4505 - 1816.3514

LCSD Expected = 1210.9009
Range = 605.4505 - 1816.3514

QC Evaluation

EPA Method: EPA 906.0
Batch ID: ARS1-B07-03107
SDG's: ARS1-07-01760

LCS	1080.8632	**CSU**	169.1503
LCSD	1014.7783	**CSU-D**	165.9756

DER = $\frac{\text{abs(LSC-LSCD)}}{\text{sqr((2s CSU/2)^2)+((2s CSU-D/2)^2)}}$ = **< 3**

DER $\frac{66.084899}{118.49022}$ = 0.557725 **< 3**

% RPD= $\frac{\text{ABS(LCS - LSCD)}}{\text{(LCS+LCSD)/2}}$ * 100 = **< 25%**

%RPD $\frac{66.084899}{1047.8208}$ *100 = 6.30689 **< 25%**

The *RPD* shall be less than 25% or other client-applied criteria

RER= $\frac{\text{abs((LCS-LCSD))}}{\text{(CSU)+(CSD)}}$ = **<1**

RER = $\frac{66.084899}{335.1259}$ 0.197194 **<1**

Blank Information

	Act	CSU	MDA
AM-241			
U-234			
U-235			
U-238			
Pu-238			
Pu-239/240			
Th-228			
Th-230			
Th-232			
H3	-6.660842	110.44084	188.7379
Ra-226			
Ra-228			
Total U			
KPA			
Pb-210			
Po-209			
Sr-90			

*MDA should be below RDL
*Blank activity must be below MDA
*Blank activity must be < 1.65*CSU (DOE only)

ACT =
CSU =
Is ACT<1.65*CSU? NO

Standards Report

Active	Std ID	Isotope	PSCLT	Verification Date	Exp Date	Status	Ref Date	Ref ACT (dpm)	Current ACT (dpm/g)	Halflife (days)	Parent ID	Expended Date	Comments
A	S-0001	Am-241	S	06/07/07	06/07/08	OK	03/16/06	5.1937E+01	51.8012	1.579E+05	S-0069		S-0001 Working level Analysis location - Information entered from dilution
A	S-0003	Cs-137	SL	02/01/06	02/01/07	EXP	08/13/03	1.2776E+02	115.9209	1.098E+04	S-0115		S-0003 - Information entered from dilution record - 4/19/2006 RTS
A	S-0007	Ra-226	S	05/29/07	05/29/08	OK	02/01/06	6.5015E+01	64.9655	5.840E+05	S-0105		Ra - information entered from dilution records - 4/19/2006 RTS
A	S-0020	Sr-89	SC	11/19/05	07/29/06	EXP	02/15/05	8.9224E+04	0.1144	5.053E+01	S-0109		
A	S-0023	Pu-238	S	11/02/05	11/02/06	EXP	11/01/05	1.1657E+01	11.4743	3.204E+04	S-0071		S-0023 Entered information from dilution records.
A	S-0024	Pu-239	S	04/17/07	04/17/08	OK	10/26/05	1.1412E+01	11.4114	8.807E+06	S-0073		
A	S-0025	Pu-242	ST	04/17/07	04/17/08	OK	10/24/05	7.6328E+00	7.6328	1.365E+08	S-0075		S-0025 Information entered from dilution records
A	S-0027	Tc-99	SLC	09/01/06	09/01/07	EXP	10/18/05	9.4141E+03	9414.0769	7.710E+07	S-0113		S-0027 - Information entered from dilution records - RTS 4/19/2006
A	S-0028	U-238	S	06/18/07	06/18/08	OK	10/26/05	3.4935E+01	34.9349	1.632E+12	S-0063		
A	S-0032	H-3	SL	04/02/07	04/02/08	OK	03/01/06	3.4431E+03	3134.3075	4.500E+03	S-0031		S-0032 - Intermediate dilution for preparation of control solutions -
A	S-0033	Tc-99	SLC	10/18/05	10/18/06	EXP	10/18/05	1.9470E+02	194.6959	7.710E+07	S-0027	04/25/06	S-0033 Working level dilution - Information entered from dilution reco
A	S-0036	Th-230	SL	08/01/07	08/01/08	OK	10/31/02	1.2490E+01	12.4895	2.753E+07	S-0065		Empirical data collected over 2 mos. for S-0036 indicated that the ori
A	S-0037	Ra-226	SC	02/13/06	02/13/07	EXP	01/03/97	6.4956E+02	646.5195	5.840E+05	S-0104		S-0037 Derived from Dilution calculation Approved digitally - Information entere
A	S-0038	Am-243	ST	06/07/07	06/07/08	OK	01/25/06	1.0656E+01	10.6546	2.692E+06	S-0067		S-0038 Entered from dilution documention. Density from certificate use
A	S-0039	Tc-99	SC	08/03/07	08/03/08	OK	03/30/06	1.1146E+04	11146.2817	7.710E+07	S-0114		S-0039 - Information entered from dilution records - 4/19/2006 RTS
A	S-0041	H-3	S	03/29/06	03/29/07	EXP	03/24/06	2.8167E+00	2.5732	4.500E+03	S-0032		S-0041 - Working level dilution for preparation of control solutions -
A	S-0063	U-238	P			Not Ver	08/01/97	2.4200E+02	242.0000	1.632E+12			S-0028 Entered from dilution record on 4/6/2006 RTS
A	S-0065	Th-230	P			Not Ver	01/27/95	1.7100E+00	1.7098	2.753E+07			S-0036 Information entered on 4/6/2006 RTS Density entered based on m
A	S-0067	Am-243	PT			Not Ver	10/20/05	3.6240E+01	36.2331	2.692E+06			S-0038 Entered on 4/6/2006 RTS from dilution documentation
A	S-0069	Am-241	PL			Not Ver	04/18/96	9.6000E-03	0.0094	1.579E+05			S-0001 Information entered from dilution records Dilution incorre
A	S-0071	Pu-238	PL			Not Ver	11/15/99	4.1520E+01	38.9882	3.204E+04			S-0023 Entered from dilution records
A	S-0073	Pu-239	PL			Not Ver	11/15/99	3.9240E+01	39.2310	8.807E+06			S-0024 Information entered from dilution records
A	S-0074	Pu-239	SL			Not Ver	10/26/05	1.1412E+01	11.4114	8.807E+06	S-0073		
A	S-0075	Pu-242	PT			Not Ver	06/04/94	2.6310E+01	26.3093	1.365E+08			S-0025 Information entered from dilution records
A	S-0077	U-232	PT			Not Ver	07/01/02	3.8220E+01	36.2221	2.516E+04			S-0026 Information entered from dilution records
A	S-0102	U-nat	PC			Not Ver	08/01/97	4.8624E+02	486.2400	1.632E+12			NIST 4321 - uranium standard for use as total uranium standard (also f
A	S-0103	U-nat	SC	06/19/06	06/19/07	EXP	10/26/05	7.0226E+01	70.2265	1.632E+12	S-0102		S-0028 Prepared as total uranium solution. Activity is the same (since
A	S-0104	Ra-226	PC			Not Ver	01/01/93	1.1900E+01	11.8237	5.840E+05			S-0037 Primary solution
A	S-0105	Ra-226	P			Not Ver	01/01/93	1.1900E+01	11.8237	5.840E+05			Primary solution for S-0007 - Information entered from dilution record
A	S-0107	H-3	P			Not Ver	09/03/98	6.3470E+05	379075.8194	4.500E+03			Primary for S-0029 - Information entered from dilution records - 4/18/
A	S-0108	Sr-90	PC			Not Ver	07/01/95	4.0100E+03	2970.5575	1.041E+04			Primary for S-0017
A	S-0109	Sr-89	PLC			Not Ver	01/24/05	3.9414E+05	0.3738	5.053E+01			Activity concentration calculated per certificate information - 2.018E
A	S-0111	H-3	PC			Not Ver	04/01/06	2.0870E+00	1.9089	4.500E+03			Primary
A	S-0112	H-3	SC	04/19/06	04/19/07	EXP	04/18/06	1.1410E+04	10464.1825	4.500E+03	S-0111		Solution for use as calibration stock standard - Entered from dilution
A	S-0113	Tc-99	PLC			Not Ver	09/01/96	3.2610E+04	32608.8045	7.710E+07			Primary solution
A	S-0114	Tc-99	PC			Not Ver	04/01/06	2.0140E+00	2.0140	7.710E+07			primary
A	S-0115	Cs-137	PL			Not Ver	01/23/95	2.9000E+01	21.6039	1.098E+04			S-0003 primary - Information entered from dilution records - 4/19/2006
A	S-0116	Ra-226	SL			Not Ver	05/26/04	6.3538E+01	63.4431	5.840E+05	S-0105		S-0003 - Information entered from dilution records - 4/19/2006 RTS
A	S-0117	Sr-90	PLCT			Not Ver	07/01/95	4.0100E+03	2970.5575	1.041E+04			S-0017 primary - Information entered from dilution records - 4/19/2006
A	S-0118	Cs-137	PC			Not Ver	04/01/06	2.1110E+00	2.0353	1.098E+04			Primary Cs-137 Standard
A	S-0119	Cs-137	SC	04/19/06	04/19/07	EXP	04/03/06	1.1621E+04	11205.4494	1.098E+04	S-0118		Solution for use as calibration stock standard.
A	S-0120	Sr-90	PC			Not Ver	04/01/06	2.0490E+00	1.9715	1.041E+04			Primary Sr-90 Standard
A	S-0121	Sr-90	SC	09/14/07	09/14/08	OK	03/31/06	1.1282E+04	10854.4896	1.041E+04	S-0120		Solution for use as calibration stock standard.
A	S-0122	Am-241	PC			Not Ver	04/01/06	2.1050E+00	2.0997	1.579E+05			Primary Am-241 Standard
A	S-0123	Am-241	SC	04/24/06	04/24/07	EXP	04/03/06	1.1632E+04	11602.5742	1.579E+05	S-0122		Solution for use as calibration stock standard

Standards Report

A	S-0124	Th-230	PC			Not Ver	04/01/06	1.8860E+00	1.8860	2.753E+07			Primary Th-230 Standard
A	S-0125	Th-230	SC	09/24/07	09/24/08	OK	03/27/06	1.0413E+04	10412.8655	2.753E+07	S-0124		Solution for use as calibration stock standard. Entered from dilution
A	S-0126	Ra-228	PL			Not Ver	02/22/06	1.0843E+05	88448.0625	2.100E+03			Primary Ra-228 Standard
A	S-0127	Ra-228	SL	05/10/06	05/10/07	EXP	05/10/06	1.1274E+04	9433.3052	2.100E+03	S-0126		Measurements performed using Standard 1205B344 and Perkins Wallac
A	S-0128	Tc-99	SLC	05/03/06	05/03/07	EXP	04/05/06	5.6011E+03	5601.0568	7.710E+07	S-0039		Solution diluted per plan and as documented in measurements above exce
A	S-0129	Sr-90	PL			Not Ver	07/01/95	4.0100E+03	2970.5575	1.041E+04			
A	S-0132	Ra-228	SL	07/30/07	07/30/08	OK	05/10/06	4.5090E+01	37.7291	2.100E+03	S-0127		Dilution performed as stated above by B Steffens on 5/10/2006. Measure
A	S-0134	Sr-90	SL			Not Ver	09/26/03	4.7747E+02	432.1670	1.041E+04	S-0129		Original solution ID# was T11c. Dilution information entered from ana
A	S-0135	Sr-90	SL			Not Ver	06/09/04	5.7998E+01	53.4015	1.041E+04	S-0134		Original standard ID# was T11c-1/S-0017. Information entered from dilu
A	S-0137	Th-229	PT			Not Ver	12/05/03	1.2294E+05	122894.6437	2.681E+06			Primary Th-229 standard.
A	S-0138	Th-229	ST			Not Ver	05/28/04	6.0889E+02	608.6972	2.681E+06	S-0137		Used as an intermediate standard for creating tracer stock solutions.
A	S-0139	Po-209	P			Not Ver	03/15/94	5.1252E+03	4671.7686	3.726E+04			Primary Po-209 standard.
A	S-0140	Po-209	S			Not Ver	10/07/03	1.1882E+01	11.5583	3.726E+04	S-0139		
A	S-0141	Ra-226	PC			Not Ver	01/21/93	2.6418E+04	26249.3157	5.840E+05			Primary solution for creating calibration stock.
A	S-0142	Ra-226	SC	04/03/07	04/03/08	OK	07/21/06	6.5210E+02	651.7356	5.840E+05	S-0141		Solution for use as calibration stock. Dilution performed as stated ab
A	S-0143	Pb-210	P			Not Ver	07/18/06	7.6400E+00	7.3393	8.130E+03			ARS-WRM-001
A	S-0144	Pb-210	S	07/18/06	07/18/07	EXP	07/18/06	1.6961E+01	16.2932	8.130E+03	S-0143		7/18/2006 ARS-WRM-001: 20 gamma spectroscopy measurements average act
A	S-0145	Th-229	ST			Not Ver	01/28/05	1.1938E+02	119.3524	2.681E+06	S-0138		Information was gathered from existing nonspecific dilution records. The
A	S-0146	Th-229	ST	07/10/07	07/10/08	OK	03/10/05	5.9811E+00	5.9796	2.681E+06	S-0145		Information gathered from existing dilution records created on 4/28/20
A	S-0147	Tc-99	SC	09/01/06	09/01/07	EXP	08/08/06	2.3201E+02	232.0123	7.710E+07	S-0027		Tc-99 LCS standard. -BJS 9/1/2006
A	S-0148	C-14	PL			Not Ver	03/07/06	4.7320E+05	473100.9311	2.090E+06			Primary C-14 standard. The certified activity in dpm/g was derived by
A	S-0151	I-129	PLC			Not Ver	10/12/06	2.4390E+05	243899.9886	5.730E+09			Primary I-129 standard
A	S-0152	H-3	P	12/04/06	12/04/07	OK	09/03/98	2.0090E+00	1.1999	4.500E+03			Liquid in a 500-ml borosilicate-glass meds bottle with teflon-lined s
A	S-0153	C-14	S			Not Ver	10/13/06	1.1837E+04	11835.0619	2.090E+06	S-0148		Standard was originally logged as S-0149. After discovering an error
A	S-0154	C-14	S	03/12/07	03/12/08	OK	10/13/06	1.7245E+02	172.4281	2.090E+06	S-0153		LCS standard for C-14. Originally logged as S-0150. See parent comment
A	S-0155	Ra-226	SC	04/03/07	04/03/08	OK	03/20/07	5.9902E+01	59.8864	5.840E+05	S-0142		Calibration stock solution for Ra-226. Dilution performed as stated ab
A	S-0156	H-3	S	05/18/07	05/18/08	OK	04/27/07	2.7672E+00	2.6882	4.500E+03	S-0032		Normal level tritium LCS standard. Dilution performed as stated above
A	S-0157	Sr-90	P			Not Ver	05/15/07	7.6040E+03	7518.4095	1.041E+04			Primary Sr-90 LCS standard
A	S-0158	U-232	PT			Not Ver	05/17/07	8.3231E+02	828.4712	2.516E+04			Primary U-232 standard
A	S-0159	Sr-89	PC			Not Ver	05/15/07	1.7538E+04	1702.9675	5.053E+01			Primary Sr-89 standard
A	S-0160	Sr-90	S	07/16/07	07/16/08	OK	06/01/07	4.5216E+03	4475.8119	1.041E+04	S-0157		Intermediate standard for creating LCS standards. Dilution performed a
A	S-0161	U-232	ST	06/18/07	06/18/08	OK	06/06/07	5.1903E+02	516.9133	2.516E+04	S-0158		Intermediate U-232 standard to be used in creating stock tracer solut
A	S-0162	U-232	ST	06/18/07	06/18/08	OK	06/08/07	9.8656E+00	9.8260	2.516E+04	S-0161		Dilution performed as stated above by BSteffens on 6/8/2007. -BJS 6/8/
A	S-0163	Sr-90	S	07/16/07	07/16/08	OK	06/12/07	4.7407E+01	46.9606	1.041E+04	S-0160		S-0160 LCS stock solution. Dilution performed as stated above for LCS
A	S-0164	Sr-89	PC			Not Ver	05/15/07	1.7533E+04	1702.4694	5.053E+01			Primary Sr-89 calibration standard.
A	S-0165	Sr-89	SC	08/10/07	04/18/08	OK	06/08/07	3.2967E+03	1027.2915	5.053E+01	S-0164		Calibration stock solution. Dilution performed as stated above by KHa
A	S-0166	Th-229	ST	08/28/07	08/28/08	OK	08/27/07	5.6494E+00	5.6493	2.681E+06	S-0145		Th-229 tracer. Dilution performed as stated above by B Steffens. -BJS
I	S-0026	U-232	ST	06/19/06	06/19/07	EXP	10/26/05	1.0854E+01	10.6358	2.516E+04	S-0077	06/21/07	S-0026 Information entered from dilution records
I	S-0030	H-3	P	11/19/05	11/19/06	EXP	12/10/98	6.9370E-01	0.4206	4.500E+03			Tritium in Oil
I	S-0031	H-3	S	10/26/05	10/26/06	EXP	10/19/05	6.0777E+05	542041.8810	4.500E+03	S-0107		S-0031 Intermediate dilution - information entered from dilution book
I	S-0130	Sr-90	SL			Not Ver	09/26/03	5.3620E+02	485.3328	1.041E+04	S-0129	05/26/06	Original solution ID# is T11c. Dilution information entered from exist
I	S-0131	Sr-90	SL			Not Ver	02/02/06	0.0000E+00	0.0000	1.041E+04	S-0130	05/18/06	
I	S-0133	Sr-90	SL	01/09/06	01/09/07	EXP	06/09/04	5.8438E+01	53.8063	1.041E+04	S-0130	05/26/06	Original solution ID# was T11c-1/S-0017. Information entered from dilu
I	S-0136	Sr-90	SL	05/26/06	05/26/07	EXP	06/09/04	5.2036E+01	47.9121	1.041E+04	S-0134	07/17/07	Original standard ID# was T11c-1/S-0017. Dilution information entered
I	S-0149	C-14	SL			Not Ver	10/13/06	5.9553E+04	59545.4780	2.090E+06	S-0148	03/16/07	Intermediate standard for creating LCS stock solutions. Dilution perfo
I	S-0150	C-14	SL			Not Ver	10/13/06	8.6764E+02	867.5338	2.090E+06	S-0149	03/16/07	LCS standard for C-14 in water. Dilution performed as stated above. -B

Standards Report

I	S-0167	Th-229	ST			Not Ver	08/27/07	5.6494E+00	5.6493	2.681E+06	S-0145	08/28/07	Th-229 trace. Dilution performed as stated above by B Steffens. -BJS

American Radiation Services
Baton Rouge Laboratory

LCS Report
Analytical Batch: ARS1-B07-03107

ID_58050	BlindID	ABatch	ABatchSampleID	BlindGroup	StdID	Isotope	ExpectedAddition	ExpectedValue	EmptyWt	GrossWt	NetWt	UserID	ModDate
3990	B-04013	ARS1-B07-03107	ARS1-B07-03107-01	B-H3	S-0156	H-3	5	1.21089496	0	1	1	BSTEFFENS	11/1/2007
3991	B-04014	ARS1-B07-03107	ARS1-B07-03107-02	B-H3	S-0156	H-3	5	1.21089496	0	1	1	BSTEFFENS	11/1/2007

ARS-054

ID_31001_054	ABatch	ABatchSampleID	ClientID	Aliquot1	AliquotUnits1	Aliquot2	AliquotUnits2	UserID	ModDate
104	ARS1-B07-03107	ARS1-B07-03107-01		0	g	5.037	g	BSTEFFENS	11/2/2007
105	ARS1-B07-03107	ARS1-B07-03107-02		0	g	4.993	g	BSTEFFENS	11/2/2007
106	ARS1-B07-03107	ARS1-B07-03107-03		0	g	4.984	g	BSTEFFENS	11/2/2007
107	ARS1-B07-03107	ARS1-B07-03107-04	MD21-07-6810	0	g	4.984	g	BSTEFFENS	11/2/2007
108	ARS1-B07-03107	ARS1-B07-03107-05	MD21-07-6807	0	g	4.975	g	BSTEFFENS	11/2/2007
109	ARS1-B07-03107	ARS1-B07-03107-06	MD21-07-6811	0	g	5.03	g	BSTEFFENS	11/2/2007
110	ARS1-B07-03107	ARS1-B07-03107-07	MD21-07-6809	0	g	5.021	g	BSTEFFENS	11/2/2007
111	ARS1-B07-03107	ARS1-B07-03107-08	MD21-07-6808	0	g	5.034	g	BSTEFFENS	11/2/2007
112	ARS1-B07-03107	ARS1-B07-03107-09	MD21-07-6812	0	g	4.992	g	BSTEFFENS	11/2/2007

Beta Liquid Scintillation Counter Log Book

Date	Time	ARS Sample I.D. Number	Batch Number	Liquid Scintillation File Number	Technician Initials
10-29-07	15:52	B07-03039-04	07-03039	1147	[illegible]
↓	↓	B07-03039-07	↓	↓	[illegible]
↓	↓	B07-03039-08	↓	↓	[illegible]
11-1-07	15:09	SNC	QA	QA	[illegible]
↓	17:00	Background	07-03107	1822	[illegible]
↓	↓	B07-03107-01	↓	↓	[illegible]
↓	↓	B07-03107-02	↓	↓	[illegible]
↓	↓	B07-03107-03	↓	↓	[illegible]
↓	↓	B07-03107-04	↓	↓	[illegible]
↓	↓	B07-03107-05	↓	↓	[illegible]
↓	↓	B07-03107-06	↓	↓	[illegible]
↓	↓	B07-03107-07	↓	↓	[illegible]
↓	↓	B07-03107-08	↓	↓	[illegible]
↓	↓	B07-03107-09	↓	↓	[illegible]

Reviewed By: _____ Date: _____
Initials

AMERICAN RADIATION SERVICES, INC.

2609 North River Road • Port Allen, Louisiana 70767

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American Radiation Services Analytical Reports

for

Los Alamos National Laboratory

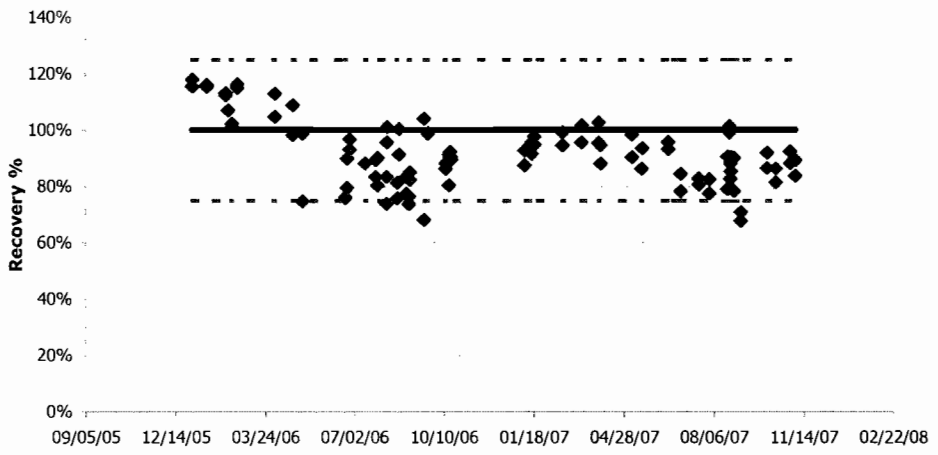
Tritium by Low Level Liquid Scintillation Counting

Control Charts

American Radiation Services
Baton Rouge Laboratory

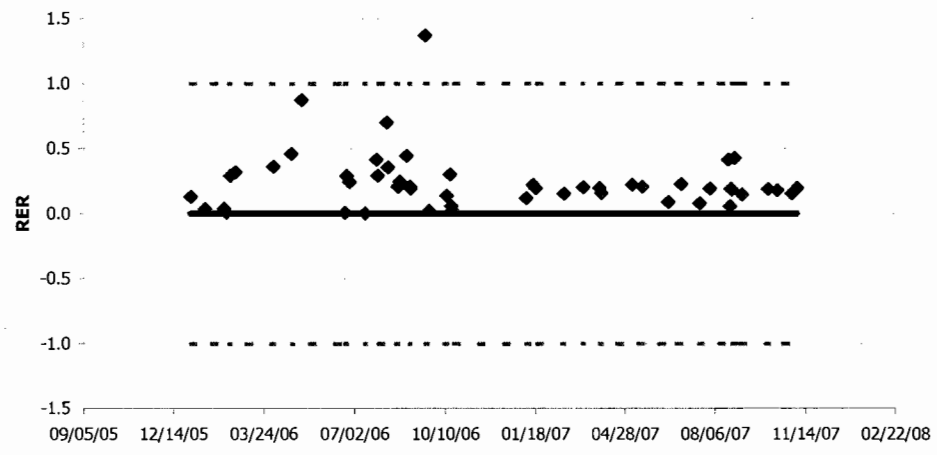
QC Chart

Tritium LCS



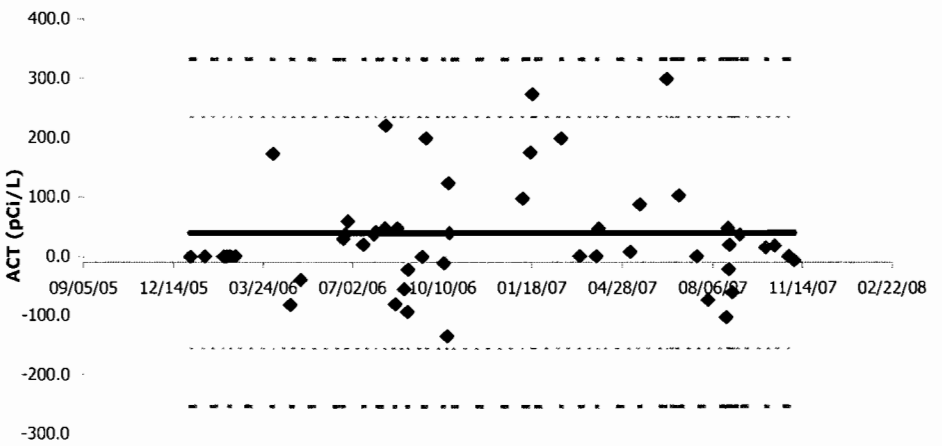
Average	STDEV	n	UCL	LCL
0.9141	0.1146	51	1.2500	0.7500

Tritium RER



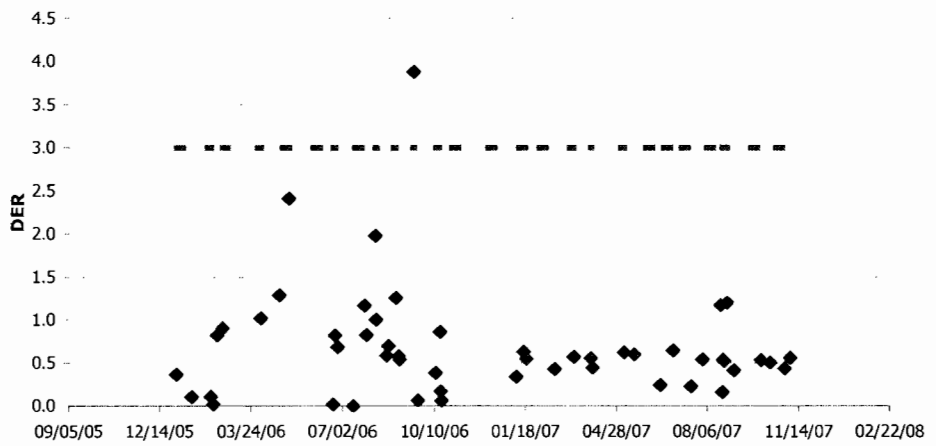
		n	UCL	LCL
		51	1.0000	-1.0000

Tritium Blank



Average	STDEV	n	UCL	LCL
39.2963	92.9713	51	332.0487	-253.4560

Tritium DER



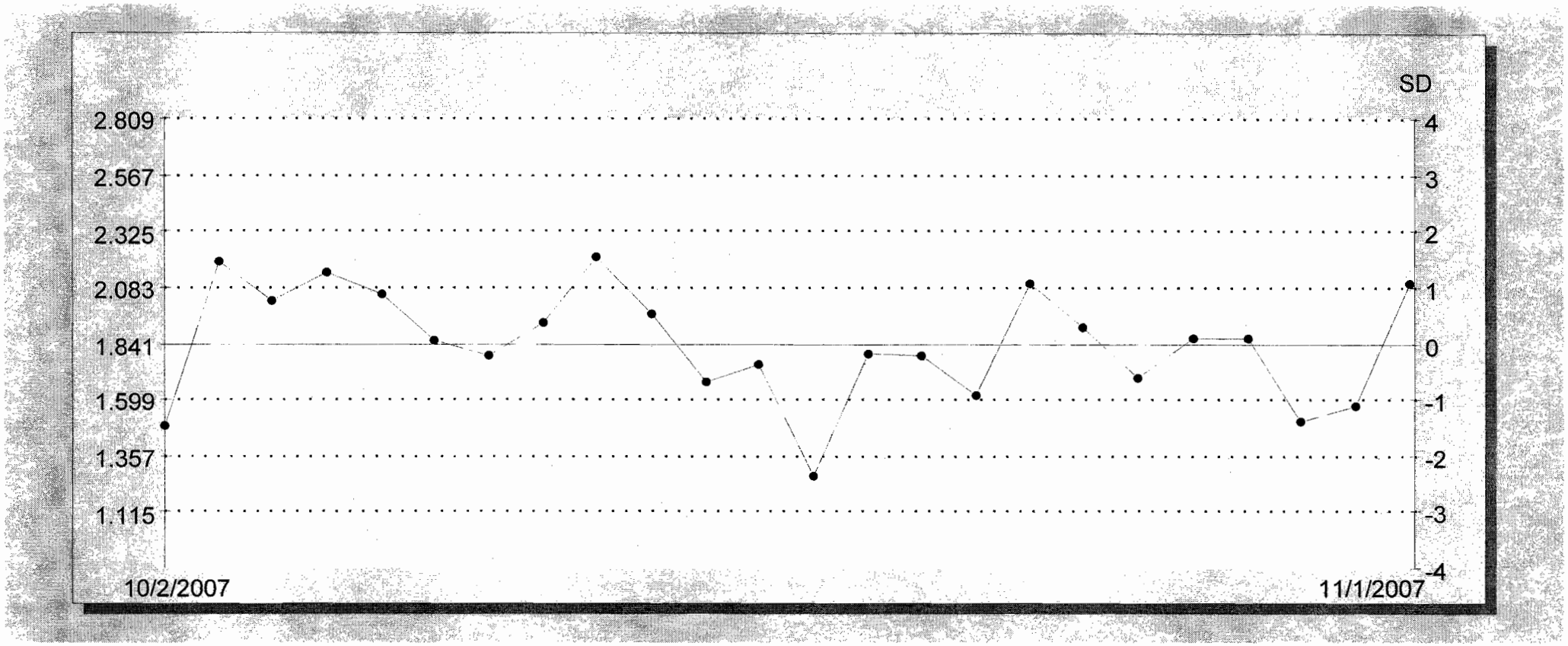
		n	UCL	
		51	3.0000	

3H Background
Total # pts : 3922
Valid # pts : 24
Mean : 1.84
SD : 0.24

Date	Value	Valid Pt
Oct 02, 2007	1.49	X
Oct 02, 2007	2.20	X
Oct 02, 2007	2.03	X
Oct 02, 2007	2.15	X
Oct 02, 2007	2.05	X
Oct 03, 2007	1.86	X
Oct 03, 2007	1.79	X
Oct 03, 2007	1.93	X
Oct 03, 2007	2.22	X
Oct 03, 2007	1.97	X
Oct 03, 2007	1.67	X
Oct 03, 2007	1.76	X
Oct 03, 2007	1.27	X
Oct 03, 2007	1.80	X
Oct 03, 2007	1.79	X
Oct 04, 2007	1.62	X
Oct 12, 2007	2.11	X
Oct 12, 2007	1.92	X
Oct 24, 2007	1.69	X
Oct 24, 2007	1.87	X
Oct 29, 2007	1.86	X
Oct 29, 2007	1.51	X
Nov 01, 2007	1.58	X
Nov 01, 2007	2.10	X

3H Background

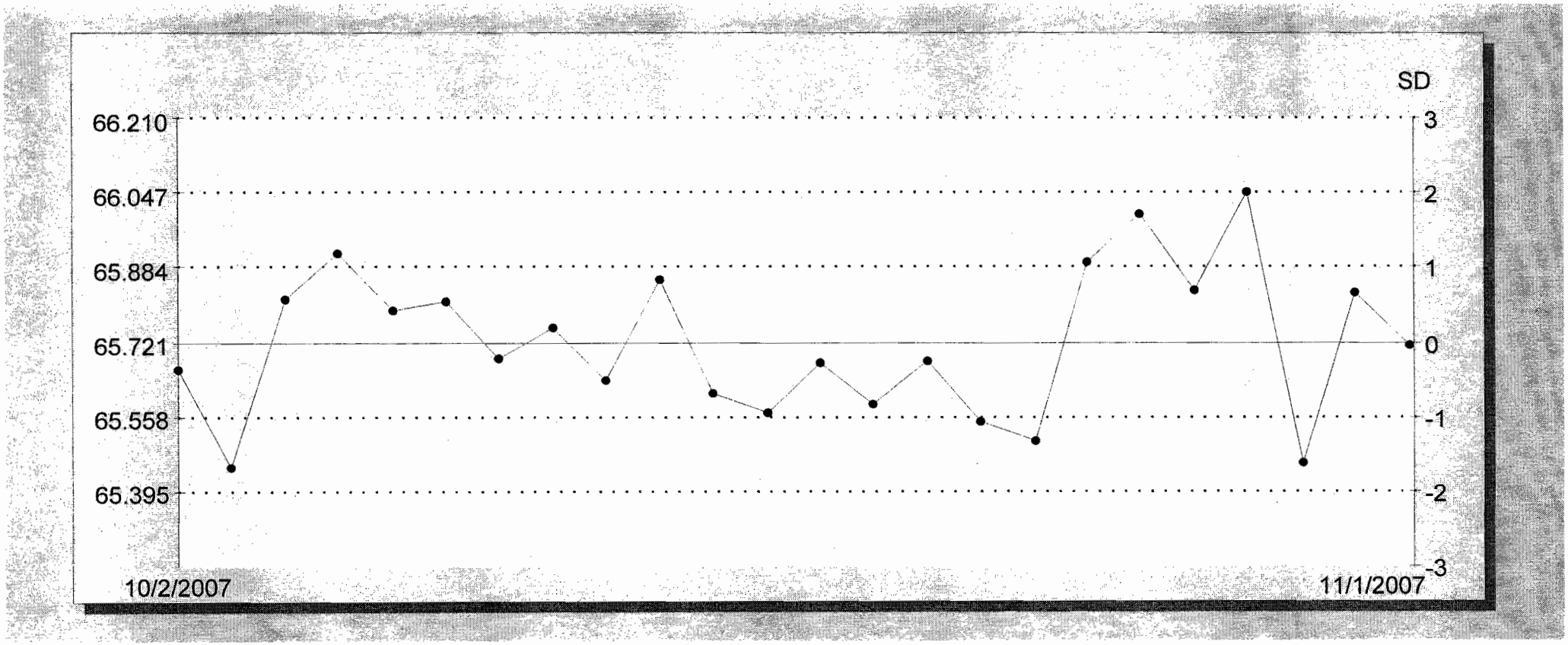
Total # pts	: 3922
Valid # pts	: 24
Mean	: 1.84
SD	: 0.24



3H Efficiency
Total # pts : 3967
Valid # pts : 24
Mean : 65.72
SD : 0.16

Date	Value	Valid Pt
Oct 02, 2007	65.66	X
Oct 02, 2007	65.45	X
Oct 02, 2007	65.81	X
Oct 02, 2007	65.91	X
Oct 02, 2007	65.79	X
Oct 03, 2007	65.81	X
Oct 03, 2007	65.69	X
Oct 03, 2007	65.76	X
Oct 03, 2007	65.64	X
Oct 03, 2007	65.86	X
Oct 03, 2007	65.61	X
Oct 03, 2007	65.57	X
Oct 03, 2007	65.68	X
Oct 03, 2007	65.58	X
Oct 03, 2007	65.68	X
Oct 04, 2007	65.55	X
Oct 12, 2007	65.51	X
Oct 12, 2007	65.90	X
Oct 24, 2007	66.00	X
Oct 24, 2007	65.84	X
Oct 29, 2007	66.05	X
Oct 29, 2007	65.46	X
Nov 01, 2007	65.83	X
Nov 01, 2007	65.71	X

3H Efficiency
Total # pts : 3967
Valid # pts : 24
Mean : 65.72
SD : 0.16



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American Radiation Services Analytical Reports

for

Los Alamos National Laboratory

Low Level Liquid Scintillation Counting

Calibration Information

STD ID: S-0156

ARS American Radiation Services, Inc.	Add/Edit *Secondary Stds*	Parent Standard Data				
Planning		Parent Solution Reference #	NIST SRM 4927F			
Planning Comments	**Create a dilution of S-0032 for use as LCS stock solution**	Parent Solution #	S-0032			
Target dpm/g (on dil. date)	**2.76**	Parent Principal Radionuclide	H-3	Half Life (Days)	4499.8000000	
Target Final volume mL	**2000**	Parent Reference Date	03/01/2006 00:00			
Appx mass g of Parent Sol'n	1.710884008	Parent Certified Act	3443.100423	Certi Act/Vol Units	dpm	g
Appx vol ml of Parent Sol'n	1.713969152	Parent Cert Act Uncert 1 Sigma	0.0036			
Expected Addition for Analysis g	**5**	Parent Sp. Gravity G/Ml	0.9982			
Standards Preparation / Dilution		Parent Supplier	NIST SRM 4927F			
Secondary Solution #	S-0156	Parent Date Recvd	01/02/00			
Dilution Date (New Ref Date)	**04/27/2007 00:00**	Parent Received By	Unknown			
Ampoule, Empty (g)		Parent Cert Exp Date				
Ampoule /Solution Gross (g)		Parent Matrix	H2O			
Net Wt Removed (g)		Certified dpm/g At Ref Date	3443.100423			
Transfer Container, empty (g)	**17.8583**	Certified dpm/g on 04/27/2007 00:00	3226.402243			
Container Plus Solution (g)	**19.5702**	Parent Comments	S-0032 - Intermediate dilution for preparation of control solutions - Entered from dilution records - 4/19/2006 RTS Edited to update the dilution to 3/1/2006 from dilution records - 5/8/2006 LHD			
Net Wt Transferred (g)	1.7119					
DPM Xferred on 04/27/2007 00:00	5523.278					
Diluent/matrix	**H2O**	Parent Tech	Unknown			
Diluent Density Cont, empty (g)		Is_Primary	FALSE			
Test Mass of 5 ml of Diluent (g)		Is_LCS	FALSE			
Diluent Density Test - (g/mL)		Is_Tracer	FALSE			
Dilution Empty Container Mass (g)	**1**	Is_Calib	FALSE			
Dilution Full Cont g (if measured)	**1997**					
Dilution Final Volume ml (if measured)	**2000**					
Final Dilution Density (g/mL)	0.998					
Final Dilution Measured Mass g	1996					
Comments	**Normal level tritium LCS standard. Dilution performed as stated above by TByrd on 4/27/2007. -BJS 4/27/2007**					
Final Dilution dpm/g	2.767173337					
Final Dil New Ref Date/Time	04/27/2007 00:00					

AMERICAN RADIATION SERVICES, INC.

QUALITY CONTROL PROGRAM

AMERICAN RADIATION SERVICES
RADIOACTIVE REFERENCE SOLUTIONS

ANNUAL ACTIVITY VERIFICATION- Rev 1

VERIFICATION DATE 5/18/2007 0:00
SOLUTION REFERENCE # [redacted]

Principal Radionuclide	Half Life, Years	Half Life, Days
H-3	1.232E+01	4.500E+03

Radionuclide H-3 **Primary Dilution Reference Date** 4/27/2007 0:00

Primary Dilution Activity	1.25	**pCi per gram ===> dpm/g**	2.78
Verif. Date Decay Corrected	1.25	**pCi per gram ===> dpm/g**	2.77

Verification Trials

Trial ID#			Trial ID#		
	Gross Weight	2.0000		Gross Weight	2.0000
	Tare Weight	1.0000		Tare Weight	1.0000
	Net Weight	1.0000		Net Weight	1.0000
	Gross Weight	2.0000		Gross Weight	2.0000
	Tare Weight	1.0000		Tare Weight	1.0000
	Net Weight	1.0000		Net Weight	1.0000
	Gross Weight	2.0000			
	Tare Weight	1.0000			
	Net Weight	1.0000			

Trial ID	Sample Counts	Count Time (min)	Detector	Efficiency	Bkg. (cpm)	Net Weight	Activity Result (dpm/g)	Activity Result (pCi/g)
S-0156-1	12.198	1	LSC	0.4395	6.143	5.0100	2.75	1.24
S-0156-2	11.748	1	LSC	0.4325	6.143	5.0100	2.59	1.17
S-0156-3	11.822	1	LSC	0.434	6.143	5.0000	2.62	1.18

Average	2.65	1.19
Two Sigma Uncertainty	0.17	0.08
Standard Deviation percent of known concentration	3.14%	3.14%
Target Activity	2.77	1.25
% Diff	-4.15	-4.15

Verification Expiration Date: May 17, 2008

Prepared & Counted By Tom Boyd Date: 5/18/2007 0:00

Verified & Approved By Dwyane Mulligan Date: 5-18-07

QC Approval [illegible] Date: 5-18-07

Verifier's Name: Tony Byrd **Date:** 4/30/2007
Pipettor ID: CH84078
Pipettor ID:
Pipettor ID: CH80870
Standard ID: S-0112
Standard ID: S-0032 (S-0156)

	Weight of Standard			
15mL of Ultima Gold added to standard	**S-0156-1**	5.01	g	**Balance ID:** H1331122173560P
	S-0156-2	5.01	g	
	S-0156-3	5.00	g	
			g	
			g	
15mL of Ultima Gold added to standard	**S-0112-1**	1.03	g	**Balance ID:** H1331122173560P
	S-0112-2	1.08	g	
	S-0112-3	1.00	g	
			g	
			g	

Assay Definition-

Assay Description:
Tritium - DPM Mode

Assay Type: DPM (Single)
Report Name: Report1
Output Data Path: C:\Packard\Tricarb\Results\H3 Results\Tritium for protocol 6\20070517_1143
Raw Results Path: C:\Packard\Tricarb\Results\H3 Results\Tritium for protocol 6\20070517_1143\20070517_1143.results
RTF File Name: C:\Packard\Tricarb\Results\H3 Results\Tritium for protocol 6\20070517_1143\H3 Results.rtf
Comma-Delimited File Name: C:\Packard\Tricarb\Results\H3 Results\Tritium for protocol 6\20070517_1143\H3 Results.csv
Assay File Name: C:\Packard\TriCarb\Assays\Tritium for protocol 6.lsa

Count Conditions-

Nuclide: H3
Quench Indicator: tSIE/AEC
External Std Terminator (sec): 0.5 2s%
Pre-Count Delay (min): 0.00
Quench Set:
Low Energy: H-3
Count Time (min): 90.00
Count Mode: Normal
Assay Count Cycles: 1 Repeat Sample Count: 1
#Vials/Sample: 1 Calculate % Reference: Off

Background Subtract: Off
Low CPM Threshold: Off
2 Sigma % Terminator: On - Any Region

Regions	LL	UL	2Sigma % Terminator
A	2.0	18.6	0.50
B	0.0	2000.0	0.00
C	0.0	2000.0	0.00

Count Corrections-

Static Controller: On Luminescence Correction: Off
Colored Samples: Off Heterogeneity Monitor: Off
Coincidence Time (nsec): 18 Delay Before Burst (nsec): 75

Half Life-

Half Life Correction: Off

Regions	Half Life	Units	Reference Date	Reference Time

Protocol# 6 - Tritium for protocol 6.lsa User: H3 Results

A
B
C

Cycle 1 Results

P#	S#	SMPL_ID	CPMA	DPM1	tSIE	Eff Nucl In A	Count Time	DATE	TIME	MESSAGES
6	1	BACKGROUND	6.143	13.99	433.79	43.91	90.00	5/17/2007	11:48:37 AM	
6	2	S-0156-1 ~~S-0032-1~~	12.198	27.76	434.24	43.95	90.00	5/17/2007	1:24:20 PM	
6	3	S-0156-2 ~~S-0032-2~~	11.748	27.16	426.06	43.25	90.00	5/17/2007	3:00:09 PM	
6	4	S-0156-3 ~~S-0032-3~~	11.822	27.24	427.76	43.40	90.00	5/17/2007	4:35:56 PM	

5-18-07

National Institute of Standards & Technology

Certificate

Standard Reference Material 4927F
Hydrogen-3 Radioactivity Standard

This Standard Reference Material (SRM) consists of radioactive hydrogen-3, as water, in 5 mL of distilled water. The solution is contained in a flame-sealed NIST borosilicate-glass ampoule. The SRM is intended for the calibration of beta-particle counting instruments and for the monitoring of radiochemical procedures.

Radiological Hazard

The SRM ampoule contains hydrogen-3 with a total activity of approximately 3.2 MBq. Hydrogen-3 decays by beta-particle emission. None of the beta particles escape from the SRM ampoule. During the decay process no photons are emitted. Approximate unshielded dose rates at several distances (as of the reference time) are given in note [a]*. There is no detectable external radiation. The SRM should be used only by persons qualified to handle radioactive material.

Chemical Hazard

The SRM ampoule contains only distilled water. There is no chemical hazard. If the ampoule is to be opened to transfer the solution, the recommended procedure is given on page 2.

Storage and Handling

The SRM should be stored and used at a temperature between 5 and 65 °C. The solution in an unopened ampoule should remain stable and homogeneous until at least September 2008.

The ampoule (or any subsequent container) should always be clearly marked as containing radioactive material. If the ampoule is transported it should be packed, marked, labeled, and shipped in accordance with the applicable national, international, and carrier regulations. The solution in the ampoule is a dangerous good (hazardous material) because of the radioactivity.

Preparation

This Standard Reference Material was prepared in the Physics Laboratory, Ionizing Radiation Division, Radioactivity Group, L.R. Karam, Group Leader. The overall technical direction and physical measurements leading to certification were provided by L.L. Lucas and M.P. Unterweger of the Radioactivity Group.

The support aspects involved in the preparation, certification, and issuance of this SRM were coordinated through the Standard Reference Materials Program by J.W.L. Thomas.

Bert M. Coursey, Chief
Ionizing Radiation Division

Nancy M. Trahey, Chief
Standard Reference Materials Program

Gaithersburg, Maryland 20899
June 1999
Half-life and text revised October 2000

*Notes and references are on pages 5 and 6.

PROPERTIES OF SRM 4927F

Certified values

Solution density	**(0.998 ± 0.002) g·mL^{-1} at 20.0 °C [b]***
Radionuclide	**Hydrogen-3**
Reference time	**1200 EST, 3 September 1998**
Massic activity of the solution [c]	**634.7 kBq·g^{-1}**
Relative expanded uncertainty (k=2)	**0.72% [d] [e]**

Uncertified values

Physical Properties:			
Source description	Liquid in flame-sealed NIST borosilicate-glass ampoule		
Ampoule specifications	Body outside diameter Wall Thickness Barium content Lead-oxide content Other heavy elements	(16.5 ± 0.5) mm (0.60 ± 0.04) mm Less than 2.5% Less than 0.02% Trace quantities	
Solution mass	Approximately 5.0 g		
Chemical Properties:			
Solution composition	Chemical Formula	Concentration (mol·L^{-1})	Mass Fraction (g·g^{-1})
	H_2O ^3HHO	55 6×10^{-7}	1.00 1×10^{-8}
Radiological Properties:			
Radionuclidic impurities	None detected [f]		
Half lives used	Hydrogen-3: (4500 ± 8) d [g]		
Calibration method and measuring instrument(s)	4πß gas counting of SRM 4927E using the NIST length-compensated internal gas proportional counters and intercomparison of SRMs 4927E/4927F using two 4πß liquid-scintillation counting systems [h]		

*Notes and references are on pages 5 and 6.

EVALUATION OF THE UNCERTAINTY OF THE MASSIC ACTIVITY [d]*

Input Quantity x_i, the source of uncertainty (and individual uncertainty components where appropriate)	Method Used To Evaluate $u(x_i)$, the standard uncertainty of x_i (A) denotes evaluation by statistical methods (B) denotes evaluation by other methods	Relative Uncertainty Of Input Quantity, $u(x_i)/x_i$, (%) [i]	Relative Sensitivity Factor, $\lvert\partial y/\partial x_i\rvert \cdot (x_i/y)$ [j]	Relative Uncertainty Of Output Quantity, $u_i(y)/y$, (%) [k]
Massic count rate of SRM 4927E, corrected for background and decay [h]	Standard deviation of the mean for 23 sets of gas counting measurements (A)	0.18	1.0	0.18
Gram-mole measurements	Estimated (B)	0.20	1.0	0.20
Live-time [p]	Estimated (B)	0.10	1.0	0.10
Extrapolation of count-rate-versus-energy to zero energy	Estimated (B)	0.20	1.0	0.20
Half life of H-3	Standard uncertainty of the half life (A)	0.18 [m]	0.009 [n]	0.002
Liquid-scintillation intercomparison of SRM 4927F and SRM 4927E	Standard deviation of the mean for 7 sets of liquid-scintillation measurements (A)	0.06	1.0	0.06
Radionuclidic impurities	Limit of detection (B) [q]	100.	0.0005	0.05
Relative Combined Standard Uncertainty of the Output Quantity, $u_c(y)/y$, (%)				0.36
Coverage Factor, k				x 2
Relative Expanded Uncertainty of the Output Quantity, U/y, (%)				0.72

*Notes and references are on pages 5 and 6.

STD ID: S-0032

ARS AMERICAN RADIATION SERVICES, INC.	Add/Edit *Secondary Stds*	Parent Standard Data				
Planning		Parent Solution Reference #	NIST SRM 4927F			
Planning Comments	**Dilute S-0031 to form intermediate level solution for controls**	Parent Solution #	S-0031			
Target dpm/g (on dil. date)	**3367**	Parent Principal Radionuclide	H-3	Half Life (Days)	4499.8000000	
Target Final volume mL	**200**	Parent Reference Date	10/19/2005 00:00			
Appx mass g of Parent Sol'n	1.130920768	Parent Certified Act	607768.8494	Certi Act/Vol Units	dpm	g
Appx vol ml of Parent Sol'n	1.132960096	Parent Cert Act Uncert 1 Sigma	0.0036			
Expected Addition for Analysis g		Parent Sp. Gravity G/Ml	0.9982			
Standards Preparation / Dilution		Parent Supplier	NIST SRM 4927F			
Secondary Solution #	S-0032	Parent Date Recvd	01/02/00			
Dilution Date (New Ref Date)	**03/01/2006 00:00**	Parent Received By	Unknown			
Ampoule, Empty (g)		Parent Cert Exp Date				
Ampoule /Solution Gross (g)		Parent Matrix	H2O			
Net Wt Removed (g)		Certified dpm/g At Ref Date	607768.8494			
Transfer Container, empty (g)	**0**	Certified dpm/g on 03/01/2006 00:00	595444.0128			
Container Plus Solution (g)	**1.1544**	Parent Comments	S-0031 intermediate dilution - Information entered from dilution records - 4/19/2006 RTS			
Net Wt Transferred (g)	1.1544					
DPM Xferred on 03/01/2006 00:00	687380.5684					
Diluent/matrix	**H2O**	Parent Tech	Unknown			
Diluent Density Cont, empty (g)		Is_Primary	FALSE			
Test Mass of 5 ml of Diluent (g)		Is_LCS	FALSE			
Diluent Density Test - (g/mL)		Is_Tracer	FALSE			
Dilution Empty Container Mass (g)	**1**	Is_Calib	FALSE			
Dilution Full Cont g (if measured)	**200.64**					
Dilution Final Volume ml (if measured)	**200**					
Final Dilution Density (g/mL)	0.9982					
Final Dilution Measured Mass g	199.64					
Comments	**S-0032 - Intermediate dilution for preparation of control solutions - Entered from dilution records - 4/19/2006 RTS Edited to update the dilution to 3/1/2006 from dilution records - 5/9/2006 LFU**					
Final Dilution dpm/g	3433.100423					
Final Dil New Ref Date/Time	03/01/2006 00:00					

AMERICAN RADIATION SERVICES, INC.

2609 North River Road • Port Allen, Louisiana 70767

1 (800) 401-4277 • Fax (225) 381-2996

American Radiation Services Analytical Reports

for

Los Alamos National Laboratory

Percent Moisture

AMERICAN RADIATION SERVICES, INC.

2609 North River Road, Port Allen, Louisiana 70767

1 (800) 401-4277 FAX (225) 381-2996

ARS Sample Delivery Group:	ARS1-07-01760	**Request or PO Number:**	08-99
Client Sample ID:	MD21-07-6810	**ARS Sample ID:**	ARS1-07-01760-001
Sample Collection Date:	10/30/2007	**Date Received:**	11/01/07 10:15
Sample Matrix:	Aqueous	**Report Date:**	11/05/07 08:59

Analysis Description	Analysis Results	Analysis Error +/- 2 s	MDC	DLC	Qual	Analysis Units	Analysis Test Method	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
H-3	11.526	NA	NA	NA		%	Moisture	11/2/07 6:54	BS	NA

NOTES:

Lindsay Laroeigne
Project Manager Review

Notes: American Radiation Services, Inc. assumes no liability for the use or interpretation of any analytical results provided other than the cost of the analysis itself. Reproduction of this report in less than full requires the written consent of the client.

LELAP Certificate# 30658 NELAP Certificate # E87558

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ARS Sample Delivery Group:	ARS1-07-01760	**Request or PO Number:**	08-99
Client Sample ID:	MD21-07-6807	**ARS Sample ID:**	ARS1-07-01760-002
Sample Collection Date:	10/30/2007	**Date Received:**	11/01/07 10:15
Sample Matrix:	Aqueous	**Report Date:**	11/05/07 08:59

Analysis Description	Analysis Results	Analysis Error +/- 2 s	MDC	DLC	Qual	Analysis Units	Analysis Test Method	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
H-3	13.086	NA	NA	NA		%	Moisture	11/2/07 10:01	BS	NA

NOTES:

Lindsay Rarseigne
Project Manager Review

Notes: American Radiation Services, Inc. assumes no liability for the use or interpretation of any analytical results provided other than the cost of the analysis itself. Reproduction of this report in less than full requires the written consent of the client.

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ARS Sample Delivery Group:	ARS1-07-01760	**Request or PO Number:**	08-99
Client Sample ID:	MD21-07-6811	**ARS Sample ID:**	ARS1-07-01760-003
Sample Collection Date:	10/30/2007	**Date Received:**	11/01/07 10:15
Sample Matrix:	Aqueous	**Report Date:**	11/05/07 08:59

Analysis Description	Analysis Results	Analysis Error +/- 2 s	MDC	DLC	Qual	Analysis Units	Analysis Test Method	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
H-3	10.772	NA	NA	NA		%	Moisture	11/2/07 13:08	BS	NA

NOTES:

Lindsay Lasseigne

Project Manager Review

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ARS Sample Delivery Group:	ARS1-07-01760	**Request or PO Number:**	08-99
Client Sample ID:	MD21-07-6809	**ARS Sample ID:**	ARS1-07-01760-004
Sample Collection Date:	10/30/2007	**Date Received:**	11/01/07 10:15
Sample Matrix:	Aqueous	**Report Date:**	11/05/07 08:59

Analysis Description	Analysis Results	Analysis Error +/- 2 s	MDC	DLC	Qual	Analysis Units	Analysis Test Method	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
H-3	11.211	NA	NA	NA		%	Moisture	11/2/07 16:14	BS	NA

NOTES:

Lindsay Laneigne

Project Manager Review

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ARS Sample Delivery Group:	ARS1-07-01760	**Request or PO Number:**	08-99
Client Sample ID:	MD21-07-6808	**ARS Sample ID:**	ARS1-07-01760-005
Sample Collection Date:	10/30/2007	**Date Received:**	11/01/07 10:15
Sample Matrix:	Aqueous	**Report Date:**	11/05/07 09:00

Analysis Description	Analysis Results	Analysis Error +/- 2 s	MDC	DLC	Qual	Analysis Units	Analysis Test Method	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
H-3	6.655	NA	NA	NA		%	Moisture	11/2/07 19:21	BS	NA

NOTES:

Lindsay Lanseigne
Project Manager Review

Notes: American Radiation Services, Inc. assumes no liability for the use or interpretation of any analytical results provided other than the cost of the analysis itself. Reproduction of this report in less than full requires the written consent of the client.

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ARS Sample Delivery Group:	ARS1-07-01760	**Request or PO Number:**	08-99
Client Sample ID:	MD21-07-6812	**ARS Sample ID:**	ARS1-07-01760-006
Sample Collection Date:	10/30/2007	**Date Received:**	11/01/07 10:15
Sample Matrix:	Aqueous	**Report Date:**	11/05/07 09:00

Analysis Description	Analysis Results	Analysis Error +/- 2 s	MDC	DLC	Qual	Analysis Units	Analysis Test Method	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
H-3	6.969	NA	NA	NA		%	Moisture	11/2/07 22:28	BS	NA

NOTES:

Project Manager Review

Notes: American Radiation Services, Inc. assumes no liability for the use or interpretation of any analytical results provided other than the cost of the analysis itself. Reproduction of this report in less than full requires the written consent of the client.

LELAP Certificate# 30658 NELAP Certificate # E87558

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American Radiation Services Analytical Reports

for

Los Alamos National Laboratory

Percent Moisture Laboratory Records

AMERICAN RADIATION SERVICES
Port Allen, LA
PERCENT MOISTURE DETERMINATION IN SOILS

SDG Number ARS1-07-01760
Client LANL

LANL ID	ARS ID	weight of cylinder with gel (g)	weight of empty cylinder (g)	Weight of gel (g)	amount of liquid collected (ml)	amount of liquid tested (ml)	**% moisture**
MD21-07-6810	ARS1-07-01760-001	614	455	159	18.327	4.984	**11.5264151**
MD21-07-6807	ARS1-07-01760-002	613	451	162	21.2	4.975	**13.0864198**
MD21-07-6811	ARS1-07-01760-003	611	450	161	17.343	5.03	**10.7720497**
MD21-07-6809	ARS1-07-01760-004	606	449	158	17.713	5.021	**11.2107595**
MD21-07-6808	ARS1-07-01760-005	609	457	152	10.115	5.034	**6.65460526**
MD21-07-6812	ARS1-07-01760-005	605	454	151	10.523	4.992	**6.96887417**

Balance ID: 0102/1125183449
Popettor ID: V97701

Signature [illegible] Date/ Time 11-1-07

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American Radiation Services Analytical Reports

for

Los Alamos National Laboratory

Folder Duplicate

Report Completeness Checklist

ARS SDG:	07-01760	Client Name:	LANL	Sample Matrix:	AQ

LEVEL 1 COMPONENTS	1st Reviewer	
1) Cover Page Complete and Accurate (see ARS-059)?	Yes No N/A	
2) Technical Review Checklist(s) Complete and Accurate?	Yes No N/A	
3) Case Narrative Complete and Accurate (see ARS-059)?	Yes No N/A	
4) Form 1s Present for all Samples and Tests?	Yes No N/A	
5) Client Specific Components are Present and Complete?	Yes No N/A	

LEVEL 2 COMPONENTS	1st Reviewer	
6) Batch Quality Control Report is Present and Accurate?	Yes No N/A	
7) DQO Report is Present and Accurate?	Yes No N/A	
8) Client Specific Batch QC Components are Present and Complete?	Yes No N/A	

LEVEL 3 COMPONENTS	1st Reviewer	
9) Efficiencies are Present?	Yes No N/A	
10) Calibrations are Present?	Yes No N/A	
11) Backgrounds are Present?	Yes No N/A	
12) Spectrum Analysis is Present?	Yes No N/A	
13) Spectral Plots are Present?	Yes No N/A	
14) Plateaus are Present?	Yes No N/A	
15) Control Charts are Present?	Yes No N/A	
16) Other:	Yes No N/A	

LEVEL 4 COMPONENTS	1st Reviewer	
17) Preparation Raw Data Present and Complete?	Yes No N/A	
18) Instrument Raw Data Present and Complete?	Yes No N/A	
19) Calibration Certificates Present?	Yes No N/A	
20) Copies of Log Book Pages Present?	Yes No N/A	
21) Sample Receiving Documentation Present?	Yes No N/A	
22) LIMS Reports Present?	Yes No N/A	
23) Applicable Correspondence Present?	Yes No N/A	
24) Other:	Yes No N/A	

Lindsay Lanseigne 11-5-07
Report Generator Signature Date

11-5-07
Management Review Signature Date

LSC
Technical Review Checklist

ARS SDG 07-01760

Sample Matrix: Silica Gel **Aliquot** (Circle One) : Dry (As Received) Filtered Other: _____

Required QC Samples (Circle all that apply): (Blank) (LCS) (LCSD) Sample Dup MS MSD

ARS Prep. Batch ID(s): **Batch A:** B07-03107 **Batch B:** _____ **Batch C:** _____

Test(s): LSC-A-001 _____ _____

A. RADIOCHEMICAL PREPARATION REVIEW

	Chemist Review	Analyst Review
1) 100% of Manual Transcriptions Verified?	(Yes) No N/A	Yes No N/A
2) 100% of Manual Calculations Verified?	Yes No (N/A)	Yes No N/A
3) Blank Composition/Configuration Matches Calibration?	(Yes) No N/A	Yes No N/A
4) Deviations from procedure are documented and verified?	Yes No (N/A)	Yes No N/A
5) Appropriate Cocktail Selected?	(Yes) No N/A	Yes No N/A

6) Sample Prep Anomaly? ☒ **No** ☐ **Yes** (See Tech Notes) **NCR #** (If initiated): _____

[signature] 11-1-07 — **Chemist Signature** **Date**

N/A — **Analyst Signature** **Date**

B. ANALYSIS REVIEW

	Analyst Review	Proj. Mgr. Review
1) Calibrations Valid and Current?	(Yes) No N/A	(Yes) No N/A
2) Backgrounds Valid and Current?	(Yes) No N/A	(Yes) No N/A
3) Source Checks Completed and Acceptable?	(Yes) No N/A	(Yes) No N/A
4) Background Checks Complete and Acceptable?	(Yes) No N/A	(Yes) No N/A
5) 100% of Manually Entered Parameters Verified Accurate?	(Yes) No N/A	(Yes) No N/A
6) Appropriate QC samples initiated at required frequency?	(Yes) No N/A	(Yes) No N/A
6) Test/Sample Specific Parameters (See ARS-059 for details)		
a) Analysis Parameters Checked and Correct and Peak Shapes are Acceptable?	(Yes) No N/A	(Yes) No N/A
b) Spectra show no Evidence of Interferences?	(Yes) No N/A	(Yes) No N/A
c) Sample Quench for All Samples within Range of Quench Curve?	(Yes) No N/A	(Yes) No N/A

7) Analysis Anomaly? ☒ **No** ☐ **Yes** (See Comments) **NCR #** (If initiated): _____

[signature] 11-5-07 — **Analyst Signature** **Date**

Lindsay Ranseigne 11-5-07 — **Project Manager Signature** **Date**

Batch A: 07-03107

LSC
Technical Review Checklist

C. BATCH QC VALIDATION

	Proj. Mgr. Review	QA Officer Review
1) Activity + 3xCSU a Negative Number?	Yes (No) N/A	Yes (No) N/A
2) RDL Criteria are Met?	(Yes) No N/A	(Yes) No N/A
3) Method Blank Criterion Met?	(Yes) No N/A	(Yes) No N/A
4) LCS/LCD Criteria Met?	(Yes) No N/A	(Yes) No N/A
5) Duplicate (Sample Duplicate, LCSD, MSD) Criteria Met?	(Yes) No N/A	(Yes) No N/A
6) MS/MSD Criteria Met?	Yes No (N/A)	Yes No (N/A)

7) Batch QC Anomaly? ☑ No ☐ Yes (See Tech Notes) NCR # (If initiated): _____

Project Manager Signature	Date	QA Officer Signature	Date
Lindsay Lanesigne	11-5-07	[signature]	11-5-07

GENERAL COMMENTS

DQO Report for SDG
ARS1-07-01760

Analysis Code	Group	Isotope	Activity Units	Aliquot Units	ProcedureNo	RDL	LCS_LL	LCS_UL	MS_LL	MS_UL	RadY_LL	RadY_UL	GravY_LL	GravY_LL	RER	RPD	DiltionReq	RoughPrepReq	BlankCorrectionMDA	BlankCorrectionAll	CountTimeReq	AliquotRequired
LSC-A-001	STD	H-3	pCi	L	ARS-054	0.00E+00	80	120	80	120	20	110	20	110	2.58	20	FALSE	FALSE	FALSE	FALSE		

ARS FILE TRACKING SHEET

SDG: 07-01760

Task	Date / Time	Initials
Date & Time Received	11-1-07 / 10:15	SMC
Storage Location: K3	11-1-07 / 11:42	SMC
Chain of Custody Completed	11-1-07 / 11:42	SMC
Report Written	11-5-07 9:09	LMC
Laboratory Supervisor Checks Performed	see batch	NA
Quality Assurance Checks Performed on Report	11-5-07 09:23	[illegible]
Laboratory Director Check Performed on Report	11-5-07 09:23	[illegible]
Report E-mailed		
Report Faxed		
Report Mailed		
Report Reviewed		
Invoice Completed Invoice #:_____		

SPECIAL REQUIREMENTS

Requirement	Yes	No
3 Hour Rush		✓
24 Hour Rush		✓
48 Hour Rush		✓
Special Invoicing (i.e., Third Party)		✓
Other		✓

NOTES

ARS-062-005 r2

SAMPLE RECEIPT INSPECTION FORM

Date: 11/01/07 Shipper's Name: LANL

Technician Performing Inspection: Shirley Clayton Initials: SMC

SDG: **07-01760**

External and Internal Surveys

Exposure Rate Meter: 44-2 104898 Serial No: 013681 Calibration. Due Date: 05/21/08

Count Rate Meter: 44-9 109043 Serial No: 108796 Calibration. Due Date: 05/21/08

Background Exposure Rate (μR/hr) 12 Background Count Rate (cpm): 50

Max. Exposure Rate on Shipping Containers Externals (Including Background): 24

Max. Removable Count Rate on Shipping Container Externals (Including Background): 50

Max. Removable Count Rate on Shipping Container Internals (Including Background): 60

Max. Removable Count Rate on Sample Container Externals (Including Background): 60

Max. Exposure Rate on Sample Containers Externals (Including Background): 26

Shipping Container

Was the Shipping Container received in good condition? Yes

Was the Shipping Container marked "Radioactive"? No

Was UN2910 marked on the outside of the Shipping Container? No

Were security seals utilized on the shipping container? Yes If yes, were the seals intact? Yes

Was a Chain of Custody Form included with the sample shipment? Yes

Were air bills or bills of lading included with the sample shipment? No

Samples

Were samples received in good condition? Yes

Were security seals utilized on the sample container? Yes If yes, were the seals intact? Yes

Were the sample containers marked "Radioactive"? No

Number of Samples Received in the Shipment: 6(six)

Was the pH of Aqueous Samples < 2? N/A

If no, was the sample(s) checked for acid reactivity? N/A Was the sample(s) acidified to a pH < 2? N/A

Matrix of Samples: ~~SO~~ AQ SMC 11-1-07 12:22

Volume of Each Container: 100

Brief Description of Sample Material:

Inspectors' Comments

ARS-062-001 r0

Sample Check In Report
Samples

SDG **ARS1-07-01760**

Client Code	**114**	**Los Alamos National Laboratory**	TAT Days	**5**	Level	**4**
Profile Number	**PN-00094**	**Location: Los Alamos**	Date Received	**11/1/2007**		
Project Type	**Environmental**		Client Deadline	**11/5/2007**	COC No 1	
Comments			Internal Deadline	**11/4/2007**	COC No 2	
			Lab Deadline	**11/3/2007**	COC No 3	
			Workdays	**FALSE**	COC No 4	

Fraction	Client ID	Cntrs	Matrix	Start	End	Storage	Disposal	Holding	Archive
001	MD21-07-6810	1	AQ	10/30/07 00:00	10/30/07 00:00	K3	H	90	5
002	MD21-07-6807	1	AQ	10/30/07 00:00	10/30/07 00:00	K3	H	90	5
003	MD21-07-6811	1	AQ	10/30/07 00:00	10/30/07 00:00	K3	H	90	5
004	MD21-07-6809	1	AQ	10/30/07 00:00	10/30/07 00:00	K3	H	90	5
005	MD21-07-6808	1	AQ	10/30/07 00:00	10/30/07 00:00	K3	H	90	5
006	MD21-07-6812	1	AQ	10/30/07 00:00	10/30/07 00:00	K3	H	90	5

American Radiation Services
Baton Rouge Laboratory

ARS1-07-01760
Analyses per Sample

	LSC-A-001
Count >	6
001	X
002	X
003	X
004	X
005	X
006	X

Sample Check In Report
Comments per Sample

SDG **ARS1-07-01760**

Fraction	Client ID	Comments
001	MD21-07-6810	
002	MD21-07-6807	
003	MD21-07-6811	
004	MD21-07-6809	
005	MD21-07-6808	
006	MD21-07-6812	

ARS LABEL SHEET

SDG: 07-01760

Analysis

ARS1-07-01760 LSC-A-001

Los Alamos National Laboratory

Tritium in (Water [Aqueous, AQ])

This Test Requires 6 of 6 Samples

Scan Analysis Code Here	Dates for This Test	
	Rcvd	11/1/2007
	Due	11/5/2007

SAMPLE CHECK-IN COMMENT SHEET

SDG: 07-01760

NOTES

ARS-062-007 r0

COMPANY NAME: LANL **SDG:** 07-01460

Shipping Container Survey

Outside 24 µR/hr 50 cpm

Inside 60 cpm

SHIPPING CONTAINER

Good Condition	☑ Yes	☐ No
Radioactive	☐ Yes	☑ No
UN2910	☐ Yes	☑ No
Sec. Seals	☑ Yes	☐ No
Seals Intact	☑ Yes	☐ No
COC	☑ Yes	☐ No
Air Bill	☐ Yes	☑ No

Rcv'd By
Date Rcv'd
Time Rcv'd

SAMPLE CONTAINER(S)

Good Condition	☑ Yes	☐ No			
Sec. Seals	☑ Yes	☐ No	Intact	☐ Yes	☐ No
Radioactive	☐ Yes	☑ No			
# Samples Rcv	6 (six)				
pH < 2	☐ Yes	☐ No			
	If No...	Acid Rxt	☐ Yes	☐ No	
		Acid'fd < 2	☐ Yes	☐ No	

Matrix [AF , (AQ) , BI , FE , LT , SI , SO , UR , VG]

Record Sample Label, Exposure Rate and Count Rate for EACH SAMPLE in the area below:

Sample Lable/Comments/Notes	Weight/ Volume	µR/hr	cpm
MD21-07-6810		26	60
MD21-07-6807		24	60
MD21-07-6811		26	60
MD21-07-6809		26	60
MD21-07-6808		22	60
MD21-07-6812		26	60

Surveyors' Name: Shirley Clayton Date/Time Surveyed 11-1-07 10:38

Wednesday, October 31, 2007

LAB CHAIN OF CUSTODY DOCUMENT NUMBER: 08-99C

REQUEST NUMBER: 08-99

LOS ALAMOS

NATIONAL LABORATORY

ATTN: Danny Coleman

American Radiation Services - Primary

1726 Wooddale Court

Baton Rouge, LA 70806

TURNAROUND REPORT DUE: 11/5/2007

TURNAROUND REQ'D: 5

LAB REQUEST COMMENTS:

SAMPLE ID	CTNR	CTNR DESC	ORDER	PRESERV	MATRIX
MD21-07-6810	1	SILICA GEL TUBE	H3	None	GAS
MD21-07-6807	1	SILICA GEL TUBE	H3	None	GAS
MD21-07-6811	1	SILICA GEL TUBE	H3	None	GAS
MD21-07-6809	1	SILICA GEL TUBE	H3	None	GAS
MD21-07-6808	1	SILICA GEL TUBE	H3	None	GAS
MD21-07-6812	1	SILICA GEL TUBE	H3	None	GAS

Relinquished By:		Date	Time	Received By:		Date	Time
		10/31/07	3:00	Shirley Clayton	Shirley Clayton		10:15
Printed Name	Signature			Printed Name	Signature		
Printed Name	Signature			Printed Name	Signature		
Printed Name	Signature			Printed Name	Signature		

Received for DISPOSAL By:		Date	Time	Remarks:
Printed Name	Signature			

Wednesday, October 31, 2007

LAB CHAIN OF CUSTODY DOCUMENT NUMBER: 08-99C

REQUEST NUMBER: 08-99

LOS ALAMOS

NATIONAL LABORATORY

ATTN: Danny Coleman

American Radiation Services - Primary

1726 Wooddale Court

Baton Rouge, LA 70806

TURNAROUND/REPORT DUE: 11/5/2007

TURNAROUND REQ'D: 5

LAB REQUEST COMMENTS:

SAMPLE ID	CTNR	CTNR DESC	ORDER	PRESERV	MATRIX
MD21-07-6810	1	SILICA GEL TUBE	H3	None	GAS
MD21-07-6807	1	SILICA GEL TUBE	H3	None	GAS
MD21-07-6811	1	SILICA GEL TUBE	H3	None	GAS
MD21-07-6809	1	SILICA GEL TUBE	H3	None	GAS
MD21-07-6808	1	SILICA GEL TUBE	H3	None	GAS
MD21-07-6812	1	SILICA GEL TUBE	H3	None	GAS

Relinquished By:		Date	Time	Received By:		Date	Time
		10/31/07	3:00	Shirley Clayton	Shirley Clayton		10:15
Printed Name	Signature			Printed Name	Signature		
Printed Name	Signature			Printed Name	Signature		
Printed Name	Signature			Printed Name	Signature		

Received for DISPOSAL By:		Date	Time	Remarks:
Printed Name	Signature			

AMERICAN RADIATION SERVICES, INC.

2609 North River Road • Port Allen, Louisiana 70767

1 (800) 401-4277 • Fax (225) 381-2996

American Radiation Services Analytical Reports

for

Los Alamos National Laboratory

Request Number: 08-125

AMERICAN RADIATION SERVICES, INC.

2609 North River Road • Port Allen, Louisiana 70767

1 (800) 401-4277 • Fax (225) 381-2996

American Radiation Services Analytical Reports

for

Los Alamos National Laboratory Request Number: 08-125

Original COC

Monday, November 05, 2007

LAB CHAIN OF CUSTODY DOCUMENT NUMBER: 08-125C

REQUEST NUMBER: 08-125

LOS ALAMOS

NATIONAL LABORATORY

ATTN: Barbara Zelenay

American Radiation Services

1903 Central Ave.

Los Alamos, NM 87544

TURNAROUND/REPORT DUE: 11/9/2007

TURNAROUND REQ'D: 4

LAB REQUEST COMMENTS: DATA TO BE RECEIVED 11/9/07

SAMPLE ID	CTNR	CTNR DESC	ORDER	PRESERV	MATRIX
MD21-07-6803	1	SILICA GEL TUBE	H3	None	GAS
MD21-07-6801	1	SILICA GEL TUBE	H3	None	GAS
MD21-07-6802	1	SILICA GEL TUBE	H3	None	GAS
MD21-07-6800	1	SILICA GEL TUBE	H3	None	GAS
MD21-07-6806	1	SILICA GEL TUBE	H3	None	GAS
MD21-07-6804	1	SILICA GEL TUBE	H3	None	GAS
MD21-07-6818	1	SILICA GEL TUBE	H3	None	GAS
MD21-08-8445	1	SILICA GEL TUBE	H3	None	GAS

Relinquished By:		Date	Time	Received By:		Date	Time
[illegible]	[illegible]	11/5/07	1400	Kaleah Harris	Kaleah Harris	11/6/07	10:15
Printed Name	Signature			Printed Name	Signature		
Printed Name	Signature			Printed Name	Signature		
Printed Name	Signature			Printed Name	Signature		

Received for DISPOSAL By:		Date	Time	Remarks:
Printed Name	Signature			

Monday, November 05, 2007

REQUEST NUMBER: 08-125

LOS ALAMOS
NATIONAL LABORATORY

ATTN: Barbara Zelenay
American Radiation Services
1903 Central Ave.
Los Alamos, NM 87544

These Samples are on:
LANL Request Number:08-125
Per Agreement Number:126310031
Project Cost Code: MR8R0225FB00

Please analyse the enclosed samples according to the schedule indicated:

SHIP DATE: 11/5/2007
TURNAROUND/REPORT DUE: 11/9/2007
TURNAROUND REQ'D: 4 Days

RAD SCREENING: Not Required
LAB REQUEST COMMENTS: DATA TO BE RECEIVED 11/9/07 need Results by 11/8 + 11/9

LANL ER SMO CONTACT:
Signature:

PRIORITY	METHOD CODE	CNTNR	SAMPLE ID	SAMPLE MATRIX	DATE SAMPLED	SAMPLE COMMENTS	SPECIAL INSTRUCTIONS
	EPA:906.0	1	MD21-07-6800	GAS	11/3/2007		
		1	MD21-07-6801	GAS	11/3/2007		
		1	MD21-07-6802	GAS	11/3/2007		
		1	MD21-07-6803	GAS	11/3/2007		
		1	MD21-07-6804	GAS	11/4/2007		
		1	MD21-07-6806	GAS	11/3/2007		
		1	MD21-07-6818	GAS	10/30/2007		
		1	MD21-08-8445	GAS	11/3/2007		

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1 (800) 401-4277 • Fax (225) 381-2996

American Radiation Services Analytical Reports

for

Los Alamos National Laboratory Request Number: 08-125

Case Narrative

AMERICAN RADIATION SERVICES, INC.

2609 North River Road • Port Allen, Louisiana 70767

1 (800) 401-4277 • Fax (225) 381-2996

November 8, 2007

LANL
Keith Greene
Drop Point MS H865
Los Alamos, NM 87545

Ref: LANL Request No. 08-125
LANL Sample ID: MD21-07-6803, MD21-07-6801, MD21-07-6802, MD21-07-6800, MD21-07-6806, MD21-07-6804, MD21-07-6818, MD21-08-8445

Dear Mr. Greene:

On November 6, 2007, American Radiation Services (ARS) received 8 Silica Gel Samples to be analyzed for Tritium.

The samples were processed and counted using the appropriate counting equipment and QA/QC for this type of analysis. Results of the analysis and QA/QC are attached in the data package.

The samples and QA/QC's were counted with a count time sufficient to meet a statistical sound detection limits.

Counting equipment Quality Assurance was with in acceptance criteria when the above referenced samples were processed.

If you have any questions please do not hesitate to call at 225-381-2991.

Sincerely,

for Virgene Mulligan

Laboratory Director
American Radiation Services

AMERICAN RADIATION SERVICES, INC.

2609 North River Road • Port Allen, Louisiana 70767

1 (800) 401-4277 • Fax (225) 381-2996

COVER PAGE

18980SOW0-8S
Statement of Work for Analytical Laboratories

PROJECT SAMPLE IDENTIFICATION CROSS-REFERENCE TO ARS SAMPLE LABORATORY IDs

Subcontract (LANL Agreement Number) 126310041

COC NUMBER	LANL PROJECT SAMPLE ID NUMBER	American Radiation Services SAMPLE ID NUMBER(S)
08-125	MD21-07-6803	ARS1-07-01792-001
08-125	MD21-07-6801	ARS1-07-01792-002
08-125	MD21-07-6802	ARS1-07-01792-003
08-125	MD21-07-6800	ARS1-07-01792-004
08-125	MD21-07-6806	ARS1-07-01792-005
08-125	MD21-07-6804	ARS1-07-01792-006
08-125	MD21-07-6818	ARS1-07-01792-007
08-125	MD21-08-8445	ARS1-07-01792-008

ANALYTICAL METHODS

Tritium analyses were performed using **ARS-054, "Tritium In Water".**

ANALYTICAL RESULTS

The result data that are flagged with "U" indicates that the activity is below the MDC.

AMERICAN RADIATION SERVICES, INC.

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American Radiation Services Project Manager/Laboratory Manager's Comments:
"I certify that this sample data package is in compliance with SOW requirements, both technically and for completeness, other than the conditions detailed above. Release of the data contained in this sample data package and the computer-readable EDD, as applicable, submitted on diskette or by modem, has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature."

"I certify that this electronic image, and all hardcopies produced from this image, accurately represents the data and is in compliance with the LANL specific requirements, both technically and for completeness, other than the conditions detailed above or in the sample data package narrative. Release, by submission through email, the data contained in this electronic image and the computer-readable EDD (as applicable), has been authorized by the laboratory Manager/Technical Director or the Manager's designee."

Signature	Title	Date
	Lab Manager/Technical Director, American Radiation Services	11-8-07

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American Radiation Services Analytical Reports

for

Los Alamos National Laboratory

Tritium by Low Level Liquid Scintillation Counting

AMERICAN RADIATION SERVICES, INC.

2609 North River Road, Port Allen, Louisiana 70767

1 (800) 401-4277 FAX (225) 381-2996

ARS Sample Delivery Group:	ARS1-07-01792	**Request or PO Number:**	08-125
Client Sample ID:	MD21-07-6803	**ARS Sample ID:**	ARS1-07-01792-001
Sample Collection Date:	11/3/2007	**Date Received:**	11/06/07 10:15
Sample Matrix:	Aqueous	**Report Date:**	11/08/07 09:15

Analysis Description	Analysis Results	Analysis Error +/- 2 s	MDC	DLC	Qual	Analysis Units	Analysis Test Method	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
H-3	379.253	130.039	199.227	97.962		pCi/L	ARS-054/EPA 906.0	11/7/07 6:27	BS	NA

NOTES: Project Cost Code: MR8R0225FB00

Lindsay Lanseigne

Project Manager Review

Notes: American Radiation Services, Inc. assumes no liability for the use or interpretation of any analytical results provided other than the cost of the analysis itself. Reproduction of this report in less than full requires the written consent of the client.

LELAP Certificate# 30658 NELAP Certificate # E87558

AMERICAN RADIATION SERVICES, INC.

2609 North River Road, Port Allen, Louisiana 70767

1 (800) 401-4277 FAX (225) 381-2996

ARS Sample Delivery Group:	ARS1-07-01792	**Request or PO Number:**	08-125
Client Sample ID:	MD21-07-6801	**ARS Sample ID:**	ARS1-07-01792-002
Sample Collection Date:	11/3/2007	**Date Received:**	11/06/07 10:15
Sample Matrix:	Aqueous	**Report Date:**	11/08/07 09:15

Analysis Description	Analysis Results	Analysis Error +/- 2 s	MDC	DLC	Qual	Analysis Units	Analysis Test Method	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
H-3	1585.582	217.720	198.964	97.832		pCi/L	ARS-054/EPA 906.0	11/7/07 9:34	BS	NA

NOTES: Project Cost Code: MR8R0225FB00

Lindsay Lanseigne

Project Manager Review

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ARS Sample Delivery Group:	ARS1-07-01792	**Request or PO Number:**	08-125
Client Sample ID:	MD21-07-6802	**ARS Sample ID:**	ARS1-07-01792-003
Sample Collection Date:	11/3/2007	**Date Received:**	11/06/07 10:15
Sample Matrix:	Aqueous	**Report Date:**	11/08/07 09:16

Analysis Description	Analysis Results	Analysis Error +/- 2 s	MDC	DLC	Qual	Analysis Units	Analysis Test Method	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
H-3	273.951	126.684	201.685	99.170		pCi/L	ARS-054/EPA 906.0	11/7/07 12:41	BS	NA

NOTES: Project Cost Code: MR8R0225FB00

Lindsay Lanseigne
Project Manager Review

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ARS Sample Delivery Group:	ARS1-07-01792	**Request or PO Number:**	08-125
Client Sample ID:	MD21-07-6800	**ARS Sample ID:**	ARS1-07-01792-004
Sample Collection Date:	11/3/2007	**Date Received:**	11/06/07 10:15
Sample Matrix:	Aqueous	**Report Date:**	11/08/07 09:16

Analysis Description	Analysis Results	Analysis Error +/- 2 s	MDC	DLC	Qual	Analysis Units	Analysis Test Method	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
H-3	197.900	121.519	197.844	97.282		pCi/L	ARS-054/EPA 906.0	11/7/07 15:47	BS	NA

NOTES: Project Cost Code: MR8R0225FB00

Lindsay Lanseigne

Project Manager Review

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LELAP Certificate# 30658 NELAP Certificate # E87558

AMERICAN RADIATION SERVICES, INC.

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ARS Sample Delivery Group:	ARS1-07-01792	**Request or PO Number:**	08-125
Client Sample ID:	MD21-07-6806	**ARS Sample ID:**	ARS1-07-01792-005
Sample Collection Date:	11/3/2007	**Date Received:**	11/06/07 10:15
Sample Matrix:	Aqueous	**Report Date:**	11/08/07 09:16

Analysis Description	Analysis Results	Analysis Error +/- 2 s	MDC	DLC	Qual	Analysis Units	Analysis Test Method	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
H-3	156.714	120.417	198.405	97.557	U	pCi/L	ARS-054/EPA 906.0	11/7/07 18:54	BS	NA

NOTES: Project Cost Code: MR8R0225FB00

Lindsay Lanseigne

Project Manager Review

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LELAP Certificate# 30658 NELAP Certificate # E87558

AMERICAN RADIATION SERVICES, INC.

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ARS Sample Delivery Group:	ARS1-07-01792	**Request or PO Number:**	08-125
Client Sample ID:	MD21-07-6804	**ARS Sample ID:**	ARS1-07-01792-006
Sample Collection Date:	11/4/2007	**Date Received:**	11/06/07 10:15
Sample Matrix:	Aqueous	**Report Date:**	11/08/07 09:16

Analysis Description	Analysis Results	Analysis Error +/- 2 s	MDC	DLC	Qual	Analysis Units	Analysis Test Method	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
H-3	-8.075	115.913	198.121	97.417	U	pCi/L	ARS-054/EPA 906.0	11/7/07 22:01	BS	NA

NOTES: Project Cost Code: MR8R0225FB00

Lindsay Lasseigne

Project Manager Review

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LELAP Certificate# 30658 NELAP Certificate # E87558

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ARS Sample Delivery Group:	ARS1-07-01792	**Request or PO Number:**	08-125
Client Sample ID:	MD21-07-6818	**ARS Sample ID:**	ARS1-07-01792-007
Sample Collection Date:	10/30/2007	**Date Received:**	11/06/07 10:15
Sample Matrix:	Aqueous	**Report Date:**	11/08/07 09:17

Analysis Description	Analysis Results	Analysis Error +/- 2 s	MDC	DLC	Qual	Analysis Units	Analysis Test Method	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
H-3	20.760	114.254	194.275	95.526	U	pCi/L	ARS-054/EPA 906.0	11/8/07 1:07	BS	NA

NOTES: Project Cost Code: MR8R0225FB00

Lindsay Lasseigne

Project Manager Review

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LELAP Certificate# 30658 NELAP Certificate # E87558

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ARS Sample Delivery Group:	ARS1-07-01792	**Request or PO Number:**	08-125
Client Sample ID:	MD21-08-8445	**ARS Sample ID:**	ARS1-07-01792-008
Sample Collection Date:	11/3/2007	**Date Received:**	11/06/07 10:15
Sample Matrix:	Aqueous	**Report Date:**	11/08/07 09:17

Analysis Description	Analysis Results	Analysis Error +/- 2 s	MDC	DLC	Qual	Analysis Units	Analysis Test Method	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
H-3	27.995	113.386	192.519	94.663	U	pCi/L	ARS-054/EPA 906.0	11/8/07 4:14	BS	NA

NOTES: Project Cost Code: MR8R0225FB00

Lindsay Lanseigne

Project Manager Review

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LELAP Certificate# 30658 NELAP Certificate # E87558

AMERICAN RADIATION SERVICES, INC.

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QC Results Report

Sample Delivery Group: ARS1-07-01792

Date Received: 11/6/2007

Laboratory Control Sample Evaluation

Analysis Batch	QC Type	Analyte	Analysis Results	CSU 1 (1 s)	MDC	Expected Value	Qual	Report Units	Analysis Test Method	Analysis Date/Time	Analysis Technician	Percent Recovery (%)	LCS Acceptance Range
ARS1-B07-03159	LCS	H3	964.84	162.6	189.73729	1209.95		pCi/L	ARS-055/EPA 906.0	11/6/07 21:07	BS	80	75%-125%

Blank Evaluation

Analysis Batch	QC Type	Analyte	Analysis Results	CSU 1 (1 s)	MDC	Expected Value	Qual	Report Units	Analysis Test Method	Analysis Date/Time	Analysis Technician
ARS1-B07-03159	MBL	H3	-55.089	110.42955	190.13992	NA	U	pCi/L	ARS-055/EPA 906.0	11/6/07 21:07	BS

RER Duplicate Evaluation

Analysis Batch	QC Type	Analysis Description	Result 1	CSU 1 (1 s)	Result 2	CSU 2 (1s)	Qual	Analysis Units	Analysis Test Method	Analysis Date/Time	Analysis Technician	RER	RER AcceptanceRange
ARS1-B07-03159	LCSD	H3	964.84	162.6	974.82908	163.8062		pCi/L	ARS-055/EPA 906.0	11/6/07 21:07	BS	0.03	< 1

DER Duplicate Evaluation

Analysis Batch	QC Type	Analysis Description	Result 1	CSU 1 (1 s)	Result 2	CSU 2 (1s)	Qual	Analysis Units	Analysis Test Method	Analysis Date/Time	Analysis Technician	DER	DER AcceptanceRange
ARS1-B07-03159	LCSD	H3	964.84	162.6	974.82908	163.8062		pCi/L	ARS-055/EPA 906.0	11/6/07 21:07	BS	0.09	< 3

Lindsay Lanseigne

Project Manager Review

Notes: American Radiation Services, Inc. assumes no liability for the use or interpretation of any analytical results provided other than the cost of the analysis itself. Reproduction of this report in less than full requires the written consent of the client.

LELAP Certificate# 30658 NELAP Certificate # E87558

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American Radiation Services Analytical Reports

for

Los Alamos National Laboratory

Tritium by Low Level Liquid Scintillation Counting

Samples

AMERICAN RADIATION SERVICES, INC.

LSC Instrument Data Transfer Report

\\Packard3170\Results\H3 Results\Tritium for Protocol

Batch Sample ID	Non-BKG Samples Transferred	Samples Eligible to Save
ARS1-B07-03159	11	11

LIMS Batch Sample ID	LSC P#	LSC PID	LSC S#	LSC Sample ID	LSC Count Date	LSC CPMA	LSC SAE	LSC Eff	LSC Count Dur	Analytical Batch	LIMS SDG	LIMS Run
BKG	5		1	BACKGROUND	11/06/07 18:00	6.63	397.41	41.7300	180.00	ARS1-B07-03159		
ARS1-B07-03159-01	5		2	B07-03159-01	11/06/07 21:07	11.24	411.26	42.5900	180.00	ARS1-B07-03159		
ARS1-B07-03159-02	5		3	B07-03159-02	11/07/07 00:14	11.27	411.53	42.6000	180.00	ARS1-B07-03159		
ARS1-B07-03159-03	5		4	B07-03159-03	11/07/07 03:20	6.36	413.18	42.6600	180.00	ARS1-B07-03159		
ARS1-B07-03159-04	5		5	B07-03159-04	11/07/07 06:27	8.35	385.89	40.8300	180.00	ARS1-B07-03159	ARS1-07-01792	1
ARS1-B07-03159-05	5		6	B07-03159-05	11/07/07 09:33	13.86	385.81	40.8200	180.00	ARS1-B07-03159	ARS1-07-01792	1
ARS1-B07-03159-06	5		7	B07-03159-06	11/07/07 12:40	7.86	379.21	40.3100	180.00	ARS1-B07-03159	ARS1-07-01792	1
ARS1-B07-03159-07	5		8	B07-03159-07	11/07/07 15:47	7.53	388.31	41.0200	180.00	ARS1-B07-03159	ARS1-07-01792	1
ARS1-B07-03159-08	5		9	B07-03159-08	11/07/07 18:53	7.34	387.67	40.9700	180.00	ARS1-B07-03159	ARS1-07-01792	1
ARS1-B07-03159-09	5		10	B07-03159-09	11/07/07 22:00	6.59	387.44	40.9500	180.00	ARS1-B07-03159	ARS1-07-01792	1
ARS1-B07-03159-10	5		11	B07-03159-10	11/08/07 01:07	6.72	399.81	41.9100	180.00	ARS1-B07-03159	ARS1-07-01792	1
ARS1-B07-03159-11	5		12	B07-03159-11	11/08/07 04:14	6.76	391.33	41.2500	180.00	ARS1-B07-03159	ARS1-07-01792	1

Calculation Verification

Procedure	ARS-054
Variable	**Value**
Gross Count Rate	11.242000
Sample Count Mins	180.000000
BKG Count Rate	6.626000
BKG Count Mins	180.000000
Instrument Efficiency	0.425900
Sample Aliquot	5.060000
Dilution Factor	1.000000
Aliquot Conversion Factor	0.001000
Sample Collection Date (t1)	11/6/07 9:07 PM
Count Date (t2)	11/6/07 9:07 PM
Activity Units = pCi --- UCF =	2.2200
CF	1.9600
Nuclide Abundance	1.000000
Halflife Days 1 - Result Isotope	4499.800000
TPUF_Factor 1	0.041330
TPUF_Factor 2	0.020000
TPUF_Factor 3	0.000000
TPUF_Factor 4	0.025000
TPUF_Factor 5	0.000000
TPUF_Factor 6	0.000000
Activity Units	pCi
Aliquot Units	L
Variables Intact Test	OK

Isotope	H-3		
Calculated Values	**Excel**	**VBA**	**V/V**
ACT	**964.838598**	**964.838598**	**OK**
CU	**129.076345**	**129.076345**	**OK**
TPU	**162.588604**	**162.588604**	**OK**
MDA	**189.737290**	**189.737290**	**OK**
DL	**93.295185**	**93.295185**	**OK**
Net Count Rate	**4.616000**	**4.616000**	**OK**
D t 1 (t2 - t1)	**0.000000**	**0.000000**	**OK**
DF	**1.000000**	**1.000000**	**OK**
Sys Err	**0.052280**	**0.052280**	**OK**
K	**0.004784**	**0.004784**	**OK**
K MDA	**0.861160**	**0.861160**	**OK**

Batch Identifiers and Other Related Information	
Batch	ARS1-B07-03159
Batch ID	ARS1-B07-03159-01
Analysis Code	
SDG	ARS1-07-01792
Fraction	008
Run Number	1
Client	QC Sample
Client Profile	
Client ID	N/A QC Sample
Instr File Name	84
Instr Detector	P-5 - S-2
Instr keV	
Version/Date	1.0 -- 11/18/2005

Reviewed by: LML **Date:** 11-8-07

Calculation Verification

Procedure	ARS-054
Variable	**Value**
Gross Count Rate	11.266000
Sample Count Mins	180.000000
BKG Count Rate	6.626000
BKG Count Mins	180.000000
Instrument Efficiency	0.426000
Sample Aliquot	5.033000
Dilution Factor	1.000000
Aliquot Conversion Factor	0.001000
Sample Collection Date (t1)	11/7/07 12:14 AM
Count Date (t2)	11/7/07 12:14 AM
Activity Units = pCi --- UCF =	2.2200
CF	1.9600
Nuclide Abundance	1.000000
Halflife Days 1 - Result Isotope	4499.800000
TPUF_Factor 1	0.041330
TPUF_Factor 2	0.020000
TPUF_Factor 3	0.000000
TPUF_Factor 4	0.025000
TPUF_Factor 5	0.000000
TPUF_Factor 6	0.000000
Activity Units	pCi
Aliquot Units	L
Variables Intact Test	OK

Isotope	H-3		
Calculated Values	**Excel**	**VBA**	**V/V**
ACT	**974.829081**	**974.829081**	**OK**
CU	**129.825427**	**129.825427**	**OK**
TPU	**163.806164**	**163.806164**	**OK**
MDA	**190.710376**	**190.710376**	**OK**
DL	**93.773658**	**93.773658**	**OK**
Net Count Rate	**4.640000**	**4.640000**	**OK**
D t 1 (t2 - t1)	**0.000000**	**0.000000**	**OK**
DF	**1.000000**	**1.000000**	**OK**
Sys Err	**0.052280**	**0.052280**	**OK**
K	**0.004760**	**0.004760**	**OK**
K MDA	**0.856766**	**0.856766**	**OK**

Batch Identifiers and Other Related Information	
Batch	ARS1-B07-03159
Batch ID	ARS1-B07-03159-02
Analysis Code	
SDG	ARS1-07-01792
Fraction	008
Run Number	1
Client	QC Sample
Client Profile	
Client ID	N/A QC Sample
Instr File Name	84
Instr Detector	P-5 - S-3
Instr keV	
Version/Date	1.0 -- 11/18/2005

Reviewed by: LML **Date:** 11-8-07

Calculation Verification

Procedure	ARS-054
Variable	**Value**
Gross Count Rate	6.363000
Sample Count Mins	180.000000
BKG Count Rate	6.626000
BKG Count Mins	180.000000
Instrument Efficiency	0.426600
Sample Aliquot	5.041000
Dilution Factor	1.000000
Aliquot Conversion Factor	0.001000
Sample Collection Date (t1)	11/7/07 3:21 AM
Count Date (t2)	11/7/07 3:21 AM
Activity Units = pCi --- UCF =	2.2200
CF	1.9600
Nuclide Abundance	1.000000
Halflife Days 1 - Result Isotope	4499.800000
TPUF_Factor 1	0.041330
TPUF_Factor 2	0.020000
TPUF_Factor 3	0.000000
TPUF_Factor 4	0.025000
TPUF_Factor 5	0.000000
TPUF_Factor 6	0.000000
Activity Units	pCi
Aliquot Units	L
Variables Intact Test	OK

Isotope	H-3		
Calculated Values	**Excel**	**VBA**	**V/V**
ACT	**-55.089043**	**-55.089043**	**OK**
CU	**110.285179**	**110.285179**	**OK**
TPU	**110.429550**	**110.429550**	**OK**
MDA	**190.139918**	**190.139918**	**OK**
DL	**93.493160**	**93.493160**	**OK**
Net Count Rate	**-0.263000**	**-0.263000**	**OK**
D t 1 (t2 - t1)	**0.000000**	**0.000000**	**OK**
DF	**1.000000**	**1.000000**	**OK**
Sys Err	**0.052280**	**0.052280**	**OK**
K	**0.004774**	**0.004774**	**OK**
K MDA	**0.859336**	**0.859336**	**OK**

Batch Identifiers and Other Related Information	
Batch	ARS1-B07-03159
Batch ID	ARS1-B07-03159-03
Analysis Code	
SDG	ARS1-07-01792
Fraction	008
Run Number	1
Client	QC Sample
Client Profile	
Client ID	N/A QC Sample
Instr File Name	84
Instr Detector	P-5 - S-4
Instr keV	
Version/Date	1.0 -- 11/18/2005

Reviewed by: LML **Date:** 11-8-07

Calculation Verification

Procedure	ARS-054
Variable	**Value**
Gross Count Rate	8.354000
Sample Count Mins	180.000000
BKG Count Rate	6.626000
BKG Count Mins	180.000000
Instrument Efficiency	0.408300
Sample Aliquot	5.030000
Dilution Factor	1.000000
Aliquot Conversion Factor	0.001000
Sample Collection Date (t1)	11/3/07 12:00 AM
Count Date (t2)	11/7/07 6:27 AM
Activity Units = pCi --- UCF =	2.2200
CF	1.9600
Nuclide Abundance	1.000000
Halflife Days 1 - Result Isotope	4499.800000
TPUF_Factor 1	0.041330
TPUF_Factor 2	0.020000
TPUF_Factor 3	0.000000
TPUF_Factor 4	0.025000
TPUF_Factor 5	0.000000
TPUF_Factor 6	0.000000
Activity Units	pCi
Aliquot Units	L
Variables Intact Test	OK

Isotope	H-3		
Calculated Values	**Excel**	**VBA**	**V/V**
ACT	**379.252954**	**379.252954**	**OK**
CU	**124.096908**	**124.096908**	**OK**
TPU	**130.039416**	**130.039416**	**OK**
MDA	**199.227396**	**199.227396**	**OK**
DL	**97.961538**	**97.961538**	**OK**
Net Count Rate	**1.728000**	**1.728000**	**OK**
D t 1 (t2 - t1)	**4.268750**	**4.268750**	**OK**
DF	**0.999343**	**0.999343**	**OK**
Sys Err	**0.052280**	**0.052280**	**OK**
K	**0.004556**	**0.004556**	**OK**
K MDA	**0.820139**	**0.820139**	**OK**

Batch Identifiers and Other Related Information	
Batch	ARS1-B07-03159
Batch ID	ARS1-B07-03159-04
Analysis Code	LSC-A-001
SDG	ARS1-07-01792
Fraction	001
Run Number	1
Client	Los Alamos National Laboratory
Client Profile	Los Alamos
Client ID	MD21-07-6803
Instr File Name	84
Instr Detector	P-5 - S-5
Instr keV	
Version/Date	1.0 -- 11/18/2005

Reviewed by: LML **Date:** 11-8-07

Calculation Verification

Procedure	ARS-054
Variable	**Value**
Gross Count Rate	13.860000
Sample Count Mins	180.000000
BKG Count Rate	6.626000
BKG Count Mins	180.000000
Instrument Efficiency	0.408200
Sample Aliquot	5.038000
Dilution Factor	1.000000
Aliquot Conversion Factor	0.001000
Sample Collection Date (t1)	11/3/07 12:00 AM
Count Date (t2)	11/7/07 9:34 AM
Activity Units = pCi --- UCF =	2.2200
CF	1.9600
Nuclide Abundance	1.000000
Halflife Days 1 - Result Isotope	4499.800000
TPUF_Factor 1	0.041330
TPUF_Factor 2	0.020000
TPUF_Factor 3	0.000000
TPUF_Factor 4	0.025000
TPUF_Factor 5	0.000000
TPUF_Factor 6	0.000000
Activity Units	pCi
Aliquot Units	L
Variables Intact Test	OK

Isotope	H-3		
Calculated Values	**Excel**	**VBA**	**V/V**
ACT	**1585.581708**	**1585.581708**	**OK**
CU	**144.930078**	**144.930078**	**OK**
TPU	**217.719559**	**217.719559**	**OK**
MDA	**198.963746**	**198.963746**	**OK**
DL	**97.831900**	**97.831900**	**OK**
Net Count Rate	**7.234000**	**7.234000**	**OK**
D t 1 (t2 - t1)	**4.398611**	**4.398611**	**OK**
DF	**0.999323**	**0.999323**	**OK**
Sys Err	**0.052280**	**0.052280**	**OK**
K	**0.004562**	**0.004562**	**OK**
K MDA	**0.821225**	**0.821225**	**OK**

Batch Identifiers and Other Related Information	
Batch	ARS1-B07-03159
Batch ID	ARS1-B07-03159-05
Analysis Code	LSC-A-001
SDG	ARS1-07-01792
Fraction	002
Run Number	1
Client	Los Alamos National Laboratory
Client Profile	Los Alamos
Client ID	MD21-07-6801
Instr File Name	84
Instr Detector	P-5 - S-6
Instr keV	
Version/Date	1.0 -- 11/18/2005

Reviewed by: LML **Date:** 11-8-07

Calculation Verification

Procedure	ARS-054
Variable	**Value**
Gross Count Rate	7.859000
Sample Count Mins	180.000000
BKG Count Rate	6.626000
BKG Count Mins	180.000000
Instrument Efficiency	0.403100
Sample Aliquot	5.033000
Dilution Factor	1.000000
Aliquot Conversion Factor	0.001000
Sample Collection Date (t1)	11/3/07 12:00 AM
Count Date (t2)	11/7/07 12:41 PM
Activity Units = pCi --- UCF =	2.2200
CF	1.9600
Nuclide Abundance	1.000000
Halflife Days 1 - Result Isotope	4499.800000
TPUF_Factor 1	0.041330
TPUF_Factor 2	0.020000
TPUF_Factor 3	0.000000
TPUF_Factor 4	0.025000
TPUF_Factor 5	0.000000
TPUF_Factor 6	0.000000
Activity Units	pCi
Aliquot Units	L
Variables Intact Test	OK

Isotope	H-3		
Calculated Values	**Excel**	**VBA**	**V/V**
ACT	**273.951272**	**273.951272**	**OK**
CU	**123.534799**	**123.534799**	**OK**
TPU	**126.684036**	**126.684036**	**OK**
MDA	**201.685219**	**201.685219**	**OK**
DL	**99.170067**	**99.170067**	**OK**
Net Count Rate	**1.233000**	**1.233000**	**OK**
D t 1 (t2 - t1)	**4.528472**	**4.528472**	**OK**
DF	**0.999303**	**0.999303**	**OK**
Sys Err	**0.052280**	**0.052280**	**OK**
K	**0.004501**	**0.004501**	**OK**
K MDA	**0.810144**	**0.810144**	**OK**

Batch Identifiers and Other Related Information	
Batch	ARS1-B07-03159
Batch ID	ARS1-B07-03159-06
Analysis Code	LSC-A-001
SDG	ARS1-07-01792
Fraction	003
Run Number	1
Client	Los Alamos National Laboratory
Client Profile	Los Alamos
Client ID	MD21-07-6802
Instr File Name	84
Instr Detector	P-5 - S-7
Instr keV	
Version/Date	1.0 -- 11/18/2005

Reviewed by: LML **Date:** 11-8-07

Calculation Verification

Procedure	ARS-054
Variable	**Value**
Gross Count Rate	7.534000
Sample Count Mins	180.000000
BKG Count Rate	6.626000
BKG Count Mins	180.000000
Instrument Efficiency	0.410200
Sample Aliquot	5.042000
Dilution Factor	1.000000
Aliquot Conversion Factor	0.001000
Sample Collection Date (t1)	11/3/07 12:00 AM
Count Date (t2)	11/7/07 3:47 PM
Activity Units = pCi --- UCF =	2.2200
CF	1.9600
Nuclide Abundance	1.000000
Halflife Days 1 - Result Isotope	4499.800000
TPUF_Factor 1	0.041330
TPUF_Factor 2	0.020000
TPUF_Factor 3	0.000000
TPUF_Factor 4	0.025000
TPUF_Factor 5	0.000000
TPUF_Factor 6	0.000000
Activity Units	pCi
Aliquot Units	L
Variables Intact Test	OK

Isotope	H-3		
Calculated Values	**Excel**	**VBA**	**V/V**
ACT	**197.900078**	**197.900078**	**OK**
CU	**119.815102**	**119.815102**	**OK**
TPU	**121.519032**	**121.519032**	**OK**
MDA	**197.844482**	**197.844482**	**OK**
DL	**97.281550**	**97.281550**	**OK**
Net Count Rate	**0.908000**	**0.908000**	**OK**
D t 1 (t2 - t1)	**4.657639**	**4.657639**	**OK**
DF	**0.999283**	**0.999283**	**OK**
Sys Err	**0.052280**	**0.052280**	**OK**
K	**0.004588**	**0.004588**	**OK**
K MDA	**0.825871**	**0.825871**	**OK**

Batch Identifiers and Other Related Information	
Batch	ARS1-B07-03159
Batch ID	ARS1-B07-03159-07
Analysis Code	LSC-A-001
SDG	ARS1-07-01792
Fraction	004
Run Number	1
Client	Los Alamos National Laboratory
Client Profile	Los Alamos
Client ID	MD21-07-6800
Instr File Name	84
Instr Detector	P-5 - S-8
Instr keV	
Version/Date	1.0 -- 11/18/2005

Reviewed by: LMC **Date:** 11-8-07

Calculation Verification

Procedure	ARS-054
Variable	**Value**
Gross Count Rate	7.343000
Sample Count Mins	180.000000
BKG Count Rate	6.626000
BKG Count Mins	180.000000
Instrument Efficiency	0.409700
Sample Aliquot	5.034000
Dilution Factor	1.000000
Aliquot Conversion Factor	0.001000
Sample Collection Date (t1)	11/3/07 12:00 AM
Count Date (t2)	11/7/07 6:54 PM
Activity Units = pCi --- UCF =	2.2200
CF	1.9600
Nuclide Abundance	1.000000
Halflife Days 1 - Result Isotope	4499.800000
TPUF_Factor 1	0.041330
TPUF_Factor 2	0.020000
TPUF_Factor 3	0.000000
TPUF_Factor 4	0.025000
TPUF_Factor 5	0.000000
TPUF_Factor 6	0.000000
Activity Units	pCi
Aliquot Units	L
Variables Intact Test	OK

Isotope	H-3		
Calculated Values	**Excel**	**VBA**	**V/V**
ACT	**156.713815**	**156.713815**	**OK**
CU	**119.341256**	**119.341256**	**OK**
TPU	**120.416780**	**120.416780**	**OK**
MDA	**198.404699**	**198.404699**	**OK**
DL	**97.557012**	**97.557012**	**OK**
Net Count Rate	**0.717000**	**0.717000**	**OK**
D t 1 (t2 - t1)	**4.787500**	**4.787500**	**OK**
DF	**0.999263**	**0.999263**	**OK**
Sys Err	**0.052280**	**0.052280**	**OK**
K	**0.004575**	**0.004575**	**OK**
K MDA	**0.823539**	**0.823539**	**OK**

Batch Identifiers and Other Related Information	
Batch	ARS1-B07-03159
Batch ID	ARS1-B07-03159-08
Analysis Code	LSC-A-001
SDG	ARS1-07-01792
Fraction	005
Run Number	1
Client	Los Alamos National Laboratory
Client Profile	Los Alamos
Client ID	MD21-07-6806
Instr File Name	84
Instr Detector	P-5 - S-9
Instr keV	
Version/Date	1.0 -- 11/18/2005

Reviewed by: LMC **Date:** 11-8-07

Calculation Verification

Procedure	ARS-054
Variable	**Value**
Gross Count Rate	6.589000
Sample Count Mins	180.000000
BKG Count Rate	6.626000
BKG Count Mins	180.000000
Instrument Efficiency	0.409500
Sample Aliquot	5.043000
Dilution Factor	1.000000
Aliquot Conversion Factor	0.001000
Sample Collection Date (t1)	11/4/07 12:00 AM
Count Date (t2)	11/7/07 10:01 PM
Activity Units = pCi --- UCF =	2.2200
CF	1.9600
Nuclide Abundance	1.000000
Halflife Days 1 - Result Isotope	4499.800000
TPUF_Factor 1	0.041330
TPUF_Factor 2	0.020000
TPUF_Factor 3	0.000000
TPUF_Factor 4	0.025000
TPUF_Factor 5	0.000000
TPUF_Factor 6	0.000000
Activity Units	pCi
Aliquot Units	L
Variables Intact Test	OK

Isotope	H-3		
Calculated Values	**Excel**	**VBA**	**V/V**
ACT	**-8.075472**	**-8.075472**	**OK**
CU	**115.909657**	**115.909657**	**OK**
TPU	**115.912610**	**115.912610**	**OK**
MDA	**198.120786**	**198.120786**	**OK**
DL	**97.417410**	**97.417410**	**OK**
Net Count Rate	**-0.037000**	**-0.037000**	**OK**
D t 1 (t2 - t1)	**3.917361**	**3.917361**	**OK**
DF	**0.999397**	**0.999397**	**OK**
Sys Err	**0.052280**	**0.052280**	**OK**
K	**0.004582**	**0.004582**	**OK**
K MDA	**0.824720**	**0.824720**	**OK**

Batch Identifiers and Other Related Information	
Batch	ARS1-B07-03159
Batch ID	ARS1-B07-03159-09
Analysis Code	LSC-A-001
SDG	ARS1-07-01792
Fraction	006
Run Number	1
Client	Los Alamos National Laboratory
Client Profile	Los Alamos
Client ID	MD21-07-6804
Instr File Name	84
Instr Detector	P-5 - S-10
Instr keV	
Version/Date	1.0 -- 11/18/2005

Reviewed by: LML **Date:** 11-8-07

Calculation Verification

Procedure	ARS-054
Variable	**Value**
Gross Count Rate	6.723000
Sample Count Mins	180.000000
BKG Count Rate	6.626000
BKG Count Mins	180.000000
Instrument Efficiency	0.419100
Sample Aliquot	5.029000
Dilution Factor	1.000000
Aliquot Conversion Factor	0.001000
Sample Collection Date (t1)	10/30/07 12:00 AM
Count Date (t2)	11/8/07 1:07 AM
Activity Units = pCi --- UCF =	2.2200
CF	1.9600
Nuclide Abundance	1.000000
Halflife Days 1 - Result Isotope	4499.800000
TPUF_Factor 1	0.041330
TPUF_Factor 2	0.020000
TPUF_Factor 3	0.000000
TPUF_Factor 4	0.025000
TPUF_Factor 5	0.000000
TPUF_Factor 6	0.000000
Activity Units	pCi
Aliquot Units	L
Variables Intact Test	OK

Isotope	H-3		
Calculated Values	**Excel**	**VBA**	**V/V**
ACT	**20.759872**	**20.759872**	**OK**
CU	**114.234455**	**114.234455**	**OK**
TPU	**114.254259**	**114.254259**	**OK**
MDA	**194.274927**	**194.274927**	**OK**
DL	**95.526374**	**95.526374**	**OK**
Net Count Rate	**0.097000**	**0.097000**	**OK**
D t 1 (t2 - t1)	**9.046528**	**9.046528**	**OK**
DF	**0.998607**	**0.998607**	**OK**
Sys Err	**0.052280**	**0.052280**	**OK**
K	**0.004672**	**0.004672**	**OK**
K MDA	**0.841046**	**0.841046**	**OK**

Batch Identifiers and Other Related Information	
Batch	ARS1-B07-03159
Batch ID	ARS1-B07-03159-10
Analysis Code	LSC-A-001
SDG	ARS1-07-01792
Fraction	007
Run Number	1
Client	Los Alamos National Laboratory
Client Profile	Los Alamos
Client ID	MD21-07-6818
Instr File Name	84
Instr Detector	P-5 - S-11
Instr keV	
Version/Date	1.0 -- 11/18/2005

Reviewed by: LML **Date:** 11-8-07

Calculation Verification

Procedure	ARS-054
Variable	**Value**
Gross Count Rate	6.758000
Sample Count Mins	180.000000
BKG Count Rate	6.626000
BKG Count Mins	180.000000
Instrument Efficiency	0.412500
Sample Aliquot	5.153000
Dilution Factor	1.000000
Aliquot Conversion Factor	0.001000
Sample Collection Date (t1)	11/3/07 12:00 AM
Count Date (t2)	11/8/07 4:14 AM
Activity Units = pCi --- UCF =	2.2200
CF	1.9600
Nuclide Abundance	1.000000
Halflife Days 1 - Result Isotope	4499.800000
TPUF_Factor 1	0.041330
TPUF_Factor 2	0.020000
TPUF_Factor 3	0.000000
TPUF_Factor 4	0.025000
TPUF_Factor 5	0.000000
TPUF_Factor 6	0.000000
Activity Units	pCi
Aliquot Units	L
Variables Intact Test	OK

Isotope	H-3		
Calculated Values	**Excel**	**VBA**	**V/V**
ACT	**27.995173**	**27.995173**	**OK**
CU	**113.350126**	**113.350126**	**OK**
TPU	**113.386419**	**113.386419**	**OK**
MDA	**192.518757**	**192.518757**	**OK**
DL	**94.662852**	**94.662852**	**OK**
Net Count Rate	**0.132000**	**0.132000**	**OK**
D t 1 (t2 - t1)	**5.176389**	**5.176389**	**OK**
DF	**0.999203**	**0.999203**	**OK**
Sys Err	**0.052280**	**0.052280**	**OK**
K	**0.004715**	**0.004715**	**OK**
K MDA	**0.848718**	**0.848718**	**OK**

Batch Identifiers and Other Related Information	
Batch	ARS1-B07-03159
Batch ID	ARS1-B07-03159-11
Analysis Code	LSC-A-001
SDG	ARS1-07-01792
Fraction	008
Run Number	1
Client	Los Alamos National Laboratory
Client Profile	Los Alamos
Client ID	MD21-08-8445
Instr File Name	84
Instr Detector	P-5 - S-12
Instr keV	
Version/Date	1.0 -- 11/18/2005

Reviewed by: LML **Date:** 11-8-07

Assay Definition-

Assay Description:
Tritium - DPM Mode

Assay Type: DPM (Single)
Report Name: Report1
Output Data Path: C:\Packard\Tricarb\Results\H3 Results\Tritium for Protocol 5\20071106_1755
Raw Results Path: C:\Packard\Tricarb\Results\H3 Results\Tritium for Protocol 5\20071106_1755\20071106_1755.results
RTF File Name: C:\Packard\Tricarb\Results\H3 Results\Tritium for Protocol 5\20071106_1755\H3 Results.rtf
Comma-Delimited File Name: C:\Packard\Tricarb\Results\H3 Results\Tritium for Protocol 5\20071106_1755\H3 Results.csv
Assay File Name: C:\Packard\TriCarb\Assays\Tritium for Protocol 5.lsa

Count Conditions-

Nuclide: H3
Quench Indicator: tSIE/AEC
External Std Terminator (sec): 0.5 2s%
Pre-Count Delay (min): 0.00
Quench Set:
Low Energy: H-3
Count Time (min): 180.00
Count Mode: Normal
Assay Count Cycles: 1 Repeat Sample Count: 1
#Vials/Sample: 1 Calculate % Reference: Off

Background Subtract: Off
Low CPM Threshold: Off
2 Sigma % Terminator: On - Any Region

Regions	LL	UL	2Sigma % Terminator
A	2.0	18.6	0.50
B	0.0	2000.0	0.00
C	0.0	2000.0	0.00

Count Corrections-

Static Controller: On Luminescence Correction: Off
Colored Samples: Off Heterogeneity Monitor: Off
Coincidence Time (nsec): 18 Delay Before Burst (nsec): 75

Half Life-

Half Life Correction: Off

Regions	Half Life	Units	Reference Date	Reference Time

A
B
C

Cycle 1 Results

P#	S#	SMPL_ID	CPMA	DPM1	tSIE	Eff Nucl In A	Count Time	DATE	TIME	MESSAGES
5	1	BACKGROUND	6.626	15.88	397.41	41.73	180.00	11/6/2007	6:00:20 PM	
5	2	B07-03159-01	11.242	26.39	411.26	42.59	180.00	11/6/2007	9:07:17 PM	
5	3	B07-03159-02	11.266	26.44	411.53	42.60	180.00	11/7/2007	12:14:01 AM	
5	4	B07-03159-03	6.363	14.92	413.18	42.66	180.00	11/7/2007	3:20:40 AM	
5	5	B07-03159-04	8.354	20.46	385.89	40.83	180.00	11/7/2007	6:27:16 AM	
5	6	B07-03159-05	13.860	33.95	385.81	40.82	180.00	11/7/2007	9:33:57 AM	
5	7	B07-03159-06	7.859	19.50	379.21	40.31	180.00	11/7/2007	12:40:40 PM	
5	8	B07-03159-07	7.534	18.37	388.31	41.02	180.00	11/7/2007	3:47:17 PM	
5	9	B07-03159-08	7.343	17.92	387.67	40.97	180.00	11/7/2007	6:53:58 PM	
5	10	B07-03159-09	6.589	16.09	387.44	40.95	180.00	11/7/2007	10:00:40 PM	
5	11	B07-03159-10	6.723	16.04	399.81	41.91	180.00	11/8/2007	1:07:24 AM	
5	12	B07-03159-11	6.758	16.38	391.33	41.25	180.00	11/8/2007	4:14:02 AM	

AMERICAN RADIATION SERVICES, INC.

2609 North River Road • Port Allen, Louisiana 70767

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American Radiation Services Analytical Reports

for

Los Alamos National Laboratory

Tritium by Low Level Liquid Scintillation Counting

Laboratory Records

Analysis Batch Report

Analysis Batch ID **ARS1-B07-03159**

Method **ARS-054** **Matrix** **AQ**

Description **TRITIUM IN WATER**

ABatch Sample ID	Type	Blind Iso1	Blind Iso2	Blind Iso3	SDG	1	FR	Client ID	Client Deadline	Lab Deadline	Analysis Code
ARS1-B07-03159-01	LCS	B-04045									
ARS1-B07-03159-02	LCSD	B-04046									
ARS1-B07-03159-03	MBL										
ARS1-B07-03159-04	TRG				**ARS1-07-01792**	1	001	MD21-07-6803	11/09/07	11/06/07	LSC-A-001
ARS1-B07-03159-05	TRG				**ARS1-07-01792**	1	002	MD21-07-6801	11/09/07	11/06/07	LSC-A-001
ARS1-B07-03159-06	TRG				**ARS1-07-01792**	1	003	MD21-07-6802	11/09/07	11/06/07	LSC-A-001
ARS1-B07-03159-07	TRG				**ARS1-07-01792**	1	004	MD21-07-6800	11/09/07	11/06/07	LSC-A-001
ARS1-B07-03159-08	TRG				**ARS1-07-01792**	1	005	MD21-07-6806	11/09/07	11/06/07	LSC-A-001
ARS1-B07-03159-09	TRG				**ARS1-07-01792**	1	006	MD21-07-6804	11/09/07	11/06/07	LSC-A-001
ARS1-B07-03159-10	TRG				**ARS1-07-01792**	1	007	MD21-07-6818	11/09/07	11/06/07	LSC-A-001
ARS1-B07-03159-11	TRG				**ARS1-07-01792**	1	008	MD21-08-8445	11/09/07	11/06/07	LSC-A-001

LCS Expected = 1209.9549

Range = 604.9775 - 1814.9323

LCSD Expected = 1209.9549

Range = 604.9775 - 1814.9323

Batch Result Verification Report

ABatch	ABatchSampleID	Isotope	ClientID	ACT	CU	TPU	DL	MDA	BP_DL	BP_MDA	Sb	SampleCounts	SampleCountMins	BKG_Counts	BKG_CountMins	EFF	ALIQ	UCF	CF	GrossCountRate
ARS1-B07-03159	ARS1-B07-03159-01	H-3	MD21-08-8445	964.8385977	129.076345	162.5886045	93.29519	189.73729				0.06246	180.00000	0.03681	180.00000	0.42590	5.06000	2.22000	1.96000	11.24200
ARS1-B07-03159	ARS1-B07-03159-02	H-3	MD21-08-8445	974.8290812	129.825427	163.8061636	93.77366	190.71038				0.06259	180.00000	0.03681	180.00000	0.42600	5.03300	2.22000	1.96000	11.26600
ARS1-B07-03159	ARS1-B07-03159-03	H-3	MD21-08-8445	-55.08904269	110.2851795	110.4295497	93.49316	190.13992				0.03535	180.00000	0.03681	180.00000	0.42660	5.04100	2.22000	1.96000	6.36300
ARS1-B07-03159	ARS1-B07-03159-04	H-3	MD21-07-6803	379.2529536	124.0969075	130.0394161	97.96154	199.22740				0.04641	180.00000	0.03681	180.00000	0.40830	5.03000	2.22000	1.96000	8.35400
ARS1-B07-03159	ARS1-B07-03159-05	H-3	MD21-07-6801	1585.581708	144.9300779	217.7195585	97.83190	198.96375				0.07700	180.00000	0.03681	180.00000	0.40820	5.03800	2.22000	1.96000	13.86000
ARS1-B07-03159	ARS1-B07-03159-06	H-3	MD21-07-6802	273.9512723	123.5347992	126.6840356	99.17007	201.68522				0.04366	180.00000	0.03681	180.00000	0.40310	5.03300	2.22000	1.96000	7.85900
ARS1-B07-03159	ARS1-B07-03159-07	H-3	MD21-07-6800	197.9000782	119.8151023	121.5190324	97.28155	197.84448				0.04186	180.00000	0.03681	180.00000	0.41020	5.04200	2.22000	1.96000	7.53400
ARS1-B07-03159	ARS1-B07-03159-08	H-3	MD21-07-6806	156.7138149	119.3412561	120.4167798	97.55701	198.40470				0.04079	180.00000	0.03681	180.00000	0.40970	5.03400	2.22000	1.96000	7.34300
ARS1-B07-03159	ARS1-B07-03159-09	H-3	MD21-07-6804	-8.075472472	115.9096567	115.9126103	97.41741	198.12079				0.03661	180.00000	0.03681	180.00000	0.40950	5.04300	2.22000	1.96000	6.58900
ARS1-B07-03159	ARS1-B07-03159-10	H-3	MD21-07-6818	20.75987158	114.2344549	114.2542594	95.52637	194.27493				0.03735	180.00000	0.03681	180.00000	0.41910	5.02900	2.22000	1.96000	6.72300
ARS1-B07-03159	ARS1-B07-03159-11	H-3	MD21-08-8445	27.99517291	113.3501256	113.3864187	94.66285	192.51876				0.03754	180.00000	0.03681	180.00000	0.41250	5.15300	2.22000	1.96000	6.75800

Batch Result Verification Report

ABatch	ABatchSampleID	Isotope	ClientID	BKGCountRate	NetCountRate	ChemRecovery	TracerRecovery	PlatingRecovery	NuclideAbd	TracerMeasACT	TracerKnownACT	SampleCollDate	MidPointCountDate	Halflife1	Halflife2	Halflife3	TPUF_1
ARS1-B07-03159	ARS1-B07-03159-01	H-3	MD21-08-8445	6.62600	4.61600							11/8/07 7:39	11/6/07 21:07	4499.80000			0.04133
ARS1-B07-03159	ARS1-B07-03159-02	H-3	MD21-08-8445	6.62600	4.64000							11/8/07 7:39	11/7/07 0:14	4499.80000			0.04133
ARS1-B07-03159	ARS1-B07-03159-03	H-3	MD21-08-8445	6.62600	-0.26300							11/8/07 7:39	11/7/07 3:21	4499.80000			0.04133
ARS1-B07-03159	ARS1-B07-03159-04	H-3	MD21-07-6803	6.62600	1.72800							11/3/07 0:00	11/7/07 6:27	4499.80000			0.04133
ARS1-B07-03159	ARS1-B07-03159-05	H-3	MD21-07-6801	6.62600	7.23400							11/3/07 0:00	11/7/07 9:34	4499.80000			0.04133
ARS1-B07-03159	ARS1-B07-03159-06	H-3	MD21-07-6802	6.62600	1.23300							11/3/07 0:00	11/7/07 12:41	4499.80000			0.04133
ARS1-B07-03159	ARS1-B07-03159-07	H-3	MD21-07-6800	6.62600	0.90800							11/3/07 0:00	11/7/07 15:47	4499.80000			0.04133
ARS1-B07-03159	ARS1-B07-03159-08	H-3	MD21-07-6806	6.62600	0.71700							11/3/07 0:00	11/7/07 18:54	4499.80000			0.04133
ARS1-B07-03159	ARS1-B07-03159-09	H-3	MD21-07-6804	6.62600	-0.03700							11/4/07 0:00	11/7/07 22:01	4499.80000			0.04133
ARS1-B07-03159	ARS1-B07-03159-10	H-3	MD21-07-6818	6.62600	0.09700							10/30/07 0:00	11/8/07 1:07	4499.80000			0.04133
ARS1-B07-03159	ARS1-B07-03159-11	H-3	MD21-08-8445	6.62600	0.13200							11/3/07 0:00	11/8/07 4:14	4499.80000			0.04133

Batch Result Verification Report

ABatch	ABatchSampleID	Isotope	ClientID	TPUF_2	TPUF_3	TPUF_4	TPUF_5	TPUF_6	DeltaT1	DeltaT2	DeltaT3	DeltaT4	DeltaT5	DeltaT6	DF1	DF2	DF3	IF1	IF2	SysErr	K_Val	K_MDA	InstFileName	DetectorID	InstrumentkeV
ARS1-B07-03159	ARS1-B07-03159-01	H-3	MD21-08-8445	0.02000	0.00000	0.02500	0.00000	0.00000	0.00000						1.00000					0.05228	0.00478	0.86116	84	P-5 - S-2	
ARS1-B07-03159	ARS1-B07-03159-02	H-3	MD21-08-8445	0.02000	0.00000	0.02500	0.00000	0.00000	0.00000						1.00000					0.05228	0.00476	0.85677	84	P-5 - S-3	
ARS1-B07-03159	ARS1-B07-03159-03	H-3	MD21-08-8445	0.02000	0.00000	0.02500	0.00000	0.00000	0.00000						1.00000					0.05228	0.00477	0.85934	84	P-5 - S-4	
ARS1-B07-03159	ARS1-B07-03159-04	H-3	MD21-07-6803	0.02000	0.00000	0.02500	0.00000	0.00000	4.26875						0.99934					0.05228	0.00456	0.82014	84	P-5 - S-5	
ARS1-B07-03159	ARS1-B07-03159-05	H-3	MD21-07-6801	0.02000	0.00000	0.02500	0.00000	0.00000	4.39861						0.99932					0.05228	0.00456	0.82123	84	P-5 - S-6	
ARS1-B07-03159	ARS1-B07-03159-06	H-3	MD21-07-6802	0.02000	0.00000	0.02500	0.00000	0.00000	4.52847						0.99930					0.05228	0.00450	0.81014	84	P-5 - S-7	
ARS1-B07-03159	ARS1-B07-03159-07	H-3	MD21-07-6800	0.02000	0.00000	0.02500	0.00000	0.00000	4.65764						0.99928					0.05228	0.00459	0.82587	84	P-5 - S-8	
ARS1-B07-03159	ARS1-B07-03159-08	H-3	MD21-07-6806	0.02000	0.00000	0.02500	0.00000	0.00000	4.78750						0.99926					0.05228	0.00458	0.82354	84	P-5 - S-9	
ARS1-B07-03159	ARS1-B07-03159-09	H-3	MD21-07-6804	0.02000	0.00000	0.02500	0.00000	0.00000	3.91736						0.99940					0.05228	0.00458	0.82472	84	P-5 - S-10	
ARS1-B07-03159	ARS1-B07-03159-10	H-3	MD21-07-6818	0.02000	0.00000	0.02500	0.00000	0.00000	9.04653						0.99861					0.05228	0.00467	0.84105	84	P-5 - S-11	
ARS1-B07-03159	ARS1-B07-03159-11	H-3	MD21-08-8445	0.02000	0.00000	0.02500	0.00000	0.00000	5.17639						0.99920					0.05228	0.00472	0.84872	84	P-5 - S-12	

Batch Result Verification Report

ABatch	ABatchSampleID	Isotope	ClientID	TracerIsotope	TracerRefDate	TracerRefACT	TracerKnown	SDG	Run	Fraction	AnalysisCode	UserID	ModDate
ARS1-B07-03159	ARS1-B07-03159-01	H-3	MD21-08-8445					ARS1-07-01792	1	008		BSTEFFENS	11/8/07 7:38
ARS1-B07-03159	ARS1-B07-03159-02	H-3	MD21-08-8445					ARS1-07-01792	1	008		BSTEFFENS	11/8/07 7:38
ARS1-B07-03159	ARS1-B07-03159-03	H-3	MD21-08-8445					ARS1-07-01792	1	008		BSTEFFENS	11/8/07 7:38
ARS1-B07-03159	ARS1-B07-03159-04	H-3	MD21-07-6803					ARS1-07-01792	1	001	LSC-A-001	BSTEFFENS	11/8/07 7:39
ARS1-B07-03159	ARS1-B07-03159-05	H-3	MD21-07-6801					ARS1-07-01792	1	002	LSC-A-001	BSTEFFENS	11/8/07 7:39
ARS1-B07-03159	ARS1-B07-03159-06	H-3	MD21-07-6802					ARS1-07-01792	1	003	LSC-A-001	BSTEFFENS	11/8/07 7:39
ARS1-B07-03159	ARS1-B07-03159-07	H-3	MD21-07-6800					ARS1-07-01792	1	004	LSC-A-001	BSTEFFENS	11/8/07 7:39
ARS1-B07-03159	ARS1-B07-03159-08	H-3	MD21-07-6806					ARS1-07-01792	1	005	LSC-A-001	BSTEFFENS	11/8/07 7:39
ARS1-B07-03159	ARS1-B07-03159-09	H-3	MD21-07-6804					ARS1-07-01792	1	006	LSC-A-001	BSTEFFENS	11/8/07 7:39
ARS1-B07-03159	ARS1-B07-03159-10	H-3	MD21-07-6818					ARS1-07-01792	1	007	LSC-A-001	BSTEFFENS	11/8/07 7:39
ARS1-B07-03159	ARS1-B07-03159-11	H-3	MD21-08-8445					ARS1-07-01792	1	008	LSC-A-001	BSTEFFENS	11/8/07 7:39

QC Evaluation

EPA Method: EPA 906.0
Batch ID: ARS1-B07-03159
SDG's: ARS1-07-01792

LCS	964.8386	**CSU**	162.5886
LCSD	974.8291	**CSU-D**	163.8062

DER = $\frac{\text{abs(LSC-LSCD)}}{\text{sqr((2s CSU/2)^2)+((2s CSU-D/2)^2)}}$ = **< 3**

DER $\frac{9.990483}{115.3988}$ = 0.086574 **< 3**

% RPD= $\frac{\text{ABS(LCS - LSCD)}}{\text{(LCS+LCSD)/2}}$ * 100 = **< 25%**

%RPD $\frac{9.990483}{969.8338}$ *100 = 1.030123 **< 25%**

The *RPD* shall be less than 25% or other client-applied criteria

RER= $\frac{\text{abs((LCS-LCSD))}}{\text{(CSU)+(CSD)}}$ = **<1**

RER = $\frac{9.9904835}{326.3948}$ 0.030609 **<1**

Blank Information

	Act	CSU	MDA
AM-241			
U-234			
U-235			
U-238			
Pu-238			
Pu-239/240			
Th-228			
Th-230			
Th-232			
H3	-55.08904	110.4295	190.1399
Ra-226			
Ra-228			
Total U			
KPA			
Pb-210			
Po-209			
Sr-90			

*MDA should be below RDL
*Blank activity must be below MDA
*Blank activity must be < 1.65*CSU (DOE only)

ACT =
CSU =
Is ACT<1.65*CSU? NO

ARS-054

ID_31001_054	ABatch	ABatchSampleID	ClientID	Aliquot1	AliquotUnits1	Aliquot2	AliquotUnits2	UserID	ModDate
113	ARS1-B07-03159	ARS1-B07-03159-01		0	g	5.060	g	BSTEFFENS	11/7/2007
114	ARS1-B07-03159	ARS1-B07-03159-02		0	g	5.033	g	BSTEFFENS	11/7/2007
115	ARS1-B07-03159	ARS1-B07-03159-03		0	g	5.041	g	BSTEFFENS	11/7/2007
116	ARS1-B07-03159	ARS1-B07-03159-04	MD21-07-6803	0	g	5.030	g	BSTEFFENS	11/7/2007
117	ARS1-B07-03159	ARS1-B07-03159-05	MD21-07-6801	0	g	5.038	g	BSTEFFENS	11/7/2007
118	ARS1-B07-03159	ARS1-B07-03159-06	MD21-07-6802	0	g	5.033	g	BSTEFFENS	11/7/2007
119	ARS1-B07-03159	ARS1-B07-03159-07	MD21-07-6800	0	g	5.042	g	BSTEFFENS	11/7/2007
120	ARS1-B07-03159	ARS1-B07-03159-08	MD21-07-6806	0	g	5.034	g	BSTEFFENS	11/7/2007
121	ARS1-B07-03159	ARS1-B07-03159-09	MD21-07-6804	0	g	5.043	g	BSTEFFENS	11/7/2007
122	ARS1-B07-03159	ARS1-B07-03159-10	MD21-07-6818	0	g	5.029	g	BSTEFFENS	11/7/2007
123	ARS1-B07-03159	ARS1-B07-03159-11	MD21-08-8445	0	g	5.153	g	BSTEFFENS	11/7/2007

American Radiation Services
Baton Rouge Laboratory

LCS Report
Analytical Batch: ARS1-B07-03159

ID_58050	BlindID	ABatch	ABatchSampleID	BlindGroup	StdID	Isotope	ExpectedAddition	ExpectedValue	EmptyWt	GrossWt	NetWt	UserID	ModDate
4022	B-04045	ARS1-B07-03159	ARS1-B07-03159-01	B-H3	S-0156	H-3	5	1.20996269	0	1	1	BSTEFFENS	11/6/2007
4023	B-04046	ARS1-B07-03159	ARS1-B07-03159-02	B-H3	S-0156	H-3	5	1.20996269	0	1	1	BSTEFFENS	11/6/2007

Standards Report

Active	Std ID	Isotope	PSCLT	Verification Date	Exp Date	Status	Ref Date	Ref ACT (dpm)	Current ACT (dpm/g)	Halflife (days)	Parent ID	Expended Date	Comments
A	S-0001	Am-241	S	06/07/07	06/07/08	OK	03/16/06	5.1937E+01	51.8000	1.579E+05	S-0069		S-0001 Working level 1/10th solution - information entered from dilution
A	S-0003	Cs-137	SL	02/01/06	02/01/07	EXP	08/13/03	1.2776E+02	115.8843	1.098E+04	S-0115		S-0003 - Information entered from dilution record - 4/19/2006 RTS
A	S-0007	Ra-226	S	05/29/07	05/29/08	OK	02/01/06	6.5015E+01	64.9651	5.840E+05	S-0105		[illegible] information entered from dilution records - 4/19/2006 RTS
A	S-0020	Sr-89	SC	11/19/05	07/29/06	EXP	02/15/05	8.9224E+04	0.1069	5.053E+01	S-0109		
A	S-0023	Pu-238	S	11/02/05	11/02/06	EXP	11/01/05	1.1657E+01	11.4730	3.204E+04	S-0071		S-0023 Entered information from dilution records.
A	S-0024	Pu-239	S	04/17/07	04/17/08	OK	10/26/05	1.1412E+01	11.4114	8.807E+06	S-0073		
A	S-0025	Pu-242	ST	04/17/07	04/17/08	OK	10/24/05	7.6328E+00	7.6328	1.365E+08	S-0075		S-0025 Information entered from dilution records
A	S-0027	Tc-99	SLC	09/01/06	09/01/07	EXP	10/18/05	9.4141E+03	9414.0765	7.710E+07	S-0113		S-0027 - Information entered from dilution records - RTS 4/19/2006
A	S-0028	U-238	S	06/18/07	06/18/08	OK	10/26/05	3.4935E+01	34.9349	1.632E+12	S-0063		
A	S-0032	H-3	SL	04/02/07	04/02/08	OK	03/01/06	3.4431E+03	3131.8944	4.500E+03	S-0031		S-0032 - Intermediate dilution for preparation of control solutions -
A	S-0033	Tc-99	SLC	10/18/05	10/18/06	EXP	10/18/05	1.9470E+02	194.6959	7.710E+07	S-0027	04/25/06	S-0033 Working level dilution - Information entered from dilution from
A	S-0036	Th-230	SL	08/01/07	08/01/08	OK	10/31/02	1.2490E+01	12.4895	2.753E+07	S-0065		Empirical data collected over 2 mos. for S-0036 indicated that the ori
A	S-0037	Ra-226	SC	02/13/06	02/13/07	EXP	01/03/97	6.4956E+02	646.5157	5.840E+05	S-0104		S-0037 Stock Sol Primary solution for working dilution information from
A	S-0038	Am-243	ST	06/07/07	06/07/08	OK	01/25/06	1.0656E+01	10.6546	2.692E+06	S-0067		S-0038 Entered from dilution documention. Density from certificate use
A	S-0039	Tc-99	SC	08/03/07	08/03/08	OK	03/30/06	1.1146E+04	11146.2812	7.710E+07	S-0114		S-0039 - Information entered from dilution records - 4/19/2006 RTS
A	S-0041	H-3	S	03/29/06	03/29/07	EXP	03/24/06	2.8167E+00	2.5712	4.500E+03	S-0032		S-0041 - Working level dilution for preparation of control solutions -
A	S-0063	U-238	P			Not Ver	08/01/97	2.4200E+02	242.0000	1.632E+12			S-0028 Entered from dilution record on 4/6/2006 RTS
A	S-0065	Th-230	P			Not Ver	01/27/95	1.7100E+00	1.7098	2.753E+07			S-0036 Information entered on 4/6/2006 RTS Density entered based on in
A	S-0067	Am-243	PT			Not Ver	10/20/05	3.6240E+01	36.2330	2.692E+06			S-0038 Entered on 4/6/2006 RTS from dilution documentation
A	S-0069	Am-241	PL			Not Ver	04/18/96	9.6000E-03	0.0094	1.579E+05			S-0001 Information entered from dilution records Dilution incorre
A	S-0071	Pu-238	PL			Not Ver	11/15/99	4.1520E+01	38.9840	3.204E+04			S-0023 Entered from dilution records
A	S-0073	Pu-239	PL			Not Ver	11/15/99	3.9240E+01	39.2310	8.807E+06			S-0024 Information entered from dilution records
A	S-0074	Pu-239	SL			Not Ver	10/26/05	1.1412E+01	11.4114	8.807E+06	S-0073		
A	S-0075	Pu-242	PT			Not Ver	06/04/94	2.6310E+01	26.3093	1.365E+08			S-0025 Information entered from dilution records
A	S-0077	U-232	PT			Not Ver	07/01/02	3.8220E+01	36.2171	2.516E+04			S-0025 Information entered from dilution records
A	S-0102	U-nat	PC			Not Ver	08/01/97	4.8624E+02	486.2400	1.632E+12			NIST 4321 - uranium standard for use as total uranium standard (also i
A	S-0103	U-nat	SC	06/18/07	06/18/08	OK	10/26/05	7.0226E+01	70.2265	1.632E+12	S-0102		S-0028 reagged as total uranium solution. Activity is the same as o
A	S-0104	Ra-226	PC			Not Ver	01/01/93	1.1900E+01	11.8237	5.840E+05			S-0037 Primary solution
A	S-0105	Ra-226	P			Not Ver	01/01/93	1.1900E+01	11.8237	5.840E+05			Primary solution for S-0007 - Information entered from dilution records
A	S-0107	H-3	P			Not Ver	09/03/98	6.3470E+05	378783.9685	4.500E+03			Primary for S-0029 - Information entered from dilution records - 4/19/
A	S-0108	Sr-90	PC			Not Ver	07/01/95	4.0100E+03	2969.5687	1.041E+04			Primary for S-0017
A	S-0109	Sr-89	PLC			Not Ver	01/24/05	3.9414E+05	0.3490	5.053E+01			Activity concentration calculated per certificate information - 2.018E
A	S-0111	H-3	PC			Not Ver	04/01/06	2.0870E+00	1.9075	4.500E+03			Primary
A	S-0112	H-3	SC	04/19/06	04/19/07	EXP	04/18/06	1.1410E+04	10456.1261	4.500E+03	S-0111		Solution for use as calibration stock standard - Entered from dilution
A	S-0113	Tc-99	PLC			Not Ver	09/01/96	3.2610E+04	32608.8031	7.710E+07			Primery solution
A	S-0114	Tc-99	PC			Not Ver	04/01/06	2.0140E+00	2.0140	7.710E+07			primary
A	S-0115	Cs-137	PL			Not Ver	01/23/95	2.9000E+01	21.5971	1.098E+04			S-0003 primary - Information entered from dilution records - 4/19/2006
A	S-0116	Ra-226	SL			Not Ver	05/26/04	6.3538E+01	63.4427	5.840E+05	S-0105		S-0003 - Information entered from dilution records - 4/19/2006 RTS
A	S-0117	Sr-90	PLCT			Not Ver	07/01/95	4.0100E+03	2969.5687	1.041E+04			S-0017 primary - Information entered from dilution records - 4/19/2006
A	S-0118	Cs-137	PC			Not Ver	04/01/06	2.1110E+00	2.0346	1.098E+04			Primary Cs-137 Standard
A	S-0119	Cs-137	SC	04/19/06	04/19/07	EXP	04/03/06	1.1621E+04	11201.9139	1.098E+04	S-0118		Solution for use as calibration stock standard.
A	S-0120	Sr-90	PC			Not Ver	04/01/06	2.0490E+00	1.9709	1.041E+04			Primary Sr-90 Standard
A	S-0121	Sr-90	SC	09/14/07	09/14/08	OK	03/31/06	1.1282E+04	10850.8763	1.041E+04	S-0120		Solution for use as calibration stock standard.
A	S-0122	Am-241	PC			Not Ver	04/01/06	2.1050E+00	2.0996	1.579E+05			Primary Am-241 Standard
A	S-0123	Am-241	SC	04/24/06	04/24/07	EXP	04/03/06	1.1632E+04	11602.3195	1.579E+05	S-0122		Solution for use as calibration stock standard.

Standards Report

A	S-0124	Th-230	PC			Not Ver	04/01/06	1.8860E+00	1.8860	2.753E+07			Primary Th-230 Standard
A	S-0125	Th-230	SC	09/24/07	09/24/08	OK	03/27/06	1.0413E+04	10412.8642	2.753E+07	S-0124		Solution for use as calibration stock standard. Entered from dilution
A	S-0126	Ra-228	PL			Not Ver	02/22/06	1.0843E+05	88302.2127	2.100E+03			Primary Ra-228 Standard
A	S-0127	Ra-228	SL	05/10/06	05/10/07	EXP	05/10/06	1.1274E+04	9417.7498	2.100E+03	S-0126		Measurements performed using standard [illegible] and Amersham [illegible]
A	S-0128	Tc-99	SLC	05/03/06	05/03/07	EXP	04/05/06	5.6011E+03	5601.0566	7.710E+07	S-0039		Solution diluted per plan and as documented in measurements above exce
A	S-0129	Sr-90	PL			Not Ver	07/01/95	4.0100E+03	2969.5687	1.041E+04			
A	S-0132	Ra-228	SL	07/30/07	07/30/08	OK	05/10/06	4.5090E+01	37.6669	2.100E+03	S-0127		Dilution performed as stated above by B Steffens on 5/10/2006. Measure
A	S-0134	Sr-90	SL			Not Ver	09/26/03	4.7747E+02	432.0232	1.041E+04	S-0129		Original solution ID# was T11c. Dilution information entered from [illegible]
A	S-0135	Sr-90	SL			Not Ver	06/09/04	5.7998E+01	53.3837	1.041E+04	S-0134		Original standard ID# was T11c-1/S-0017. Information entered from dilu
A	S-0137	Th-229	PT			Not Ver	12/05/03	1.2294E+05	122894.4848	2.681E+06			Primary Th-229 standard.
A	S-0138	Th-229	ST			Not Ver	05/28/04	6.0889E+02	608.6965	2.681E+06	S-0137		Used as an intermediate standard for creating tracer stock solutions
A	S-0139	Po-209	P			Not Ver	03/15/94	5.1252E+03	4671.3341	3.726E+04			Primary Po-209 standard.
A	S-0140	Po-209	S			Not Ver	10/07/03	1.1882E+01	11.5572	3.726E+04	S-0139		
A	S-0141	Ra-226	PC			Not Ver	01/21/93	2.6418E+04	26249.1599	5.840E+05			Primary solution for creating calibration stock
A	S-0142	Ra-226	SC	04/03/07	04/03/08	OK	07/21/06	6.5210E+02	651.7317	5.840E+05	S-0141		Solution for use as calibration stock. Dilution performed as stated ab
A	S-0143	Pb-210	P			Not Ver	07/18/06	7.6400E+00	7.3362	8.130E+03			ARS-WRM-001
A	S-0144	Pb-210	S	10/24/07	10/24/08	OK	07/18/06	1.6961E+01	16.2863	8.130E+03	S-0143		7/18/2006 ARS-WRM-001 20 gamma spectroscopy measurements average ect
A	S-0145	Th-229	ST			Not Ver	01/28/05	1.1938E+02	119.3522	2.681E+06	S-0138		Information was gathered from existing [illegible] dilution records cre
A	S-0146	Th-229	ST	07/10/07	07/10/08	OK	03/10/05	5.9811E+00	5.9796	2.681E+06	S-0145		Information gathered from existing dilution records created on 4/26/20
A	S-0147	Tc-99	SC	09/01/06	09/01/07	EXP	08/08/06	2.3201E+02	232.0123	7.710E+07	S-0027		Tc-99 LCS standard. -BJS 9/1/2006
A	S-0148	C-14	PL			Not Ver	03/07/06	4.7320E+05	473100.1466	2.090E+06			Primary C-14 standard. The certified activity in dpm/g was derived by
A	S-0151	I-129	PLC			Not Ver	10/12/06	2.4390E+05	243899.9885	5.730E+09			Primary I-129 standard
A	S-0152	H-3	P	12/04/06	12/04/07	OK	09/03/98	2.0090E+00	1.1990	4.500E+03			Liquid in a 500-ml borosilicate-glass medis bottle with teflon-lined s
A	S-0153	C-14	S			Not Ver	10/13/06	1.1837E+04	11835.0423	2.090E+06	S-0148		Standard was originally logged as S-0149. After researching [illegible]
A	S-0154	C-14	S	03/12/07	03/12/08	OK	10/13/06	1.7245E+02	172.4279	2.090E+06	S-0153		LCS standard for C-14. Originally logged as S-0150. See parent comment
A	S-0155	Ra-226	SC	04/03/07	04/03/08	OK	03/20/07	5.9902E+01	59.8860	5.840E+05	S-0142		Calibration stock solution for Ra-226. Dilution performed as stated ab
A	S-0156	H-3	S	05/18/07	05/18/08	OK	04/27/07	2.7672E+00	2.6861	4.500E+03	S-0032		Normal level tritium LCS standard. Dilution performed as stated above
A	S-0157	Sr-90	P			Not Ver	05/15/07	7.6040E+03	7515.9068	1.041E+04			Primary Sr-90 LCS standard
A	S-0158	U-232	PT			Not Ver	05/17/07	8.3231E+02	828.3571	2.516E+04			Primary U-232 standard
A	S-0159	Sr-89	PC			Not Ver	05/15/07	1.7538E+04	1590.0805	5.053E+01			Primary Sr-89 standard
A	S-0160	Sr-90	S	07/16/07	07/16/08	OK	06/01/07	4.5216E+03	4474.3220	1.041E+04	S-0157		Intermediate standard for creating LCS standards. Dilution performed a
A	S-0161	U-232	ST	06/18/07	06/18/08	OK	06/06/07	5.1903E+02	516.8421	2.516E+04	S-0158		Intermediate U-232 standard. Dilution performed as stated in [illegible]
A	S-0162	U-232	ST	06/18/07	06/18/08	OK	06/08/07	9.8656E+00	9.8247	2.516E+04	S-0161		Dilution performed as stated above by BSteffens on 6/8/2007. -BJS 6/8/
A	S-0163	Sr-90	S	07/16/07	07/16/08	OK	06/12/07	4.7407E+01	46.9450	1.041E+04	S-0160		Sr-90 LCS stock solution. Dilution performed as stated above by L Eaks
A	S-0164	Sr-89	PC			Not Ver	05/15/07	1.7533E+04	1589.6154	5.053E+01			Primary Sr-89 calibration standard.
A	S-0165	Sr-89	SC	08/10/07	04/18/08	OK	08/08/07	3.2967E+03	959.1940	5.053E+01	S-0164		Calibration stock solution. Dilution performed as stated above by K Ha
A	S-0166	Th-229	ST	08/28/07	08/28/08	OK	08/27/07	5.6494E+00	5.6493	2.681E+06	S-0145		Th-229 tracer. Dilution performed as stated above by B Steffens. -BJS
I	S-0026	U-232	ST	06/19/06	06/19/07	EXP	10/26/05	1.0854E+01	10.6343	2.516E+04	S-0077	06/21/07	S-0026. Information entered from dilution records
I	S-0030	H-3	P	11/19/05	11/19/06	EXP	12/10/98	6.9370E-01	0.4203	4.500E+03			Tritium in Oil
I	S-0031	H-3	S	10/26/05	10/26/06	EXP	10/19/05	6.0777E+05	541624.5624	4.500E+03	S-0107		S-0031. Intermediate dilution. Information entered from dilution recor
I	S-0130	Sr-90	SL			Not Ver	09/26/03	5.3620E+02	485.1713	1.041E+04	S-0129	05/26/06	Original solution ID# is T11c. Dilution information entered from exist
I	S-0131	Sr-90	SL			Not Ver	02/02/06	0.0000E+00	0.0000	1.041E+04	S-0130	05/18/06	
I	S-0133	Sr-90	SL	01/09/06	01/09/07	EXP	06/09/04	5.8438E+01	53.7884	1.041E+04	S-0130	05/26/06	Original solution ID# was T11c-1/S-0017. Information entered from dilu
I	S-0136	Sr-90	SL	05/26/06	05/26/07	EXP	06/09/04	5.2036E+01	47.8961	1.041E+04	S-0134	07/17/07	Original standard ID# was T11c-1/S-0017. Dilution information entered
I	S-0149	C-14	SL			Not Ver	10/13/06	5.9553E+04	59545.3793	2.090E+06	S-0148	03/16/07	Intermediate standard for creating LCS stock solutions. Dilution perfo
I	S-0150	C-14	SL			Not Ver	10/13/06	8.6764E+02	867.5324	2.090E+06	S-0149	03/16/07	LCS standard for C-14 in water. Dilution performed as stated above. -B

Beta Liquid Scintillation Counter Log Book

Date	Time	ARS Sample I.D. Number	Batch Number	Liquid Scintillation File Number	Technician Initials
11-2-07	16:54	B07-03102-05	07-03102	0305	3B
11-6-07	16:12	SNC	QA	QA	3B
↓	↓	Background	07-03159	1755	3B
↓	↓	307-03159-01	↓	↓	3B
↓	↓	B07-03159-02	↓	↓	3B
↓	↓	B07-03159-03	↓	↓	3B
↓	↓	B07-03159-04	↓	↓	3B
↓	↓	B07-03159-05	↓	↓	3B
↓	↓	B07-03159-06	↓	↓	3B
↓	↓	B07-03159-07	↓	↓	3B
↓	↓	B07-03159-08	↓	↓	3B
↓	↓	B07-03159-09	↓	↓	3B
↓	↓	B07-03159-10	↓	↓	3B
↓	↓	B07-03159-11	↓	↓	3B

Reviewed By: _____ Date: _____
Initials

Standards Report

I	**S-0167**	Th-229	**ST**			Not Ver	08/27/07	5.6494E+00	**5.6493**	2.681E+06	**S-0145**	08/28/07	Th-229 tracer. Dilution performed as stated above by B Steffens. -BJS

AMERICAN RADIATION SERVICES, INC.

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American Radiation Services Analytical Reports

for

Los Alamos National Laboratory

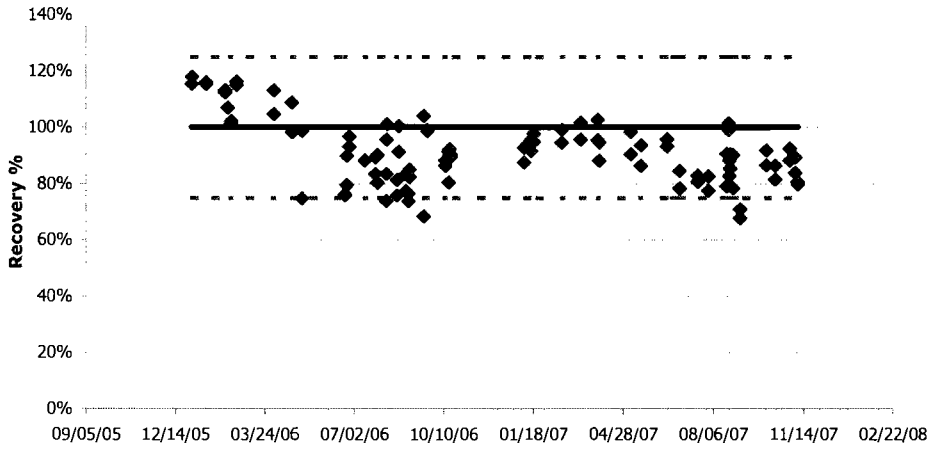
Tritium by Low Level Liquid Scintillation Counting

Control Charts

American Radiation Services
Baton Rouge Laboratory

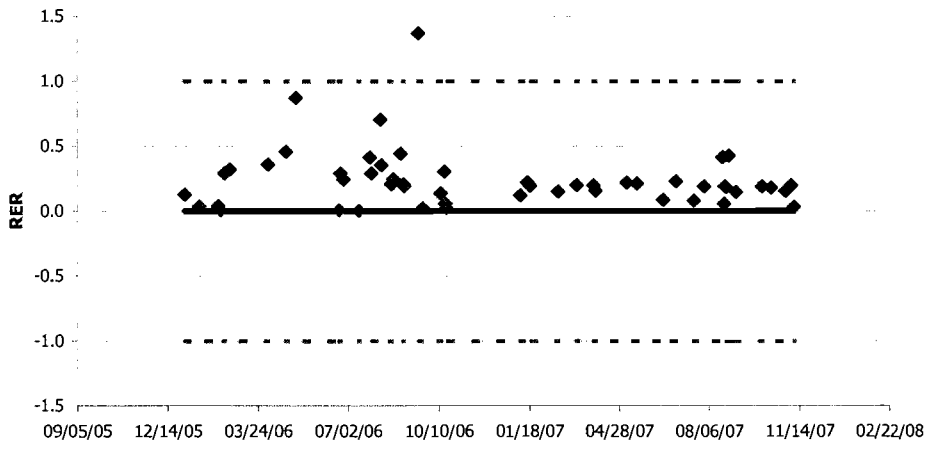
QC Chart

Tritium LCS



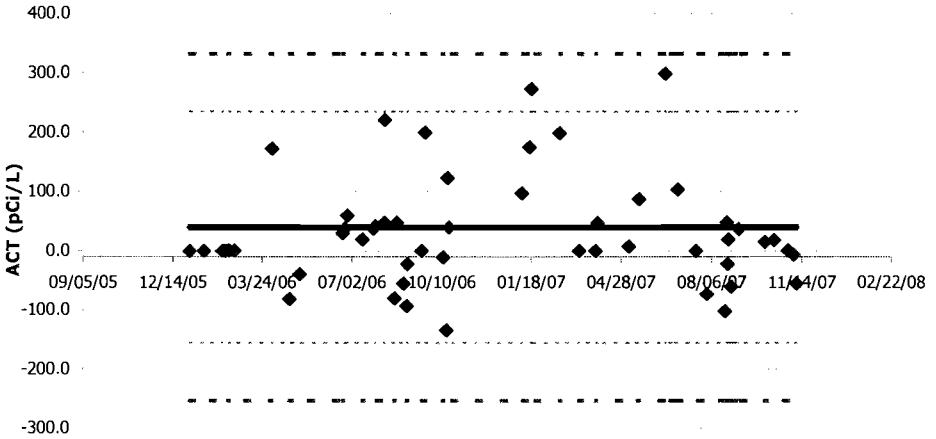
Average	STDEV	n	UCL	LCL
0.9120	0.1145	52	1.2500	0.7500

Tritium RER



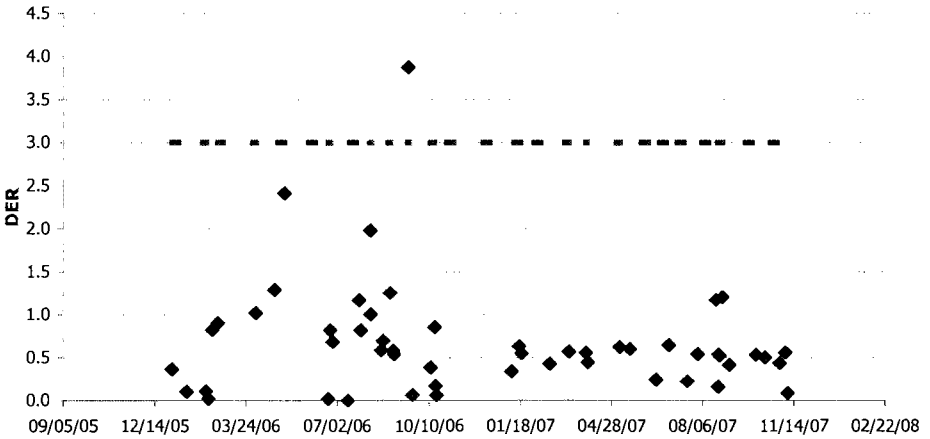
		n	UCL	LCL
		52	1.0000	-1.0000

Tritium Blank



Average	STDEV	n	UCL	LCL
39.2963	92.8811	52	332.0487	-253.4560

Tritium DER



		n	UCL	
		52	3.0000	

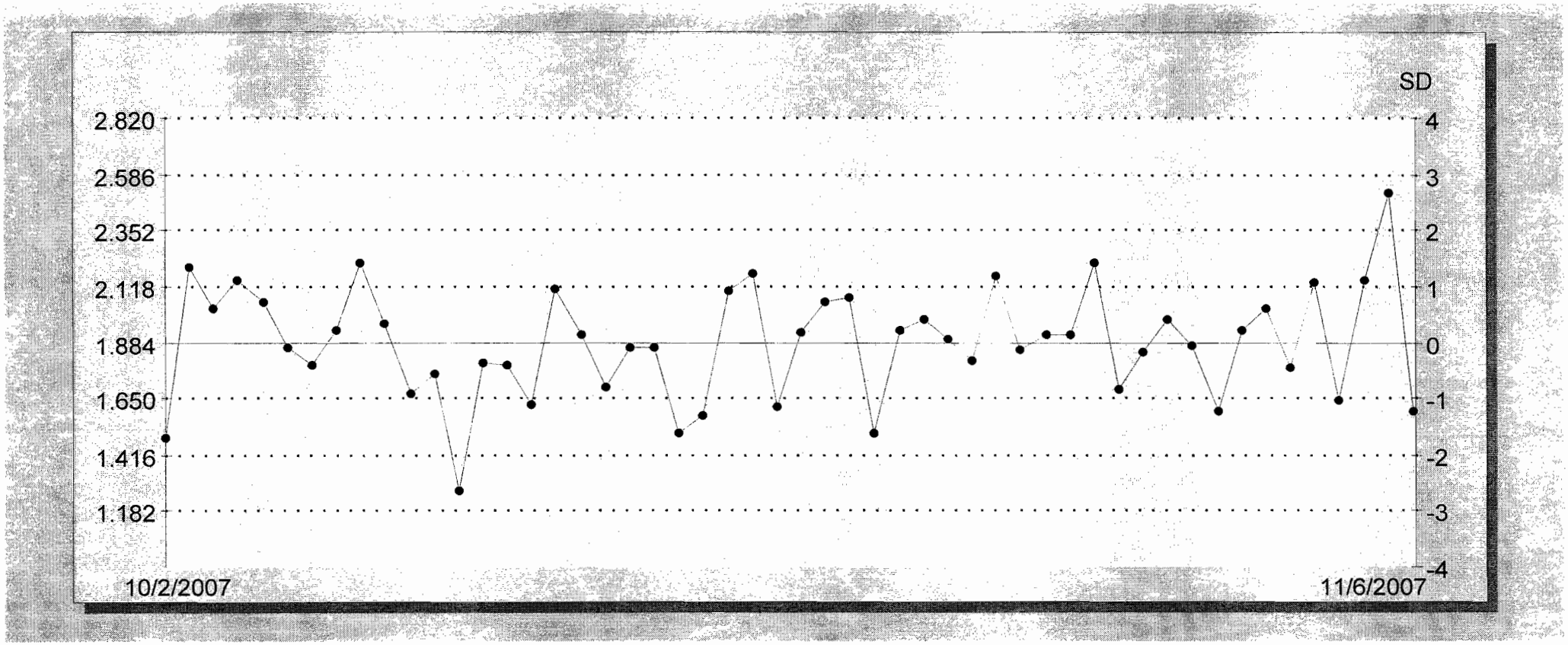
3H Background
Total # pts : 3950
Valid # pts : 52
Mean : 1.89
SD : 0.23

Date	Value	Valid Pt
Oct 02, 2007	1.49	X
Oct 02, 2007	2.20	X
Oct 02, 2007	2.03	X
Oct 02, 2007	2.15	X
Oct 02, 2007	2.05	X
Oct 03, 2007	1.86	X
Oct 03, 2007	1.79	X
Oct 03, 2007	1.93	X
Oct 03, 2007	2.22	X
Oct 03, 2007	1.97	X
Oct 03, 2007	1.67	X
Oct 03, 2007	1.76	X
Oct 03, 2007	1.27	X
Oct 03, 2007	1.80	X
Oct 03, 2007	1.79	X
Oct 04, 2007	1.62	X
Oct 12, 2007	2.11	X
Oct 12, 2007	1.92	X
Oct 24, 2007	1.69	X
Oct 24, 2007	1.87	X
Oct 29, 2007	1.86	X
Oct 29, 2007	1.51	X
Nov 01, 2007	1.58	X
Nov 01, 2007	2.10	X
Nov 03, 2007	2.18	X
Nov 03, 2007	1.62	X
Nov 03, 2007	1.92	X
Nov 03, 2007	2.05	X
Nov 03, 2007	2.07	X
Nov 03, 2007	1.51	X
Nov 03, 2007	1.93	X
Nov 04, 2007	1.99	X
Nov 04, 2007	1.90	X
Nov 04, 2007	1.80	X
Nov 04, 2007	2.16	X
Nov 04, 2007	1.85	X
Nov 04, 2007	1.92	X
Nov 04, 2007	1.92	X
Nov 04, 2007	2.21	X
Nov 04, 2007	1.69	X
Nov 04, 2007	1.85	X
Nov 04, 2007	1.98	X

Nov 04, 2007	1.88	X
Nov 04, 2007	1.60	X
Nov 04, 2007	1.93	X
Nov 04, 2007	2.02	X
Nov 05, 2007	1.78	X
Nov 05, 2007	2.14	X
Nov 05, 2007	1.64	X
Nov 05, 2007	2.15	X
Nov 05, 2007	2.51	X
Nov 06, 2007	1.59	X

3H Background

Total # pts	: 3950
Valid # pts	: 52
Mean	: 1.89
SD	: 0.23



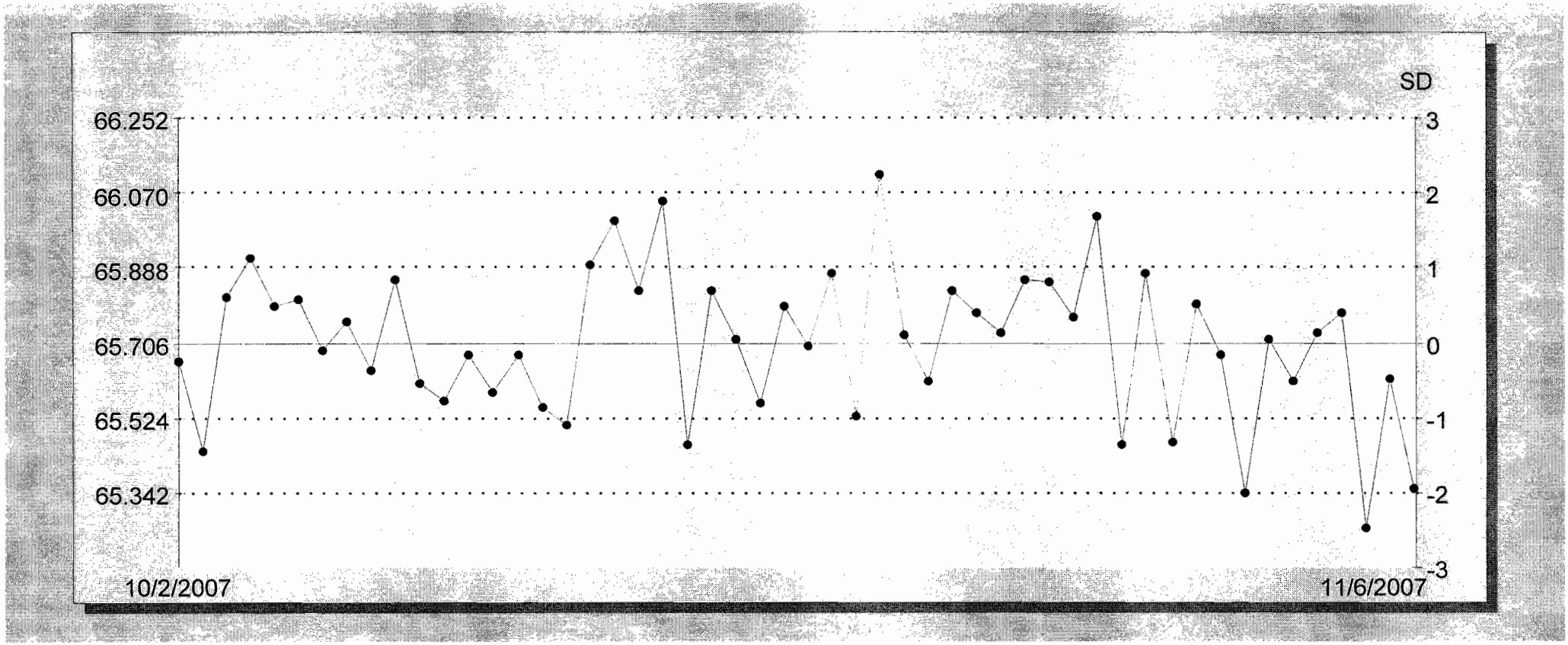
3H Efficiency
Total # pts : 3995
Valid # pts : 52
Mean : 65.71
SD : 0.18

Date	Value	Valid Pt
Oct 02, 2007	65.66	X
Oct 02, 2007	65.45	X
Oct 02, 2007	65.81	X
Oct 02, 2007	65.91	X
Oct 02, 2007	65.79	X
Oct 03, 2007	65.81	X
Oct 03, 2007	65.69	X
Oct 03, 2007	65.76	X
Oct 03, 2007	65.64	X
Oct 03, 2007	65.86	X
Oct 03, 2007	65.61	X
Oct 03, 2007	65.57	X
Oct 03, 2007	65.68	X
Oct 03, 2007	65.58	X
Oct 03, 2007	65.68	X
Oct 04, 2007	65.55	X
Oct 12, 2007	65.51	X
Oct 12, 2007	65.90	X
Oct 24, 2007	66.00	X
Oct 24, 2007	65.84	X
Oct 29, 2007	66.05	X
Oct 29, 2007	65.46	X
Nov 01, 2007	65.83	X
Nov 01, 2007	65.71	X
Nov 03, 2007	65.56	X
Nov 03, 2007	65.79	X
Nov 03, 2007	65.70	X
Nov 03, 2007	65.88	X
Nov 03, 2007	65.53	X
Nov 03, 2007	66.12	X
Nov 03, 2007	65.73	X
Nov 04, 2007	65.61	X
Nov 04, 2007	65.83	X
Nov 04, 2007	65.78	X
Nov 04, 2007	65.73	X
Nov 04, 2007	65.86	X
Nov 04, 2007	65.86	X
Nov 04, 2007	65.77	X
Nov 04, 2007	66.01	X
Nov 04, 2007	65.46	X
Nov 04, 2007	65.88	X
Nov 04, 2007	65.46	X

Nov 04, 2007	65.80	X
Nov 04, 2007	65.68	X
Nov 04, 2007	65.34	X
Nov 04, 2007	65.71	X
Nov 05, 2007	65.61	X
Nov 05, 2007	65.73	X
Nov 05, 2007	65.78	X
Nov 05, 2007	65.26	X
Nov 05, 2007	65.62	X
Nov 06, 2007	65.35	X

3H Efficiency

Total # pts	: 3995
Valid # pts	: 52
Mean	: 65.71
SD	: 0.18



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American Radiation Services Analytical Reports

for

Los Alamos National Laboratory

Low Level Liquid Scintillation Counting

Calibration Information

STD ID: S-0156

AMERICAN RADIATION SERVICES, INC.	Add/Edit *Secondary Stds*	Parent Standard Data			
Planning		Parent Solution Reference #	NIST SRM 4927E		
Planning Comments	**Create a dilution of S-0032 for use as LCS stock solution**	Parent Solution #	S-0032		
Target dpm/g (on dil. date)	**2.76**	Parent Principal Radionuclide	H-3	Half Life (Days)	4499.8000000
Target Final volume mL	**2000**	Parent Reference Date	03/01/2006 00:00		
Appx mass g of Parent Sol'n	1.710884008	Parent Certified Act	3443.100423	Certi Act/Vol Units	dpm / g
Appx vol ml of Parent Sol'n	1.713969152	Parent Cert Act Uncert 1 Sigma	0.0036		
Expected Addition for Analysis g	**5**	Parent Sp. Gravity G/Ml	0.9982		
Standards Preparation / Dilution		Parent Supplier	NIST SRM 4927E		
Secondary Solution #	S-0156	Parent Date Recvd	01/02/00		
Dilution Date (New Ref Date)	**04/27/2007 00:00**	Parent Received By	Unknown		
Ampoule, Empty (g)		Parent Cert Exp Date			
Ampoule /Solution Gross (g)		Parent Matrix	H2O		
Net Wt Removed (g)		Certified dpm/g At Ref Date	3443.100423		
Transfer Container, empty (g)	**17.8583**	Certified dpm/g on 04/27/2007 00:00	3226.402243		
Container Plus Solution (g)	**19.5702**	Parent Comments	S-0032 - Intermediate dilution for preparation of control solutions - Entered from dilution records - 4/19/2006 RTS Failed to update the dilution to 3/1/2006 from dilution records - 5/9/2006 LEO		
Net Wt Transferred (g)	1.7119				
DPM Xferred on 04/27/2007 00:00	5523.278				
Diluent/matrix	**H2O**	Parent Tech	Unknown		
Diluent Density Cont, empty (g)		Is_Primary	FALSE		
Test Mass of 5 ml of Diluent (g)		Is_LCS	FALSE		
Diluent Density Test - (g/mL)		Is_Tracer	FALSE		
Dilution Empty Container Mass (g)	**1**	Is_Calib	FALSE		
Dilution Full Cont g (if measured)	**1997**				
Dilution Final Volume ml (if measured)	**2000**				
Final Dilution Density (g/mL)	0.998				
Final Dilution Measured Mass g	1996				
Comments	**Normal level tritium LCS standard. Dilution performed as stated above by TByrd on 4/27/2007. -BJS 4/27/2007**				
Final Dilution dpm/g	2.767173347				
Final Dil New Ref Date/Time	04/27/2007 00:00				

AMERICAN RADIATION SERVICES, INC.

QUALITY CONTROL PROGRAM

AMERICAN RADIATION SERVICES
RADIOACTIVE REFERENCE SOLUTIONS

ANNUAL ACTIVITY VERIFICATION- Rev 1

VERIFICATION DATE 5/18/2007 0:00
SOLUTION REFERENCE # [redacted]

Principal Radionuclide	Half Life, Years	Half Life, Days
H-3	1.232E+01	4.500E+03

Radionuclide H-3 **Primary Dilution Reference Date** 4/27/2007 0:00

Primary Dilution Activity	1.25	**pCi per gram ===> dpm/g**	2.78
Verif. Date Decay Corrected	1.25	**pCi per gram ===> dpm/g**	2.77

Verification Trials

Trial ID#			Trial ID#		
	Gross Weight	2.0000		Gross Weight	2.0000
	Tare Weight	1.0000		Tare Weight	1.0000
	Net Weight	1.0000		Net Weight	1.0000
	Gross Weight	2.0000		Gross Weight	2.0000
	Tare Weight	1.0000		Tare Weight	1.0000
	Net Weight	1.0000		Net Weight	1.0000
	Gross Weight	2.0000			
	Tare Weight	1.0000			
	Net Weight	1.0000			

Trial ID	Sample Counts	Count Time (min)	Detector	Efficiency	Bkg. (cpm)	Net Weight	Activity Result (dpm/g)	Activity Result (pCi/g)
S-0156-1	12.198	1	LSC	0.4395	6.143	5.0100	2.75	1.24
S-0156-2	11.748	1	LSC	0.4325	6.143	5.0100	2.59	1.17
S-0156-3	11.822	1	LSC	0.434	6.143	5.0000	2.62	1.18

Average	2.65	1.19
Two Sigma Uncertainty	0.17	0.08
Standard Deviation percent of known concentration	3.14%	3.14%
Target Activity	2.77	1.25
% Diff	-4.15	-4.15

Verification Expiration Date: May 17, 2008

Prepared & Counted By [signature] Date: 5/18/2007 0:00

Verified & Approved By [signature] Date: 5-18-07

QC Approval [signature] Date: 5-18-07

Verifier's Name: Tony Byrd **Date:** 4/30/2007
Pipettor ID: CH84078
Pipettor ID:
Pipettor ID: CH80870
Standard ID: S-0112
Standard ID: S-0032 (S-0156)

	Weight of Standard			
15mL of Ultima Gold added to standard	S-0156-1	5.01 g		
	S-0156-2	5.01 g		
	S-0156-3	5.00 g	Balance ID:	H1331122173560P
		g		
		g		
15mL of Ultima Gold added to standard	S-0112-1	1.03 g		
	S-0112-2	1.08 g		
	S-0112-3	1.00 g	Balance ID:	H1331122173560P
		g		
		g		

Assay Definition-

Assay Description:
Tritium - DPM Mode

Assay Type: DPM (Single)
Report Name: Report1
Output Data Path: C:\Packard\Tricarb\Results\H3 Results\Tritium for protocol 6\20070517_1143
Raw Results Path: C:\Packard\Tricarb\Results\H3 Results\Tritium for protocol 6\20070517_1143\20070517_1143.results
RTF File Name: C:\Packard\Tricarb\Results\H3 Results\Tritium for protocol 6\20070517_1143\H3 Results.rtf
Comma-Delimited File Name: C:\Packard\Tricarb\Results\H3 Results\Tritium for protocol 6\20070517_1143\H3 Results.csv
Assay File Name: C:\Packard\TriCarb\Assays\Tritium for protocol 6.lsa

Count Conditions-

Nuclide: H3
Quench Indicator: tSIE/AEC
External Std Terminator (sec): 0.5 2s%
Pre-Count Delay (min): 0.00
Quench Set:
Low Energy: H-3
Count Time (min): 90.00
Count Mode: Normal
Assay Count Cycles: 1 Repeat Sample Count: 1
#Vials/Sample: 1 Calculate % Reference: Off

Background Subtract: Off
Low CPM Threshold: Off
2 Sigma % Terminator: On - Any Region

Regions	LL	UL	2Sigma % Terminator
A	2.0	18.6	0.50
B	0.0	2000.0	0.00
C	0.0	2000.0	0.00

Count Corrections-

Static Controller: On Luminescence Correction: Off
Colored Samples: Off Heterogeneity Monitor: Off
Coincidence Time (nsec): 18 Delay Before Burst (nsec): 75

Half Life-

Half Life Correction: Off

Regions	Half Life	Units	Reference Date	Reference Time

Protocol# 6 - Tritium for protocol 6.lsa User: H3 Results

A
B
C

Cycle 1 Results

P#	S#	SMPL_ID	CPMA	DPM1	tSIE	Eff Nucl In A	Count Time	DATE	TIME	MESSAGES
6	1	BACKGROUND	6.143	13.99	433.79	43.91	90.00	5/17/2007	11:48:37 AM	
6	2	S-0156-1 ~~S-0032-1~~	12.198	27.76	434.24	43.95	90.00	5/17/2007	1:24:20 PM	
6	3	S-0156-2 ~~S-0032-2~~	11.748	27.16	426.06	43.25	90.00	5/17/2007	3:00:09 PM	
6	4	S-0156-3 ~~S-0032-3~~	11.822	27.24	427.76	43.40	90.00	5/17/2007	4:35:56 PM	

5-18-07

National Institute of Standards & Technology

Certificate

Standard Reference Material 4927F
Hydrogen-3 Radioactivity Standard

This Standard Reference Material (SRM) consists of radioactive hydrogen-3, as water, in 5 mL of distilled water. The solution is contained in a flame-sealed NIST borosilicate-glass ampoule. The SRM is intended for the calibration of beta-particle counting instruments and for the monitoring of radiochemical procedures.

Radiological Hazard

The SRM ampoule contains hydrogen-3 with a total activity of approximately 3.2 MBq. Hydrogen-3 decays by beta-particle emission. None of the beta particles escape from the SRM ampoule. During the decay process no photons are emitted. Approximate unshielded dose rates at several distances (as of the reference time) are given in note [a]*. There is no detectable external radiation. The SRM should be used only by persons qualified to handle radioactive material.

Chemical Hazard

The SRM ampoule contains only distilled water. There is no chemical hazard. If the ampoule is to be opened to transfer the solution, the recommended procedure is given on page 2.

Storage and Handling

The SRM should be stored and used at a temperature between 5 and 65 °C. The solution in an unopened ampoule should remain stable and homogeneous until at least September 2008.

The ampoule (or any subsequent container) should always be clearly marked as containing radioactive material. If the ampoule is transported it should be packed, marked, labeled, and shipped in accordance with the applicable national, international, and carrier regulations. The solution in the ampoule is a dangerous good (hazardous material) because of the radioactivity.

Preparation

This Standard Reference Material was prepared in the Physics Laboratory, Ionizing Radiation Division, Radioactivity Group, L.R. Karam, Group Leader. The overall technical direction and physical measurements leading to certification were provided by L.L. Lucas and M.P. Unterweger of the Radioactivity Group.

The support aspects involved in the preparation, certification, and issuance of this SRM were coordinated through the Standard Reference Materials Program by J.W.L. Thomas.

Bert M. Coursey, Chief
Ionizing Radiation Division

Nancy M. Trahey, Chief
Standard Reference Materials Program

Gaithersburg, Maryland 20899
June 1999
Half-life and text revised October 2000

*Notes and references are on pages 5 and 6.

PROPERTIES OF SRM 4927F

Certified values

Solution density	**(0.998 ± 0.002) g·mL^{-1} at 20.0 °C [b]***
Radionuclide	**Hydrogen-3**
Reference time	**1200 EST, 3 September 1998**
Massic activity of the solution [c]	**634.7 kBq·g^{-1}**
Relative expanded uncertainty (k=2)	**0.72% [d] [e]**

Uncertified values

Physical Properties:			
Source description	Liquid in flame-sealed NIST borosilicate-glass ampoule		
Ampoule specifications	Body outside diameter Wall Thickness Barium content Lead-oxide content Other heavy elements	(16.5 ± 0.5) mm (0.60 ± 0.04) mm Less than 2.5% Less than 0.02% Trace quantities	
Solution mass	Approximately 5.0 g		
Chemical Properties:			
Solution composition	Chemical Formula	Concentration (mol·L^{-1})	Mass Fraction (g·g^{-1})
	H_2O ^3HHO	55 6×10^{-7}	1.00 1×10^{-8}
Radiological Properties:			
Radionuclidic impurities	None detected [f]		
Half lives used	Hydrogen-3: (4500 ± 8) d [g]		
Calibration method and measuring instrument(s)	4πß gas counting of SRM 4927E using the NIST length-compensated internal gas proportional counters and intercomparison of SRMs 4927E/4927F using two 4πß liquid-scintillation counting systems [h]		

*Notes and references are on pages 5 and 6.

EVALUATION OF THE UNCERTAINTY OF THE MASSIC ACTIVITY [d]*

Input Quantity x_i, the source of uncertainty (and individual uncertainty components where appropriate)	Method Used To Evaluate $u(x_i)$, the standard uncertainty of x_i (A) denotes evaluation by statistical methods (B) denotes evaluation by other methods	Relative Uncertainty Of Input Quantity, $u(x_i)/x_i$, (%) [i]	Relative Sensitivity Factor, $\lvert\partial y/\partial x_i\rvert \cdot (x_i/y)$ [j]	Relative Uncertainty Of Output Quantity, $u_i(y)/y$, (%) [k]
Massic count rate of SRM 4927E, corrected for background and decay [h]	Standard deviation of the mean for 23 sets of gas counting measurements (A)	0.18	1.0	0.18
Gram-mole measurements	Estimated (B)	0.20	1.0	0.20
Live-time [p]	Estimated (B)	0.10	1.0	0.10
Extrapolation of count-rate-versus-energy to zero energy	Estimated (B)	0.20	1.0	0.20
Half life of H-3	Standard uncertainty of the half life (A)	0.18 [m]	0.009 [n]	0.002
Liquid-scintillation intercomparison of SRM 4927F and SRM 4927E	Standard deviation of the mean for 7 sets of liquid-scintillation measurements (A)	0.06	1.0	0.06
Radionuclidic impurities	Limit of detection (B) [q]	100.	0.0005	0.05
Relative Combined Standard Uncertainty of the Output Quantity, $u_c(y)/y$, (%)				0.36
Coverage Factor, k				x 2
Relative Expanded Uncertainty of the Output Quantity, U/y, (%)				0.72

*Notes and references are on pages 5 and 6.

STD ID: S-0032

ARS AMERICAN RADIATION SERVICES, INC.	Add/Edit *Secondary Stds*	Parent Standard Data				
Planning		Parent Solution Reference #	NIST SRM 4927F			
Planning Comments	**Dilute S-0031 to form intermediate level solution for controls**	Parent Solution #	S-0031			
Target dpm/g (on dil. date)	**3367**	Parent Principal Radionuclide	H-3	Half Life (Days)	4499.8000000	
Target Final volume mL	**200**	Parent Reference Date	10/19/2005 00:00			
Appx mass g of Parent Sol'n	1.130920768	Parent Certified Act	607768.8494	Certi Act/Vol Units	dpm	g
Appx vol ml of Parent Sol'n	1.132960096	Parent Cert Act Uncert 1 Sigma	0.0036			
Expected Addition for Analysis g		Parent Sp. Gravity G/Ml	0.9982			
Standards Preparation / Dilution		Parent Supplier	NIST SRM 4927F			
Secondary Solution #	S-0032	Parent Date Recvd	01/02/00			
Dilution Date (New Ref Date)	**03/01/2006 00:00**	Parent Received By	Unknown			
Ampoule, Empty (g)		Parent Cert Exp Date				
Ampoule /Solution Gross (g)		Parent Matrix	H2O			
Net Wt Removed (g)		Certified dpm/g At Ref Date	607768.8494			
Transfer Container, empty (g)	**0**	Certified dpm/g on 03/01/2006 00:00	595444.0128			
Container Plus Solution (g)	**1.1544**	Parent Comments	S-0031 Intermediate dilution - Information entered from dilution records - 4/19/2006 RTS			
Net Wt Transferred (g)	1.1544					
DPM Xferred on 03/01/2006 00:00	687380.5684					
Diluent/matrix	**H2O**	Parent Tech	Unknown			
Diluent Density Cont, empty (g)		Is_Primary	FALSE			
Test Mass of 5 ml of Diluent (g)		Is_LCS	FALSE			
Diluent Density Test - (g/mL)		Is_Tracer	FALSE			
Dilution Empty Container Mass (g)	**1**	Is_Calib	FALSE			
Dilution Full Cont g (if measured)	**200.64**					
Dilution Final Volume ml (if measured)	**200**					
Final Dilution Density (g/mL)	0.9982					
Final Dilution Measured Mass g	199.64					
Comments	**S-0032 - Intermediate dilution for preparation of control solutions - Entered from dilution records - 4/19/2006 RTS Edited to update the dilution to 3/1/2006 from dilution records - 5/9/2006 LFU**					
Final Dilution dpm/g	3443.100423					
Final Dil New Ref Date/Time	03/01/2006 00:00					

AMERICAN RADIATION SERVICES, INC.

2609 North River Road • Port Allen, Louisiana 70767

1 (800) 401-4277 • Fax (225) 381-2996

American Radiation Services Analytical Reports

for

Los Alamos National Laboratory

Percent Moisture

AMERICAN RADIATION SERVICES, INC.

2609 North River Road, Port Allen, Louisiana 70767

1 (800) 401-4277 FAX (225) 381-2996

ARS Sample Delivery Group:	ARS1-07-01792	**Request or PO Number:**	08-125
Client Sample ID:	MD21-07-6803	**ARS Sample ID:**	ARS1-07-01792-001
Sample Collection Date:	11/3/2007	**Date Received:**	11/06/07 10:15
Sample Matrix:	Aqueous	**Report Date:**	11/08/07 09:23

Analysis Description	Analysis Results	Analysis Error +/- 2 s	MDC	DLC	Qual	Analysis Units	Analysis Test Method	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
H-3	13.497	NA	NA	NA		%	Moisture	11/6/2007	BS	NA

NOTES:

Lindsay Lanseigne

Project Manager Review

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1 (800) 401-4277 FAX (225) 381-2996

ARS Sample Delivery Group:	ARS1-07-01792	**Request or PO Number:**	08-125
Client Sample ID:	MD21-07-6801	**ARS Sample ID:**	ARS1-07-01792-002
Sample Collection Date:	11/3/2007	**Date Received:**	11/06/07 10:15
Sample Matrix:	Aqueous	**Report Date:**	11/08/07 09:24

Analysis Description	Analysis Results	Analysis Error +/- 2 s	MDC	DLC	Qual	Analysis Units	Analysis Test Method	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
H-3	10.466	NA	NA	NA		%	Moisture	11/6/2007	BS	NA

NOTES:

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Project Manager Review

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ARS Sample Delivery Group:	ARS1-07-01792	**Request or PO Number:**	08-125
Client Sample ID:	MD21-07-6802	**ARS Sample ID:**	ARS1-07-01792-003
Sample Collection Date:	11/3/2007	**Date Received:**	11/06/07 10:15
Sample Matrix:	Aqueous	**Report Date:**	11/08/07 09:24

Analysis Description	Analysis Results	Analysis Error +/- 2 s	MDC	DLC	Qual	Analysis Units	Analysis Test Method	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
H-3	10.119	NA	NA	NA		%	Moisture	11/6/2007	BS	NA

NOTES:

Lindsay Rasmigne

Project Manager Review

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ARS Sample Delivery Group:	ARS1-07-01792	**Request or PO Number:**	08-125
Client Sample ID:	MD21-07-6800	**ARS Sample ID:**	ARS1-07-01792-004
Sample Collection Date:	11/3/2007	**Date Received:**	11/06/07 10:15
Sample Matrix:	Aqueous	**Report Date:**	11/08/07 09:24

Analysis Description	Analysis Results	Analysis Error +/- 2 s	MDC	DLC	Qual	Analysis Units	Analysis Test Method	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
H-3	12.277	NA	NA	NA		%	Moisture	11/6/2007	BS	NA

NOTES:

Lindsay Rameigne
Project Manager Review

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ARS Sample Delivery Group:	ARS1-07-01792	**Request or PO Number:**	08-125
Client Sample ID:	MD21-07-6806	**ARS Sample ID:**	ARS1-07-01792-005
Sample Collection Date:	11/3/2007	**Date Received:**	11/06/07 10:15
Sample Matrix:	Aqueous	**Report Date:**	11/08/07 09:24

Analysis Description	Analysis Results	Analysis Error +/- 2 s	MDC	DLC	Qual	Analysis Units	Analysis Test Method	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
H-3	13.561	NA	NA	NA		%	Moisture	11/6/2007	BS	NA

NOTES:

Lindsay Lapeigne
Project Manager Review

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ARS Sample Delivery Group:	ARS1-07-01792	**Request or PO Number:**	08-125
Client Sample ID:	MD21-07-6804	**ARS Sample ID:**	ARS1-07-01792-006
Sample Collection Date:	11/4/2007	**Date Received:**	11/06/07 10:15
Sample Matrix:	Aqueous	**Report Date:**	11/08/07 09:25

Analysis Description	Analysis Results	Analysis Error +/- 2 s	MDC	DLC	Qual	Analysis Units	Analysis Test Method	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
H-3	8.736	NA	NA	NA		%	Moisture	11/6/2007	BS	NA

NOTES:

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Project Manager Review

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ARS Sample Delivery Group:	ARS1-07-01792	**Request or PO Number:**	08-125
Client Sample ID:	MD21-07-6818	**ARS Sample ID:**	ARS1-07-01792-007
Sample Collection Date:	10/30/2007	**Date Received:**	11/06/07 10:15
Sample Matrix:	Aqueous	**Report Date:**	11/08/07 09:25

Analysis Description	Analysis Results	Analysis Error +/- 2 s	MDC	DLC	Qual	Analysis Units	Analysis Test Method	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
H-3	11.126	NA	NA	NA		%	Moisture	11/6/2007	BS	NA

NOTES:

Lindsay Lanseigne
Project Manager Review

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ARS Sample Delivery Group:	ARS1-07-01792	**Request or PO Number:**	08-125
Client Sample ID:	MD21-08-8445	**ARS Sample ID:**	ARS1-07-01792-008
Sample Collection Date:	11/3/2007	**Date Received:**	11/06/07 10:15
Sample Matrix:	Aqueous	**Report Date:**	11/08/07 09:25

Analysis Description	Analysis Results	Analysis Error +/- 2 s	MDC	DLC	Qual	Analysis Units	Analysis Test Method	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
H-3	11.061	NA	NA	NA		%	Moisture	11/6/2007	BS	NA

NOTES:

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Project Manager Review

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American Radiation Services Analytical Reports

for

Los Alamos National Laboratory

Percent Moisture Laboratory Records

AMERICAN RADIATION SERVICES
Port Allen, LA
PERCENT MOISTURE DETERMINATION IN SOILS

SDG Number ARS1-07-01792
Client LANL

LANL ID	ARS ID	weight of cylinder with gel (g)	weight of empty cylinder (g)	Weight of gel (g)	amount of liquid collected (ml)	amount of liquid tested (ml)	% moisture
MD521-07-6803	ARS1-07-01792-001	632	452	180	24.294	5.03	**13.4966667**
MD521-07-6801	ARS1-07-01792-002	605	454	151	15.804	5.038	**10.4662252**
MD521-07-6802	ARS1-07-01792-003	598	454	144	14.572	5.033	**10.1194444**
MD521-07-6800	ARS1-07-01792-004	609	449	161	19.766	5.042	**12.2770186**
MD521-07-6806	ARS1-07-01792-005	626	452	174	23.597	5.034	**13.5614943**
MD521-07-6807	ARS1-07-01792-006	613	454	159	13.891	5.043	**8.73647799**
MD521-07-6818	ARS1-07-01792-007	617	457	160	17.802	5.029	**11.12625**
MD521-07-8445	ARS1-07-01792-008	609	455	155	17.145	5.153	**11.0612903**

Balance ID: 0102/1125183449
Popettor ID: V97701

Signature B J Duff Date/ Time 11-6-07

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American Radiation Services Analytical Reports

for

Los Alamos National Laboratory

Folder Duplicate

Report Completeness Checklist

ARS SDG: 07-01792 **Client Name:** LANL **Sample Matrix:** AQ

LEVEL 1 COMPONENTS	1st Reviewer	
1) Cover Page Complete and Accurate (see ARS-059)?	Yes No N/A	
2) Technical Review Checklist(s) Complete and Accurate?	Yes No N/A	
3) Case Narrative Complete and Accurate (see ARS-059)?	Yes No N/A	
4) Form 1s Present for all Samples and Tests?	Yes No N/A	
5) Client Specific Components are Present and Complete?	Yes No N/A	

LEVEL 2 COMPONENTS	1st Reviewer	
6) Batch Quality Control Report is Present and Accurate?	Yes No N/A	
7) DQO Report is Present and Accurate?	Yes No N/A	
8) Client Specific Batch QC Components are Present and Complete?	Yes No N/A	

LEVEL 3 COMPONENTS	1st Reviewer	
9) Efficiencies are Present?	Yes No N/A	
10) Calibrations are Present?	Yes No N/A	
11) Backgrounds are Present?	Yes No N/A	
12) Spectrum Analysis is Present?	Yes No N/A	
13) Spectral Plots are Present?	Yes No N/A	
14) Plateaus are Present?	Yes No N/A	
15) Control Charts are Present?	Yes No N/A	
16) Other:	Yes No N/A	

LEVEL 4 COMPONENTS	1st Reviewer	
17) Preparation Raw Data Present and Complete?	Yes No N/A	
18) Instrument Raw Data Present and Complete?	Yes No N/A	
19) Calibration Certificates Present?	Yes No N/A	
20) Copies of Log Book Pages Present?	Yes No N/A	
21) Sample Receiving Documentation Present?	Yes No N/A	
22) LIMS Reports Present?	Yes No N/A	
23) Applicable Correspondence Present?	Yes No N/A	
24) Other:	Yes No N/A	

Lindsay Lardeigne 11-8-07
Report Generator Signature Date

11-8-07
Management Review Signature Date

LSC
Technical Review Checklist

ARS SDG 07-01792

Sample Matrix: Silica Gel **Aliquot** (Circle One) : Dry As Received Filtered Other: _____

Required QC Samples (Circle all that apply): Blank LCS LCSD Sample Dup MS MSD

ARS Prep. Batch ID(s): **Batch A:** B07-03159 **Batch B:** _____ **Batch C:** _____

Test(s): LSC-A-001

A. RADIOCHEMICAL PREPARATION REVIEW

	Chemist Review	Analyst Review
1) 100% of Manual Transcriptions Verified?	Yes No N/A	Yes No N/A
2) 100% of Manual Calculations Verified?	Yes No N/A	Yes No N/A
3) Blank Composition/Configuration Matches Calibration?	Yes No N/A	Yes No N/A
4) Deviations from procedure are documented and verified?	Yes No N/A	Yes No N/A
5) Appropriate Cocktail Selected?	Yes No N/A	Yes No N/A

6) **Sample Prep Anomaly?** ☒ **No** ☐ **Yes** (See Tech Notes) **NCR #** (If initiated): _____

Chemist Signature: [signature] Date: 11-6-07 Analyst Signature: N/A Date:

B. ANALYSIS REVIEW

	Analyst Review	Proj. Mgr. Review
1) Calibrations Valid and Current?	Yes No N/A	Yes No N/A
2) Backgrounds Valid and Current?	Yes No N/A	Yes No N/A
3) Source Checks Completed and Acceptable?	Yes No N/A	Yes No N/A
4) Background Checks Complete and Acceptable?	Yes No N/A	Yes No N/A
5) 100% of Manually Entered Parameters Verified Accurate?	Yes No N/A	Yes No N/A
6) Appropriate QC samples initiated at required frequency?	Yes No N/A	Yes No N/A
6) **Test/Sample Specific Parameters** (See ARS-059 for details)		
a) Analysis Parameters Checked and Correct and Peak Shapes are Acceptable?	Yes No N/A	Yes No N/A
b) Spectra show no Evidence of Interferences?	Yes No N/A	Yes No N/A
c) Sample Quench for All Samples within Range of Quench Curve?	Yes No N/A	Yes No N/A

7) **Analysis Anomaly?** ☒ **No** ☐ **Yes** (See Comments) **NCR #** (If initiated): _____

Analyst Signature: [signature] Date: 11-8-07 Project Manager Signature: Lindsay Lanseigne Date: 11-8-07

Batch A: 07-03159

LSC
Technical Review Checklist

C. BATCH QC VALIDATION

	Proj. Mgr. Review	QA Officer Review
1) Activity + 3xCSU a Negative Number?	Yes (No) N/A	Yes (No) N/A
2) RDL Criteria are Met?	(Yes) No N/A	(Yes) No N/A
3) Method Blank Criterion Met?	(Yes) No N/A	(Yes) No N/A
4) LCS/LCD Criteria Met?	(Yes) No N/A	(Yes) No N/A
5) Duplicate (Sample Duplicate, LCSD, MSD) Criteria Met?	(Yes) No N/A	(Yes) No N/A
6) MS/MSD Criteria Met?	Yes No (N/A)	Yes No (N/A)

7) Batch QC Anomaly? ☑ No ☐ Yes (See Tech Notes) NCR # (If initiated): _____

Lindsay Ransegne 11-8-07
Project Manager Signature Date

11-8-07
QA Officer Signature Date

GENERAL COMMENTS

DQO Report for SDG

ARS1-07-01792

Analysis Code	Group	Isotope	Activity Units	Aliquot Units	ProcedureNo	RDL	LCS_LL	LCS_UL	MS_LL	MS_UL	RadY_LL	RadY_UL	GravY_LL	GravY_LL	RER	RPD	DiltionReq	RoughPrepReq	BlankCorrectionMDA	BlankCorrectionAll	CountTimeReq	AliquotRequired
LSC-A-001	STD	H-3	pCi	L	ARS-054	0.00E+00	80	120	80	120	20	110	20	110	2.58	20	FALSE	FALSE	FALSE	FALSE		

ARS FILE TRACKING SHEET

SDG: 07-01792

Task	Date / Time	Initials
Date & Time Received	11-6-07 / 10:15	SMC
Storage Location: E2	11-6-07 / 10:46	SMC
Chain of Custody Completed	11-6-07 / 10:46	SMC
Report Written	11-8-07 9:43	LMC
Laboratory Supervisor Checks Performed	See batch	NA
Quality Assurance Checks Performed on Report	11-8-07 10:02	[illegible]
Laboratory Director Check Performed on Report	11-8-07 10:03	[illegible]
Report E-mailed		
Report Faxed		
Report Mailed		
Report Reviewed		
Invoice Completed Invoice #:		

SPECIAL REQUIREMENTS

Requirement	Yes	No
3 Hour Rush		✓
24 Hour Rush		✓
48 Hour Rush		✓
Special Invoicing (i.e., Third Party)		✓
Other		

NOTES

SAMPLE RECEIPT INSPECTION FORM

Date: 11/06/07 Shipper's Name: LANL

Technician Performing Inspection: Shirley Clayton Initials: SMC

SDG: **07-01792**

External and Internal Surveys

Exposure Rate Meter: 44-2 104898 Serial No: 013681 Calibration. Due Date: 05/21/08

Count Rate Meter: 44-9 109043 Serial No: 108796 Calibration. Due Date: 05/21/08

Background Exposure Rate (μR/hr) 12 Background Count Rate (cpm): 50

Max. Exposure Rate on Shipping Containers Externals (Including Background): 17

Max. Removable Count Rate on Shipping Container Externals (Including Background): 50

Max. Removable Count Rate on Shipping Container Internals (Including Background): 60

Max. Removable Count Rate on Sample Container Externals (Including Background): 60

Max. Exposure Rate on Sample Containers Externals (Including Background): 17

Shipping Container

Was the Shipping Container received in good condition? Yes

Was the Shipping Container marked "Radioactive"? No

Was UN2910 marked on the outside of the Shipping Container? No

Were security seals utilized on the shipping container? Yes If yes, were the seals intact? Yes

Was a Chain of Custody Form included with the sample shipment? Yes

Were air bills or bills of lading included with the sample shipment? No

Samples

Were samples received in good condition? Yes

Were security seals utilized on the sample container? Yes If yes, were the seals intact? Yes

Were the sample containers marked "Radioactive"? No

Number of Samples Received in the Shipment: 8(eight)

Was the pH of Aqueous Samples < 2? N/A

If no, was the sample(s) checked for acid reactivity? N/A Was the sample(s) acidified to a pH < 2? N/A

Matrix of Samples: AQ

Volume of Each Sample Container: 100

Brief Description of Sample Material:

Inspectors' Comments

Sample Check In Report
Samples

SDG **ARS1-07-01792**

Client Code	**114**	**Los Alamos National Laboratory**	TAT Days	**3**	Level	**4**
Profile Number	**PN-00094**	**Location: Los Alamos**	Date Received	**11/6/2007**		
Project Type	**Environmental**		Client Deadline	**11/9/2007**	COC No 1	
Comments			Internal Deadline	**11/8/2007**	COC No 2	
			Lab Deadline	**11/6/2007**	COC No 3	
			Workdays	**TRUE**	COC No 4	

Fraction	Client ID	Cntrs	Matrix	Start	End	Storage	Disposal	Holding	Archive
001	MD21-07-6803	1	AQ	11/03/07 00:00	11/03/07 00:00	E2	H	90	5
002	MD21-07-6801	1	AQ	11/03/07 00:00	11/03/07 00:00	E2	H	90	5
003	MD21-07-6802	1	AQ	11/03/07 00:00	11/03/07 00:00	E2	H	90	5
004	MD21-07-6800	1	AQ	11/03/07 00:00	11/03/07 00:00	E2	H	90	5
005	MD21-07-6806	1	AQ	11/03/07 00:00	11/03/07 00:00	E2	H	90	5
006	MD21-07-6804	1	AQ	11/04/07 00:00	11/04/07 00:00	E2	H	90	5
007	MD21-07-6818	1	AQ	10/30/07 00:00	10/30/07 00:00	E2	H	90	5
008	MD21-08-8445	1	AQ	11/03/07 00:00	11/03/07 00:00	E2	H	90	5

American Radiation Services
Baton Rouge Laboratory

ARS1-07-01792
Analyses per Sample

	LSC-A-001
Count >	8
001	X
002	X
003	X
004	X
005	X
006	X
007	X
008	X

Sample Check In Report
Comments per Sample

SDG **ARS1-07-01792**

Fraction	Client ID	Comments
001	MD21-07-6803	
002	MD21-07-6801	
003	MD21-07-6802	
004	MD21-07-6800	
005	MD21-07-6806	
006	MD21-07-6804	
007	MD21-07-6818	
008	MD21-08-8445	

ARS LABEL SHEET

SDG: 07-01792

Analysis

ARS1-07-01792 **LSC-A-001**

Los Alamos National Laboratory

Tritium in (Water [Aqueous, AQ])

This Test Requires 8 of 8 Samples

Scan Analysis Code Here	Dates for This Test	
	Rcvd	11/6/2007
	Due	11/9/2007

SAMPLE CHECK-IN COMMENT SHEET

SDG: 07-01792

NOTES

ARS-062-007 r0

COMPANY NAME: LANL **SDG:** 07-01792

Shipping Container Survey

Outside 17 µR/hr 50 cpm

Inside 60 cpm

Rcv'd By
Date Rcv'd
Time Rcv'd

SHIPPING CONTAINER

Good Condition	☑ Yes	☐ No
Radioactive	☐ Yes	☑ No
UN2910	☐ Yes	☑ No
Sec. Seals	☑ Yes	☐ No
Seals Intact	☑ Yes	☐ No
COC	☑ Yes	☐ No
Air Bill	☐ Yes	☑ No

SAMPLE CONTAINER(S)

Good Condition	☑ Yes	☐ No
Sec. Seals	☑ Yes	☐ No
Radioactive	☐ Yes	☑ No
# Samples Rcv	8 (eight)	
~~pH < 2~~	☐ Yes	☐ No
If No...	~~Acid Rxt~~	☐ Yes ☐ No
	Acid'fd < 2	☐ Yes ~~☐ No~~

Intact ☐ Yes ☐ No

Matrix [AF , (AQ), BI , FE , LT , SI , SO , UR , VG]

Record Sample Label, Exposure Rate and Count Rate for EACH SAMPLE in the area below:

Sample Lable/Comments/Notes	Weight/ Volume	µR/hr	cpm
MD21-07-6803	100	16	60
6801	↓	15	60
6802		17	60
6800		16	60
6806		17	60
6804		16	60
6818		16	60
MD21-08-8445	↓	15	60

Surveyors' Name: Shirley Clayton Date/Time Surveyed 11-6-07 10:40

Monday, November 05, 2007

LAB CHAIN OF CUSTODY DOCUMENT NUMBER: 08-125C

REQUEST NUMBER: 08-125

LOS ALAMOS
NATIONAL LABORATORY

ATTN: Barbara Zelenay

American Radiation Services

1903 Central Ave.

Los Alamos, NM 87544

TURNAROUND/REPORT DUE: 11/9/2007

TURNAROUND REQ'D: 4

LAB REQUEST COMMENTS: DATA TO BE RECEIVED 11/9/07

SAMPLE ID	CTNR	CTNR DESC	ORDER	PRESERV	MATRIX
MD21-07-6803	1	SILICA GEL TUBE	H3	None	GAS
MD21-07-6801	1	SILICA GEL TUBE	H3	None	GAS
MD21-07-6802	1	SILICA GEL TUBE	H3	None	GAS
MD21-07-6800	1	SILICA GEL TUBE	H3	None	GAS
MD21-07-6806	1	SILICA GEL TUBE	H3	None	GAS
MD21-07-6804	1	SILICA GEL TUBE	H3	None	GAS
MD21-07-6818	1	SILICA GEL TUBE	H3	None	GAS
MD21-08-6445	1	SILICA GEL TUBE	H3	None	GAS

Relinquished By:		Date	Time	Received By:		Date	Time
[illegible]	[illegible]	11-5-07	1400	Kaleeah Harris	Kaleeah Harris	11/6/07	1021
Printed Name	Signature			Printed Name	Signature		
Printed Name	Signature			Printed Name	Signature		
Printed Name	Signature			Printed Name	Signature		

Received for DISPOSAL By: **Date** **Time** **Remarks:**

Printed Name Signature

Monday, November 05, 2007

LAB CHAIN OF CUSTODY DOCUMENT NUMBER: 08-125C

REQUEST NUMBER: 08-125

LOS ALAMOS
NATIONAL LABORATORY

ATTN: Barbara Zelenay

American Radiation Services

1903 Central Ave.

Los Alamos, NM 87544

TURNAROUND/REPORT DUE: 11/9/2007

TURNAROUND REQ'D: 4

LAB REQUEST COMMENTS: DATA TO BE RECEIVED 11/9/07

SAMPLE ID	CTNR	CTNR DESC	ORDER	PRESERV	MATRIX
MD21-07-6803	1	SILICA GEL TUBE	H3	None	GAS
MD21-07-6801	1	SILICA GEL TUBE	H3	None	GAS
MD21-07-6802	1	SILICA GEL TUBE	H3	None	GAS
MD21-07-6800	1	SILICA GEL TUBE	H3	None	GAS
MD21-07-6806	1	SILICA GEL TUBE	H3	None	GAS
MD21-07-6804	1	SILICA GEL TUBE	H3	None	GAS
MD21-07-6818	1	SILICA GEL TUBE	H3	None	GAS
MD21-08-6445	1	SILICA GEL TUBE	H3	None	GAS

Relinquished By:		Date	Time	Received By:		Date	Time
		11/5/07	1400	Kaleah Harris	Kaleah Harris	11/6/07	10:1
Printed Name	Signature			Printed Name	Signature		
Printed Name	Signature			Printed Name	Signature		
Printed Name	Signature			Printed Name	Signature		

Received for DISPOSAL By: **Date** **Time** **Remarks:**

Printed Name Signature

AMERICAN RADIATION SERVICES, INC.

2609 North River Road • Port Allen, Louisiana 70767

1 (800) 401-4277 • Fax (225) 381-2996

American Radiation Services Analytical Reports

for

Los Alamos National Laboratory

Request Number: 08-80

AMERICAN RADIATION SERVICES, INC.

2609 North River Road • Port Allen, Louisiana 70767

1 (800) 401-4277 • Fax (225) 381-2996

American Radiation Services Analytical Reports

for

Los Alamos National Laboratory Request Number: 08-80

Original COC

Monday, October 22, 2007

LAB CHAIN OF CUSTODY DOCUMENT NUMBER: 08-80C

REQUEST NUMBER: 08-80

LOS ALAMOS

NATIONAL LABORATORY

ATTN: Danny Coleman

American Radiation Services - Primary

1726 Wooddale Court

Baton Rouge, LA 70806

LAB REQUEST COMMENTS:

TURNAROUND/REPORT DUE: 11/1/2007

TURNAROUND REQ'D: 10

SAMPLE ID	CTNR	CTNR DESC	ORDER	PRESERV	MATRIX
MD21-07-6813	1	SILICA GEL TUBE	H3	None	GAS
MD21-07-6816	1	SILICA GEL TUBE	H3	None	GAS
MD21-07-6817	1	SILICA GEL TUBE	H3	None	GAS
MD21-07-6815	1	SILICA GEL TUBE	H3	None	GAS
MD21-07-6814	1	SILICA GEL TUBE	H3	None	GAS

Relinquished By:		Date	Time	Received By:		Date	Time
[illegible]	[illegible]	10/22/07	1400	Shirley Clayton	Shirley Clayton	10/23/07	9:52
Printed Name	Signature			Printed Name	Signature		
Printed Name	Signature			Printed Name	Signature		
Printed Name	Signature			Printed Name	Signature		

Received for DISPOSAL By: **Date** **Time** **Remarks:**

Printed Name Signature

Monday, October 22, 2007

REQUEST NUMBER: 08-80

LOS ALAMOS
NATIONAL LABORATORY

ATTN: Danny Coleman
American Radiation Services - Primary
1726 Wooddale Court
Baton Rouge, LA 70806

These Samples are on:
LANL Request Number:08-80
Per Agreement Number:126310041
Project Cost Code: MR8R0225FB00

Please analyse the enclosed samples according to the schedule indicated:

SHIP DATE: 10/22/2007
TURNAROUND/REPORT DUE: 11/1/2007
TURNAROUND REQ'D: 10 Days

RAD SCREENING: Not Required
LAB REQUEST COMMENTS:

LANL ER SMO CONTACT:
Signature:

PRIORITY	METHOD CODE	CNTNR	SAMPLE ID	SAMPLE MATRIX	DATE SAMPLED	SAMPLE COMMENTS	SPECIAL INSTRUCTIONS
	EPA:906.0	1	MD21-07-6813	GAS	10/19/2007		
		1	MD21-07-6814	GAS	10/19/2007		
		1	MD21-07-6815	GAS	10/19/2007		
		1	MD21-07-6816	GAS	10/19/2007		
		1	MD21-07-6817	GAS	10/19/2007		

Final Page of REQUEST NUMBER 08-80

AMERICAN RADIATION SERVICES, INC.

2609 North River Road • Port Allen, Louisiana 70767

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American Radiation Services Analytical Reports

for

Los Alamos National Laboratory Request Number: 08-80

Case Narrative

AMERICAN RADIATION SERVICES, INC.

2609 North River Road • Port Allen, Louisiana 70767

1 (800) 401-4277 • Fax (225) 381-2996

October 31, 2007

LANL
Keith Greene
Drop Point MS H865
Los Alamos, NM 87545

Ref: LANL Request No. 08-80
LANL Sample ID: MD21-07-6813, MD21-07-6816, MD21-07-6817, MD21-07-6815, MD21-07-6814

Dear Mr. Greene:

On October 23, 2007, American Radiation Services (ARS) received 5 Silica Gel Samples to be analyzed for Tritium.

The samples were processed and counted using the appropriate counting equipment and QA/QC for this type of analysis. Results of the analysis and QA/QC are attached in the data package.

The samples and QA/QC's were counted with a count time sufficient to meet a statistical sound detection limits.

Counting equipment Quality Assurance was with in acceptance criteria when the above referenced samples were processed.

If you have any questions please do not hesitate to call at 225-381-2991.

Sincerely,

Virgene Mulligan

Laboratory Director
American Radiation Services

AMERICAN RADIATION SERVICES, INC.

2609 North River Road • Port Allen, Louisiana 70767

1 (800) 401-4277 • Fax (225) 381-2996

COVER PAGE

18980SOW0-8S
Statement of Work for Analytical Laboratories

PROJECT SAMPLE IDENTIFICATION CROSS-REFERENCE TO ARS SAMPLE LABORATORY IDs

Subcontract (LANL Agreement Number) 126310041

COC NUMBER	LANL PROJECT SAMPLE ID NUMBER	American Radiation Services SAMPLE ID NUMBER(S)
08-80	MD21-07-6813	ARS1-07-01726-001
08-80	MD21-07-6816	ARS1-07-01726-002
08-80	MD21-07-6817	ARS1-07-01726-003
08-80	MD21-07-6815	ARS1-07-01726-004
08-80	MD21-07-6814	ARS1-07-01726-005

ANALYTICAL METHODS

Tritium analyses were performed using **ARS-054, "Tritium In Water".**

ANALYTICAL RESULTS

The result data that are flagged with "U" indicates that the activity is below the MDC.

American Radiation Services Project Manager/Laboratory Manager's Comments:
"I certify that this sample data package is in compliance with SOW requirements, both technically and for completeness, other than the conditions detailed above. Release of the data contained in this sample data package and the computer-readable EDD, as applicable, submitted on diskette or by modem, has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature."

"I certify that this electronic image, and all hardcopies produced from this image, accurately represents the data and is in compliance with the LANL specific requirements, both technically and for completeness, other than the conditions detailed above or in the sample data package narrative. Release, by submission through email, the data contained in this electronic image and the computer-readable EDD (as applicable), has been authorized by the laboratory Manager/Technical Director or the Manager's designee."

Virginie Mulligan
Signature

Lab Manager/Technical Director, American Radiation Services
Title

10-31-07
Date

AMERICAN RADIATION SERVICES, INC.

2609 North River Road • Port Allen, Louisiana 70767

1 (800) 401-4277 • Fax (225) 381-2996

American Radiation Services Analytical Reports

for

Los Alamos National Laboratory

Tritium by Low Level Liquid Scintillation Counting

AMERICAN RADIATION SERVICES, INC.

2609 North River Road, Port Allen, Louisiana 70767

1 (800) 401-4277 FAX (225) 381-2996

ARS Sample Delivery Group:	ARS1-07-01726	**Request or PO Number:**	08-80
Client Sample ID:	MD21-07-6813	**ARS Sample ID:**	ARS1-07-01726-001
Sample Collection Date:	10/19/2007	**Date Received:**	10/23/07 09:50
Sample Matrix:	Aqueous	**Report Date:**	10/31/07 10:35

Analysis Description	Analysis Results	Analysis Error +/- 2 s	MDC	DLC	Qual	Analysis Units	Analysis Test Method	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
H-3	318.847	119.506	185.406	91.126		pCi/L	ARS-054/EPA 906.0	10/30/07 5:21	BS	NA

NOTES: Project Cost Code: MR8R0225FB00

Lindsay Lanseigne

Project Manager Review

Notes: American Radiation Services, Inc. assumes no liability for the use or interpretation of any analytical results provided other than the cost of the analysis itself. Reproduction of this report in less than full requires the written consent of the client.

LELAP Certificate# 30658 NELAP Certificate # E87558

AMERICAN RADIATION SERVICES, INC.

2609 North River Road, Port Allen, Louisiana 70767

1 (800) 401-4277 FAX (225) 381-2996

ARS Sample Delivery Group:	ARS1-07-01726	**Request or PO Number:**	08-80
Client Sample ID:	MD21-07-6816	**ARS Sample ID:**	ARS1-07-01726-002
Sample Collection Date:	10/19/2007	**Date Received:**	10/23/07 09:50
Sample Matrix:	Aqueous	**Report Date:**	10/31/07 10:36

Analysis Description	Analysis Results	Analysis Error +/- 2 s	MDC	DLC	Qual	Analysis Units	Analysis Test Method	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
H-3	141.323	112.961	186.399	91.614	U	pCi/L	ARS-054/EPA 906.0	10/30/07 8:28	BS	NA

NOTES: Project Cost Code: MR8R0225FB00

Lindsay Lanseigne
Project Manager Review

Notes: American Radiation Services, Inc. assumes no liability for the use or interpretation of any analytical results provided other than the cost of the analysis itself. Reproduction of this report in less than full requires the written consent of the client.

LELAP Certificate# 30658 NELAP Certificate # E87558

AMERICAN RADIATION SERVICES, INC.

2609 North River Road, Port Allen, Louisiana 70767

1 (800) 401-4277 FAX (225) 381-2996

ARS Sample Delivery Group:	ARS1-07-01726	**Request or PO Number:**	08-80
Client Sample ID:	MD21-07-6817	**ARS Sample ID:**	ARS1-07-01726-003
Sample Collection Date:	10/19/2007	**Date Received:**	10/23/07 09:50
Sample Matrix:	Aqueous	**Report Date:**	10/31/07 10:36

Analysis Description	Analysis Results	Analysis Error +/- 2 s	MDC	DLC	Qual	Analysis Units	Analysis Test Method	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
H-3	243.472	116.573	186.078	91.456		pCi/L	ARS-054/EPA 906.0	10/30/07 11:35	BS	NA

NOTES: Project Cost Code: MR8R0225FB00

Lindsay Ransignne

Project Manager Review

Notes: American Radiation Services, Inc. assumes no liability for the use or interpretation of any analytical results provided other than the cost of the analysis itself. Reproduction of this report in less than full requires the written consent of the client.

LELAP Certificate# 30658 NELAP Certificate # E87558

AMERICAN RADIATION SERVICES, INC.

2609 North River Road, Port Allen, Louisiana 70767

1 (800) 401-4277 FAX (225) 381-2996

ARS Sample Delivery Group:	ARS1-07-01726	**Request or PO Number:**	08-80
Client Sample ID:	MD21-07-6815	**ARS Sample ID:**	ARS1-07-01726-004
Sample Collection Date:	10/19/2007	**Date Received:**	10/23/07 09:50
Sample Matrix:	Aqueous	**Report Date:**	10/31/07 10:36

Analysis Description	Analysis Results	Analysis Error +/- 2 s	MDC	DLC	Qual	Analysis Units	Analysis Test Method	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
H-3	206.760	115.483	186.722	91.773		pCi/L	ARS-054/EPA 906.0	10/30/07 14:41	BS	NA

NOTES: Project Cost Code: MR8R0225FB00

Lindsay Lanseigne

Project Manager Review

Notes: American Radiation Services, Inc. assumes no liability for the use or interpretation of any analytical results provided other than the cost of the analysis itself. Reproduction of this report in less than full requires the written consent of the client.

LELAP Certificate# 30658 NELAP Certificate # E87558

AMERICAN RADIATION SERVICES, INC.

2609 North River Road, Port Allen, Louisiana 70767

1 (800) 401-4277 FAX (225) 381-2996

ARS Sample Delivery Group:	ARS1-07-01726	**Request or PO Number:**	08-80
Client Sample ID:	MD21-07-6814	**ARS Sample ID:**	ARS1-07-01726-005
Sample Collection Date:	10/19/2007	**Date Received:**	10/23/07 09:50
Sample Matrix:	Aqueous	**Report Date:**	10/31/07 10:37

Analysis Description	Analysis Results	Analysis Error +/- 2 s	MDC	DLC	Qual	Analysis Units	Analysis Test Method	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
H-3	9385.239	989.166	184.992	90.923		pCi/L	ARS-054/EPA 906.0	10/30/07 17:48	BS	NA

NOTES: Project Cost Code: MR8R0225FB00

Lindsay Lanseigne

Project Manager Review

Notes: American Radiation Services, Inc. assumes no liability for the use or interpretation of any analytical results provided other than the cost of the analysis itself. Reproduction of this report in less than full requires the written consent of the client.

LELAP Certificate# 30658 NELAP Certificate # E87558

AMERICAN RADIATION SERVICES, INC.

2609 North River Road, Port Allen, Louisiana 70767

1 (800) 401-4277 FAX (225) 381-2996

QC Results Report

Sample Delivery Group: ARS1-07-01726

Date Received: 10/23/2007

Laboratory Control Sample Evaluation

Analysis Batch	QC Type	Analyte	Analysis Results	CSU 1 (1 s)	MDC	Expected Value	Qual	Report Units	Analysis Test Method	Analysis Date/Time	Analysis Technician	Percent Recovery (%)	LCS Acceptance Range
ARS1-B07-03039	LCS	H3	1068.59	167.4	181.90639	1212.21		pCi/L	ARS-055/EPA 906.0	10/29/07 20:01	BS	88	75%-125%

Blank Evaluation

Analysis Batch	QC Type	Analyte	Analysis Results	CSU 1 (1 s)	MDC	Expected Value	Qual	Report Units	Analysis Test Method	Analysis Date/Time	Analysis Technician
ARS1-B07-03039	MBL	H3	0.410	106.30834	181.51987	NA	U	pCi/L	ARS-055/EPA 906.0	10/29/07 20:01	BS

RER Duplicate Evaluation

Analysis Batch	QC Type	Analysis Description	Result 1	CSU 1 (1 s)	Result 2	CSU 2 (1s)	Qual	Analysis Units	Analysis Test Method	Analysis Date/Time	Analysis Technician	RER	RER AcceptanceRange
ARS1-B07-03039	LCSD	H3	1068.59	167.4	1120.5062	171.2686		pCi/L	ARS-055/EPA 906.0	10/29/07 20:01	BS	0.15	< 1

DER Duplicate Evaluation

Analysis Batch	QC Type	Analysis Description	Result 1	CSU 1 (1 s)	Result 2	CSU 2 (1s)	Qual	Analysis Units	Analysis Test Method	Analysis Date/Time	Analysis Technician	DER	DER AcceptanceRange
ARS1-B07-03039	LCSD	H3	1068.59	167.4	1120.5062	171.2686		pCi/L	ARS-055/EPA 906.0	10/29/07 20:01	BS	0.43	< 3

Lindsay Lanseigne

Project Manager Review

Notes: American Radiation Services, Inc. assumes no liability for the use or interpretation of any analytical results provided other than the cost of the analysis itself. Reproduction of this report in less than full requires the written consent of the client.

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AMERICAN RADIATION SERVICES, INC.

2609 North River Road • Port Allen, Louisiana 70767

1 (800) 401-4277 • Fax (225) 381-2996

American Radiation Services Analytical Reports

for

Los Alamos National Laboratory

Tritium by Low Level Liquid Scintillation Counting

Samples

Assay Definition-

Assay Description:
Tritium - DPM Mode

Assay Type: DPM (Single)
Report Name: Report1
Output Data Path: C:\Packard\Tricarb\Results\H3 Results\Tritium for Protocol 5\20071029_1647
Raw Results Path: C:\Packard\Tricarb\Results\H3 Results\Tritium for Protocol 5\20071029_1647\20071029_1647.results
RTF File Name: C:\Packard\Tricarb\Results\H3 Results\Tritium for Protocol 5\20071029_1647\H3 Results.rtf
Comma-Delimited File Name: C:\Packard\Tricarb\Results\H3 Results\Tritium for Protocol 5\20071029_1647\H3 Results.csv
Assay File Name: C:\Packard\TriCarb\Assays\Tritium for Protocol 5.lsa

Count Conditions-

Nuclide: H3
Quench Indicator: tSIE/AEC
External Std Terminator (sec): 0.5 2s%
Pre-Count Delay (min): 0.00
Quench Set:
Low Energy: H-3
Count Time (min): 180.00
Count Mode: Normal
Assay Count Cycles: 1 Repeat Sample Count: 1
#Vials/Sample: 1 Calculate % Reference: Off

Background Subtract: Off
Low CPM Threshold: Off
2 Sigma % Terminator: On - Any Region

Regions	LL	UL	2Sigma % Terminator
A	2.0	18.6	0.50
B	0.0	2000.0	0.00
C	0.0	2000.0	0.00

Count Corrections-

Static Controller: On Luminescence Correction: Off
Colored Samples: Off Heterogeneity Monitor: Off
Coincidence Time (nsec): 18 Delay Before Burst (nsec): 75

Half Life-

Half Life Correction: Off

Regions	Half Life	Units	Reference Date	Reference Time

A
B
C

Cycle 1 Results

P#	S#	SMPL_ID	CPMA	DPM1	tSIE	Eff Nucl In A	Count Time	DATE	TIME	MESSAGES
5	1	BACKGROUND	6.293	14.15	440.29	44.46	180.00	10/29/2007	4:52:33 PM	
5	2	B07-03039-01	11.492	26.25	432.19	43.77	180.00	10/29/2007	8:01:24 PM	
5	3	B07-03039-02	11.767	26.82	433.37	43.88	180.00	10/29/2007	11:08:03 PM	
5	4	B07-03039-03	6.295	14.41	431.04	43.68	180.00	10/30/2007	2:14:39 AM	
5	5	B07-03039-04	7.815	18.25	417.73	42.83	180.00	10/30/2007	5:21:16 AM	
5	6	B07-03039-05	6.964	16.30	415.02	42.73	180.00	10/30/2007	8:27:52 AM	
5	7	B07-03039-06	7.451	17.51	410.07	42.55	180.00	10/30/2007	11:34:32 AM	
5	8	B07-03039-07	7.273	17.12	408.02	42.48	180.00	10/30/2007	2:41:11 PM	
5	9	B07-03039-08	51.193	120.34	409.78	42.54	180.00	10/30/2007	5:47:59 PM	

AMERICAN RADIATION SERVICES, INC.

LSC Instrument Data Transfer Report

\\Packard3170\Results\H3 Results\Tritium for Protocol

Batch Sample ID	Non-BKG Samples transferred	Samples Eligible to Save
ARS1-B07-03039	8	8

LIMS Batch Sample ID	LSC PS	LSC PID	LSC SP	LSC SMPL ID	LSC Count Date	LSC CPMA	LSC ASE	LSC EFF	LSC Count Dur	Analytic Batch	LIMS SDG	LIMS Run
BKG	5		1	BACKGROUND	10/29/07 16:52	6.29	440.29	44.4600	180.00	ARS1-B07-03039		
ARS1-B07-03039-01	5		2	B07-03039-01	10/29/07 20:01	11.49	432.19	43.7700	180.00	ARS1-B07-03039		
ARS1-B07-03039-02	5		3	B07-03039-02	10/29/07 23:08	11.77	433.37	43.8800	180.00	ARS1-B07-03039		
ARS1-B07-03039-03	5		4	B07-03039-03	10/30/07 02:14	6.30	431.04	43.6800	180.00	ARS1-B07-03039		
ARS1-B07-03039-04	5		5	B07-03039-04	10/30/07 05:21	7.82	417.73	42.8300	180.00	ARS1-B07-03039	ARS1-07-01726	1
ARS1-B07-03039-05	5		6	B07-03039-05	10/30/07 08:27	6.96	415.02	42.7300	180.00	ARS1-B07-03039	ARS1-07-01726	1
ARS1-B07-03039-06	5		7	B07-03039-06	10/30/07 11:34	7.45	410.07	42.5500	180.00	ARS1-B07-03039	ARS1-07-01726	1
ARS1-B07-03039-07	5		8	B07-03039-07	10/30/07 14:41	7.27	408.02	42.4800	180.00	ARS1-B07-03039	ARS1-07-01726	1
ARS1-B07-03039-08	5		9	B07-03039-08	10/30/07 17:47	51.19	409.78	42.5400	180.00	ARS1-B07-03039	ARS1-07-01726	1

Calculation Verification

Procedure	ARS-054
Variable	**Value**
Gross Count Rate	11.492000
Sample Count Mins	180.000000
BKG Count Rate	6.293000
BKG Count Mins	180.000000
Instrument Efficiency	0.437700
Sample Aliquot	5.007000
Dilution Factor	1.000000
Aliquot Conversion Factor	0.001000
Sample Collection Date (t1)	10/29/07 8:01 PM
Count Date (t2)	10/29/07 8:01 PM
Activity Units = pCi --- UCF =	2.2200
CF	1.9600
Nuclide Abundance	1.000000
Halflife Days 1 - Result Isotope	4499.800000
TPUF_Factor 1	0.041330
TPUF_Factor 2	0.020000
TPUF_Factor 3	0.000000
TPUF_Factor 4	0.025000
TPUF_Factor 5	0.000000
TPUF_Factor 6	0.000000
Activity Units	pCi
Aliquot Units	L
Variables Intact Test	**OK**

Isotope	H-3		
Calculated Values	**Excel**	**VBA**	**V/V**
ACT	**1068.593935**	**1068.593935**	**OK**
CU	**126.630885**	**126.630885**	**OK**
TPU	**167.406578**	**167.406578**	**OK**
MDA	**181.906385**	**181.906385**	**OK**
DL	**89.405946**	**89.405946**	**OK**
Net Count Rate	**5.199000**	**5.199000**	**OK**
D t 1 (t2 - t1)	**0.000000**	**0.000000**	**OK**
DF	**1.000000**	**1.000000**	**OK**
Sys Err	**0.052280**	**0.052280**	**OK**
K	**0.004865**	**0.004865**	**OK**
K MDA	**0.875749**	**0.875749**	**OK**

Batch Identifiers and Other Related Information	
Batch	ARS1-B07-03039
Batch ID	ARS1-B07-03039-01
Analysis Code	
SDG	ARS1-07-01726
Fraction	005
Run Number	1
Client	QC Sample
Client Profile	
Client ID	N/A QC Sample
Instr File Name	84
Instr Detector	P-5 - S-2
Instr keV	
Version/Date	1.0 -- 11/18/2005

Reviewed by: _____ **Date:** _____

Calculation Verification

Procedure	ARS-054
Variable	**Value**
Gross Count Rate	11.767000
Sample Count Mins	180.000000
BKG Count Rate	6.293000
BKG Count Mins	180.000000
Instrument Efficiency	0.438800
Sample Aliquot	5.015000
Dilution Factor	1.000000
Aliquot Conversion Factor	0.001000
Sample Collection Date (t1)	10/29/07 11:08 PM
Count Date (t2)	10/29/07 11:08 PM
Activity Units = pCi --- UCF =	2.2200
CF	1.9600
Nuclide Abundance	1.000000
Halflife Days 1 - Result Isotope	4499.800000
TPUF_Factor 1	0.041330
TPUF_Factor 2	0.020000
TPUF_Factor 3	0.000000
TPUF_Factor 4	0.025000
TPUF_Factor 5	0.000000
TPUF_Factor 6	0.000000
Activity Units	pCi
Aliquot Units	L
Variables Intact Test	OK

Isotope	H-3		
Calculated Values	**Excel**	**VBA**	**V/V**
ACT	**1120.506196**	**1120.506196**	**OK**
CU	**127.083206**	**127.083206**	**OK**
TPU	**171.268576**	**171.268576**	**OK**
MDA	**181.160924**	**181.160924**	**OK**
DL	**89.039555**	**89.039555**	**OK**
Net Count Rate	**5.474000**	**5.474000**	**OK**
D t 1 (t2 - t1)	**0.000000**	**0.000000**	**OK**
DF	**1.000000**	**1.000000**	**OK**
Sys Err	**0.052280**	**0.052280**	**OK**
K	**0.004885**	**0.004885**	**OK**
K MDA	**0.879353**	**0.879353**	**OK**

Batch Identifiers and Other Related Information	
Batch	ARS1-B07-03039
Batch ID	ARS1-B07-03039-02
Analysis Code	
SDG	ARS1-07-01726
Fraction	005
Run Number	1
Client	QC Sample
Client Profile	
Client ID	N/A QC Sample
Instr File Name	84
Instr Detector	P-5 - S-3
Instr keV	
Version/Date	1.0 -- 11/18/2005

Reviewed by: _____ **Date:** _____

Calculation Verification

Procedure	ARS-054
Variable	**Value**
Gross Count Rate	6.295000
Sample Count Mins	180.000000
BKG Count Rate	6.293000
BKG Count Mins	180.000000
Instrument Efficiency	0.436800
Sample Aliquot	5.028000
Dilution Factor	1.000000
Aliquot Conversion Factor	0.001000
Sample Collection Date (t1)	10/30/07 2:15 AM
Count Date (t2)	10/30/07 2:15 AM
Activity Units = pCi --- UCF =	2.2200
CF	1.9600
Nuclide Abundance	1.000000
Halflife Days 1 - Result Isotope	4499.800000
TPUF_Factor 1	0.041330
TPUF_Factor 2	0.020000
TPUF_Factor 3	0.000000
TPUF_Factor 4	0.025000
TPUF_Factor 5	0.000000
TPUF_Factor 6	0.000000
Activity Units	pCi
Aliquot Units	L
Variables Intact Test	**OK**

Isotope	H-3		
Calculated Values	**Excel**	**VBA**	**V/V**
ACT	**0.410203**	**0.410203**	**OK**
CU	**106.308334**	**106.308334**	**OK**
TPU	**106.308342**	**106.308342**	**OK**
MDA	**181.519875**	**181.519875**	**OK**
DL	**89.215978**	**89.215978**	**OK**
Net Count Rate	**0.002000**	**0.002000**	**OK**
D t 1 (t2 - t1)	**0.000000**	**0.000000**	**OK**
DF	**1.000000**	**1.000000**	**OK**
Sys Err	**0.052280**	**0.052280**	**OK**
K	**0.004876**	**0.004876**	**OK**
K MDA	**0.877614**	**0.877614**	**OK**

Batch Identifiers and Other Related Information	
Batch	ARS1-B07-03039
Batch ID	ARS1-B07-03039-03
Analysis Code	
SDG	ARS1-07-01726
Fraction	005
Run Number	1
Client	QC Sample
Client Profile	
Client ID	N/A QC Sample
Instr File Name	84
Instr Detector	P-5 - S-4
Instr keV	
Version/Date	1.0 -- 11/18/2005

Reviewed by: _____ **Date:** _____

Calculation Verification

Procedure	ARS-054
Variable	**Value**
Gross Count Rate	7.815000
Sample Count Mins	180.000000
BKG Count Rate	6.293000
BKG Count Mins	180.000000
Instrument Efficiency	0.428300
Sample Aliquot	5.029000
Dilution Factor	1.000000
Aliquot Conversion Factor	0.001000
Sample Collection Date (t1)	10/19/07 12:00 AM
Count Date (t2)	10/30/07 5:21 AM
Activity Units = pCi --- UCF =	2.2200
CF	1.9600
Nuclide Abundance	1.000000
Halflife Days 1 - Result Isotope	4499.800000
TPUF_Factor 1	0.041330
TPUF_Factor 2	0.020000
TPUF_Factor 3	0.000000
TPUF_Factor 4	0.025000
TPUF_Factor 5	0.000000
TPUF_Factor 6	0.000000
Activity Units	pCi
Aliquot Units	L
Variables Intact Test	OK

Isotope	H-3		
Calculated Values	**Excel**	**VBA**	**V/V**
ACT	**318.847315**	**318.847315**	**OK**
CU	**114.953092**	**114.953092**	**OK**
TPU	**119.505878**	**119.505878**	**OK**
MDA	**185.405737**	**185.405737**	**OK**
DL	**91.125857**	**91.125857**	**OK**
Net Count Rate	**1.522000**	**1.522000**	**OK**
D t 1 (t2 - t1)	**11.222917**	**11.222917**	**OK**
DF	**0.998273**	**0.998273**	**OK**
Sys Err	**0.052280**	**0.052280**	**OK**
K	**0.004773**	**0.004773**	**OK**
K MDA	**0.859220**	**0.859220**	**OK**

Batch Identifiers and Other Related Information	
Batch	ARS1-B07-03039
Batch ID	ARS1-B07-03039-04
Analysis Code	LSC-A-001
SDG	ARS1-07-01726
Fraction	001
Run Number	1
Client	Los Alamos National Laboratory
Client Profile	Los Alamos
Client ID	MD21-07-6813
Instr File Name	84
Instr Detector	P-5 - S-5
Instr keV	
Version/Date	1.0 -- 11/18/2005

Reviewed by: _____ **Date:** _____

Calculation Verification

Procedure	ARS-054
Variable	**Value**
Gross Count Rate	6.964000
Sample Count Mins	180.000000
BKG Count Rate	6.293000
BKG Count Mins	180.000000
Instrument Efficiency	0.427300
Sample Aliquot	5.014000
Dilution Factor	1.000000
Aliquot Conversion Factor	0.001000
Sample Collection Date (t1)	10/19/07 12:00 AM
Count Date (t2)	10/30/07 8:28 AM
Activity Units = pCi --- UCF =	2.2200
CF	1.9600
Nuclide Abundance	1.000000
Halflife Days 1 - Result Isotope	4499.800000
TPUF_Factor 1	0.041330
TPUF_Factor 2	0.020000
TPUF_Factor 3	0.000000
TPUF_Factor 4	0.025000
TPUF_Factor 5	0.000000
TPUF_Factor 6	0.000000
Activity Units	pCi
Aliquot Units	L
Variables Intact Test	OK

Isotope	H-3		
Calculated Values	**Excel**	**VBA**	**V/V**
ACT	**141.322661**	**141.322661**	**OK**
CU	**112.029329**	**112.029329**	**OK**
TPU	**112.961376**	**112.961375**	**OK**
MDA	**186.399329**	**186.399329**	**OK**
DL	**91.614201**	**91.614201**	**OK**
Net Count Rate	**0.671000**	**0.671000**	**OK**
D t 1 (t2 - t1)	**11.352778**	**11.352778**	**OK**
DF	**0.998253**	**0.998253**	**OK**
Sys Err	**0.052280**	**0.052280**	**OK**
K	**0.004748**	**0.004748**	**OK**
K MDA	**0.854640**	**0.854640**	**OK**

Batch Identifiers and Other Related Information	
Batch	ARS1-B07-03039
Batch ID	ARS1-B07-03039-05
Analysis Code	LSC-A-001
SDG	ARS1-07-01726
Fraction	002
Run Number	1
Client	Los Alamos National Laboratory
Client Profile	Los Alamos
Client ID	MD21-07-6816
Instr File Name	84
Instr Detector	P-5 - S-6
Instr keV	
Version/Date	1.0 -- 11/18/2005

Reviewed by: _____ **Date:** _____

Calculation Verification

Procedure	ARS-054
Variable	**Value**
Gross Count Rate	7.451000
Sample Count Mins	180.000000
BKG Count Rate	6.293000
BKG Count Mins	180.000000
Instrument Efficiency	0.425500
Sample Aliquot	5.044000
Dilution Factor	1.000000
Aliquot Conversion Factor	0.001000
Sample Collection Date (t1)	10/19/07 12:00 AM
Count Date (t2)	10/30/07 11:35 AM
Activity Units = pCi --- UCF =	2.2200
CF	1.9600
Nuclide Abundance	1.000000
Halflife Days 1 - Result Isotope	4499.800000
TPUF_Factor 1	0.041330
TPUF_Factor 2	0.020000
TPUF_Factor 3	0.000000
TPUF_Factor 4	0.025000
TPUF_Factor 5	0.000000
TPUF_Factor 6	0.000000
Activity Units	pCi
Aliquot Units	L
Variables Intact Test	**OK**

Isotope	H-3		
Calculated Values	**Excel**	**VBA**	**V/V**
ACT	**243.472051**	**243.472051**	**OK**
CU	**113.872000**	**113.872000**	**OK**
TPU	**116.572907**	**116.572907**	**OK**
MDA	**186.078249**	**186.078249**	**OK**
DL	**91.456393**	**91.456393**	**OK**
Net Count Rate	**1.158000**	**1.158000**	**OK**
D t 1 (t2 - t1)	**11.482639**	**11.482639**	**OK**
DF	**0.998233**	**0.998233**	**OK**
Sys Err	**0.052280**	**0.052280**	**OK**
K	**0.004756**	**0.004756**	**OK**
K MDA	**0.856115**	**0.856115**	**OK**

Batch Identifiers and Other Related Information	
Batch	ARS1-B07-03039
Batch ID	ARS1-B07-03039-06
Analysis Code	LSC-A-001
SDG	ARS1-07-01726
Fraction	003
Run Number	1
Client	Los Alamos National Laboratory
Client Profile	Los Alamos
Client ID	MD21-07-6817
Instr File Name	84
Instr Detector	P-5 - S-7
Instr keV	
Version/Date	1.0 -- 11/18/2005

Reviewed by: _____ **Date:** _____

Calculation Verification

Procedure	ARS-054
Variable	**Value**
Gross Count Rate	7.273000
Sample Count Mins	180.000000
BKG Count Rate	6.293000
BKG Count Mins	180.000000
Instrument Efficiency	0.424800
Sample Aliquot	5.035000
Dilution Factor	1.000000
Aliquot Conversion Factor	0.001000
Sample Collection Date (t1)	10/19/07 12:00 AM
Count Date (t2)	10/30/07 2:41 PM
Activity Units = pCi --- UCF =	2.2200
CF	1.9600
Nuclide Abundance	1.000000
Halflife Days 1 - Result Isotope	4499.800000
TPUF_Factor 1	0.041330
TPUF_Factor 2	0.020000
TPUF_Factor 3	0.000000
TPUF_Factor 4	0.025000
TPUF_Factor 5	0.000000
TPUF_Factor 6	0.000000
Activity Units	pCi
Aliquot Units	L
Variables Intact Test	OK

Isotope	H-3		
Calculated Values	**Excel**	**VBA**	**V/V**
ACT	**206.759718**	**206.759718**	**OK**
CU	**113.523450**	**113.523450**	**OK**
TPU	**115.483476**	**115.483476**	**OK**
MDA	**186.721751**	**186.721751**	**OK**
DL	**91.772670**	**91.772670**	**OK**
Net Count Rate	**0.980000**	**0.980000**	**OK**
D t 1 (t2 - t1)	**11.611806**	**11.611806**	**OK**
DF	**0.998213**	**0.998213**	**OK**
Sys Err	**0.052280**	**0.052280**	**OK**
K	**0.004740**	**0.004740**	**OK**
K MDA	**0.853164**	**0.853164**	**OK**

Batch Identifiers and Other Related Information	
Batch	ARS1-B07-03039
Batch ID	ARS1-B07-03039-07
Analysis Code	LSC-A-001
SDG	ARS1-07-01726
Fraction	004
Run Number	1
Client	Los Alamos National Laboratory
Client Profile	Los Alamos
Client ID	MD21-07-6815
Instr File Name	84
Instr Detector	P-5 - S-8
Instr keV	
Version/Date	1.0 -- 11/18/2005

Reviewed by: _____ **Date:** _____

Calculation Verification

Procedure	ARS-054
Variable	**Value**
Gross Count Rate	51.193000
Sample Count Mins	180.000000
BKG Count Rate	6.293000
BKG Count Mins	180.000000
Instrument Efficiency	0.425400
Sample Aliquot	5.075000
Dilution Factor	1.000000
Aliquot Conversion Factor	0.001000
Sample Collection Date (t1)	10/19/07 12:00 AM
Count Date (t2)	10/30/07 5:48 PM
Activity Units = pCi --- UCF =	2.2200
CF	1.9600
Nuclide Abundance	1.000000
Halflife Days 1 - Result Isotope	4499.800000
TPUF_Factor 1	0.041330
TPUF_Factor 2	0.020000
TPUF_Factor 3	0.000000
TPUF_Factor 4	0.025000
TPUF_Factor 5	0.000000
TPUF_Factor 6	0.000000
Activity Units	pCi
Aliquot Units	L
Variables Intact Test	OK

Isotope	H-3		
Calculated Values	**Excel**	**VBA**	**V/V**
ACT	**9385.238956**	**9385.238955**	**OK**
CU	**231.526047**	**231.526047**	**OK**
TPU	**989.166322**	**989.166322**	**OK**
MDA	**184.992470**	**184.992470**	**OK**
DL	**90.922738**	**90.922738**	**OK**
Net Count Rate	**44.900000**	**44.900000**	**OK**
D t 1 (t2 - t1)	**11.741667**	**11.741667**	**OK**
DF	**0.998193**	**0.998193**	**OK**
Sys Err	**0.052280**	**0.052280**	**OK**
K	**0.004784**	**0.004784**	**OK**
K MDA	**0.861140**	**0.861140**	**OK**

Batch Identifiers and Other Related Information	
Batch	ARS1-B07-03039
Batch ID	ARS1-B07-03039-08
Analysis Code	LSC-A-001
SDG	ARS1-07-01726
Fraction	005
Run Number	1
Client	Los Alamos National Laboratory
Client Profile	Los Alamos
Client ID	MD21-07-6814
Instr File Name	84
Instr Detector	P-5 - S-9
Instr keV	
Version/Date	1.0 -- 11/18/2005

Reviewed by: _____ **Date:** _____

Batch Result Verification Report

ABatch	ABatchSampleID	Isotope	ClientID	ACT	CU	TPU	DL	MDA	BP_DL	BP_MDA	Sb	SampleCounts	SampleCountMins	BKG_Counts	BKG_CountMins	EFF	ALIQ	UCF	CF	GrossCountRate
ARS1-B07-03039	ARS1-B07-03039-01	H-3	MD21-07-6814	1068.593935	126.6308847	167.4065782	89.40595	181.90639				0.06384	180.00000	0.03496	180.00000	0.43770	5.00700	2.22000	1.96000	11.49200
ARS1-B07-03039	ARS1-B07-03039-02	H-3	MD21-07-6814	1120.506196	127.0832056	171.2685762	89.03956	181.16092				0.06537	180.00000	0.03496	180.00000	0.43880	5.01500	2.22000	1.96000	11.76700
ARS1-B07-03039	ARS1-B07-03039-03	H-3	MD21-07-6814	0.410203274	106.3083341	106.3083424	89.21598	181.51987				0.03497	180.00000	0.03496	180.00000	0.43680	5.02800	2.22000	1.96000	6.29500
ARS1-B07-03039	ARS1-B07-03039-04	H-3	MD21-07-6813	318.8473153	114.9530917	119.5058783	91.12586	185.40574				0.04342	180.00000	0.03496	180.00000	0.42830	5.02900	2.22000	1.96000	7.81500
ARS1-B07-03039	ARS1-B07-03039-05	H-3	MD21-07-6816	141.3226613	112.0293288	112.9613755	91.61420	186.39933				0.03869	180.00000	0.03496	180.00000	0.42730	5.01400	2.22000	1.96000	6.96400
ARS1-B07-03039	ARS1-B07-03039-06	H-3	MD21-07-6817	243.472051	113.8719996	116.5729072	91.45639	186.07825				0.04139	180.00000	0.03496	180.00000	0.42550	5.04400	2.22000	1.96000	7.45100
ARS1-B07-03039	ARS1-B07-03039-07	H-3	MD21-07-6815	206.7597179	113.5234499	115.483476	91.77267	186.72175				0.04041	180.00000	0.03496	180.00000	0.42480	5.03500	2.22000	1.96000	7.27300
ARS1-B07-03039	ARS1-B07-03039-08	H-3	MD21-07-6814	9385.238955	231.5260474	989.1663216	90.92274	184.99247				0.28441	180.00000	0.03496	180.00000	0.42540	5.07500	2.22000	1.96000	51.19300

Batch Result Verification Report

ABatch	ABatchSampleID	Isotope	ClientID	BKGCountRate	NetCountRate	ChemRecovery	TracerRecovery	PlatingRecovery	NuclideAbd	TracerMeasACT	TracerKnownACT	SampleCollDate	MidPointCountDate	Halflife1	Halflife2	Halflife3	TPUF_1
ARS1-B07-03039	ARS1-B07-03039-01	H-3	MD21-07-6814	6.29300	5.19900							10/31/07 7:43	10/29/07 20:01	4499.80000			0.04133
ARS1-B07-03039	ARS1-B07-03039-02	H-3	MD21-07-6814	6.29300	5.47400							10/31/07 7:43	10/29/07 23:08	4499.80000			0.04133
ARS1-B07-03039	ARS1-B07-03039-03	H-3	MD21-07-6814	6.29300	0.00200							10/31/07 7:43	10/30/07 2:15	4499.80000			0.04133
ARS1-B07-03039	ARS1-B07-03039-04	H-3	MD21-07-6813	6.29300	1.52200							10/19/07 0:00	10/30/07 5:21	4499.80000			0.04133
ARS1-B07-03039	ARS1-B07-03039-05	H-3	MD21-07-6816	6.29300	0.67100							10/19/07 0:00	10/30/07 8:28	4499.80000			0.04133
ARS1-B07-03039	ARS1-B07-03039-06	H-3	MD21-07-6817	6.29300	1.15800							10/19/07 0:00	10/30/07 11:35	4499.80000			0.04133
ARS1-B07-03039	ARS1-B07-03039-07	H-3	MD21-07-6815	6.29300	0.98000							10/19/07 0:00	10/30/07 14:41	4499.80000			0.04133
ARS1-B07-03039	ARS1-B07-03039-08	H-3	MD21-07-6814	6.29300	44.90000							10/19/07 0:00	10/30/07 17:48	4499.80000			0.04133

Batch Result Verification Report

ABatch	ABatchSampleID	Isotope	ClientID	TPUF_2	TPUF_3	TPUF_4	TPUF_5	TPUF_6	DeltaT1	DeltaT2	DeltaT3	DeltaT4	DeltaT5	DeltaT6	DF1	DF2	DF3	IF1	IF2	SysErr	K_Val	K_MDA	InstFileName	DetectorID	InstrumentkeV
ARS1-B07-03039	ARS1-B07-03039-01	H-3	MD21-07-6814	0.02000	0.00000	0.02500	0.00000	0.00000	0.00000						1.00000					0.05228	0.00487	0.87575	84	P-5 - S-2	
ARS1-B07-03039	ARS1-B07-03039-02	H-3	MD21-07-6814	0.02000	0.00000	0.02500	0.00000	0.00000	0.00000						1.00000					0.05228	0.00489	0.87935	84	P-5 - S-3	
ARS1-B07-03039	ARS1-B07-03039-03	H-3	MD21-07-6814	0.02000	0.00000	0.02500	0.00000	0.00000	0.00000						1.00000					0.05228	0.00488	0.87761	84	P-5 - S-4	
ARS1-B07-03039	ARS1-B07-03039-04	H-3	MD21-07-6813	0.02000	0.00000	0.02500	0.00000	0.00000	11.22292						0.99827					0.05228	0.00477	0.85922	84	P-5 - S-5	
ARS1-B07-03039	ARS1-B07-03039-05	H-3	MD21-07-6816	0.02000	0.00000	0.02500	0.00000	0.00000	11.35278						0.99825					0.05228	0.00475	0.85464	84	P-5 - S-6	
ARS1-B07-03039	ARS1-B07-03039-06	H-3	MD21-07-6817	0.02000	0.00000	0.02500	0.00000	0.00000	11.48264						0.99823					0.05228	0.00476	0.85611	84	P-5 - S-7	
ARS1-B07-03039	ARS1-B07-03039-07	H-3	MD21-07-6815	0.02000	0.00000	0.02500	0.00000	0.00000	11.61181						0.99821					0.05228	0.00474	0.85316	84	P-5 - S-8	
ARS1-B07-03039	ARS1-B07-03039-08	H-3	MD21-07-6814	0.02000	0.00000	0.02500	0.00000	0.00000	11.74167						0.99819					0.05228	0.00478	0.86114	84	P-5 - S-9	

Batch Result Verification Report

ABatch	ABatchSampleID	Isotope	ClientID	TracerIsotope	TracerRefDate	TracerRefACT	TracerKnown	SDG	Run	Fraction	AnalysisCode	UserID	ModDate
ARS1-B07-03039	ARS1-B07-03039-01	H-3	MD21-07-6814					ARS1-07-01726	1	005		BSTEFFENS	10/31/07 7:43
ARS1-B07-03039	ARS1-B07-03039-02	H-3	MD21-07-6814					ARS1-07-01726	1	005		BSTEFFENS	10/31/07 7:43
ARS1-B07-03039	ARS1-B07-03039-03	H-3	MD21-07-6814					ARS1-07-01726	1	005		BSTEFFENS	10/31/07 7:43
ARS1-B07-03039	ARS1-B07-03039-04	H-3	MD21-07-6813					ARS1-07-01726	1	001	LSC-A-001	BSTEFFENS	10/31/07 7:43
ARS1-B07-03039	ARS1-B07-03039-05	H-3	MD21-07-6816					ARS1-07-01726	1	002	LSC-A-001	BSTEFFENS	10/31/07 7:43
ARS1-B07-03039	ARS1-B07-03039-06	H-3	MD21-07-6817					ARS1-07-01726	1	003	LSC-A-001	BSTEFFENS	10/31/07 7:43
ARS1-B07-03039	ARS1-B07-03039-07	H-3	MD21-07-6815					ARS1-07-01726	1	004	LSC-A-001	BSTEFFENS	10/31/07 7:43
ARS1-B07-03039	ARS1-B07-03039-08	H-3	MD21-07-6814					ARS1-07-01726	1	005	LSC-A-001	BSTEFFENS	10/31/07 7:43

AMERICAN RADIATION SERVICES, INC.

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American Radiation Services Analytical Reports

for

Los Alamos National Laboratory

Tritium by Low Level Liquid Scintillation Counting

Laboratory Records

Analysis Batch Report

ARS AMERICAN RADIATION SERVICES, INC.

Analysis Batch ID **ARS1-B07-03039**

Method **ARS-054** **Matrix** **AQ**

Description **TRITIUM IN WATER**

ABatch Sample ID	Type	Blind Iso1	Blind Iso2	Blind Iso3	SDG	1	FR	Client ID	Client Deadline	Lab Deadline	Analysis Code
ARS1-B07-03039-01	LCS	B-03968									
ARS1-B07-03039-02	LCSD	B-03969									
ARS1-B07-03039-03	MBL										
ARS1-B07-03039-04	TRG				**ARS1-07-01726**	1	001	MD21-07-6813	11/01/07	10/30/07	LSC-A-001
ARS1-B07-03039-05	TRG				**ARS1-07-01726**	1	002	MD21-07-6816	11/01/07	10/30/07	LSC-A-001
ARS1-B07-03039-06	TRG				**ARS1-07-01726**	1	003	MD21-07-6817	11/01/07	10/30/07	LSC-A-001
ARS1-B07-03039-07	TRG				**ARS1-07-01726**	1	004	MD21-07-6815	11/01/07	10/30/07	LSC-A-001
ARS1-B07-03039-08	TRG				**ARS1-07-01726**	1	005	MD21-07-6814	11/01/07	10/30/07	LSC-A-001

LCS Expected = 1212.2072

LCS Range = 606.1036 - 1818.3108

LCSD Expected = 1212.2072

LCSD Range = 606.1036 - 1818.3108

QC Evaluation

EPA Method: EPA 906.0
Batch ID: ARS1-B07-03039
SDG's: ARS1-07-01726

LCS	1068.5939	**CSU**	167.4066
LCSD	1120.5062	**CSU-D**	171.2686

DER = $\frac{\text{abs(LSC-LSCD)}}{\text{sqr((2s CSU/2)^2)+((2s CSU-D/2)^2)}}$ = **< 3**

DER $\frac{51.912261}{119.74753}$ = 0.433514 **< 3**

% RPD= $\frac{\text{ABS(LCS - LSCD)}}{\text{(LCS+LCSD)/2}}$ * 100 = **< 25%**

%RPD $\frac{51.912261}{1094.5501}$ *100 = 4.742795 **< 25%**

The *RPD* shall be less than 25% or other client-applied criteria

RER= $\frac{\text{abs((LCS-LCSD))}}{\text{(CSU)+(CSD)}}$ = **<1**

RER = $\frac{51.912261}{338.6752}$ 0.15328 **<1**

Blank Information

	Act	CSU	MDA
AM-241			
U-234			
U-235			
U-238			
Pu-238			
Pu-239/240			
Th-228			
Th-230			
Th-232			
H3	0.410203	106.30834	181.5199
Ra-226			
Ra-228			
Total U			
KPA			
Pb-210			
Po-209			
Sr-90			

*MDA should be below RDL
*Blank activity must be below MDA
*Blank activity must be < 1.65*CSU (DOE only)

ACT =
CSU =
Is ACT<1.65*CSU? NO

Standards Report

Active	Std ID	Isotope	PSCLT	Verification Date	Exp Date	Status	Ref Date	Ref ACT (dpm)	Current ACT (dpm/g)	Halflife (days)	Parent ID	Expended Date	Comments
A	S-0001	Am-241	S	06/07/07	06/07/08	OK	03/16/06	5.1937E+01	51.8028	1.579E+05	S-0069		S-0001 Working level dilution - Information entered from dilution
A	S-0003	Cs-137	SL	02/01/06	02/01/07	EXP	08/13/03	1.2776E+02	115.9721	1.098E+04	S-0115		S-0003 - Information entered from dilution record - 4/19/2006 RTS
A	S-0007	Ra-226	S	05/29/07	05/29/08	OK	02/01/06	6.5015E+01	64.9661	5.840E+05	S-0105		This information entered from dilution records - 4/19/2006 - RTS
A	S-0020	Sr-89	SC	11/19/05	07/29/06	EXP	02/15/05	8.9224E+04	0.1260	5.053E+01	S-0109		
A	S-0023	Pu-238	S	11/02/05	11/02/06	EXP	11/01/05	1.1657E+01	11.4760	3.204E+04	S-0071		S-0023 Entered information from dilution records
A	S-0024	Pu-239	S	04/17/07	04/17/08	OK	10/26/05	1.1412E+01	11.4114	8.807E+06	S-0073		
A	S-0025	Pu-242	ST	04/17/07	04/17/08	OK	10/24/05	7.6328E+00	7.6328	1.365E+08	S-0075		S-0025 Information entered from dilution records
A	S-0027	Tc-99	SLC	09/01/06	09/01/07	EXP	10/18/05	9.4141E+03	9414.0775	7.710E+07	S-0113		S-0027 - Information entered from dilution records - RTS 4/19/2006
A	S-0028	U-238	S	06/18/07	06/18/08	OK	10/26/05	3.4935E+01	34.9349	1.632E+12	S-0063		
A	S-0032	H-3	SL	04/02/07	04/02/08	OK	03/01/06	3.4431E+03	3137.6889	4.500E+03	S-0031		S-0032 - Intermediate dilution for preparation of control solutions -
A	S-0033	Tc-99	SLC	10/18/05	10/18/06	EXP	10/18/05	1.9470E+02	194.6960	7.710E+07	S-0027	04/25/06	S-0033 Working level dilution - Information entered from dilution reco
A	S-0036	Th-230	SL	08/01/07	08/01/08	OK	10/31/02	1.2490E+01	12.4895	2.753E+07	S-0065		Empirical data collected over 2 mos. for S-0036 indicated that the ori
A	S-0037	Ra-226	SC	02/13/06	02/13/07	EXP	01/03/97	6.4956E+02	646.5249	5.840E+05	S-0104		S-0037 Series Spec Concentration Standard, dilution documentation
A	S-0038	Am-243	ST	06/07/07	06/07/08	OK	01/25/06	1.0656E+01	10.6547	2.692E+06	S-0067		S-0038 Entered from dilution documention. Density from certificate use
A	S-0039	Tc-99	SC	08/03/07	08/03/08	OK	03/30/06	1.1146E+04	11146.2824	7.710E+07	S-0114		S-0039 - Information entered from dilution records - 4/19/2006 RTS
A	S-0041	H-3	S	03/29/06	03/29/07	EXP	03/24/06	2.8167E+00	2.5760	4.500E+03	S-0032		S-0041 - Working level dilution for preparation of control solutions -
A	S-0063	U-238	P			Not Ver	08/01/97	2.4200E+02	242.0000	1.632E+12			S-0028 Entered from dilution record on 4/6/2006 RTS
A	S-0065	Th-230	P			Not Ver	01/27/95	1.7100E+00	1.7098	2.753E+07			S-0036 Information entered on 4/6/2006 RTS Density entered based on m
A	S-0067	Am-243	PT			Not Ver	10/20/05	3.6240E+01	36.2331	2.692E+06			S-0038 Entered on 4/6/2006 RTS from dilution documentation
A	S-0069	Am-241	PL			Not Ver	04/18/96	9.6000E-03	0.0094	1.579E+05			S-0001 Information entered from dilution records Dilution incorre
A	S-0071	Pu-238	PL			Not Ver	11/15/99	4.1520E+01	38.9941	3.204E+04			S-0023 Entered from dilution records
A	S-0073	Pu-239	PL			Not Ver	11/15/99	3.9240E+01	39.2310	8.807E+06			S-0024 Information entered from dilution records
A	S-0074	Pu-239	SL			Not Ver	10/26/05	1.1412E+01	11.4114	8.807E+06	S-0073		
A	S-0075	Pu-242	PT			Not Ver	06/04/94	2.6310E+01	26.3093	1.365E+08			S-0025 Information entered from dilution records
A	S-0077	U-232	PT			Not Ver	07/01/02	3.8220E+01	36.2291	2.516E+04			S-0026 Information enterd from dilution records
A	S-0102	U-nat	PC			Not Ver	08/01/97	4.8624E+02	486.2400	1.632E+12			NIST 4321 - uranium standard for use as total uranium standard (also I
A	S-0103	U-nat	SC	06/19/06	06/19/07	EXP	10/26/05	7.0226E+01	70.2265	1.632E+12	S-0102		S-0103 Prepared as total uranium solution. Activity is the sum o
A	S-0104	Ra-226	PC			Not Ver	01/01/93	1.1900E+01	11.8238	5.840E+05			S-0037 Primary solution
A	S-0105	Ra-226	P			Not Ver	01/01/93	1.1900E+01	11.8238	5.840E+05			Primary solution for S-0007 - Information entered from dilution record
A	S-0107	H-3	P			Not Ver	09/03/98	6.3470E+05	379484.7884	4.500E+03			Primary for S-0029 - Information entered from dilution records - 4/18/
A	S-0108	Sr-90	PC			Not Ver	07/01/95	4.0100E+03	2971.9425	1.041E+04			Primary for S-0017
A	S-0109	Sr-89	PLC			Not Ver	01/24/05	3.9414E+05	0.4115	5.053E+01			Activity concentration calculated per certificate information - 2.018E
A	S-0111	H-3	PC			Not Ver	04/01/06	2.0870E+00	1.9110	4.500E+03			Primary
A	S-0112	H-3	SC	04/19/06	04/19/07	EXP	04/18/06	1.1410E+04	10475.4719	4.500E+03	S-0111		Solution for use as calibration stock standard - Entered from dilution
A	S-0113	Tc-99	PLC			Not Ver	09/01/96	3.2610E+04	32608.8066	7.710E+07			Primary solution
A	S-0114	Tc-99	PC			Not Ver	04/01/06	2.0140E+00	2.0140	7.710E+07			primary
A	S-0115	Cs-137	PL			Not Ver	01/23/95	2.9000E+01	21.6134	1.098E+04			S-0003 primary - Information entered from dilution records - 4/19/2006
A	S-0116	Ra-226	SL			Not Ver	05/26/04	6.3538E+01	63.4436	5.840E+05	S-0105		S-0003 - Information entered from dilution records - 4/19/2006 RTS
A	S-0117	Sr-90	PLCT			Not Ver	07/01/95	4.0100E+03	2971.9425	1.041E+04			S-0017 primary - Information entered from dilution records - 4/19/2006
A	S-0118	Cs-137	PC			Not Ver	04/01/06	2.1110E+00	2.0362	1.098E+04			Primary Cs-137 Standard
A	S-0119	Cs-137	SC	04/19/06	04/19/07	EXP	04/03/06	1.1621E+04	11210.4009	1.098E+04	S-0118		Solution for use as calibration stock standard.
A	S-0120	Sr-90	PC			Not Ver	04/01/06	2.0490E+00	1.9724	1.041E+04			Primary Sr-90 Standard
A	S-0121	Sr-90	SC	09/14/07	09/14/08	OK	03/31/06	1.1282E+04	10859.5501	1.041E+04	S-0120		Solution for use as calibration stock standard.
A	S-0122	Am-241	PC			Not Ver	04/01/06	2.1050E+00	2.0997	1.579E+05			Primary Am-241 Standard
A	S-0123	Am-241	SC	04/24/06	04/24/07	EXP	04/03/06	1.1632E+04	11602.9308	1.579E+05	S-0122		Solution for use as calibration stock standard.

Standards Report

A	S-0124	Th-230	PC			Not Ver	04/01/06	1.8860E+00	1.8860	2.753E+07			Primary Th-230 Standard
A	S-0125	Th-230	SC	09/24/07	09/24/08	OK	03/27/06	1.0413E+04	10412.8673	2.753E+07	S-0124		Solution for use as calibration stock standard. Entered from dilution
A	S-0126	Ra-228	PL			Not Ver	02/22/06	1.0843E+05	88652.6572	2.100E+03			Primary Ra-228 Standard
A	S-0127	Ra-228	SL	05/10/06	05/10/07	EXP	05/10/06	1.1274E+04	9455.1260	2.100E+03	S-0126		Dilution performed and entered [illegible]
A	S-0128	Tc-99	SLC	05/03/06	05/03/07	EXP	04/05/06	5.6011E+03	5601.0572	7.710E+07	S-0039		Solution diluted per plan and as documented in measurements above exce
A	S-0129	Sr-90	PL			Not Ver	07/01/95	4.0100E+03	2971.9425	1.041E+04			
A	S-0132	Ra-228	SL	07/30/07	07/30/08	OK	05/10/06	4.5090E+01	37.8164	2.100E+03	S-0127		Dilution performed as stated above by B Steffens on 5/10/2006. Measure
A	S-0134	Sr-90	SL			Not Ver	09/26/03	4.7747E+02	432.3685	1.041E+04	S-0129		Original solution ID# was T11c. Dilution information entered from exis
A	S-0135	Sr-90	SL			Not Ver	06/09/04	5.7998E+01	53.4264	1.041E+04	S-0134		Original standard ID# was T11c-1/S-0017. Information entered from dilu
A	S-0137	Th-229	PT			Not Ver	12/05/03	1.2294E+05	122894.8662	2.681E+06			Primary Th-229 standard.
A	S-0138	Th-229	ST			Not Ver	05/28/04	6.0889E+02	608.6983	2.681E+06	S-0137		Used as an intermediate standard for creating tracer stock solutions.
A	S-0139	Po-209	P			Not Ver	08/15/94	5.1252E+03	4672.3771	3.726E+04			Primary Po-209 standard.
A	S-0140	Po-209	S			Not Ver	10/07/03	1.1882E+01	11.5598	3.726E+04	S-0139		
A	S-0141	Ra-226	PC			Not Ver	01/21/93	2.6418E+04	26249.5338	5.840E+05			Primary solution for creating calibration stock.
A	S-0142	Ra-226	SC	04/03/07	04/03/08	OK	07/21/06	6.5210E+02	651.7410	5.840E+05	S-0141		Solution for use as calibration stock. Dilution performed as stated ab
A	S-0143	Pb-210	P			Not Ver	07/18/06	7.6400E+00	7.3437	8.130E+03			ARS-WRM-001
A	S-0144	Pb-210	S	07/18/06	07/18/07	EXP	07/18/06	1.6961E+01	16.3029	8.130E+03	S-0143		7/18/2006 ARS-WRM-001 ID gamma spectroscopy measurements average act
A	S-0145	Th-229	ST			Not Ver	01/28/05	1.1938E+02	119.3526	2.681E+06	S-0138		Information was gathered from existing intermediate dilution records cre
A	S-0146	Th-229	ST	07/10/07	07/10/08	OK	03/10/05	5.9811E+00	5.9796	2.681E+06	S-0145		Information gathered from existing dilution records created on 4/28/20
A	S-0147	Tc-99	SC	09/01/06	09/01/07	EXP	08/08/06	2.3201E+02	232.0124	7.710E+07	S-0027		Tc-99 LCS standard. -BJS 9/1/2006
A	S-0148	C-14	PL			Not Ver	03/07/06	4.7320E+05	473102.0295	2.090E+06			Primary C-14 standard. The certified activity in dpm/g was derived by
A	S-0151	I-129	PLC			Not Ver	10/12/06	2.4390E+05	243899.9888	5.730E+09			Primary I-129 standard
A	S-0152	H-3	P	12/04/06	12/04/07	OK	09/03/98	2.0090E+00	1.2012	4.500E+03			Liquid in a 500-ml borosilicate-glass media bottle with teflon-lined s
A	S-0153	C-14	S			Not Ver	10/13/06	1.1837E+04	11835.0894	2.090E+06	S-0148		Standard was originally logged as S-0149. After discovering an error i
A	S-0154	C-14	S	03/12/07	03/12/08	OK	10/13/06	1.7245E+02	172.4285	2.090E+06	S-0153		LCS standard for C-14. Originally logged as S-0150. See parent comment
A	S-0155	Ra-226	SC	04/03/07	04/03/08	OK	03/20/07	5.9902E+01	59.8869	5.840E+05	S-0142		Calibration stock solution for Ra-226. Dilution performed as stated ab
A	S-0156	H-3	S	05/18/07	05/18/08	OK	04/27/07	2.7672E+00	2.6911	4.500E+03	S-0032		Normal level tritium LCS standard. Dilution performed as stated above
A	S-0157	Sr-90	P			Not Ver	05/15/07	7.6040E+03	7521.9147	1.041E+04			Primary Sr-90 LCS standard
A	S-0158	U-232	PT			Not Ver	05/17/07	8.3231E+02	828.6310	2.516E+04			Primary U-232 standard
A	S-0159	Sr-89	PC			Not Ver	05/15/07	1.7538E+04	1874.5996	5.053E+01			Primary Sr-89 standard
A	S-0160	Sr-90	S	07/16/07	07/16/08	OK	06/01/07	4.5216E+03	4477.8986	1.041E+04	S-0157		Intermediate standard for creating LCS standards. Dilution performed a
A	S-0161	U-232	ST	06/18/07	06/18/08	OK	06/06/07	5.1903E+02	517.0130	2.516E+04	S-0158		Intermediate U-232 standard to be used in creating stock tracer solut
A	S-0162	U-232	ST	06/18/07	06/18/08	OK	06/08/07	9.8656E+00	9.8279	2.516E+04	S-0161		Dilution performed as stated above by BSteffens on 6/8/2007. -BJS 6/8/
A	S-0163	Sr-90	S	07/16/07	07/16/08	OK	06/12/07	4.7407E+01	46.9825	1.041E+04	S-0160		Sr-90 LCS stock solution. Dilution performed as stated above by LLee
A	S-0164	Sr-89	PC			Not Ver	05/15/07	1.7533E+04	1874.0512	5.053E+01			Primary Sr-89 calibration standard.
A	S-0165	Sr-89	SC	08/10/07	04/18/08	OK	08/08/07	3.2967E+03	1130.8262	5.053E+01	S-0164		Calibration stock solution. Dilution performed as stated above by KMa
A	S-0166	Th-229	ST	08/28/07	08/28/08	OK	08/27/07	5.6494E+00	5.6493	2.681E+06	S-0145		Th-229 tracer. Dilution performed as stated above by B Steffens. -BJS
I	S-0026	U-232	ST	06/19/06	06/19/07	EXP	10/26/05	1.0854E+01	10.6379	2.516E+04	S-0077	06/21/07	S-0026 Information entered from dilution records
I	S-0030	H-3	P	11/19/05	11/19/06	EXP	12/10/98	6.9370E-01	0.4211	4.500E+03			Tritium in Oil
I	S-0031	H-3	S	10/26/05	10/26/06	EXP	10/19/05	5.0777E+05	542626.6673	4.500E+03	S-0107		Used as intermediate dilution. Information entered from dilution recor
I	S-0130	Sr-90	SL			Not Ver	09/26/03	5.3620E+02	485.5591	1.041E+04	S-0129	05/26/06	Original solution ID# is T11c. Dilution information entered from exist
I	S-0131	Sr-90	SL			Not Ver	02/02/06	0.0000E+00	0.0000	1.041E+04	S-0130	05/18/06	
I	S-0133	Sr-90	SL	01/09/06	01/09/07	EXP	06/09/04	5.8438E+01	53.8314	1.041E+04	S-0130	05/26/06	Original solution ID# was T11c-1/S-0017. Information entered from dilu
I	S-0136	Sr-90	SL	05/26/06	05/26/07	EXP	06/09/04	5.2036E+01	47.9344	1.041E+04	S-0134	07/17/07	Original standard ID# was T11c-1/S-0017. Dilution information entered
I	S-0149	C-14	SL			Not Ver	10/13/06	5.9553E+04	59545.6163	2.090E+06	S-0148	03/16/07	Intermediate standard for creating LCS stock solutions. Dilution perfo
I	S-0150	C-14	SL			Not Ver	10/13/06	8.6764E+02	867.5358	2.090E+06	S-0149	03/16/07	LCS standard for C-14 in water. Dilution performed as stated above. -B

Standards Report

I	S-0167	Th-229	ST			Not Ver	08/27/07	5.6494E+00		5.6493	2.681E+06	S-0145	08/28/07	Th-229 tracer. Dilution performed as stated above by B Steffens. -BJS

American Radiation Services
Baton Rouge Laboratory

LCS Report
Analytical Batch: ARS1-B07-03039

ID_58050	BlindID	ABatch	ABatchSampleID	BlindGroup	StdID	Isotope	ExpectedAddition	ExpectedValue	EmptyWt	GrossWt	NetWt	UserID	ModDate
3945	B-03968	ARS1-B07-03039	ARS1-B07-03039-01	B-H3	S-0156	H-3	5	1.212201344	0	1	1	BSTEFFENS	10/25/2007
3946	B-03969	ARS1-B07-03039	ARS1-B07-03039-02	B-H3	S-0156	H-3	5	1.212201344	0	1	1	BSTEFFENS	10/25/2007

ARS-054

ID_31001_054	ABatch	ABatchSampleID	ClientID	Aliquot1	AliquotUnits1	Aliquot2	AliquotUnits2	UserID	ModDate
96	ARS1-B07-03039	ARS1-B07-03039-01		0	g	5.007	g	BSTEFFENS	10/31/2007
97	ARS1-B07-03039	ARS1-B07-03039-02		0	g	5.015	g	BSTEFFENS	10/31/2007
98	ARS1-B07-03039	ARS1-B07-03039-03		0	g	5.028	g	BSTEFFENS	10/31/2007
99	ARS1-B07-03039	ARS1-B07-03039-04	MD21-07-6813	0	g	5.029	g	BSTEFFENS	10/31/2007
100	ARS1-B07-03039	ARS1-B07-03039-05	MD21-07-6816	0	g	5.014	g	BSTEFFENS	10/31/2007
101	ARS1-B07-03039	ARS1-B07-03039-06	MD21-07-6817	0	g	5.044	g	BSTEFFENS	10/31/2007
102	ARS1-B07-03039	ARS1-B07-03039-07	MD21-07-6815	0	g	5.035	g	BSTEFFENS	10/31/2007
103	ARS1-B07-03039	ARS1-B07-03039-08	MD21-07-6814	0	g	5.075	g	BSTEFFENS	10/31/2007

Beta Liquid Scintillation Counter Log Book

Date	Time	ARS Sample I.D. Number	Batch Number	Liquid Scintillation File Number	Technician Initials
10-12-07	15:16	B07-02894-05	07-02894	1609	
↓	↓	B07-02894-06	↓	↓	
↓	↓	B07-02894-07	↓	↓	
↓	↓	B07-02894-08	↓	↓	
↓	↓	B07-02894-09	↓	↓	
↓	↓	B07-02894-10	↓	↓	
↓	↓	B07-02894-11	↓	↓	
↓	↓	B07-02894-12	↓	↓	
↓	↓	B07-02894-13 ~~B07-02894-13~~ 10-12-07	↓	↓	
↓	↓	B07-02894-14	↓	↓	
↓	↓	B07-02894-15	↓	↓	
↓	↓	B07-02894-16	↓	↓	
10-24-07	08:41	SNC	QA	QA	
10-29-07	09:10	SNC	QA	QA	
07	15:52	Background	07-03039	1647	
	↓	B07-03039-01	↓	↓	
	↓	B07-03039-02	↓	↓	
	↓	B07-03039-03	↓	↓	
	↓	B07-03039-04	↓	↓	
	↓	B07-03039-05	↓	↓	

Reviewed By: _____ Date: _____
Initials

Beta Liquid Scintillation Counter Log Book

Date	Time	ARS Sample I.D. Number	Batch Number	Liquid Scintillation File Number	Technician Initials
10-29-07	15:52	B07-03039-04	07-03039	1647	[illegible]
↓	↓	B07-03039-07	↓	↓	[illegible]
↓	↓	B07-03039-08	↓	↓	[illegible]

Reviewed By: _____ Date: _____
Initials

AMERICAN RADIATION SERVICES, INC.

2609 North River Road • Port Allen, Louisiana 70767

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American Radiation Services Analytical Reports

for

Los Alamos National Laboratory

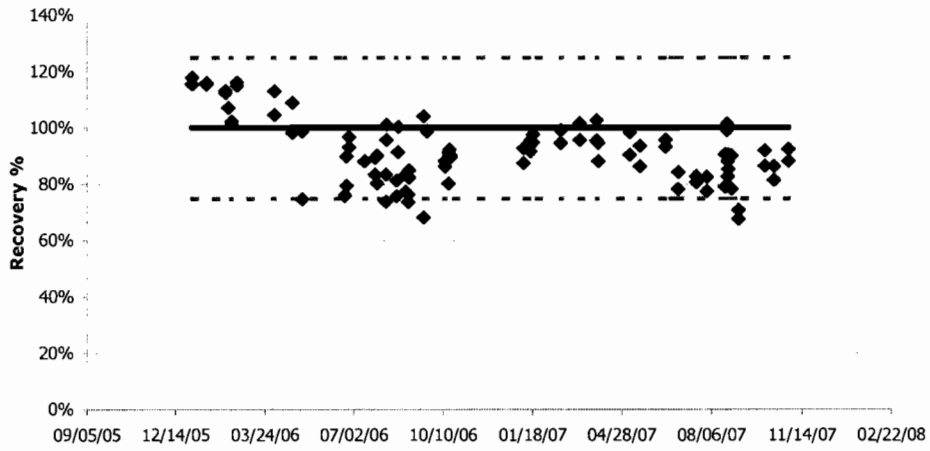
Tritium by Low Level Liquid Scintillation Counting

Control Charts

American Radiation Services
Baton Rouge Laboratory

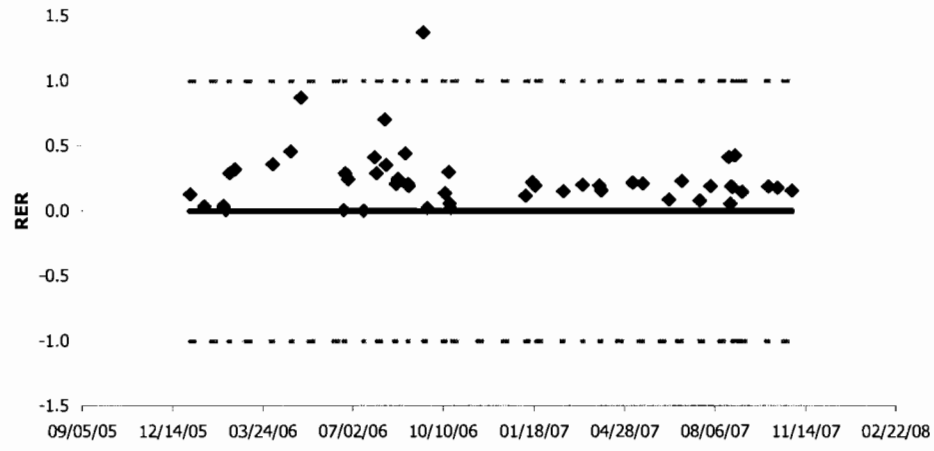
QC Chart

Tritium LCS



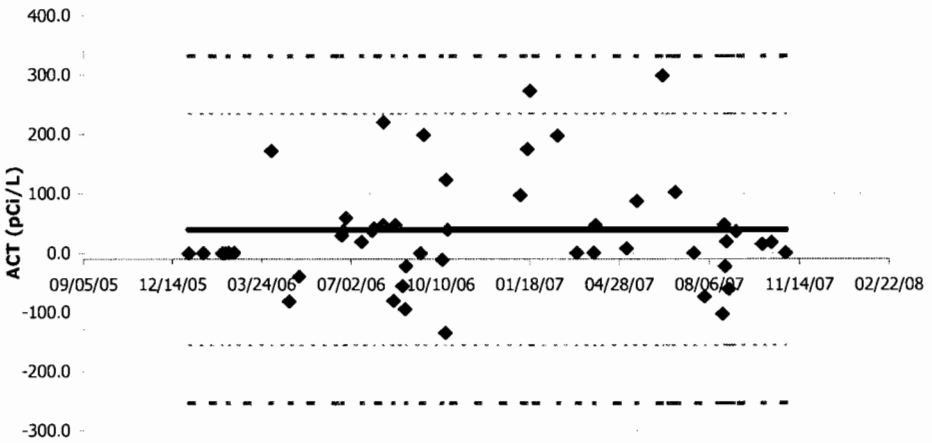
Average	STDEV	n	UCL	LCL
0.9151	0.1154	50	1.2500	0.7500

Tritium RER



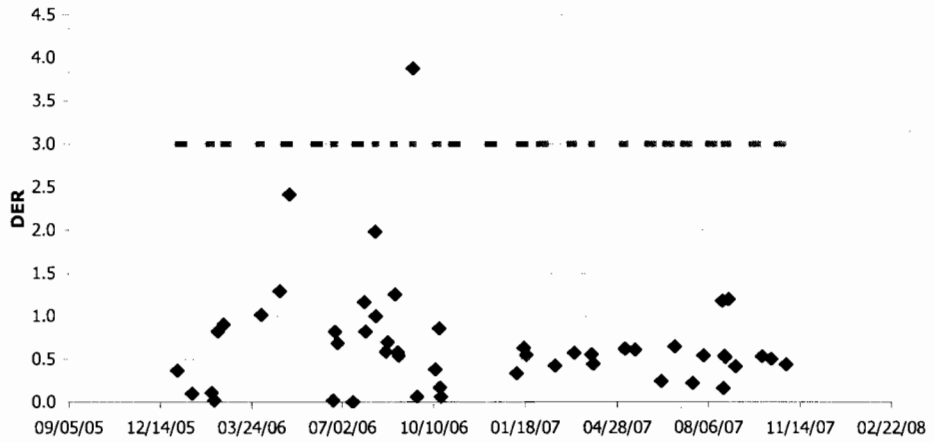
		n	UCL	LCL
		50	1.0000	-1.0000

Tritium Blank



Average	STDEV	n	UCL	LCL
39.2963	93.7462	50	332.0487	-253.4560

Tritium DER



		n	UCL	
		50	3.0000	

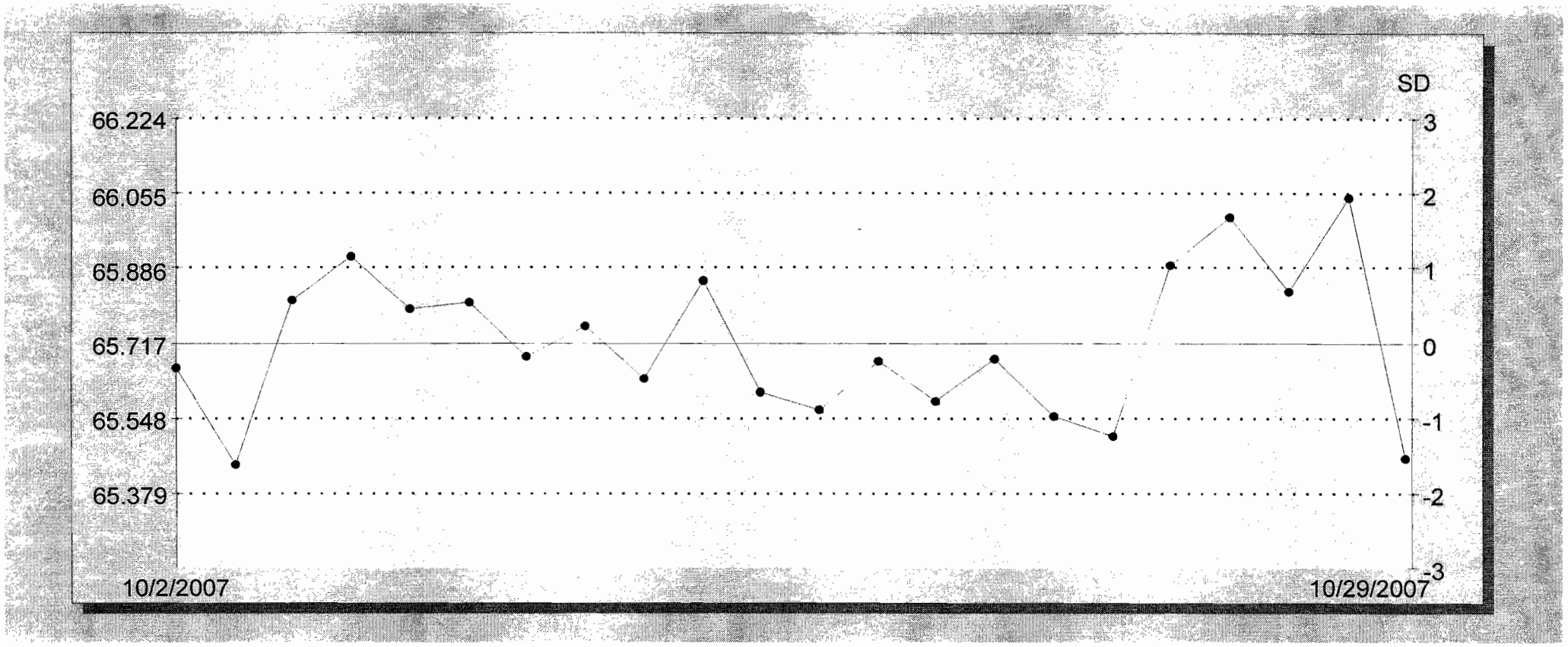
3H Efficiency

Total # pts : 3965
Valid # pts : 22
Mean : 65.72
SD : 0.17

Date	Value	Valid Pt
Oct 02, 2007	65.66	X
Oct 02, 2007	65.45	X
Oct 02, 2007	65.81	X
Oct 02, 2007	65.91	X
Oct 02, 2007	65.79	X
Oct 03, 2007	65.81	X
Oct 03, 2007	65.69	X
Oct 03, 2007	65.76	X
Oct 03, 2007	65.64	X
Oct 03, 2007	65.86	X
Oct 03, 2007	65.61	X
Oct 03, 2007	65.57	X
Oct 03, 2007	65.68	X
Oct 03, 2007	65.58	X
Oct 03, 2007	65.68	X
Oct 04, 2007	65.55	X
Oct 12, 2007	65.51	X
Oct 12, 2007	65.90	X
Oct 24, 2007	66.00	X
Oct 24, 2007	65.84	X
Oct 29, 2007	66.05	X
Oct 29, 2007	65.46	X

3H Efficiency

Total # pts	: 3965
Valid # pts	: 22
Mean	: 65.72
SD	: 0.17

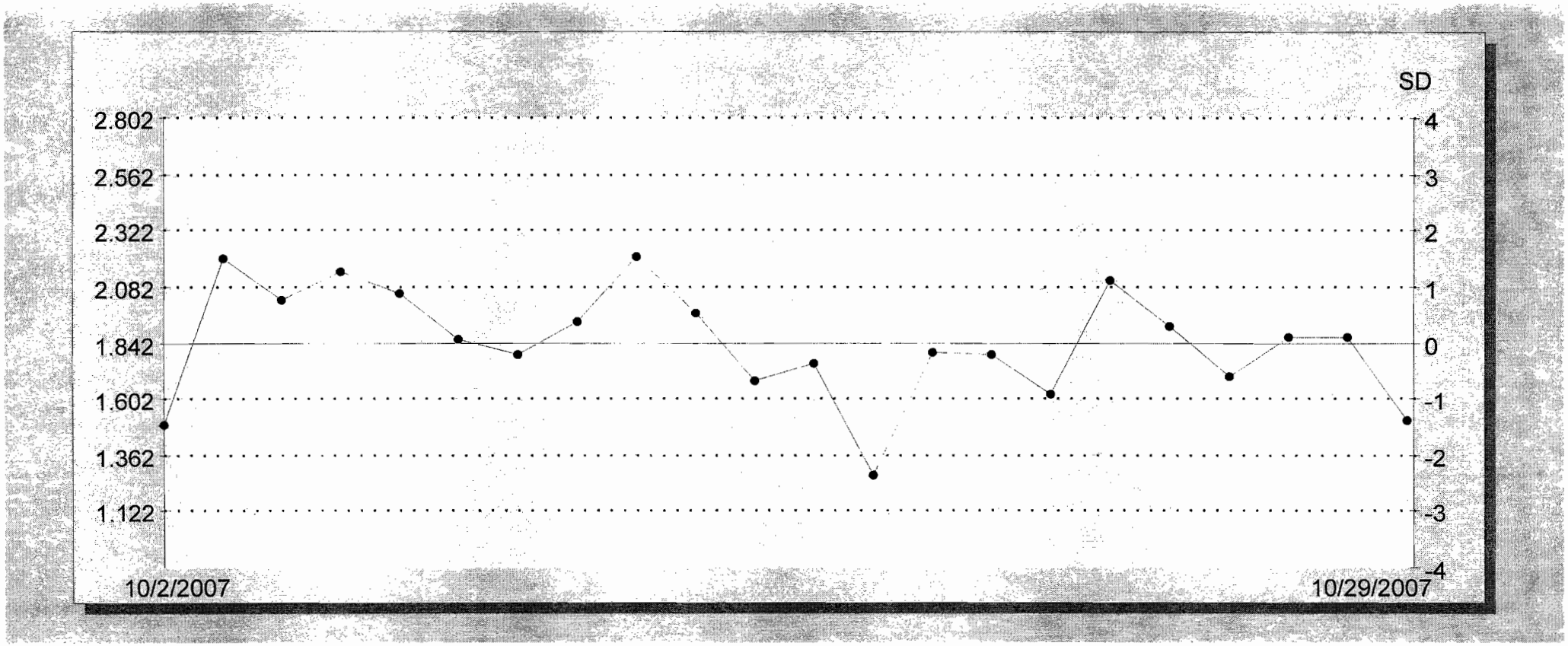


3H Background
Total # pts : 3920
Valid # pts : 22
Mean : 1.84
SD : 0.24

Date	Value	Valid Pt
Oct 02, 2007	1.49	X
Oct 02, 2007	2.20	X
Oct 02, 2007	2.03	X
Oct 02, 2007	2.15	X
Oct 02, 2007	2.05	X
Oct 03, 2007	1.86	X
Oct 03, 2007	1.79	X
Oct 03, 2007	1.93	X
Oct 03, 2007	2.22	X
Oct 03, 2007	1.97	X
Oct 03, 2007	1.67	X
Oct 03, 2007	1.76	X
Oct 03, 2007	1.27	X
Oct 03, 2007	1.80	X
Oct 03, 2007	1.79	X
Oct 04, 2007	1.62	X
Oct 12, 2007	2.11	X
Oct 12, 2007	1.92	X
Oct 24, 2007	1.69	X
Oct 24, 2007	1.87	X
Oct 29, 2007	1.86	X
Oct 29, 2007	1.51	X

3H Background

Total # pts	: 3920
Valid # pts	: 22
Mean	: 1.84
SD	: 0.24



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American Radiation Services Analytical Reports

for

Los Alamos National Laboratory

Low Level Liquid Scintillation Counting

Calibration Information

STD ID: S-0156

ARS American Radiation Services, Inc.	Add/Edit *Secondary Stds*	Parent Standard Data	
Planning		Parent Solution Reference #	NIST SRM 4927F
Planning Comments	**Create a dilution of S-0032 for use as LCS stock solution**	Parent Solution #	S-0032
Target dpm/g (on dil. date)	**2.76**	Parent Principal Radionuclide	H-3 — Half Life (Days) 4499.8000000
Target Final volume mL	**2000**	Parent Reference Date	03/01/2006 00:00
Appx mass g of Parent Sol'n	1.710884008	Parent Certified Act	3443.100423 — Certi Act/Vol Units dpm / g
Appx vol ml of Parent Sol'n	1.718969152	Parent Cert Act Uncert 1 Sigma	0.0036
Expected Addition for Analysis g	**5**	Parent Sp. Gravity G/Ml	0.9982
Standards Preparation / Dilution		Parent Supplier	NIST SRM 4927F
Secondary Solution #	S-0156	Parent Date Recvd	01/02/00
Dilution Date (New Ref Date)	**04/27/2007 00:00**	Parent Received By	Unknown
Ampoule, Empty (g)		Parent Cert Exp Date	
Ampoule /Solution Gross (g)		Parent Matrix	H2O
Net Wt Removed (g)		Certified dpm/g At Ref Date	3443.100423
Transfer Container, empty (g)	**17.8583**	Certified dpm/g on 04/27/2007 00:00	3226.402243
Container Plus Solution (g)	**19.5702**	Parent Comments	S-0032 - Intermediate dilution for preparation of control solutions - Entered from dilution records - 4/19/2006 RTS - Edited to update the dilution to 3/1/2006 from dilution records - 4/27/2006 LFD
Net Wt Transferred (g)	1.7119		
DPM Xferred on 04/27/2007 00:00	5523.278		
Diluent/matrix	**H2O**	Parent Tech	Unknown
Diluent Density Cont, empty (g)		Is_Primary	FALSE
Test Mass of 5 ml of Diluent (g)		Is_LCS	FALSE
Diluent Density Test - (g/mL)		Is_Tracer	FALSE
Dilution Empty Container Mass (g)	**1**	Is_Calib	FALSE
Dilution Full Cont g (if measured)	**1997**		
Dilution Final Volume ml (if measured)	**2000**		
Final Dilution Density (g/mL)	0.998		
Final Dilution Measured Mass g	1.996		
Comments	**Normal level tritium LCS standard. Dilution performed as stated above by TByrd on 4/27/2007. -BJS 4/27/2007**		
Final Dilution dpm/g	2.76017334		
Final Dil New Ref Date/Time	04/27/2007 00:00		

QUALITY CONTROL PROGRAM

AMERICAN RADIATION SERVICES, INC.

AMERICAN RADIATION SERVICES
RADIOACTIVE REFERENCE SOLUTIONS

ANNUAL ACTIVITY VERIFICATION- Rev 1

VERIFICATION DATE 5/18/2007 0:00
SOLUTION REFERENCE # [redacted]

Principal Radionuclide	Half Life, Years	Half Life, Days
H-3	1.232E+01	4.500E+03

Radionuclide H-3 **Primary Dilution Reference Date** 4/27/2007 0:00

Primary Dilution Activity	1.25	**pCi per gram ===> dpm/g**	2.78
Verif. Date Decay Corrected	1.25	**pCi per gram ===> dpm/g**	2.77

Verification Trials

Trial ID#		
	Gross Weight	2.0000
	Tare Weight	1.0000
	Net Weight	1.0000
	Gross Weight	2.0000
	Tare Weight	1.0000
	Net Weight	1.0000
	Gross Weight	2.0000
	Tare Weight	1.0000
	Net Weight	1.0000

Trial ID#		
	Gross Weight	2.0000
	Tare Weight	1.0000
	Net Weight	1.0000
	Gross Weight	2.0000
	Tare Weight	1.0000
	Net Weight	1.0000

Trial ID	Sample Counts	Count Time (min)	Detector	Efficiency	Bkg. (cpm)	Net Weight	Activity Result (dpm/g)	Activity Result (pCi/g)
S-0156-1	12.198	1	LSC	0.4395	6.143	5.0100	2.75	1.24
S-0156-2	11.748	1	LSC	0.4325	6.143	5.0100	2.59	1.17
S-0156-3	11.822	1	LSC	0.434	6.143	5.0000	2.62	1.18

Average	2.65	1.19
Two Sigma Uncertainty	0.17	0.08
Standard Deviation percent of known concentration	3.14%	3.14%
Target Activity	2.77	1.25
% Diff	-4.15	-4.15

Verification Expiration Date: May 17, 2008

Prepared & Counted By [signature] Date: 5/18/2007 0:00

Verified & Approved By [signature] Date: 5-18-07

QC Approval [signature] Date: 5-18-07

Verifier's Name: Tony Byrd **Date:** 4/30/2007
Pipettor ID: CH84078
Pipettor ID:
Pipettor ID: CH80870
Standard ID: S-0112
Standard ID: S-0032 (S-0156)

	Weight of Standard			
15mL of Ultima Gold added to standard	**S-0156-1**	5.01 g	**Balance ID:**	H1331122173560P
	S-0156-2	5.01 g		
	S-0156-3	5.00 g		
		g		
		g		
15mL of Ultima Gold added to standard	**S-0112-1**	1.03 g	**Balance ID:**	H1331122173560P
	S-0112-2	1.08 g		
	S-0112-3	1.00 g		
		g		
		g		

Assay Definition-

Assay Description:
Tritium - DPM Mode

Assay Type: DPM (Single)
Report Name: Report1
Output Data Path: C:\Packard\Tricarb\Results\H3 Results\Tritium for protocol 6\20070517_1143
Raw Results Path: C:\Packard\Tricarb\Results\H3 Results\Tritium for protocol 6\20070517_1143\20070517_1143.results
RTF File Name: C:\Packard\Tricarb\Results\H3 Results\Tritium for protocol 6\20070517_1143\H3 Results.rtf
Comma-Delimited File Name: C:\Packard\Tricarb\Results\H3 Results\Tritium for protocol 6\20070517_1143\H3 Results.csv
Assay File Name: C:\Packard\TriCarb\Assays\Tritium for protocol 6.lsa

Count Conditions-

Nuclide: H3
Quench Indicator: tSIE/AEC
External Std Terminator (sec): 0.5 2s%
Pre-Count Delay (min): 0.00
Quench Set:
Low Energy: H-3
Count Time (min): 90.00
Count Mode: Normal
Assay Count Cycles: 1 Repeat Sample Count: 1
#Vials/Sample: 1 Calculate % Reference: Off

Background Subtract: Off
Low CPM Threshold: Off
2 Sigma % Terminator: On - Any Region

Regions	LL	UL	2Sigma % Terminator
A	2.0	18.6	0.50
B	0.0	2000.0	0.00
C	0.0	2000.0	0.00

Count Corrections-

Static Controller: On Luminescence Correction: Off
Colored Samples: Off Heterogeneity Monitor: Off
Coincidence Time (nsec): 18 Delay Before Burst (nsec): 75

Half Life-

Half Life Correction: Off

Regions	Half Life	Units	Reference Date	Reference Time

Protocol# 6 - Tritium for protocol 6.lsa User: H3 Results

A
B
C

Cycle 1 Results

P#	S#	SMPL_ID	CPMA	DPM1	tSIE	Eff Nucl In A	Count Time	DATE	TIME	MESSAGES
6	1	BACKGROUND	6.143	13.99	433.79	43.91	90.00	5/17/2007	11:48:37 AM	
6	2	S-0156-1 ~~S-0032-1~~	12.198	27.76	434.24	43.95	90.00	5/17/2007	1:24:20 PM	
6	3	S-0156-2 ~~S-0032-2~~	11.748	27.16	426.06	43.25	90.00	5/17/2007	3:00:09 PM	
6	4	S-0156-3 ~~S-0032-3~~	11.822	27.24	427.76	43.40	90.00	5/17/2007	4:35:56 PM	

5-18-07

National Institute of Standards & Technology

Certificate

Standard Reference Material 4927F
Hydrogen-3 Radioactivity Standard

This Standard Reference Material (SRM) consists of radioactive hydrogen-3, as water, in 5 mL of distilled water. The solution is contained in a flame-sealed NIST borosilicate-glass ampoule. The SRM is intended for the calibration of beta-particle counting instruments and for the monitoring of radiochemical procedures.

Radiological Hazard

The SRM ampoule contains hydrogen-3 with a total activity of approximately 3.2 MBq. Hydrogen-3 decays by beta-particle emission. None of the beta particles escape from the SRM ampoule. During the decay process no photons are emitted. Approximate unshielded dose rates at several distances (as of the reference time) are given in note [a]*. There is no detectable external radiation. The SRM should be used only by persons qualified to handle radioactive material.

Chemical Hazard

The SRM ampoule contains only distilled water. There is no chemical hazard. If the ampoule is to be opened to transfer the solution, the recommended procedure is given on page 2.

Storage and Handling

The SRM should be stored and used at a temperature between 5 and 65 °C. The solution in an unopened ampoule should remain stable and homogeneous until at least September 2008.

The ampoule (or any subsequent container) should always be clearly marked as containing radioactive material. If the ampoule is transported it should be packed, marked, labeled, and shipped in accordance with the applicable national, international, and carrier regulations. The solution in the ampoule is a dangerous good (hazardous material) because of the radioactivity.

Preparation

This Standard Reference Material was prepared in the Physics Laboratory, Ionizing Radiation Division, Radioactivity Group, L.R. Karam, Group Leader. The overall technical direction and physical measurements leading to certification were provided by L.L. Lucas and M.P. Unterweger of the Radioactivity Group.

The support aspects involved in the preparation, certification, and issuance of this SRM were coordinated through the Standard Reference Materials Program by J.W.L. Thomas.

Bert M. Coursey, Chief
Ionizing Radiation Division

Nancy M. Trahey, Chief
Standard Reference Materials Program

Gaithersburg, Maryland 20899
June 1999
Half-life and text revised October 2000

*Notes and references are on pages 5 and 6.

PROPERTIES OF SRM 4927F

Certified values

Solution density	**(0.998 ± 0.002) g•mL^{-1} at 20.0 °C [b]***
Radionuclide	**Hydrogen-3**
Reference time	**1200 EST, 3 September 1998**
Massic activity of the solution [c]	**634.7 kBq•g^{-1}**
Relative expanded uncertainty (k=2)	**0.72% [d] [e]**

Uncertified values

Physical Properties:			
Source description	Liquid in flame-sealed NIST borosilicate-glass ampoule		
Ampoule specifications	Body outside diameter Wall Thickness Barium content Lead-oxide content Other heavy elements	(16.5 ± 0.5) mm (0.60 ± 0.04) mm Less than 2.5% Less than 0.02% Trace quantities	
Solution mass	Approximately 5.0 g		
Chemical Properties:			
Solution composition	Chemical Formula	Concentration (mol•L^{-1})	Mass Fraction (g•g^{-1})
	H_2O ^3HHO	55 6×10^{-7}	1.00 1×10^{-8}
Radiological Properties:			
Radionuclidic impurities	None detected [f]		
Half lives used	Hydrogen-3: (4500 ± 8) d [g]		
Calibration method and measuring instrument(s)	4πß gas counting of SRM 4927E using the NIST length-compensated internal gas proportional counters and intercomparison of SRMs 4927E/4927F using two 4πß liquid-scintillation counting systems [h]		

*Notes and references are on pages 5 and 6.

EVALUATION OF THE UNCERTAINTY OF THE MASSIC ACTIVITY [d]*

Input Quantity x_i, the source of uncertainty (and individual uncertainty components where appropriate)	Method Used To Evaluate $u(x_i)$, the standard uncertainty of x_i (A) denotes evaluation by statistical methods (B) denotes evaluation by other methods	Relative Uncertainty Of Input Quantity, $u(x_i)/x_i$, (%) [i]	Relative Sensitivity Factor, $\lvert\partial y/\partial x_i\rvert \cdot (x_i/y)$ [j]	Relative Uncertainty Of Output Quantity, $u_i(y)/y$, (%) [k]
Massic count rate of SRM 4927E, corrected for background and decay [h]	Standard deviation of the mean for 23 sets of gas counting measurements (A)	0.18	1.0	0.18
Gram-mole measurements	Estimated (B)	0.20	1.0	0.20
Live-time [p]	Estimated (B)	0.10	1.0	0.10
Extrapolation of count-rate-versus-energy to zero energy	Estimated (B)	0.20	1.0	0.20
Half life of H-3	Standard uncertainty of the half life (A)	0.18 [m]	0.009 [n]	0.002
Liquid-scintillation intercomparison of SRM 4927F and SRM 4927E	Standard deviation of the mean for 7 sets of liquid-scintillation measurements (A)	0.06	1.0	0.06
Radionuclidic impurities	Limit of detection (B) [q]	100.	0.0005	0.05
Relative Combined Standard Uncertainty of the Output Quantity, $u_c(y)/y$, (%)				0.36
Coverage Factor, k				x 2
Relative Expanded Uncertainty of the Output Quantity, U/y, (%)				0.72

*Notes and references are on pages 5 and 6.

STD ID: S-0032

ARS AMERICAN RADIATION SERVICES, INC.	Add/Edit *Secondary Stds*	Parent Standard Data				
Planning		Parent Solution Reference #	NIST SRM 4927F			
Planning Comments	**Dilute S-0031 to form intermediate level solution for controls**	Parent Solution #	S-0031			
Target dpm/g (on dil. date)	**3367**	Parent Principal Radionuclide	H-3	Half Life (Days)	4499.8000000	
Target Final volume mL	**200**	Parent Reference Date	10/19/2005 00:00			
Appx mass g of Parent Sol'n	1.130920768	Parent Certified Act	607768.8494	Certi Act/Vol Units	dpm	g
Appx vol ml of Parent Sol'n	1.132960096	Parent Cert Act Uncert 1 Sigma	0.0036			
Expected Addition for Analysis g		Parent Sp. Gravity G/Ml	0.9982			
Standards Preparation / Dilution		Parent Supplier	NIST SRM 4927F			
Secondary Solution #	S-0032	Parent Date Recvd	01/02/00			
Dilution Date (New Ref Date)	**03/01/2006 00:00**	Parent Received By	Unknown			
Ampoule, Empty (g)		Parent Cert Exp Date				
Ampoule /Solution Gross (g)		Parent Matrix	H2O			
Net Wt Removed (g)		Certified dpm/g At Ref Date	607768.8494			
Transfer Container, empty (g)	**0**	Certified dpm/g on 03/01/2006 00:00	595444.0128			
Container Plus Solution (g)	**1.1544**	Parent Comments	S-0031 Intermediate dilution - Information entered from dilution records - 4/19/2006 RTS			
Net Wt Transferred (g)	1.1544					
DPM Xferred on 03/01/2006 00:00	687380.5684					
Diluent/matrix	**H2O**	Parent Tech	Unknown			
Diluent Density Cont, empty (g)		Is_Primary	FALSE			
Test Mass of 5 ml of Diluent (g)		Is_LCS	FALSE			
Diluent Density Test - (g/mL)		Is_Tracer	FALSE			
Dilution Empty Container Mass (g)	**1**	Is_Calib	FALSE			
Dilution Full Cont g (if measured)	**200.64**					
Dilution Final Volume ml (if measured)	**200**					
Final Dilution Density (g/mL)	0.9982					
Final Dilution Measured Mass g	199.64					
Comments	**S-0032 - Intermediate dilution for preparation of control solutions - Entered from dilution records - 4/19/2006 RTS Edited to update the dilution to 3/1/2006 from dilution records - 5/9/2006 LFU**					
Final Dilution dpm/g	3443.100423					
Final Dil New Ref Date/Time	03/01/2006 00:00					

AMERICAN RADIATION SERVICES, INC.

2609 North River Road • Port Allen, Louisiana 70767

1 (800) 401-4277 • Fax (225) 381-2996

American Radiation Services Analytical Reports

for

Los Alamos National Laboratory

Percent Moisture

AMERICAN RADIATION SERVICES, INC.

2609 North River Road, Port Allen, Louisiana 70767

1 (800) 401-4277 FAX (225) 381-2996

ARS Sample Delivery Group:	ARS1-07-01726	**Request or PO Number:**	08-80
Client Sample ID:	MD21-07-6813	**ARS Sample ID:**	ARS1-07-01726-001
Sample Collection Date:	10/19/2007	**Date Received:**	10/23/07 09:50
Sample Matrix:	Aqueous	**Report Date:**	10/31/07 11:06

Analysis Description	Analysis Results	Analysis Error +/- 2 s	MDC	DLC	Qual	Analysis Units	Analysis Test Method	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
Percent Moisture	13.769	NA	NA	NA		%	Moisture	10/29/2007	BS	NA

NOTES:

Lindsay Lasseigne
Project Manager Review

Notes: American Radiation Services, Inc. assumes no liability for the use or interpretation of any analytical results provided other than the cost of the analysis itself. Reproduction of this report in less than full requires the written consent of the client.

LELAP Certificate# 30658 NELAP Certificate # E87558

AMERICAN RADIATION SERVICES, INC.

2609 North River Road, Port Allen, Louisiana 70767

1 (800) 401-4277 FAX (225) 381-2996

ARS Sample Delivery Group:	ARS1-07-01726	**Request or PO Number:**	08-80
Client Sample ID:	MD21-07-6816	**ARS Sample ID:**	ARS1-07-01726-002
Sample Collection Date:	10/19/2007	**Date Received:**	10/23/07 09:50
Sample Matrix:	Aqueous	**Report Date:**	10/31/07 11:13

Analysis Description	Analysis Results	Analysis Error +/- 2 s	MDC	DLC	Qual	Analysis Units	Analysis Test Method	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
Percent Moisture	14.532	NA	NA	NA		%	Moisture	10/29/2007	BS	NA

NOTES:

Lindsay Lanseigne
Project Manager Review

Notes: American Radiation Services, Inc. assumes no liability for the use or interpretation of any analytical results provided other than the cost of the analysis itself. Reproduction of this report in less than full requires the written consent of the client.

LELAP Certificate# 30658 NELAP Certificate # E87558

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ARS Sample Delivery Group:	ARS1-07-01726	**Request or PO Number:**	08-80
Client Sample ID:	MD21-07-6817	**ARS Sample ID:**	ARS1-07-01726-003
Sample Collection Date:	10/19/2007	**Date Received:**	10/23/07 09:50
Sample Matrix:	Aqueous	**Report Date:**	10/31/07 11:13

Analysis Description	Analysis Results	Analysis Error +/- 2 s	MDC	DLC	Qual	Analysis Units	Analysis Test Method	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
Percent Moisture	13.873	NA	NA	NA		%	Moisture	10/29/2007	BS	NA

NOTES:

Lindsay Lasseigne

Project Manager Review

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LELAP Certificate# 30658 NELAP Certificate # E87558

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ARS Sample Delivery Group:	ARS1-07-01726	**Request or PO Number:**	08-80
Client Sample ID:	MD21-07-6815	**ARS Sample ID:**	ARS1-07-01726-004
Sample Collection Date:	10/19/2007	**Date Received:**	10/23/07 09:50
Sample Matrix:	Aqueous	**Report Date:**	10/31/07 11:14

Analysis Description	Analysis Results	Analysis Error +/- 2 s	MDC	DLC	Qual	Analysis Units	Analysis Test Method	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
Percent Moisture	14.103	NA	NA	NA		%	Moisture	10/29/2007	BS	NA

NOTES:

Lindsay Lanoeigne
Project Manager Review

Notes: American Radiation Services, Inc. assumes no liability for the use or interpretation of any analytical results provided other than the cost of the analysis itself. Reproduction of this report in less than full requires the written consent of the client.

LELAP Certificate# 30658 NELAP Certificate # E87558

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ARS Sample Delivery Group:	ARS1-07-01726	**Request or PO Number:**	08-80
Client Sample ID:	MD21-07-6814	**ARS Sample ID:**	ARS1-07-01726-005
Sample Collection Date:	10/19/2007	**Date Received:**	10/23/07 09:50
Sample Matrix:	Aqueous	**Report Date:**	10/31/07 11:14

Analysis Description	Analysis Results	Analysis Error +/- 2 s	MDC	DLC	Qual	Analysis Units	Analysis Test Method	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
Percent Moisture	13.090	NA	NA	NA		%	Moisture	10/29/2007	BS	NA

NOTES:

Lindsay Rasmigne

Project Manager Review

Notes: American Radiation Services, Inc. assumes no liability for the use or interpretation of any analytical results provided other than the cost of the analysis itself. Reproduction of this report in less than full requires the written consent of the client.

LELAP Certificate# 30658 NELAP Certificate # E87558

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American Radiation Services Analytical Reports

for

Los Alamos National Laboratory

Percent Moisture Laboratory Records

AMERICAN RADIATION SERVICES
Port Allen, LA
PERCENT MOISTURE DETERMINATION IN SOILS

SDG Number: ARS1-07-01726
Client: LANL

LANL ID	ARS ID	weight of cylinder with gel (g)	weight of empty cylinder (g)	Weight of gel (g)	amount of liquid collected (ml)	amount of liquid tested (ml)	**% moisture**
MD21-07-6813	ARS1-07-01726-001	621	449	171	23.545	5.029	**13.7690058**
MD21-07-6816	ARS1-07-01726-002	616	452	164	23.833	5.014	**14.5323171**
MD21-07-6817	ARS1-07-01726-003	623	451	172	23.862	5.044	**13.8732558**
MD21-07-6815	ARS1-07-01726-004	622	452	170	23.975	5.035	**14.1029412**
MD21-07-6814	ARS1-07-01726-005	623	453	170	22.253	5.075	**13.09**

Balance ID: 0102/1125183449
Popettor ID: V97701

Signature: B J Sheff Date/ Time: 10-31-07

AMERICAN RADIATION SERVICES
Port Allen, LA
PERCENT MOISTURE DETERMINATION IN SOILS

SDG Number ARS1-07-01726
Client LANL

LANL ID	ARS ID	weight of cylinder with gel (g)	weight of empty cylinder (g)	Weight of gel (g)	amount of liquid collected (ml)	amount of liquid tested (ml)	% moisture
MD21-07-6813	ARS1-07-01726-001	621	449	171	23.545	5.029	#DIV/0!
MD21-07-6816	ARS1-07-01726-002	616	452	164	23.833	5.014	#DIV/0!
MD21-07-6817	ARS1-07-01726-003	623	451	172	23.862	5.044	#DIV/0!
MD21-07-6815	ARS1-07-01726-004	622	452	170	23.975	5.035	#DIV/0!
MD21-07-6814	ARS1-07-01726-005	623	453	170	22.253	5.075	#DIV/0!

LCS - 5.007
LCSD - 5.015
BLK - 5.028

Balance ID: 0102/1125183449
Popettor ID: V97701

Signature [signature] Date/ Time 10-29-07

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American Radiation Services Analytical Reports

for

Los Alamos National Laboratory

Folder Duplicate

Report Completeness Checklist

ARS SDG: 07-01726 Client Name: LANL Sample Matrix: AQ

LEVEL 1 COMPONENTS	1st Reviewer	
1) Cover Page Complete and Accurate (see ARS-059)?	Yes No N/A	
2) Technical Review Checklist(s) Complete and Accurate?	Yes No N/A	
3) Case Narrative Complete and Accurate (see ARS-059)?	Yes No N/A	
4) Form 1s Present for all Samples and Tests?	Yes No N/A	
5) Client Specific Components are Present and Complete?	Yes No N/A	

LEVEL 2 COMPONENTS	1st Reviewer	
6) Batch Quality Control Report is Present and Accurate?	Yes No N/A	
7) DQO Report is Present and Accurate?	Yes No N/A	
8) Client Specific Batch QC Components are Present and Complete?	Yes No N/A	

LEVEL 3 COMPONENTS	1st Reviewer	
9) Efficiencies are Present?	Yes No N/A	
10) Calibrations are Present?	Yes No N/A	
11) Backgrounds are Present?	Yes No N/A	
12) Spectrum Analysis is Present?	Yes No N/A	
13) Spectral Plots are Present?	Yes No N/A	
14) Plateaus are Present?	Yes No N/A	
15) Control Charts are Present?	Yes No N/A	
16) Other:	Yes No N/A	

LEVEL 4 COMPONENTS	1st Reviewer	
17) Preparation Raw Data Present and Complete?	Yes No N/A	
18) Instrument Raw Data Present and Complete?	Yes No N/A	
19) Calibration Certificates Present?	Yes No N/A	
20) Copies of Log Book Pages Present?	Yes No N/A	
21) Sample Receiving Documentation Present?	Yes No N/A	
22) LIMS Reports Present?	Yes No N/A	
23) Applicable Correspondence Present?	Yes No N/A	
24) Other:	Yes No N/A	

Lindsay Lanseigne 10-31-07
Report Generator Signature Date

Eugene Mulligan 10-31-07
Management Review Signature Date

LSC
Technical Review Checklist

ARS SDG 07-01726

Sample Matrix: Silica Gel **Aliquot** (Circle One) : Dry As Received Filtered Other: _____

Required QC Samples (Circle all that apply): Blank LCS LCSD Sample Dup MS MSD

ARS Prep. Batch ID(s): **Batch A:** B07-03039 **Batch B:** _____ **Batch C:** _____

Test(s): A-3

A. RADIOCHEMICAL PREPARATION REVIEW

	Chemist Review	Analyst Review
1) 100% of Manual Transcriptions Verified?	Yes No N/A	Yes No N/A
2) 100% of Manual Calculations Verified?	Yes No N/A	Yes No N/A
3) Blank Composition/Configuration Matches Calibration?	Yes No N/A	Yes No N/A
4) Deviations from procedure are documented and verified?	Yes No N/A	Yes No N/A
5) Appropriate Cocktail Selected?	Yes No N/A	Yes No N/A

6) Sample Prep Anomaly? ☒ **No** ☐ **Yes** (See Tech Notes) **NCR #** (If initiated): _____

N/A — **Chemist Signature** **Date**

[signature] 10-19-07 — **Analyst Signature** **Date**

B. ANALYSIS REVIEW

	Analyst Review	Proj. Mgr. Review
1) Calibrations Valid and Current?	Yes No N/A	Yes No N/A
2) Backgrounds Valid and Current?	Yes No N/A	Yes No N/A
3) Source Checks Completed and Acceptable?	Yes No N/A	Yes No N/A
4) Background Checks Complete and Acceptable?	Yes No N/A	Yes No N/A
5) 100% of Manually Entered Parameters Verified Accurate?	Yes No N/A	Yes No N/A
6) Appropriate QC samples initiated at required frequency?	Yes No N/A	Yes No N/A
6) Test/Sample Specific Parameters (See ARS-059 for details)		
a) Analysis Parameters Checked and Correct and Peak Shapes are Acceptable?	Yes No N/A	Yes No N/A
b) Spectra show no Evidence of Interferences?	Yes No N/A	Yes No N/A
c) Sample Quench for All Samples within Range of Quench Curve?	Yes No N/A	Yes No N/A

7) Analysis Anomaly? ☒ **No** ☐ **Yes** (See Comments) **NCR #** (If initiated): _____

[signature] 10-31-07 — **Analyst Signature** **Date**

Lindsay Lanseigne 10-31-07 — **Project Manager Signature** **Date**

Batch A: 07-03039

LSC
Technical Review Checklist

C. BATCH QC VALIDATION

	Proj. Mgr. Review	QA Officer Review
1) Activity + 3xCSU a Negative Number?	Yes (No) N/A	Yes (No) N/A
2) RDL Criteria are Met?	(Yes) No N/A	(Yes) No N/A
3) Method Blank Criterion Met?	(Yes) No N/A	(Yes) No N/A
4) LCS/LCD Criteria Met?	(Yes) No N/A	(Yes) No N/A
5) Duplicate (Sample Duplicate, LCSD, MSD) Criteria Met?	(Yes) No N/A	(Yes) No N/A
6) MS/MSD Criteria Met?	Yes No (N/A)	Yes No (N/A)

7) Batch QC Anomaly? ☑ No ☐ Yes (See Tech Notes) NCR # (If initiated): _____

Lindsay Ransegne 10-31-07
Project Manager Signature Date

Virginia Mulligan 10-31-07
QA Officer Signature Date

GENERAL COMMENTS

DQO Report for SDG
ARS1-07-01726

Analysis Code	Group	Isotope	Activity Units	Aliquot Units	ProcedureNo	RDL	LCS_LL	LCS_UL	MS_LL	MS_UL	RadY_LL	RadY_UL	GravY_LL	GravY_LL	RER	RPD	DiltionReq	RoughPrepReq	BlankCorrectionMDA	BlankCorrectionAll	CountTimeReq	AliquotRequired
LSC-A-001	STD	H-3	pCi	L	ARS-054	0.00E+00	80	120	80	120	20	110	20	110	2.58	20	FALSE	FALSE	FALSE	FALSE		

ARS FILE TRACKING SHEET

SDG: 07-01726

Task	Date / Time	Initials
Date & Time Received	10-23-07 / 09:50	Smc
Storage Location: A2	10-25-07 / 10:29	Smc
Chain of Custody Completed	10-25-07 / 10:29	Smc
Report Written	10-31-07 11:38	LML
Laboratory Supervisor Checks Performed	see batch	NA
Quality Assurance Checks Performed on Report	10-31-07 / 1617	VHM
Laboratory Director Check Performed on Report	10-31-07 / 1617	VHM
Report E-mailed		
Report Faxed		
Report Mailed		
Report Reviewed		
Invoice Completed Invoice #:		

SPECIAL REQUIREMENTS

Requirement	Yes	No
3 Hour Rush		✓
24 Hour Rush		✓
48 Hour Rush		✓
Special Invoicing (i.e., Third Party)		✓
Other		✓

NOTES

SAMPLE RECEIPT INSPECTION FORM

Date: 10/25/07 Shipper's Name: Page-Kraemer

Technician Performing Inspection: Shirley Clayton Initials: SMC

SDG: **07-01726**

External and Internal Surveys

Exposure Rate Meter: 44-2 104898 Serial No: 013796 Calibration. Due Date: 05/21/08

Count Rate Meter: 44-9 109043 Serial No: 108796 Calibration. Due Date: 05/21/08

Background Exposure Rate (μR/hr) 12 Background Count Rate (cpm): 50

Max. Exposure Rate on Shipping Containers Externals (Including Background): 22

Max. Removable Count Rate on Shipping Container Externals (Including Background): 60

Max. Removable Count Rate on Shipping Container Internals (Including Background): 60

Max. Removable Count Rate on Sample Container Externals (Including Background): 70

Max. Exposure Rate on Sample Containers Externals (Including Background): 18

Shipping Container

Was the Shipping Container received in good condition? Yes

Was the Shipping Container marked "Radioactive"? No

Was UN2910 marked on the outside of the Shipping Container? No

Were security seals utilized on the shipping container? Yes If yes, were the seals intact? Yes

Was a Chain of Custody Form included with the sample shipment? Yes

Were air bills or bills of lading included with the sample shipment? No

Samples

Were samples received in good condition? Yes

Were security seals utilized on the sample container? No If yes, were the seals intact? N/A

Were the sample containers marked "Radioactive"? No

Number of Samples Received in the Shipment: 5(five)

Was the pH of Aqueous Samples < 2? N/A

If no, was the sample(s) checked for acid reactivity? N/A Was the sample(s) acidified to a pH < 2? N/A

Matrix of Samples: AQ

Volume of Each Sample Container: 100

Brief Description of Sample Material:

Inspectors' Comments

ARS-062-001 r0

Sample Check In Report
Samples

SDG **ARS1-07-01726**

Client Code	**114**	**Los Alamos National Laboratory**	TAT Days	**10**	Level	**4**
Profile Number	**PN-00094**	**Location: Los Alamos**	Date Received	**10/23/2007**		
Project Type	**Environmental**		Client Deadline	**11/1/2007**	COC No 1	
Comments			Internal Deadline	**11/1/2007**	COC No 2	
			Lab Deadline	**10/30/2007**	COC No 3	
			Workdays	**FALSE**	COC No 4	

Fraction	Client ID	Cntrs	Matrix	Start	End	Storage	Disposal	Holding	Archive
001	MD21-07-6813	1	AQ	10/19/07 00:00	10/19/07 00:00	A2	H	90	5
002	MD21-07-6816	1	AQ	10/19/07 00:00	10/19/07 00:00	A2	H	90	5
003	MD21-07-6817	1	AQ	10/19/07 00:00	10/19/07 00:00	A2	H	90	5
004	MD21-07-6815	1	AQ	10/19/07 00:00	10/19/07 00:00	A2	H	90	5
005	MD21-07-6814	1	AQ	10/19/07 00:00	10/19/07 00:00	A2	H	90	5

American Radiation Services
Baton Rouge Laboratory

ARS1-07-01726
Analyses per Sample

	LSC-A-001
Count >	5
001	X
002	X
003	X
004	X
005	X

Sample Check In Report
Comments per Sample

SDG	**ARS1-07-01726**

Fraction	Client ID	Comments
001	MD21-07-6813	
002	MD21-07-6816	
003	MD21-07-6817	
004	MD21-07-6815	
005	MD21-07-6814	

ARS LABEL SHEET

SDG: 07-01726

Analysis

ARS1-07-01726 **LSC-A-001**

Los Alamos National Laboratory

Tritium in (Water [Aqueous, AQ])

This Test Requires 5 of 5 Samples

Scan Analysis Code Here	Dates for This Test	
	Rcvd	10/23/2007
	Due	11/1/2007

SAMPLE CHECK-IN COMMENT SHEET

SDG: 07-01726

NOTES

ARS-062-007 r0

COMPANY NAME: LANL **SDG:** 07-01726

Shipping Container Survey

Outside 22 µR/hr 60 cpm

Inside 60 cpm

Rcv'd By
Date Rcv'd
Time Rcv'd

SHIPPING CONTAINER

Good Condition	☑ Yes	☐ No
Radioactive	☐ Yes	☑ No
UN2910	☑ Yes	☐ No
Sec. Seals	☑ Yes	☐ No
Seals Intact	☑ Yes	☐ No
COC	☑ Yes	☐ No
Air Bill	☐ Yes	☑ No

SAMPLE CONTAINER(S)

Good Condition	☑ Yes	☐ No
Sec. Seals	☑ Yes	☐ No
Radioactive	☐ Yes	☑ No
# Samples Rcv	5 (five)	
pH < 2	☐ Yes	☐ No
If No...	Acid Rxt	☐ Yes ☐ No
	Acid'fd < 2	☐ Yes ☐ No

Intact ☐ Yes ☐ No

Matrix [AF , AQ , BI , FE , LT , SI , SO , UR , VG]

Record Sample Label, Exposure Rate and Count Rate for EACH SAMPLE in the area below:

Sample Lable/Comments/Notes	Weight/ Volume	µR/hr	cpm
MD21-07-6813	100g	17	70
MD21-07-6816	100g	18	70
MD21-07-6817	100g	18	70
MD21-07-6815	100g	17	70
MD21-07 6814	100g	18	70

Surveyors' Name: Shirley Clayton Date/Time Surveyed 10-24-07 12:13

Monday, October 22, 2007

LAB CHAIN OF CUSTODY DOCUMENT NUMBER: 08-80C

REQUEST NUMBER: 08-80

LOS ALAMOS
NATIONAL LABORATORY

ATTN: Danny Coleman

American Radiation Services - Primary

1726 Wooddale Court

Baton Rouge, LA 70806

TURNAROUND/REPORT DUE: 11/1/2007

TURNAROUND REQ'D: 10

LAB REQUEST COMMENTS:

SAMPLE ID	CTNR	CTNR DESC	ORDER	PRESERV	MATRIX
MD21-07-6813	1	SILICA GEL TUBE	H3	None	GAS
MD21-07-6816	1	SILICA GEL TUBE	H3	None	GAS
MD21-07-6817	1	SILICA GEL TUBE	H3	None	GAS
MD21-07-6815	1	SILICA GEL TUBE	H3	None	GAS
MD21-07-6814	1	SILICA GEL TUBE	H3	None	GAS

Relinquished By:		Date	Time	Received By:		Date	Time
[illegible]	[illegible]	10/27/07	1400	Shirley Clayton	Shirley Clayton	10/27/07	9:52
Printed Name	Signature			Printed Name	Signature		
Printed Name	Signature			Printed Name	Signature		
Printed Name	Signature			Printed Name	Signature		

Received for DISPOSAL By: **Date** **Time** **Remarks:**

Printed Name Signature

Monday, October 22, 2007

LAB CHAIN OF CUSTODY DOCUMENT NUMBER: 08-80C

REQUEST NUMBER: 08-80

LOS ALAMOS

NATIONAL LABORATORY

ATTN: Danny Coleman

American Radiation Services - Primary

1726 Wooddale Court

Baton Rouge, LA 70806

TURNAROUND/REPORT DUE: 11/1/2007

TURNAROUND REQ'D: 10

LAB REQUEST COMMENTS:

SAMPLE ID	CTNR	CTNR DESC	ORDER	PRESERV	MATRIX
MD21-07-6813	1	SILICA GEL TUBE	H3	None	GAS
MD21-07-6816	1	SILICA GEL TUBE	H3	None	GAS
MD21-07-6817	1	SILICA GEL TUBE	H3	None	GAS
MD21-07-6815	1	SILICA GEL TUBE	H3	None	GAS
MD21-07-6814	1	SILICA GEL TUBE	H3	None	GAS

Relinquished By:		Date	Time	Received By:		Date	Time
[illegible]		10/22/07	1400	Shirley Clayton	Shirley Clayton	10/23/07	9:52
Printed Name	Signature			Printed Name	Signature		
Printed Name	Signature			Printed Name	Signature		
Printed Name	Signature			Printed Name	Signature		

Received for DISPOSAL By: **Date** **Time** **Remarks:**

Printed Name Signature

AMERICAN RADIATION SERVICES, INC.

2609 North River Road • Port Allen, Louisiana 70767

1 (800) 401-4277 • Fax (225) 381-2996

American Radiation Services Analytical Reports

for

Los Alamos National Laboratory

Request Number: 08-69

AMERICAN RADIATION SERVICES, INC.

2609 North River Road • Port Allen, Louisiana 70767

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American Radiation Services Analytical Reports

for

Los Alamos National Laboratory Request Number: 08-69

Original COC

Tuesday, October 16, 2007

LAB CHAIN OF CUSTODY DOCUMENT NUMBER: 08-69C

REQUEST NUMBER: 08-69

LOS ALAMOS

NATIONAL LABORATORY

ATTN: Danny Coleman

American Radiation Services - Primary

1726 Wooddale Court

Baton Rouge, LA 70806

TURNAROUND/REPORT DUE: 10/21/2007

TURNAROUND REQ'D: 5

LAB REQUEST COMMENTS: Need full level 4 dat package.

SAMPLE ID	CTNR	CTNR DESC	ORDER	PRESERV	MATRIX
MD21-07-6797	1	1 L POLY	AM-241+ISOPU	None	S
MD21-07-6773	1	1 L POLY	AM-241+ISOPU	None	S
MD21-07-6786	1	1 L POLY	AM-241+ISOPU	None	S
MD21-07-6770	1	1 L POLY	AM-241+ISOPU	None	S
MD21-07-6726	1	1 L POLY	AM-241+ISOPU	None	S
MD21-07-6785	1	1 L POLY	AM-241+ISOPU	None	S
MD21-07-6732	1	1 L POLY	AM-241+ISOPU	None	S
MD21-07-6761	1	1 L POLY	AM-241+ISOPU	None	S
MD21-07-6756	1	1 L POLY	AM-241+ISOPU	None	S
MD21-07-6777	1	1 L POLY	AM-241+ISOPU	None	S
MD21-07-6775	1	1 L POLY	AM-241+ISOPU	None	S
MD21-07-6755	1	1 L POLY	AM-241+ISOPU	None	S
MD21-07-6771	1	1 L POLY	AM-241+ISOPU	None	S
MD21-07-6792	1	1 L POLY	AM-241+ISOPU	None	S
MD21-07-6783	1	1 L POLY	AM-241+ISOPU	None	S
MD21-07-6763	1	1 L POLY	AM-241+ISOPU	None	S
MD21-07-6742	1	1 L POLY	AM-241+ISOPU	None	S
MD21-07-6733	1	1 L POLY	AM-241+ISOPU	None	S
MD21-07-6784	1	1 L POLY	AM-241+ISOPU	None	S
MD21-07-6769	1	1 L POLY	AM-241+ISOPU	None	S
MD21-07-6754	1	1 L POLY	AM-241+ISOPU	None	S
MD21-07-6787	1	1 L POLY	AM-241+ISOPU	None	S
MD21-07-6795	1	1 L POLY	AM-241+ISOPU	None	S
MD21-07-6741	1	1 L POLY	AM-241+ISOPU	None	S
MD21-07-6793	1	1 L POLY	AM-241+ISOPU	None	S
MD21-07-6772	1	1 L POLY	AM-241+ISOPU	None	S
MD21-07-6768	1	1 L POLY	AM-241+ISOPU	None	S
MD21-07-6798	1	1 L POLY	AM-241+ISOPU	None	S
MD21-07-6740	1	1 L POLY	AM-241+ISOPU	None	S
MD21-07-6776	1	1 L POLY	AM-241+ISOPU	None	S
MD21-07-6762	1	1 L POLY	AM-241+ISOPU	None	S
MD21-07-6757	1	1 L POLY	AM-241+ISOPU	None	S

Tuesday, October 16, 2007

LAB CHAIN OF CUSTODY DOCUMENT NUMBER: 08-69C

SAMPLE ID	CTNR	CTNR DESC	ORDER	PRESERV	MATRIX
MD21-07-6725	1	1 L POLY	AM-241+ISOPU	None	S
MD21-07-6727	1	1 L POLY	AM-241+ISOPU	None	S
MD21-07-7022	1	1 L POLY	AM-241+ISOPU	None	S

Relinquished By:		Date	Time	Received By:		Date	Time
[illegible]		10/16/07	1400	Shirley Dayton		10-17-07	10:16
Printed Name	Signature			Printed Name	Signature		
Printed Name	Signature			Printed Name	Signature		
Printed Name	Signature			Printed Name	Signature		

Received for DISPOSAL By:		Date	Time	Remarks:
Printed Name	Signature			

Tuesday, October 16, 2007

REQUEST NUMBER: 08-69

LOS ALAMOS
NATIONAL LABORATORY

ATTN: Danny Coleman
American Radiation Services - Primary
1726 Wooddale Court
Baton Rouge, LA 70806

These Samples are on:
LANL Request Number:08-69
Per Agreement Number:126310041
Project Cost Code: MR8R0225FB00

Please analyse the enclosed samples according to the schedule indicated:

SHIP DATE: 10/16/2007
TURNAROUND/REPORT DUE: 10/21/2007
TURNAROUND REQ'D: 5 Days

RAD SCREENING: Not Required
LAB REQUEST COMMENTS: Need full level 4 dat package.

LANL ER SMO CONTACT:
Signature:

PRIORITY	METHOD CODE	CNTNR	SAMPLE ID	SAMPLE MATRIX	DATE SAMPLED	SAMPLE COMMENTS	SPECIAL INSTRUCTIONS
	HASL-300:ISOPU	1	MD21-07-6725	S	10/14/2007		
		1	MD21-07-6726	S	10/14/2007		
		1	MD21-07-6727	S	10/14/2007		
		1	MD21-07-6732	S	10/14/2007		
		1	MD21-07-6733	S	10/14/2007		
		1	MD21-07-6740	S	10/14/2007		
		1	MD21-07-6741	S	10/14/2007		
		1	MD21-07-6742	S	10/14/2007		
		1	MD21-07-6754	S	10/13/2007		

Tuesday, October 16, 2007

REQUEST NUMBER: 08-69

PRIORITY	METHOD CODE	CNTNR	SAMPLE ID	SAMPLE MATRIX	DATE SAMPLED	SAMPLE COMMENTS	SPECIAL INSTRUCTIONS
	HASL-300:ISOPU	1	MD21-07-6755	S	10/13/2007		
		1	MD21-07-6756	S	10/13/2007		
		1	MD21-07-6757	S	10/13/2007		
		1	MD21-07-6761	S	10/13/2007		
		1	MD21-07-6762	S	10/13/2007		
		1	MD21-07-6763	S	10/13/2007		
		1	MD21-07-6768	S	10/14/2007		
		1	MD21-07-6769	S	10/14/2007		
		1	MD21-07-6770	S	10/14/2007		
		1	MD21-07-6771	S	10/14/2007		
		1	MD21-07-6772	S	10/14/2007		
		1	MD21-07-6773	S	10/14/2007		
		1	MD21-07-6775	S	10/13/2007		
		1	MD21-07-6776	S	10/13/2007		
		1	MD21-07-6777	S	10/13/2007		
		1	MD21-07-6783	S	10/14/2007		
		1	MD21-07-6784	S	10/14/2007		
		1	MD21-07-6785	S	10/14/2007		
		1	MD21-07-6786	S	10/14/2007		
		1	MD21-07-6787	S	10/14/2007		
		1	MD21-07-6792	S	10/14/2007		
		1	MD21-07-6793	S	10/14/2007		
		1	MD21-07-6795	S	10/14/2007		
		1	MD21-07-6797	S	10/14/2007		
		1	MD21-07-6798	S	10/13/2007		
		1	MD21-07-7022	S	10/14/2007		

Final Page of REQUEST NUMBER 08-69

AMERICAN RADIATION SERVICES, INC.

2609 North River Road • Port Allen, Louisiana 70767

1 (800) 401-4277 • Fax (225) 381-2996

American Radiation Services Analytical Reports

for

Los Alamos National Laboratory Request Number: 08-69

Case Narrative

AMERICAN RADIATION SERVICES, INC.

2609 North River Road • Port Allen, Louisiana 70767

1 (800) 401-4277 • Fax (225) 381-2996

October 29, 2007

LANL
Keith Greene
Drop Point MS H865
Los Alamos, NM 87545

Ref: LANL Request No. 08-69
LANL Sample ID: MD21-07-7022

Dear Mr. Greene:

On October 17, 2007, American Radiation Services (ARS) received thirty five solid samples to be analyzed for Isotopic Americium and Isotopic Plutonium. One sample, MD21-07-7022, had a low (3.64%) tracer recovery for Plutonium. ARS reran that sample and the results are reported in this package.

The sample was processed and counted using the appropriate counting equipment and QA/QC for this type of analysis. Results of the analysis and QA/QC are attached in the data package.

The sample and QC samples were counted with a count time sufficient to meet a statistical sound detection limits.

Counting equipment Quality Assurance was with in acceptance criteria when the above referenced samples were processed.

If you have any questions please do not hesitate to call at 225-381-2991.

Sincerely,

Eugene Mulligan

Laboratory Director
American Radiation Services

AMERICAN RADIATION SERVICES, INC.

2609 North River Road • Port Allen, Louisiana 70767

1 (800) 401-4277 • Fax (225) 381-2996

COVER PAGE

18980SOW0-8S
Statement of Work for Analytical Laboratories

PROJECT SAMPLE IDENTIFICATION CROSS-REFERENCE TO ARS SAMPLE LABORATORY IDs

Subcontract (LANL Agreement Number) 126310041

COC NUMBER	LANL PROJECT SAMPLE ID NUMBER	American Radiation Services SAMPLE ID NUMBER(S)
08-69	MD21-07-7022	ARS1-07-01672-035

ANALYTICAL METHODS

The Isotopic Americium and Plutonium determinations were performed using American Radiation Services procedure **ARS-026, "Americium, Plutonium and Uranium in Water by Eichrom Resin Separation (with Vacuum Box System Option.)"**

ANALYTICAL RESULTS

The result data that are flagged with "U" indicates that the activity is below the MDC.

Sample MD21-07-7022 was rerun and all quality control parameters were compliant with LANL contract requirements. Tracer recovery is reported at 78.44%.

Standard calculations were based upon standard certifications used in original data package and the data acquisition date. Copies of the standard certifications and the standard verification data are included in the package.

American Radiation Services Project Manager/Laboratory Manager's Comments:
"I certify that this sample data package is in compliance with SOW requirements, both technically and for completeness, other than the conditions detailed above. Release of the data contained in this sample data package and the computer-readable EDD, as applicable, submitted on diskette or by modem, has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature."

"I certify that this electronic image and all hardcopies produced from this image, accurately represents the data and is in compliance with the LANL specific requirements, both technically and for completeness, other than the conditions detailed above or in the sample data package narrative. Release, by submission through email, the data contained in this electronic image and the computer-readable EDD (as applicable), has been authorized by the laboratory Manager/Technical Director or the Manager's designee."

Signature	Title	Date
Eugene P. Mulligan	Lab Manager/Technical Director, American Radiation Services	10-29-07

AMERICAN RADIATION SERVICES, INC.

2609 North River Road • Port Allen, Louisiana 70767

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American Radiation Services Analytical Reports

for

Los Alamos National Laboratory

Plutonium Alpha Spectroscopy Report

AMERICAN RADIATION SERVICES, INC.

2609 North River Road, Port Allen, Louisiana 70767

1 (800) 401-4277 FAX (225) 381-2996

ARS Sample Delivery Group:	ARS1-07-01672	**Request or PO Number:**	08-69
Client Sample ID:	MD21-07-7022	**ARS Sample ID:**	ARS1-07-01672-035
Sample Collection Date:	10/14/2007	**Date Received:**	10/17/07 10:16
Sample Matrix:	Soil/Solid	**Report Date:**	10/29/07 09:48

Analysis Description	Analysis Results	Analysis Error +/- 2 s	MDC	DLC	Qual	Analysis Units	Analysis Test Method	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
PU-238	0.435	0.093	0.025	0.008		pCi/g	ARS-026/Eichrom ACW-03-15	10/25/07 15:37	KH	78.44%
PU-239/240	3.505	0.476	0.032	0.011		pCi/g	ARS-026/Eichrom ACW-03-15	10/25/07 15:37	KH	78.44%

NOTES:

Lindsay Lasseigne
Project Manager Review

Notes: American Radiation Services, Inc. assumes no liability for the use or interpretation of any analytical results provided other than the cost of the analysis itself. Reproduction of this report in less than full requires the written consent of the client.

LELAP Certificate# 30658 NELAP Certificate # E87558

AMERICAN RADIATION SERVICES, INC.

2609 North River Road, Port Allen, Louisiana 70767

1 (800) 401-4277 FAX (225) 381-2996

QC Results Report

Sample Delivery Group: ARS1-07-01672
Date Received: 10/17/07

Laboratory Control Sample Evaluation

Analysis Batch	QC Type	Analyte	Analysis Results	CSU 1 (1 s)	MDC	Expected Value	Qual	Report Units	Analysis Test Method	Analysis Date/Time	Analysis Technician	Percent Recovery (%)	LCS Acceptance Range
ARS1-B07-03040	LCS	PU-239/240	5.659	0.710	0.012	5.685		pCi/L	ARS-026/Eichrom ACW-03-15	10/25/07 15:36	KH	100	75%-120%

Blank Evaluation

Analysis Batch	QC Type	Analyte	Analysis Results	CSU 1 (1 s)	MDC	Expected Value	Qual	Report Units	Analysis Test Method	Analysis Date/Time	Analysis Technician
ARS1-B07-03040	MBL	PU-238	0.004	0.007	0.013	NA	U	pCi/L	ARS-026/Eichrom ACW-03-15	10/25/07 15:36	KH
ARS1-B07-03040	MBL	PU-239/240	0.013	0.010	0.005	NA		pCi/L	ARS-026/Eichrom ACW-03-15	10/25/07 15:36	KH

Duplicate Evaluation

Analysis Batch	QC Type	Analysis Description	Result 1	CSU 1 (1 s)	Result 2	CSU 2 (1s)	Qual	Analysis Units	Analysis Test Method	Analysis Date/Time	Analysis Technician	RER	RER AcceptanceRange
ARS1-B07-03040	LCSD	PU-239/240	5.659	0.710	5.466	0.015		pCi/L	ARS-026/Eichrom ACW-03-15	10/25/07 15:36	KH	0.27	< 1

DER Duplicate Evaluation

Analysis Batch	QC Type	Analysis Description	Result 1	CSU 1 (1 s)	Result 2	CSU 2 (1s)	Qual	Analysis Units	Analysis Test Method	Analysis Date/Time	Analysis Technician	DER	DER AcceptanceRange
ARS1-B07-03040	LCSD	PU-239/240	5.659	0.710	5.466	0.015		pCi/L	ARS-026/Eichrom ACW-03-15	10/25/07 15:36	KH	0.54	< 3

Lindsay Lasseigne
Project Manager Review

Notes: American Radiation Services, Inc. assumes no liability for the use or interpretation of any analytical results provided other than the cost of the analysis itself. Reproduction of this report in less than full requires the written consent of the client.

LELAP Certificate# 30658 NELAP Certificate # E87558

AMERICAN RADIATION SERVICES, INC.

2609 North River Road • Port Allen, Louisiana 70767

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American Radiation Services Analytical Reports

for

Los Alamos National Laboratory

Plutonium Alpha Spectroscopy Samples

ARS AMERICAN RADIATION SERVICES, INC.

Alpha Analyst Instrument Data Transfer Report

#	Inst FileName	Batch Sample ID	Isotope	Gross Area	Count Mins	BKG Counts	EFF	Analysis Date	Detector	keV
1	0.RPT	ARS1-B07-03040-01	PU-238	4	1440	2	0.22	10/25/2007	A_2_4A	5485.88
2	0.RPT	ARS1-B07-03040-01	PU-239/240	3410	1440	1	0.22	10/25/2007	A_2_4A	5164.80
3	0.RPT	ARS1-B07-03040-01	PU-242	2293	1440	4	0.22	10/25/2007	A_2_4A	4908.51
4	1.RPT	ARS1-B07-03040-02	PU-238	3	1440	2	0.22	10/25/2007	A_2_4B	5446.30
5	1.RPT	ARS1-B07-03040-02	PU-239/240	3303	1440	2	0.22	10/25/2007	A_2_4B	5147.15
6	1.RPT	ARS1-B07-03040-02	PU-242	2288	1440	5	0.22	10/25/2007	A_2_4B	4891.54
7	2.RPT	ARS1-B07-03040-03	PU-238	3	1440	1	0.21	10/25/2007	A_2_5A	5493.16
8	2.RPT	ARS1-B07-03040-03	PU-239/240	7	1440	0	0.21	10/25/2007	A_2_5A	5182.23
9	2.RPT	ARS1-B07-03040-03	PU-242	2020	1440	3	0.21	10/25/2007	A_2_5A	4908.09
10	3.RPT	ARS1-B07-03040-04	PU-238	125	1440	1	0.23	10/25/2007	A_2_5B	5495.61
11	3.RPT	ARS1-B07-03040-04	PU-239/240	1002	1440	2	0.23	10/25/2007	A_2_5B	5153.88
12	3.RPT	ARS1-B07-03040-04	PU-242	2055	1440	0	0.23	10/25/2007	A_2_5B	4897.17

ALPHA SPECTRUM ANALYSIS

Sample Description:
Batch Identification: 07102501
Sample Identification: 03040-01
Sample Geometry: Shelf 2
Protocol Description: 24 hr (Pu/Soil)

Detector Name: A 2 4A
Chamber Serial Number: 12044982A
Detector Serial Number:
Spectrum File: C:\AANALYST\USEDBIFS\07102501\0.CNF
Env. Background File: C:\AANALYST\USEDBIFS\07092000\18.CNF
Reagent Blank File: <not performed>

Sample Size: 1.000 Unit
Sample Date/Time:
Acquisition Date/Time: 10/25/07 3:36:48 PM
Acquisition Live Time: 86400.0 seconds
Acquisition Real Time: 86400.8 seconds

Tracer Certificate File: C:\GENIE2K\CAMFILES\Pu242_T7b.CTF
Tracer Quantity: 1.000 mL
Effective Efficiency: 0.3081 +/- 0.0068
Counting Efficiency: 0.2222 +/- 0.0046 on 2/13/07 9:45:05 AM
Chem. Recovery Factor: 1.3867 +/- 0.0419

Peak Match Tolerance: 500.000 keV

PEAK AREA REPORT

Nuclide	Energy (keV)	Gross Pk Area	Pk Area Error %	Ambient Backgnd	Reagent Backgnd	FWHM (keV)
PU-238	5485.880	4.00	3.92	2.00	0.00E+000	3.4
PU-239	5164.804	3410.00	114.45	1.00	0.00E+000	33.3
PU242	T 4908.510	2293.00	93.86	4.00	0.00E+000	40.2

T = Tracer Peak used for Effective Efficiency

NUCLIDE ACTIVITY REPORT

Nuclide	Activity (pCi/Unit)	Activity Error %	MDA (pCi/Unit)	MDA Error %
PU-238	2.0328E-003	240.09	1.2207E-002	4.34
PU-239	3.4650E+000	5.49	9.4386E-003	4.34
PU242	2.3150E+000	4.34	1.6042E-002	4.34

Errors quoted at 1.960 sigma

****
***** A L P H A S P E C T R U M A N A L Y S I S *****
****

Sample Description:
Batch Identification: 07102501
Sample Identification: 03040-01
Sample Geometry: Shelf 2
Protocol Description: 24 hr (Pu/Soil)

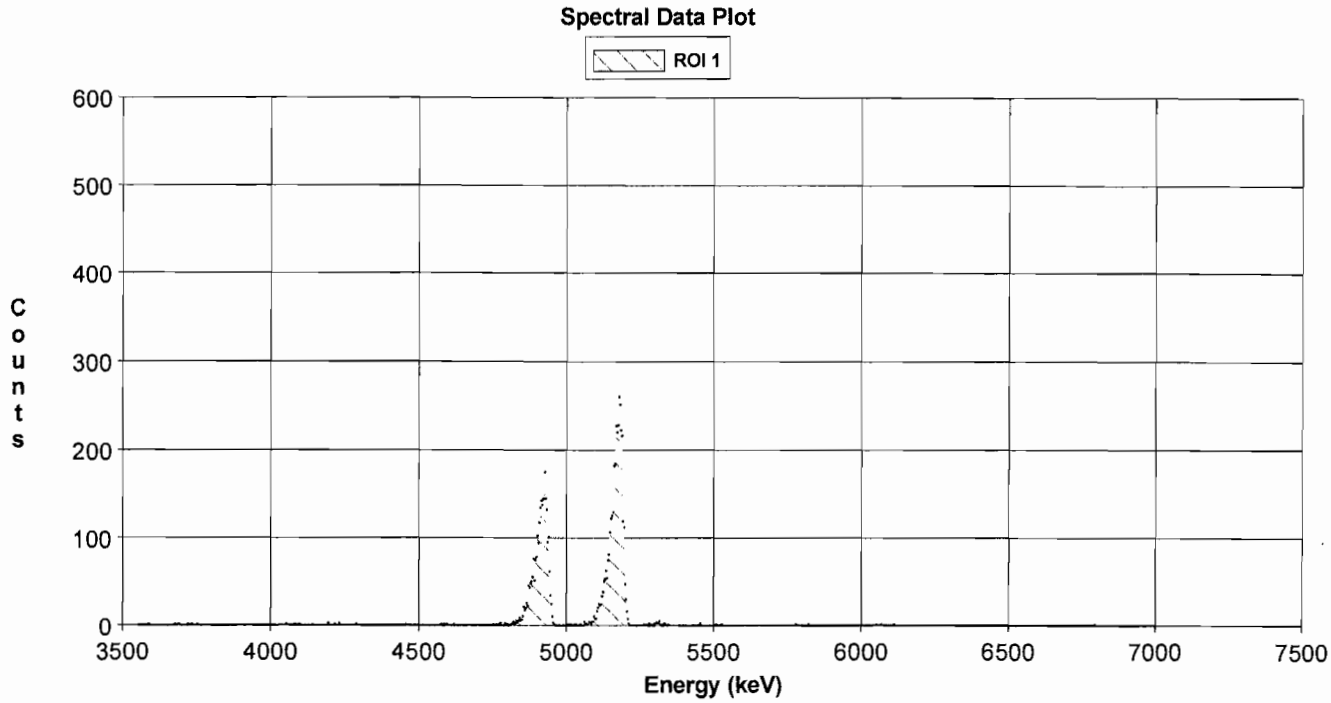
Detector Name: A 2 4A
Chamber Serial Number: 12044982A
Detector Serial Number:
Spectrum File: C:\AANALYST\USEDBIFS\07102501\0.CNF

Sample Size: 1.000 Unit
Sample Date/Time:
Acquisition Date/Time: 10/25/07 3:36:48 PM
Acquisition Live Time: 86400.0 seconds
Acquisition Real Time: 86400.8 seconds

NUCLIDE ACTIVITY REPORT

Nuclide	Energy (keV)	Activity (pCi/Unit)	Activity Error %	MDA (pCi/Unit)	MDA Error %
PU-238		2.0328E-003	244.99	1.2207E-002	4.43
	5487.100	2.0328E-003	244.99		
PU-239		3.4650E+000	5.60	9.4386E-003	4.43
	5147.700	3.4650E+000	5.60		
PU242		2.3150E+000	4.43	1.6042E-002	4.43
	4890.700	2.3150E+000	4.43		

Errors quoted at 2.000 sigma



Datasource:	0.CNF
Live Time:	86400 sec
Real Time:	86401 sec
Acq. Start:	10/25/2007 3:36:48 PM
Start:	1 : 3553.09 (keV)
Stop:	1024 : 7000.77 (keV)

ALPHA SPECTRUM ANALYSIS

Sample Description:
Batch Identification: 07102501
Sample Identification: 03040-02
Sample Geometry: Shelf 2
Protocol Description: 24 hr (Pu/Soil)

Detector Name: A 2 4B
Chamber Serial Number: 12044982B
Detector Serial Number:
Spectrum File: C:\AANALYST\USEDBIFS\07102501\1.CNF
Env. Background File: C:\AANALYST\USEDBIFS\07092000\19.CNF
Reagent Blank File: <not performed>

Sample Size: 1.000 Unit
Sample Date/Time:
Acquisition Date/Time: 10/25/07 3:36:49 PM
Acquisition Live Time: 86400.0 seconds
Acquisition Real Time: 86400.8 seconds

Tracer Certificate File: C:\GENIE2K\CAMFILES\Pu242_T7b.CTF
Tracer Quantity: 1.000 mL
Effective Efficiency: 0.3073 +/- 0.0068
Counting Efficiency: 0.2157 +/- 0.0048 on 2/13/07 9:46:20 AM
Chem. Recovery Factor: 1.4242 +/- 0.0447

Peak Match Tolerance: 500.000 keV

PEAK AREA REPORT

Nuclide	Energy (keV)	Gross Pk Area	Pk Area Error %	Ambient Backgnd	Reagent Backgnd	FWHM (keV)
PU-238	5446.304	3.00	3.39	2.00	0.00E+000	3.4
PU-239	5147.149	3303.00	112.64	2.00	0.00E+000	45.2
PU242	T 4891.542	2288.00	93.75	5.00	0.00E+000	52.6

T = Tracer Peak used for Effective Efficiency

NUCLIDE ACTIVITY REPORT

Nuclide	Activity (pCi/Unit)	Activity Error %	MDA (pCi/Unit)	MDA Error %
PU-238	1.0191E-003	438.29	1.2239E-002	4.35
PU-239	3.3640E+000	5.53	1.2239E-002	4.35
PU242	2.3150E+000	4.35	1.7659E-002	4.35

Errors quoted at 1.960 sigma

****
***** A L P H A S P E C T R U M A N A L Y S I S *****
****

Sample Description:
Batch Identification: 07102501
Sample Identification: 03040-02
Sample Geometry: Shelf 2
Protocol Description: 24 hr (Pu/Soil)

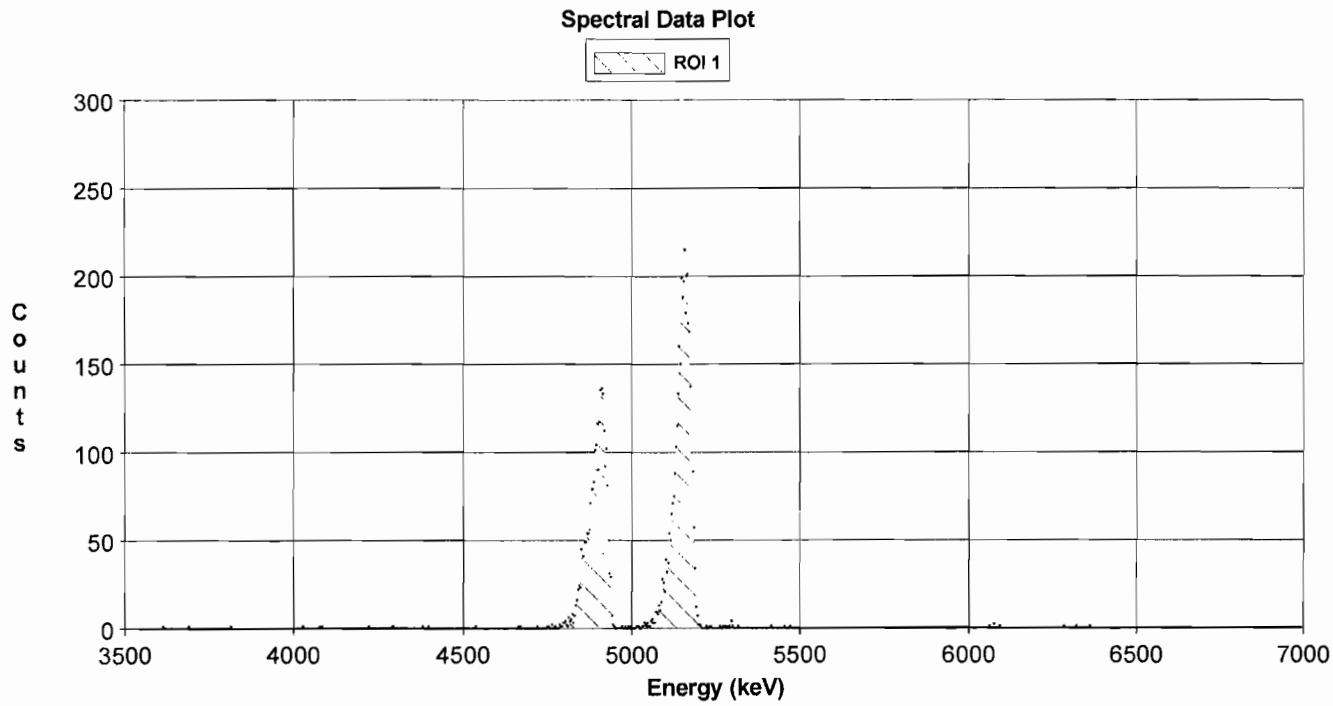
Detector Name: A 2 4B
Chamber Serial Number: 12044982B
Detector Serial Number:
Spectrum File: C:\AANALYST\USEDBIFS\07102501\1.CNF

Sample Size: 1.000 Unit
Sample Date/Time:
Acquisition Date/Time: 10/25/07 3:36:49 PM
Acquisition Live Time: 86400.0 seconds
Acquisition Real Time: 86400.8 seconds

----- NUCLIDE ACTIVITY REPORT -----

Nuclide	Energy (keV)	Activity (pCi/Unit)	Activity Error %	MDA (pCi/Unit)	MDA Error %
PU-238		1.0191E-003	447.24	1.2239E-002	4.44
	5487.100	1.0191E-003	447.24		
PU-239		3.3640E+000	5.64	1.2239E-002	4.44
	5147.700	3.3640E+000	5.64		
PU242		2.3150E+000	4.44	1.7659E-002	4.44
	4890.700	2.3150E+000	4.44		

Errors quoted at 2.000 sigma



Datasource:	1.CNF
Live Time:	86400 sec
Real Time:	86401 sec
Acq. Start:	10/25/2007 3:36:49 PM
Start:	1 : 3544.71 (keV)
Stop:	1024 : 6989.81 (keV)

ALPHA SPECTRUM ANALYSIS

Sample Description:
Batch Identification: 07102501
Sample Identification: 03040-03
Sample Geometry: Shelf 2
Protocol Description: 24 hr (Pu/Soil)

Detector Name: A 2 5A
Chamber Serial Number: 12044983A
Detector Serial Number:
Spectrum File: C:\AANALYST\USEDBIFS\07102501\2.CNF
Env. Background File: C:\AANALYST\USEDBIFS\07092000\20.CNF
Reagent Blank File: <not performed>

Sample Size: 1.000 Unit
Sample Date/Time:
Acquisition Date/Time: 10/25/07 3:36:49 PM
Acquisition Live Time: 86400.0 seconds
Acquisition Real Time: 86400.8 seconds

Tracer Certificate File: C:\GENIE2K\CAMFILES\Pu242_T7b.CTF
Tracer Quantity: 1.000 mL
Effective Efficiency: 0.2715 +/- 0.0064
Counting Efficiency: 0.2142 +/- 0.0044 on 2/13/07 10:01:57 AM
Chem. Recovery Factor: 1.2675 +/- 0.0395

Peak Match Tolerance: 500.000 keV

PEAK AREA REPORT

Nuclide	Energy (keV)	Gross Pk Area	Pk Area Error %	Ambient Backgnd	Reagent Backgnd	FWHM (keV)
PU-238	5493.162	3.00	3.39	1.00	0.00E+000	3.4
PU-239	5182.225	7.00	5.19	0.00	0.00E+000	5.0
PU242	T 4908.094	2020.00	88.09	3.00	0.00E+000	40.0

T = Tracer Peak used for Effective Efficiency

NUCLIDE ACTIVITY REPORT

Nuclide	Activity (pCi/Unit)	Activity Error %	MDA (pCi/Unit)	MDA Error %
PU-238	2.3070E-003	196.05	1.0711E-002	4.59
PU-239	8.0744E-003	74.22	3.1260E-003	4.59
PU242	2.3150E+000	4.59	1.6183E-002	4.59

Errors quoted at 1.960 sigma

****
***** A L P H A S P E C T R U M A N A L Y S I S *****
****

Sample Description:
Batch Identification: 07102501
Sample Identification: 03040-03
Sample Geometry: Shelf 2
Protocol Description: 24 hr (Pu/Soil)

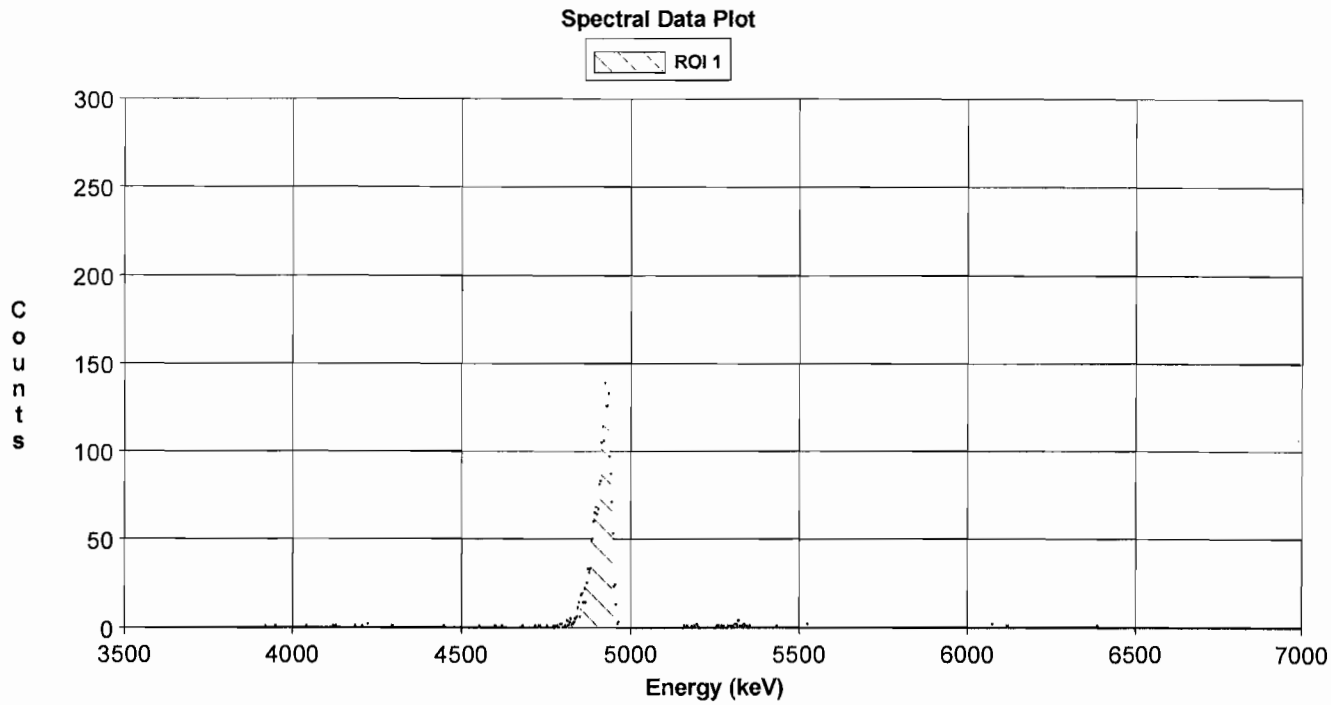
Detector Name: A 2 5A
Chamber Serial Number: 12044983A
Detector Serial Number:
Spectrum File: C:\AANALYST\USEDBIFS\07102501\2.CNF

Sample Size: 1.000 Unit
Sample Date/Time:
Acquisition Date/Time: 10/25/07 3:36:49 PM
Acquisition Live Time: 86400.0 seconds
Acquisition Real Time: 86400.8 seconds

NUCLIDE ACTIVITY REPORT

Nuclide	Energy (keV)	Activity (pCi/Unit)	Activity Error %	MDA (pCi/Unit)	MDA Error %
PU-238		2.3070E-003	200.05	1.0711E-002	4.69
	5487.100	2.3070E-003	200.05		
PU-239		8.0744E-003	75.74	3.1260E-003	4.69
	5147.700	8.0744E-003	75.74		
PU242		2.3150E+000	4.69	1.6183E-002	4.69
	4890.700	2.3150E+000	4.69		

Errors quoted at 2.000 sigma



Datasource:	2.CNF
Live Time:	86400 sec
Real Time:	86401 sec
Acq. Start:	10/25/2007 3:36:49 PM
Start:	1 : 3555.45 (keV)
Stop:	1024 : 6996.90 (keV)

ALPHA SPECTRUM ANALYSIS

Sample Description:
Batch Identification: 07102501
Sample Identification: 03040-04
Sample Geometry: Shelf 2
Protocol Description: 24 hr (Pu/Soil)

Detector Name: A 2 5B
Chamber Serial Number: 12044983B
Detector Serial Number:
Spectrum File: C:\AANALYST\USEDBIFS\07102501\3.CNF
Env. Background File: C:\AANALYST\USEDBIFS\07092000\21.CNF
Reagent Blank File: <not performed>

Sample Size: 1.000 Unit
Sample Date/Time:
Acquisition Date/Time: 10/25/07 3:36:49 PM
Acquisition Live Time: 86400.0 seconds
Acquisition Real Time: 86400.8 seconds

Tracer Certificate File: C:\GENIE2K\CAMFILES\Pu242_T7b.CTF
Tracer Quantity: 1.000 mL
Effective Efficiency: 0.2766 +/- 0.0064
Counting Efficiency: 0.2270 +/- 0.0047 on 2/13/07 10:03:11 AM
Chem. Recovery Factor: 1.2185 +/- 0.0377

Peak Match Tolerance: 500.000 keV

PEAK AREA REPORT

Nuclide	Energy (keV)	Gross Pk Area	Pk Area Error %	Ambient Backgnd	Reagent Backgnd	FWHM (keV)
PU-238	5495.611	125.00	21.91	1.00	0.00E+000	6.7
PU-239	5153.881	1002.00	62.04	2.00	0.00E+000	55.0
PU242	T 4897.170	2055.00	88.85	0.00	0.00E+000	63.2

T = Tracer Peak used for Effective Efficiency

NUCLIDE ACTIVITY REPORT

Nuclide	Activity (pCi/Unit)	Activity Error %	MDA (pCi/Unit)	MDA Error %
PU-238	1.4039E-001	18.32	1.0513E-002	4.55
PU-239	1.1322E+000	7.70	1.3597E-002	4.55
PU242	2.3150E+000	4.55	3.0529E-003	4.55

Errors quoted at 1.960 sigma

****
***** A L P H A S P E C T R U M A N A L Y S I S *****
****

Sample Description:
Batch Identification: 07102501
Sample Identification: 03040-04
Sample Geometry: Shelf 2
Protocol Description: 24 hr (Pu/Soil)

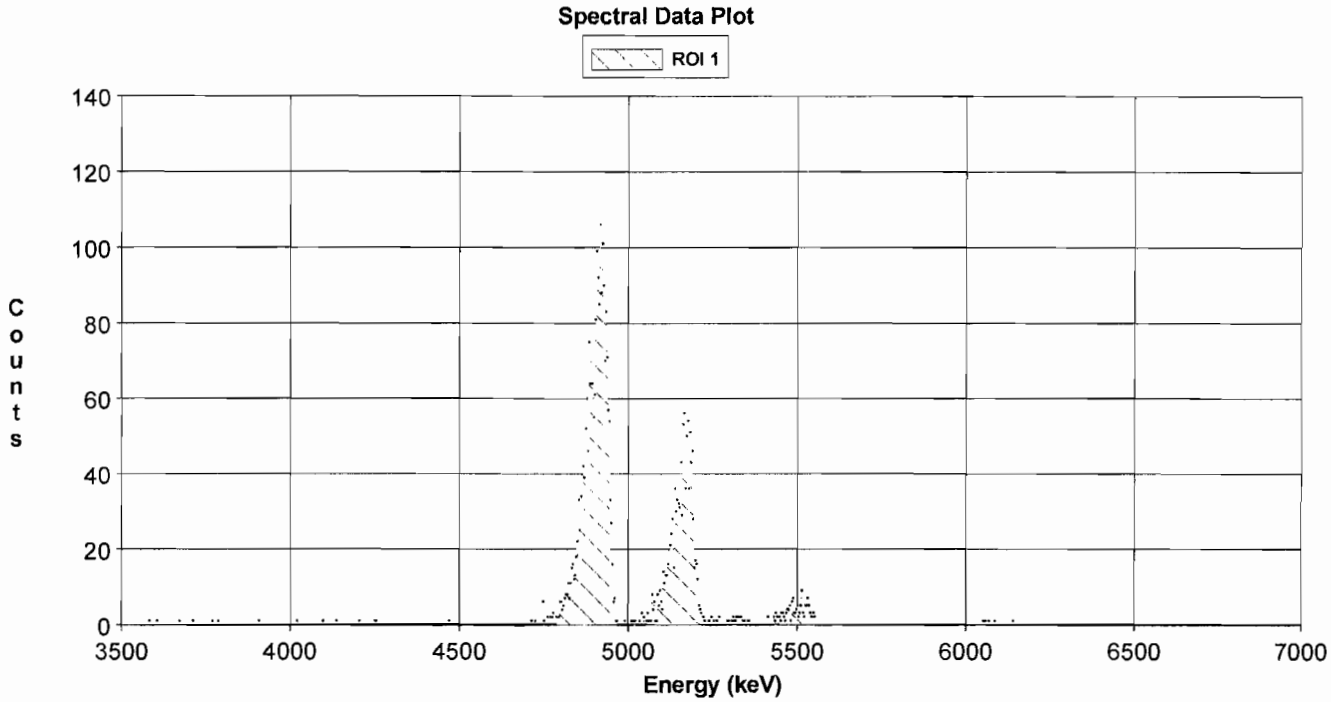
Detector Name: A 2 5B
Chamber Serial Number: 12044983B
Detector Serial Number:
Spectrum File: C:\AANALYST\USEDBIFS\07102501\3.CNF

Sample Size: 1.000 Unit
Sample Date/Time:
Acquisition Date/Time: 10/25/07 3:36:49 PM
Acquisition Live Time: 86400.0 seconds
Acquisition Real Time: 86400.8 seconds

NUCLIDE ACTIVITY REPORT

Nuclide	Energy (keV)	Activity (pCi/Unit)	Activity Error %	MDA (pCi/Unit)	MDA Error %
PU-238		1.4039E-001	18.69	1.0513E-002	4.64
	5487.100	1.4039E-001	18.69		
PU-239		1.1322E+000	7.85	1.3597E-002	4.64
	5147.700	1.1322E+000	7.85		
PU242		2.3150E+000	4.64	3.0529E-003	4.64
	4890.700	2.3150E+000	4.64		

Errors quoted at 2.000 sigma



Datasource:	3.CNF
Live Time:	86400 sec
Real Time:	86401 sec
Acq. Start:	10/25/2007 3:36:49 PM
Start:	1 : 3554.50 (keV)
Stop:	1024 : 6991.59 (keV)

Calculation Verification

Procedure	ARS-026
Variable	**Value**
Counts	4.000000
Count Mins	1440.000000
BKG Counts	2.000000
BKG Mins	1500.000000
Instrument Efficiency	0.222200
Sample Aliquot	1.000000
Aliquot Conversion Factor	1.000000
Sample Collection Date (t1)	10/25/07 3:37 PM
Midpoint Count Date (t2)	10/25/07 3:37 PM
Activity Units = pCi -- UCF =	2.2200
CF	1.9600
Nuclide Abundance	1.000000
Halflife Days 1 - Result Isotope	32037.037037
TPUF_Factor 1	0.000000
TPUF_Factor 2	0.020000
TPUF_Factor 3	0.058330
TPUF_Factor 4	0.000000
TPUF_Factor 5	0.000000
TPUF_Factor 6	0.000000
Tracer ID	S-0025
Tracer Std - Isotope	Pu-242
Tracer Counts	2293.000000
Tracer Count Mins	1440.000000
Tracer BKG Counts	4.000000
Tracer BKG Mins	1500.000000
Tracer Ref Date	10/24/05 12:00 AM
Tracer DPM/g	7.6328
Tracer Net Wt Added g	1.105200
Tracer EFF	0.222200
Tracer Plating Rec	0.700000
Tracer Abundance	1.000000
Tracer Halflife Days	136458333.3333
Sb	0.029977
Activity Units	pCi
Aliquot Units	g
Variables Intact Test	**OK**

Isotope	PU-238		
Calculated Values	**Excel**	**VBA**	**V/V**
ACT	**0.003453**	**0.003453**	**OK**
CU	**0.007865**	**0.007865**	**OK**
TPU	**0.007876**	**0.007876**	**OK**
MDA	**0.015093**	**0.015093**	**OK**
DL	**0.005297**	**0.005297**	**OK**
BP MDA	**0.067289**	**0.067289**	**OK**
BP DL	**0.031463**	**0.031463**	**OK**
DL QSAS			
Gross Count Rate	**0.002778**	**0.002778**	**OK**
BKG Count Rate	**0.001333**	**0.001333**	**OK**
Net Count Rate	**0.001444**	**0.001444**	**OK**
Δ t 1 (t2 - t1)	**0.000000**	**0.000000**	**OK**
DF	**1.000000**	**1.000000**	**OK**
Tracer DPM	**8.435808**	**8.435808**	**OK**
Tracer Δt	**731.650694**	**731.650694**	**OK**
Tracer DF	**0.999996**	**0.999996**	**OK**
Tracer Recovery	**0.848095**	**0.848095**	**OK**
Chem Rec Factor	**1.211564**	**1.211564**	**OK**
Sys Err	**0.061664**	**0.061664**	**OK**
K	**0.418352**	**0.418352**	**OK**
K MDA	**602.426465**	**602.426465**	**OK**

Batch Identifiers and Other Related Information	
Batch	ARS1-B07-03040
Batch ID	ARS1-B07-03040-01
Analysis Code	
SDG	QC Sample
Fraction	N/A QC Sample
Client	QC Sample
Client Profile	
Client ID	N/A QC Sample
Instr File Name	0.RPT
Instr Detector	A_2_4A
Instr keV	5485.88
Version/Date	2.0 -- 4/20/2006

Reviewed by: _____ **Date:** _____

Calculation Verification

Procedure	ARS-026
Variable	**Value**
Counts	3410.000000
Count Mins	1440.000000
BKG Counts	1.000000
BKG Mins	1500.000000
Instrument Efficiency	0.222200
Sample Aliquot	1.000000
Aliquot Conversion Factor	1.000000
Sample Collection Date (t1)	10/25/07 3:37 PM
Midpoint Count Date (t2)	10/25/07 3:37 PM
Activity Units = pCi --- UCF =	2.2200
CF	1.9600
Nuclide Abundance	1.000000
Halflife Days 1 - Result Isotope	8806712.962963
TPUF_Factor 1	0.000000
TPUF_Factor 2	0.020000
TPUF_Factor 3	0.058330
TPUF_Factor 4	0.000000
TPUF_Factor 5	0.000000
TPUF_Factor 6	0.000000
Tracer ID	S-0025
Tracer Std - Isotope	Pu-242
Tracer Counts	2293.000000
Tracer Count Mins	1440.000000
Tracer BKG Counts	4.000000
Tracer BKG Mins	1500.000000
Tracer Ref Date	10/24/05 12:00 AM
Tracer DPM/g	7.6328
Tracer Net Wt Added g	1.105200
Tracer EFF	0.222200
Tracer Plating Rec	0.700000
Tracer Abundance	1.000000
Tracer Halflife Days	136458333.3333
Sb	0.129033
Activity Units	pCi
Aliquot Units	g
0 **Variables Intact Test**	**OK**

Isotope	PU-239		
Calculated Values	**Excel**	**VBA**	**V/V**
ACT	**5.658848**	**5.658848**	**OK**
CU	**0.190015**	**0.190015**	**OK**
TPU	**0.709836**	**0.709836**	**OK**
MDA	**0.011990**	**0.011990**	**OK**
DL	**0.003746**	**0.003746**	**OK**
BP MDA	**0.274770**	**0.274770**	**OK**
BP DL	**0.135426**	**0.135426**	**OK**
DL QSAS			
Gross Count Rate	**2.368056**	**2.368056**	**OK**
BKG Count Rate	**0.000667**	**0.000667**	**OK**
Net Count Rate	**2.367389**	**2.367389**	**OK**
Δ t 1 (t2 - t1)	**0.000000**	**0.000000**	**OK**
DF	**1.000000**	**1.000000**	**OK**
Tracer DPM	**8.435808**	**8.435808**	**OK**
Tracer Δt	**731.650694**	**731.650694**	**OK**
Tracer DF	**0.999996**	**0.999996**	**OK**
Tracer Recovery	**0.848095**	**0.848095**	**OK**
Chem Rec Factor	**1.211564**	**1.211564**	**OK**
Sys Err	**0.061664**	**0.061664**	**OK**
K	**0.418352**	**0.418352**	**OK**
K MDA	**602.426465**	**602.426465**	**OK**

Batch Identifiers and Other Related Information	
Batch	ARS1-B07-03040
Batch ID	ARS1-B07-03040-01
Analysis Code	
SDG	QC Sample
Fraction	N/A QC Sample
Client	QC Sample
Client Profile	
Client ID	N/A QC Sample
Instr File Name	0.RPT
Instr Detector	A_2_4A
Instr keV	5164.804
Version/Date	2.0 -- 4/20/2006

Reviewed by: _____ **Date:** _____

Calculation Verification

Procedure	ARS-026
Variable	**Value**
Counts	3.000000
Count Mins	1440.000000
BKG Counts	2.000000
BKG Mins	1500.000000
Instrument Efficiency	0.215700
Sample Aliquot	1.000000
Aliquot Conversion Factor	1.000000
Sample Collection Date (t1)	10/25/07 3:37 PM
Midpoint Count Date (t2)	10/25/07 3:37 PM
Activity Units = pCi -- UCF =	2.2200
CF	1.9600
Nuclide Abundance	1.000000
Halflife Days 1 - Result Isotope	32037.037037
TPUF_Factor 1	0.000000
TPUF_Factor 2	0.020000
TPUF_Factor 3	0.058330
TPUF_Factor 4	0.000000
TPUF_Factor 5	0.000000
TPUF_Factor 6	0.000000
Tracer ID	S-0025
Tracer Std - Isotope	Pu-242
Tracer Counts	2288.000000
Tracer Count Mins	1440.000000
Tracer BKG Counts	5.000000
Tracer BKG Mins	1500.000000
Tracer Ref Date	10/24/05 12:00 AM
Tracer DPM/g	7.6328
Tracer Net Wt Added g	1.099600
Tracer EFF	0.215700
Tracer Plating Rec	0.700000
Tracer Abundance	1.000000
Tracer Halflife Days	136458333.3333
Sb	0.029977
Activity Units	pCi
Aliquot Units	g
Variables Intact Test	**OK**

Isotope	PU-238		
Calculated Values	**Excel**	**VBA**	**V/V**
ACT	**0.001788**	**0.001788**	**OK**
CU	**0.007142**	**0.007142**	**OK**
TPU	**0.007146**	**0.007146**	**OK**
MDA	**0.015055**	**0.015055**	**OK**
DL	**0.005284**	**0.005284**	**OK**
BP MDA	**0.067278**	**0.067278**	**OK**
BP DL	**0.031463**	**0.031463**	**OK**
DL QSAS			
Gross Count Rate	**0.002083**	**0.002083**	**OK**
BKG Count Rate	**0.001333**	**0.001333**	**OK**
Net Count Rate	**0.000750**	**0.000750**	**OK**
Δ t 1 (t2 - t1)	**0.000000**	**0.000000**	**OK**
DF	**1.000000**	**1.000000**	**OK**
Tracer DPM	**8.393064**	**8.393064**	**OK**
Tracer Δt	**731.650694**	**731.650694**	**OK**
Tracer DF	**0.999996**	**0.999996**	**OK**
Tracer Recovery	**0.875815**	**0.875815**	**OK**
Chem Rec Factor	**1.251164**	**1.251164**	**OK**
Sys Err	**0.061664**	**0.061664**	**OK**
K	**0.419388**	**0.419388**	**OK**
K MDA	**603.918028**	**603.918028**	**OK**

Batch Identifiers and Other Related Information	
Batch	ARS1-B07-03040
Batch ID	ARS1-B07-03040-02
Analysis Code	
SDG	QC Sample
Fraction	N/A QC Sample
Client	QC Sample
Client Profile	
Client ID	N/A QC Sample
Instr File Name	1.RPT
Instr Detector	A_2_4B
Instr keV	5446.304
Version/Date	2.0 -- 4/20/2006

Reviewed by: _____ **Date:** _____

Calculation Verification

Procedure	ARS-026
Variable	**Value**
Counts	3303.000000
Count Mins	1440.000000
BKG Counts	2.000000
BKG Mins	1500.000000
Instrument Efficiency	0.215700
Sample Aliquot	1.000000
Aliquot Conversion Factor	1.000000
Sample Collection Date (t1)	10/25/07 3:37 PM
Midpoint Count Date (t2)	10/25/07 3:37 PM
Activity Units = pCi --- UCF =	2.2200
CF	1.9600
Nuclide Abundance	1.000000
Halflife Days 1 - Result Isotope	8806712.962963
TPUF_Factor 1	0.000000
TPUF_Factor 2	0.020000
TPUF_Factor 3	0.058330
TPUF_Factor 4	0.000000
TPUF_Factor 5	0.000000
TPUF_Factor 6	0.000000
Tracer ID	S-0025
Tracer Std - Isotope	Pu-242
Tracer Counts	2288.000000
Tracer Count Mins	1440.000000
Tracer BKG Counts	5.000000
Tracer BKG Mins	1500.000000
Tracer Ref Date	10/24/05 12:00 AM
Tracer DPM/g	7.6328
Tracer Net Wt Added g	1.099600
Tracer EFF	0.215700
Tracer Plating Rec	0.700000
Tracer Abundance	1.000000
Tracer Halflife Days	136458333.3333
Sb	0.129033
Activity Units	pCi
Aliquot Units	g
Variables Intact Test	**OK**

Isotope	PU-239		
Calculated Values	**Excel**	**VBA**	**V/V**
ACT	5.466106	5.466106	OK
CU	0.186575	0.186575	OK
TPU	0.686477	0.686477	OK
MDA	0.015055	0.015055	OK
DL	0.005284	0.005284	OK
BP MDA	0.274758	0.274758	OK
BP DL	0.135426	0.135426	OK
DL QSAS			
Gross Count Rate	2.293750	2.293750	OK
BKG Count Rate	0.001333	0.001333	OK
Net Count Rate	2.292417	2.292417	OK
Δ t 1 (t2 - t1)	0.000000	0.000000	OK
DF	1.000000	1.000000	OK
Tracer DPM	8.393064	8.393064	OK
Tracer Δt	731.650694	731.650694	OK
Tracer DF	0.999996	0.999996	OK
Tracer Recovery	0.875815	0.875815	OK
Chem Rec Factor	1.251164	1.251164	OK
Sys Err	0.061664	0.061664	OK
K	0.419388	0.419388	OK
K MDA	603.918028	603.918028	OK

Batch Identifiers and Other Related Information	
Batch	ARS1-B07-03040
Batch ID	ARS1-B07-03040-02
Analysis Code	
SDG	QC Sample
Fraction	N/A QC Sample
Client	QC Sample
Client Profile	
Client ID	N/A QC Sample
Instr File Name	1.RPT
Instr Detector	A_2_4B
Instr keV	5147.149
Version/Date	2.0 -- 4/20/2006

Reviewed by: _____ **Date:** _____

Calculation Verification

Procedure	ARS-026
Variable	**Value**
Counts	3.000000
Count Mins	1440.000000
BKG Counts	1.000000
BKG Mins	1500.000000
Instrument Efficiency	0.214200
Sample Aliquot	1.000000
Aliquot Conversion Factor	1.000000
Sample Collection Date (t1)	10/25/07 3:37 PM
Midpoint Count Date (t2)	10/25/07 3:37 PM
Activity Units = pCi --- UCF =	2.2200
CF	1.9600
Nuclide Abundance	1.000000
Halflife Days 1 - Result Isotope	32037.037037
TPUF_Factor 1	0.000000
TPUF_Factor 2	0.020000
TPUF_Factor 3	0.058330
TPUF_Factor 4	0.000000
TPUF_Factor 5	0.000000
TPUF_Factor 6	0.000000
Tracer ID	S-0025
Tracer Std - Isotope	Pu-242
Tracer Counts	2020.000000
Tracer Count Mins	1440.000000
Tracer BKG Counts	3.000000
Tracer BKG Mins	1500.000000
Tracer Ref Date	10/24/05 12:00 AM
Tracer DPM/g	7.6328
Tracer Net Wt Added g	1.087500
Tracer EFF	0.214200
Tracer Plating Rec	0.700000
Tracer Abundance	1.000000
Tracer Halflife Days	136458333.3333
Sb	0.029977
Activity Units	pCi
Aliquot Units	g
Variables Intact Test	**OK**

Isotope	PU-238		
Calculated Values	**Excel**	**VBA**	**V/V**
ACT	**0.003781**	**0.003781**	**OK**
CU	**0.007195**	**0.007195**	**OK**
TPU	**0.007209**	**0.007209**	**OK**
MDA	**0.013389**	**0.013389**	**OK**
DL	**0.004183**	**0.004183**	**OK**
BP MDA	**0.067814**	**0.067814**	**OK**
BP DL	**0.031463**	**0.031463**	**OK**
DL QSAS			
Gross Count Rate	**0.002083**	**0.002083**	**OK**
BKG Count Rate	**0.000667**	**0.000667**	**OK**
Net Count Rate	**0.001417**	**0.001417**	**OK**
Δ t 1 (t2 - t1)	**0.000000**	**0.000000**	**OK**
DF	**1.000000**	**1.000000**	**OK**
Tracer DPM	**8.300707**	**8.300707**	**OK**
Tracer Δt	**731.650694**	**731.650694**	**OK**
Tracer DF	**0.999996**	**0.999996**	**OK**
Tracer Recovery	**0.787837**	**0.787837**	**OK**
Chem Rec Factor	**1.125481**	**1.125481**	**OK**
Sys Err	**0.061664**	**0.061664**	**OK**
K	**0.374635**	**0.374635**	**OK**
K MDA	**539.474896**	**539.474896**	**OK**

Batch Identifiers and Other Related Information	
Batch	ARS1-B07-03040
Batch ID	ARS1-B07-03040-03
Analysis Code	
SDG	QC Sample
Fraction	N/A QC Sample
Client	QC Sample
Client Profile	
Client ID	N/A QC Sample
Instr File Name	2.RPT
Instr Detector	A_2_5A
Instr keV	5493.162
Version/Date	2.0 -- 4/20/2006

Reviewed by: _____ **Date:** _____

Calculation Verification

Procedure	ARS-026
Variable	**Value**
Counts	7.000000
Count Mins	1440.000000
BKG Counts	0.000000
BKG Mins	1500.000000
Instrument Efficiency	0.214200
Sample Aliquot	1.000000
Aliquot Conversion Factor	1.000000
Sample Collection Date (t1)	10/25/07 3:37 PM
Midpoint Count Date (t2)	10/25/07 3:37 PM
Activity Units = pCi --- UCF =	2.2200
CF	1.9600
Nuclide Abundance	1.000000
Halflife Days 1 - Result Isotope	8806712.962963
TPUF_Factor 1	0.000000
TPUF_Factor 2	0.020000
TPUF_Factor 3	0.058330
TPUF_Factor 4	0.000000
TPUF_Factor 5	0.000000
TPUF_Factor 6	0.000000
Tracer ID	S-0025
Tracer Std - Isotope	Pu-242
Tracer Counts	2020.000000
Tracer Count Mins	1440.000000
Tracer BKG Counts	3.000000
Tracer BKG Mins	1500.000000
Tracer Ref Date	10/24/05 12:00 AM
Tracer DPM/g	7.6328
Tracer Net Wt Added g	1.087500
Tracer EFF	0.214200
Tracer Plating Rec	0.700000
Tracer Abundance	1.000000
Tracer Halflife Days	136458333.3333
Sb	0.129033
Activity Units	pCi
Aliquot Units	g
Variables Intact Test	**OK**

Isotope	PU-239		
Calculated Values	**Excel**	**VBA**	**V/V**
ACT	**0.012976**	**0.012976**	**OK**
CU	**0.009612**	**0.009612**	**OK**
TPU	**0.009740**	**0.009740**	**OK**
MDA	**0.005023**	**0.005023**	**OK**
DL	**0.000000**	**0.000000**	**OK**
BP MDA	**0.275295**	**0.275295**	**OK**
BP DL	**0.135426**	**0.135426**	**OK**
DL QSAS			
Gross Count Rate	**0.004861**	**0.004861**	**OK**
BKG Count Rate	**0.000000**	**0.000000**	**OK**
Net Count Rate	**0.004861**	**0.004861**	**OK**
Δ t 1 (t2 - t1)	**0.000000**	**0.000000**	**OK**
DF	**1.000000**	**1.000000**	**OK**
Tracer DPM	**8.300707**	**8.300707**	**OK**
Tracer Δt	**731.650694**	**731.650694**	**OK**
Tracer DF	**0.999996**	**0.999996**	**OK**
Tracer Recovery	**0.787837**	**0.787837**	**OK**
Chem Rec Factor	**1.125481**	**1.125481**	**OK**
Sys Err	**0.061664**	**0.061664**	**OK**
K	**0.374635**	**0.374635**	**OK**
K MDA	**539.474896**	**539.474896**	**OK**

Batch Identifiers and Other Related Information	
Batch	ARS1-B07-03040
Batch ID	ARS1-B07-03040-03
Analysis Code	
SDG	QC Sample
Fraction	N/A QC Sample
Client	QC Sample
Client Profile	
Client ID	N/A QC Sample
Instr File Name	2.RPT
Instr Detector	A_2_5A
Instr keV	5182.225
Version/Date	2.0 -- 4/20/2006

Reviewed by: _____ **Date:** _____

Calculation Verification

Procedure	ARS-026
Variable	**Value**
Counts	125.000000
Count Mins	1440.000000
BKG Counts	1.000000
BKG Mins	1500.000000
Instrument Efficiency	0.227000
Sample Aliquot	0.501200
Aliquot Conversion Factor	1.000000
Sample Collection Date (t1)	10/14/07 12:00 AM
Midpoint Count Date (t2)	10/25/07 3:37 PM
Activity Units = pCi --- UCF =	2.2200
CF	1.9600
Nuclide Abundance	1.000000
Halflife Days 1 - Result Isotope	32037.037037
TPUF_Factor 1	0.000000
TPUF_Factor 2	0.020000
TPUF_Factor 3	0.058330
TPUF_Factor 4	0.000000
TPUF_Factor 5	0.000000
TPUF_Factor 6	0.000000
Tracer ID	S-0025
Tracer Std - Isotope	Pu-242
Tracer Counts	2055.000000
Tracer Count Mins	1440.000000
Tracer BKG Counts	0.000000
Tracer BKG Mins	1500.000000
Tracer Ref Date	10/24/05 12:00 AM
Tracer DPM/g	7.6328
Tracer Net Wt Added g	1.050000
Tracer EFF	0.227000
Tracer Plating Rec	0.700000
Tracer Abundance	1.000000
Tracer Halflife Days	136458333.3333
Sb	0.029977
Activity Units	pCi
Aliquot Units	g
Variables Intact Test	**OK**

Isotope	PU-238		
Calculated Values	**Excel**	**VBA**	**V/V**
ACT	**0.434879**	**0.434879**	**OK**
CU	**0.077110**	**0.077110**	**OK**
TPU	**0.093320**	**0.093320**	**OK**
MDA	**0.025323**	**0.025323**	**OK**
DL	**0.007911**	**0.007911**	**OK**
BP MDA	**0.134813**	**0.134813**	**OK**
BP DL	**0.062791**	**0.062791**	**OK**
DL QSAS			
Gross Count Rate	**0.086806**	**0.086806**	**OK**
BKG Count Rate	**0.000667**	**0.000667**	**OK**
Net Count Rate	**0.086139**	**0.086139**	**OK**
Δ t 1 (t2 - t1)	**11.650694**	**11.650694**	**OK**
DF	**0.999748**	**0.999748**	**OK**
Tracer DPM	**8.014476**	**8.014476**	**OK**
Tracer Δt	**731.650694**	**731.650694**	**OK**
Tracer DF	**0.999996**	**0.999996**	**OK**
Tracer Recovery	**0.784422**	**0.784422**	**OK**
Chem Rec Factor	**1.120603**	**1.120603**	**OK**
Sys Err	**0.061664**	**0.061664**	**OK**
K	**0.198075**	**0.198075**	**OK**
K MDA	**285.228479**	**285.228479**	**OK**

Batch Identifiers and Other Related Information	
Batch	ARS1-B07-03040
Batch ID	ARS1-B07-03040-04
Analysis Code	ASP-A-023
SDG	ARS1-07-01672
Fraction	035
Client	Los Alamos National Laboratory
Client Profile	Los Alamos
Client ID	MD21-07-7022
Instr File Name	3.RPT
Instr Detector	A_2_5B
Instr keV	5495.611
Version/Date	2.0 -- 4/20/2006

Reviewed by: _____ **Date:** _____

Calculation Verification

Procedure	ARS-026
Variable	**Value**
Counts	1002.000000
Count Mins	1440.000000
BKG Counts	2.000000
BKG Mins	1500.000000
Instrument Efficiency	0.227000
Sample Aliquot	0.501200
Aliquot Conversion Factor	1.000000
Sample Collection Date (t1)	10/14/07 12:00 AM
Midpoint Count Date (t2)	10/25/07 3:37 PM
Activity Units = pCi -- UCF =	2.2200
CF	1.9600
Nuclide Abundance	1.000000
Halflife Days 1 - Result Isotope	8806712.962963
TPUF_Factor 1	0.000000
TPUF_Factor 2	0.020000
TPUF_Factor 3	0.058330
TPUF_Factor 4	0.000000
TPUF_Factor 5	0.000000
TPUF_Factor 6	0.000000
Tracer ID	S-0025
Tracer Std - Isotope	Pu-242
Tracer Counts	2055.000000
Tracer Count Mins	1440.000000
Tracer BKG Counts	0.000000
Tracer BKG Mins	1500.000000
Tracer Ref Date	10/24/05 12:00 AM
Tracer DPM/g	7.6328
Tracer Net Wt Added g	1.050000
Tracer EFF	0.227000
Tracer Plating Rec	0.700000
Tracer Abundance	1.000000
Tracer Halflife Days	136458333.3333
Sb	0.129033
Activity Units	pCi
Aliquot Units	g
Variables Intact Test	**OK**

Isotope	PU-239		
Calculated Values	**Excel**	**VBA**	**V/V**
ACT	**3.505361**	**3.505361**	**OK**
CU	**0.217664**	**0.217664**	**OK**
TPU	**0.476304**	**0.476304**	**OK**
MDA	**0.031869**	**0.031869**	**OK**
DL	**0.011185**	**0.011185**	**OK**
BP MDA	**0.548747**	**0.548747**	**OK**
BP DL	**0.270204**	**0.270204**	**OK**
DL QSAS			
Gross Count Rate	**0.695833**	**0.695833**	**OK**
BKG Count Rate	**0.001333**	**0.001333**	**OK**
Net Count Rate	**0.694500**	**0.694500**	**OK**
Δ t 1 (t2 - t1)	**11.650694**	**11.650694**	**OK**
DF	**0.999999**	**0.999999**	**OK**
Tracer DPM	**8.014476**	**8.014476**	**OK**
Tracer Δt	**731.650694**	**731.650694**	**OK**
Tracer DF	**0.999996**	**0.999996**	**OK**
Tracer Recovery	**0.784422**	**0.784422**	**OK**
Chem Rec Factor	**1.120603**	**1.120603**	**OK**
Sys Err	**0.061664**	**0.061664**	**OK**
K	**0.198125**	**0.198125**	**OK**
K MDA	**285.300124**	**285.300124**	**OK**

Batch Identifiers and Other Related Information	
Batch	ARS1-B07-03040
Batch ID	ARS1-B07-03040-04
Analysis Code	ASP-A-023
SDG	ARS1-07-01672
Fraction	035
Client	Los Alamos National Laboratory
Client Profile	Los Alamos
Client ID	MD21-07-7022
Instr File Name	3.RPT
Instr Detector	A_2_5B
Instr keV	5153.881
Version/Date	2.0 -- 4/20/2006

Reviewed by: _____ **Date:** _____

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American Radiation Services Analytical Reports

for

Los Alamos National Laboratory

Plutonium Alpha Spectroscopy Laboratory Records

Analysis Batch Report

Analysis Batch ID **ARS1-B07-03040**

Method **ARS-026** **Matrix** **SO**

Description **AMERICIUM, PLUTONIUM AND URANIUM IN WATER BY EICHROM RESIN SEPARATION (WITH VAC**

ABatch Sample ID	Type	Blind Iso1	Blind Iso2	Blind Iso3	SDG	I	FR	Client ID	Client Deadline	Lab Deadline	Analysis Code
ARS1-B07-03040-01	LCS	B-03947									
ARS1-B07-03040-02	LCSD	B-03948									
ARS1-B07-03040-03	MBL										
ARS1-B07-03040-04	TRG				**ARS1-07-01672**	2	035	MD21-07-7022	10/22/07	10/17/07	ASP-A-023

Expected Value Calculations

LANL

ARS Batch Number: ARS1-B07 - 03040

LCS **CALCULATED EXPECTED VALUE** = 5.685

Range 2.842 - 8.527

LCSD **CALCULATED EXPECTED VALUE** = 5.678

Range 2.839 - 8.518

Batch Result Verification Report

ABatch	ABatchSampleID	Isotope	ClientID	ACT	CU	TPU	DL	MDA	BP_DL	BP_MDA	Sb	SampleCounts	SampleCountMins	BKG_Counts	BKG_CountMins	EFF	ALIQ	UCF	CF	GrossCountRate
ARS1-B07-03040	ARS1-B07-03040-01	PU-238		0.003452704	0.007864614	0.007875677	0.00530	0.01509	0.03146	0.06729	0.02998	4.00000	1440.00000	2.00000	1500.00000	0.22220	1.00000	2.22000	1.96000	0.00278
ARS1-B07-03040	ARS1-B07-03040-01	PU-239/240		5.658848341	0.190015005	0.709836276	0.00375	0.01199	0.13543	0.27477	0.12903	3410.00000	1440.00000	1.00000	1500.00000	0.22220	1.00000	2.22000	1.96000	2.36806
ARS1-B07-03040	ARS1-B07-03040-01	PU-242		3.799899464	0.155920378	0.485003915	0.00749	0.01948	0.04326	0.09084	0.04122	2293.00000	1440.00000	4.00000	1500.00000	0.22220	1.00000	2.22000	1.96000	1.59236
ARS1-B07-03040	ARS1-B07-03040-02	PU-238		0.001788322	0.007142402	0.007145671	0.00528	0.01506	0.03146	0.06728	0.02998	3.00000	1440.00000	2.00000	1500.00000	0.21570	1.00000	2.22000	1.96000	0.00208
ARS1-B07-03040	ARS1-B07-03040-02	PU-239/240		5.466106069	0.186575024	0.68647686	0.00528	0.01506	0.13543	0.27476	0.12903	3303.00000	1440.00000	2.00000	1500.00000	0.21570	1.00000	2.22000	1.96000	2.29375
ARS1-B07-03040	ARS1-B07-03040-02	PU-242		3.780645539	0.155397125	0.482632255	0.00835	0.02120	0.04326	0.09083	0.04122	2288.00000	1440.00000	5.00000	1500.00000	0.21570	1.00000	2.22000	1.96000	1.58889
ARS1-B07-03040	ARS1-B07-03040-03	PU-238		0.003781455	0.007194763	0.007209264	0.00418	0.01339	0.03146	0.06781	0.02998	3.00000	1440.00000	1.00000	1500.00000	0.21420	1.00000	2.22000	1.96000	0.00208
ARS1-B07-03040	ARS1-B07-03040-03	PU-239/240		0.012975581	0.009612445	0.00973953	0.00000	0.00502	0.13543	0.27529	0.12903	7.00000	1440.00000	0.00000	1500.00000	0.21420	1.00000	2.22000	1.96000	0.00486
ARS1-B07-03040	ARS1-B07-03040-03	PU-242		3.73904331	0.163402059	0.480537394	0.00724	0.01951	0.04326	0.09136	0.04122	2020.00000	1440.00000	3.00000	1500.00000	0.21420	1.00000	2.22000	1.96000	1.40278
ARS1-B07-03040	ARS1-B07-03040-04	PU-238	MD21-07-7022	0.434879436	0.077110461	0.09331961	0.00791	0.02532	0.06279	0.13481	0.02998	125.00000	1440.00000	1.00000	1500.00000	0.22700	0.50120	2.22000	1.96000	0.08681
ARS1-B07-03040	ARS1-B07-03040-04	PU-239/240	MD21-07-7022	3.505361247	0.217664223	0.476303712	0.01119	0.03187	0.27020	0.54875	0.12903	1002.00000	1440.00000	2.00000	1500.00000	0.22700	0.50120	2.22000	1.96000	0.69583
ARS1-B07-03040	ARS1-B07-03040-04	PU-242	MD21-07-7022	7.202934948	0.31142943	0.924578812	0.00000	0.00950	0.08632	0.18177	0.04122	2055.00000	1440.00000	0.00000	1500.00000	0.22700	0.50120	2.22000	1.96000	1.42708

Batch Result Verification Report

ABatch	ABatchSampleID	Isotope	ClientID	BKGCountRate	NetCountRate	ChemRecovery	TracerRecovery	PlatingRecovery	NuclideAbd	TracerMeasACT	TracerKnownACT	SampleCollDate	MidPointCountDate	Halflife1	Halflife2	Halflife3
ARS1-B07-03040	ARS1-B07-03040-01	PU-238		0.00133	0.00144		0.84810	0.70000				10/29/07 9:03	10/25/07 15:37	32037.03704		
ARS1-B07-03040	ARS1-B07-03040-01	PU-239/240		0.00067	2.36739		0.84810	0.70000				10/29/07 9:03	10/25/07 15:37	8806712.96296		
ARS1-B07-03040	ARS1-B07-03040-01	PU-242		0.00267	1.58969		0.84810	0.70000				10/29/07 9:03	10/25/07 15:37	136458333.33333		
ARS1-B07-03040	ARS1-B07-03040-02	PU-238		0.00133	0.00075		0.87582	0.70000				10/29/07 9:03	10/25/07 15:37	32037.03704		
ARS1-B07-03040	ARS1-B07-03040-02	PU-239/240		0.00133	2.29242		0.87582	0.70000				10/29/07 9:03	10/25/07 15:37	8806712.96296		
ARS1-B07-03040	ARS1-B07-03040-02	PU-242		0.00333	1.58556		0.87582	0.70000				10/29/07 9:03	10/25/07 15:37	136458333.33333		
ARS1-B07-03040	ARS1-B07-03040-03	PU-238		0.00067	0.00142		0.78784	0.70000				10/29/07 9:03	10/25/07 15:37	32037.03704		
ARS1-B07-03040	ARS1-B07-03040-03	PU-239/240		0.00000	0.00486		0.78784	0.70000				10/29/07 9:03	10/25/07 15:37	8806712.96296		
ARS1-B07-03040	ARS1-B07-03040-03	PU-242		0.00200	1.40078		0.78784	0.70000				10/29/07 9:03	10/25/07 15:37	136458333.33333		
ARS1-B07-03040	ARS1-B07-03040-04	PU-238	MD21-07-7022	0.00067	0.08614		0.78442	0.70000				10/14/07 0:00	10/25/07 15:37	32037.03704		
ARS1-B07-03040	ARS1-B07-03040-04	PU-239/240	MD21-07-7022	0.00133	0.69450		0.78442	0.70000				10/14/07 0:00	10/25/07 15:37	8806712.96296		
ARS1-B07-03040	ARS1-B07-03040-04	PU-242	MD21-07-7022	0.00000	1.42708		0.78442	0.70000				10/14/07 0:00	10/25/07 15:37	136458333.33333		

Batch Result Verification Report

ABatch	ABatchSampleID	Isotope	ClientID	TPUF_1	TPUF_2	TPUF_3	TPUF_4	TPUF_5	TPUF_6	DeltaT1	DeltaT2	DeltaT3	DeltaT4	DeltaT5	DeltaT6	DF1	DF2	DF3	IF1	IF2	SysErr	K_Val	K_MDA	InstFileName	DetectorID	InstrumentkeV
ARS1-B07-03040	ARS1-B07-03040-01	PU-238		0.00000	0.02000	0.05833	0.00000	0.00000	0.00000	0.00000						1.00000					0.06166	0.41835	602.42646	0.RPT	A_2_4A	5485.88000
ARS1-B07-03040	ARS1-B07-03040-01	PU-239/240		0.00000	0.02000	0.05833	0.00000	0.00000	0.00000	0.00000						1.00000					0.06166	0.41835	602.42646	0.RPT	A_2_4A	5164.80400
ARS1-B07-03040	ARS1-B07-03040-01	PU-242		0.00000	0.02000	0.05833	0.00000	0.00000	0.00000	0.00000						1.00000					0.06166	0.41835	602.42646	0.RPT	A_2_4A	4908.51000
ARS1-B07-03040	ARS1-B07-03040-02	PU-238		0.00000	0.02000	0.05833	0.00000	0.00000	0.00000	0.00000						1.00000					0.06166	0.41939	603.91803	1.RPT	A_2_4B	5446.30400
ARS1-B07-03040	ARS1-B07-03040-02	PU-239/240		0.00000	0.02000	0.05833	0.00000	0.00000	0.00000	0.00000						1.00000					0.06166	0.41939	603.91803	1.RPT	A_2_4B	5147.14900
ARS1-B07-03040	ARS1-B07-03040-02	PU-242		0.00000	0.02000	0.05833	0.00000	0.00000	0.00000	0.00000						1.00000					0.06166	0.41939	603.91803	1.RPT	A_2_4B	4891.54200
ARS1-B07-03040	ARS1-B07-03040-03	PU-238		0.00000	0.02000	0.05833	0.00000	0.00000	0.00000	0.00000						1.00000					0.06166	0.37464	539.47490	2.RPT	A_2_5A	5493.16200
ARS1-B07-03040	ARS1-B07-03040-03	PU-239/240		0.00000	0.02000	0.05833	0.00000	0.00000	0.00000	0.00000						1.00000					0.06166	0.37464	539.47490	2.RPT	A_2_5A	5182.22500
ARS1-B07-03040	ARS1-B07-03040-03	PU-242		0.00000	0.02000	0.05833	0.00000	0.00000	0.00000	0.00000						1.00000					0.06166	0.37464	539.47490	2.RPT	A_2_5A	4908.09400
ARS1-B07-03040	ARS1-B07-03040-04	PU-238	MD21-07-7022	0.00000	0.02000	0.05833	0.00000	0.00000	0.00000	11.65069						0.99975					0.06166	0.19808	285.22848	3.RPT	A_2_5B	5495.61100
ARS1-B07-03040	ARS1-B07-03040-04	PU-239/240	MD21-07-7022	0.00000	0.02000	0.05833	0.00000	0.00000	0.00000	11.65069						1.00000					0.06166	0.19813	285.30012	3.RPT	A_2_5B	5153.88100
ARS1-B07-03040	ARS1-B07-03040-04	PU-242	MD21-07-7022	0.00000	0.02000	0.05833	0.00000	0.00000	0.00000	11.65069						1.00000					0.06166	0.19813	285.30037	3.RPT	A_2_5B	4897.17000

Batch Result Verification Report

ABatch	ABatchSampleID	Isotope	ClientID	TracerIsotope	TracerRefDate	TracerRefACT	TracerKnown	SDG	Run	Fraction	AnalysisCode	UserID	ModDate
ARS1-B07-03040	ARS1-B07-03040-01	PU-238		PU-242	10/24/05 0:00				2			LLASSEIGNE	10/29/07 9:05
ARS1-B07-03040	ARS1-B07-03040-01	PU-239/240		PU-242	10/24/05 0:00				2			LLASSEIGNE	10/29/07 9:05
ARS1-B07-03040	ARS1-B07-03040-01	PU-242		PU-242	10/24/05 0:00				2			LLASSEIGNE	10/29/07 9:05
ARS1-B07-03040	ARS1-B07-03040-02	PU-238		PU-242	10/24/05 0:00				2			LLASSEIGNE	10/29/07 9:05
ARS1-B07-03040	ARS1-B07-03040-02	PU-239/240		PU-242	10/24/05 0:00				2			LLASSEIGNE	10/29/07 9:05
ARS1-B07-03040	ARS1-B07-03040-02	PU-242		PU-242	10/24/05 0:00				2			LLASSEIGNE	10/29/07 9:05
ARS1-B07-03040	ARS1-B07-03040-03	PU-238		PU-242	10/24/05 0:00				2			LLASSEIGNE	10/29/07 9:05
ARS1-B07-03040	ARS1-B07-03040-03	PU-239/240		PU-242	10/24/05 0:00				2			LLASSEIGNE	10/29/07 9:05
ARS1-B07-03040	ARS1-B07-03040-03	PU-242		PU-242	10/24/05 0:00				2			LLASSEIGNE	10/29/07 9:05
ARS1-B07-03040	ARS1-B07-03040-04	PU-238	MD21-07-7022	PU-242	10/24/05 0:00			ARS1-07-01672	2	035	ASP-A-023	LLASSEIGNE	10/29/07 9:05
ARS1-B07-03040	ARS1-B07-03040-04	PU-239/240	MD21-07-7022	PU-242	10/24/05 0:00			ARS1-07-01672	2	035	ASP-A-023	LLASSEIGNE	10/29/07 9:05
ARS1-B07-03040	ARS1-B07-03040-04	PU-242	MD21-07-7022	PU-242	10/24/05 0:00			ARS1-07-01672	2	035	ASP-A-023	LLASSEIGNE	10/29/07 9:05

Standards Report

Active	Std ID	Isotope	PSCLT	Verification Date	Exp Date	Status	Ref Date	Ref ACT (dpm)	Current ACT (dpm/g)	Halflife (days)	Parent ID	Expended Date	Comments
A	S-0001	Am-241	S	06/07/07	06/07/08	OK	03/16/06	5.1937E+01	51.8046	1.579E+05	S-0069		S-0001 Working level dilution - information entered from dilution
A	S-0003	Cs-137	SL	02/01/06	02/01/07	EXP	08/13/03	1.2776E+02	116.0307	1.098E+04	S-0115		S-0003 - Information entered from dilution record - 4/19/2006 RTS
A	S-0007	Ra-226	S	05/29/07	05/29/08	OK	02/01/06	6.5015E+01	64.9667	5.840E+05	S-0105		TBD - information entered from dilution records - 4/19/2006 RTS
A	S-0020	Sr-89	SC	11/19/05	07/29/06	EXP	02/15/05	8.9224E+04	0.1406	5.053E+01	S-0109		
A	S-0023	Pu-238	S	11/02/05	11/02/06	EXP	11/01/05	1.1657E+01	11.4780	3.204E+04	S-0071		S-0023 Entered information from dilution records.
A	S-0024	Pu-239	S	04/17/07	04/17/08	OK	10/26/05	1.1412E+01	11.4114	8.807E+06	S-0073		
A	S-0025	Pu-242	ST	04/17/07	04/17/08	OK	10/24/05	7.6328E+00	7.6328	1.365E+08	S-0075		S-0025 Information entered from dilution records
A	S-0027	Tc-99	SLC	09/01/06	09/01/07	EXP	10/18/05	9.4141E+03	9414.0782	7.710E+07	S-0113		S-0027 - Information entered from dilution records - RTS 4/19/2006
A	S-0028	U-238	S	06/18/07	06/18/08	OK	10/26/05	3.4935E+01	34.9349	1.632E+12	S-0063		
A	S-0032	H-3	SL	04/02/07	04/02/08	OK	03/01/06	3.4431E+03	3141.5580	4.500E+03	S-0031		S-0032 - Intermediate dilution for preparation of control solutions -
A	S-0033	Tc-99	SLC	10/18/05	10/18/06	EXP	10/18/05	1.9470E+02	194.6960	7.710E+07	S-0027	04/25/06	S-0033 Working level dilution - information entered from dilution reco
A	S-0036	Th-230	SL	08/01/07	08/01/08	OK	10/31/02	1.2490E+01	12.4895	2.753E+07	S-0065		Empirical data collected over 2 mos. for S-0036 indicated that the ori
A	S-0037	Ra-226	SC	02/13/06	02/13/07	EXP	01/03/97	6.4956E+02	646.5310	5.840E+05	S-0104		S-0037 Entered from documentation expended dilution information enter
A	S-0038	Am-243	ST	06/07/07	06/07/08	OK	01/25/06	1.0656E+01	10.6547	2.692E+06	S-0067		S-0038 Entered from dilution documention. Density from certificate use
A	S-0039	Tc-99	SC	08/03/07	08/03/08	OK	03/30/06	1.1146E+04	11146.2832	7.710E+07	S-0114		S-0039 - Information entered from dilution records - 4/19/2006 RTS
A	S-0041	H-3	S	03/29/06	03/29/07	EXP	03/24/06	2.8167E+00	2.5791	4.500E+03	S-0032		S-0041 - Working level dilution for preparation of control solutions -
A	S-0063	U-238	P			Not Ver	08/01/97	2.4200E+02	242.0000	1.632E+12			S-0028 Entered from dilution record on 4/6/2006 RTS
A	S-0065	Th-230	P			Not Ver	01/27/95	1.7100E+00	1.7098	2.753E+07			S-0036 Information entered on 4/6/2006 RTS Density entered based on m
A	S-0067	Am-243	PT			Not Ver	10/20/05	3.6240E+01	36.2332	2.692E+06			S-0038 Entered on 4/6/2006 RTS from dilution documentation
A	S-0069	Am-241	PL			Not Ver	04/18/96	9.6000E-03	0.0094	1.579E+05			S-0001 Information entered from dilution records Dilution incorre
A	S-0071	Pu-238	PL			Not Ver	11/15/99	4.1520E+01	39.0008	3.204E+04			S-0023 Entered from dilution records
A	S-0073	Pu-239	PL			Not Ver	11/15/99	3.9240E+01	39.2311	8.807E+06			S-0024 Information entered from dilution records
A	S-0074	Pu-239	SL			Not Ver	10/26/05	1.1412E+01	11.4114	8.807E+06	S-0073		
A	S-0075	Pu-242	PT			Not Ver	06/04/94	2.6310E+01	26.3093	1.365E+08			S-0025 Information entered from dilution records
A	S-0077	U-232	PT			Not Ver	07/01/02	3.8220E+01	36.2371	2.516E+04			S-0026 Information enetered from dilution records
A	S-0102	U-nat	PC			Not Ver	08/01/97	4.8624E+02	486.2400	1.632E+12			NIST 4321 - uranium standard for use as total uranium standard)also l
A	S-0103	U-nat	SC	06/19/06	06/19/07	EXP	10/26/05	7.0226E+01	70.2265	1.632E+12	S-0102		S-0028 assigned as total uranium solution. Activity is the same total u
A	S-0104	Ra-226	PC			Not Ver	01/01/93	1.1900E+01	11.8239	5.840E+05			S-0037 Primary solution
A	S-0105	Ra-226	P			Not Ver	01/01/93	1.1900E+01	11.8239	5.840E+05			Primary solution for S-0007 - information entered from dilution record
A	S-0107	H-3	P			Not Ver	09/03/98	6.3470E+05	379952.7219	4.500E+03			Primary for S-0029 - Information entered from dilution records - 4/18/
A	S-0108	Sr-90	PC			Not Ver	07/01/95	4.0100E+03	2973.5260	1.041E+04			Primary for S-0017
A	S-0109	Sr-89	PLC			Not Ver	01/24/05	3.9414E+05	0.4592	5.053E+01			Activity concentration calculated per certificate information - 2.018E
A	S-0111	H-3	PC			Not Ver	04/01/06	2.0570E+00	1.9133	4.500E+03			Primary
A	S-0112	H-3	SC	04/19/06	04/19/07	EXP	04/18/06	1.1410E+04	10488.3889	4.500E+03	S-0111		Solution for use as calibration stock standard - Entered from dilution
A	S-0113	Tc-99	PLC			Not Ver	09/01/96	3.2610E+04	32608.8089	7.710E+07			Primary solution
A	S-0114	Tc-99	PC			Not Ver	04/01/06	2.0140E+00	2.0140	7.710E+07			primary
A	S-0115	Cs-137	PL			Not Ver	01/23/95	2.9000E+01	21.6244	1.098E+04			S-0003 primary - information entered from dilution records - 4/19/2006
A	S-0116	Ra-226	SL			Not Ver	05/26/04	6.3538E+01	63.4442	5.840E+05	S-0105		S-0003 - Information entered from dilution records - 4/19/2006 RTS
A	S-0117	Sr-90	PLCT			Not Ver	07/01/95	4.0100E+03	2973.5260	1.041E+04			S-0017 primary - information entered from dilution records - 4/19/2006
A	S-0118	Cs-137	PC			Not Ver	04/01/06	2.1110E+00	2.0372	1.098E+04			Primary Cs-137 Standard
A	S-0119	Cs-137	SC	04/19/06	04/19/07	EXP	04/03/06	1.1621E+04	11216.0625	1.098E+04	S-0118		Solution for use as calibration stock standard.
A	S-0120	Sr-90	PC			Not Ver	04/01/06	2.0490E+00	1.9735	1.041E+04			Primary Sr-90 Standard
A	S-0121	Sr-90	SC	09/14/07	09/14/08	OK	03/31/06	1.1282E+04	10865.3365	1.041E+04	S-0120		Solution for use as calibration stock standard.
A	S-0122	Am-241	PC			Not Ver	04/01/06	2.1050E+00	2.0998	1.579E+05			Primary Am-241 Standard
A	S-0123	Am-241	SC	04/24/06	04/24/07	EXP	04/03/06	1.1632E+04	11603.3384	1.579E+05	S-0122		Solution for use as calibration stock standard.

Standards Report

A	S-0124	Th-230	PC			Not Ver	04/01/06	1.8860E+00	1.8860	2.753E+07			Primary Th-230 Standard
A	S-0125	Th-230	SC	09/24/07	09/24/08	OK	03/27/06	1.0413E+04	10412.8694	2.753E+07	S-0124		Calibration for use as calibration stock standard. Entered from dilution
A	S-0126	Ra-228	PL			Not Ver	02/22/06	1.0843E+05	88887.0592	2.100E+03			Primary Ra-228 Standard
A	S-0127	Ra-228	SL	05/10/06	05/10/07	EXP	05/10/06	1.1274E+04	9480.1258	2.100E+03	S-0126		Measurements performed using Dilution [illegible] and Method [illegible]
A	S-0128	Tc-99	SLC	05/03/06	05/03/07	EXP	04/05/06	5.6011E+03	5601.0576	7.710E+07	S-0039		Solution diluted per plan and as documented in measurements above exce
A	S-0129	Sr-90	PL			Not Ver	07/01/95	4.0100E+03	2973.5260	1.041E+04			
A	S-0132	Ra-228	SL	07/30/07	07/30/08	OK	05/10/06	4.5090E+01	37.9163	2.100E+03	S-0127		Dilution performed as stated above by B Steffens on 5/10/2006. Measure
A	S-0134	Sr-90	SL			Not Ver	09/26/03	4.7747E+02	432.5989	1.041E+04	S-0129		Original solution ID# was T11c. Dilution information entered from dilu
A	S-0135	Sr-90	SL			Not Ver	06/09/04	5.7998E+01	53.4548	1.041E+04	S-0134		Original standard ID# was T11c-1/S-0017. Information entered from dilu
A	S-0137	Th-229	PT			Not Ver	12/05/03	1.2294E+05	122895.1204	2.681E+06			Primary Th-229 standard.
A	S-0138	Th-229	ST			Not Ver	05/28/04	6.0889E+02	608.6996	2.681E+06	S-0137		Used as an intermediate standard for creating tracer stock solutions.
A	S-0139	Po-209	P			Not Ver	03/15/94	5.1252E+03	4673.0725	3.726E+04			Primary Po-209 standard
A	S-0140	Po-209	S			Not Ver	10/07/03	1.1882E+01	11.5615	3.726E+04	S-0139		
A	S-0141	Ra-226	PC			Not Ver	01/21/93	2.6418E+04	26249.7830	5.840E+05			Primary solution for creating calibration stock
A	S-0142	Ra-226	SC	04/03/07	04/03/08	OK	07/21/06	6.5210E+02	651.7472	5.840E+05	S-0141		Solution for use as calibration stock. Dilution performed as stated ab
A	S-0143	Pb-210	P			Not Ver	07/18/06	7.6400E+00	7.3487	8.130E+03			ARS-WRM-001
A	S-0144	Pb-210	S	07/18/06	07/18/07	EXP	07/18/06	1.6961E+01	16.3141	8.130E+03	S-0143		7/18/2006 ARS-WRM-001 20 gamma spectroscopy measurements average act
A	S-0145	Th-229	ST			Not Ver	01/28/05	1.1938E+02	119.3529	2.681E+06	S-0138		Information was gathered from existing accounts. /dilution records.xls
A	S-0146	Th-229	ST	07/10/07	07/10/08	OK	03/10/05	5.9811E+00	5.9796	2.681E+06	S-0145		Information gathered from existing dilution records created on 4/28/20
A	S-0147	Tc-99	SC	09/01/06	09/01/07	EXP	08/08/06	2.3201E+02	232.0124	7.710E+07	S-0027		Tc-99 LCS standard. -BJS 9/1/2006
A	S-0148	C-14	PL			Not Ver	03/07/06	4.7320E+05	473103.2847	2.090E+06			Primary C-14 standard. The certified activity in dpm/g was derived by
A	S-0151	I-129	PLC			Not Ver	10/12/06	2.4390E+05	243899.9891	5.730E+09			Primary I-129 standard
A	S-0152	H-3	P	12/04/06	12/04/07	OK	09/03/98	2.0090E+00	1.2027	4.500E+03			Liquid in a 500-ml borosilicate-glass medis bottle with teflon-lined s
A	S-0153	C-14	S			Not Ver	10/13/06	1.1837E+04	11835.1208	2.090E+06	S-0148		Standard was originally logged as S-0149. After discovering an error
A	S-0154	C-14	S	03/12/07	03/12/08	OK	10/13/06	1.7245E+02	172.4290	2.090E+06	S-0153		LCS standard for C-14. Originally logged as S-0150. See parent comment
A	S-0155	Ra-226	SC	04/03/07	04/03/08	OK	03/20/07	5.9902E+01	59.8874	5.840E+05	S-0142		Calibration stock solution for Ra-226. Dilution performed as stated ab
A	S-0156	H-3	S	05/18/07	05/18/08	OK	04/27/07	2.7672E+00	2.6944	4.500E+03	S-0032		Normal level tritium LCS standard. Dilution performed as stated above
A	S-0157	Sr-90	P			Not Ver	05/15/07	7.6040E+03	7525.9227	1.041E+04			Primary Sr-90 LCS standard
A	S-0158	U-232	PT			Not Ver	05/17/07	8.3231E+02	828.8136	2.516E+04			Primary U-232 standard
A	S-0159	Sr-89	PC			Not Ver	05/15/07	1.7538E+04	2092.0310	5.053E+01			Primary Sr-89 standard
A	S-0160	Sr-90	S	07/16/07	07/16/08	OK	06/01/07	4.5216E+03	4480.2846	1.041E+04	S-0157		Intermediate standard for creating LCS standards. Dilution performed a
A	S-0161	U-232	ST	06/18/07	06/18/08	OK	06/06/07	5.1903E+02	517.1270	2.516E+04	S-0158		Intermediate S-0158 standard to be used in creating stock tracer solut
A	S-0162	U-232	ST	06/18/07	06/18/08	OK	06/08/07	9.8656E+00	9.8301	2.516E+04	S-0161		Dilution performed as stated above by BSteffens on 6/8/2007. -BJS 6/8/
A	S-0163	Sr-90	S	07/16/07	07/16/08	OK	06/12/07	4.7407E+01	47.0075	1.041E+04	S-0160		Sr-90 LCS stock standard. Dilution performed as stated above by K Lee
A	S-0164	Sr-89	PC			Not Ver	05/15/07	1.7533E+04	2091.4190	5.053E+01			Primary Sr-89 calibration standard.
A	S-0165	Sr-89	SC	08/10/07	04/18/08	OK	08/08/07	3.2967E+03	1261.9886	5.053E+01	S-0164		Calibration stock solution. Dilution performed as stated above by K Lee
A	S-0166	Th-229	ST	08/28/07	08/28/08	OK	08/27/07	5.6494E+00	5.6494	2.681E+06	S-0145		Th-229 tracer. Dilution performed as stated above by B Steffens. -BJS
I	S-0026	U-232	ST	06/19/06	06/19/07	EXP	10/26/05	1.0854E+01	10.6402	2.516E+04	S-0077	06/21/07	S-0026 Information entered from dilution records
I	S-0030	H-3	P	11/19/05	11/19/06	EXP	12/10/98	6.9370E-01	0.4216	4.500E+03			Tritium in Oil
I	S-0031	H-3	S	10/26/05	10/26/06	EXP	10/19/05	6.0777E+05	543295.7671	4.500E+03	S-0107		Entered intermediate dilution - Information entered from dilution recor
I	S-0130	Sr-90	SL			Not Ver	09/26/03	5.3620E+02	485.8178	1.041E+04	S-0129	05/26/06	Original solution ID# is T11c. Dilution information entered from exist
I	S-0131	Sr-90	SL			Not Ver	02/02/06	0.0000E+00	0.0000	1.041E+04	S-0130	05/18/06	
I	S-0133	Sr-90	SL	01/09/06	01/09/07	EXP	06/09/04	5.8438E+01	53.8601	1.041E+04	S-0130	05/26/06	Original solution ID# was T11c-1/S-0017. Information entered from dilu
I	S-0136	Sr-90	SL	05/26/06	05/26/07	EXP	06/09/04	5.2036E+01	47.9600	1.041E+04	S-0134	07/17/07	Original standard ID# was T11c-1/S-0017. Dilution information entered
I	S-0149	C-14	SL			Not Ver	10/13/06	5.9553E+04	59545.7742	2.090E+06	S-0148	03/16/07	Intermediate standard for creating LCS stock solutions. Dilution perfo
I	S-0150	C-14	SL			Not Ver	10/13/06	8.6764E+02	867.5381	2.090E+06	S-0149	03/16/07	LCS standard for C-14 in water. Dilution performed as stated above. -B

Standards Report

I	S-0167	Th-229	ST				Not Ver	08/27/07	5.6494E+00	5.6494	2.681E+06	S-0145	08/28/07	Th-229 tracer. Dilution performed as stated above by B Steffens. -BJS

American Radiation Services
Baton Rouge Laboratory

LCS Report
Analytical Batch: ARS1-B07-03040

ID_58050	BlindID	ABatch	ABatchSampleID	BlindGroup	StdID	Isotope	ExpectedAddition	ExpectedValue	EmptyWt	GrossWt	NetWt	UserID	ModDate
3924	B-03947	ARS1-B07-03040	ARS1-B07-03040-01	B-Pu239	S-0024	Pu-239	1	5.14029158	13.4459	14.5518	1.1059	BSTEFFENS	10/17/2007
3925	B-03948	ARS1-B07-03040	ARS1-B07-03040-02	B-Pu239	S-0024	Pu-239	1	5.14029158	13.2936	14.3983	1.1047	BSTEFFENS	10/17/2007

ARS-026

ID_31001_026	ABatch	ABatchSampleID	ClientID	Aliquot	AliquotUnits	UserID	ModDate
3702	ARS1-B07-03040	ARS1-B07-03040-01		1	g	KHARRIS	10/29/2007
3703	ARS1-B07-03040	ARS1-B07-03040-02		1	g	KHARRIS	10/29/2007
3704	ARS1-B07-03040	ARS1-B07-03040-03		1	g	KHARRIS	10/29/2007
3705	ARS1-B07-03040	ARS1-B07-03040-04	MD21-07-7022	0.5012	g	KHARRIS	10/29/2007

ARS1-B07-03040

ID_58060	ABatch	ABatchSampleID	ClientID	SampleType	EmptyWt	FilledWt	Exp Val	NetWt	StdID	Isotope	TracerDate	UserID	HL days	Ref Date	Cert dpm/g Ref Date	Cert dpm/g Tracer Date	
4654	ARS1-B07-03040	ARS1-B07-03040-01		LCS	0.521	1.626	7.633	1.1052	S-0025	Pu-242	10/25/2007	KHARRIS	39381.421	136458333.3	38649.000	7.633	8.435776837
4655	ARS1-B07-03040	ARS1-B07-03040-02		LCSD	0.532	1.632	7.633	1.0996	S-0025	Pu-242	10/25/2007	KHARRIS	39381.421	136458333.3	38649.000	7.633	8.393033125
4656	ARS1-B07-03040	ARS1-B07-03040-03		MBL	0.052	1.140	7.633	1.0875	S-0025	Pu-242	10/25/2007	KHARRIS	39381.421	136458333.3	38649.000	7.633	8.300676176
4657	ARS1-B07-03040	ARS1-B07-03040-04	MD21-07-7022	TRG	0.236	1.286	7.633	1.05	S-0025	Pu-242	10/25/2007	KHARRIS	39381.421	136458333.3	38649.000	7.633	8.014445963

QC Evaluation

Eichrom Method: Eichrom ACW-03-15
Batch ID: ARS1-B07-03040
SDG's: ARS1-07-01672-035

LCS	5.6588	**CSU**	0.7098
LCSD	5.4661	**CSU-D**	0.6865

DER = $\frac{\text{abs(LSC-LSCD)}}{\text{sqr((2s CSU/2)^2)+((2s CSU-D/2)^2)}}$ = **< 3**

DER $\frac{0.192742}{0.49374}$ = 0.390372 **< 3**

% RPD= $\frac{\text{ABS(LCS - LSCD)}}{\text{(LCS+LCSD)/2}}$ * 100 = **< 25%**

%RPD $\frac{0.192742}{5.562477}$ *100 = 3.465044 **< 25%**

The *RPD* shall be less than 25% or other client-applied criteria

RER= $\frac{\text{abs((LCS-LCSD))}}{\text{(CSU)+(CSD)}}$ = **<1**

RER = $\frac{0.192742272}{1.3963}$ 0.138037 **<1**

Blank Information

	Act	CSU	MDA
AM-241			
U-234			
U-235			
U-238			
Pu-238	0.003781	0.007209	0.01339
Pu-239/240	0.012976	0.00974	0.00502
Th-228			
Th-230			
Th-232			
H3			
Ra-226			
Ra-228			
Total U			
KPA			
Pb-210			
Po-209			
Sr-90			

*MDA should be below RDL
*Blank activity must be below MDA
*Blank activity must be < 1.65*CSU (DOE only)

ACT = 0.012976
CSU = 0.00974
Is ACT<1.65*CSU? YES

AMERICAN RADIATION SERVICES, INC.

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American Radiation Services Analytical Reports

for

Los Alamos National Laboratory

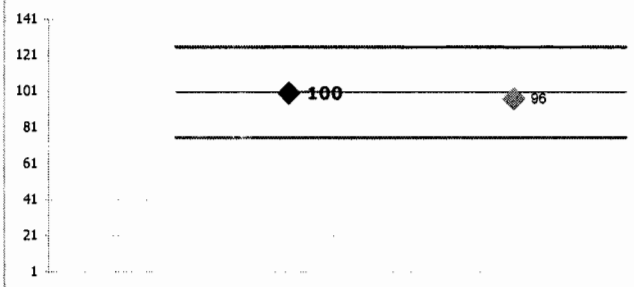
Plutonium Alpha Spectroscopy Control Charts

Quality Control Charts

Analytical Batch ID	**ARS1-B07-03040**
ARS Procedure No	**ARS-026**
Procedure Revision	**5**
Sample Matrix	**SO**

LCS % Recovery for This Batch

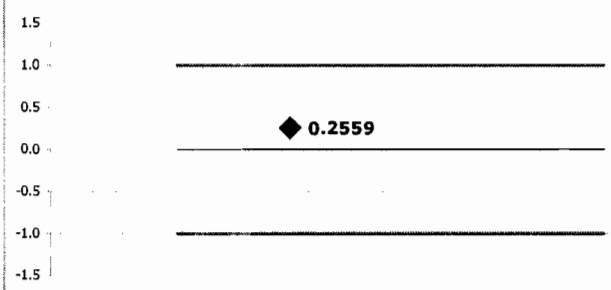
PU-239/240 ◆ LCS ◆ LCSD



Measured	Known	LCL	UCL	Status	Measured	Known	LCL	UCL	Status
5.6588	5.6846	75.0000	125.0000	Pass					

RER for This Batch

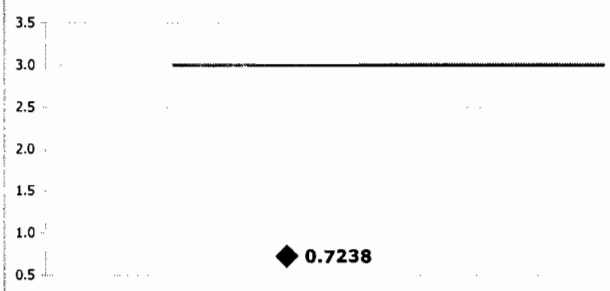
PU-239/240



Measured	LCL	UCL	Status	Measured	LCL	UCL	Status
0.2559	-1.0000	1.0000	OK				

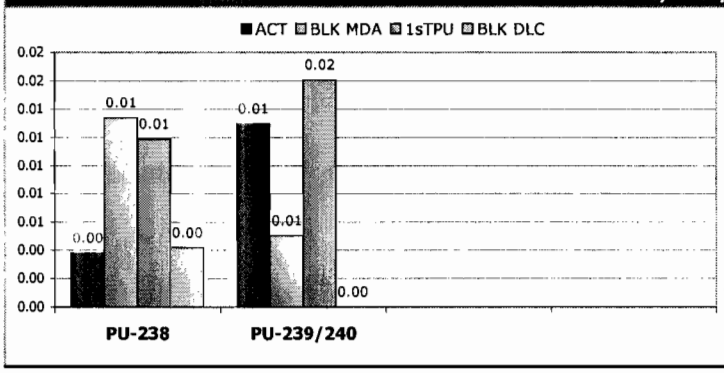
DER for This Batch

PU-239/240



Measured	UCL	Status	Measured	UCL	Status
0.7238	3.0000	OK			

Blank Activity Analysis for This Batch (pCi)



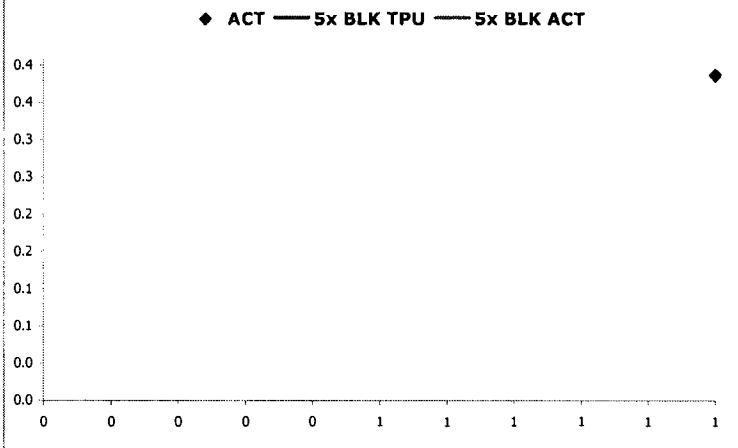
PU-238	Blank ACT < Blank MDA	**OK**
	Blank ACT < Blank DLC	**OK**
	Blank ACT < Blank 1.65 TPU	**OK**
PU-239/240	Blank ACT < Blank MDA	**INV**
	Blank ACT < Blank DLC	**INV**
	Blank ACT < Blank 1.65 TPU	**OK**
	Blank ACT < Blank MDA	
	Blank ACT < Blank DLC	
	Blank ACT < Blank 1.65 TPU	
	Blank ACT < Blank MDA	
	Blank ACT < Blank DLC	
	Blank ACT < Blank 1.65 TPU	

Quality Control Charts

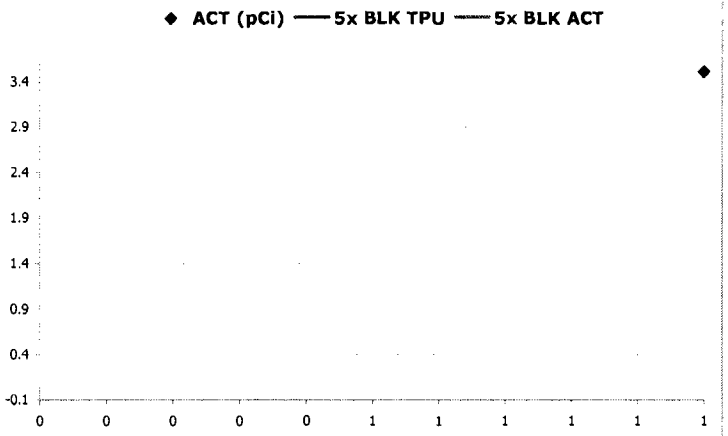
Analytical Batch ID	**ARS1-B07-03040**
ARS Procedure No	**ARS-026**
Procedure Revision	**5**
Sample Matrix	**SO**

Sample Results / Method Blank Statistical Analysis (pCi)

PU-238



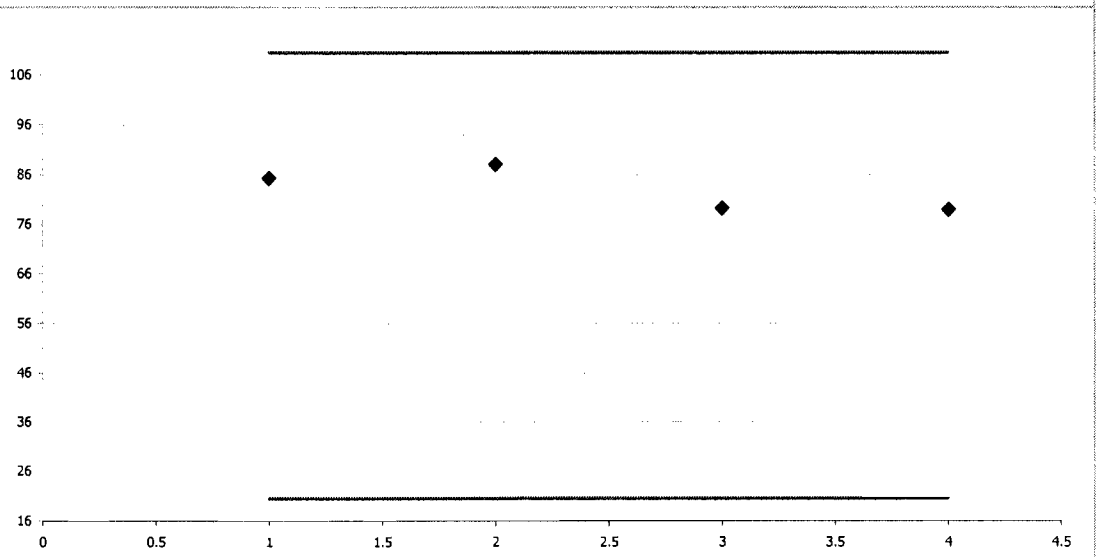
PU-239/240



Tracer / Chemical % Recovery by Sample

ID	% Recovery	Status
01	85	OK
02	88	OK
03	79	OK
04	78	OK

PU-242 Tracer

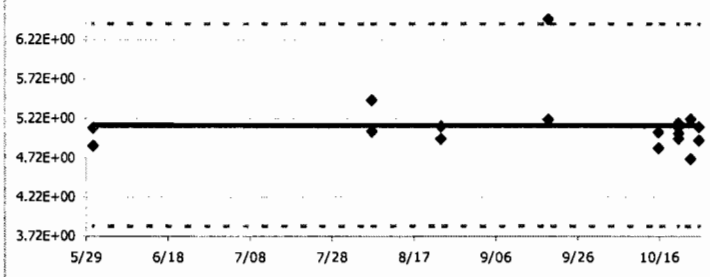


Quality Control Charts

Analytical Batch ID	**ARS1-B07-03040**
ARS Procedure No	**ARS-026**
Procedure Revision	**5**
Sample Matrix	**SO**

LCS Activity Results (pCi) - Population: Last 30 points

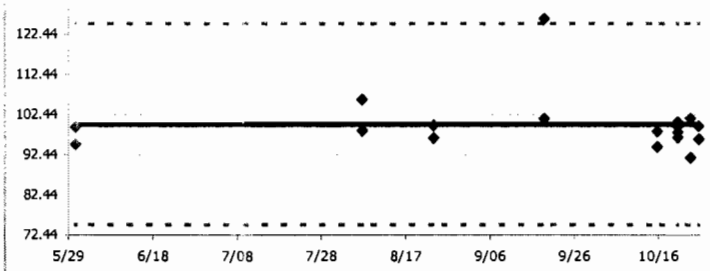
PU-239/240



Expected Activity	LCL	UCL	n	Expected Activity	LCL	UCL	n
5.14E+00	3.86E+00	6.43E+00	18				

LCS % Recovery - Population: Last 30 points

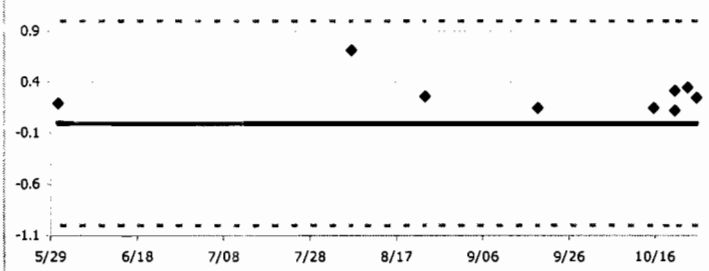
PU-239/240



Expected Recovery	LCL	UCL	n	Expected Recovery	LCL	UCL	n
100	75	125	18				

RER - Population: Last 30 points

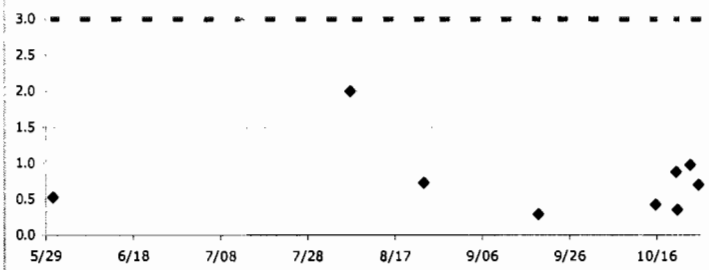
PU-239/240



n	LCL	UCL	n	LCL	UCL
9	-1.0	1.0			

DER - Population: Last 30 points

PU-239/240



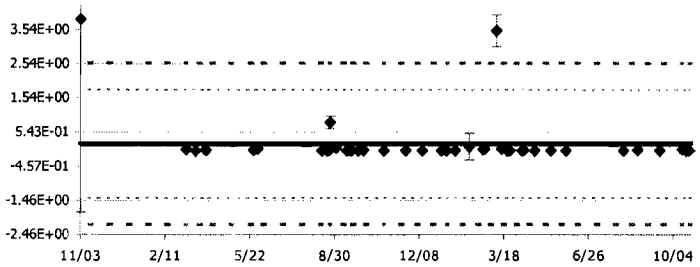
n	UCL	n	UCL
9	3.0		

Quality Control Charts

Analytical Batch ID	**ARS1-B07-03040**
ARS Procedure No	**ARS-026**
Procedure Revision	**5**
Sample Matrix	**SO**

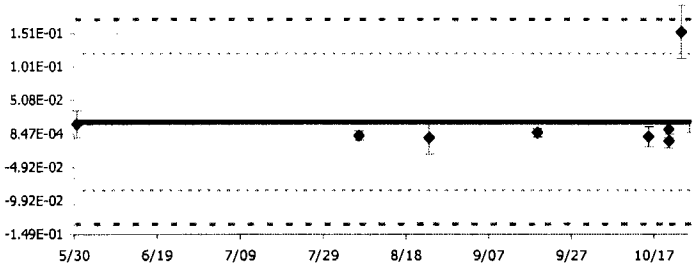
Method Blank Activity (pCi) ± 1 Sigma CSU - Population: Last 30 points

PU-238



AVG	STDEV	LCL	UCL	n
2.07E-01	7.88E-01	-2.16E+00	2.57E+00	43

PU-239/240



AVG	STDEV	LCL	UCL	n
1.91E-02	5.10E-02	-1.34E-01	1.72E-01	9

AVG	STDEV	LCL	UCL	n

AVG	STDEV	LCL	UCL	n

AMERICAN RADIATION SERVICES, INC.

2609 North River Road • Port Allen, Louisiana 70767

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American Radiation Services Analytical Reports

for

Los Alamos National Laboratory

Alpha Spectroscopy Calibration Information

STD ID: S-0024

ARS AMERICAN RADIATION SERVICES, INC.	Add/Edit *Secondary Stds*	Parent Standard Data			
Planning		Parent Solution Reference #	NIST SRM 4330B		
Planning Comments	**S-0024 Dilute working level control standard from SRM 4330B**	Parent Solution #	S-0073		
Target dpm/g (on dil. date)	**11.72**	Parent Principal Radionuclide	Pu-239	Half Life (Days)	8806712.9629630
Target Final volume mL	**1000**	Parent Reference Date	11/15/1999 00:00		
Appx mass g of Parent Sol'n	4.978764745	Parent Certified Act	23544	Certi Act/Vol Units	dpm / g
Appx vol ml of Parent Sol'n	4.522038824	Parent Cert Act Uncert 1 Sigma	0.0034		
Expected Addition for Analysis g	**1**	Parent Sp. Gravity G/Ml	1.101		
Standards Preparation / Dilution		Parent Supplier	NIST		
Secondary Solution #	S-0024	Parent Date Recvd	01/02/00		
Dilution Date (New Ref Date)	**10/26/2005 00:00**	Parent Received By	Unknown		
Ampoule, Empty (g)	**0**	Parent Cert Exp Date			
Ampoule /Solution Gross (g)	**5.357**	Parent Matrix	3.1 M HNO3		
Net Wt Removed (g)	5.357	Certified dpm/g At Ref Date	23544		
Transfer Container, empty (g)	**0**	Certified dpm/g on 10/26/2005 00:00	23533.997548		
Container Plus Solution (g)	**5.357**	Parent Comments	S-0024 Information entered from dilution records.		
Net Wt Transferred (g)	5.357				
DPM Xferred on 10/26/2005 00:00	126103.6486				
Diluent/matrix	**3M HNO3**	Parent Tech	B Stefens		
Diluent Density Cont, empty (g)		Is_Primary	FALSE		
Test Mass of 5 ml of Diluent (g)		Is_LCS	FALSE		
Diluent Density Test - (g/mL)		Is_Tracer	FALSE		
Dilution Empty Container Mass (g)	**1**	Is_Calib	FALSE		
Dilution Full Cont g (if measured)	**1106**				
Dilution Final Volume ml (if measured)	**1000**				
Final Dilution Density (g/mL)	1.105				
Final Dilution Measured Mass g	1.105				
Comments					
Final Dilution dpm/g	114.120949				
Final Dil New Ref Date/Time	10/26/2005 00:00				

AMERICAN RADIATION SERVICES, INC.	**Add / Edit *Primary* Standards**			
Solution Reference #	**NIST SRM 4330B**			
Solution #	**S-0073**			
Principal Radionuclide	**Pu-239**	Half Life (Days)	**8806712.9630**	
Reference Date	**11/15/99**			
Certified Act	**39.2400**	Certi Act/Vol Units	**Bq**	**g**
Cert Act Uncert 1 Sigma (fractional .03=3%)	**0.0034**			
Sp. Gravity G/Ml	**1.1010**			
Supplier	**NIST**			
Date Recvd				
Received By				
Cert Exp Date				
Matrix	**3.1M HNO3**			
Certified dpm/g At Reference Date	**2354.4**			
Certified dpm/g On 04/06/2006 22:29	**2361.169528**			
Comments	S-0024 Information entered from dilution records			
Primary Tech	**B Steffens**			
Is_Primary	**TRUE**			
Is_LCS	**TRUE**			
Is_Tracer	**FALSE**			
Is_Calib	**FALSE**			

AMERICAN RADIATION SERVICES, INC.

QUALITY CONTROL PROGRAM

AMERICAN RADIATION SERVICES
RADIOACTIVE REFERENCE SOLUTIONS

PRIMARY DILUTION

DILUTION DATE: 10/26/05 0:00

SOLUTION REFERENCE #: [redacted]

SOLUTION #: [redacted]

Principal Radionuclide	Half Life, Years	Half Life, Days
Pu-239	2.413E+04	8.814E+06

Radionuclide: Pu-239

Reference Date: 11/15/1999 11:00

Certified Activity: 5.834E-03 µCi

Certified Concentration: 1.089E-03 µCi per gram

Ampoule /Solution Gross	6.3570	Weight, Grams
Empty Ampoule	1.0000	Weight, Grams
Solution Net	5.3570	Weight, Grams
Total Activity in Ampoule	5.834E-03	µCi

Chemical Composition of Standard Solution: 3M HNO3

Dilution Instructions:

Dilution Solvent Used: 3M HNO3

Dilute to a volume of 1000.00 milliliters

Sp. Gravity: 1.105

Which Equals

Certified Total Activity of 0.0058 µCi

1.295E+04 dpm at the date listed above

And after dilution the activity of this solution is 12.95 dpm/ml

or 5.83 pCi/ml

or 5.28 pCi/g

or 11.72 dpm/g

This activity concentration is based on the original reference date listed above. All activities are corrected to the date and time of analysis by the laboratory data processing software.

Note: See LIMS calculations for activity values used in production. 6-15-06

Expiration Date: October 26, 2006

Diluted By: [signature] Date: 10/26/2005 0:00

Verified & Approved By: [signature] Date: 10/26/05

QC Approval: Date:

AMERICAN RADIATION SERVICES, INC.

QUALITY CONTROL PROGRAM

AMERICAN RADIATION SERVICES
RADIOACTIVE REFERENCE SOLUTIONS

ACTIVITY VERIFICATION

Pu Standard Verification 4/17/2007

S-0024 Pu-239
S-0025 Pu-242

Pu239 counts	Pu242 counts	gram 242	Pu-242 dpm/g	dpm added	Pu-239 in test source	grams 239 added	Pu-239/g	target	
3490	2367	1.0896	7.63	8.313648	12.258	1.0938	11.20678	11.41	98.2%
3419	2240	1.0818	7.63	8.254134	12.599	1.0933	11.52347	11.41	101.0%
3652	2362	1.0839	7.63	8.270157	12.787	1.0911	11.71926	11.41	102.7%

Reviewed by: BF 4-17-07

12.548	11.483	bias	-0.6%
0.268085	0.258604	stdev	2.3%
0.021365	2.252%	rsd	2.3%

QAO: [illegible] 4-30-07
Lab Director: VJM 4-30-07

STANDARD VERFICATION

STANDARD ID		TEST P-1	TEST P-2	TEST P-3
S-0024	PU-239	1.0938	1.0933	1.0911
~~S 0015~~ S-0025	PU-242	1.0896	1.0818	1.0839

DATE: 4-13-07

PERFORMED BY: Kalesh Hann

BALANCE ID: 1159 1125103449

****
***** A L P H A S P E C T R U M A N A L Y S I S *****
****

Sample Description: Verification
Batch Identification: 07041302
Sample Identification: Pu-1
Sample Geometry: Shelf 2
Protocol Description: 24 hr (Pu/Water)

Detector Name: A 2 4A
Chamber Serial Number: 12044982A
Detector Serial Number:
Spectrum File: C:\AANALYST\USEDBIFS\07041302\0.CNF
Env. Background File: C:\AANALYST\USEDBIFS\07040300\18.CNF
Reagent Blank File: <not performed>

Sample Size: 1.000 Unit
Sample Date/Time:
Acquisition Date/Time: 4/13/07 5:15:29 PM
Acquisition Live Time: 86400.0 seconds
Acquisition Real Time: 86402.1 seconds

Tracer Certificate File: C:\GENIE2K\CAMFILES\Pu242_T7b.CTF
Tracer Quantity: 1.000 mL
Effective Efficiency: 0.3184 +/- 0.0069
Counting Efficiency: 0.2222 +/- 0.0046 on 2/13/07 9:45:05 AM
Chem. Recovery Factor: 1.4334 +/- 0.0429

Peak Match Tolerance: 500.000 keV

PEAK AREA REPORT

Nuclide	Energy (keV)	Gross Pk Area	Pk Area Error %	Ambient Backgnd	Reagent Backgnd	FWHM (keV)
PU-238	5488.582	18.00	8.32	2.00	0.00E+000	11.8
PU-239	5148.751	3490.00	115.79	1.00	0.00E+000	38.6
PU242	T 4891.714	2367.00	95.36	1.00	0.00E+000	45.8

T = Tracer Peak used for Effective Efficiency

NUCLIDE ACTIVITY REPORT

Nuclide	Activity (pCi/Unit)	Activity Error %	MDA (pCi/Unit)	MDA Error %
PU-238	1.5734E-002	54.95	1.1810E-002	4.27
PU-239	3.4309E+000	5.41	9.1314E-003	4.27
PU242	2.3150E+000	4.27	9.0860E-003	4.27

Errors quoted at 1.960 sigma

```
*****************************************************************************
*****          A L P H A   S P E C T R U M   A N A L Y S I S          ****
*****************************************************************************
```

Sample Description: Verification
Batch Identification: 07041302
Sample Identification: Pu-1
Sample Geometry: Shelf 2
Protocol Description: 24 hr (Pu/Water)

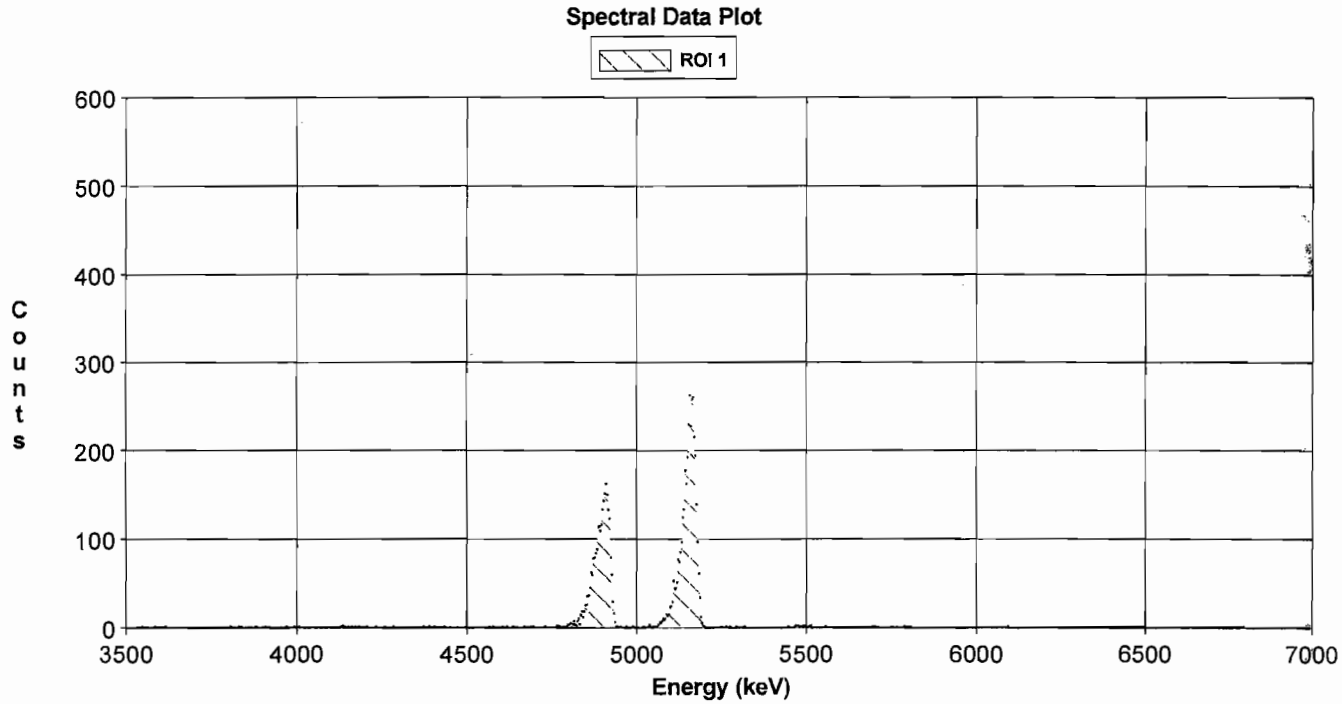
Detector Name: A 2 4A
Chamber Serial Number: 12044982A
Detector Serial Number:
Spectrum File: C:\AANALYST\USEDBIFS\07041302\0.CNF

Sample Size: 1.000 Unit
Sample Date/Time:
Acquisition Date/Time: 4/13/07 5:15:29 PM
Acquisition Live Time: 86400.0 seconds
Acquisition Real Time: 86402.1 seconds

NUCLIDE ACTIVITY REPORT

Nuclide	Energy (keV)	Activity (pCi/Unit)	Activity Error %	MDA (pCi/Unit)	MDA Error %
PU-238		1.5734E-002	56.07	1.1810E-002	4.36
	5487.100	1.5734E-002	56.07		
PU-239		3.4309E+000	5.52	9.1314E-003	4.36
	5147.700	3.4309E+000	5.52		
PU242		2.3150E+000	4.36	9.0860E-003	4.36
	4890.700	2.3150E+000	4.36		

Errors quoted at 2.000 sigma



Datasource:	0.CNF
Live Time:	86400 sec
Real Time:	86402 sec
Acq. Start:	4/13/2007 5:15:29 PM
Start:	1 : 3532.48 (keV)
Stop:	1024 : 6989.93 (keV)

****
***** A L P H A S P E C T R U M A N A L Y S I S *****
****

Sample Description: Verification
Batch Identification: 07041302
Sample Identification: Pu-2
Sample Geometry: Shelf 2
Protocol Description: 24 hr (Pu/Water)

Detector Name: A 2 4B
Chamber Serial Number: 12044982B
Detector Serial Number:
Spectrum File: C:\AANALYST\USEDBIFS\07041302\1.CNF
Env. Background File: C:\AANALYST\USEDBIFS\07040300\19.CNF
Reagent Blank File: <not performed>

Sample Size: 1.000 Unit
Sample Date/Time:
Acquisition Date/Time: 4/13/07 5:15:29 PM
Acquisition Live Time: 86400.0 seconds
Acquisition Real Time: 86402.1 seconds

Tracer Certificate File: C:\GENIE2K\CAMFILES\Pu242_T7b.CTF
Tracer Quantity: 1.000 mL
Effective Efficiency: 0.3012 +/- 0.0067
Counting Efficiency: 0.2157 +/- 0.0048 on 2/13/07 9:46:20 AM
Chem. Recovery Factor: 1.3962 +/- 0.0440

Peak Match Tolerance: 500.000 keV

PEAK AREA REPORT

Nuclide	Energy (keV)	Gross Pk Area	Pk Area Error %	Ambient Backgnd	Reagent Backgnd	FWHM (keV)
PU-238	5488.396	9.00	5.88	5.00	0.00E+000	3.4
PU-239	5156.223	3419.00	114.61	5.00	0.00E+000	25.6
PU242	T 4899.572	2240.00	92.76	2.00	0.00E+000	24.6

T = Tracer Peak used for Effective Efficiency

NUCLIDE ACTIVITY REPORT

Nuclide	Activity (pCi/Unit)	Activity Error %	MDA (pCi/Unit)	MDA Error %
PU-238	4.1583E-003	183.39	1.8104E-002	4.38
PU-239	3.5492E+000	5.52	1.8104E-002	4.38
PU242	2.3150E+000	4.38	1.2423E-002	4.38

Errors quoted at 1.960 sigma

****
***** A L P H A S P E C T R U M A N A L Y S I S *****
****

Sample Description: Verification
Batch Identification: 07041302
Sample Identification: Pu-2
Sample Geometry: Shelf 2
Protocol Description: 24 hr (Pu/Water)

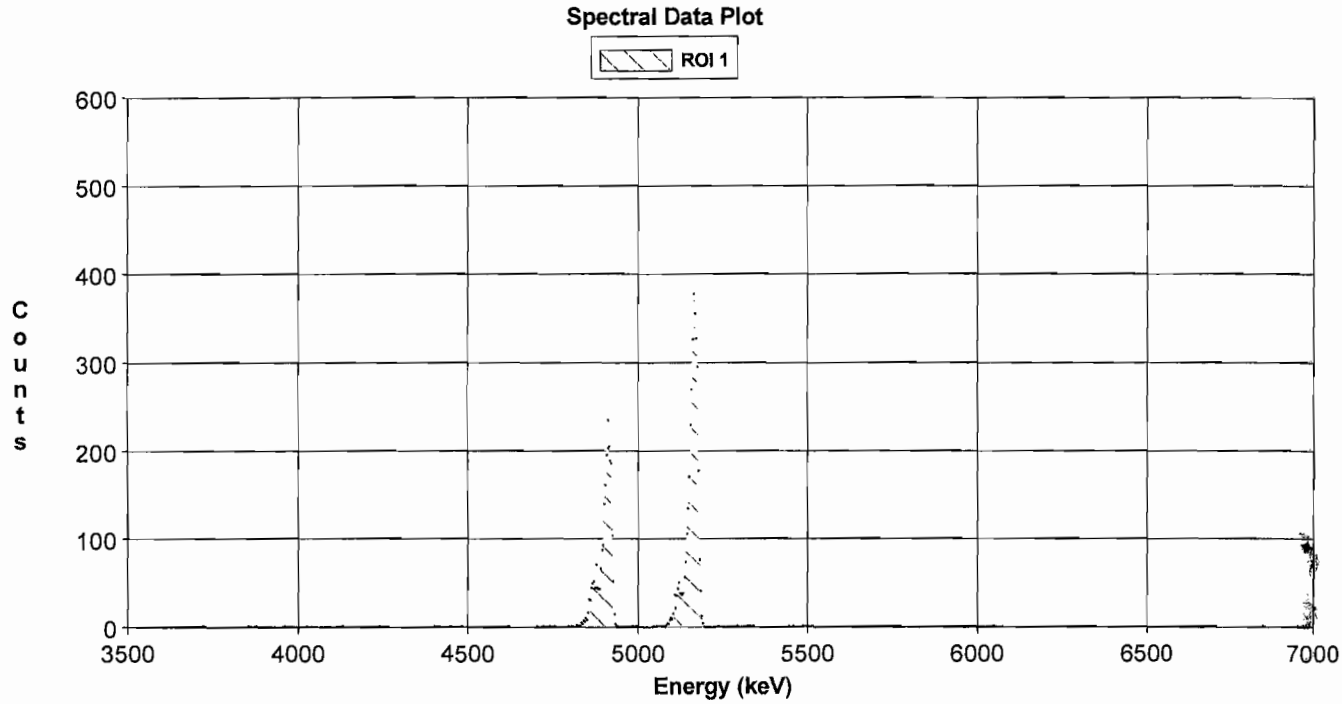
Detector Name: A 2 4B
Chamber Serial Number: 12044982B
Detector Serial Number:
Spectrum File: C:\AANALYST\USEDBIFS\07041302\1.CNF

Sample Size: 1.000 Unit
Sample Date/Time:
Acquisition Date/Time: 4/13/07 5:15:29 PM
Acquisition Live Time: 86400.0 seconds
Acquisition Real Time: 86402.1 seconds

NUCLIDE ACTIVITY REPORT

Nuclide	Energy (keV)	Activity (pCi/Unit)	Activity Error %	MDA (pCi/Unit)	MDA Error %
PU-238		4.1583E-003	187.14	1.8104E-002	4.47
	5487.100	4.1583E-003	187.14		
PU-239		3.5492E+000	5.63	1.8104E-002	4.47
	5147.700	3.5492E+000	5.63		
PU242		2.3150E+000	4.47	1.2423E-002	4.47
	4890.700	2.3150E+000	4.47		

Errors quoted at 2.000 sigma



Datasource:	1.CNF
Live Time:	86400 sec
Real Time:	86402 sec
Acq. Start:	4/13/2007 5:15:29 PM
Start:	1 : 3527.14 (keV)
Stop:	1024 : 6984.40 (keV)

****
***** A L P H A S P E C T R U M A N A L Y S I S *****
****

Sample Description: Verification
Batch Identification: 07041302
Sample Identification: Pu-3
Sample Geometry: Shelf 2
Protocol Description: 24 hr (Pu/Water)

Detector Name: A 2 5A
Chamber Serial Number: 12044983A
Detector Serial Number:
Spectrum File: C:\AANALYST\USEDBIFS\07041302\2.CNF
Env. Background File: C:\AANALYST\USEDBIFS\07040300\20.CNF
Reagent Blank File: <not performed>

Sample Size: 1.000 Unit
Sample Date/Time:
Acquisition Date/Time: 4/13/07 5:15:29 PM
Acquisition Live Time: 86400.0 seconds
Acquisition Real Time: 86402.2 seconds

Tracer Certificate File: C:\GENIE2K\CAMFILES\Pu242_T7b.CTF
Tracer Quantity: 1.000 mL
Effective Efficiency: 0.3176 +/- 0.0069
Counting Efficiency: 0.2142 +/- 0.0044 on 2/13/07 10:01:57 AM
Chem. Recovery Factor: 1.4830 +/- 0.0445

Peak Match Tolerance: 500.000 keV

PEAK AREA REPORT

Nuclide	Energy (keV)	Gross Pk Area	Pk Area Error %	Ambient Backgnd	Reagent Backgnd	FWHM (keV)
PU-238	5481.535	1.00	1.96	2.00	0.00E+000	3.4
PU-239	5164.119	3652.00	118.45	4.00	0.00E+000	28.3
PU242	T 4907.242	2362.00	95.26	2.00	0.00E+000	26.2

T = Tracer Peak used for Effective Efficiency

NUCLIDE ACTIVITY REPORT

Nuclide	Activity (pCi/Unit)	Activity Error %	MDA (pCi/Unit)	MDA Error %
PU-238	-9.8585E-004	-339.5	1.1840E-002	4.28
PU-239	3.5964E+000	5.37	1.5638E-002	4.28
PU242	2.3150E+000	4.28	1.1781E-002	4.28

Errors quoted at 1.960 sigma

****
***** A L P H A S P E C T R U M A N A L Y S I S *****
****

Sample Description: Verification
Batch Identification: 07041302
Sample Identification: Pu-3
Sample Geometry: Shelf 2
Protocol Description: 24 hr (Pu/Water)

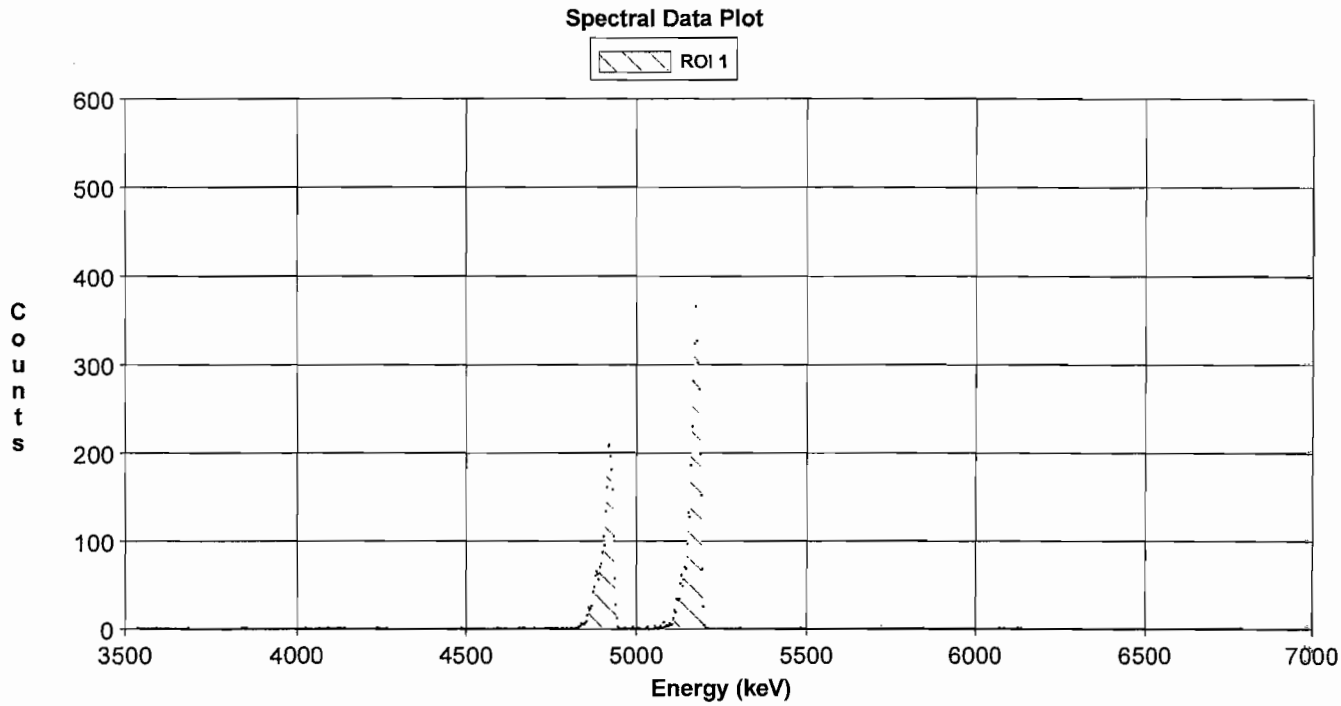
Detector Name: A 2 5A
Chamber Serial Number: 12044983A
Detector Serial Number:
Spectrum File: C:\AANALYST\USEDBIFS\07041302\2.CNF

Sample Size: 1.000 Unit
Sample Date/Time:
Acquisition Date/Time: 4/13/07 5:15:29 PM
Acquisition Live Time: 86400.0 seconds
Acquisition Real Time: 86402.2 seconds

NUCLIDE ACTIVITY REPORT

Nuclide	Energy (keV)	Activity (pCi/Unit)	Activity Error %	MDA (pCi/Unit)	MDA Error %
PU-238		-9.8585E-004	-346.4	1.1840E-002	4.36
	5487.100	-9.8585E-004	-346.4		
PU-239		3.5964E+000	5.48	1.5638E-002	4.36
	5147.700	3.5964E+000	5.48		
PU242		2.3150E+000	4.36	1.1781E-002	4.36
	4890.700	2.3150E+000	4.36		

Errors quoted at 2.000 sigma



Datasource:	2.CNF
Live Time:	86400 sec
Real Time:	86402 sec
Acq. Start:	4/13/2007 5:15:29 PM
Start:	1 : 3536.63 (keV)
Stop:	1024 : 6984.88 (keV)

As measured from isotope dilution calculations

Pu242 S-0025 dpm/g	Pu242 grams S-0025 dpm/g added	Pu242 S-0025 dpm added	Pu-239 S-0024 counts	Pu242 S-0025 counts	Pu239cts / Pu-242 cts	Pu-239 dpm S-0024 measured	Pu-239 S-0024 grams added	Pu-239 S-0024 dpm/g measured
7.632834	1.0941	8.351083679	1869	1227	1.52323	12.7206	1.0999	11.56523
7.632834	1.101	8.403750234	1725	1103	1.56392	13.1428	1.0810	12.15797
7.632834	1.0827	8.264069372	1825	1226	1.48858	12.3017	1.0823	11.36629
7.632834	1.0839	8.273228773	1662	1108	1.50000	12.4098	1.0859	11.42816
7.632834	1.098	8.380851732	1760	1176	1.49660	12.5428	1.0857	11.55270

S-0024 Verification vs. S-0025

S-0024 Verification vs. S-0025

mean	11.61
sd	0.32
rsd	2.7%
Acceptance criterion	<10%
	Acceptable

dilution value (known)	11.41
deviation	1.8%
Acceptance criterion	<5%
	Acceptable

Pu242 S-0025 dpm/g	Pu242 grams S-0025 dpm/g added	Pu242 S-0025 dpm added	Pu-239 S-0024 counts	Pu242 S-0025 counts	Pu239cts / Pu-242 cts	Pu-239 dpm S-0024 measured	Pu-239 S-0024 grams added	Pu-239 S-0024 dpm/g measured
11.41	1.0999	12.549859	1869	1227	0.65650	8.2390	1.0941	7.53038
11.41	1.0810	12.33421	1725	1103	0.63942	7.8867	1.101	7.16326
11.41	1.0823	12.349043	1825	1226	0.67178	8.2959	1.0827	7.66219
11.41	1.0859	12.390119	1662	1108	0.66667	8.2601	1.0839	7.62070
11.41	1.0857	12.387837	1760	1176	0.66818	8.2773	1.098	7.53855

S-0025 Verification vs. S-0024

mean	7.50
sd	0.23
rsd	3.0%
Acceptance criterion	<10%
	Acceptable

dilution value (known)	7.632834
deviation	-1.8%
Acceptance criterion	<5%
	Acceptable

		39.24	Bq/g		
		1.0605405E+03	pCi/g	5.6803447E+03	12610.365
To	11/15/1999	5.357			
T1	10/26/2005	5681.316	pCi/g		
T 1/2	8806712.963	12612.5208	dpm/g	12610.36532	
ffract rem	0.9998290998				
		1000	diluted to x mL		
		5.68	pCi/mL		
		12.61	dpm/mL		
		1.105	g/mL		
		5.14146215	pCi/g		
		11.41404597	dpm/g		
		5.68	pCi/mL	on	10/26/2005
		12.61	dpm/mL		10/26/2005
		5.14	pCi/g	on	10/26/2005
		11.41	dpm/g		10/26/2005

~~Uranium~~ Verifications 11/02/05 R. Smothers
Plutonium

Sample#	Isotope	Tracer #	Weight	Isotope	Tracer #	Weight	Isotope	Tracer #	Weight
1	Pu239	S-0024	1.0941	Pu242	S-0025	1.0892	Pu238	S-0023	1.0999
2	Pu239	S-0024	1.101	Pu242	S-0025	1.0899	Pu238	S-0023	1.081
3	Pu239	S-0024	1.0827	Pu242	S-0025	1.0876	Pu238	S-0023	1.0823
4	Pu239	S-0024	1.0839	Pu242	S-0025	1.0811	Pu238	S-0023	1.0859
5	Pu239	S-0024	1.098	Pu242	S-0025	1.079	Pu238	S-0023	1.0857

ALPHA SPECTRUM ANALYSIS

Sample Description:
Batch Identification: 05110201
Sample Identification: 001
Sample Geometry: Shelf 2
Protocol Description: 12 hr (Pu/Water)

Detector Name: A 1 1A
Chamber Serial Number: 10043743A
Detector Serial Number:
Spectrum File: C:\AANALYST\USEDBIFS\05110201\0.CNF
Env. Background File: C:\AANALYST\USEDBIFS\05101003\0.CNF
Reagent Blank File: <not performed>

Sample Size: 1.000 Unit
Sample Date/Time:
Acquisition Date/Time: 11/2/05 2:41:42 PM
Acquisition Live Time: 43200.0 seconds
Acquisition Real Time: 43202.8 seconds

Tracer Certificate File: C:\GENIE2K\CAMFILES\Pu242_T7b.CTF
Tracer Quantity: 1.000 mL
Effective Efficiency: 0.3303 +/- 0.0097
Counting Efficiency: 0.2136 +/- 0.0056 on 3/16/05 10:20:54 AM
Chem. Recovery Factor: 1.5462 +/- 0.0608

Peak Match Tolerance: 100.000 keV

PEAK AREA REPORT

Nuclide	Energy (keV)	Gross Pk Area	Pk Area Error %	Ambient Backgnd	Reagent Backgnd	FWHM (keV)
PU-238	5492.890	1929.00	86.08	0.50	0.00E+000	45.7
PU-239	5154.003	1869.00	84.73	0.00	0.00E+000	47.5
PU242	T 4896.232	1227.00	68.66	0.00	0.00E+000	46.1

T = Tracer Peak used for Effective Efficiency

NUCLIDE ACTIVITY REPORT

Nuclide	Activity (pCi/Unit)	Activity Error %	MDA (pCi/Unit)	MDA Error %
PU-238	3.6568E+000	7.30	1.2775E-002	5.77
PU-239	3.5439E+000	7.34	5.1386E-003	5.77
PU242	2.3150E+000	5.77	5.1130E-003	5.77

Errors quoted at 1.960 sigma

****
***** A L P H A S P E C T R U M A N A L Y S I S *****
****

Sample Description:
Batch Identification: 05110201
Sample Identification: 001
Sample Geometry: Shelf 2
Protocol Description: 12 hr (Pu/Water)

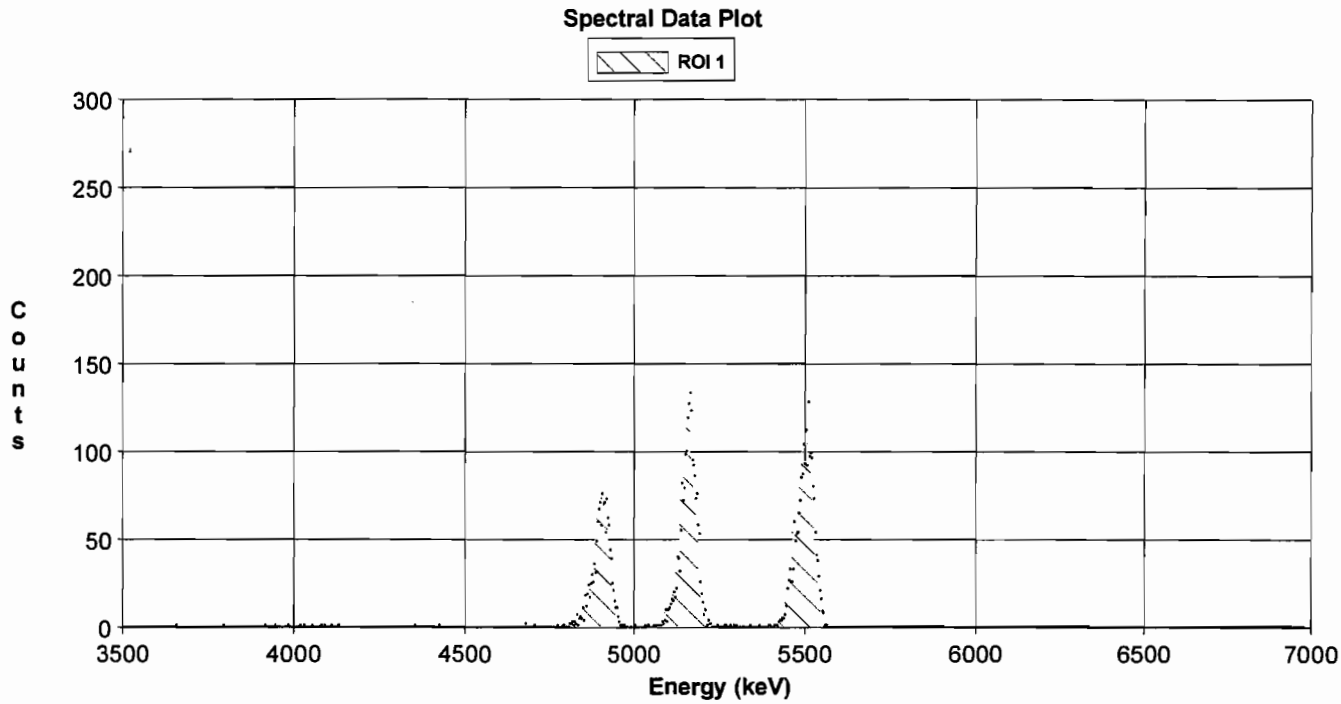
Detector Name: A 1 1A
Chamber Serial Number: 10043743A
Detector Serial Number:
Spectrum File: C:\AANALYST\USEDBIFS\05110201\0.CNF

Sample Size: 1.000 Unit
Sample Date/Time:
Acquisition Date/Time: 11/2/05 2:41:42 PM
Acquisition Live Time: 43200.0 seconds
Acquisition Real Time: 43202.8 seconds

----- NUCLIDE ACTIVITY REPORT -----

Nuclide	Energy (keV)	Activity (pCi/Unit)	Activity Error %	MDA (pCi/Unit)	MDA Error %
PU-238		3.6568E+000	7.44	1.2775E-002	5.89
	5487.100	3.6568E+000	7.44		
PU-239		3.5439E+000	7.49	5.1386E-003	5.89
	5147.700	3.5439E+000	7.49		
PU242		2.3150E+000	5.89	5.1130E-003	5.89
	4890.700	2.3150E+000	5.89		

Errors quoted at 2.000 sigma



Datasource:	0.CNF
Live Time:	43200 sec
Real Time:	43203 sec
Acq. Start:	11/2/2005 2:41:42 PM
Start:	1 : 3527.08 (keV)
Stop:	1024 : 6970.48 (keV)

ALPHA SPECTRUM ANALYSIS

Sample Description:
Batch Identification: 05110201
Sample Identification: 002
Sample Geometry: Shelf 2
Protocol Description: 12 hr (Pu/Water)

Detector Name: A 1 1B
Chamber Serial Number: 10043743B
Detector Serial Number:
Spectrum File: C:\AANALYST\USEDBIFS\05110201\1.CNF
Env. Background File: C:\AANALYST\USEDBIFS\05101003\1.CNF
Reagent Blank File: <not performed>

Sample Size: 1.000 Unit
Sample Date/Time:
Acquisition Date/Time: 11/2/05 2:41:42 PM
Acquisition Live Time: 43200.0 seconds
Acquisition Real Time: 43202.8 seconds

Tracer Certificate File: C:\GENIE2K\CAMFILES\Pu242_T7b.CTF
Tracer Quantity: 1.000 mL
Effective Efficiency: 0.2968 +/- 0.0092
Counting Efficiency: 0.2129 +/- 0.0055 on 3/20/05 4:34:00 PM
Chem. Recovery Factor: 1.3939 +/- 0.0564

Peak Match Tolerance: 100.000 keV

PEAK AREA REPORT

Nuclide	Energy (keV)	Gross Pk Area	Pk Area Error %	Ambient Backgnd	Reagent Backgnd	FWHM (keV)
PU-238	5497.535	1735.00	81.64	2.00	0.00E+000	24.7
PU-239	5158.215	1725.00	81.40	3.50	0.00E+000	28.8
PU242	T 4903.752	1103.00	65.09	0.50	0.00E+000	21.4

T = Tracer Peak used for Effective Efficiency

NUCLIDE ACTIVITY REPORT

Nuclide	Activity (pCi/Unit)	Activity Error %	MDA (pCi/Unit)	MDA Error %
PU-238	3.6571E+000	7.69	2.2715E-002	6.07
PU-239	3.6329E+000	7.70	2.8203E-002	6.07
PU242	2.3150E+000	6.07	1.4146E-002	6.07

Errors quoted at 1.960 sigma

****
***** A L P H A S P E C T R U M A N A L Y S I S *****
****

Sample Description:
Batch Identification: 05110201
Sample Identification: 002
Sample Geometry: Shelf 2
Protocol Description: 12 hr (Pu/Water)

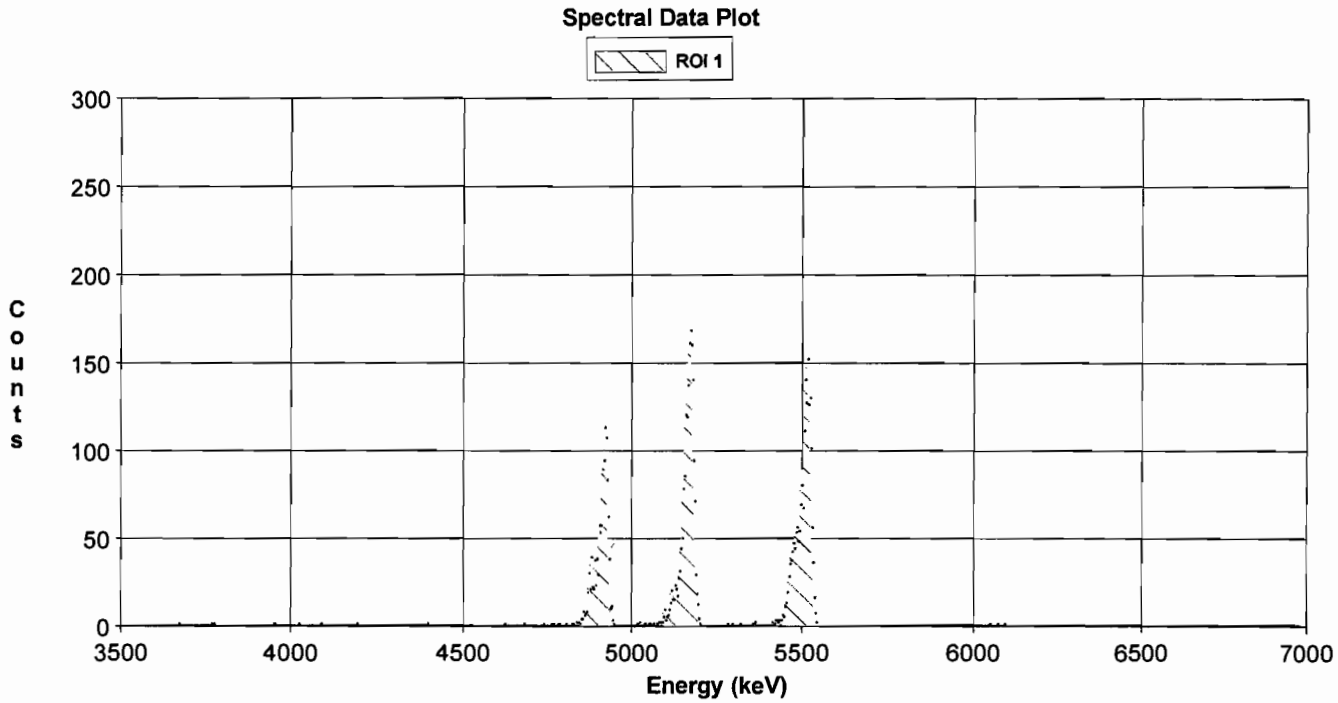
Detector Name: A 1 1B
Chamber Serial Number: 10043743B
Detector Serial Number:
Spectrum File: C:\AANALYST\USEDBIFS\05110201\1.CNF

Sample Size: 1.000 Unit
Sample Date/Time:
Acquisition Date/Time: 11/2/05 2:41:42 PM
Acquisition Live Time: 43200.0 seconds
Acquisition Real Time: 43202.8 seconds

NUCLIDE ACTIVITY REPORT

Nuclide	Energy (keV)	Activity (pCi/Unit)	Activity Error %	MDA (pCi/Unit)	MDA Error %
PU-238		3.6571E+000	7.84	2.2715E-002	6.20
	5487.100	3.6571E+000	7.84		
PU-239		3.6329E+000	7.85	2.8203E-002	6.20
	5147.700	3.6329E+000	7.85		
PU242		2.3150E+000	6.20	1.4146E-002	6.20
	4890.700	2.3150E+000	6.20		

Errors quoted at 2.000 sigma



Datasource:	1.CNF
Live Time:	43200 sec
Real Time:	43203 sec
Acq. Start:	11/2/2005 2:41:42 PM
Start:	1 : 3530.76 (keV)
Stop:	1024 : 6969.88 (keV)

ALPHA SPECTRUM ANALYSIS

Sample Description:
Batch Identification: 05110201
Sample Identification: 003
Sample Geometry: Shelf 2
Protocol Description: 12 hr (Pu/Water)

Detector Name: A 1 2A
Chamber Serial Number: 10043744A
Detector Serial Number:
Spectrum File: C:\AANALYST\USEDBIFS\05110201\2.CNF
Env. Background File: C:\AANALYST\USEDBIFS\05101003\2.CNF
Reagent Blank File: <not performed>

Sample Size: 1.000 Unit
Sample Date/Time:
Acquisition Date/Time: 11/2/05 2:41:42 PM
Acquisition Live Time: 43200.0 seconds
Acquisition Real Time: 43202.8 seconds

Tracer Certificate File: C:\GENIE2K\CAMFILES\Pu242_T7b.CTF
Tracer Quantity: 1.000 mL
Effective Efficiency: 0.3300 +/- 0.0097
Counting Efficiency: 0.2263 +/- 0.0059 on 3/20/05 4:34:24 PM
Chem. Recovery Factor: 1.4582 +/- 0.0573

Peak Match Tolerance: 100.000 keV

PEAK AREA REPORT

Nuclide	Energy (keV)	Gross Pk Area	Pk Area Error %	Ambient Backgnd	Reagent Backgnd	FWHM (keV)
PU-238	5496.791	1856.00	84.44	0.50	0.00E+000	24.9
PU-239	5156.897	1825.00	83.73	0.00	0.00E+000	25.1
PU242	T 4900.382	1226.00	68.63	0.00	0.00E+000	22.8

T = Tracer Peak used for Effective Efficiency

NUCLIDE ACTIVITY REPORT

Nuclide	Activity (pCi/Unit)	Activity Error %	MDA (pCi/Unit)	MDA Error %
PU-238	3.5212E+000	7.35	1.2785E-002	5.77
PU-239	3.4633E+000	7.37	5.1428E-003	5.77
PU242	2.3150E+000	5.77	5.1172E-003	5.77

Errors quoted at 1.960 sigma

****
***** A L P H A S P E C T R U M A N A L Y S I S *****
****

Sample Description:
Batch Identification: 05110201
Sample Identification: 003
Sample Geometry: Shelf 2
Protocol Description: 12 hr (Pu/Water)

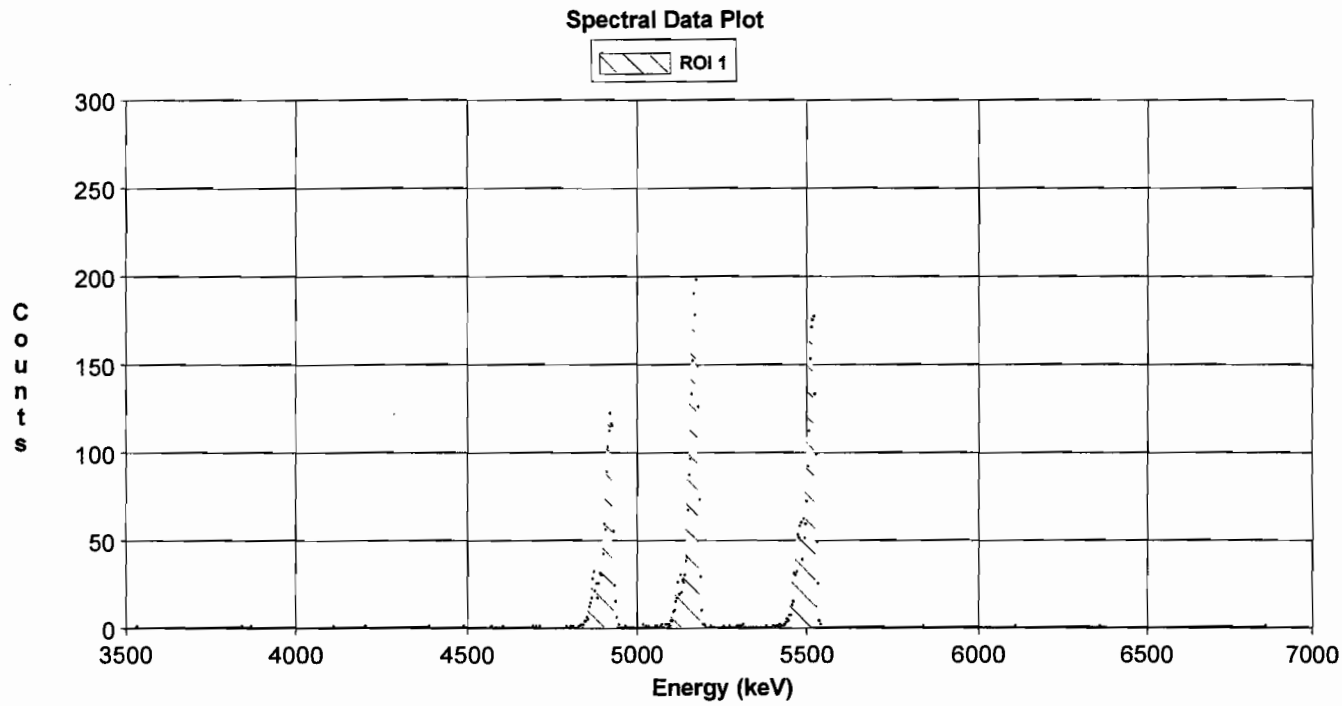
Detector Name: A 1 2A
Chamber Serial Number: 10043744A
Detector Serial Number:
Spectrum File: C:\AANALYST\USEDBIFS\05110201\2.CNF

Sample Size: 1.000 Unit
Sample Date/Time:
Acquisition Date/Time: 11/2/05 2:41:42 PM
Acquisition Live Time: 43200.0 seconds
Acquisition Real Time: 43202.8 seconds

NUCLIDE ACTIVITY REPORT

Nuclide	Energy (keV)	Activity (pCi/Unit)	Activity Error %	MDA (pCi/Unit)	MDA Error %
PU-238		3.5212E+000	7.50	1.2785E-002	5.89
	5487.100	3.5212E+000	7.50		
PU-239		3.4633E+000	7.52	5.1428E-003	5.89
	5147.700	3.4633E+000	7.52		
PU242		2.3150E+000	5.89	5.1172E-003	5.89
	4890.700	2.3150E+000	5.89		

Errors quoted at 2.000 sigma



Datasource:	2.CNF
Live Time:	43200 sec
Real Time:	43203 sec
Acq. Start:	11/2/2005 2:41:42 PM
Start:	1 : 3526.66 (keV)
Stop:	1024 : 6977.39 (keV)

ALPHA SPECTRUM ANALYSIS

Sample Description:
Batch Identification: 05110201
Sample Identification: 004
Sample Geometry: Shelf 2
Protocol Description: 12 hr (Pu/Water)

Detector Name: A 1 2B
Chamber Serial Number: 10043744B
Detector Serial Number:
Spectrum File: C:\AANALYST\USEDBIFS\05110201\3.CNF
Env. Background File: C:\AANALYST\USEDBIFS\05101003\3.CNF
Reagent Blank File: <not performed>

Sample Size: 1.000 Unit
Sample Date/Time:
Acquisition Date/Time: 11/2/05 2:41:42 PM
Acquisition Live Time: 43200.0 seconds
Acquisition Real Time: 43202.8 seconds

Tracer Certificate File: C:\GENIE2K\CAMFILES\Pu242_T7b.CTF
Tracer Quantity: 1.000 mL
Effective Efficiency: 0.2982 +/- 0.0092
Counting Efficiency: 0.2241 +/- 0.0058 on 3/20/05 4:34:43 PM
Chem. Recovery Factor: 1.3308 +/- 0.0537

Peak Match Tolerance: 100.000 keV

PEAK AREA REPORT

Nuclide	Energy (keV)	Gross Pk Area	Pk Area Error %	Ambient Backgnd	Reagent Backgnd	FWHM (keV)
PU-238	5500.708	1695.00	80.69	1.50	0.00E+000	24.0
PU-239	5159.982	1662.00	79.90	0.50	0.00E+000	19.2
PU242	T 4902.649	1108.00	65.24	0.00	0.00E+000	29.4

T = Tracer Peak used for Effective Efficiency

NUCLIDE ACTIVITY REPORT

Nuclide	Activity (pCi/Unit)	Activity Error %	MDA (pCi/Unit)	MDA Error %
PU-238	3.5560E+000	7.71	2.0337E-002	6.05
PU-239	3.4889E+000	7.73	1.4147E-002	6.05
PU242	2.3150E+000	6.05	5.6622E-003	6.05

Errors quoted at 1.960 sigma

****
***** A L P H A S P E C T R U M A N A L Y S I S *****
****

Sample Description:
Batch Identification: 05110201
Sample Identification: 004
Sample Geometry: Shelf 2
Protocol Description: 12 hr (Pu/Water)

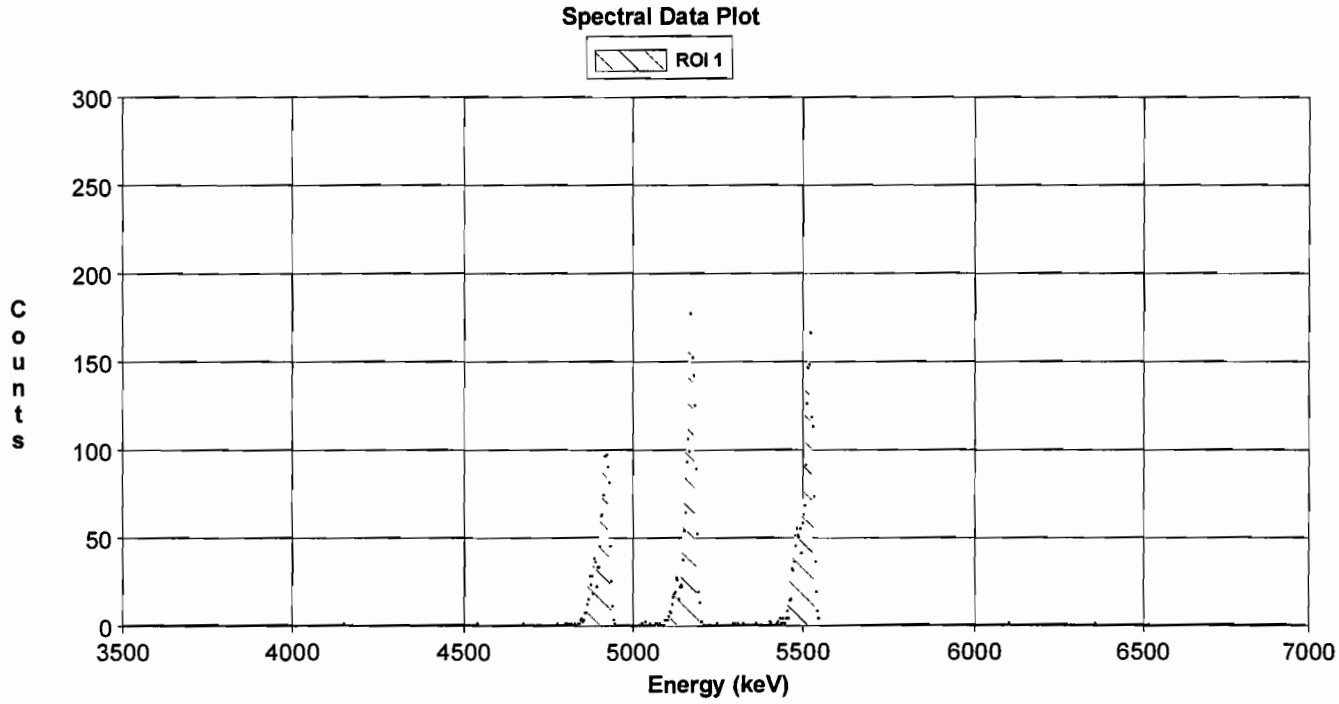
Detector Name: A 1 2B
Chamber Serial Number: 10043744B
Detector Serial Number:
Spectrum File: C:\AANALYST\USEDBIFS\05110201\3.CNF

Sample Size: 1.000 Unit
Sample Date/Time:
Acquisition Date/Time: 11/2/05 2:41:42 PM
Acquisition Live Time: 43200.0 seconds
Acquisition Real Time: 43202.8 seconds

NUCLIDE ACTIVITY REPORT

Nuclide	Energy (keV)	Activity (pCi/Unit)	Activity Error %	MDA (pCi/Unit)	MDA Error %
PU-238		3.5560E+000	7.86	2.0337E-002	6.18
	5487.100	3.5560E+000	7.86		
PU-239		3.4889E+000	7.89	1.4147E-002	6.18
	5147.700	3.4889E+000	7.89		
PU242		2.3150E+000	6.18	5.6622E-003	6.18
	4890.700	2.3150E+000	6.18		

Errors quoted at 2.000 sigma



Datasource:	3.CNF
Live Time:	43200 sec
Real Time:	43203 sec
Acq. Start:	11/2/2005 2:41:42 PM
Start:	1 : 3521.32 (keV)
Stop:	1024 : 6978.70 (keV)

ALPHA SPECTRUM ANALYSIS

Sample Description:
Batch Identification: 05110201
Sample Identification: 005
Sample Geometry: Shelf 2
Protocol Description: 12 hr (Pu/Water)

Detector Name: A 1 3A
Chamber Serial Number: 10043745A
Detector Serial Number:
Spectrum File: C:\AANALYST\USEDBIFS\05110201\4.CNF
Env. Background File: C:\AANALYST\USEDBIFS\05101003\4.CNF
Reagent Blank File: <not performed>

Sample Size: 1.000 Unit
Sample Date/Time:
Acquisition Date/Time: 11/2/05 2:41:42 PM
Acquisition Live Time: 43200.0 seconds
Acquisition Real Time: 43202.7 seconds

Tracer Certificate File: C:\GENIE2K\CAMFILES\Pu242_T7b.CTF
Tracer Quantity: 1.000 mL
Effective Efficiency: 0.3164 +/- 0.0095
Counting Efficiency: 0.2210 +/- 0.0058 on 3/16/05 12:41:23 PM
Chem. Recovery Factor: 1.4317 +/- 0.0569

Peak Match Tolerance: 100.000 keV

PEAK AREA REPORT

Nuclide	Energy (keV)	Gross Pk Area	Pk Area Error %	Ambient Backgnd	Reagent Backgnd	FWHM (keV)
PU-238	5499.756	1836.00	83.98	0.00	0.00E+000	21.4
PU-239	5161.788	1760.00	82.23	2.00	0.00E+000	27.5
PU242	T 4904.053	1176.00	67.21	0.50	0.00E+000	23.6

T = Tracer Peak used for Effective Efficiency

NUCLIDE ACTIVITY REPORT

Nuclide	Activity (pCi/Unit)	Activity Error %	MDA (pCi/Unit)	MDA Error %
PU-238	3.6339E+000	7.46	5.3638E-003	5.89
PU-239	3.4795E+000	7.52	2.1305E-002	5.89
PU242	2.3150E+000	5.89	1.3268E-002	5.89

Errors quoted at 1.960 sigma

****
***** A L P H A S P E C T R U M A N A L Y S I S *****
****

Sample Description:
Batch Identification: 05110201
Sample Identification: 005
Sample Geometry: Shelf 2
Protocol Description: 12 hr (Pu/Water)

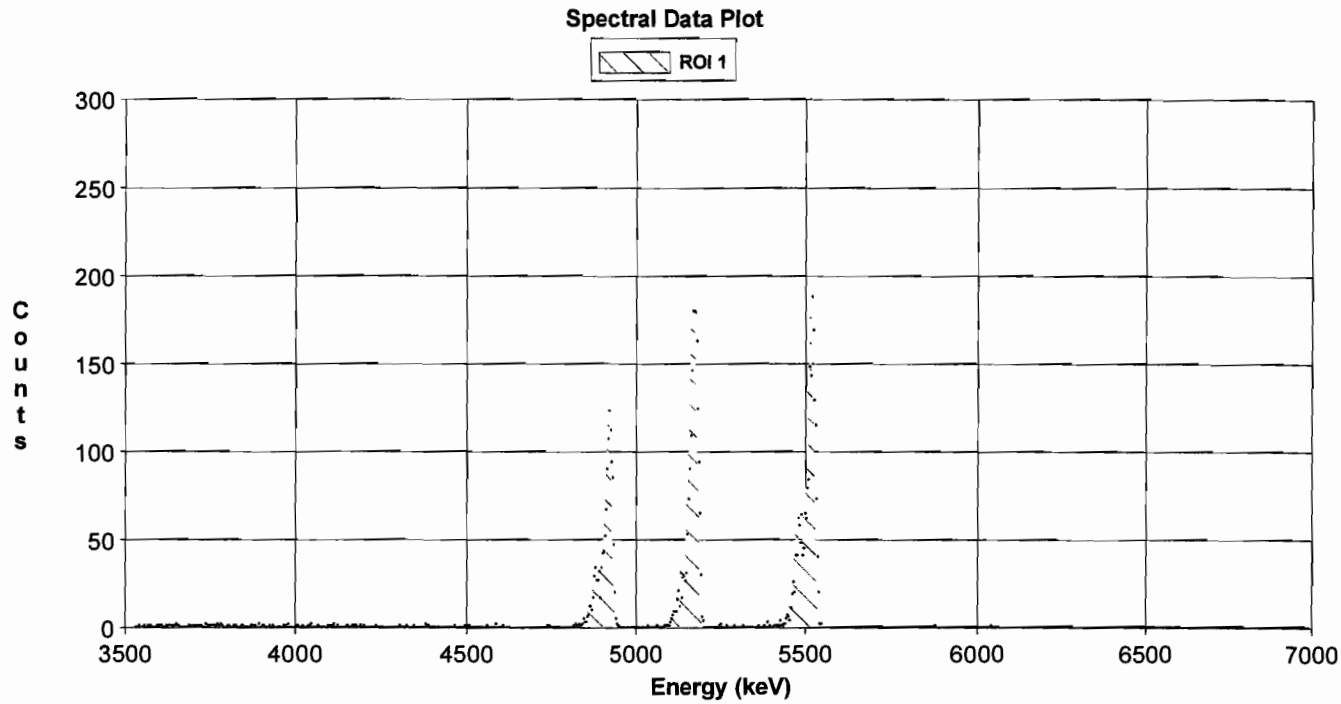
Detector Name: A 1 3A
Chamber Serial Number: 10043745A
Detector Serial Number:
Spectrum File: C:\AANALYST\USEDBIFS\05110201\4.CNF

Sample Size: 1.000 Unit
Sample Date/Time:
Acquisition Date/Time: 11/2/05 2:41:42 PM
Acquisition Live Time: 43200.0 seconds
Acquisition Real Time: 43202.7 seconds

NUCLIDE ACTIVITY REPORT

Nuclide	Energy (keV)	Activity (pCi/Unit)	Activity Error %	MDA (pCi/Unit)	MDA Error %
PU-238		3.6339E+000	7.61	5.3638E-003	6.01
	5487.100	3.6339E+000	7.61		
PU-239		3.4795E+000	7.68	2.1305E-002	6.01
	5147.700	3.4795E+000	7.68		
PU242		2.3150E+000	6.01	1.3268E-002	6.01
	4890.700	2.3150E+000	6.01		

Errors quoted at 2.000 sigma



Datasource:	4.CNF
Live Time:	43200 sec
Real Time:	43203 sec
Acq. Start:	11/2/2005 2:41:42 PM
Start:	1 : 3528.23 (keV)
Stop:	1024 : 6979.82 (keV)

National Institute of Standards & Technology

S-0024

Certificate

Standard Reference Material 4330B
Plutonium-239 Radioactivity Standard

This Standard Reference Material (SRM) consists of radioactive plutonium-239 nitrate and nitric acid dissolved in 5 mL of distilled water. The solution is contained in a flame-sealed NIST borosilicate-glass ampoule. The SRM is intended for the calibration of alpha-particle counting instruments and for the monitoring of radiochemical procedures.

Radiological Hazard: The SRM ampoule contains plutonium-239 with a total activity of approximately 220 Bq. Plutonium-239 decays by alpha-particle emission. None of the alpha particles escape from the SRM ampoule. During the decay process X-rays and gamma rays with energies from 10 keV to 1 MeV are also emitted. Most of these photons escape from the SRM ampoule but their intensities are so small that they do not represent a radiation hazard. Approximate unshielded dose rates at several distances (as of the reference time) are given in note [a]*. The SRM should be used only by persons qualified to handle radioactive material.

Chemical Hazard: The SRM ampoule contains nitric acid (HNO_3) with a concentration of 3 moles per liter of water. The solution is corrosive and represents a health hazard if it comes in contact with eyes or skin. If the ampoule is to be opened to transfer the solution, the recommended procedure is given on page 2. The ampoule should be opened only by persons qualified to handle both radioactive material and strong acid solution.

Storage and Handling: The SRM should be stored and used at a temperature between 5 and 65 °C. The solution in an unopened ampoule should remain stable and homogeneous until at least December 2009.

The ampoule (or any subsequent container) should always be clearly marked as containing radioactive material. If the ampoule is transported it should be packed, marked, labeled, and shipped in accordance with the applicable national, international, and carrier regulations. The solution in the ampoule is a dangerous good (hazardous material) because of the radioactivity and because of the strong acid.

Preparation: This Standard Reference Material was prepared in the Physics Laboratory, Ionizing Radiation Division, Radioactivity Group, L.R. Karam, Group Leader. The overall technical direction and physical measurements leading to certification were provided by L.L. Lucas of the Radioactivity Group.

The support aspects involved in the preparation, certification, and issuance of this SRM were coordinated through the Standard Reference Materials Program by J.W.L. Thomas.

Bert M. Coursey, Chief
Ionizing Radiation Division

Gaithersburg, Maryland 20899
March 2000

Thomas E. Gills, Director
Office of Measurement Services

*Notes and references are on pages 5 and 6.

Recommended Procedure for Opening the SRM Ampoule

1) If the SRM solution is to be diluted, it is recommended that the diluting solution have a composition comparable to that of the SRM solution.

2) Wear eye protection, gloves, and protective clothing and work over a tray with absorbent paper in it. Work in a fume hood. In addition to the radioactive material, the solution contains strong acid and is corrosive.

3) Shake the ampoule to wet all of the inside surface of the ampoule. Return the ampoule to the upright position.

4) Check that all of the liquid has drained out of the neck of the ampoule. If necessary, gently tap the neck to speed the process.

5) Holding the ampoule upright, score the narrowest part of the neck with a scribe or diamond pencil.

6) Lightly wet the scored line. This reduces the crack propagation velocity and makes for a cleaner break.

7) Hold the ampoule upright with a paper towel, a wiper, or a support jig. Position the scored line away from you. Using a paper towel or wiper to avoid contamination, snap off the top of the ampoule by pressing the narrowest part of the neck away from you while pulling the tip of the ampoule towards you.

8) Transfer the solution from the ampoule using a pycnometer or a pipet with dispenser handle. NEVER PIPETTE BY MOUTH.

9) Seal any unused SRM solution in a flame-sealed glass ampoule, if possible, to minimize the evaporation loss.

See also reference [4]*.

*Notes and references are on pages 5 and 6.

PROPERTIES OF SRM 4330B

Certified values

Radionuclide	**Plutonium-239**
Reference time	**1200 EST, 15 November 1999**
Massic activity of the solution [b]*	**39.24 Bq·g^{-1}**
Relative expanded uncertainty (k=2)	**0.68%** [c] [d]
Solution density	**(1.101 ± 0.002) g·mL^{-1} at 21.4 °C** [e]

Uncertified values

Physical Properties:			
Source description	Liquid in flame-sealed NIST borosilicate-glass ampoule		
Ampoule specifications	Body outside diameter Wall thickness Barium content Lead-oxide content Other heavy elements	(16.5 ± 0.5) mm (0.60 ± 0.04) mm Less than 2.5% Less than 0.02% Trace quantities	
Solution mass	Approximately 5.5 grams		
Chemical Properties:			
Solution composition	Chemical Formula	Concentration (mol·L^{-1})	Mass Fraction (g·g^{-1})
	H_2O	50	0.82
	HNO_3	3.1	0.18
	HCl	0.02	0.0007
	$^{239}Pu(NO_3)_6$	8×10^{-8}	5×10^{-8}
Radiological Properties:			
Alpha-particle-emitting impurities	None detected [f]		
Photon-emitting impurities	None detected [g]		
Half lives used	Plutonium-239: (24110 ± 30) a [h] [5]		
Calibration method and measuring instrument(s)	Two 4πα liquid-scintillation counting systems		

1 lite

1,060.66 pCi/g ± 7.21 pCi/g
2,354.66 dpm/g ± 16.01 dpm/g
2,592.48 dpm/ml ± 17.63 dpm/ml

≈ Total Activity 5833.6 pCi

*Notes and references are on pages 5 and 6.

EVALUATION OF THE UNCERTAINTY OF THE MASSIC ACTIVITY [c] [d]*

Input Quantity x_i, the source of uncertainty (and individual uncertainty components where appropriate)	Method Used To Evaluate $u(x_i)$, the standard uncertainty of x_i (A) denotes evaluation by statistical methods (B) denotes evaluation by other methods	Relative Uncertainty Of Input Quantity, $u(x_i)/x_i$, (%) [i]	Relative Sensitivity Factor, $\lvert\partial y/\partial x_i\rvert \cdot (x_i/y)$ [j]	Relative Uncertainty Of Output Quantity, $u_i(y)/y$, (%) [k]
Massic alpha-particle emission rate, corrected for background and decay	Standard deviation of the mean for 18 sets of 4πα liquid-scintillation measurements (A)	0.02	1.0	0.02
Half life of plutonium-239	Standard uncertainty of the half life (A)	0.11 [m]	-0.0005 [n]	0.00005
Decay-scheme data	Standard uncertainty of the probability of decay by alpha-particle emission (A)	0.001	1.0	0.001
Gravimetric measurements	Estimated (B)	0.10	1.0	0.10
Live-time [p]	Estimated (B)	0.10	1.0	0.10
Alpha-particle detection efficiency of the liquid-scintillation counting systems [q]	Estimated (B)	0.27	1.0	0.27
Alpha-particle-emitting impurities	Limit of detection (B) [r]	100.	0.001	0.10
Photon-emitting impurities	Limit of detection (B) [r]	100.	0.001	0.10
Relative Combined Standard Uncertainty of the Output Quantity, $u_c(y)/y$, (%)				0.34
Coverage Factor, k				x 2
Relative Expanded Uncertainty of the Output Quantity, U/y, (%)				0.68

*Notes and references are on pages 5 and 6.

NOTES

[a] The Sievert is the SI unit for dose equivalent. See reference [1]. One μSv is equal to 0.1 mrem.

Distance from Ampoule (cm):	1	30	100
Approximate Dose Rate (μSv/h):	<0.1	-	-

[b] **Massic activity** is the preferred name for the quantity activity divided by the total mass of the sample. See reference [1].

[c] The reported value, y, of massic activity (activity per unit mass) at the reference time was not measured directly but was derived from measurements and calculations of other quantities. This can be expressed as $y = f(x_1, x_2, x_3, \ldots x_n)$, where f is a mathematical function derived from the assumed model of the measurement process.

The value, x_i, used for each input quantity i has a **standard uncertainty**, $u(x_i)$, that generates a corresponding uncertainty in y, $u_i(y) \equiv |\partial y/\partial x_i| \cdot u(x_i)$, called a **component of combined standard uncertainty** of y.

The **combined standard uncertainty** of y, $u_c(y)$, is the positive square root of the sum of the squares of the components of combined standard uncertainty.

The combined standard uncertainty is multiplied by a **coverage factor** of $k = 2$ to obtain U, the **expanded uncertainty** of y.

Since it can be assumed that the possible estimated values of the massic activity are approximately normally distributed with approximate standard deviation $u_c(y)$, the unknown value of the massic activity is believed to lie in the interval $y \pm U$ with a level of confidence of approximately 95 percent.

For further information on the expression of uncertainties, see references [2] and [3].

[d] The value of each component of combined standard uncertainty, and hence the value of the expanded uncertainty itself, is a best estimate based upon all available information, but is only approximately known. That is to say, the "uncertainty of the uncertainty" is large and not well known. This is true for uncertainties evaluated by statistical methods (e.g., the relative standard deviation of the standard deviation of the mean for the massic count rate is approximately 50%) and for uncertainties evaluated by other methods (which could easily be over estimated or under estimated by substantial amounts). The unknown value of the expanded uncertainty is believed to lie in the interval $U/2$ to $2U$ (i.e., within a factor of 2 of the estimated value).

[e] The stated uncertainty is two times the standard uncertainty.

[f] Estimated limits of detection for alpha-particle-emitting impurities are:
0.04 $s^{-1} \cdot g^{-1}$ for energies less than 4.9 MeV and
0.001 $s^{-1} \cdot g^{-1}$ for energies greater than 5.2 MeV.
From mass-spectrometric measurements performed by the supplier, the massic activities of other detected radionuclides (in $Bq \cdot g^{-1}$ at the reference time) are:
^{240}Pu: 0.002; ^{241}Pu: ≈0.02; ^{242}Pu: ≈0.000003; ^{241}Am: ≈0.001
From the photon measurements below, we have ^{241}Am: ≤0.0006

[g] Estimated limits of detection for photon-emitting impurities are:
0.000200 $s^{-1} \cdot g^{-1}$ for energies between 42.5 and 90 keV,
0.000080 $s^{-1} \cdot g^{-1}$ for energies between 102 and 125 keV,
0.000030 $s^{-1} \cdot g^{-1}$ for energies between 133 and 1456 keV, and
0.000008 $s^{-1} \cdot g^{-1}$ for energies between 1465 and 3500 keV,
provided that the photons are separated in energy by 4 keV or more from photons emitted in the decay of plutonium-239.

[h] The stated uncertainty is the standard uncertainty.

[i] Relative standard uncertainty of the input quantity x_i.

[j] The relative change in the output quantity y divided by the relative change in the input quantity x_i. If $|\partial y/\partial x_i| \cdot (x_i/y) = 1.0$, then a 1% change in x_i results in a 1% change in y. If $|\partial y/\partial x_i| \cdot (x_i/y) = 0.05$, then a 1% change in x_i results in a 0.05% change in y.

[k] Relative component of combined standard uncertainty of output quantity y, rounded to two significant figures or less. The relative component of combined standard uncertainty of y is given by $u_i(y)/y \equiv |\partial y/\partial x_i| \cdot u(x_i)/y = |\partial y/\partial x_i| \cdot (x_i/y) \cdot u(x_i)/x_i$. The numerical values of $u(x_i)/x_i$, $|\partial y/\partial x_i| \cdot (x_i/y)$, and $u_i(y)/y$, all dimensionless quantities, are listed in columns 3, 4, and 5, respectively. Thus, the value in column 5 is equal to the value in column 4 multiplied by the value in column 3. The input quantities are independent, or very nearly so. Hence the covariances are zero or negligible.

[m] The relative standard uncertainty of $\lambda \cdot t$ is determined by the relative standard uncertainty of λ (i.e., of the half life). The relative standard uncertainty of t is negligible.

[n] $|\partial y/\partial x_i| \cdot (x_i/y) = |\lambda \cdot t|$

[p] The live time is determined by counting the pulses from a gated oscillator.

[q] Includes the uncertainty in the alpha-particle detection efficiency of the liquid-scintillation cocktail and the uncertainty associated with the finite detection threshold of the counting electronics.

[r] The standard uncertainty for each undetected impurity that might reasonably be expected to be present is estimated to be equal to the estimated limit of detection for that impurity, i.e. $u(x_i)/x_i$ = 100%. $|\partial y/\partial x_i| \cdot (x_i/y)$ = {(response per Bq of impurity)/(response per Bq of plutonium-239)}•{(Bq of impurity)/(Bq of plutonium-239)}. Thus $u_i(y)/y$ is the relative change in y if the impurity were present with a massic activity equal to the estimated limit of detection.

REFERENCES

[1] International Organization for Standardization (ISO), *ISO Standards Handbook - Quantities and Units*, 1993. Available from the American National Standards Institute, 11 West 42nd Street, New York, NY 10036, U.S.A. 1-212-642-4900.

[2] International Organization for Standardization (ISO), *Guide to the Expression of Uncertainty in Measurement*, 1993. Available from the American National Standards Institute, 11 West 42nd Street, New York, NY 10036, U.S.A. 1-212-642-4900. (Listed under ISO miscellaneous publications as "ISO Guide to the Expression 1993".)

[3] B. N. Taylor and C. E. Kuyatt, *Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Results*, NIST Technical Note 1297, 1994. Available from the Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20407, U.S.A.

[4] National Council on Radiation Protection and Measurements Report No. 58, *A Handbook of Radioactivity Measurements Procedures*, Second Edition, 1985. Available from the National Council on Radiation Protection and Measurements, 7910 Woodmont Avenue, Bethesda, MD 20814 U.S.A.

[5] Evaluated Nuclear Structure Data File (ENSDF), March 2000.

AMERICAN RADIATION SERVICES, INC.

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American Radiation Services Analytical Reports

for

Los Alamos National Laboratory

Percent Moisture

AMERICAN RADIATION SERVICES, INC.

2609 North River Road, Port Allen, Louisiana 70767

1 (800) 401-4277 FAX (225) 381-2996

ARS Sample Delivery Group:	ARS1-07-01672	**Request or PO Number:**	08-69
Client Sample ID:	MD21-07-7022	**ARS Sample ID:**	ARS1-07-01672-035
Sample Collection Date:	10/14/2007	**Date Received:**	10/17/2007
Sample Matrix:	Soil/Solid	**Report Date:**	10/21/07 12:30

Analysis Description	Analysis Results	Analysis Error +/- 2 s	MDC	DLC	Qual	Analysis Units	Analysis Test Method	Analysis Date/Time	Analysis Technician	Tracer Recovery
Percent Moisture	9.200	NA	NA	NA		%	Moisture	10/18/07 9:38	SC	NA

NOTES: Project Cost Code: MR8R0225FB00

Lindsay Lasseigne

Project Manager Review

Notes: American Radiation Services, Inc. assumes no liability for the use or interpretation of any analytical results provided other than the cost of the analysis itself. Reproduction of this report in less than full requires the written consent of the client.

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Percent Moisture Laboratory Records

12:14

AMERICAN RADIATION SERVICES
Port Allen, LA
PERCENT MOISTURE DETERMINATION IN SOILS

SDG Number: 07-011672
Client: LANL

Sample Number	Client ID#	Tare Weight of Pan	Wet Weight of Pan and Soil	Dry Weight of Pan and Soil	Percent Moisture
001		9.39	306.05	290.95	5.09 %
002		9.40	397.96	382.93	3.87%
003		9.42	447.97	435.33	2.88 %
004		9.52	439.38	426.64	2.96 %
005		9.40	385.40	339.66	12.16 %
006		9.54	297.30	270.57	9.29 %
007		9.48	565.02	544.14	3.76%
008		9.51	381.93	338.73	11.6 %
009		9.47	534.50	458.87	14.40%
SMC 10-17-07 ~~010~~ 010		9.40	380.86	354.79	7.02%
011		9.36	421.44	356.10	15.86 %
012		9.39	397	341.66	14.28 %
013		9.38	404.78	383.80	5.31 %
014		9.49	330.17	314.20	4.98%
015		9.40	287.17	265.41	7.83 %
016		9.50	439.60	393.09	10.81 %
017		9.47	393.88	368.05	6.72 %

Analyst: Shirley Clayton Date/Time: 9:38 10-18-07

AMERICAN RADIATION SERVICES
Port Allen, LA
PERCENT MOISTURE DETERMINATION IN SOILS

SDG Number: 07-01672
Client: LANL

Sample Number	Client ID#	Tare Weight of Pan	Wet Weight of Pan and Soil	Dry Weight of Pan and Soil	Percent Moisture
018		9.45	400.47	386.76	3.51 %
019		9.40	388.20	372.36	4.18 %
020		9.43	442.54	398.54	10.16 %
021		9.44	~~368.73~~ 368.73 RT	338.44	8.43 %
022		9.55	394.42	386.10	2.16 %
023		9.45	289.50	260.08	10.51 %
024		9.51	359.96	323.00	10.55 %
025		9.36	339.00	333.27	1.74 %
026		9.51	355.16	329.05	7.55 %
027		9.53	445.45	412.14	7.64 %
028		9.35	342.55	291.54	15.31 %
029		9.52	350.43	331.60	5.52 %
030		9.41	403.47	346.43	14.47 %
031		9.35	425.65	360.81	15.58 %
032		9.34	445.46	415.60	6.85 %
033		9.43	425.47	389.66	8.61 %
034		9.41	342.09	326.45	4.70 %
035		9.40	380.79	346.63	9.20 %

Analyst: [signature] Date/Time: 9:38 10-18-07

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American Radiation Services Analytical Reports

for

Los Alamos National Laboratory

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Report Completeness Checklist

ARS SDG: 07-0672 **Client Name:** LANL **Sample Matrix:** SO

LEVEL 1 COMPONENTS	1st Reviewer	
1) Cover Page Complete and Accurate (see ARS-059)?	(Yes) No N/A	
2) Technical Review Checklist(s) Complete and Accurate?	(Yes) No N/A	
3) Case Narrative Complete and Accurate (see ARS-059)?	(Yes) No N/A	
4) Form 1s Present for all Samples and Tests?	(Yes) No N/A	
5) Client Specific Components are Present and Complete?	(Yes) No N/A	

LEVEL 2 COMPONENTS	1st Reviewer	
6) Batch Quality Control Report is Present and Accurate?	(Yes) No N/A	
7) DQO Report is Present and Accurate?	(Yes) No N/A	
8) Client Specific Batch QC Components are Present and Complete?	(Yes) No N/A	

LEVEL 3 COMPONENTS	1st Reviewer	
9) Efficiencies are Present?	(Yes) No N/A	
10) Calibrations are Present?	(Yes) No N/A	
11) Backgrounds are Present?	(Yes) No N/A	
12) Spectrum Analysis is Present?	(Yes) No N/A	
13) Spectral Plots are Present?	(Yes) No N/A	
14) Plateaus are Present?	(Yes) No N/A	
15) Control Charts are Present?	(Yes) No N/A	
16) Other:	Yes No (N/A)	

LEVEL 4 COMPONENTS	1st Reviewer	
17) Preparation Raw Data Present and Complete?	(Yes) No N/A	
18) Instrument Raw Data Present and Complete?	(Yes) No N/A	
19) Calibration Certificates Present?	(Yes) No N/A	
20) Copies of Log Book Pages Present?	(Yes) No N/A	
21) Sample Receiving Documentation Present?	(Yes) No N/A	
22) LIMS Reports Present?	(Yes) No N/A	
23) Applicable Correspondence Present?	(Yes) No N/A	
24) Other:	Yes No (N/A)	

Lindsay Lasseigne 10-29-07
Report Generator Signature Date

Virginia Mulligan 10-29-07
Management Review Signature Date

Alpha Spec
Technical Review Checklist

ARS SDG ARS 1-07-01672

Sample Matrix: SO **Aliquot** (Circle One) : Dry As Received Filtered Other: _____

Required QC Samples (Circle all that apply): Blank LCS LCSD Sample Dup

ARS Prep. Batch ID(s): **Batch A:** B07-08040 **Batch B:** _____ **Batch C:** _____

Test(s): _____ _____ _____

A. RADIOCHEMICAL PREPARATION REVIEW

	Chemist Review	Lab Supervisor
1) 100% of Manual Transcriptions Verified?	Yes No N/A	Yes No N/A
2) 100% of Manual Calculations Verified?	Yes No N/A	Yes No N/A
3) Tracers Added Before Muffling, Digestion, or Chem. Sep.?	Yes No N/A	Yes No N/A
4) QC and Samples are Aliquoted / Traced?	Yes No N/A	Yes No N/A
5) Deviations from procedure are documented and verified?	Yes No N/A	Yes No N/A

6) Sample Prep Anomaly? ☐ No ☐ Yes (See Tech Notes) **NCR #** (If initiated): _____

Chemist Signature _____ Date 10-25-07 Laboratory Supervisor Signature _____ Date 10-25-07

B. ANALYSIS REVIEW

	Analyst Review	QA Officer Review
1) Calibrations/Backgrounds Valid and Current?	Yes No N/A	Yes No N/A
2) Source Checks Completed and Acceptable?	Yes No N/A	Yes No N/A
3) Background Checks Complete and Acceptable?	Yes No N/A	Yes No N/A

Quality Assurance Officer Signature _____ Date 10-29-07

	Analyst Review	Lab Supervisor
4) 100% of Manually entered Parameters Verified Accurate?	Yes No N/A	Yes No N/A
5) Appropriate QC samples initiated at required frequency?	Yes No N/A	Yes No N/A
6) Test/Sample Specific Parameters (See ARS-059 for details)		
a) All Centroids +/- 40 keV for each sample and QC sample?	Yes No N/A	Yes No N/A
b) FWHM <100 kEV for each sample and QC sample?	Yes No N/A	Yes No N/A
c) All spefic peaks are with in the regions of interest (ROI's) ?	Yes No N/A	Yes No N/A
d) Spectrum shows no visual indication of interferences?	Yes No N/A	Yes No N/A

7) Analysis Anomaly? ☑ No ☐ Yes (See Comments) **NCR #** (If initiated): _____

Analyst Signature _____ Date 10-26-07 Laboratory Supervisor Signature _____ Date 10-29-07

Batch A: 07-03040

AMERICAN RADIATION SERVICES, INC.

Alpha Spec
Technical Review Checklist

C. BATCH QC VALIDATION

	Proj. Mgr. Review	QA Officer Review
1) RDL Criteria are Met?	Yes No N/A	Yes No N/A
2) Activity + 3xCSU a Negative Number?	Yes No N/A	Yes No N/A
3) Method Blank Criteria Met?	Yes No N/A	Yes No N/A
4) LCS/LCD Criteria Met?	Yes No N/A	Yes No N/A
5) Duplicate (Sample Duplicate, LCSD, MSD) Criteria Met?	Yes No N/A	Yes No N/A
6) Tracer yield results meet acceptance criteria?	Yes No N/A	Yes No N/A

7) Batch QC Anomaly? ☑ No ☐ Yes (See Comments) NCR # (If initiated): _____

Lindsay Laroaigne 10-29-07 — Project Manager Signature — Date

Eugene Mulligan 10-29-07 — Quality Assurance Officer Signature — Date

GENERAL COMMENTS

Preanalytical
Sample Preparation Review Checklist

ARS SDG: 07-01672 Sample Matrix: SO

SAMPLE PREPARATION

(All "No" Responses Require a Comment)	Prep. Tech. Review	
1) Sample IDs Correspond to LIMS SDG Information?	Yes No N/A	
2) Drying Oven Temperature Check is within Tolerance?	Yes No N/A	
3) Visual Inspection Verifies Homogenization Method(s) Effective?	Yes No N/A	
4) 100% of Manual Transcriptions/Calculations Verified?	Yes No N/A	
5) Balance checks are current and balance is in tolerance?	Yes No N/A	
6) Cleanliness of preparation equipment has been verified? (Including grinders and spatulas)	Yes No N/A	
7) Preparation area is clean and decontaminated?	Yes No N/A	

8) Sample Prep Anomaly? ☐ No ☑ Yes (See Tech Notes) NCR # (If initiated): _____

9) Sample Weight Table

Sample ID	Geometry	Weight	Light	Within Range	Heavy
001	250mL	234.25g	✓		
002	250ml	253.01g	✓		
003	250ml	290.26g	✓		
004	250ml	255.91g	✓		
005	250ml	227.49g	✓		
006	250mL	209.09g	✓		

Shirley Clayton 10-18-07

Preanalytical Prep Technician Signature Date

COMMENTS

Preanalytical
Sample Preparation Review Checklist

ARS AMERICAN RADIATION SERVICES, INC.

ARS SDG: 07-01672 **Sample Matrix:** SO

SAMPLE PREPARATION

9) Sample Weight Table (Con't)

Sample ID	Geometry	Weight	Light	Within Range	Heavy
007	250ml	336.55g		✓	
008	250ml	216.32g	✓		
009	250ml	249.70g	✓		
010	250ml	283.89g	✓		
011	250 ml	195.37g	✓		
012	250 ml	222.32g	✓		
013	250 ml	259.52g	✓		
014	250 ml	235.75g	✓		
015	250ml	210.09g	✓		
016	250ml	238.67g	✓		
017	250ml	279.10g	✓		
018	250ml	270.84g	✓		

Shirley Clayton 10-18-07

Preanalytical Prep Technician Signature Date

Preanalytical
Sample Preparation Review Checklist

ARS SDG: 07-01672 **Sample Matrix:** SO

SAMPLE PREPARATION

9) Sample Weight Table (Con't)

Sample ID	Geometry	Weight	Light	Within Range	Heavy
019	250ml	263.15g	✓		
020	250ml	257.29g	✓		
021	250ml	227.51g	✓		
022	250ml	284.34g	✓		
023	250ml	238.65g	✓		
024	250ml	250.24g	✓		
025	250ml	268.35g	✓		
026	250ml	230.78g	✓		
027	250ml	232.89	✓		
028	250ml	226.98g	✓		
029	250ml	238.20g	✓		
030	250ml	212.43g	✓		

Shirley Clayton 10-18-07

Preanalytical Prep Technician Signature Date

Preanalytical
Sample Preparation Review Checklist

ARS AMERICAN RADIATION SERVICES, INC.

ARS SDG: 07-01672 **Sample Matrix:** SO

SAMPLE PREPARATION

9) Sample Weight Table (Con't)

Sample ID	Geometry	Weight	Light	Within Range	Heavy
031	250ml	234.35	✓		
032	250ml	276.89	✓		
033	250 ml	244.65g	✓		
034	250 ml	251.23g	✓		
035	250 ml	258.23	✓		

10-18-07

Preanalytical Prep Technician Signature Date

DQO Report for SDG
ARS1-07-01672

Analysis Code	Group	Isotope	Activity Units	Aliquot Units	ProcedureNo	RDL	LCS_LL	LCS_UL	MS_LL	MS_UL	RadY_LL	RadY_UL	GravY_LL	GravY_LL	RER	RPD	DiltionReq	RoughPrepReq	BlankCorrectionMDA	BlankCorrectionAll	CountTimeReq	AliquotRequired
ASP-A-021	STD	AM-241	pCi	g	ARS-026	0.00E+00	80	120	80	120	20	110	20	110	2.58	20	FALSE	FALSE	FALSE	FALSE		
ASP-A-023	STD	PU-238	pCi	g	ARS-026	0.00E+00	80	120	80	120	20	110	20	110	2.58	20	FALSE	FALSE	FALSE	FALSE		
ASP-A-023	STD	PU-239/240	pCi	g	ARS-026	0.00E+00	80	120	80	120	20	110	20	110	2.58	20	FALSE	FALSE	FALSE	FALSE		
ASP-A-023	STD	PU-242	pCi	g	ARS-026	0.00E+00	80	120	80	120	20	110	20	110	2.58	20	FALSE	FALSE	FALSE	FALSE		
GAM-A-020	WRock	AM-241	pCi	g	ARS-007	0.00E+00	80	120	80	120	20	110	20	110	2.58	20	FALSE	FALSE	FALSE	FALSE		
GAM-A-020	WRock	CO-60	pCi	g	ARS-007	0.00E+00	80	120	80	120	20	110	20	110	2.58	20	FALSE	FALSE	FALSE	FALSE		
GAM-A-020	WRock	CS-134	pCi	g	ARS-007	0.00E+00	80	120	80	120	20	110	20	110	2.58	20	FALSE	FALSE	FALSE	FALSE		
GAM-A-020	WRock	CS-137	pCi	g	ARS-007	0.00E+00	80	120	80	120	20	110	20	110	2.58	20	FALSE	FALSE	FALSE	FALSE		
GAM-A-020	WRock	EU-152	pCi	g	ARS-007	0.00E+00	80	120	80	120	20	110	20	110	2.58	20	FALSE	FALSE	FALSE	FALSE		
GAM-A-020	WRock	K-40	pCi	g	ARS-007	0.00E+00	80	120	80	120	20	110	20	110	2.58	20	FALSE	FALSE	FALSE	FALSE		
GAM-A-020	WRock	NA-22	pCi	g	ARS-007	0.00E+00	80	120	80	120	20	110	20	110	2.58	20	FALSE	FALSE	FALSE	FALSE		
GAM-A-020	WRock	PB-212	pCi	g	ARS-007	0.00E+00	80	120	80	120	20	110	20	110	2.58	20	FALSE	FALSE	FALSE	FALSE		
GAM-A-020	WRock	RA-228	pCi	g	ARS-007	0.00E+00	80	120	80	120	20	110	20	110	2.58	20	FALSE	FALSE	FALSE	FALSE		
GAM-A-020	WRock	U-235	pCi	g	ARS-007	0.00E+00	80	120	80	120	20	110	20	110	2.58	20	FALSE	FALSE	FALSE	FALSE		
GAM-A-020	WRock	U-238	pCi	g	ARS-007	0.00E+00	80	120	80	120	20	110	20	110	2.58	20	FALSE	FALSE	FALSE	FALSE		

ARS FILE TRACKING SHEET

SDG: 07-01672

Task	Date / Time	Initials
Date & Time Received	10-17-07 / 10:16	Smc
Storage Location: M6	10-17-07 / 11:33	SMC
Chain of Custody Completed	10-17-07 / 11:33	SMC
Report Written	10-29-07/10:05	LML
Laboratory Supervisor Checks Performed	See Batch	NA
Quality Assurance Checks Performed on Report	10-29-07/1521	VJM
Laboratory Director Check Performed on Report	10-29-07/1521	VJM
Report E-mailed		
Report Faxed		
Report Mailed		
Report Reviewed		
Invoice Completed Invoice #:		

SPECIAL REQUIREMENTS

Requirement	Yes	No
3 Hour Rush		✓
24 Hour Rush		✓
48 Hour Rush		✓
Special Invoicing (i.e., Third Party)		✓
Other		✓

NOTES
Sample 35 Reruns for Iso Pu

SAMPLE RECEIPT INSPECTION FORM

Date: 10/17/07 Shipper's Name: LANL

Technician Performing Inspection: Shirley Clayton Initials: SMC

SDG: **07-01672**

External and Internal Surveys

Exposure Rate Meter: 44-2 104898 Serial No: 013681 Calibration. Due Date: 05/21/08

Count Rate Meter: 44-9 109043 Serial No: 108796 Calibration. Due Date: 05/21/08

Background Exposure Rate (μR/hr) 12 Background Count Rate (cpm): 50

Max. Exposure Rate on Shipping Containers Externals (Including Background): 21

Max. Removable Count Rate on Shipping Container Externals (Including Background): 60

Max. Removable Count Rate on Shipping Container Internals (Including Background): 60

Max. Removable Count Rate on Sample Container Externals (Including Background): 80

Max. Exposure Rate on Sample Containers Externals (Including Background): 21

Shipping Container

Was the Shipping Container received in good condition? Yes

Was the Shipping Container marked "Radioactive"? No

Was UN2910 marked on the outside of the Shipping Container? No

Were security seals utilized on the shipping container? Yes If yes, were the seals intact? Yes

Was a Chain of Custody Form included with the sample shipment? Yes

Were air bills or bills of lading included with the sample shipment? No

Samples

Were samples received in good condition? Yes

Were security seals utilized on the sample container? Yes If yes, were the seals intact? Yes

Were the sample containers marked "Radioactive"? No

Number of Samples Received in the Shipment: 35(thirty-five)

Was the pH of Aqueous Samples < 2? N/A

If no, was the sample(s) checked for acid reactivity? N/A Was the sample(s) acidified to a pH < 2? N/A

Matrix of Samples: SO

Volume of Each Sample Container:

Brief Description of Sample Material:

Inspectors' Comments

ARS-062-001 r0

Sample Check In Report
Samples

SDG **ARS1-07-01672**

Client Code	**114**	**Los Alamos National Laboratory**	TAT Days	**5**	Level	**4**
Profile Number	**PN-00094**	**Location: Los Alamos**	Date Received	**10/17/2007**		
Project Type	**Environmental**		Client Deadline	**10/22/2007**	COC No 1	
Comments			Internal Deadline	**10/19/2007**	COC No 2	
			Lab Deadline	**10/17/2007**	COC No 3	
			Workdays	**FALSE**	COC No 4	

Fraction	Client ID	Cntrs	Matrix	Start	End	Storage	Disposal	Holding	Archive
001	MD21-07-6797	1	SO	10/14/07 00:00	10/14/07 00:00	M6	H	90	5
002	MD21-07-6773	1	SO	10/14/07 00:00	10/14/07 00:00	M6	H	90	5
003	MD21-07-6786	1	SO	10/14/07 00:00	10/14/07 00:00	M6	H	90	5
004	MD21-07-6770	1	SO	10/14/07 00:00	10/14/07 00:00	M6	H	90	5
005	MD21-07-6726	1	SO	10/14/07 00:00	10/14/07 00:00	M6	H	90	5
006	MD21-07-6785	1	SO	10/14/07 00:00	10/14/07 00:00	M6	H	90	5
007	MD21-07-6732	1	SO	10/14/07 00:00	10/14/07 00:00	M6	H	90	5
008	MD21-07-6761	1	SO	10/13/07 00:00	10/13/07 00:00	M6	H	90	5
009	MD21-07-6756	1	SO	10/13/07 00:00	10/13/07 00:00	M6	H	90	5
010	MD21-07-6777	1	SO	10/13/07 00:00	10/13/07 00:00	M6	H	90	5
011	MD21-07-6775	1	SO	10/13/07 00:00	10/13/07 00:00	M6	H	90	5
012	MD21-07-6755	1	SO	10/13/07 00:00	10/13/07 00:00	M6	H	90	5
013	MD21-07-6771	1	SO	10/14/07 00:00	10/14/07 00:00	M6	H	90	5
014	MD21-07-6792	1	SO	10/14/07 00:00	10/14/07 00:00	M6	H	90	5
015	MD21-07-6783	1	SO	10/14/07 00:00	10/14/07 00:00	M6	H	90	5
016	MD21-07-6763	1	SO	10/13/07 00:00	10/13/07 00:00	M6	H	90	5
017	MD21-07-6742	1	SO	10/14/07 00:00	10/14/07 00:00	M6	H	90	5
018	MD21-07-6733	1	SO	10/14/07 00:00	10/14/07 00:00	M6	H	90	5
019	MD21-07-6784	1	SO	10/14/07 00:00	10/14/07 00:00	M6	H	90	5
020	MD21-07-6769	1	SO	10/14/07 00:00	10/14/07 00:00	M6	H	90	5
021	MD21-07-6754	1	SO	10/13/07 00:00	10/13/07 00:00	M6	H	90	5
022	MD21-07-6787	1	SO	10/14/07 00:00	10/14/07 00:00	M6	H	90	5
023	MD21-07-6795	1	SO	10/14/07 00:00	10/14/07 00:00	M6	H	90	5
024	MD21-07-6741	1	SO	10/14/07 00:00	10/14/07 00:00	M6	H	90	5
025	MD21-07-6793	1	SO	10/14/07 00:00	10/14/07 00:00	M6	H	90	5
026	MD21-07-6772	1	SO	10/14/07 00:00	10/14/07 00:00	M6	H	90	5
027	MD21-07-6768	1	SO	10/14/07 00:00	10/14/07 00:00	M6	H	90	5
028	MD21-07-6798	1	SO	10/13/07 00:00	10/13/07 00:00	M6	H	90	5
029	MD21-07-6740	1	SO	10/14/07 00:00	10/14/07 00:00	M6	H	90	5
030	MD21-07-6776	1	SO	10/13/07 00:00	10/13/07 00:00	M6	H	90	5
031	MD21-07-6762	1	SO	10/13/07 00:00	10/13/07 00:00	M6	H	90	5
032	MD21-07-6757	1	SO	10/13/07 00:00	10/13/07 00:00	M6	H	90	5
033	MD21-07-6725	1	SO	10/14/07 00:00	10/14/07 00:00	M6	H	90	5
034	MD21-07-6727	1	SO	10/14/07 00:00	10/14/07 00:00	M6	H	90	5
035	MD21-07-7022	1	SO	10/14/07 00:00	10/14/07 00:00	M6	H	90	5

American Radiation Services
Baton Rouge Laboratory

ARS1-07-01672
Analyses per Sample

ARS AMERICAN RADIATION SERVICES, INC.	ASP-A-021	ASP-A-023	GAM-A-020
Count >	35	35	35
001	X	X	X
002	X	X	X
003	X	X	X
004	X	X	X
005	X	X	X
006	X	X	X
007	X	X	X
008	X	X	X
009	X	X	X
010	X	X	X
011	X	X	X
012	X	X	X
013	X	X	X
014	X	X	X
015	X	X	X
016	X	X	X
017	X	X	X
018	X	X	X
019	X	X	X
020	X	X	X
021	X	X	X
022	X	X	X

ARS1-07-01672
Analyses per Sample

ARS AMERICAN RADIATION SERVICES, INC.	ASP-A-021	ASP-A-023	GAM-A-020
Count >	35	35	35
023	X	X	X
024	X	X	X
025	X	X	X
026	X	X	X
027	X	X	X
028	X	X	X
029	X	X	X
030	X	X	X
031	X	X	X
032	X	X	X
033	X	X	X
034	X	X	X
035	X	X	X

Sample Check In Report
Comments per Sample

SDG **ARS1-07-01672**

Fraction	Client ID	Comments
001	MD21-07-6797	
002	MD21-07-6773	
003	MD21-07-6786	
004	MD21-07-6770	
005	MD21-07-6726	
006	MD21-07-6785	
007	MD21-07-6732	
008	MD21-07-6761	
009	MD21-07-6756	
010	MD21-07-6777	
011	MD21-07-6775	
012	MD21-07-6755	
013	MD21-07-6771	
014	MD21-07-6792	
015	MD21-07-6783	
016	MD21-07-6763	
017	MD21-07-6742	
018	MD21-07-6733	
019	MD21-07-6784	
020	MD21-07-6769	
021	MD21-07-6754	
022	MD21-07-6787	
023	MD21-07-6795	
024	MD21-07-6741	
025	MD21-07-6793	
026	MD21-07-6772	
027	MD21-07-6768	
028	MD21-07-6798	
029	MD21-07-6740	
030	MD21-07-6776	
031	MD21-07-6762	
032	MD21-07-6757	
033	MD21-07-6725	
034	MD21-07-6727	
035	MD21-07-7022	

ARS LABEL SHEET

SDG: 07-01672

Analysis

ARS1-07-01672 **GAM-A-020**

Los Alamos National Laboratory

Gamma Spec (Short) in (Soil, Sludge, Waste, Sediment,Biota [SO, BI, VG])

This Test Requires 35 of 35 Samples

Scan Analysis Code Here	Dates for This Test	
	Rcvd	10/17/2007
	Due	10/22/2007

Analysis

ARS1-07-01672 **ASP-A-023**

Los Alamos National Laboratory

Plutonium (239, 240Pu) in (Soil, Sludge, Waste, Biota, Sediment [SO, BI, VG])

This Test Requires 35 of 35 Samples

Scan Analysis Code Here	Dates for This Test	
	Rcvd	10/17/2007
	Due	10/22/2007

Analysis

ARS1-07-01672 **ASP-A-021**

Los Alamos National Laboratory

Americium (241Am) in (Soil, Sludge, Waste, Biota, Sediment [SO, BI, VG])

This Test Requires 35 of 35 Samples

Scan Analysis Code Here	Dates for This Test	
	Rcvd	10/17/2007
	Due	10/22/2007

SAMPLE CHECK-IN COMMENT SHEET

SDG: 07-01672

NOTES

ARS-062-007 r0

COMPANY NAME: LANL **SDG:** 07-01672

SHIPPING CONTAINER

Good Condition	☑ Yes	☐ No
Radioactive	☐ Yes	☑ No
UN2910	☐ Yes	☑ No
Sec. Seals	☑ Yes	☐ No
Seals Intact	☑ Yes	☐ No
COC	☑ Yes	☐ No
Air Bill	☐ Yes	☑ No

Shipping Container Survey

Outside 21 µR/hr 60 cpm

Inside 60 cpm

Rcv'd By	Shirley Clayton
Date Rcv'd	10-17-07
Time Rcv'd	10:16

SAMPLE CONTAINER(S)

Good Condition	☑ Yes	☐ No		
Sec. Seals	☑ Yes	☐ No	Intact	☑ Yes ☐ No
Radioactive	☐ Yes	☑ No		
# Samples Rcv	35 (thirty five)			
~~pH < 2~~	☐ Yes	☐ No		
	~~If No.~~	Acid Rxt	☐ Yes	☐ No
		Acid'fd < 2	☐ Yes	☐ No

Matrix [AF , AQ , BI , FE , LT , SI , (SO) , UR , VG]

Record Sample Label, Exposure Rate and Count Rate for EACH SAMPLE in the area below:

Sample Lable/Comments/Notes	µR/hr	cpm
MD21-07-6797	17	60
73	15	60
86	18	80
70	19	70
26	19	70
85	17	60
32	15	60
61	19	50
56	20	50
77	19	50
75	21	70
55	19	70
71	21	50
92	19	60
83	17	60

Surveyors' Name: Shirley Clayton Time Surveyed 11:17

COMPANY NAME: ~~LALN~~ (RT) LANL **SDG:** 07-01672

Shipping Container Survey

Outside _____ µR/hr _____ cpm

Inside _____ cpm

Rcv'd By _____
Date Rcv'd _____
Time Rcv'd _____

SHIPPING CONTAINER

Good Condition	☐ Yes	☐ No
Radioactive	☐ Yes	☐ No
UN2910	☐ Yes	☐ No
Sec. Seals	☐ Yes	☐ No
Seals Intact	☐ Yes	☐ No
COC	☐ Yes	☐ No
Air Bill	☐ Yes	☐ No

SAMPLE CONTAINER(S)

Good Condition	☐ Yes	☐ No			
Sec. Seals	☐ Yes	☐ No	Intact	☐ Yes	☐ No
Radioactive	☐ Yes	☐ No			
# Samples Rcv	_____				
pH < 2	☐ Yes	☐ No			
	If No...	Acid Rxt	☐ Yes	☐ No	
		Acid'fd < 2	☐ Yes	☐ No	

Matrix [AF , AQ , BI , FE , LT , SI , SO , UR , VG]

Record Sample Label, Exposure Rate and Count Rate for EACH SAMPLE in the area below:

Sample Lable/Comments/Notes	µR/hr	cpm
MD21-07-67663	18	50
42	16	60
33	19	70
84	15	50
69	20	60
54	18	60
87	21	60
95	16	80
41	17	60
93	18	60
72	18	60
68	19	70
98	18	60
40	16	60
76	18	70

Surveyors' Name: [signature] Time Surveyed 11 : 17

COMPANY NAME: LANL **SDG:** 07-01672

Shipping Container Survey

Outside _____ µR/hr _____ cpm

Inside _____ cpm

Rcv'd By _____
Date Rcv'd _____
Time Rcv'd _____

SHIPPING CONTAINER

Good Condition	☐ Yes	☐ No
Radioactive	☐ Yes	☐ No
UN2910	☐ Yes	☐ No
Sec. Seals	☐ Yes	☐ No
Seals Intact	☐ Yes	☐ No
COC	☐ Yes	☐ No
Air Bill	☐ Yes	☐ No

SAMPLE CONTAINER(S)

Good Condition	☐ Yes	☐ No
Sec. Seals	☐ Yes	☐ No
Radioactive	☐ Yes	☐ No
# Samples Rcv	_____	
pH < 2	☐ Yes	☐ No

Intact ☐ Yes ☐ No

If No... Acid Rxt ☐ Yes ☐ No
Acid'fd < 2 ☐ Yes ☐ No

Matrix [AF , AQ , BI , FE , LT , SI , SO , UR , VG]

Record Sample Label, Exposure Rate and Count Rate for EACH SAMPLE in the area below:

Sample Lable/Comments/Notes	µR/hr	cpm
MD21-07-6762	16	80
57	18	60
25	17	60
27	18	70
MD21-07-7022	18	70

Surveyors' Name: [signature] Time Surveyed 11:17

S:\Tony\MyDocuments\Forms\SampleReceiptInspection

Tuesday, October 16, 2007

LAB CHAIN OF CUSTODY DOCUMENT NUMBER: 08-69

REQUEST NUMBER: 08-69

LOS ALAMOS
NATIONAL LABORATORY

ATTN: Danny Coleman

American Radiation Services - Primary

1726 Wooddale Court

Baton Rouge, LA 70806

TURNAROUND/REPORT DUE: 10/21/2007

TURNAROUND REQ'D: 5

LAB REQUEST COMMENTS: Need full level 4 dat package.

SAMPLE ID	CTNR	CTNR DESC	ORDER	PRESERV	MATRIX
MD21-07-6797	1	1 L POLY	AM-241+ISOPU	None	S
MD21-07-6773	1	1 L POLY	AM-241+ISOPU	None	S
MD21-07-6786	1	1 L POLY	AM-241+ISOPU	None	S
MD21-07-6770	1	1 L POLY	AM-241+ISOPU	None	S
MD21-07-6726	1	1 L POLY	AM-241+ISOPU	None	S
MD21-07-6785	1	1 L POLY	AM-241+ISOPU	None	S
MD21-07-6732	1	1 L POLY	AM-241+ISOPU	None	S
MD21-07-6761	1	1 L POLY	AM-241+ISOPU	None	S
MD21-07-6756	1	1 L POLY	AM-241+ISOPU	None	S
MD21-07-6777	1	1 L POLY	AM-241+ISOPU	None	S
MD21-07-6775	1	1 L POLY	AM-241+ISOPU	None	S
MD21-07-6755	1	1 L POLY	AM-241+ISOPU	None	S
MD21-07-6771	1	1 L POLY	AM-241+ISOPU	None	S
MD21-07-6792	1	1 L POLY	AM-241+ISOPU	None	S
MD21-07-6783	1	1 L POLY	AM-241+ISOPU	None	S
MD21-07-6763	1	1 L POLY	AM-241+ISOPU	None	S
MD21-07-6742	1	1 L POLY	AM-241+ISOPU	None	S
MD21-07-6733	1	1 L POLY	AM-241+ISOPU	None	S
MD21-07-6784	1	1 L POLY	AM-241+ISOPU	None	S
MD21-07-6769	1	1 L POLY	AM-241+ISOPU	None	S
MD21-07-6754	1	1 L POLY	AM-241+ISOPU	None	S
MD21-07-6787	1	1 L POLY	AM-241+ISOPU	None	S
MD21-07-6795	1	1 L POLY	AM-241+ISOPU	None	S
MD21-07-6741	1	1 L POLY	AM-241+ISOPU	None	S
MD21-07-6793	1	1 L POLY	AM-241+ISOPU	None	S
MD21-07-6772	1	1 L POLY	AM-241+ISOPU	None	S
MD21-07-6768	1	1 L POLY	AM-241+ISOPU	None	S
MD21-07-6798	1	1 L POLY	AM-241+ISOPU	None	S
MD21-07-6740	1	1 L POLY	AM-241+ISOPU	None	S
MD21-07-6776	1	1 L POLY	AM-241+ISOPU	None	S
MD21-07-6762	1	1 L POLY	AM-241+ISOPU	None	S
MD21-07-6757	1	1 L POLY	AM-241+ISOPU	None	S

Tuesday, October 16, 2007

LAB CHAIN OF CUSTODY DOCUMENT NUMBER: 08-69C

SAMPLE ID	CTNR	CTNR DESC	ORDER	PRESERV	MATRIX
MD21-07-6725	1	1 L POLY	AM-241+ISOPU	None	S
MD21-07-6727	1	1 L POLY	AM-241+ISOPU	None	S
MD21-07-7022	1	1 L POLY	AM-241+ISOPU	None	S

Relinquished By:		Date	Time	Received By:		Date	Time
[illegible]		10/16/07	1400	Shirley Clayton		10-17-07	10:16
Printed Name	Signature			Printed Name	Signature		
Printed Name	Signature			Printed Name	Signature		
Printed Name	Signature			Printed Name	Signature		

Received for DISPOSAL By:		Date	Time	Remarks:
Printed Name	Signature			

Tuesday, October 16, 2007

LAB CHAIN OF CUSTODY DOCUMENT NUMBER: 08-69(

REQUEST NUMBER: 08-69

LOS ALAMOS

NATIONAL LABORATORY

ATTN: Danny Coleman

American Radiation Services - Primary

1726 Wooddale Court

Baton Rouge, LA 70806

TURNAROUND/REPORT DUE: 10/21/2007

TURNAROUND REQ'D: 5

LAB REQUEST COMMENTS: Need full level 4 dat package.

SAMPLE ID	CTNR	CTNR DESC	ORDER	PRESERV	MATRIX
MD21-07-6797	1	1 L POLY	AM-241+ISOPU	None	S
MD21-07-6773	1	1 L POLY	AM-241+ISOPU	None	S
MD21-07-6786	1	1 L POLY	AM-241+ISOPU	None	S
MD21-07-6770	1	1 L POLY	AM-241+ISOPU	None	S
MD21-07-6726	1	1 L POLY	AM-241+ISOPU	None	S
MD21-07-6785	1	1 L POLY	AM-241+ISOPU	None	S
MD21-07-6732	1	1 L POLY	AM-241+ISOPU	None	S
MD21-07-6761	1	1 L POLY	AM-241+ISOPU	None	S
MD21-07-6756	1	1 L POLY	AM-241+ISOPU	None	S
MD21-07-6777	1	1 L POLY	AM-241+ISOPU	None	S
MD21-07-6775	1	1 L POLY	AM-241+ISOPU	None	S
MD21-07-6755	1	1 L POLY	AM-241+ISOPU	None	S
MD21-07-6771	1	1 L POLY	AM-241+ISOPU	None	S
MD21-07-6792	1	1 L POLY	AM-241+ISOPU	None	S
MD21-07-6783	1	1 L POLY	AM-241+ISOPU	None	S
MD21-07-6763	1	1 L POLY	AM-241+ISOPU	None	S
MD21-07-6742	1	1 L POLY	AM-241+ISOPU	None	S
MD21-07-6733	1	1 L POLY	AM-241+ISOPU	None	S
MD21-07-6784	1	1 L POLY	AM-241+ISOPU	None	S
MD21-07-6769	1	1 L POLY	AM-241+ISOPU	None	S
MD21-07-6754	1	1 L POLY	AM-241+ISOPU	None	S
MD21-07-6787	1	1 L POLY	AM-241+ISOPU	None	S
MD21-07-6795	1	1 L POLY	AM-241+ISOPU	None	S
MD21-07-6741	1	1 L POLY	AM-241+ISOPU	None	S
MD21-07-6793	1	1 L POLY	AM-241+ISOPU	None	S
MD21-07-6772	1	1 L POLY	AM-241+ISOPU	None	S
MD21-07-6768	1	1 L POLY	AM-241+ISOPU	None	S
MD21-07-6798	1	1 L POLY	AM-241+ISOPU	None	S
MD21-07-6740	1	1 L POLY	AM-241+ISOPU	None	S
MD21-07-6776	1	1 L POLY	AM-241+ISOPU	None	S
MD21-07-6762	1	1 L POLY	AM-241+ISOPU	None	S
MD21-07-6757	1	1 L POLY	AM-241+ISOPU	None	S

Tuesday, October 16, 2007

LAB CHAIN OF CUSTODY DOCUMENT NUMBER: 08-69C

SAMPLE ID	CTNR	CTNR DESC	ORDER	PRESERV	MATRIX
MD21-07-6725	1	1 L POLY	AM-241+ISOPU	None	S
MD21-07-6727	1	1 L POLY	AM-241+ISOPU	None	S
MD21-07-7022	1	1 L POLY	AM-241+ISOPU	None	S

Relinquished By:		Date	Time	Received By:		Date	Time
[illegible]		10/16/07	1400	Shirley Dayton		10-17-07	10:16
Printed Name	Signature			Printed Name	Signature		
Printed Name	Signature			Printed Name	Signature		
Printed Name	Signature			Printed Name	Signature		

Received for DISPOSAL By:		Date	Time	Remarks:
Printed Name	Signature			

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TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

PROJECT NO. 08-68

Los Alamos Non-Rad

Lot #: F7J160279

Joylene Valdez or Keith Greene

Los Alamos National Laboratory
SMO TA-00 Bldg 1237
DP: 03U; MS: 707
Los Alamos, NM 87545

TESTAMERICA LABORATORIES, INC.

Michael C. Franks
Project Manager

October 18, 2007

Case Narrative
LOT NUMBER: **F7J160279**
LANL Request Number: **08-68**

This report contains the analytical results for the 38 samples received under chain of custody number 08-68 by TestAmerica St. Louis on October 17, 2007. These samples are associated with your Los Alamos Non-Rad project.

All applicable quality control procedures met method-specified acceptance criteria except as noted on the following page.

This report is incomplete without the case narrative. All chemical analysis results are based upon dry weight correction as required per the statement of work. All radiochemistry results are based upon sample as dried and ground with the exception of tritium, unless requested wet weight by the client.

Observations/Nonconformances

Sample Receiving

Samples were received at 5 °C. No problems were noted at the time of sample receipt.

Perchlorate Method 6850

QC Batch: 7290152
The Method Blank shows no contamination above the reporting limit.

The LCS is within stated limits.

The Batch QC Matrix Spike, Matrix Spike Duplicate and Sample Duplicate were performed on F7J160279-001 (this Request). The Matrix Spike and Matrix Spike Duplicate recoveries and RPD values are within stated limits.

The recovery of Perchlorate in the last Dissolved Salt Solution (DSS) which contains 1000mg/L each of chloride, carbonate, bicarbonate, and sulfate ions is 130.2%. The control limit is 130%. There may be a high bias for perchlorate in that type of solution. However, there are no Perchlorate results above MDL in the samples associated with this DSS. This excursion does not affect the data.
Affected Samples:

F7J160279 (1): MD21-07-6797	F7J160279 (11): MD21-07-6775
F7J160279 (2): MD21-07-6773	F7J160279 (12): MD21-07-6755
F7J160279 (3): MD21-07-6786	F7J160279 (13): MD21-07-6771
F7J160279 (4): MD21-07-6770	F7J160279 (14): MD21-07-6792
F7J160279 (5): MD21-07-6726	F7J160279 (15): MD21-07-6783
F7J160279 (6): MD21-07-6785	F7J160279 (16): MD21-07-6763
F7J160279 (7): MD21-07-6732	F7J160279 (17): MD21-07-6742
F7J160279 (8): MD21-07-6761	F7J160279 (18): MD21-07-6733
F7J160279 (9): MD21-07-6756	F7J160279 (19): MD21-07-6784
F7J160279 (10): MD21-07-6777	F7J160279 (20): MD21-07-6769

QC Batch: 7290155
The Method Blank shows no contamination above the reporting limit.

The LCS is within stated limits.

The Batch QC Matrix Spike, Matrix Spike Duplicate and Sample Duplicate were performed on F7J160279-021 (this Request). The Matrix Spike and Matrix Spike Duplicate recoveries and RPD values are within stated limits.

QC Batch: 7290361
The Method Blank shows no contamination above the reporting limit.

The LCS is within stated limits.

The Batch QC Matrix Spike, Matrix Spike Duplicate and Sample Duplicate were performed on F7J160279-035 (this Request). The Matrix Spike and Matrix Spike Duplicate recoveries and RPD values are within stated limits.

Nitrate Method 300.0

QC Batch: 7291371
The Method Blank shows no contamination above the reporting limit.

The LCS/HCS is within stated limits.

The Batch QC Matrix Spike and Duplicate was performed on F7J160279-008 (this Request). The Matrix Spike recoveries are within stated limits. The Duplicate RPD values are within stated limits.

QC Batch: 7291373
The Method Blank shows no contamination above the reporting limit.

The LCS/HCS is within stated limits.

The Batch QC Matrix Spike and Duplicate was performed on F7J160279-015 (this Request). The Matrix Spike recoveries are within stated limits. The Duplicate RPD values are within stated limits.

Nitrate/Nitrite Method 353.1

QC Batch: 7290365
The Method Blank shows no contamination above the reporting limit.

The LCS/HCS is within stated limits.

The Batch QC Matrix Spike and Duplicate was performed on F7J160279-035 (this Request The Matrix Spike recovery is outside the established QC limits. A matrix interference is evident in the sample. Method performance is demonstrated by acceptable LCS recovery. The Duplicate RPD values are within stated limits.

I certify that this data is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. The laboratory manager or his designee, as verified by the signature on the front page, has authorized release of the data contained in this hardcopy.

F7J160279

CLIENT ANALYSIS SUMMARY

Storage Loc: 3-117/119

Date Received: 2007-10-17

Analytical Due Date: 2007-10-18

Report Due Date: 2007-10-22

Report Type: D Expanded Deliverable

EDD Code: 99

Project Manager: MCF Quote #: 75483 SDG: F7J160279

Project: 08-68 Los Alamos Non-Rad

PO#: 37954-001-06 Report to: Joylene Valdez or Keith

Client: 108581 Los Alamos National Laboratory

RUSH

#SMPS in LOT: 38

Sample Receiving: LOS ALAMOS CLIENT REQUIREMENTS Enter COC NUMBER on sample sample header in the COC Field SDG = "Lot Number"

Project Name = "Request number" Perchlorates LC/MS/MS QC = MS and MSD ********** METALS AND WETCHEMISTRY **********

Can batch multiple Lots together and report Client specific Batch QC: Matrix Spike and Sample Duplicate Met Prep: GFAA Spike Level and Standard Spike Level

Sb spike at 100 ppb Pb - Spike Solids at 100 ppb, spike Waters at 20 - Perform analytical spike when matrix spike is swamped with

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
1	MD21-07-6797			2007-10-14 / 0	J83XG	SOLID

SAMPLE COMMENTS:

	XX	9B	SW846	6850	6850, Perchlorate by LC/MS/MS	82	LEACHATE, DI (Routine)	9Q	ORG FLAGS FOR INORG; STANDARD	PROT: O	WRK LOC	06
	XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
	XX	C9	MCAW W	300.0A	Nitrate as N (300.0A, Ion Chromatography)	82	LEACHATE, DI (Routine)	9A	ORG FLAGS FOR INORG, FORMS	PROT: A	WRK LOC	06
	XX	WM	MCAW W	160.3 MOD	Moisture, Percent (160.3)	88	NO SAMPLE PREPARATION PERFORMED / DIRECT	01	STANDARD TEST SET	PROT: A	WRK LOC	06
D	XX	9B	SW846	6850	6850, Perchlorate by LC/MS/MS	82	LEACHATE, DI (Routine)	9Q	ORG FLAGS FOR INORG; STANDARD	PROT: O	WRK LOC	06
S	XX	9B	SW846	6850	6850, Perchlorate by LC/MS/MS	82	LEACHATE, DI (Routine)	9Q	ORG FLAGS FOR INORG; STANDARD	PROT: O	WRK LOC	06
X	XX	9B	SW846	6850	6850, Perchlorate by LC/MS/MS	82	LEACHATE, DI (Routine)	9Q	ORG FLAGS FOR INORG; STANDARD	PROT: O	WRK LOC	06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
2	MD21-07-6773			2007-10-14 / 0	J8337	SOLID

SAMPLE COMMENTS:

	XX	9B	SW846	6850	6850, Perchlorate by LC/MS/MS	82	LEACHATE, DI (Routine)	9Q	ORG FLAGS FOR INORG; STANDARD	PROT: O	WRK LOC	06
	XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
	XX	C9	MCAW W	300.0A	Nitrate as N (300.0A, Ion Chromatography)	82	LEACHATE, DI (Routine)	9A	ORG FLAGS FOR INORG, FORMS	PROT: A	WRK LOC	06
	XX	WM	MCAW W	160.3 MOD	Moisture, Percent (160.3)	88	NO SAMPLE PREPARATION PERFORMED / DIRECT	01	STANDARD TEST SET	PROT: A	WRK LOC	06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
3	MD21-07-6786			2007-10-14 / 0	J834C	SOLID

SAMPLE COMMENTS:

	XX	9B	SW846	6850	6850, Perchlorate by LC/MS/MS	82	LEACHATE, DI (Routine)	9Q	ORG FLAGS FOR INORG; STANDARD	PROT: O	WRK LOC	06
	XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
	XX	C9	MCAW W	300.0A	Nitrate as N (300.0A, Ion Chromatography)	82	LEACHATE, DI (Routine)	9A	ORG FLAGS FOR INORG, FORMS	PROT: A	WRK LOC	06
	XX	WM	MCAW W	160.3 MOD	Moisture, Percent (160.3)	88	NO SAMPLE PREPARATION PERFORMED / DIRECT	01	STANDARD TEST SET	PROT: A	WRK LOC	06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
4	MD21-07-6770			2007-10-14 / 0	J834F	SOLID

SAMPLE COMMENTS:

	XX	9B	SW846	6850	6850, Perchlorate by LC/MS/MS	82	LEACHATE, DI (Routine)	9Q	ORG FLAGS FOR INORG; STANDARD	PROT: O	WRK LOC	06
	XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
	XX	C9	MCAW W	300.0A	Nitrate as N (300.0A, Ion Chromatography)	82	LEACHATE, DI (Routine)	9A	ORG FLAGS FOR INORG, FORMS	PROT: A	WRK LOC	06
	XX	WM	MCAW W	160.3 MOD	Moisture, Percent (160.3)	88	NO SAMPLE PREPARATION PERFORMED / DIRECT	01	STANDARD TEST SET	PROT: A	WRK LOC	06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
5	MD21-07-6726			2007-10-14 / 0	J834H	SOLID

SAMPLE COMMENTS:

	XX	9B	SW846	6850	6850, Perchlorate by LC/MS/MS	82	LEACHATE, DI (Routine)	9Q	ORG FLAGS FOR INORG; STANDARD	PROT: O	WRK LOC	06
	XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06

F7J160279 CLIENT ANALYSIS SUMMARY

Storage Loc: 3-117/119

Project Manager: MCF | Quote #: 75483 | SDG: F7J160279

Date Received: 2007-10-17

Project: 08-68 | Los Alamos Non-Rad

Analytical Due Date: 2007-10-18

PO#: 37954-001-06 | Report to: Joylene Valdez or Keith

RUSH

Report Due Date: 2007-10-22

Report Type: D Expanded Deliverable

Client: 108581 Los Alamos National Laboratory

#SMPS in LOT: 38 | EDD Code: 99

Sample Receiving: LOS ALAMOS CLIENT REQUIREMENTS Enter COC NUMBER on sample sample header in the COC Field SDG = "Lot Number"

Project Name = "Request number" Perchlorates LC/MS/MS QC = MS and MSD ********* METALS AND WETCHEMISTRY ********************

Can batch multiple Lots together and report Client specific Batch QC: Matrix Spike and Sample Duplicate Met Prep: GFAA Spike Level and Standard Spike Level

Sb spike at 100 ppb Pb - Spike Solids at 100 ppb, spike Waters at 20 - Perform analytical spike when matrix spike is swamped with

XX	C9	MCAW W	300.0A	Nitrate as N (300.0A, Ion Chromatography)	82	LEACHATE, DI (Routine)	9A	ORG FLAGS FOR INORG, FORMS	PROT: A	WRK LOC	06
XX	WM	MCAW W	160.3 MOD	Moisture, Percent (160.3)	88	NO SAMPLE PREPARATION PERFORMED / DIRECT	01	STANDARD TEST SET	PROT: A	WRK LOC	06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
6	MD21-07-6785			2007-10-14 / 0	J834L	SOLID

SAMPLE COMMENTS:

XX	9B	SW846	6850	6850, Perchlorate by LC/MS/MS	82	LEACHATE, DI (Routine)	9Q	ORG FLAGS FOR INORG; STANDARD	PROT: O	WRK LOC	06
XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	C9	MCAW W	300.0A	Nitrate as N (300.0A, Ion Chromatography)	82	LEACHATE, DI (Routine)	9A	ORG FLAGS FOR INORG, FORMS	PROT: A	WRK LOC	06
XX	WM	MCAW W	160.3 MOD	Moisture, Percent (160.3)	88	NO SAMPLE PREPARATION PERFORMED / DIRECT	01	STANDARD TEST SET	PROT: A	WRK LOC	06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
7	MD21-07-6732			2007-10-14 / 0	J834M	SOLID

SAMPLE COMMENTS:

XX	9B	SW846	6850	6850, Perchlorate by LC/MS/MS	82	LEACHATE, DI (Routine)	9Q	ORG FLAGS FOR INORG; STANDARD	PROT: O	WRK LOC	06
XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	C9	MCAW W	300.0A	Nitrate as N (300.0A, Ion Chromatography)	82	LEACHATE, DI (Routine)	9A	ORG FLAGS FOR INORG, FORMS	PROT: A	WRK LOC	06
XX	WM	MCAW W	160.3 MOD	Moisture, Percent (160.3)	88	NO SAMPLE PREPARATION PERFORMED / DIRECT	01	STANDARD TEST SET	PROT: A	WRK LOC	06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
8	MD21-07-6761			2007-10-13 / 0	J834N	SOLID

SAMPLE COMMENTS:

XX	9B	SW846	6850	6850, Perchlorate by LC/MS/MS	82	LEACHATE, DI (Routine)	9Q	ORG FLAGS FOR INORG; STANDARD	PROT: O	WRK LOC	06
XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	C9	MCAW W	300.0A	Nitrate as N (300.0A, Ion Chromatography)	82	LEACHATE, DI (Routine)	9A	ORG FLAGS FOR INORG, FORMS	PROT: A	WRK LOC	06
XX	WM	MCAW W	160.3 MOD	Moisture, Percent (160.3)	88	NO SAMPLE PREPARATION PERFORMED / DIRECT	01	STANDARD TEST SET	PROT: A	WRK LOC	06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
9	MD21-07-6756			2007-10-13 / 0	J834P	SOLID

SAMPLE COMMENTS:

XX	9B	SW846	6850	6850, Perchlorate by LC/MS/MS	82	LEACHATE, DI (Routine)	9Q	ORG FLAGS FOR INORG; STANDARD	PROT: O	WRK LOC	06
XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	C9	MCAW W	300.0A	Nitrate as N (300.0A, Ion Chromatography)	82	LEACHATE, DI (Routine)	9A	ORG FLAGS FOR INORG, FORMS	PROT: A	WRK LOC	06
XX	WM	MCAW W	160.3 MOD	Moisture, Percent (160.3)	88	NO SAMPLE PREPARATION PERFORMED / DIRECT	01	STANDARD TEST SET	PROT: A	WRK LOC	06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
10	MD21-07-6777			2007-10-13 / 0	J834Q	SOLID

SAMPLE COMMENTS:

XX	9B	SW846	6850	6850, Perchlorate by LC/MS/MS	82	LEACHATE, DI (Routine)	9Q	ORG FLAGS FOR INORG; STANDARD	PROT: O	WRK LOC	06
XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	C9	MCAW W	300.0A	Nitrate as N (300.0A, Ion Chromatography)	82	LEACHATE, DI (Routine)	9A	ORG FLAGS FOR INORG, FORMS	PROT: A	WRK LOC	06

F7J160279 CLIENT ANALYSIS SUMMARY

Storage Loc: 3-117/119

Project Manager: MCF Quote #: 75483 SDG: F7J160279

Date Received: 2007-10-17

Analytical Due Date: 2007-10-18

Project: 08-68 Los Alamos Non-Rad

Report Due Date: 2007-10-22

PO#: 37954-001-06 Report to: Joylene Valdez or Keith

RUSH

Report Type: D Expanded Deliverable

Client: 108581 Los Alamos National Laboratory

#SMPS in LOT: 38 EDD Code: 99

Sample Receiving: LOS ALAMOS CLIENT REQUIREMENTS Enter COC NUMBER on sample sample header in the COC Field SDG = "Lot Number"

Project Name = "Request number" Perchlorates LC/MS/MS QC = MS and MSD ********* METALS AND WETCHEMISTRY ********************

Can batch multiple Lots together and report Client specific Batch QC: Matrix Spike and Sample Duplicate Met Prep: GFAA Spike Level and Standard Spike Level

Sb spike at 100 ppb Pb - Spike Solids at 100 ppb, spike Waters at 20 - Perform analytical spike when matrix spike is swamped with

XX	WM	MCAW W	160.3 MOD	Moisture, Percent (160.3)	88	NO SAMPLE PREPARATION PERFORMED / DIRECT	01	STANDARD TEST SET	PROT: A	WRK LOC	06	

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
11	MD21-07-6775			2007-10-13 / 0	J834V	SOLID

SAMPLE COMMENTS:

XX	9B	SW846	6850	6850, Perchlorate by LC/MS/MS	82	LEACHATE, DI (Routine)	9Q	ORG FLAGS FOR INORG; STANDARD	PROT: O	WRK LOC	06	
XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06	
XX	C9	MCAW W	300.0A	Nitrate as N (300.0A, Ion Chromatography)	82	LEACHATE, DI (Routine)	9A	ORG FLAGS FOR INORG, FORMS	PROT: A	WRK LOC	06	
XX	WM	MCAW W	160.3 MOD	Moisture, Percent (160.3)	88	NO SAMPLE PREPARATION PERFORMED / DIRECT	01	STANDARD TEST SET	PROT: A	WRK LOC	06	

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
12	MD21-07-6755			2007-10-13 / 0	J834W	SOLID

SAMPLE COMMENTS:

XX	9B	SW846	6850	6850, Perchlorate by LC/MS/MS	82	LEACHATE, DI (Routine)	9Q	ORG FLAGS FOR INORG; STANDARD	PROT: O	WRK LOC	06	
XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06	
XX	C9	MCAW W	300.0A	Nitrate as N (300.0A, Ion Chromatography)	82	LEACHATE, DI (Routine)	9A	ORG FLAGS FOR INORG, FORMS	PROT: A	WRK LOC	06	
XX	WM	MCAW W	160.3 MOD	Moisture, Percent (160.3)	88	NO SAMPLE PREPARATION PERFORMED / DIRECT	01	STANDARD TEST SET	PROT: A	WRK LOC	06	

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
13	MD21-07-6771			2007-10-14 / 0	J834X	SOLID

SAMPLE COMMENTS:

XX	9B	SW846	6850	6850, Perchlorate by LC/MS/MS	82	LEACHATE, DI (Routine)	9Q	ORG FLAGS FOR INORG; STANDARD	PROT: O	WRK LOC	06	
XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06	
XX	C9	MCAW W	300.0A	Nitrate as N (300.0A, Ion Chromatography)	82	LEACHATE, DI (Routine)	9A	ORG FLAGS FOR INORG, FORMS	PROT: A	WRK LOC	06	
XX	WM	MCAW W	160.3 MOD	Moisture, Percent (160.3)	88	NO SAMPLE PREPARATION PERFORMED / DIRECT	01	STANDARD TEST SET	PROT: A	WRK LOC	06	

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
14	MD21-07-6792			2007-10-14 / 0	J8340	SOLID

SAMPLE COMMENTS:

XX	9B	SW846	6850	6850, Perchlorate by LC/MS/MS	82	LEACHATE, DI (Routine)	9Q	ORG FLAGS FOR INORG; STANDARD	PROT: O	WRK LOC	06	
XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06	
XX	C9	MCAW W	300.0A	Nitrate as N (300.0A, Ion Chromatography)	82	LEACHATE, DI (Routine)	9A	ORG FLAGS FOR INORG, FORMS	PROT: A	WRK LOC	06	
XX	WM	MCAW W	160.3 MOD	Moisture, Percent (160.3)	88	NO SAMPLE PREPARATION PERFORMED / DIRECT	01	STANDARD TEST SET	PROT: A	WRK LOC	06	

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
15	MD21-07-6783			2007-10-14 / 0	J8344	SOLID

SAMPLE COMMENTS:

XX	9B	SW846	6850	6850, Perchlorate by LC/MS/MS	82	LEACHATE, DI (Routine)	9Q	ORG FLAGS FOR INORG; STANDARD	PROT: O	WRK LOC	06	
XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06	
XX	C9	MCAW W	300.0A	Nitrate as N (300.0A, Ion Chromatography)	82	LEACHATE, DI (Routine)	9A	ORG FLAGS FOR INORG, FORMS	PROT: A	WRK LOC	06	
XX	WM	MCAW W	160.3 MOD	Moisture, Percent (160.3)	88	NO SAMPLE PREPARATION PERFORMED / DIRECT	01	STANDARD TEST SET	PROT: A	WRK LOC	06	

F7J160279 CLIENT ANALYSIS SUMMARY

Storage Loc: 3-117/119

Project Manager: MCF Quote #: 75483 SDG: F7J160279

Date Received: 2007-10-17

Analytical Due Date: 2007-10-18

Project: 08-68 Los Alamos Non-Rad

Report Due Date: 2007-10-22

PO#: 37954-001-06 Report to: Joylene Valdez or Keith

RUSH

Report Type: D Expanded Deliverable

Client: 108581 Los Alamos National Laboratory

#SMPS in LOT: 38 EDD Code: 99

Sample Receiving: LOS ALAMOS CLIENT REQUIREMENTS Enter COC NUMBER on sample sample header in the COC Field SDG = "Lot Number"

Project Name = "Request number" Perchlorates LC/MS/MS QC = MS and MSD ********** METALS AND WETCHEMISTRY **********

Can batch multiple Lots together and report Client specific Batch QC: Matrix Spike and Sample Duplicate Met Prep: GFAA Spike Level and Standard Spike Level

Sb spike at 100 ppb Pb - Spike Solids at 100 ppb, spike Waters at 20 - Perform analytical spike when matrix spike is swamped with

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
16	MD21-07-6763			2007-10-13 / 0	J8348	SOLID

SAMPLE COMMENTS:

XX	9B	SW846	6850	6850, Perchlorate by LC/MS/MS	82	LEACHATE, DI (Routine)	9Q	ORG FLAGS FOR INORG; STANDARD	PROT: O	WRK LOC	06
XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	C9	MCAW W	300.0A	Nitrate as N (300.0A, Ion Chromatography)	82	LEACHATE, DI (Routine)	9A	ORG FLAGS FOR INORG, FORMS	PROT: A	WRK LOC	06
XX	WM	MCAW W	160.3 MOD	Moisture, Percent (160.3)	88	NO SAMPLE PREPARATION PERFORMED / DIRECT	01	STANDARD TEST SET	PROT: A	WRK LOC	06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
17	MD21-07-6742			2007-10-14 / 0	J835A	SOLID

SAMPLE COMMENTS:

XX	9B	SW846	6850	6850, Perchlorate by LC/MS/MS	82	LEACHATE, DI (Routine)	9Q	ORG FLAGS FOR INORG; STANDARD	PROT: O	WRK LOC	06
XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	C9	MCAW W	300.0A	Nitrate as N (300.0A, Ion Chromatography)	82	LEACHATE, DI (Routine)	9A	ORG FLAGS FOR INORG, FORMS	PROT: A	WRK LOC	06
XX	WM	MCAW W	160.3 MOD	Moisture, Percent (160.3)	88	NO SAMPLE PREPARATION PERFORMED / DIRECT	01	STANDARD TEST SET	PROT: A	WRK LOC	06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
18	MD21-07-6733			2007-10-14 / 0	J835E	SOLID

SAMPLE COMMENTS:

XX	9B	SW846	6850	6850, Perchlorate by LC/MS/MS	82	LEACHATE, DI (Routine)	9Q	ORG FLAGS FOR INORG; STANDARD	PROT: O	WRK LOC	06
XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	C9	MCAW W	300.0A	Nitrate as N (300.0A, Ion Chromatography)	82	LEACHATE, DI (Routine)	9A	ORG FLAGS FOR INORG, FORMS	PROT: A	WRK LOC	06
XX	WM	MCAW W	160.3 MOD	Moisture, Percent (160.3)	88	NO SAMPLE PREPARATION PERFORMED / DIRECT	01	STANDARD TEST SET	PROT: A	WRK LOC	06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
19	MD21-07-6784			2007-10-14 / 0	J835J	SOLID

SAMPLE COMMENTS:

XX	9B	SW846	6850	6850, Perchlorate by LC/MS/MS	82	LEACHATE, DI (Routine)	9Q	ORG FLAGS FOR INORG; STANDARD	PROT: O	WRK LOC	06
XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	C9	MCAW W	300.0A	Nitrate as N (300.0A, Ion Chromatography)	82	LEACHATE, DI (Routine)	9A	ORG FLAGS FOR INORG, FORMS	PROT: A	WRK LOC	06
XX	WM	MCAW W	160.3 MOD	Moisture, Percent (160.3)	88	NO SAMPLE PREPARATION PERFORMED / DIRECT	01	STANDARD TEST SET	PROT: A	WRK LOC	06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
20	MD21-07-6769			2007-10-14 / 0	J835N	SOLID

SAMPLE COMMENTS:

XX	9B	SW846	6850	6850, Perchlorate by LC/MS/MS	82	LEACHATE, DI (Routine)	9Q	ORG FLAGS FOR INORG; STANDARD	PROT: O	WRK LOC	06
XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	C9	MCAW W	300.0A	Nitrate as N (300.0A, Ion Chromatography)	82	LEACHATE, DI (Routine)	9A	ORG FLAGS FOR INORG, FORMS	PROT: A	WRK LOC	06
XX	WM	MCAW W	160.3 MOD	Moisture, Percent (160.3)	88	NO SAMPLE PREPARATION PERFORMED / DIRECT	01	STANDARD TEST SET	PROT: A	WRK LOC	06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A

F7J160279 CLIENT ANALYSIS SUMMARY

Storage Loc: 3-117/119

Project Manager: MCF | Quote #: 75483 | SDG: F7J160279

Date Received: 2007-10-17

Project: 08-68 | Los Alamos Non-Rad

Analytical Due Date: 2007-10-18

PO#: 37954-001-06 | Report to: Joylene Valdez or Keith

RUSH

Report Due Date: 2007-10-22

Client: 108581 Los Alamos National Laboratory

Report Type: D Expanded Deliverable

#SMPS in LOT: 38 | EDD Code: 99

Sample Receiving: LOS ALAMOS CLIENT REQUIREMENTS Enter COC NUMBER on sample sample header in the COC Field SDG = "Lot Number"

Project Name = "Request number" Perchlorates LC/MS/MS QC = MS and MSD ******** METALS AND WETCHEMISTRY ********** Can batch multiple Lots together and report Client specific Batch QC: Matrix Spike and Sample Duplicate Met Prep: GFAA Spike Level and Standard Spike Level**

Sb spike at 100 ppb Pb - Spike Solids at 100 ppb, spike Waters at 20 - Perform analytical spike when matrix spike is swamped with

21 MD21-07-6754 2007-10-13 / 0 J835Q SOLID

SAMPLE COMMENTS:

	XX	9B	SW846 6850	6850, Perchlorate by LC/MS/MS	82	LEACHATE, DI (Routine)	9Q	ORG FLAGS FOR INORG; STANDARD	PROT: O	WRK LOC	06
	XX	ZV	RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
	XX	C9	MCAW W 300.0A	Nitrate as N (300.0A, Ion Chromatography)	82	LEACHATE, DI (Routine)	9A	ORG FLAGS FOR INORG, FORMS	PROT: A	WRK LOC	06
	XX	WM	MCAW W 160.3 MOD	Moisture, Percent (160.3)	88	NO SAMPLE PREPARATION PERFORMED / DIRECT	01	STANDARD TEST SET	PROT: A	WRK LOC	06
D	XX	9B	SW846 6850	6850, Perchlorate by LC/MS/MS	82	LEACHATE, DI (Routine)	9Q	ORG FLAGS FOR INORG; STANDARD	PROT: O	WRK LOC	06
S	XX	9B	SW846 6850	6850, Perchlorate by LC/MS/MS	82	LEACHATE, DI (Routine)	9Q	ORG FLAGS FOR INORG; STANDARD	PROT: O	WRK LOC	06
X	XX	9B	SW846 6850	6850, Perchlorate by LC/MS/MS	82	LEACHATE, DI (Routine)	9Q	ORG FLAGS FOR INORG; STANDARD	PROT: O	WRK LOC	06

SAMPLE # CLIENT SAMPLE ID Site ID Client Matrix DATE/TIME SAMPLED WORKORDER A

22 MD21-07-6787 2007-10-14 / 0 J835W SOLID

SAMPLE COMMENTS:

	XX	9B	SW846 6850	6850, Perchlorate by LC/MS/MS	82	LEACHATE, DI (Routine)	9Q	ORG FLAGS FOR INORG; STANDARD	PROT: O	WRK LOC	06
	XX	ZV	RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
	XX	C9	MCAW W 300.0A	Nitrate as N (300.0A, Ion Chromatography)	82	LEACHATE, DI (Routine)	9A	ORG FLAGS FOR INORG, FORMS	PROT: A	WRK LOC	06
	XX	WM	MCAW W 160.3 MOD	Moisture, Percent (160.3)	88	NO SAMPLE PREPARATION PERFORMED / DIRECT	01	STANDARD TEST SET	PROT: A	WRK LOC	06

SAMPLE # CLIENT SAMPLE ID Site ID Client Matrix DATE/TIME SAMPLED WORKORDER A

23 MD21-07-6795 2007-10-14 / 0 J8351 SOLID

SAMPLE COMMENTS:

	XX	9B	SW846 6850	6850, Perchlorate by LC/MS/MS	82	LEACHATE, DI (Routine)	9Q	ORG FLAGS FOR INORG; STANDARD	PROT: O	WRK LOC	06
	XX	ZV	RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
	XX	C9	MCAW W 300.0A	Nitrate as N (300.0A, Ion Chromatography)	82	LEACHATE, DI (Routine)	9A	ORG FLAGS FOR INORG, FORMS	PROT: A	WRK LOC	06
	XX	WM	MCAW W 160.3 MOD	Moisture, Percent (160.3)	88	NO SAMPLE PREPARATION PERFORMED / DIRECT	01	STANDARD TEST SET	PROT: A	WRK LOC	06

SAMPLE # CLIENT SAMPLE ID Site ID Client Matrix DATE/TIME SAMPLED WORKORDER A

24 MD21-07-6741 2007-10-14 / 0 J8353 SOLID

SAMPLE COMMENTS:

	XX	9B	SW846 6850	6850, Perchlorate by LC/MS/MS	82	LEACHATE, DI (Routine)	9Q	ORG FLAGS FOR INORG; STANDARD	PROT: O	WRK LOC	06
	XX	ZV	RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
	XX	C9	MCAW W 300.0A	Nitrate as N (300.0A, Ion Chromatography)	82	LEACHATE, DI (Routine)	9A	ORG FLAGS FOR INORG, FORMS	PROT: A	WRK LOC	06
	XX	WM	MCAW W 160.3 MOD	Moisture, Percent (160.3)	88	NO SAMPLE PREPARATION PERFORMED / DIRECT	01	STANDARD TEST SET	PROT: A	WRK LOC	06

SAMPLE # CLIENT SAMPLE ID Site ID Client Matrix DATE/TIME SAMPLED WORKORDER A

25 MD21-07-6793 2007-10-14 / 0 J8355 SOLID

SAMPLE COMMENTS:

	XX	9B	SW846 6850	6850, Perchlorate by LC/MS/MS	82	LEACHATE, DI (Routine)	9Q	ORG FLAGS FOR INORG; STANDARD	PROT: O	WRK LOC	06
	XX	ZV	RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
	XX	C9	MCAW W 300.0A	Nitrate as N (300.0A, Ion Chromatography)	82	LEACHATE, DI (Routine)	9A	ORG FLAGS FOR INORG, FORMS	PROT: A	WRK LOC	06
	XX	WM	MCAW W 160.3 MOD	Moisture, Percent (160.3)	88	NO SAMPLE PREPARATION PERFORMED / DIRECT	01	STANDARD TEST SET	PROT: A	WRK LOC	06

F7J160279 CLIENT ANALYSIS SUMMARY

Storage Loc: 3-117/119

Project Manager: MCF | Quote #: 75483 | SDG: F7J160279

Project: 08-68 | Los Alamos Non-Rad

PO#: 37954-001-06 | Report to: Joylene Valdez or Keith

Client: 108581 Los Alamos National Laboratory

RUSH

#SMPS in LOT: 38

Date Received: 2007-10-17
Analytical Due Date: 2007-10-18
Report Due Date: 2007-10-22
Report Type: D Expanded Deliverable
EDD Code: 99

Sample Receiving: LOS ALAMOS CLIENT REQUIREMENTS Enter COC NUMBER on sample sample header in the COC Field SDG = "Lot Number"
Project Name = "Request number" Perchlorates LC/MS/MS QC = MS and MSD ******** METALS AND WETCHEMISTRY ********** Can batch multiple Lots together and report Client specific Batch QC: Matrix Spike and Sample Duplicate Met Prep: GFAA Spike Level and Standard Spike Level**
Sb spike at 100 ppb Pb - Spike Solids at 100 ppb, spike Waters at 20 - Perform analytical spike when matrix spike is swamped with

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
26	MD21-07-6772			2007-10-14 / 0	J8356	SOLID

SAMPLE COMMENTS:

XX	9B	SW846	6850	6850, Perchlorate by LC/MS/MS	82	LEACHATE, DI (Routine)	9Q	ORG FLAGS FOR INORG; STANDARD	PROT: O	WRK LOC	06
XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	C9	MCAW W	300.0A	Nitrate as N (300.0A, Ion Chromatography)	82	LEACHATE, DI (Routine)	9A	ORG FLAGS FOR INORG, FORMS	PROT: A	WRK LOC	06
XX	WM	MCAW W	160.3 MOD	Moisture, Percent (160.3)	88	NO SAMPLE PREPARATION PERFORMED / DIRECT	01	STANDARD TEST SET	PROT: A	WRK LOC	06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
27	MD21-07-6768			2007-10-14 / 0	J8359	SOLID

SAMPLE COMMENTS:

XX	9B	SW846	6850	6850, Perchlorate by LC/MS/MS	82	LEACHATE, DI (Routine)	9Q	ORG FLAGS FOR INORG; STANDARD	PROT: O	WRK LOC	06
XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	C9	MCAW W	300.0A	Nitrate as N (300.0A, Ion Chromatography)	82	LEACHATE, DI (Routine)	9A	ORG FLAGS FOR INORG, FORMS	PROT: A	WRK LOC	06
XX	WM	MCAW W	160.3 MOD	Moisture, Percent (160.3)	88	NO SAMPLE PREPARATION PERFORMED / DIRECT	01	STANDARD TEST SET	PROT: A	WRK LOC	06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
28	MD21-07-6798			2007-10-13 / 0	J836A	SOLID

SAMPLE COMMENTS:

XX	9B	SW846	6850	6850, Perchlorate by LC/MS/MS	82	LEACHATE, DI (Routine)	9Q	ORG FLAGS FOR INORG; STANDARD	PROT: O	WRK LOC	06
XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	C9	MCAW W	300.0A	Nitrate as N (300.0A, Ion Chromatography)	82	LEACHATE, DI (Routine)	9A	ORG FLAGS FOR INORG, FORMS	PROT: A	WRK LOC	06
XX	WM	MCAW W	160.3 MOD	Moisture, Percent (160.3)	88	NO SAMPLE PREPARATION PERFORMED / DIRECT	01	STANDARD TEST SET	PROT: A	WRK LOC	06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
29	MD21-07-6740			2007-10-14 / 0	J836C	SOLID

SAMPLE COMMENTS:

XX	9B	SW846	6850	6850, Perchlorate by LC/MS/MS	82	LEACHATE, DI (Routine)	9Q	ORG FLAGS FOR INORG; STANDARD	PROT: O	WRK LOC	06
XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	C9	MCAW W	300.0A	Nitrate as N (300.0A, Ion Chromatography)	82	LEACHATE, DI (Routine)	9A	ORG FLAGS FOR INORG, FORMS	PROT: A	WRK LOC	06
XX	WM	MCAW W	160.3 MOD	Moisture, Percent (160.3)	88	NO SAMPLE PREPARATION PERFORMED / DIRECT	01	STANDARD TEST SET	PROT: A	WRK LOC	06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
30	MD21-07-6776			2007-10-13 / 0	J836D	SOLID

SAMPLE COMMENTS:

XX	9B	SW846	6850	6850, Perchlorate by LC/MS/MS	82	LEACHATE, DI (Routine)	9Q	ORG FLAGS FOR INORG; STANDARD	PROT: O	WRK LOC	06
XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	C9	MCAW W	300.0A	Nitrate as N (300.0A, Ion Chromatography)	82	LEACHATE, DI (Routine)	9A	ORG FLAGS FOR INORG, FORMS	PROT: A	WRK LOC	06
XX	WM	MCAW W	160.3 MOD	Moisture, Percent (160.3)	88	NO SAMPLE PREPARATION PERFORMED / DIRECT	01	STANDARD TEST SET	PROT: A	WRK LOC	06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A

F7J160279 CLIENT ANALYSIS SUMMARY

Storage Loc: 3-117/119

Project Manager: MCF Quote #: 75483 SDG: F7J160279

Date Received: 2007-10-17

Analytical Due Date: 2007-10-18

Project: 08-68 Los Alamos Non-Rad

PO#: 37954-001-06 Report to: Joylene Valdez or Keith

RUSH

Report Due Date: 2007-10-22

Report Type: D Expanded Deliverable

Client: 108581 Los Alamos National Laboratory

#SMPS in LOT: 38 EDD Code: 99

Sample Receiving: LOS ALAMOS CLIENT REQUIREMENTS Enter COC NUMBER on sample sample header in the COC Field SDG = "Lot Number"

Project Name = "Request number" Perchlorates LC/MS/MS QC = MS and MSD ******** METALS AND WETCHEMISTRY ********** **

Can batch multiple Lots together and report Client specific Batch QC: Matrix Spike and Sample Duplicate Met Prep: GFAA Spike Level and Standard Spike Level

Sb spike at 100 ppb Pb - Spike Solids at 100 ppb, spike Waters at 20 - Perform analytical spike when matrix spike is swamped with

31 MD21-07-6762 2007-10-13 / 0 J836E SOLID

SAMPLE COMMENTS:

XX	9B	SW846	6850	6850, Perchlorate by LC/MS/MS	82	LEACHATE, DI (Routine)	9Q	ORG FLAGS FOR INORG; STANDARD	PROT: O	WRK LOC	06
XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	C9	MCAW W	300.0A	Nitrate as N (300.0A, Ion Chromatography)	82	LEACHATE, DI (Routine)	9A	ORG FLAGS FOR INORG, FORMS	PROT: A	WRK LOC	06
XX	WM	MCAW W	160.3 MOD	Moisture, Percent (160.3)	88	NO SAMPLE PREPARATION PERFORMED / DIRECT	01	STANDARD TEST SET	PROT: A	WRK LOC	06

SAMPLE # CLIENT SAMPLE ID Site ID Client Matrix DATE/TIME SAMPLED WORKORDER A

32 MD21-07-6757 2007-10-13 / 0 J836F SOLID

SAMPLE COMMENTS:

XX	9B	SW846	6850	6850, Perchlorate by LC/MS/MS	82	LEACHATE, DI (Routine)	9Q	ORG FLAGS FOR INORG; STANDARD	PROT: O	WRK LOC	06
XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	C9	MCAW W	300.0A	Nitrate as N (300.0A, Ion Chromatography)	82	LEACHATE, DI (Routine)	9A	ORG FLAGS FOR INORG, FORMS	PROT: A	WRK LOC	06
XX	WM	MCAW W	160.3 MOD	Moisture, Percent (160.3)	88	NO SAMPLE PREPARATION PERFORMED / DIRECT	01	STANDARD TEST SET	PROT: A	WRK LOC	06

SAMPLE # CLIENT SAMPLE ID Site ID Client Matrix DATE/TIME SAMPLED WORKORDER A

33 MD21-07-6725 2007-10-14 / 0 J836G SOLID

SAMPLE COMMENTS:

XX	9B	SW846	6850	6850, Perchlorate by LC/MS/MS	82	LEACHATE, DI (Routine)	9Q	ORG FLAGS FOR INORG; STANDARD	PROT: O	WRK LOC	06
XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	C9	MCAW W	300.0A	Nitrate as N (300.0A, Ion Chromatography)	82	LEACHATE, DI (Routine)	9A	ORG FLAGS FOR INORG, FORMS	PROT: A	WRK LOC	06
XX	WM	MCAW W	160.3 MOD	Moisture, Percent (160.3)	88	NO SAMPLE PREPARATION PERFORMED / DIRECT	01	STANDARD TEST SET	PROT: A	WRK LOC	06

SAMPLE # CLIENT SAMPLE ID Site ID Client Matrix DATE/TIME SAMPLED WORKORDER A

34 MD21-07-6727 2007-10-14 / 0 J836H SOLID

SAMPLE COMMENTS:

XX	9B	SW846	6850	6850, Perchlorate by LC/MS/MS	82	LEACHATE, DI (Routine)	9Q	ORG FLAGS FOR INORG; STANDARD	PROT: O	WRK LOC	06
XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	C9	MCAW W	300.0A	Nitrate as N (300.0A, Ion Chromatography)	82	LEACHATE, DI (Routine)	9A	ORG FLAGS FOR INORG, FORMS	PROT: A	WRK LOC	06
XX	WM	MCAW W	160.3 MOD	Moisture, Percent (160.3)	88	NO SAMPLE PREPARATION PERFORMED / DIRECT	01	STANDARD TEST SET	PROT: A	WRK LOC	06

SAMPLE # CLIENT SAMPLE ID Site ID Client Matrix DATE/TIME SAMPLED WORKORDER I

35 MD21-07-6799 2007-10-14 / 0 J836J WATER

SAMPLE COMMENTS:

	XX	9B	SW846	6850	6850, Perchlorate by LC/MS/MS	88	NO SAMPLE PREPARATION PERFORMED / DIRECT	9Q	ORG FLAGS FOR INORG; STANDARD	PROT: O	WRK LOC	06
	XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
	XX	HN	MCAW W	353.1	Nitrate-Nitrite (353.1)	23	REDUCTION	9A	ORG FLAGS FOR INORG, FORMS	PROT: W	WRK LOC	06
D	XX	9B	SW846	6850	6850, Perchlorate by LC/MS/MS	88	NO SAMPLE PREPARATION PERFORMED / DIRECT	9Q	ORG FLAGS FOR INORG; STANDARD	PROT: O	WRK LOC	06
S	XX	9B	SW846	6850	6850, Perchlorate by LC/MS/MS	88	NO SAMPLE PREPARATION PERFORMED / DIRECT	9Q	ORG FLAGS FOR INORG; STANDARD	PROT: O	WRK LOC	06
S	XX	HN	MCAW W	353.1	Nitrate-Nitrite (353.1)	23	REDUCTION	9A	ORG FLAGS FOR INORG, FORMS	PROT: W	WRK LOC	06
X	XX	9B	SW846	6850	6850, Perchlorate by LC/MS/MS	88	NO SAMPLE PREPARATION PERFORMED / DIRECT	9Q	ORG FLAGS FOR INORG; STANDARD	PROT: O	WRK LOC	06

F7J160279 CLIENT ANALYSIS SUMMARY

Storage Loc: 3-117/119

Project Manager: MCF Quote #: 75483 SDG: F7J160279

Project: 08-68 Los Alamos Non-Rad

PO#: 37954-001-06 Report to: Joylene Valdez or Keith

Client: 108581 Los Alamos National Laboratory

RUSH

#SMPS in LOT: 38

Date Received: 2007-10-17

Analytical Due Date: 2007-10-18

Report Due Date: 2007-10-22

Report Type: D Expanded Deliverable

EDD Code: 99

Sample Receiving: LOS ALAMOS CLIENT REQUIREMENTS Enter COC NUMBER on sample sample header in the COC Field SDG = "Lot Number"

Project Name = "Request number" Perchlorates LC/MS/MS QC = MS and MSD ********** METALS AND WETCHEMISTRY **********

Can batch multiple Lots together and report Client specific Batch QC: Matrix Spike and Sample Duplicate Met Prep: GFAA Spike Level and Standard Spike Level

Sb spike at 100 ppb Pb - Spike Solids at 100 ppb, spike Waters at 20 - Perform analytical spike when matrix spike is swamped with

X	XX	HN	MCAW W	353.1	Nitrate-Nitrite (353.1)	23	REDUCTION	9A	ORG FLAGS FOR INORG, FORMS	PROT: W	WRK LOC	06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	I
36	MD21-07-6796			2007-10-14 / 0	J836M	WATER

SAMPLE COMMENTS:

XX	9B	SW846	6850	6850, Perchlorate by LC/MS/MS	88	NO SAMPLE PREPARATION PERFORMED / DIRECT	9Q	ORG FLAGS FOR INORG; STANDARD	PROT: O	WRK LOC	06
XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	HN	MCAW W	353.1	Nitrate-Nitrite (353.1)	23	REDUCTION	9A	ORG FLAGS FOR INORG, FORMS	PROT: W	WRK LOC	06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	A
37	MD21-07-7022			2007-10-14 / 0	J836T	SOLID

SAMPLE COMMENTS:

XX	9B	SW846	6850	6850, Perchlorate by LC/MS/MS	82	LEACHATE, DI (Routine)	9Q	ORG FLAGS FOR INORG; STANDARD	PROT: O	WRK LOC	06
XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	C9	MCAW W	300.0A	Nitrate as N (300.0A, Ion Chromatography)	82	LEACHATE, DI (Routine)	9A	ORG FLAGS FOR INORG, FORMS	PROT: A	WRK LOC	06
XX	WM	MCAW W	160.3 MOD	Moisture, Percent (160.3)	88	NO SAMPLE PREPARATION PERFORMED / DIRECT	01	STANDARD TEST SET	PROT: A	WRK LOC	06

SAMPLE #	CLIENT SAMPLE ID	Site ID	Client Matrix	DATE/TIME SAMPLED	WORKORDER	I
38	MD21-08-7053			2007-10-14 / 0	J836W	WATER

SAMPLE COMMENTS:

XX	9B	SW846	6850	6850, Perchlorate by LC/MS/MS	88	NO SAMPLE PREPARATION PERFORMED / DIRECT	9Q	ORG FLAGS FOR INORG; STANDARD	PROT: O	WRK LOC	06
XX	ZV		RAD SCREEN	RAD SCREEN	RA	IN-HOUSE RAD SCREEN	01	STANDARD TEST SET	PROT: A	WRK LOC	06
XX	HN	MCAW W	353.1	Nitrate-Nitrite (353.1)	23	REDUCTION	9A	ORG FLAGS FOR INORG, FORMS	PROT: W	WRK LOC	06

F7J160279

CLIENT COMMENTS SUMMARY

Storage Loc: 3-117/119

Date Received: 2007-10-17

Analytical Due Date: 2007-10-18

Report Due Date: 2007-10-22

Report Type: D Expanded Deliverable

EDD Code: 99

Project Manager: MCF Quote #: 75483 SDG: F7J160279

Project: 08-68 Los Alamos Non-Rad

PO#: 37954-001-06 Report to: Joylene Valdez or Keith

Client: 108581 Los Alamos National Laboratory

RUSH

#SMPS in LOT: 38

Sample Receiving: LOS ALAMOS CLIENT REQUIREMEN
Enter COC NUMBER on sample sample header in the COC Fi
SDG = "Lot Number"
Project Name = "Request number"
Perchlorates LC/MS/MS QC = MS and MSD
********** METALS AND WETCHEMISTRY **********
Can batch multiple Lots together and report Client specific
Batch QC: Matrix Spike and Sample Duplicate
Met Prep: GFAA Spike Level and Standard Spike Level
Sb spike at 100 ppb
Pb - Spike Solids at 100 ppb, spike Waters at 20
- Perform analytical spike when matrix spike is swamped with
indigenous analyte.
********** GC/MS ORGANICS **********
Can batch multiple Lots together and report Client specific
Batch QC MS and MSD
Clouseau observations for:
- Dilutions and elevated detection limits
- Unknown aldol condensate in TIC report
USE GPC for sample extracts as required.
Put client ID on all raw data
Client requires qualifiers
********** GC/HPLC **********
Can batch multiple Lots together and report Client specific
Batch QC
USE GPC for sample extracts as required.
Client requires Qualifiers for both GC and HPLC
- No averaging of CCV compounds
- Include Form Xs in data packages
********** Radiochemistry **********
Rad Chem with no tracers require MS (spk <= 100 pCi/L or g)
and sample duplicate ..... Gamma does not require MS.
Radium 228 requires MS and Sample Duplicate
Radiological: "Do not include control chart, standard certif
certificates, or calibration data as part of data package"
- Tracers need to be added at a level to yield at least 400
- Report 1 sigma uncertainty
Gross Alpha/Beta requires a total digestion.
Must use 2g for Sr90 to achieve lower MDA.

Tuesday, October 16, 2007

LAB CHAIN OF CUSTODY DOCUMENT NUMBER: 08-68C

REQUEST NUMBER: 08-68

LOS ALAMOS

NATIONAL LABORATORY

ATTN: Mike Franks

Severn Trent Laboraties, Inc., St. Louis

13715 Rider Trail N.

Earth City, MO 63045

TURNAROUND/REPORT DUE: 10/21/2007

TURNAROUND REQ'D: 5

LAB REQUEST COMMENTS: Need full level 4 data package.

SAMPLE ID	CTNR	CTNR DESC	ORDER	PRESERV	MATRIX
MD21-07-6797	1	250 ML POLY	Nitrate+Perchorate	Ice	S
MD21-07-6773	1	250 ML POLY	Nitrate+Perchorate	Ice	S
MD21-07-6786	1	250 ML POLY	Nitrate+Perchorate	Ice	S
MD21-07-6770	1	250 ML POLY	Nitrate+Perchorate	Ice	S
MD21-07-6726	1	250 ML POLY	Nitrate+Perchorate	Ice	S
MD21-07-6785	1	250 ML POLY	Nitrate+Perchorate	Ice	S
MD21-07-6732	1	250 ML POLY	Nitrate+Perchorate	Ice	S
MD21-07-6761	1	250 ML POLY	Nitrate+Perchorate	Ice	S
MD21-07-6756	1	250 ML POLY	Nitrate+Perchorate	Ice	S
MD21-07-6777	1	250 ML POLY	Nitrate+Perchorate	Ice	S
MD21-07-6775	1	250 ML POLY	Nitrate+Perchorate	Ice	S
MD21-07-6755	1	250 ML POLY	Nitrate+Perchorate	Ice	S
MD21-07-6771	1	250 ML POLY	Nitrate+Perchorate	Ice	S
MD21-07-6792	1	250 ML POLY	Nitrate+Perchorate	Ice	S
MD21-07-6783	1	250 ML POLY	Nitrate+Perchorate	Ice	S
MD21-07-6763	1	250 ML POLY	Nitrate+Perchorate	Ice	S
MD21-07-6742	1	250 ML POLY	Nitrate+Perchorate	Ice	S
MD21-07-6733	1	250 ML POLY	Nitrate+Perchorate	Ice	S
MD21-07-6784	1	250 ML POLY	Nitrate+Perchorate	Ice	S
MD21-07-6769	1	250 ML POLY	Nitrate+Perchorate	Ice	S
MD21-07-6754	1	250 ML POLY	Nitrate+Perchorate	Ice	S
MD21-07-6787	1	250 ML POLY	Nitrate+Perchorate	Ice	S
MD21-07-6795	1	250 ML POLY	Nitrate+Perchorate	Ice	S
MD21-07-6741	1	250 ML POLY	Nitrate+Perchorate	Ice	S
MD21-07-6793	1	250 ML POLY	Nitrate+Perchorate	Ice	S
MD21-07-6772	1	250 ML POLY	Nitrate+Perchorate	Ice	S
MD21-07-6768	1	250 ML POLY	Nitrate+Perchorate	Ice	S
MD21-07-6798	1	250 ML POLY	Nitrate+Perchorate	Ice	S
MD21-07-6740	1	250 ML POLY	Nitrate+Perchorate	Ice	S
MD21-07-6776	1	250 ML POLY	Nitrate+Perchorate	Ice	S
MD21-07-6762	1	250 ML POLY	Nitrate+Perchorate	Ice	S
MD21-07-6757	1	250 ML POLY	Nitrate+Perchorate	Ice	S

Tuesday, October 16, 2007

LAB CHAIN OF CUSTODY DOCUMENT NUMBER: 08-68C

SAMPLE ID	CTNR	CTNR DESC	ORDER	PRESERV	MATRIX
MD21-07-6725	1	250 ML POLY	Nitrate+Perchorate	Ice	S
MD21-07-6727	1	250 ML POLY	Nitrate+Perchorate	Ice	S
MD21-07-6799	1	250 ML POLY	NO3NO2	Sulfuric Acid (Hydrogen Sulfate)	W
MD21-07-6799	1	250 ML POLY	SW-846:6850	Ice	W
MD21-07-6796	1	250 ML POLY	NO3NO2	Sulfuric Acid (Hydrogen Sulfate)	W
MD21-07-6796	1	250 ML POLY	SW-846:6850	Ice	W
MD21-07-7022	1	250 ML POLY	Nitrate+Perchorate	Ice	S
MD21-08-7053	1	250 ML POLY	NO3NO2	Sulfuric Acid (Hydrogen Sulfate)	W
MD21-08-7053	1	250 ML POLY	SW-846:6850	Ice	W

Relinquished By:		Date	Time	Received By:		Date	Time
[illegible]	[illegible]	10/16/07	1400	Brian Daniels	[illegible]	10/17/07	0900
Printed Name	Signature			Printed Name	Signature		
Printed Name	Signature			Printed Name	Signature		
Printed Name	Signature			Printed Name	Signature		

Received for DISPOSAL By:		Date	Time	Remarks:
Printed Name	Signature			

Tuesday, October 16, 2007

REQUEST NUMBER: 08-68

LOS ALAMOS
NATIONAL LABORATORY

ATTN: Mike Franks
Severn Trent Laboraties, Inc., St. Louis
13715 Rider Trail N.
Earth City, MO 63045

These Samples are on:
LANL Request Number:08-68
Per Agreement Number:126310021
Project Cost Code: MR8R0225FB00

Please analyse the enclosed samples according to the schedule indicated:

SHIP DATE: 10/16/2007
TURNAROUND/REPORT DUE: 10/21/2007
TURNAROUND REQ'D: 5 Days

RAD SCREENING: Not Required
LAB REQUEST COMMENTS: Need full level 4 data package.

LANL ER SMO CONTACT:
Signature:

PRIORITY	METHOD CODE	CNTNR	SAMPLE ID	SAMPLE MATRIX	DATE SAMPLED	SAMPLE COMMENTS	SPECIAL INSTRUCTIONS
	EPA:300.0	1	MD21-07-6725	S	10/14/2007		
		1	MD21-07-6726	S	10/14/2007		
		1	MD21-07-6727	S	10/14/2007		
		1	MD21-07-6732	S	10/14/2007		
		1	MD21-07-6733	S	10/14/2007		
		1	MD21-07-6740	S	10/14/2007		
		1	MD21-07-6741	S	10/14/2007		
		1	MD21-07-6742	S	10/14/2007		
		1	MD21-07-6754	S	10/13/2007		

Tuesday, October 16, 2007

REQUEST NUMBER: 08-68

PRIORITY	METHOD CODE	CNTNR	SAMPLE ID	SAMPLE MATRIX	DATE SAMPLED	SAMPLE COMMENTS	SPECIAL INSTRUCTIONS
	EPA:300.0	1	MD21-07-6755	S	10/13/2007		
		1	MD21-07-6756	S	10/13/2007		
		1	MD21-07-6757	S	10/13/2007		
		1	MD21-07-6761	S	10/13/2007		
		1	MD21-07-6762	S	10/13/2007		
		1	MD21-07-6763	S	10/13/2007		
		1	MD21-07-6768	S	10/14/2007		
		1	MD21-07-6769	S	10/14/2007		
		1	MD21-07-6770	S	10/14/2007		
		1	MD21-07-6771	S	10/14/2007		
		1	MD21-07-6772	S	10/14/2007		
		1	MD21-07-6773	S	10/14/2007		
		1	MD21-07-6775	S	10/13/2007		
		1	MD21-07-6776	S	10/13/2007		
		1	MD21-07-6777	S	10/13/2007		
		1	MD21-07-6783	S	10/14/2007		
		1	MD21-07-6784	S	10/14/2007		
		1	MD21-07-6785	S	10/14/2007		
		1	MD21-07-6786	S	10/14/2007		
		1	MD21-07-6787	S	10/14/2007		
		1	MD21-07-6792	S	10/14/2007		
		1	MD21-07-6793	S	10/14/2007		
		1	MD21-07-6795	S	10/14/2007		
		1	MD21-07-6797	S	10/14/2007		
		1	MD21-07-6798	S	10/13/2007		
		1	MD21-07-7022	S	10/14/2007		
	EPA:353.1	1	MD21-07-6796	W	10/14/2007		
		1	MD21-07-6799	W	10/14/2007		

Tuesday, October 16, 2007

REQUEST NUMBER: 08-68

PRIORITY	METHOD CODE	CNTNR	SAMPLE ID	SAMPLE MATRIX	DATE SAMPLED	SAMPLE COMMENTS	SPECIAL INSTRUCTIONS
	EPA:353.1	1	MD21-08-7053	W	10/14/2007		
	SW-846:6850	1	MD21-07-6725	S	10/14/2007		
		1	MD21-07-6726	S	10/14/2007		
		1	MD21-07-6727	S	10/14/2007		
		1	MD21-07-6732	S	10/14/2007		
		1	MD21-07-6733	S	10/14/2007		
		1	MD21-07-6740	S	10/14/2007		
		1	MD21-07-6741	S	10/14/2007		
		1	MD21-07-6742	S	10/14/2007		
		1	MD21-07-6754	S	10/13/2007		
		1	MD21-07-6755	S	10/13/2007		
		1	MD21-07-6756	S	10/13/2007		
		1	MD21-07-6757	S	10/13/2007		
		1	MD21-07-6761	S	10/13/2007		
		1	MD21-07-6762	S	10/13/2007		
		1	MD21-07-6763	S	10/13/2007		
		1	MD21-07-6768	S	10/14/2007		
		1	MD21-07-6769	S	10/14/2007		
		1	MD21-07-6770	S	10/14/2007		
		1	MD21-07-6771	S	10/14/2007		
		1	MD21-07-6772	S	10/14/2007		
		1	MD21-07-6773	S	10/14/2007		
		1	MD21-07-6775	S	10/13/2007		
		1	MD21-07-6776	S	10/13/2007		
		1	MD21-07-6777	S	10/13/2007		
		1	MD21-07-6783	S	10/14/2007		
		1	MD21-07-6784	S	10/14/2007		
		1	MD21-07-6785	S	10/14/2007		

Tuesday, October 16, 2007

REQUEST NUMBER: 08-68

PRIORITY	METHOD CODE	CNTNR	SAMPLE ID	SAMPLE MATRIX	DATE SAMPLED	SAMPLE COMMENTS	SPECIAL INSTRUCTIONS
	SW-846:6850	1	MD21-07-6786	S	10/14/2007		
		1	MD21-07-6787	S	10/14/2007		
		1	MD21-07-6792	S	10/14/2007		
		1	MD21-07-6793	S	10/14/2007		
		1	MD21-07-6795	S	10/14/2007		
		1	MD21-07-6796	W	10/14/2007		
		1	MD21-07-6797	S	10/14/2007		
		1	MD21-07-6798	S	10/13/2007		
		1	MD21-07-6799	W	10/14/2007		
		1	MD21-07-7022	S	10/14/2007		
		1	MD21-08-7053	W	10/14/2007		

Final Page of REQUEST NUMBER 08-68

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Lot #(s): F7J160279

- 718 -

Condition Upon Receipt Form

Client: LANL
Quote No: 75483
COC/RFA No: 08-68C
Initiated By: BO
Date: 10/17/07
Time: 0900

Shipping Information

Shipper Name: FE
Shipping # (s):*
1. 7209 7843 0095
2.
3.
4.
5.
6.
7.
8.
9.
10.

Multiple Packages Y (N)
Sample Temperature (s):**
1. 5
2.
3.
4.
5.
6.
7.
8.
9.
10.

*Numbered shipping lines correspond to Numbered Sample Temp lines

**Sample must be received at 4°C ± 2°C- If not, note contents below. Temperature variance does NOT affect the following: Metals-Liquid or Rad tests- Liquid or Solids

Condition (Circle "Y" for yes, "N" for no and "N/A" for not applicable):

1.	(Y) N	Are there custody seals present on the cooler?	8.	(Y) N	Are there custody seals present on bottles?
2.	Y (N) N/A	Do custody seals on cooler appear to be tampered with?	9.	Y (N) N/A	Do custody seals on bottles appear to be tampered with?
3.	(Y) N	Were contents of cooler frisked after opening, but before unpacking?	10.	(Y) N N/A	Was sample received with proper pH[1]? (If not, make note below)
4.	(Y) N	Sample received with Chain of Custody?	11.	Y N	If N/A- Was pH taken by original TestAmerica lab?
5.	(Y) N N/A	Does the Chain of Custody match sample ID's on the container(s)?	12.	(Y) N	Sample received in proper containers?
6.	Y (N)	Was sample received broken?	13.	Y N (N/A)	Headspace in VOA or TOX liquid samples? (If Yes, note sample ID's below)
7.	(Y) N	Is sample volume sufficient for analysis?	14.	Y N	Was Internal COC/Workshare received?

[1] For DOE-AL (Pantex, LANL, Sandia) sites, pH of ALL containers received must be verified, EXCEPT VOA, TOX and soils.

Notes:

Corrective Action:
- ☐ Client Contact Name: _____ Informed by: _____
- ☐ Sample(s) processed "as is"
- ☐ Sample(s) on hold until: _____ If released, notify: _____

Project Management Review: [signature] Date: 10-17-06 718

THIS FORM MUST BE COMPLETED AT THE TIME THE ITEMS ARE BEING CHECKED IN. IF ANY ITEM IS COMPLETED BY SOMEONE OTHER THAN THE INITIATOR, THEN THAT PERSON IS REQUIRED TO APPLY THEIR INITIAL AND THE DATE NEXT TO THAT ITEM.

METHODS SUMMARY

F7J160279

PARAMETER	ANALYTICAL METHOD	PREPARATION METHOD
Nitrate as N	MCAWW 300.0A	MCAWW 300.0A
Nitrate-Nitrite	MCAWW 353.1	
Percent Moisture	MCAWW 160.3 MOD	MCAWW 160.3 MOD
Perchlorate by 6850	SW846 6850	

References:

MCAWW "Methods for Chemical Analysis of Water and Wastes", EPA-600/4-79-020, March 1983 and subsequent revisions.

SW846 "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 and its updates.

SAMPLE SUMMARY

F7J160279

WO #	SAMPLE#	CLIENT SAMPLE ID	SAMPLED DATE	SAMP TIME
J83XG	001	MD21-07-6797	10/14/07	
J8337	002	MD21-07-6773	10/14/07	
J834C	003	MD21-07-6786	10/14/07	
J834F	004	MD21-07-6770	10/14/07	
J834H	005	MD21-07-6726	10/14/07	
J834L	006	MD21-07-6785	10/14/07	
J834M	007	MD21-07-6732	10/14/07	
J834N	008	MD21-07-6761	10/13/07	
J834P	009	MD21-07-6756	10/13/07	
J834Q	010	MD21-07-6777	10/13/07	
J834V	011	MD21-07-6775	10/13/07	
J834W	012	MD21-07-6755	10/13/07	
J834X	013	MD21-07-6771	10/14/07	
J8340	014	MD21-07-6792	10/14/07	
J8344	015	MD21-07-6783	10/14/07	
J8348	016	MD21-07-6763	10/13/07	
J835A	017	MD21-07-6742	10/14/07	
J835E	018	MD21-07-6733	10/14/07	
J835J	019	MD21-07-6784	10/14/07	
J835N	020	MD21-07-6769	10/14/07	
J835Q	021	MD21-07-6754	10/13/07	
J835W	022	MD21-07-6787	10/14/07	
J8351	023	MD21-07-6795	10/14/07	
J8353	024	MD21-07-6741	10/14/07	
J8355	025	MD21-07-6793	10/14/07	
J8356	026	MD21-07-6772	10/14/07	
J8359	027	MD21-07-6768	10/14/07	
J836A	028	MD21-07-6798	10/13/07	
J836C	029	MD21-07-6740	10/14/07	
J836D	030	MD21-07-6776	10/13/07	
J836E	031	MD21-07-6762	10/13/07	
J836F	032	MD21-07-6757	10/13/07	
J836G	033	MD21-07-6725	10/14/07	
J836H	034	MD21-07-6727	10/14/07	
J836J	035	MD21-07-6799	10/14/07	
J836M	036	MD21-07-6796	10/14/07	

(Continued on next page)

SAMPLE SUMMARY

F7J160279

WO #	SAMPLE#	CLIENT SAMPLE ID	SAMPLED DATE	SAMP TIME
J836T	037	MD21-07-7022	10/14/07	
J836W	038	MD21-08-7053	10/14/07	

NOTE(S):

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

QC DATA ASSOCIATION SUMMARY

F7J160279

Sample Preparation and Analysis Control Numbers

SAMPLE#	MATRIX	ANALYTICAL METHOD	LEACH BATCH #	PREP BATCH #	MS RUN#
001	SOLID	MCAWW 300.0A		7291371	7291289
	SOLID	MCAWW 160.3 MOD		7291612	
	SOLID	SW846 6850		7290152	7290118
002	SOLID	MCAWW 300.0A		7291371	7291289
	SOLID	MCAWW 160.3 MOD		7291612	
	SOLID	SW846 6850		7290152	7290118
003	SOLID	MCAWW 300.0A		7291371	7291289
	SOLID	MCAWW 160.3 MOD		7291612	
	SOLID	SW846 6850		7290152	7290118
004	SOLID	MCAWW 300.0A		7291371	7291289
	SOLID	MCAWW 160.3 MOD		7291612	
	SOLID	SW846 6850		7290152	7290118
005	SOLID	MCAWW 300.0A		7291371	7291289
	SOLID	MCAWW 160.3 MOD		7291612	
	SOLID	SW846 6850		7290152	7290118
006	SOLID	MCAWW 300.0A		7291371	7291289
	SOLID	MCAWW 160.3 MOD		7291612	
	SOLID	SW846 6850		7290152	7290118
007	SOLID	MCAWW 300.0A		7291371	7291289
	SOLID	MCAWW 160.3 MOD		7291612	
	SOLID	SW846 6850		7290152	7290118
008	SOLID	MCAWW 300.0A		7291371	7291289
	SOLID	MCAWW 160.3 MOD		7291612	
	SOLID	SW846 6850		7290152	7290118
009	SOLID	MCAWW 300.0A		7291371	7291289
	SOLID	MCAWW 160.3 MOD		7291612	
	SOLID	SW846 6850		7290152	7290118
010	SOLID	MCAWW 300.0A		7291371	7291289
	SOLID	MCAWW 160.3 MOD		7291612	
	SOLID	SW846 6850		7290152	7290118
011	SOLID	MCAWW 300.0A		7291371	7291289
	SOLID	MCAWW 160.3 MOD		7291612	
	SOLID	SW846 6850		7290152	7290118

(Continued on next page)

QC DATA ASSOCIATION SUMMARY

F7J160279

Sample Preparation and Analysis Control Numbers

SAMPLE#	MATRIX	ANALYTICAL METHOD	LEACH BATCH #	PREP BATCH #	MS RUN#
012	SOLID	MCAWW 300.0A		7291371	7291289
	SOLID	MCAWW 160.3 MOD		7291612	
	SOLID	SW846 6850		7290152	7290118
013	SOLID	MCAWW 300.0A		7291371	7291289
	SOLID	MCAWW 160.3 MOD		7291612	
	SOLID	SW846 6850		7290152	7290118
014	SOLID	MCAWW 300.0A		7291371	7291289
	SOLID	MCAWW 160.3 MOD		7291612	
	SOLID	SW846 6850		7290152	7290118
015	SOLID	MCAWW 300.0A		7291373	7291290
	SOLID	MCAWW 160.3 MOD		7291605	
	SOLID	SW846 6850		7290152	7290118
016	SOLID	MCAWW 300.0A		7291371	7291289
	SOLID	MCAWW 160.3 MOD		7291612	
	SOLID	SW846 6850		7290152	7290118
017	SOLID	MCAWW 300.0A		7291373	7291290
	SOLID	MCAWW 160.3 MOD		7291605	
	SOLID	SW846 6850		7290152	7290118
018	SOLID	MCAWW 300.0A		7291373	7291290
	SOLID	MCAWW 160.3 MOD		7291605	
	SOLID	SW846 6850		7290152	7290118
019	SOLID	MCAWW 300.0A		7291373	7291290
	SOLID	MCAWW 160.3 MOD		7291605	
	SOLID	SW846 6850		7290152	7290118
020	SOLID	MCAWW 300.0A		7291373	7291290
	SOLID	MCAWW 160.3 MOD		7291605	
	SOLID	SW846 6850		7290152	7290118
021	SOLID	MCAWW 300.0A		7291371	7291289
	SOLID	MCAWW 160.3 MOD		7291612	
	SOLID	SW846 6850		7290155	7290119
022	SOLID	MCAWW 300.0A		7291373	7291290
	SOLID	MCAWW 160.3 MOD		7291605	
	SOLID	SW846 6850		7290155	7290119

(Continued on next page)

QC DATA ASSOCIATION SUMMARY

F7J160279

Sample Preparation and Analysis Control Numbers

SAMPLE#	MATRIX	ANALYTICAL METHOD	LEACH BATCH #	PREP BATCH #	MS RUN#
023	SOLID	MCAWW 300.0A		7291373	7291290
	SOLID	MCAWW 160.3 MOD		7291605	
	SOLID	SW846 6850		7290155	7290119
024	SOLID	MCAWW 300.0A		7291373	7291290
	SOLID	MCAWW 160.3 MOD		7291605	
	SOLID	SW846 6850		7290155	7290119
025	SOLID	MCAWW 300.0A		7291373	7291290
	SOLID	MCAWW 160.3 MOD		7291605	
	SOLID	SW846 6850		7290155	7290119
026	SOLID	MCAWW 300.0A		7291373	7291290
	SOLID	MCAWW 160.3 MOD		7291605	
	SOLID	SW846 6850		7290155	7290119
027	SOLID	MCAWW 300.0A		7291373	7291290
	SOLID	MCAWW 160.3 MOD		7291605	
	SOLID	SW846 6850		7290155	7290119
028	SOLID	MCAWW 300.0A		7291371	7291289
	SOLID	MCAWW 160.3 MOD		7291612	
	SOLID	SW846 6850		7290155	7290119
029	SOLID	MCAWW 300.0A		7291373	7291290
	SOLID	MCAWW 160.3 MOD		7291605	
	SOLID	SW846 6850		7290155	7290119
030	SOLID	MCAWW 300.0A		7291371	7291289
	SOLID	MCAWW 160.3 MOD		7291612	
	SOLID	SW846 6850		7290155	7290119
031	SOLID	MCAWW 300.0A		7291371	7291289
	SOLID	MCAWW 160.3 MOD		7291612	
	SOLID	SW846 6850		7290155	7290119
032	SOLID	MCAWW 300.0A		7291371	7291289
	SOLID	MCAWW 160.3 MOD		7291612	
	SOLID	SW846 6850		7290155	7290119
033	SOLID	MCAWW 300.0A		7291373	7291290
	SOLID	MCAWW 160.3 MOD		7291605	
	SOLID	SW846 6850		7290155	7290119

(Continued on next page)

QC DATA ASSOCIATION SUMMARY

F7J160279

Sample Preparation and Analysis Control Numbers

SAMPLE#	MATRIX	ANALYTICAL METHOD	LEACH BATCH #	PREP BATCH #	MS RUN#
034	SOLID	MCAWW 300.0A		7291373	7291290
	SOLID	MCAWW 160.3 MOD		7291605	
	SOLID	SW846 6850		7290155	7290119
035	WATER	MCAWW 353.1		7290365	7290253
	WATER	SW846 6850		7290361	7290245
036	WATER	MCAWW 353.1		7290365	7290253
	WATER	SW846 6850		7290361	7290245
037	SOLID	MCAWW 300.0A		7291373	7291290
	SOLID	MCAWW 160.3 MOD		7291605	
	SOLID	SW846 6850		7290155	7290119
038	WATER	MCAWW 353.1		7290365	7290253
	WATER	SW846 6850		7290361	7290245

Los Alamos National Laboratory

Client Sample ID: MD21-07-6797

HPLC - Mass. Spec.

Lot-Sample #...: F7J160279-001 **Work Order #...:** J83XG1AD **Matrix.....:** SOLID
Date Sampled...: 10/14/07 **Date Received..:** 10/17/07
Prep Date.....: 10/17/07 **Analysis Date..:** 10/17/07
Prep Batch #...: 7290152 **Analysis Time..:** 18:54
Dilution Factor: 1
% Moisture.....: 4.2 **Method.....:** SW846 6850

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Perchlorate	ND	5.2	ug/kg

NOTE(S):

Results or reporting limits flagged with a ** have not been corrected for dry weight.

Los Alamos National Laboratory

Client Sample ID: MD21-07-6797

General Chemistry

Lot-Sample #...: F7J160279-001 **Work Order #...:** J83XG **Matrix.....:** SOLID
Date Sampled...: 10/14/07 **Date Received..:** 10/17/07
% Moisture.....: 4.2

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Nitrate	ND	0.21	mg/kg	MCAWW 300.0A	10/17-10/18/07	7291371
		Dilution Factor: 1		Analysis Time..: 08:05		
Percent Moisture	**4.2**	**0.10**	**%**	**MCAWW 160.3 MOD**	**10/17-10/18/07**	**7291612**
		Dilution Factor: 1		Analysis Time..: 00:00		

NOTE(S):

RL Reporting Limit

Results and reporting limits have been adjusted for dry weight.

Los Alamos National Laboratory

Client Sample ID: MD21-07-6773

HPLC - Mass. Spec.

Lot-Sample #...: F7J160279-002 **Work Order #...:** J83371AD **Matrix.....:** SOLID
Date Sampled...: 10/14/07 **Date Received..:** 10/17/07
Prep Date.....: 10/17/07 **Analysis Date..:** 10/17/07
Prep Batch #...: 7290152 **Analysis Time..:** 19:28
Dilution Factor: 1
% Moisture.....: 2.9 **Method.....:** SW846 6850

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Perchlorate	ND	5.2	ug/kg

NOTE(S):

Results or reporting limits flagged with a ** have not been corrected for dry weight.

Los Alamos National Laboratory

Client Sample ID: MD21-07-6773

General Chemistry

Lot-Sample #...: F7J160279-002 **Work Order #...:** J8337 **Matrix.....:** SOLID
Date Sampled...: 10/14/07 **Date Received..:** 10/17/07
% Moisture.....: 2.9

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Nitrate	ND	0.21	mg/kg	MCAWW 300.0A	10/17-10/18/07	7291371
		Dilution Factor: 1		Analysis Time..: 08:16		
Percent Moisture	**2.9**	**0.10**	**%**	**MCAWW 160.3 MOD**	**10/17-10/18/07**	**7291612**
		Dilution Factor: 1		Analysis Time..: 00:00		

NOTE(S):

RL Reporting Limit

Results and reporting limits have been adjusted for dry weight.

Los Alamos National Laboratory

Client Sample ID: MD21-07-6786

HPLC - Mass. Spec.

Lot-Sample #...: F7J160279-003 **Work Order #...:** J834C1AD **Matrix.....:** SOLID
Date Sampled...: 10/14/07 **Date Received..:** 10/17/07
Prep Date.....: 10/17/07 **Analysis Date..:** 10/17/07
Prep Batch #...: 7290152 **Analysis Time..:** 19:37
Dilution Factor: 1
% Moisture.....: 2.3 **Method.....:** SW846 6850

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Perchlorate	ND	5.1	ug/kg

NOTE(S):

Results or reporting limits flagged with a ** have not been corrected for dry weight.

Los Alamos National Laboratory

Client Sample ID: MD21-07-6786

General Chemistry

Lot-Sample #...: F7J160279-003 **Work Order #...:** J834C **Matrix.....:** SOLID
Date Sampled...: 10/14/07 **Date Received..:** 10/17/07
% Moisture.....: 2.3

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Nitrate	ND	0.20	mg/kg	MCAWW 300.0A	10/17-10/18/07	7291371
		Dilution Factor: 1		Analysis Time..: 08:28		
Percent Moisture	**2.3**	**0.10**	**%**	**MCAWW 160.3 MOD**	**10/17-10/18/07**	**7291612**
		Dilution Factor: 1		Analysis Time..: 00:00		

NOTE(S):

RL Reporting Limit

Results and reporting limits have been adjusted for dry weight.

Los Alamos National Laboratory

Client Sample ID: MD21-07-6770

HPLC - Mass. Spec.

Lot-Sample #...: F7J160279-004 **Work Order #...:** J834F1AD **Matrix.....:** SOLID
Date Sampled...: 10/14/07 **Date Received..:** 10/17/07
Prep Date.....: 10/17/07 **Analysis Date..:** 10/17/07
Prep Batch #...: 7290152 **Analysis Time..:** 19:46
Dilution Factor: 1
% Moisture.....: 2.7 **Method.....:** SW846 6850

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Perchlorate	ND	5.1	ug/kg

NOTE(S):

Results or reporting limits flagged with a ** have not been corrected for dry weight.

Los Alamos National Laboratory

Client Sample ID: MD21-07-6770

General Chemistry

Lot-Sample #...: F7J160279-004 **Work Order #...:** J834F **Matrix.....:** SOLID
Date Sampled...: 10/14/07 **Date Received..:** 10/17/07
% Moisture.....: 2.7

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Nitrate	ND	0.21	mg/kg	MCAWW 300.0A	10/17-10/18/07	7291371
		Dilution Factor: 1		Analysis Time..: 08:39		
Percent Moisture	**2.7**	**0.10**	**%**	**MCAWW 160.3 MOD**	**10/17-10/18/07**	**7291612**
		Dilution Factor: 1		Analysis Time..: 00:00		

NOTE(S):

RL Reporting Limit

Results and reporting limits have been adjusted for dry weight.

Los Alamos National Laboratory

Client Sample ID: MD21-07-6726

HPLC - Mass. Spec.

Lot-Sample #...: F7J160279-005 **Work Order #...:** J834H1AD **Matrix.....:** SOLID
Date Sampled...: 10/14/07 **Date Received..:** 10/17/07
Prep Date.....: 10/17/07 **Analysis Date..:** 10/17/07
Prep Batch #...: 7290152 **Analysis Time..:** 19:54
Dilution Factor: 1
% Moisture.....: 12 **Method.....:** SW846 6850

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Perchlorate	ND	5.7	ug/kg

NOTE(S):

Results or reporting limits flagged with a ** have not been corrected for dry weight.

Los Alamos National Laboratory

Client Sample ID: MD21-07-6726

General Chemistry

Lot-Sample #...: F7J160279-005 **Work Order #...:** J834H **Matrix.....:** SOLID
Date Sampled...: 10/14/07 **Date Received..:** 10/17/07
% Moisture.....: 12

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Nitrate	ND	0.23	mg/kg	MCAWW 300.0A	10/17-10/18/07	7291371
		Dilution Factor: 1		Analysis Time..: 08:51		
Percent Moisture	**12.1**	**0.10**	**%**	**MCAWW 160.3 MOD**	**10/17-10/18/07**	**7291612**
		Dilution Factor: 1		Analysis Time..: 00:00		

NOTE(S):

RL Reporting Limit

Results and reporting limits have been adjusted for dry weight.

Los Alamos National Laboratory

Client Sample ID: MD21-07-6785

HPLC - Mass. Spec.

Lot-Sample #...:	F7J160279-006	**Work Order #...:**	J834L1AD	**Matrix.....:**	SOLID
Date Sampled...:	10/14/07	**Date Received..:**	10/17/07		
Prep Date.....:	10/17/07	**Analysis Date..:**	10/17/07		
Prep Batch #...:	7290152	**Analysis Time..:**	20:03		
Dilution Factor:	1				
% Moisture.....:	10	**Method.....:**	SW846 6850		

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Perchlorate	ND	5.6	ug/kg

NOTE(S):

Results or reporting limits flagged with a ** have not been corrected for dry weight.

Los Alamos National Laboratory

Client Sample ID: MD21-07-6785

General Chemistry

Lot-Sample #...: F7J160279-006 **Work Order #...:** J834L **Matrix.....:** SOLID
Date Sampled...: 10/14/07 **Date Received..:** 10/17/07
% Moisture.....: 10

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Nitrate	**0.18 J**	**0.22**	**mg/kg**	**MCAWW 300.0A**	**10/17-10/18/07**	**7291371**
		Dilution Factor: 1		Analysis Time..: 09:02		
Percent Moisture	**10.1**	**0.10**	**%**	**MCAWW 160.3 MOD**	**10/17-10/18/07**	**7291612**
		Dilution Factor: 1		Analysis Time..: 00:00		

NOTE(S):

RL Reporting Limit

Results and reporting limits have been adjusted for dry weight.

J Estimated result. Result is less than RL.

Los Alamos National Laboratory

Client Sample ID: MD21-07-6732

HPLC - Mass. Spec.

Lot-Sample #...: F7J160279-007 **Work Order #...:** J834M1AD **Matrix.....:** SOLID
Date Sampled...: 10/14/07 **Date Received..:** 10/17/07
Prep Date.....: 10/17/07 **Analysis Date..:** 10/17/07
Prep Batch #...: 7290152 **Analysis Time..:** 20:12
Dilution Factor: 1
% Moisture.....: 3.0 **Method.....:** SW846 6850

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Perchlorate	ND	5.2	ug/kg

NOTE(S):

Results or reporting limits flagged with a ** have not been corrected for dry weight.

Los Alamos National Laboratory

Client Sample ID: MD21-07-6732

General Chemistry

Lot-Sample #...: F7J160279-007 **Work Order #...:** J834M **Matrix.....:** SOLID
Date Sampled...: 10/14/07 **Date Received..:** 10/17/07
% Moisture.....: 3.0

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Nitrate	ND	0.21	mg/kg	MCAWW 300.0A	10/17-10/18/07	7291371
		Dilution Factor: 1		Analysis Time..: 09:13		
Percent Moisture	**3.0**	**0.10**	**%**	**MCAWW 160.3 MOD**	**10/17-10/18/07**	**7291612**
		Dilution Factor: 1		Analysis Time..: 00:00		

NOTE(S):

RL Reporting Limit

Results and reporting limits have been adjusted for dry weight.

Los Alamos National Laboratory

Client Sample ID: MD21-07-6761

HPLC - Mass. Spec.

Lot-Sample #...: F7J160279-008 **Work Order #...:** J834N1AD **Matrix.....:** SOLID
Date Sampled...: 10/13/07 **Date Received..:** 10/17/07
Prep Date.....: 10/17/07 **Analysis Date..:** 10/17/07
Prep Batch #...: 7290152 **Analysis Time..:** 20:55
Dilution Factor: 1
% Moisture.....: 9.5 **Method.....:** SW846 6850

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Perchlorate	ND	5.5	ug/kg

NOTE(S):

Results or reporting limits flagged with a ** have not been corrected for dry weight.

Los Alamos National Laboratory

Client Sample ID: MD21-07-6761

General Chemistry

Lot-Sample #...: F7J160279-008 **Work Order #...:** J834N **Matrix.....:** SOLID
Date Sampled...: 10/13/07 **Date Received..:** 10/17/07
% Moisture.....: 9.5

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Nitrate	ND	0.22	mg/kg	MCAWW 300.0A	10/17-10/18/07	7291371
		Dilution Factor: 1		Analysis Time..: 05:14		
Percent Moisture	**9.5**	**0.10**	**%**	**MCAWW 160.3 MOD**	**10/17-10/18/07**	**7291612**
		Dilution Factor: 1		Analysis Time..: 00:00		

NOTE(S):

RL Reporting Limit

Results and reporting limits have been adjusted for dry weight.

Los Alamos National Laboratory

Client Sample ID: MD21-07-6756

HPLC - Mass. Spec.

Lot-Sample #...: F7J160279-009 **Work Order #...:** J834P1AD **Matrix.....:** SOLID
Date Sampled...: 10/13/07 **Date Received..:** 10/17/07
Prep Date.....: 10/17/07 **Analysis Date..:** 10/17/07
Prep Batch #...: 7290152 **Analysis Time..:** 21:03
Dilution Factor: 1
% Moisture.....: 14 **Method.....:** SW846 6850

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Perchlorate	ND	5.8	ug/kg

NOTE(S):

Results or reporting limits flagged with a ** have not been corrected for dry weight.

Los Alamos National Laboratory

Client Sample ID: MD21-07-6756

General Chemistry

Lot-Sample #...: F7J160279-009 **Work Order #...:** J834P **Matrix.....:** SOLID
Date Sampled...: 10/13/07 **Date Received..:** 10/17/07
% Moisture.....: 14

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Nitrate	ND	0.23	mg/kg	MCAWW 300.0A	10/17-10/18/07	7291371
		Dilution Factor: 1		Analysis Time..: 05:48		
Percent Moisture	**14.4**	**0.10**	**%**	**MCAWW 160.3 MOD**	**10/17-10/18/07**	**7291612**
		Dilution Factor: 1		Analysis Time..: 00:00		

NOTE(S):

RL Reporting Limit

Results and reporting limits have been adjusted for dry weight.

Los Alamos National Laboratory

Client Sample ID: MD21-07-6777

HPLC - Mass. Spec.

Lot-Sample #...: F7J160279-010 **Work Order #...:** J834Q1AD **Matrix.....:** SOLID
Date Sampled...: 10/13/07 **Date Received..:** 10/17/07
Prep Date.....: 10/17/07 **Analysis Date..:** 10/17/07
Prep Batch #...: 7290152 **Analysis Time..:** 21:12
Dilution Factor: 1
% Moisture.....: 6.5 **Method.....:** SW846 6850

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Perchlorate	ND	5.3	ug/kg

NOTE(S):

Results or reporting limits flagged with a ** have not been corrected for dry weight.

Los Alamos National Laboratory

Client Sample ID: MD21-07-6777

General Chemistry

Lot-Sample #...: F7J160279-010 **Work Order #...:** J834Q **Matrix.....:** SOLID
Date Sampled...: 10/13/07 **Date Received..:** 10/17/07
% Moisture.....: 6.5

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Nitrate	ND	0.21	mg/kg	MCAWW 300.0A	10/17-10/18/07	7291371
		Dilution Factor: 1		Analysis Time..: 05:59		
Percent Moisture	**6.5**	**0.10**	**%**	**MCAWW 160.3 MOD**	**10/17-10/18/07**	**7291612**
		Dilution Factor: 1		Analysis Time..: 00:00		

NOTE(S):

RL Reporting Limit

Results and reporting limits have been adjusted for dry weight.

Los Alamos National Laboratory

Client Sample ID: MD21-07-6775

HPLC - Mass. Spec.

Lot-Sample #...: F7J160279-011 **Work Order #...:** J834V1AD **Matrix.....:** SOLID
Date Sampled...: 10/13/07 **Date Received..:** 10/17/07
Prep Date.....: 10/17/07 **Analysis Date..:** 10/17/07
Prep Batch #...: 7290152 **Analysis Time..:** 21:20
Dilution Factor: 1
% Moisture.....: 15 **Method.....:** SW846 6850

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Perchlorate	ND	5.9	ug/kg

NOTE(S):

Results or reporting limits flagged with a ** have not been corrected for dry weight.

Los Alamos National Laboratory

Client Sample ID: MD21-07-6775

General Chemistry

Lot-Sample #...: F7J160279-011 **Work Order #...:** J834V **Matrix.....:** SOLID
Date Sampled...: 10/13/07 **Date Received..:** 10/17/07
% Moisture.....: 15

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Nitrate	**0.64**	**0.24**	**mg/kg**	**MCAWW 300.0A**	**10/17-10/18/07**	**7291371**
		Dilution Factor: 1		Analysis Time..: 06:11		
Percent Moisture	**15.4**	**0.10**	**%**	**MCAWW 160.3 MOD**	**10/17-10/18/07**	**7291612**
		Dilution Factor: 1		Analysis Time..: 00:00		

NOTE(S):

RL Reporting Limit

Results and reporting limits have been adjusted for dry weight.

Los Alamos National Laboratory

Client Sample ID: MD21-07-6755

HPLC - Mass. Spec.

Lot-Sample #...: F7J160279-012 **Work Order #...:** J834W1AD **Matrix.....:** SOLID
Date Sampled...: 10/13/07 **Date Received..:** 10/17/07
Prep Date.....: 10/17/07 **Analysis Date..:** 10/17/07
Prep Batch #...: 7290152 **Analysis Time..:** 21:29
Dilution Factor: 1
% Moisture.....: 14 **Method.....:** SW846 6850

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Perchlorate	ND	5.8	ug/kg

NOTE(S):

Results or reporting limits flagged with a ** have not been corrected for dry weight.

Los Alamos National Laboratory

Client Sample ID: MD21-07-6755

General Chemistry

Lot-Sample #...: F7J160279-012 **Work Order #...:** J834W **Matrix.....:** SOLID
Date Sampled...: 10/13/07 **Date Received..:** 10/17/07
% Moisture.....: 14

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Nitrate	ND	0.23	mg/kg	MCAWW 300.0A	10/17-10/18/07	7291371
		Dilution Factor: 1		Analysis Time..: 06:22		
Percent Moisture	**13.6**	**0.10**	**%**	**MCAWW 160.3 MOD**	**10/17-10/18/07**	**7291612**
		Dilution Factor: 1		Analysis Time..: 00:00		

NOTE(S):

RL Reporting Limit

Results and reporting limits have been adjusted for dry weight.

Los Alamos National Laboratory

Client Sample ID: MD21-07-6771

HPLC - Mass. Spec.

Lot-Sample #...: F7J160279-013 **Work Order #...:** J834X1AD **Matrix.....:** SOLID
Date Sampled...: 10/14/07 **Date Received..:** 10/17/07
Prep Date.....: 10/17/07 **Analysis Date..:** 10/17/07
Prep Batch #...: 7290152 **Analysis Time..:** 21:37
Dilution Factor: 1
% Moisture.....: 4.4 **Method.....:** SW846 6850

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Perchlorate	ND	5.2	ug/kg

NOTE(S):

Results or reporting limits flagged with a ** have not been corrected for dry weight.

Los Alamos National Laboratory

Client Sample ID: MD21-07-6771

General Chemistry

Lot-Sample #...: F7J160279-013 **Work Order #...:** J834X **Matrix.....:** SOLID
Date Sampled...: 10/14/07 **Date Received..:** 10/17/07
% Moisture.....: 4.4

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Nitrate	ND	0.21	mg/kg	MCAWW 300.0A	10/17-10/18/07	7291371
		Dilution Factor: 1		Analysis Time..: 09:54		
Percent Moisture	**4.4**	**0.10**	**%**	**MCAWW 160.3 MOD**	**10/17-10/18/07**	**7291612**
		Dilution Factor: 1		Analysis Time..: 00:00		

NOTE(S):

RL Reporting Limit

Results and reporting limits have been adjusted for dry weight.

Los Alamos National Laboratory

Client Sample ID: MD21-07-6792

HPLC - Mass. Spec.

Lot-Sample #...: F7J160279-014 **Work Order #...:** J83401AD **Matrix.....:** SOLID
Date Sampled...: 10/14/07 **Date Received..:** 10/17/07
Prep Date.....: 10/17/07 **Analysis Date..:** 10/17/07
Prep Batch #...: 7290152 **Analysis Time..:** 21:46
Dilution Factor: 1
% Moisture.....: 4.1 **Method.....:** SW846 6850

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Perchlorate	ND	5.2	ug/kg

NOTE(S):

Results or reporting limits flagged with a ** have not been corrected for dry weight.

Los Alamos National Laboratory

Client Sample ID: MD21-07-6792

General Chemistry

Lot-Sample #...: F7J160279-014 **Work Order #...:** J8340 **Matrix.....:** SOLID
Date Sampled...: 10/14/07 **Date Received..:** 10/17/07
% Moisture.....: 4.1

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Nitrate	ND	0.21	mg/kg	MCAWW 300.0A	10/17-10/18/07	7291371
		Dilution Factor: 1		Analysis Time..: 10:05		
Percent Moisture	**4.1**	**0.10**	**%**	**MCAWW 160.3 MOD**	**10/17-10/18/07**	**7291612**
		Dilution Factor: 1		Analysis Time..: 00:00		

NOTE(S):

RL Reporting Limit

Results and reporting limits have been adjusted for dry weight.

Los Alamos National Laboratory

Client Sample ID: MD21-07-6783

HPLC - Mass. Spec.

Lot-Sample #...: F7J160279-015 **Work Order #...:** J83441AD **Matrix.....:** SOLID
Date Sampled...: 10/14/07 **Date Received..:** 10/17/07
Prep Date.....: 10/17/07 **Analysis Date..:** 10/17/07
Prep Batch #...: 7290152 **Analysis Time..:** 21:54
Dilution Factor: 1
% Moisture.....: 5.4 **Method.....:** SW846 6850

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Perchlorate	ND	5.3	ug/kg

NOTE(S):

Results or reporting limits flagged with a ** have not been corrected for dry weight.

Los Alamos National Laboratory

Client Sample ID: MD21-07-6783

General Chemistry

Lot-Sample #...: F7J160279-015 **Work Order #...:** J8344 **Matrix.....:** SOLID
Date Sampled...: 10/14/07 **Date Received..:** 10/17/07
% Moisture.....: 5.4

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Nitrate	ND	0.21	mg/kg	MCAWW 300.0A	10/17-10/18/07	7291373
		Dilution Factor: 1		Analysis Time..: 10:40		
Percent Moisture	**5.4**	**0.10**	**%**	**MCAWW 160.3 MOD**	**10/17-10/18/07**	**7291605**
		Dilution Factor: 1		Analysis Time..: 00:00		

NOTE(S):

RL Reporting Limit

Results and reporting limits have been adjusted for dry weight.

Los Alamos National Laboratory

Client Sample ID: MD21-07-6763

HPLC - Mass. Spec.

Lot-Sample #...: F7J160279-016 **Work Order #...:** J83481AD **Matrix.....:** SOLID
Date Sampled...: 10/13/07 **Date Received..:** 10/17/07
Prep Date.....: 10/17/07 **Analysis Date..:** 10/17/07
Prep Batch #...: 7290152 **Analysis Time..:** 22:03
Dilution Factor: 1
% Moisture.....: 9.3 **Method.....:** SW846 6850

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Perchlorate	ND	5.5	ug/kg

NOTE(S):

Results or reporting limits flagged with a ** have not been corrected for dry weight.

Los Alamos National Laboratory

Client Sample ID: MD21-07-6763

General Chemistry

Lot-Sample #...: F7J160279-016 **Work Order #...:** J8348 **Matrix.....:** SOLID
Date Sampled...: 10/13/07 **Date Received..:** 10/17/07
% Moisture.....: 9.3

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Nitrate	ND	0.22	mg/kg	MCAWW 300.0A	10/17-10/18/07	7291371
		Dilution Factor: 1		Analysis Time..: 06:33		
Percent Moisture	**9.3**	**0.10**	**%**	**MCAWW 160.3 MOD**	**10/17-10/18/07**	**7291612**
		Dilution Factor: 1		Analysis Time..: 00:00		

NOTE(S):

RL Reporting Limit

Results and reporting limits have been adjusted for dry weight.

Los Alamos National Laboratory

Client Sample ID: MD21-07-6742

HPLC - Mass. Spec.

Lot-Sample #...: F7J160279-017 **Work Order #...:** J835A1AD **Matrix.....:** SOLID
Date Sampled...: 10/14/07 **Date Received..:** 10/17/07
Prep Date.....: 10/17/07 **Analysis Date..:** 10/17/07
Prep Batch #...: 7290152 **Analysis Time..:** 22:12
Dilution Factor: 1
% Moisture.....: 6.8 **Method.....:** SW846 6850

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Perchlorate	ND	5.4	ug/kg

NOTE(S):

Results or reporting limits flagged with a ** have not been corrected for dry weight.

Los Alamos National Laboratory

Client Sample ID: MD21-07-6742

General Chemistry

Lot-Sample #...: F7J160279-017 **Work Order #...:** J835A **Matrix.....:** SOLID
Date Sampled...: 10/14/07 **Date Received..:** 10/17/07
% Moisture.....: 6.8

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Nitrate	ND	0.21	mg/kg	MCAWW 300.0A	10/17-10/18/07	7291373
		Dilution Factor: 1		Analysis Time..: 11:13		
Percent Moisture	**6.8**	**0.10**	**%**	**MCAWW 160.3 MOD**	**10/17-10/18/07**	**7291605**
		Dilution Factor: 1		Analysis Time..: 00:00		

NOTE(S):

RL Reporting Limit

Results and reporting limits have been adjusted for dry weight.

Los Alamos National Laboratory

Client Sample ID: MD21-07-6733

HPLC - Mass. Spec.

Lot-Sample #...: F7J160279-018 **Work Order #...:** J835E1AD **Matrix.....:** SOLID
Date Sampled...: 10/14/07 **Date Received..:** 10/17/07
Prep Date.....: 10/17/07 **Analysis Date..:** 10/17/07
Prep Batch #...: 7290152 **Analysis Time..:** 17:54
Dilution Factor: 1
% Moisture.....: 2.5 **Method.....:** SW846 6850

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Perchlorate	ND	5.1	ug/kg

NOTE(S):

Results or reporting limits flagged with a ** have not been corrected for dry weight.

Los Alamos National Laboratory

Client Sample ID: MD21-07-6733

General Chemistry

Lot-Sample #...: F7J160279-018 **Work Order #...:** J835E **Matrix.....:** SOLID
Date Sampled...: 10/14/07 **Date Received..:** 10/17/07
% Moisture.....: 2.5

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Nitrate	**0.22**	**0.21**	**mg/kg**	**MCAWW 300.0A**	**10/17-10/18/07**	**7291373**
		Dilution Factor: 1		Analysis Time..: 11:24		
Percent Moisture	**2.5**	**0.10**	**%**	**MCAWW 160.3 MOD**	**10/17-10/18/07**	**7291605**
		Dilution Factor: 1		Analysis Time..: 00:00		

NOTE(S):

RL Reporting Limit

Results and reporting limits have been adjusted for dry weight.

Los Alamos National Laboratory

Client Sample ID: MD21-07-6784

HPLC - Mass. Spec.

Lot-Sample #...: F7J160279-019 **Work Order #...:** J835J1AD **Matrix.....:** SOLID
Date Sampled...: 10/14/07 **Date Received..:** 10/17/07
Prep Date.....: 10/17/07 **Analysis Date..:** 10/17/07
Prep Batch #...: 7290152 **Analysis Time..:** 18:02
Dilution Factor: 1
% Moisture.....: 3.2 **Method.....:** SW846 6850

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Perchlorate	ND	5.2	ug/kg

NOTE(S):

Results or reporting limits flagged with a ** have not been corrected for dry weight.

Los Alamos National Laboratory

Client Sample ID: MD21-07-6784

General Chemistry

Lot-Sample #...: F7J160279-019 **Work Order #...:** J835J **Matrix.....:** SOLID
Date Sampled...: 10/14/07 **Date Received..:** 10/17/07
% Moisture.....: 3.2

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Nitrate	ND	0.21	mg/kg	MCAWW 300.0A	10/17-10/18/07	7291373
		Dilution Factor: 1		Analysis Time..: 11:35		
Percent Moisture	**3.2**	**0.10**	**%**	**MCAWW 160.3 MOD**	**10/17-10/18/07**	**7291605**
		Dilution Factor: 1		Analysis Time..: 00:00		

NOTE(S):

RL Reporting Limit

Results and reporting limits have been adjusted for dry weight.

Los Alamos National Laboratory

Client Sample ID: MD21-07-6769

HPLC - Mass. Spec.

Lot-Sample #...: F7J160279-020 **Work Order #...:** J835N1AD **Matrix.....:** SOLID
Date Sampled...: 10/14/07 **Date Received..:** 10/17/07
Prep Date.....: 10/17/07 **Analysis Date..:** 10/17/07
Prep Batch #...: 7290152 **Analysis Time..:** 18:11
Dilution Factor: 1
% Moisture.....: 8.4 **Method.....:** SW846 6850

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Perchlorate	ND	5.5	ug/kg

NOTE(S):

Results or reporting limits flagged with a ** have not been corrected for dry weight.

Los Alamos National Laboratory

Client Sample ID: MD21-07-6769

General Chemistry

Lot-Sample #...: F7J160279-020 **Work Order #...:** J835N **Matrix.....:** SOLID
Date Sampled...: 10/14/07 **Date Received..:** 10/17/07
% Moisture.....: 8.4

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Nitrate	ND	0.22	mg/kg	MCAWW 300.0A	10/17-10/18/07	7291373
		Dilution Factor: 1		Analysis Time..: 11:46		
Percent Moisture	**8.4**	**0.10**	**%**	**MCAWW 160.3 MOD**	**10/17-10/18/07**	**7291605**
		Dilution Factor: 1		Analysis Time..: 00:00		

NOTE(S):

RL Reporting Limit

Results and reporting limits have been adjusted for dry weight.

Los Alamos National Laboratory

Client Sample ID: MD21-07-6754

HPLC - Mass. Spec.

Lot-Sample #...: F7J160279-021 **Work Order #...:** J835Q1AD **Matrix.....:** SOLID
Date Sampled...: 10/13/07 **Date Received..:** 10/17/07
Prep Date.....: 10/17/07 **Analysis Date..:** 10/17/07
Prep Batch #...: 7290155 **Analysis Time..:** 13:11
Dilution Factor: 1
% Moisture.....: 9.9 **Method.....:** SW846 6850

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Perchlorate	ND	5.6	ug/kg

NOTE(S):

Results or reporting limits flagged with a ** have not been corrected for dry weight.

Los Alamos National Laboratory

Client Sample ID: MD21-07-6754

General Chemistry

Lot-Sample #...: F7J160279-021 **Work Order #...:** J835Q **Matrix.....:** SOLID
Date Sampled...: 10/13/07 **Date Received..:** 10/17/07
% Moisture.....: 9.9

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Nitrate	**1.2**	**0.22**	**mg/kg**	**MCAWW 300.0A**	**10/17-10/18/07**	**7291371**
		Dilution Factor: 1		Analysis Time..: 06:45		
Percent Moisture	**9.9**	**0.10**	**%**	**MCAWW 160.3 MOD**	**10/17-10/18/07**	**7291612**
		Dilution Factor: 1		Analysis Time..: 00:00		

NOTE(S):

RL Reporting Limit

Results and reporting limits have been adjusted for dry weight.

Los Alamos National Laboratory

Client Sample ID: MD21-07-6787

HPLC - Mass. Spec.

Lot-Sample #...: F7J160279-022 **Work Order #...:** J835W1AD **Matrix.....:** SOLID
Date Sampled...: 10/14/07 **Date Received..:** 10/17/07
Prep Date.....: 10/17/07 **Analysis Date..:** 10/17/07
Prep Batch #...: 7290155 **Analysis Time..:** 13:48
Dilution Factor: 1
% Moisture.....: 1.6 **Method.....:** SW846 6850

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Perchlorate	ND	5.1	ug/kg

NOTE(S):

Results or reporting limits flagged with a ** have not been corrected for dry weight.

Los Alamos National Laboratory

Client Sample ID: MD21-07-6787

General Chemistry

Lot-Sample #...: F7J160279-022 **Work Order #...:** J835W **Matrix.....:** SOLID
Date Sampled...: 10/14/07 **Date Received..:** 10/17/07
% Moisture.....: 1.6

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Nitrate	ND	0.20	mg/kg	MCAWW 300.0A	10/17-10/18/07	7291373
		Dilution Factor: 1		Analysis Time..: 11:57		
Percent Moisture	**1.6**	**0.10**	**%**	**MCAWW 160.3 MOD**	**10/17-10/18/07**	**7291605**
		Dilution Factor: 1		Analysis Time..: 00:00		

NOTE(S):

RL Reporting Limit

Results and reporting limits have been adjusted for dry weight.

Los Alamos National Laboratory

Client Sample ID: MD21-07-6795

HPLC - Mass. Spec.

Lot-Sample #...: F7J160279-023 **Work Order #...:** J83511AD **Matrix.....:** SOLID
Date Sampled...: 10/14/07 **Date Received..:** 10/17/07
Prep Date.....: 10/17/07 **Analysis Date..:** 10/17/07
Prep Batch #...: 7290155 **Analysis Time..:** 13:57
Dilution Factor: 1
% Moisture.....: 9.6 **Method.....:** SW846 6850

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Perchlorate	ND	5.5	ug/kg

NOTE(S):

Results or reporting limits flagged with a ** have not been corrected for dry weight.

Los Alamos National Laboratory

Client Sample ID: MD21-07-6795

General Chemistry

Lot-Sample #...: F7J160279-023 **Work Order #...:** J8351 **Matrix.....:** SOLID
Date Sampled...: 10/14/07 **Date Received..:** 10/17/07
% Moisture.....: 9.6

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Nitrate	ND	0.22	mg/kg	MCAWW 300.0A	10/17-10/18/07	7291373
		Dilution Factor: 1		Analysis Time..: 12:07		
Percent Moisture	**9.6**	**0.10**	**%**	**MCAWW 160.3 MOD**	**10/17-10/18/07**	**7291605**
		Dilution Factor: 1		Analysis Time..: 00:00		

NOTE(S):

RL Reporting Limit

Results and reporting limits have been adjusted for dry weight.

Los Alamos National Laboratory

Client Sample ID: MD21-07-6741

HPLC - Mass. Spec.

Lot-Sample #...:	F7J160279-024	**Work Order #...:**	J83531AD	**Matrix.....:**	SOLID
Date Sampled...:	10/14/07	**Date Received..:**	10/17/07		
Prep Date.....:	10/17/07	**Analysis Date..:**	10/17/07		
Prep Batch #...:	7290155	**Analysis Time..:**	14:06		
Dilution Factor:	1				
% Moisture.....:	9.6	**Method.....:**	SW846 6850		

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Perchlorate	ND	5.5	ug/kg

NOTE(S):

Results or reporting limits flagged with a ** have not been corrected for dry weight.

Los Alamos National Laboratory

Client Sample ID: MD21-07-6741

General Chemistry

Lot-Sample #...: F7J160279-024 **Work Order #...:** J8353 **Matrix.....:** SOLID
Date Sampled...: 10/14/07 **Date Received..:** 10/17/07
% Moisture.....: 9.6

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Nitrate	ND	0.22	mg/kg	MCAWW 300.0A	10/17-10/18/07	7291373
		Dilution Factor: 1		Analysis Time..: 12:18		
Percent Moisture	**9.6**	**0.10**	**%**	**MCAWW 160.3 MOD**	**10/17-10/18/07**	**7291605**
		Dilution Factor: 1		Analysis Time..: 00:00		

NOTE(S):

RL Reporting Limit

Results and reporting limits have been adjusted for dry weight.

Los Alamos National Laboratory

Client Sample ID: MD21-07-6793

HPLC - Mass. Spec.

Lot-Sample #...: F7J160279-025 **Work Order #...:** J83551AD **Matrix.....:** SOLID
Date Sampled...: 10/14/07 **Date Received..:** 10/17/07
Prep Date.....: 10/17/07 **Analysis Date..:** 10/17/07
Prep Batch #...: 7290155 **Analysis Time..:** 14:15
Dilution Factor: 1
% Moisture.....: 1.2 **Method.....:** SW846 6850

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Perchlorate	ND	5.1	ug/kg

NOTE(S):

Results or reporting limits flagged with a ** have not been corrected for dry weight.

Los Alamos National Laboratory

Client Sample ID: MD21-07-6793

General Chemistry

Lot-Sample #...: F7J160279-025 **Work Order #...:** J8355 **Matrix.....:** SOLID
Date Sampled...: 10/14/07 **Date Received..:** 10/17/07
% Moisture.....: 1.2

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Nitrate	ND	0.20	mg/kg	MCAWW 300.0A	10/17-10/18/07	7291373
		Dilution Factor: 1		Analysis Time..: 12:51		
Percent Moisture	**1.2**	**0.10**	**%**	**MCAWW 160.3 MOD**	**10/17-10/18/07**	**7291605**
		Dilution Factor: 1		Analysis Time..: 00:00		

NOTE(S):

RL Reporting Limit

Results and reporting limits have been adjusted for dry weight.

Los Alamos National Laboratory

Client Sample ID: MD21-07-6772

HPLC - Mass. Spec.

Lot-Sample #...: F7J160279-026 **Work Order #...:** J83561AD **Matrix.....:** SOLID
Date Sampled...: 10/14/07 **Date Received..:** 10/17/07
Prep Date.....: 10/17/07 **Analysis Date..:** 10/17/07
Prep Batch #...: 7290155 **Analysis Time..:** 14:24
Dilution Factor: 1
% Moisture.....: 6.4 **Method.....:** SW846 6850

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Perchlorate	ND	5.3	ug/kg

NOTE(S):

Results or reporting limits flagged with a ** have not been corrected for dry weight.

Los Alamos National Laboratory

Client Sample ID: MD21-07-6772

General Chemistry

Lot-Sample #...: F7J160279-026 **Work Order #...:** J8356 **Matrix.....:** SOLID
Date Sampled...: 10/14/07 **Date Received..:** 10/17/07
% Moisture.....: 6.4

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Nitrate	ND	0.21	mg/kg	MCAWW 300.0A	10/17-10/18/07	7291373
		Dilution Factor: 1		Analysis Time..: 01:02		
Percent Moisture	**6.4**	**0.10**	**%**	**MCAWW 160.3 MOD**	**10/17-10/18/07**	**7291605**
		Dilution Factor: 1		Analysis Time..: 00:00		

NOTE(S):

RL Reporting Limit

Results and reporting limits have been adjusted for dry weight.

Los Alamos National Laboratory

Client Sample ID: MD21-07-6768

HPLC - Mass. Spec.

Lot-Sample #...: F7J160279-027 **Work Order #...:** J83591AD **Matrix.....:** SOLID
Date Sampled...: 10/14/07 **Date Received..:** 10/17/07
Prep Date.....: 10/17/07 **Analysis Date..:** 10/17/07
Prep Batch #...: 7290155 **Analysis Time..:** 14:33
Dilution Factor: 1
% Moisture.....: 6.1 **Method.....:** SW846 6850

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Perchlorate	ND	5.3	ug/kg

NOTE(S):

Results or reporting limits flagged with a ** have not been corrected for dry weight.

Los Alamos National Laboratory

Client Sample ID: MD21-07-6768

General Chemistry

Lot-Sample #...: F7J160279-027 **Work Order #...:** J8359 **Matrix.....:** SOLID
Date Sampled...: 10/14/07 **Date Received..:** 10/17/07
% Moisture.....: 6.1

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Nitrate	ND	0.21	mg/kg	MCAWW 300.0A	10/17-10/18/07	7291373
		Dilution Factor: 1		Analysis Time..: 01:13		
Percent Moisture	**6.1**	**0.10**	**%**	**MCAWW 160.3 MOD**	**10/17-10/18/07**	**7291605**
		Dilution Factor: 1		Analysis Time..: 00:00		

NOTE(S):

RL Reporting Limit

Results and reporting limits have been adjusted for dry weight.

Los Alamos National Laboratory

Client Sample ID: MD21-07-6798

HPLC - Mass. Spec.

Lot-Sample #...: F7J160279-028 **Work Order #...:** J836A1AD **Matrix.....:** SOLID
Date Sampled...: 10/13/07 **Date Received..:** 10/17/07
Prep Date.....: 10/17/07 **Analysis Date..:** 10/17/07
Prep Batch #...: 7290155 **Analysis Time..:** 15:00
Dilution Factor: 1
% Moisture.....: 15 **Method.....:** SW846 6850

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Perchlorate	ND	5.9	ug/kg

NOTE(S):

Results or reporting limits flagged with a ** have not been corrected for dry weight.

Los Alamos National Laboratory

Client Sample ID: MD21-07-6798

General Chemistry

Lot-Sample #...: F7J160279-028 **Work Order #...:** J836A **Matrix.....:** SOLID
Date Sampled...: 10/13/07 **Date Received..:** 10/17/07
% Moisture.....: 15

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Nitrate	ND	0.24	mg/kg	MCAWW 300.0A	10/17-10/18/07	7291371
		Dilution Factor: 1		Analysis Time..: 06:56		
Percent Moisture	**15.1**	**0.10**	**%**	**MCAWW 160.3 MOD**	**10/17-10/18/07**	**7291612**
		Dilution Factor: 1		Analysis Time..: 00:00		

NOTE(S):

RL Reporting Limit

Results and reporting limits have been adjusted for dry weight.

Los Alamos National Laboratory

Client Sample ID: MD21-07-6740

HPLC - Mass. Spec.

Lot-Sample #...: F7J160279-029 **Work Order #...:** J836C1AD **Matrix.....:** SOLID
Date Sampled...: 10/14/07 **Date Received..:** 10/17/07
Prep Date.....: 10/17/07 **Analysis Date..:** 10/17/07
Prep Batch #...: 7290155 **Analysis Time..:** 15:09
Dilution Factor: 1
% Moisture.....: 4.6 **Method.....:** SW846 6850

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Perchlorate	ND	5.2	ug/kg

NOTE(S):

Results or reporting limits flagged with a ** have not been corrected for dry weight.

Los Alamos National Laboratory

Client Sample ID: MD21-07-6740

General Chemistry

Lot-Sample #...: F7J160279-029 **Work Order #...:** J836C **Matrix.....:** SOLID
Date Sampled...: 10/14/07 **Date Received..:** 10/17/07
% Moisture.....: 4.6

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Nitrate	ND	0.21	mg/kg	MCAWW 300.0A	10/17-10/18/07	7291373
		Dilution Factor: 1		Analysis Time..: 01:24		
Percent Moisture	**4.6**	**0.10**	**%**	**MCAWW 160.3 MOD**	**10/17-10/18/07**	**7291605**
		Dilution Factor: 1		Analysis Time..: 00:00		

NOTE(S):

RL Reporting Limit

Results and reporting limits have been adjusted for dry weight.

Los Alamos National Laboratory

Client Sample ID: MD21-07-6776

HPLC - Mass. Spec.

Lot-Sample #...: F7J160279-030 **Work Order #...:** J836D1AD **Matrix.....:** SOLID
Date Sampled...: 10/13/07 **Date Received..:** 10/17/07
Prep Date.....: 10/17/07 **Analysis Date..:** 10/17/07
Prep Batch #...: 7290155 **Analysis Time..:** 15:18
Dilution Factor: 1
% Moisture.....: 15 **Method.....:** SW846 6850

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Perchlorate	ND	5.9	ug/kg

NOTE(S):

Results or reporting limits flagged with a ** have not been corrected for dry weight.

Los Alamos National Laboratory

Client Sample ID: MD21-07-6776

General Chemistry

Lot-Sample #...: F7J160279-030 **Work Order #...:** J836D **Matrix.....:** SOLID
Date Sampled...: 10/13/07 **Date Received..:** 10/17/07
% Moisture.....: 15

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Nitrate	**0.20 J**	**0.24**	**mg/kg**	**MCAWW 300.0A**	**10/17-10/18/07**	**7291371**
		Dilution Factor: 1		Analysis Time..: 07:31		
Percent Moisture	**15.0**	**0.10**	**%**	**MCAWW 160.3 MOD**	**10/17-10/18/07**	**7291612**
		Dilution Factor: 1		Analysis Time..: 00:00		

NOTE(S):

RL Reporting Limit

Results and reporting limits have been adjusted for dry weight.

J Estimated result. Result is less than RL.

Los Alamos National Laboratory

Client Sample ID: MD21-07-6762

HPLC - Mass. Spec.

Lot-Sample #...: F7J160279-031 **Work Order #...:** J836E1AD **Matrix.....:** SOLID
Date Sampled...: 10/13/07 **Date Received..:** 10/17/07
Prep Date.....: 10/17/07 **Analysis Date..:** 10/17/07
Prep Batch #...: 7290155 **Analysis Time..:** 15:27
Dilution Factor: 1
% Moisture.....: 15 **Method.....:** SW846 6850

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Perchlorate	ND	5.9	ug/kg

NOTE(S):

Results or reporting limits flagged with a ** have not been corrected for dry weight.

Los Alamos National Laboratory

Client Sample ID: MD21-07-6762

General Chemistry

Lot-Sample #...: F7J160279-031 **Work Order #...:** J836E **Matrix.....:** SOLID
Date Sampled...: 10/13/07 **Date Received..:** 10/17/07
% Moisture.....: 15

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Nitrate	ND	0.24	mg/kg	MCAWW 300.0A	10/17-10/18/07	7291371
		Dilution Factor: 1		Analysis Time..: 07:42		
Percent Moisture	**15.4**	**0.10**	**%**	**MCAWW 160.3 MOD**	**10/17-10/18/07**	**7291612**
		Dilution Factor: 1		Analysis Time..: 00:00		

NOTE(S):

RL Reporting Limit

Results and reporting limits have been adjusted for dry weight.

Los Alamos National Laboratory

Client Sample ID: MD21-07-6757

HPLC - Mass. Spec.

Lot-Sample #...: F7J160279-032 **Work Order #...:** J836F1AD **Matrix.....:** SOLID
Date Sampled...: 10/13/07 **Date Received..:** 10/17/07
Prep Date.....: 10/17/07 **Analysis Date..:** 10/17/07
Prep Batch #...: 7290155 **Analysis Time..:** 15:36
Dilution Factor: 1
% Moisture.....: 6.2 **Method.....:** SW846 6850

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Perchlorate	ND	5.3	ug/kg

NOTE(S):

Results or reporting limits flagged with a ** have not been corrected for dry weight.

Los Alamos National Laboratory

Client Sample ID: MD21-07-6757

General Chemistry

Lot-Sample #...: F7J160279-032 **Work Order #...:** J836F **Matrix.....:** SOLID
Date Sampled...: 10/13/07 **Date Received..:** 10/17/07
% Moisture.....: 6.2

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Nitrate	ND	0.21	mg/kg	MCAWW 300.0A	10/17-10/18/07	7291371
		Dilution Factor: 1		Analysis Time..: 07:53		
Percent Moisture	**6.2**	**0.10**	**%**	**MCAWW 160.3 MOD**	**10/17-10/18/07**	**7291612**
		Dilution Factor: 1		Analysis Time..: 00:00		

NOTE(S):

RL Reporting Limit

Results and reporting limits have been adjusted for dry weight.

Los Alamos National Laboratory

Client Sample ID: MD21-07-6725

HPLC - Mass. Spec.

Lot-Sample #...: F7J160279-033 **Work Order #...:** J836G1AD **Matrix.....:** SOLID
Date Sampled...: 10/14/07 **Date Received..:** 10/17/07
Prep Date.....: 10/17/07 **Analysis Date..:** 10/17/07
Prep Batch #...: 7290155 **Analysis Time..:** 15:45
Dilution Factor: 1
% Moisture.....: 5.9 **Method.....:** SW846 6850

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Perchlorate	ND	5.3	ug/kg

NOTE(S):

Results or reporting limits flagged with a ** have not been corrected for dry weight.

Los Alamos National Laboratory

Client Sample ID: MD21-07-6725

General Chemistry

Lot-Sample #...: F7J160279-033 **Work Order #...:** J836G **Matrix.....:** SOLID
Date Sampled...: 10/14/07 **Date Received..:** 10/17/07
% Moisture.....: 5.9

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Nitrate	ND	0.21	mg/kg	MCAWW 300.0A	10/17-10/18/07	7291373
		Dilution Factor: 1		Analysis Time..: 01:35		
Percent Moisture	**5.9**	**0.10**	**%**	**MCAWW 160.3 MOD**	**10/17-10/18/07**	**7291605**
		Dilution Factor: 1		Analysis Time..: 00:00		

NOTE(S):

RL Reporting Limit

Results and reporting limits have been adjusted for dry weight.

Los Alamos National Laboratory

Client Sample ID: MD21-07-6727

HPLC - Mass. Spec.

Lot-Sample #...: F7J160279-034 **Work Order #...:** J836H1AD **Matrix.....:** SOLID
Date Sampled...: 10/14/07 **Date Received..:** 10/17/07
Prep Date.....: 10/17/07 **Analysis Date..:** 10/17/07
Prep Batch #...: 7290155 **Analysis Time..:** 15:53
Dilution Factor: 1
% Moisture.....: 6.9 **Method.....:** SW846 6850

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Perchlorate	ND	5.4	ug/kg

NOTE(S):

Results or reporting limits flagged with a ** have not been corrected for dry weight.

Los Alamos National Laboratory

Client Sample ID: MD21-07-6727

General Chemistry

Lot-Sample #...: F7J160279-034 **Work Order #...:** J836H **Matrix.....:** SOLID
Date Sampled...: 10/14/07 **Date Received..:** 10/17/07
% Moisture.....: 6.9

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Nitrate	ND	0.21	mg/kg	MCAWW 300.0A	10/17-10/18/07	7291373
		Dilution Factor: 1		Analysis Time..: 01:46		
Percent Moisture	**6.9**	**0.10**	**%**	**MCAWW 160.3 MOD**	**10/17-10/18/07**	**7291605**
		Dilution Factor: 1		Analysis Time..: 00:00		

NOTE(S):

RL Reporting Limit

Results and reporting limits have been adjusted for dry weight.

Los Alamos National Laboratory

Client Sample ID: MD21-07-6799

HPLC - Mass. Spec.

Lot-Sample #...: F7J160279-035 **Work Order #...:** J836J1AC **Matrix.....:** WATER
Date Sampled...: 10/14/07 **Date Received..:** 10/17/07
Prep Date.....: 10/17/07 **Analysis Date..:** 10/17/07
Prep Batch #...: 7290361 **Analysis Time..:** 17:02
Dilution Factor: 1

Method.....: SW846 6850

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Perchlorate	ND	0.50	ug/L

Los Alamos National Laboratory

Client Sample ID: MD21-07-6799

General Chemistry

Lot-Sample #...: F7J160279-035 **Work Order #...:** J836J **Matrix.....:** WATER
Date Sampled...: 10/14/07 **Date Received..:** 10/17/07

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Nitrate as N	**111**	**50.0**	**ug/L**	**MCAWW 353.1**	**10/17/07**	**7290365**
		Dilution Factor: 1		Analysis Time..: 00:00		

Los Alamos National Laboratory

Client Sample ID: MD21-07-6796

HPLC - Mass. Spec.

Lot-Sample #...: F7J160279-036 **Work Order #...:** J836M1AC **Matrix.....:** WATER
Date Sampled...: 10/14/07 **Date Received..:** 10/17/07
Prep Date.....: 10/17/07 **Analysis Date..:** 10/17/07
Prep Batch #...: 7290361 **Analysis Time..:** 17:37
Dilution Factor: 1

Method.....: SW846 6850

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Perchlorate	ND	0.50	ug/L

Los Alamos National Laboratory

Client Sample ID: MD21-07-6796

General Chemistry

Lot-Sample #...: F7J160279-036 **Work Order #...:** J836M **Matrix.....:** WATER
Date Sampled...: 10/14/07 **Date Received..:** 10/17/07

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Nitrate as N	**109**	**50.0**	**ug/L**	**MCAWW 353.1**	**10/17/07**	**7290365**

Dilution Factor: 1 Analysis Time..: 00:00

Los Alamos National Laboratory

Client Sample ID: MD21-07-7022

HPLC - Mass. Spec.

Lot-Sample #...: F7J160279-037 **Work Order #...:** J836T1AD **Matrix.....:** SOLID
Date Sampled...: 10/14/07 **Date Received..:** 10/17/07
Prep Date.....: 10/17/07 **Analysis Date..:** 10/17/07
Prep Batch #...: 7290155 **Analysis Time..:** 16:02
Dilution Factor: 1
% Moisture.....: 5.8 **Method.....:** SW846 6850

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Perchlorate	ND	5.3	ug/kg

NOTE(S):

Results or reporting limits flagged with a ** have not been corrected for dry weight.

Los Alamos National Laboratory

Client Sample ID: MD21-07-7022

General Chemistry

Lot-Sample #...: F7J160279-037 **Work Order #...:** J836T **Matrix.....:** SOLID
Date Sampled...: 10/14/07 **Date Received..:** 10/17/07
% Moisture.....: 5.8

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Nitrate	**0.18 J**	**0.21**	**mg/kg**	**MCAWW 300.0A**	**10/17-10/18/07**	**7291373**
		Dilution Factor: 1		Analysis Time..: 01:57		
Percent Moisture	**5.8**	**0.10**	**%**	**MCAWW 160.3 MOD**	**10/17-10/18/07**	**7291605**
		Dilution Factor: 1		Analysis Time..: 00:00		

NOTE(S):

RL Reporting Limit

Results and reporting limits have been adjusted for dry weight.

J Estimated result. Result is less than RL.

Los Alamos National Laboratory

Client Sample ID: MD21-08-7053

HPLC - Mass. Spec.

Lot-Sample #...: F7J160279-038 **Work Order #...:** J836W1AC **Matrix.....:** WATER
Date Sampled...: 10/14/07 **Date Received..:** 10/17/07
Prep Date.....: 10/17/07 **Analysis Date..:** 10/17/07
Prep Batch #...: 7290361 **Analysis Time..:** 17:45
Dilution Factor: 1

Method.....: SW846 6850

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Perchlorate	ND	0.50	ug/L

Los Alamos National Laboratory

Client Sample ID: MD21-08-7053

General Chemistry

Lot-Sample #...: F7J160279-038 **Work Order #...:** J836W **Matrix.....:** WATER
Date Sampled...: 10/14/07 **Date Received..:** 10/17/07

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Nitrate as N	**107**	**50.0**	**ug/L**	**MCAWW 353.1**	**10/17/07**	**7290365**
		Dilution Factor: 1		Analysis Time..: 00:00		

METHOD BLANK REPORT

HPLC - Mass. Spec.

Client Lot #...: F7J160279 **Work Order #...:** J844V1AA **Matrix.....:** SOLID
MB Lot-Sample #: F7J170000-152
Prep Date.....: 10/17/07 **Analysis Time..:** 18:37
Analysis Date..: 10/17/07 **Prep Batch #...:** 7290152
Dilution Factor: 1

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
Perchlorate	ND	5.0	ug/kg	SW846 6850

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

HPLC - Mass. Spec.

Client Lot #...: F7J160279 **Work Order #...:** J846L1AA **Matrix.....:** SOLID
MB Lot-Sample #: F7J170000-155

Prep Date.....: 10/17/07 **Analysis Time..:** 12:53
Analysis Date..: 10/17/07 **Prep Batch #...:** 7290155
Dilution Factor: 1

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
Perchlorate	ND	5.0	ug/kg	SW846 6850

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

HPLC - Mass. Spec.

Client Lot #...: F7J160279 **Work Order #...:** J85521AA **Matrix.....:** WATER
MB Lot-Sample #: F7J170000-361
Prep Date.....: 10/17/07 **Analysis Time..:** 16:45
Analysis Date..: 10/17/07 **Prep Batch #...:** 7290361
Dilution Factor: 1

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
Perchlorate	ND	0.50	ug/L	SW846 6850

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

General Chemistry

Client Lot #...: F7J160279 **Matrix.....:** WATER

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Nitrate as N		Work Order #: J858E1AA		MB Lot-Sample #:	F7J170000-365	
	ND	50.0	ug/L	MCAWW 353.1	10/17/07	7290365
		Dilution Factor: 1				
		Analysis Time..: 00:00				

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

General Chemistry

Client Lot #...: F7J160279 **Matrix.....:** SOLID

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Nitrate		Work Order #: J89MR1AA		MB Lot-Sample #:	F7J180000-371	
	ND	0.20	mg/kg	MCAWW 300.0A	10/17-10/18/07	7291371
		Dilution Factor: 1				
		Analysis Time..: 05:02				
Nitrate		Work Order #: J89M11AA		MB Lot-Sample #:	F7J180000-373	
	ND	0.20	mg/kg	MCAWW 300.0A	10/17-10/18/07	7291373
		Dilution Factor: 1				
		Analysis Time..: 10:28				

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

LABORATORY CONTROL SAMPLE EVALUATION REPORT

HPLC - Mass. Spec.

Client Lot #...: F7J160279 **Work Order #...:** J844V1AC **Matrix.....:** SOLID
LCS Lot-Sample#: F7J170000-152
Prep Date.....: 10/17/07 **Analysis Date..:** 10/17/07
Prep Batch #...: 7290152 **Analysis Time..:** 18:45
Dilution Factor: 1

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	METHOD
Perchlorate	**96**	**(80 - 120)**	**SW846 6850**

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

LABORATORY CONTROL SAMPLE EVALUATION REPORT

HPLC - Mass. Spec.

Client Lot #...: F7J160279 **Work Order #...:** J846L1AC **Matrix.....:** SOLID
LCS Lot-Sample#: F7J170000-155
Prep Date.....: 10/17/07 **Analysis Date..:** 10/17/07
Prep Batch #...: 7290155 **Analysis Time..:** 13:02
Dilution Factor: 1

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	METHOD
Perchlorate	**100**	**(80 - 120)**	**SW846 6850**

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

LABORATORY CONTROL SAMPLE EVALUATION REPORT

HPLC - Mass. Spec.

Client Lot #...: F7J160279 **Work Order #...:** J85521AC **Matrix.....:** WATER
LCS Lot-Sample#: F7J170000-361
Prep Date.....: 10/17/07 **Analysis Date..:** 10/17/07
Prep Batch #...: 7290361 **Analysis Time..:** 16:53
Dilution Factor: 1

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	METHOD
Perchlorate	**98**	**(80 - 120)**	**SW846 6850**

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

LABORATORY CONTROL SAMPLE EVALUATION REPORT

General Chemistry

Lot-Sample #...: F7J160279 **Matrix.....:** WATER

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Nitrate as N		WO#:J858E1AC-LCS/J858E1AD-LCSD				LCS Lot-Sample#: F7J170000-365	
	101	(80 - 120)			MCAWW 353.1	10/17/07	7290365
	100	(80 - 120)	1.3	(0-20)	MCAWW 353.1	10/17/07	7290365

Dilution Factor: 1 Analysis Time..: 00:00

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

LABORATORY CONTROL SAMPLE EVALUATION REPORT

General Chemistry

Client Lot #...: F7J160279 **Matrix.....:** SOLID

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Nitrate		Work Order #: J89MR1AC	LCS Lot-Sample#: F7J180000-371		
	95	(80 - 120)	MCAWW 300.0A	10/17-10/18/07	7291371
		Dilution Factor: 1	Analysis Time..: 04:51		
Nitrate		Work Order #: J89M11AC	LCS Lot-Sample#: F7J180000-373		
	90	(80 - 120)	MCAWW 300.0A	10/17-10/18/07	7291373
		Dilution Factor: 1	Analysis Time..: 10:17		

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

MATRIX SPIKE SAMPLE EVALUATION REPORT

HPLC - Mass. Spec.

Client Lot #...: F7J160279 **Work Order #...:** J83XG1AE-MS **Matrix.....:** SOLID
MS Lot-Sample #: F7J160279-001 J83XG1AF-MSD
Date Sampled...: 10/14/07 **Date Received..:** 10/17/07
Prep Date.....: 10/17/07 **Analysis Date..:** 10/17/07
Prep Batch #...: 7290152 **Analysis Time..:** 19:03
Dilution Factor: 1 **% Moisture.....:** 4.2

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD
Perchlorate	**99**	**(70 - 130)**			**SW846 6850**
	101	**(70 - 130)**	**1.2**	**(0-15)**	**SW846 6850**

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

Results or reporting limits flagged with a ** have not been corrected for dry weight.

MATRIX SPIKE SAMPLE EVALUATION REPORT

HPLC - Mass. Spec.

Client Lot #...: F7J160279 **Work Order #...:** J835Q1AE-MS **Matrix.....:** SOLID
MS Lot-Sample #: F7J160279-021 J835Q1AF-MSD
Date Sampled...: 10/13/07 **Date Received..:** 10/17/07
Prep Date.....: 10/17/07 **Analysis Date..:** 10/17/07
Prep Batch #...: 7290155 **Analysis Time..:** 13:20
Dilution Factor: 1 **% Moisture.....:** 9.9

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD
Perchlorate	**98**	**(70 - 130)**			**SW846 6850**
	99	**(70 - 130)**	**2.5**	**(0-15)**	**SW846 6850**

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

Results or reporting limits flagged with a ** have not been corrected for dry weight.

MATRIX SPIKE SAMPLE EVALUATION REPORT

HPLC - Mass. Spec.

Client Lot #...: F7J160279 **Work Order #...:** J836J1AE-MS **Matrix.....:** WATER
MS Lot-Sample #: F7J160279-035 J836J1AF-MSD
Date Sampled...: 10/14/07 **Date Received..:** 10/17/07
Prep Date.....: 10/17/07 **Analysis Date..:** 10/17/07
Prep Batch #...: 7290361 **Analysis Time..:** 17:11
Dilution Factor: 1

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD
Perchlorate	**103**	**(80 - 120)**			**SW846 6850**
	100	**(80 - 120)**	**2.9**	**(0-15)**	**SW846 6850**

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

MATRIX SPIKE SAMPLE EVALUATION REPORT

General Chemistry

Client Lot #...: F7J160279 **Matrix.....:** WATER
Date Sampled...: 10/14/07 **Date Received..:** 10/17/07

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Nitrate as N		Work Order #...: J836J1AH		MS Lot-Sample #: F7J160279-035	
	132 N	(75 - 125)	MCAWW 353.1	10/17/07	7290365

Dilution Factor: 1 Analysis Time..: 00:00

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

N Spiked analyte recovery is outside stated control limits.

MATRIX SPIKE SAMPLE EVALUATION REPORT

General Chemistry

Client Lot #...: F7J160279 **Matrix.....:** SOLID
Date Sampled...: 10/13/07 **Date Received..:** 10/17/07

Percnt Moisture: 0.0

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Nitrate		Work Order #...: J834N1AF		MS Lot-Sample #: F7J160279-008	
	96	(75 - 125)	MCAWW 300.0A	10/17-10/18/07	7291371
		Dilution Factor: 1	Analysis Time..: 05:14		
Nitrate		Work Order #...: J83441AF		MS Lot-Sample #: F7J160279-015	
	105	(75 - 125)	MCAWW 300.0A	10/17-10/18/07	7291373
		Dilution Factor: 1	Analysis Time..: 10:40		

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Results and reporting limits have been adjusted for dry weight.

SAMPLE DUPLICATE EVALUATION REPORT

HPLC - Mass. Spec.

Client Lot #...: F7J160279 **Work Order #...:** J83XG1AD -SMP **Matrix.....:** SOLID
SD Lot-Sample #: F7J160279-001 J83XG1AG -DUP
Date Sampled...: 10/14/07 **Date Received..:** 10/17/07 **MS Run #.....:**
Prep Date.....: 10/17/07 **Analysis Date..:** 10/17/07
Prep Batch #...: 7290152 **Analysis Time..:** 19:20
Dilution Factor: 1
% Moisture.....: 4.2

PARAMETER	SAMPLE RESULT	DUPLICATE RESULT	UNITS	RPD	RPD LIMIT	METHOD
Perchlorate	ND	ND	ug/kg	0	(0-15)	SW846 6850

SAMPLE DUPLICATE EVALUATION REPORT

HPLC - Mass. Spec.

Client Lot #...: F7J160279 **Work Order #...:** J835Q1AD -SMP **Matrix.....:** SOLID
SD Lot-Sample #: F7J160279-021 J835Q1AG -DUP
Date Sampled...: 10/13/07 **Date Received..:** 10/17/07 **MS Run #.....:**
Prep Date.....: 10/17/07 **Analysis Date..:** 10/17/07
Prep Batch #...: 7290155 **Analysis Time..:** 13:39
Dilution Factor: 1
% Moisture.....: 9.9

PARAMETER	SAMPLE RESULT	DUPLICATE RESULT	UNITS	RPD	RPD LIMIT	METHOD
Perchlorate	ND	ND	ug/kg	0	(0-15)	SW846 6850

SAMPLE DUPLICATE EVALUATION REPORT

HPLC - Mass. Spec.

Client Lot #...: F7J160279 **Work Order #...:** J836J1AC -SMP **Matrix.....:** WATER
SD Lot-Sample #: F7J160279-035 J836J1AG -DUP
Date Sampled...: 10/14/07 **Date Received..:** 10/17/07 **MS Run #.....:**
Prep Date.....: 10/17/07 **Analysis Date..:** 10/17/07
Prep Batch #...: 7290361 **Analysis Time..:** 17:28
Dilution Factor: 1

PARAMETER	SAMPLE RESULT	DUPLICATE RESULT	UNITS	RPD	RPD LIMIT	METHOD
Perchlorate	ND	ND	ug/L	0	(0-15)	SW846 6850

SAMPLE DUPLICATE EVALUATION REPORT

General Chemistry

Client Lot #...: F7J160279 **Work Order #...:** J836J-SMP J836J-DUP **Matrix.....:** WATER

Date Sampled...: 10/14/07 **Date Received..:** 10/17/07

PARAM	RESULT	DUPLICATE RESULT	UNITS	RPD	RPD LIMIT	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Nitrate as N						SD Lot-Sample #:	F7J160279-035	
	111	115	ug/L	3.3	(0-20)	MCAWW 353.1	10/17/07	7290365

Dilution Factor: 1 Analysis Time..: 00:00

SAMPLE DUPLICATE EVALUATION REPORT

General Chemistry

Client Lot #...: F7J160279 **Work Order #...:** J834N-SMP J834N-DUP **Matrix.....:** SOLID

Date Sampled...: 10/13/07 **Date Received..:** 10/17/07

% Moisture.....: 9.5

PARAM	RESULT	DUPLICATE RESULT	UNITS	RPD	RPD LIMIT	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Nitrate						SD Lot-Sample #:	F7J160279-008	
	ND	ND	mg/kg	0	(0-20)	MCAWW 300.0A	10/17-10/18/07	7291371

Dilution Factor: 1 Analysis Time..: 05:14

SAMPLE DUPLICATE EVALUATION REPORT

General Chemistry

Client Lot #...: F7J160279 **Work Order #...:** J8344-SMP J8344-DUP **Matrix.....:** SOLID

Date Sampled...: 10/14/07 **Date Received..:** 10/17/07

% Moisture.....: 5.4

PARAM	RESULT	DUPLICATE RESULT	UNITS	RPD	RPD LIMIT	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Nitrate						SD Lot-Sample #:	F7J160279-015	
	ND	ND	mg/kg	0	(0-20)	MCAWW 300.0A	10/17-10/18/07	7291373

Dilution Factor: 1 Analysis Time..: 10:40

LC/MS/MS SAMPLE AND QC DATA

Form I (s)

Los Alamos National Laboratory

Lab Name:TestAmerica Laboratories, Inc. SDG Number:F7J160279

Matrix: (soil/water) SOLID Lab Sample ID:F7J160279 001
Method: SW846 6850
6850, Perchlorate by LC/MS/MS

Sample WT/Vol: 2.114 / g Date Received: 10/17/07
Work Order: J83XG1AD Date Extracted:10/17/07
Dilution factor: 1 Date Analyzed: 10/17/07
Moisture %:4.2

QC Batch: 7290152

Client Sample Id: MD21-07-6797

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
14797-73-0	Perchlorate	5.2	U

Los Alamos National Laboratory

Lab Name:TestAmerica Laboratories, Inc. SDG Number:F7J160279

Matrix: (soil/water) SOLID Lab Sample ID:F7J160279 002
Method: SW846 6850
6850, Perchlorate by LC/MS/MS

Sample WT/Vol: 2.356 / g Date Received: 10/17/07
Work Order: J83371AD Date Extracted:10/17/07
Dilution factor: 1 Date Analyzed: 10/17/07
Moisture %:2.9

QC Batch: 7290152

Client Sample Id: MD21-07-6773

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
14797-73-0	Perchlorate	5.2	U

Los Alamos National Laboratory

Lab Name:TestAmerica Laboratories, Inc. SDG Number:F7J160279

Matrix: (soil/water) SOLID Lab Sample ID:F7J160279 003
Method: SW846 6850
6850, Perchlorate by LC/MS/MS

Sample WT/Vol: 2.217 / g Date Received: 10/17/07
Work Order: J834C1AD Date Extracted:10/17/07
Dilution factor: 1 Date Analyzed: 10/17/07
Moisture %:2.3

QC Batch: 7290152

Client Sample Id: MD21-07-6786

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
14797-73-0	Perchlorate	5.1	U

Los Alamos National Laboratory

Lab Name:TestAmerica Laboratories, Inc. SDG Number:F7J160279

Matrix: (soil/water) SOLID Lab Sample ID:F7J160279 004
Method: SW846 6850
6850, Perchlorate by LC/MS/MS

Sample WT/Vol: 2.564 / g Date Received: 10/17/07
Work Order: J834F1AD Date Extracted:10/17/07
Dilution factor: 1 Date Analyzed: 10/17/07
Moisture %:2.7

QC Batch: 7290152

Client Sample Id: MD21-07-6770

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
14797-73-0	Perchlorate	5.1	U

Los Alamos National Laboratory

Lab Name:TestAmerica Laboratories, Inc. SDG Number:F7J160279

Matrix: (soil/water) SOLID Lab Sample ID:F7J160279 005
Method: SW846 6850
6850, Perchlorate by LC/MS/MS

Sample WT/Vol: 2.877 / g Date Received: 10/17/07
Work Order: J834H1AD Date Extracted:10/17/07
Dilution factor: 1 Date Analyzed: 10/17/07
Moisture %:12

QC Batch: 7290152

Client Sample Id: MD21-07-6726

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
14797-73-0	Perchlorate	5.7	U

Los Alamos National Laboratory

Lab Name:TestAmerica Laboratories, Inc. SDG Number:F7J160279

Matrix: (soil/water) SOLID Lab Sample ID:F7J160279 006
Method: SW846 6850
6850, Perchlorate by LC/MS/MS

Sample WT/Vol: 2.281 / g Date Received: 10/17/07
Work Order: J834L1AD Date Extracted:10/17/07
Dilution factor: 1 Date Analyzed: 10/17/07
Moisture %:10

QC Batch: 7290152

Client Sample Id: MD21-07-6785

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
14797-73-0	Perchlorate	5.6	U

Los Alamos National Laboratory

Lab Name:TestAmerica Laboratories, Inc. SDG Number:F7J160279

Matrix: (soil/water) SOLID Lab Sample ID:F7J160279 007
Method: SW846 6850
6850, Perchlorate by LC/MS/MS

Sample WT/Vol: 2.362 / g Date Received: 10/17/07
Work Order: J834M1AD Date Extracted:10/17/07
Dilution factor: 1 Date Analyzed: 10/17/07
Moisture %:3.0

QC Batch: 7290152

Client Sample Id: MD21-07-6732

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
14797-73-0	Perchlorate	5.2	U

Los Alamos National Laboratory

Lab Name:TestAmerica Laboratories, Inc. SDG Number:F7J160279

Matrix: (soil/water) SOLID Lab Sample ID:F7J160279 008
Method: SW846 6850
6850, Perchlorate by LC/MS/MS

Sample WT/Vol: 2.466 / g Date Received: 10/17/07
Work Order: J834N1AD Date Extracted:10/17/07
Dilution factor: 1 Date Analyzed: 10/17/07
Moisture %:9.5

QC Batch: 7290152

Client Sample Id: MD21-07-6761

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
14797-73-0	Perchlorate	5.5	U

Los Alamos National Laboratory

Lab Name:TestAmerica Laboratories, Inc. SDG Number:F7J160279

Matrix: (soil/water) SOLID Lab Sample ID:F7J160279 009
Method: SW846 6850
6850, Perchlorate by LC/MS/MS

Sample WT/Vol: 2.118 / g Date Received: 10/17/07
Work Order: J834P1AD Date Extracted:10/17/07
Dilution factor: 1 Date Analyzed: 10/17/07
Moisture %:14

QC Batch: 7290152

Client Sample Id: MD21-07-6756

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
14797-73-0	Perchlorate	5.8	U

Los Alamos National Laboratory

Lab Name:TestAmerica Laboratories, Inc. SDG Number:F7J160279

Matrix: (soil/water) SOLID Lab Sample ID:F7J160279 010
Method: SW846 6850
6850, Perchlorate by LC/MS/MS

Sample WT/Vol: 2.338 / g Date Received: 10/17/07
Work Order: J834Q1AD Date Extracted:10/17/07
Dilution factor: 1 Date Analyzed: 10/17/07
Moisture %:6.5

QC Batch: 7290152

Client Sample Id: MD21-07-6777

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
14797-73-0	Perchlorate	5.3	U

Los Alamos National Laboratory

Lab Name:TestAmerica Laboratories, Inc. SDG Number:F7J160279

Matrix: (soil/water) SOLID Lab Sample ID:F7J160279 011
Method: SW846 6850
6850, Perchlorate by LC/MS/MS

Sample WT/Vol: 2.148 / g Date Received: 10/17/07
Work Order: J834V1AD Date Extracted:10/17/07
Dilution factor: 1 Date Analyzed: 10/17/07
Moisture %:15

QC Batch: 7290152

Client Sample Id: MD21-07-6775

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
14797-73-0	Perchlorate	5.9	U

Los Alamos National Laboratory

Lab Name:TestAmerica Laboratories, Inc. SDG Number:F7J160279

Matrix: (soil/water) SOLID Lab Sample ID:F7J160279 012
Method: SW846 6850
6850, Perchlorate by LC/MS/MS

Sample WT/Vol: 2.594 / g Date Received: 10/17/07
Work Order: J834W1AD Date Extracted:10/17/07
Dilution factor: 1 Date Analyzed: 10/17/07
Moisture %:14

QC Batch: 7290152

Client Sample Id: MD21-07-6755

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
14797-73-0	Perchlorate	5.8	U

Los Alamos National Laboratory

Lab Name:TestAmerica Laboratories, Inc. SDG Number:F7J160279

Matrix: (soil/water) SOLID Lab Sample ID:F7J160279 013
Method: SW846 6850
6850, Perchlorate by LC/MS/MS

Sample WT/Vol: 2.359 / g Date Received: 10/17/07
Work Order: J834X1AD Date Extracted:10/17/07
Dilution factor: 1 Date Analyzed: 10/17/07
Moisture %:4.4

QC Batch: 7290152

Client Sample Id: MD21-07-6771

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
14797-73-0	Perchlorate	5.2	U

Los Alamos National Laboratory

Lab Name:TestAmerica Laboratories, Inc. SDG Number:F7J160279

Matrix: (soil/water) SOLID Lab Sample ID:F7J160279 014
Method: SW846 6850
6850, Perchlorate by LC/MS/MS

Sample WT/Vol: 2.006 / g Date Received: 10/17/07
Work Order: J83401AD Date Extracted:10/17/07
Dilution factor: 1 Date Analyzed: 10/17/07
Moisture %:4.1

QC Batch: 7290152

Client Sample Id: MD21-07-6792

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
14797-73-0	Perchlorate	5.2	U

Los Alamos National Laboratory

Lab Name:TestAmerica Laboratories, Inc. SDG Number:F7J160279

Matrix: (soil/water) SOLID Lab Sample ID:F7J160279 015
Method: SW846 6850
6850, Perchlorate by LC/MS/MS

Sample WT/Vol: 2.291 / g Date Received: 10/17/07
Work Order: J83441AD Date Extracted:10/17/07
Dilution factor: 1 Date Analyzed: 10/17/07
Moisture %:5.4

QC Batch: 7290152

Client Sample Id: MD21-07-6783

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
14797-73-0	Perchlorate	5.3	U

Los Alamos National Laboratory

Lab Name:TestAmerica Laboratories, Inc. SDG Number:F7J160279

Matrix: (soil/water) SOLID Lab Sample ID:F7J160279 016
Method: SW846 6850
6850, Perchlorate by LC/MS/MS

Sample WT/Vol: 2.039 / g Date Received: 10/17/07
Work Order: J83481AD Date Extracted:10/17/07
Dilution factor: 1 Date Analyzed: 10/17/07
Moisture %:9.3

QC Batch: 7290152

Client Sample Id: MD21-07-6763

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
14797-73-0	Perchlorate	5.5	U

Los Alamos National Laboratory

Lab Name:TestAmerica Laboratories, Inc. SDG Number:F7J160279

Matrix: (soil/water) SOLID Lab Sample ID:F7J160279 017
Method: SW846 6850
6850, Perchlorate by LC/MS/MS

Sample WT/Vol: 2.453 / g Date Received: 10/17/07
Work Order: J835A1AD Date Extracted:10/17/07
Dilution factor: 1 Date Analyzed: 10/17/07
Moisture %:6.8

QC Batch: 7290152

Client Sample Id: MD21-07-6742

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
14797-73-0	Perchlorate	5.4	U

Los Alamos National Laboratory

Lab Name:TestAmerica Laboratories, Inc. SDG Number:F7J160279

Matrix: (soil/water) SOLID Lab Sample ID:F7J160279 018
Method: SW846 6850
6850, Perchlorate by LC/MS/MS

Sample WT/Vol: 2.446 / g Date Received: 10/17/07
Work Order: J835E1AD Date Extracted:10/17/07
Dilution factor: 1 Date Analyzed: 10/17/07
Moisture %:2.5

QC Batch: 7290152

Client Sample Id: MD21-07-6733

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
14797-73-0	Perchlorate	5.1	U

Los Alamos National Laboratory

Lab Name:TestAmerica Laboratories, Inc. SDG Number:F7J160279

Matrix: (soil/water) SOLID Lab Sample ID:F7J160279 019
Method: SW846 6850
6850, Perchlorate by LC/MS/MS

Sample WT/Vol: 2.337 / g Date Received: 10/17/07
Work Order: J835J1AD Date Extracted:10/17/07
Dilution factor: 1 Date Analyzed: 10/17/07
Moisture %:3.2

QC Batch: 7290152

Client Sample Id: MD21-07-6784

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
14797-73-0	Perchlorate	5.2	U

Los Alamos National Laboratory

Lab Name:TestAmerica Laboratories, Inc. SDG Number:F7J160279

Matrix: (soil/water) SOLID Lab Sample ID:F7J160279 020
Method: SW846 6850
6850, Perchlorate by LC/MS/MS

Sample WT/Vol: 2.475 / g Date Received: 10/17/07
Work Order: J835N1AD Date Extracted:10/17/07
Dilution factor: 1 Date Analyzed: 10/17/07
Moisture %:8.4

QC Batch: 7290152

Client Sample Id: MD21-07-6769

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
14797-73-0	Perchlorate	5.5	U

Los Alamos National Laboratory

Lab Name:TestAmerica Laboratories, Inc. SDG Number:F7J160279

Matrix: (soil/water) SOLID Lab Sample ID:F7J160279 021
Method: SW846 6850
6850, Perchlorate by LC/MS/MS

Sample WT/Vol: 2.134 / g Date Received: 10/17/07
Work Order: J835Q1AD Date Extracted:10/17/07
Dilution factor: 1 Date Analyzed: 10/17/07
Moisture %:9.9

QC Batch: 7290155

Client Sample Id: MD21-07-6754

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
14797-73-0	Perchlorate	5.6	U

Los Alamos National Laboratory

Lab Name:TestAmerica Laboratories, Inc. SDG Number:F7J160279

Matrix: (soil/water) SOLID Lab Sample ID:F7J160279 022
Method: SW846 6850
6850, Perchlorate by LC/MS/MS

Sample WT/Vol: 2.539 / g Date Received: 10/17/07
Work Order: J835W1AD Date Extracted:10/17/07
Dilution factor: 1 Date Analyzed: 10/17/07
Moisture %:1.6

QC Batch: 7290155

Client Sample Id: MD21-07-6787

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
14797-73-0	Perchlorate	5.1	U

Los Alamos National Laboratory

Lab Name:TestAmerica Laboratories, Inc. SDG Number:F7J160279

Matrix: (soil/water) SOLID Lab Sample ID:F7J160279 023
Method: SW846 6850
6850, Perchlorate by LC/MS/MS

Sample WT/Vol: 2.522 / g Date Received: 10/17/07
Work Order: J83511AD Date Extracted:10/17/07
Dilution factor: 1 Date Analyzed: 10/17/07
Moisture %:9.6

QC Batch: 7290155

Client Sample Id: MD21-07-6795

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
14797-73-0	Perchlorate	5.5	U

Los Alamos National Laboratory

Lab Name:TestAmerica Laboratories, Inc. SDG Number:F7J160279

Matrix: (soil/water) SOLID Lab Sample ID:F7J160279 024
Method: SW846 6850
6850, Perchlorate by LC/MS/MS

Sample WT/Vol: 2.34 / g Date Received: 10/17/07
Work Order: J83531AD Date Extracted:10/17/07
Dilution factor: 1 Date Analyzed: 10/17/07
Moisture %:9.6

QC Batch: 7290155

Client Sample Id: MD21-07-6741

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
14797-73-0	Perchlorate	5.5	U

Los Alamos National Laboratory

Lab Name:TestAmerica Laboratories, Inc. SDG Number:F7J160279

Matrix: (soil/water) SOLID Lab Sample ID:F7J160279 025
Method: SW846 6850
6850, Perchlorate by LC/MS/MS

Sample WT/Vol: 2.87 / g Date Received: 10/17/07
Work Order: J83551AD Date Extracted:10/17/07
Dilution factor: 1 Date Analyzed: 10/17/07
Moisture %:1.2

QC Batch: 7290155

Client Sample Id: MD21-07-6793

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
14797-73-0	Perchlorate	5.1	U

Los Alamos National Laboratory

Lab Name:TestAmerica Laboratories, Inc. SDG Number:F7J160279

Matrix: (soil/water) SOLID Lab Sample ID:F7J160279 026
Method: SW846 6850
6850, Perchlorate by LC/MS/MS

Sample WT/Vol: 2.115 / g Date Received: 10/17/07
Work Order: J83561AD Date Extracted:10/17/07
Dilution factor: 1 Date Analyzed: 10/17/07
Moisture %:6.4

QC Batch: 7290155

Client Sample Id: MD21-07-6772

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
14797-73-0	Perchlorate	5.3	U

Los Alamos National Laboratory

Lab Name:TestAmerica Laboratories, Inc. SDG Number:F7J160279

Matrix: (soil/water) SOLID Lab Sample ID:F7J160279 027
Method: SW846 6850
6850, Perchlorate by LC/MS/MS

Sample WT/Vol: 2.256 / g Date Received: 10/17/07
Work Order: J83591AD Date Extracted:10/17/07
Dilution factor: 1 Date Analyzed: 10/17/07
Moisture %:6.1

QC Batch: 7290155

Client Sample Id: MD21-07-6768

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
14797-73-0	Perchlorate	5.3	U

Los Alamos National Laboratory

Lab Name:TestAmerica Laboratories, Inc. SDG Number:F7J160279

Matrix: (soil/water) SOLID Lab Sample ID:F7J160279 028
Method: SW846 6850
6850, Perchlorate by LC/MS/MS

Sample WT/Vol: 2.259 / g Date Received: 10/17/07
Work Order: J836A1AD Date Extracted:10/17/07
Dilution factor: 1 Date Analyzed: 10/17/07
Moisture %:15

QC Batch: 7290155

Client Sample Id: MD21-07-6798

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
14797-73-0	Perchlorate	5.9	U

Los Alamos National Laboratory

Lab Name:TestAmerica Laboratories, Inc. SDG Number:F7J160279

Matrix: (soil/water) SOLID Lab Sample ID:F7J160279 029
Method: SW846 6850
6850, Perchlorate by LC/MS/MS

Sample WT/Vol: 2.246 / g Date Received: 10/17/07
Work Order: J836C1AD Date Extracted:10/17/07
Dilution factor: 1 Date Analyzed: 10/17/07
Moisture %:4.6

QC Batch: 7290155

Client Sample Id: MD21-07-6740

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
14797-73-0	Perchlorate	5.2	U

Los Alamos National Laboratory

Lab Name:TestAmerica Laboratories, Inc. SDG Number:F7J160279

Matrix: (soil/water) SOLID Lab Sample ID:F7J160279 030
Method: SW846 6850
6850, Perchlorate by LC/MS/MS

Sample WT/Vol: 2.472 / g Date Received: 10/17/07
Work Order: J836D1AD Date Extracted:10/17/07
Dilution factor: 1 Date Analyzed: 10/17/07
Moisture %:15

QC Batch: 7290155

Client Sample Id: MD21-07-6776

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
14797-73-0	Perchlorate	5.9	U

Los Alamos National Laboratory

Lab Name:TestAmerica Laboratories, Inc. SDG Number:F7J160279

Matrix: (soil/water) SOLID Lab Sample ID:F7J160279 031
Method: SW846 6850
6850, Perchlorate by LC/MS/MS

Sample WT/Vol: 2.447 / g Date Received: 10/17/07
Work Order: J836E1AD Date Extracted:10/17/07
Dilution factor: 1 Date Analyzed: 10/17/07
Moisture %:15

QC Batch: 7290155

Client Sample Id: MD21-07-6762

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
14797-73-0	Perchlorate	5.9	U

Los Alamos National Laboratory

Lab Name:TestAmerica Laboratories, Inc. SDG Number:F7J160279

Matrix: (soil/water) SOLID Lab Sample ID:F7J160279 032
Method: SW846 6850
6850, Perchlorate by LC/MS/MS

Sample WT/Vol: 2.459 / g Date Received: 10/17/07
Work Order: J836F1AD Date Extracted:10/17/07
Dilution factor: 1 Date Analyzed: 10/17/07
Moisture %:6.2

QC Batch: 7290155

Client Sample Id: MD21-07-6757

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
14797-73-0	Perchlorate	5.3	U

Los Alamos National Laboratory

Lab Name:TestAmerica Laboratories, Inc. SDG Number:F7J160279

Matrix: (soil/water) SOLID Lab Sample ID:F7J160279 033
Method: SW846 6850
6850, Perchlorate by LC/MS/MS

Sample WT/Vol: 2.885 / g Date Received: 10/17/07
Work Order: J836G1AD Date Extracted:10/17/07
Dilution factor: 1 Date Analyzed: 10/17/07
Moisture %:5.9

QC Batch: 7290155

Client Sample Id: MD21-07-6725

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
14797-73-0	Perchlorate	5.3	U

Los Alamos National Laboratory

Lab Name:TestAmerica Laboratories, Inc. SDG Number:F7J160279

Matrix: (soil/water) SOLID Lab Sample ID:F7J160279 034
Method: SW846 6850
6850, Perchlorate by LC/MS/MS

Sample WT/Vol: 2.587 / g Date Received: 10/17/07
Work Order: J836H1AD Date Extracted:10/17/07
Dilution factor: 1 Date Analyzed: 10/17/07
Moisture %:6.9

QC Batch: 7290155

Client Sample Id: MD21-07-6727

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
14797-73-0	Perchlorate	5.4	U

Los Alamos National Laboratory

Lab Name:TestAmerica Laboratories, Inc. SDG Number:F7J160279

Matrix: (soil/water) WATER Lab Sample ID:F7J160279 035
Method: SW846 6850
6850, Perchlorate by LC/MS/MS

Sample WT/Vol: 10 / mL Date Received: 10/17/07
Work Order: J836J1AC Date Extracted:10/17/07
Dilution factor: 1 Date Analyzed: 10/17/07
Moisture %:NA

QC Batch: 7290361

Client Sample Id: MD21-07-6799

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/L	Q
14797-73-0	Perchlorate	0.50	U

Los Alamos National Laboratory

Lab Name:TestAmerica Laboratories, Inc. SDG Number:F7J160279

Matrix: (soil/water) WATER Lab Sample ID:F7J160279 036
Method: SW846 6850
6850, Perchlorate by LC/MS/MS

Sample WT/Vol: 10 / mL Date Received: 10/17/07
Work Order: J836M1AC Date Extracted:10/17/07
Dilution factor: 1 Date Analyzed: 10/17/07
Moisture %:NA

QC Batch: 7290361

Client Sample Id: MD21-07-6796

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/L	Q
14797-73-0	Perchlorate	0.50	U

Los Alamos National Laboratory

Lab Name:TestAmerica Laboratories, Inc. SDG Number:F7J160279

Matrix: (soil/water) SOLID Lab Sample ID:F7J160279 037
Method: SW846 6850
6850, Perchlorate by LC/MS/MS

Sample WT/Vol: 2.339 / g Date Received: 10/17/07
Work Order: J836T1AD Date Extracted:10/17/07
Dilution factor: 1 Date Analyzed: 10/17/07
Moisture %:5.8

QC Batch: 7290155

Client Sample Id: MD21-07-7022

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
14797-73-0	Perchlorate	5.3	U

Los Alamos National Laboratory

Lab Name:TestAmerica Laboratories, Inc. SDG Number:F7J160279

Matrix: (soil/water) WATER Lab Sample ID:F7J160279 038
Method: SW846 6850
6850, Perchlorate by LC/MS/MS

Sample WT/Vol: 10 / mL Date Received: 10/17/07
Work Order: J836W1AC Date Extracted:10/17/07
Dilution factor: 1 Date Analyzed: 10/17/07
Moisture %:NA

QC Batch: 7290361

Client Sample Id: MD21-08-7053

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/L	Q
14797-73-0	Perchlorate	0.50	U

Los Alamos National Laboratory
METHOD BLANK COMPOUNDS

Lab Name:TestAmerica Laboratories, Inc. SDG Number:F7J160279

Matrix: (soil/water) SOLID Lab Sample ID:F7J170000 152
Method: SW846 6850
6850, Perchlorate by LC/MS/MS

Sample WT/Vol: 2 / g Date Received: 10/17/07
Work Order: J844V1AA Date Extracted:10/17/07
Dilution factor: 1 Date Analyzed: 10/17/07
Moisture %:NA

QC Batch: 7290152

Client Sample Id: INTRA-LAB BLANK

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
14797-73-0	Perchlorate	5.0	U

Los Alamos National Laboratory
METHOD BLANK COMPOUNDS

Lab Name:TestAmerica Laboratories, Inc. SDG Number:F7J160279

Matrix: (soil/water) SOLID Lab Sample ID:F7J170000 155
Method: SW846 6850
6850, Perchlorate by LC/MS/MS

Sample WT/Vol: 2 / g Date Received: 10/17/07
Work Order: J846L1AA Date Extracted:10/17/07
Dilution factor: 1 Date Analyzed: 10/17/07
Moisture %:NA

QC Batch: 7290155

Client Sample Id: INTRA-LAB BLANK

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
14797-73-0	Perchlorate	5.0	U

Los Alamos National Laboratory
METHOD BLANK COMPOUNDS

Lab Name:TestAmerica Laboratories, Inc. SDG Number:F7J160279

Matrix: (soil/water) WATER Lab Sample ID:F7J170000 361
Method: SW846 6850
6850, Perchlorate by LC/MS/MS

Sample WT/Vol: 10 / mL Date Received: 10/17/07
Work Order: J85521AA Date Extracted:10/17/07
Dilution factor: 1 Date Analyzed: 10/17/07
Moisture %:NA

QC Batch: 7290361

Client Sample Id: INTRA-LAB BLANK

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/L	Q
14797-73-0	Perchlorate	0.50	U

Los Alamos National Laboratory
CHECK SAMPLE COMPOUNDS

Lab Name:TestAmerica Laboratories, Inc. SDG Number:F7J160279

Matrix: (soil/water) SOLID Lab Sample ID:F7J170000 152
Method: SW846 6850
6850, Perchlorate by LC/MS/MS

Sample WT/Vol: 2 / g Date Received: 10/17/07
Work Order: J844V1AC Date Extracted:10/17/07
Dilution factor: 1 Date Analyzed: 10/17/07
Moisture %:NA

QC Batch: 7290152

Client Sample Id: CHECK SAMPLE

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
14797-73-0	Perchlorate	95.9	

Los Alamos National Laboratory
CHECK SAMPLE COMPOUNDS

Lab Name:TestAmerica Laboratories, Inc. SDG Number:F7J160279

Matrix: (soil/water) SOLID Lab Sample ID:F7J170000 155
Method: SW846 6850
6850, Perchlorate by LC/MS/MS

Sample WT/Vol: 2 / g Date Received: 10/17/07
Work Order: J846L1AC Date Extracted:10/17/07
Dilution factor: 1 Date Analyzed: 10/17/07
Moisture %:NA

QC Batch: 7290155

Client Sample Id: CHECK SAMPLE

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
14797-73-0	Perchlorate	100	

Los Alamos National Laboratory
CHECK SAMPLE COMPOUNDS

Lab Name:TestAmerica Laboratories, Inc. SDG Number:F7J160279

Matrix: (soil/water) WATER Lab Sample ID:F7J170000 361
Method: SW846 6850
6850, Perchlorate by LC/MS/MS

Sample WT/Vol: 10 / mL Date Received: 10/17/07
Work Order: J85521AC Date Extracted:10/17/07
Dilution factor: 1 Date Analyzed: 10/17/07
Moisture %:NA

QC Batch: 7290361

Client Sample Id: CHECK SAMPLE

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/L	Q
14797-73-0	Perchlorate	9.77	

Los Alamos National Laboratory
MATRIX SPIKE DUPLICATE COMPOUNDS

Lab Name: TestAmerica Laboratories, Inc. SDG Number: F7J160279

Matrix: (soil/water) SOLID Lab Sample ID: F7J160279 001
Method: SW846 6850
6850, Perchlorate by LC/MS/MS

Sample WT/Vol: 2.172 / g
Work Order: J83XG1AF
Dilution factor: 1
Moisture %: 4.2

Date Received: 10/17/07
Date Extracted: 10/17/07
Date Analyzed: 10/17/07

QC Batch: 7290152

Client Sample Id: MD21-07-6797

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
14797-73-0	Perchlorate	96.9	

Los Alamos National Laboratory
MATRIX SPIKE DUPLICATE COMPOUNDS

Lab Name:TestAmerica Laboratories, Inc. SDG Number:F7J160279

Matrix: (soil/water) SOLID Lab Sample ID:F7J160279 021
Method: SW846 6850
6850, Perchlorate by LC/MS/MS

Sample WT/Vol: 2.198 / g Date Received: 10/17/07
Work Order: J835Q1AF Date Extracted:10/17/07
Dilution factor: 1 Date Analyzed: 10/17/07
Moisture %:9.9

QC Batch: 7290155

Client Sample Id: MD21-07-6754

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
14797-73-0	Perchlorate	100	

Los Alamos National Laboratory
MATRIX SPIKE DUPLICATE COMPOUNDS

Lab Name:TestAmerica Laboratories, Inc. SDG Number:F7J160279

Matrix: (soil/water) WATER Lab Sample ID:F7J160279 035
Method: SW846 6850
6850, Perchlorate by LC/MS/MS

Sample WT/Vol: 10 / mL Date Received: 10/17/07
Work Order: J836J1AF Date Extracted:10/17/07
Dilution factor: 1 Date Analyzed: 10/17/07
Moisture %:NA

QC Batch: 7290361

Client Sample Id: MD21-07-6799

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/L	Q
14797-73-0	Perchlorate	10.0	

Los Alamos National Laboratory
MATRIX SPIKE COMPOUNDS

Lab Name:TestAmerica Laboratories, Inc. SDG Number:F7J160279

Matrix: (soil/water) SOLID Lab Sample ID:F7J160279 001
Method: SW846 6850
6850, Perchlorate by LC/MS/MS

Sample WT/Vol: 2.101 / g Date Received: 10/17/07
Work Order: J83XG1AE Date Extracted:10/17/07
Dilution factor: 1 Date Analyzed: 10/17/07
Moisture %:4.2

QC Batch: 7290152

Client Sample Id: MD21-07-6797

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
14797-73-0	Perchlorate	98.2	

Los Alamos National Laboratory
MATRIX SPIKE COMPOUNDS

Lab Name:TestAmerica Laboratories, Inc. SDG Number:F7J160279

Matrix: (soil/water) SOLID Lab Sample ID:F7J160279 021
Method: SW846 6850
6850, Perchlorate by LC/MS/MS

Sample WT/Vol: 2.122 / g Date Received: 10/17/07
Work Order: J835Q1AE Date Extracted:10/17/07
Dilution factor: 1 Date Analyzed: 10/17/07
Moisture %:9.9

QC Batch: 7290155

Client Sample Id: MD21-07-6754

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
14797-73-0	Perchlorate	103	

Los Alamos National Laboratory
MATRIX SPIKE COMPOUNDS

Lab Name:TestAmerica Laboratories, Inc. SDG Number:F7J160279

Matrix: (soil/water) WATER
Method: SW846 6850
6850, Perchlorate by LC/MS/MS

Lab Sample ID:F7J160279 035

Sample WT/Vol: 10 / mL
Work Order: J836J1AE
Dilution factor: 1
Moisture %:NA

Date Received: 10/17/07
Date Extracted:10/17/07
Date Analyzed: 10/17/07

QC Batch: 7290361

Client Sample Id: MD21-07-6799

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/L	Q
14797-73-0	Perchlorate	10.3	

Los Alamos National Laboratory

Lab Name:TestAmerica Laboratories, Inc. SDG Number:F7J160279

Matrix: (soil/water) SOLID Lab Sample ID:F7J160279 001
Method: SW846 6850
6850, Perchlorate by LC/MS/MS

Sample WT/Vol: 2.14 / g Date Received: 10/17/07
Work Order: J83XG1AG Date Extracted:10/17/07
Dilution factor: 1 Date Analyzed: 10/17/07
Moisture %:4.2

QC Batch: 7290152

Client Sample Id: MD21-07-6797 DUP

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
14797-73-0	Perchlorate	5.2	U

Los Alamos National Laboratory

Lab Name:TestAmerica Laboratories, Inc. SDG Number:F7J160279

Matrix: (soil/water) SOLID Lab Sample ID:F7J160279 021
Method: SW846 6850
6850, Perchlorate by LC/MS/MS

Sample WT/Vol: 2.126 / g Date Received: 10/17/07
Work Order: J835Q1AG Date Extracted:10/17/07
Dilution factor: 1 Date Analyzed: 10/17/07
Moisture %:9.9

QC Batch: 7290155

Client Sample Id: MD21-07-6754 DUP

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
14797-73-0	Perchlorate	5.6	U

Los Alamos National Laboratory

Lab Name:TestAmerica Laboratories, Inc. SDG Number:F7J160279

Matrix: (soil/water) WATER Lab Sample ID:F7J160279 035
Method: SW846 6850
6850, Perchlorate by LC/MS/MS

Sample WT/Vol: 10 / mL Date Received: 10/17/07
Work Order: J836J1AG Date Extracted:10/17/07
Dilution factor: 1 Date Analyzed: 10/17/07
Moisture %:NA

QC Batch: 7290361

Client Sample Id: MD21-07-6799 DUP

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/L	Q
14797-73-0	Perchlorate	0.50	U

FORM I

LC/MS/MS Additional QC Data

Form II (s)
Form III (s)
Form IV (s)

SW846 6850 MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: TestAmerica Laboratories, Inc.
Client: Los Alamos National Laboratory

Lab Code: TALSTL
SDG No: F7J160279

Matrix Spike ID: MD21-07-6797
Level:(low/med) LOW

Lot #: F7J160279
WO #: J83XG1AE
BATCH: 7290152

COMPOUND	SPIKE ADDED (ug/kg)	SAMPLE CONCENT. (ug/kg)	MS CONCENT. (ug/kg)	MS % REC	LIMITS REC	QUAL
Perchlorate	99.4	ND	98.2	99	70- 130	

NOTES(S):

Results or reporting limits flagged with a ** have not been corrected for dry weight.

Column to be used to flag recovery and RPD values with an asterisk
* Values outside of QC limits

RPD: 0 out of 0 outside limits
Spike Recovery: 0 out of 1 outside limits

COMMENTS:

FORM III

SW846 6850 MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: TestAmerica Laboratories, Inc. Client: Los Alamos National Laboratory

Lab Code: TALSTL SDG No: F7J160279

Matrix Spike ID: MD21-07-6754 Level:(low/med) LOW

Lot #: F7J160279 WO #: J835Q1AE
BATCH: 7290155

COMPOUND	SPIKE ADDED (ug/kg)	SAMPLE CONCENT. (ug/kg)	MS CONCENT. (ug/kg)	MS % REC	LIMITS REC	QUAL
Perchlorate	105	ND	103	98	70- 130	

NOTES(S):

Results or reporting limits flagged with a ** have not been corrected for dry weight.

Column to be used to flag recovery and RPD values with an asterisk
* Values outside of QC limits

RPD: 0 out of 0 outside limits
Spike Recovery: 0 out of 1 outside limits

COMMENTS:

FORM III

SW846 6850 MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: TestAmerica Laboratories, Inc. Client: Los Alamos National Laboratory

Lab Code: TALSTL SDG No: F7J160279

Matrix Spike ID: MD21-07-6799

Lot #: F7J160279 WO #: J836J1AE
BATCH: 7290361

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENT. (ug/L)	MS CONCENT. (ug/L)	MS % REC	LIMITS REC	QUAL
Perchlorate	10.0	ND	10.3	103	80- 120	

NOTES(S):

Column to be used to flag recovery and RPD values with an asterisk
* Values outside of QC limits

RPD: 0 out of 0 outside limits
Spike Recovery: 0 out of 1 outside limits

COMMENTS:

FORM III

SW846 6850 MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: TestAmerica Laboratories, Inc. Client: Los Alamos National Laboratory

Lab Code: TALSTL SDG No: F7J160279

Matrix Spike ID: MD21-07-6797 Level:(low/med) LOW

Lot #: F7J160279 WO #: J83XG1AF
BATCH: 7290152

COMPOUND	SPIKE ADDED (ug/kg)	MSD CONCENT. (ug/kg)	MSD % REC	% RPD	QC LIMITS RPD	QC LIMITS REC	QUAL
Perchlorate	96.1	96.9	101	1.2	15	70- 130	

NOTES(S):

Results or reporting limits flagged with a ** have not been corrected for dry weight.

Column to be used to flag recovery and RPD values with an asterisk
* Values outside of QC limits

RPD: 0 out of 1 outside limits
Spike Recovery: 0 out of 1 outside limits

COMMENTS:

FORM III

SW846 6850 MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: TestAmerica Laboratories, Inc. Client: Los Alamos National Laboratory

Lab Code: TALSTL SDG No: F7J160279

Matrix Spike ID: MD21-07-6754 Level:(low/med) LOW

Lot #: F7J160279 WO #: J835Q1AF
BATCH: 7290155

COMPOUND	SPIKE ADDED (ug/kg)	MSD CONCENT. (ug/kg)	MSD % REC	% RPD	QC LIMITS RPD	QC LIMITS REC	QUAL
Perchlorate	101	100	99	2.5	15	70- 130	

NOTES(S):

Results or reporting limits flagged with a ** have not been corrected for dry weight.

Column to be used to flag recovery and RPD values with an asterisk
* Values outside of QC limits

RPD: 0 out of 1 outside limits
Spike Recovery: 0 out of 1 outside limits

COMMENTS:

FORM III

SW846 6850 MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: TestAmerica Laboratories, Inc. Client: Los Alamos National Laboratory

Lab Code: TALSTL SDG No: F7J160279

Matrix Spike ID: MD21-07-6799

Lot #: F7J160279 WO #: J836J1AF
BATCH: 7290361

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENT. (ug/L)	MSD % REC	% RPD	QC LIMITS RPD	QC LIMITS REC	QUAL
Perchlorate	10.0	10.0	100	2.9	15	80- 120	

NOTES(S):

Column to be used to flag recovery and RPD values with an asterisk
* Values outside of QC limits

RPD: 0 out of 1 outside limits
Spike Recovery: 0 out of 1 outside limits

COMMENTS:

FORM III

SW846 6850 CHECK SAMPLE RECOVERY

Lab Name: TestAmerica Laboratories, Inc. Client: Los Alamos National Laboratory

Lab Code: TALSTL SDG No: F7J160279

Lot #: F7J170000 WO #: J844V1AC
BATCH: 7290152

COMPOUND	SPIKE ADDED (ug/kg)	SAMPLE CONCENT. (ug/kg)	% REC	QC LIMITS REC	QUAL
Perchlorate	100	95.9	96	80- 120	

NOTES(S):

* Values outside of QC limits

Spike Recovery: 0 out of 1 outside limits

COMMENTS:

FORM III

SW846 6850 CHECK SAMPLE RECOVERY

Lab Name: TestAmerica Laboratories, Inc. Client: Los Alamos National Laboratory

Lab Code: TALSTL SDG No: F7J160279

Lot #: F7J170000 WO #: J846L1AC
BATCH: 7290155

COMPOUND	SPIKE ADDED (ug/kg)	SAMPLE CONCENT. (ug/kg)	% REC	QC LIMITS REC	QUAL
Perchlorate	100	100	100	80- 120	

NOTES(S):

* Values outside of QC limits

Spike Recovery: 0 out of 1 outside limits

COMMENTS:

FORM III

SW846 6850 CHECK SAMPLE RECOVERY

Lab Name: TestAmerica Laboratories, Inc. Client: Los Alamos National Laboratory

Lab Code: TALSTL SDG No: F7J160279

Lot #: F7J170000 WO #: J85521AC
BATCH: 7290361

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENT. (ug/L)	% REC	QC LIMITS REC	QUAL
Perchlorate	10.0	9.77	98	80- 120	

NOTES(S):

* Values outside of QC limits

Spike Recovery: 0 out of 1 outside limits

COMMENTS:

FORM III

BLANK WORKORDER NO.

J844V1AA

SW846 6850 METHOD BLANK SUMMARY

Lab Name: TestAmerica Laboratories, Inc.

Lab Code: TALSTL

SDG Number:F7J160279

Lab File ID: P1017758

Lot Number: F7J160279

Date Analyzed: 10/17/07

Time Analyzed: 18:37

Matrix: SOLID

Date Extracted:10/17/07

GC Column: IONPACAG16 ID: .00

Extraction Method:

Instrument ID: LCMSMSR

Level:(low/med)

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, LCS, LCSD, MS , MSD:

	CLIENT ID.	SAMPLE WORK ORDER #	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	MD21-07-6797	J83XG1AD	P1017760	10/17/07	18:54
02	MD21-07-6797	J83XG1AE S	P1017761	10/17/07	19:03
03	MD21-07-6797	J83XG1AF D	P1017762	10/17/07	19:11
04	MD21-07-6797 DUP	J83XG1AG X	P1017763	10/17/07	19:20
05	MD21-07-6773	J83371AD	P1017764	10/17/07	19:28
06	MD21-07-6786	J834C1AD	P1017765	10/17/07	19:37
07	MD21-07-6770	J834F1AD	P1017766	10/17/07	19:46
08	MD21-07-6726	J834H1AD	P1017767	10/17/07	19:54
09	MD21-07-6785	J834L1AD	P1017768	10/17/07	20:03
10	MD21-07-6732	J834M1AD	P1017769	10/17/07	20:12
11	MD21-07-6761	J834N1AD	P1017774	10/17/07	20:55
12	MD21-07-6756	J834P1AD	P1017775	10/17/07	21:03
13	MD21-07-6777	J834Q1AD	P1017776	10/17/07	21:12
14	MD21-07-6775	J834V1AD	P1017777	10/17/07	21:20
15	MD21-07-6755	J834W1AD	P1017778	10/17/07	21:29
16	MD21-07-6771	J834X1AD	P1017779	10/17/07	21:37
17	MD21-07-6792	J83401AD	P1017780	10/17/07	21:46
18	MD21-07-6783	J83441AD	P1017781	10/17/07	21:54
19	MD21-07-6763	J83481AD	P1017782	10/17/07	22:03
20	MD21-07-6742	J835A1AD	P1017783	10/17/07	22:12
21	MD21-07-6733	J835E1AD	P1017753	10/17/07	17:54
22	MD21-07-6784	J835J1AD	P1017754	10/17/07	18:02
23	MD21-07-6769	J835N1AD	P1017755	10/17/07	18:11
24	CHECK SAMPLE	J844V1AC C	P1017759	10/17/07	18:45
25					
26					
27					
28					
29					
30					

COMMENTS:

FORM IV

BLANK WORKORDER NO.

J846L1AA

SW846 6850 METHOD BLANK SUMMARY

Lab Name: TestAmerica Laboratories, Inc.

Lab Code: TALSTL

SDG Number: F7J160279

Lab File ID: P1017719

Lot Number: F7J160279

Date Analyzed: 10/17/07

Time Analyzed: 12:53

Matrix: SOLID

Date Extracted: 10/17/07

GC Column: IONPACAG16 ID: .00

Extraction Method:

Instrument ID: LCMSMSR

Level: (low/med)

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, LCS, LCSD, MS , MSD:

	CLIENT ID.	SAMPLE WORK ORDER #	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	MD21-07-6754	J835Q1AD	P1017721	10/17/07	13:11
02	MD21-07-6754	J835Q1AE S	P1017722	10/17/07	13:20
03	MD21-07-6754	J835Q1AF D	P1017723	10/17/07	13:29
04	MD21-07-6754 DUP	J835Q1AG X	P1017724	10/17/07	13:39
05	MD21-07-6787	J835W1AD	P1017725	10/17/07	13:48
06	MD21-07-6795	J83511AD	P1017726	10/17/07	13:57
07	MD21-07-6741	J83531AD	P1017727	10/17/07	14:06
08	MD21-07-6793	J83551AD	P1017728	10/17/07	14:15
09	MD21-07-6772	J83561AD	P1017729	10/17/07	14:24
10	MD21-07-6768	J83591AD	P1017730	10/17/07	14:33
11	MD21-07-6798	J836A1AD	P1017733	10/17/07	15:00
12	MD21-07-6740	J836C1AD	P1017734	10/17/07	15:09
13	MD21-07-6776	J836D1AD	P1017735	10/17/07	15:18
14	MD21-07-6762	J836E1AD	P1017736	10/17/07	15:27
15	MD21-07-6757	J836F1AD	P1017737	10/17/07	15:36
16	MD21-07-6725	J836G1AD	P1017738	10/17/07	15:45
17	MD21-07-6727	J836H1AD	P1017739	10/17/07	15:53
18	MD21-07-7022	J836T1AD	P1017740	10/17/07	16:02
19	CHECK SAMPLE	J846L1AC C	P1017720	10/17/07	13:02
20					
21					
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23					
24					
25					
26					
27					
28					
29					
30					

COMMENTS:

FORM IV

BLANK WORKORDER NO.

J85521AA

SW846 6850 METHOD BLANK SUMMARY

Lab Name: TestAmerica Laboratories, Inc.

Lab Code: TALSTL

SDG Number: F7J160279

Lab File ID: P1017745

Lot Number: F7J160279

Date Analyzed: 10/17/07

Time Analyzed: 16:45

Matrix: WATER

Date Extracted: 10/17/07

GC Column: IONPACAG16 ID: .00

Extraction Method:

Instrument ID: LCMSMSR

Level: (low/med)

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, LCS, LCSD, MS , MSD:

	CLIENT ID.	SAMPLE WORK ORDER #	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	MD21-07-6799	J836J1AC	P1017747	10/17/07	17:02
02	MD21-07-6799	J836J1AE S	P1017748	10/17/07	17:11
03	MD21-07-6799	J836J1AF D	P1017749	10/17/07	17:19
04	MD21-07-6799 DUP	J836J1AG X	P1017750	10/17/07	17:28
05	MD21-07-6796	J836M1AC	P1017751	10/17/07	17:37
06	MD21-08-7053	J836W1AC	P1017752	10/17/07	17:45
07	CHECK SAMPLE	J85521AC C	P1017746	10/17/07	16:53
08					
09					
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29					
30					

COMMENTS:

FORM IV

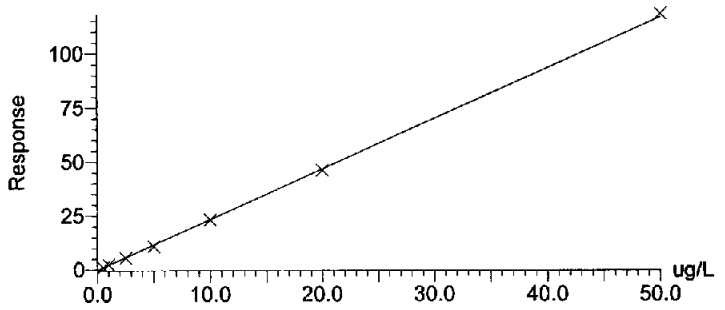
LC/MS/MS STANDARDS DATA

Initial Calibration Data
Continuing Calibration Data

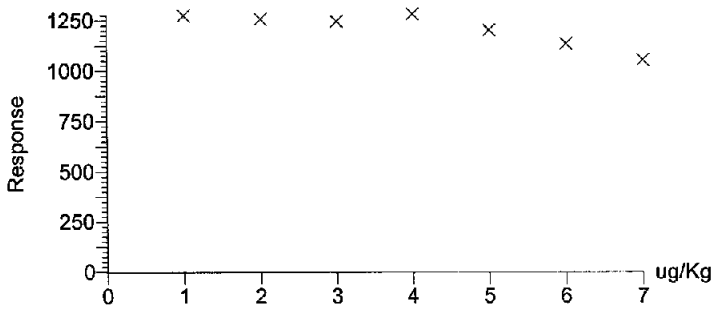
Quantify Calibration Report **MassLynx 4.1**
Test America, INC. St. Louis
Dataset: C:\MassLynx\Perchlorates.PRO\DataSetSaved\New Folder\101707WCurve_per.qld
Last Altered: Wednesday, October 17, 2007 12:24:52 Central Daylight Time
Printed: Wednesday, October 17, 2007 12:25:36 Central Daylight Time

Method: C:\MassLynx\Perchlorates.PRO\MethDB\PerchlorateMRMWater.mdb 17 Oct 2007 12:14:26
Calibration: C:\MassLynx\Perchlorates.PRO\CurveDB\PerchlorateMRM101707W.cdb 17 Oct 2007 12:24:52

Compound name: Perchlorate
Correlation coefficient: r = 0.999727, r^2 = 0.999455
Calibration curve: 2.33712 * x + -0.110667
Response type: Internal Std (Ref 2), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None



Compound name: Perchlorate (Cl18O4-)
Response Factor: 120.648
RRF SD: 8.47906, % Relative SD: 7.02795
Response type: External Std, Area
Curve type: RF



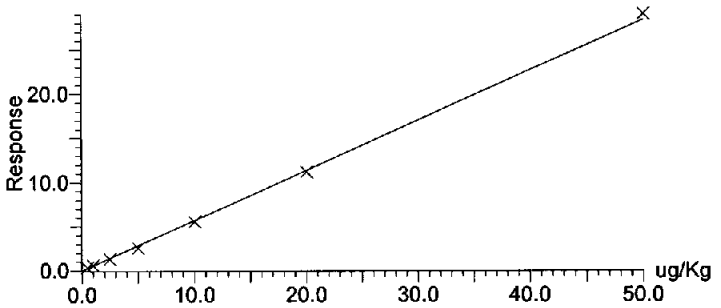
Curve good. 0.5 - 50 ppb

WH
10/17/07

LOT#L6027
193 of 423
TestAmerica St. Louis

Quantify Calibration Report **MassLynx 4.1**
Test America, INC. St. Louis
Dataset: C:\MassLynx\Perchlorates.PRO\DataSetSaved\New Folder\101707WCurve_per.qld
Last Altered: Wednesday, October 17, 2007 12:24:52 Central Daylight Time
Printed: Wednesday, October 17, 2007 12:25:36 Central Daylight Time

Compound name: Perchlorate (37ClO4-)
Correlation coefficient: r = 0.999250, r^2 = 0.998500
Calibration curve: 0.567135 * x + 0.00359866
Response type: Internal Std (Ref 2), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None



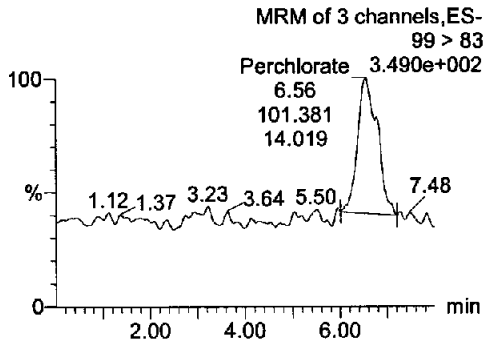
LQ1-1-6027
194 of 433
TestAmerica St. Louis

Quantify Sample Report **MassLynx 4.1**
Test America, INC. St. Louis
Dataset: C:\MassLynx\Perchlorates.PRO\DataSetSaved\New Folder\101707WCurve_per.qld
Last Altered: Wednesday, October 17, 2007 12:24:52 Central Daylight Time
Printed: Wednesday, October 17, 2007 12:25:36 Central Daylight Time

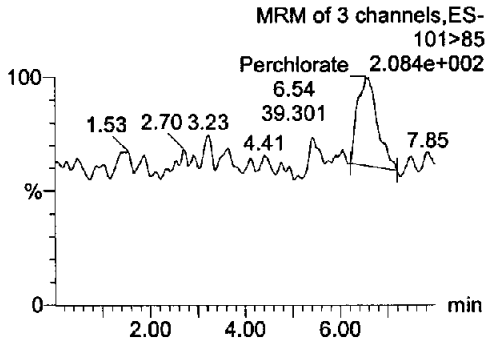
Method: C:\MassLynx\Perchlorates.PRO\MethDB\PerchlorateMRMWater.mdb 17 Oct 2007 12:14:26
Calibration: C:\MassLynx\Perchlorates.PRO\CurveDB\PerchlorateMRM101707W.cdb 17 Oct 2007 12:24:52

Name: P1017707
Date: 17-Oct-2007
Time: 10:50:38
ID: GC0463-07
Description: ICAL-2 0.5 PPB
User: BH/WH
Vial: 1:3
Instrument: LCMSMSR

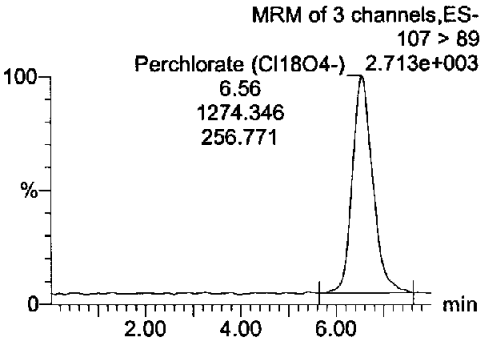
Perchlorate



Perchlorate



Perchlorate (Cl18O4-)



	#	Name	Sample Text	ID	Std. Conc	RT	Area	IS Area	Response	Detection Flags	ug/L	%Rec	Trace
1	1...	Perchlorate	ICAL-2 0.5 PPB	GC0463-07	0.500	6.559	101.381	1274.346	1.104	MM	0.520	103.942	99 > 83
2	2...	Perchlorate (Cl18O4-)	ICAL-2 0.5 PPB	GC0463-07	0.500	6.559	1274.346		1274.346	bb	10.563	105.625	107 > 89

	Sec.Trace	S/N	Height/Area	Acq.Date	Acq.Time	Initial Wt./Volume (g/mL)	Final Volume (mL)	Dilution Fac...	Ion Ratio	Ion Ratio (pred.)
1	101>85	14.019	2.052	17-Oct-07	10:50:38	1.000	1.000	1.000	2.580	3.080
2		256.771	2.024	17-Oct-07	10:50:38	1.000	1.000	1.000		

1. Peak Not Found
2. Incomplete Integration
3. Assign Peak
4. Wrong Peak
5. Baseline Smoothing
6. Split Peak
7. Other _____

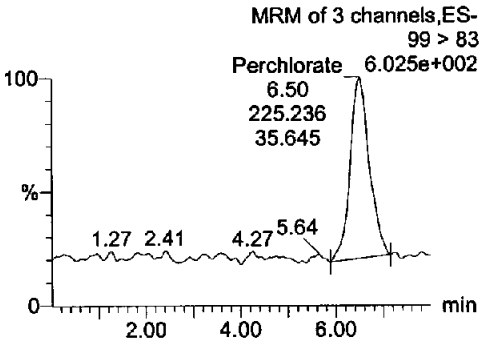
WH
10/17/07

LOT 76027
TestAmerica St. Louis
195 of 423

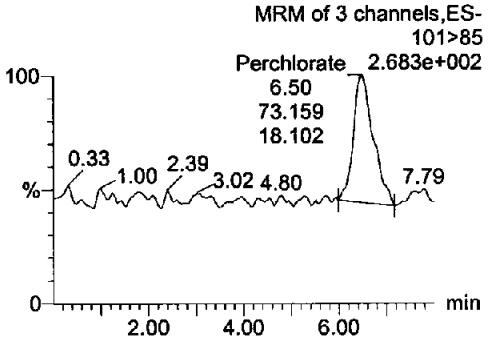
Quantify Sample Report **MassLynx 4.1**
Test America, INC. St. Louis
Dataset: C:\MassLynx\Perchlorates.PRO\DataSetSaved\New Folder\101707WCurve_per.qld
Last Altered: Wednesday, October 17, 2007 12:24:52 Central Daylight Time
Printed: Wednesday, October 17, 2007 12:25:36 Central Daylight Time

Name: P1017708
Date: 17-Oct-2007
Time: 10:59:42
ID: GC0462-07
Description: ICAL-3 1.0 PPB
User: BH/WH
Vial: 1:4
Instrument: LCMSMSR

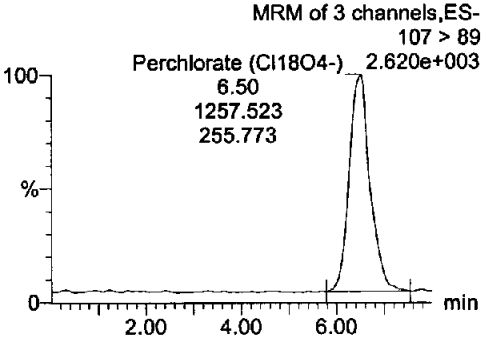
Perchlorate



Perchlorate



Perchlorate (Cl18O4-)



	#	Name	Sample Text	ID	Std. Conc	RT	Area	IS Area	Response	Detection Flags	ug/L	%Rec	Trace
1	1...	Perchlorate	ICAL-3 1.0 PPB	GC0462-07	1.000	6.498	225.236	1257.523	2.373	bb	1.063	106.265	99 > 83
2	2...	Perchlorate (Cl18O4-)	ICAL-3 1.0 PPB	GC0462-07	1.000	6.498	1257.523		1257.523	bb	10.423	104.231	107 > 89

	Sec.Trace	S/N	Height/Area	Acq.Date	Acq.Time	Initial Wt./Volume (g/mL)	Final Volume (mL)	Dilution Fac..	Ion Ratio	Ion Ratio (pred.)
1	101>85	35.645	2.131	17-Oct-07	10:59:42	1.000	1.000	1.000	3.079	3.080
2		255.773	1.985	17-Oct-07	10:59:42	1.000	1.000	1.000		

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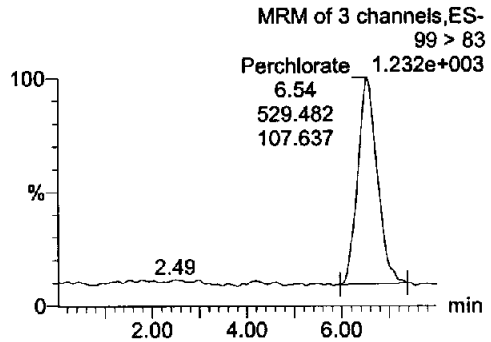
TestAmerica St. Louis

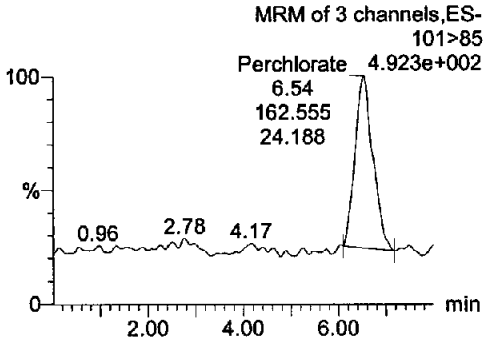
Quantify Sample Report **MassLynx 4.1**
Test America, INC. St. Louis
Dataset: C:\MassLynx\Perchlorates.PRO\DataSetSaved\New Folder\101707WCurve_per.qld
Last Altered: Wednesday, October 17, 2007 12:24:52 Central Daylight Time
Printed: Wednesday, October 17, 2007 12:25:36 Central Daylight Time

Name: P1017709
Date: 17-Oct-2007
Time: 11:08:44
ID: GC0461-07
Description: ICAL-4 2.5 PPB
User: BH/WH
Vial: 1:5
Instrument: LCMSMSR

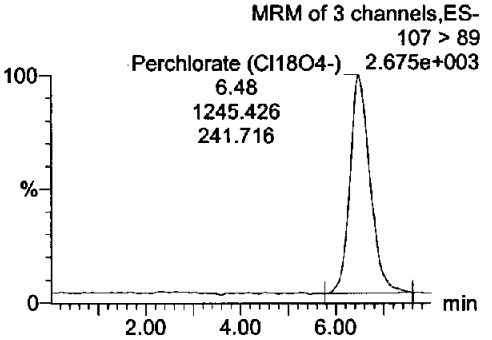
Perchlorate



Perchlorate



Perchlorate (Cl18O4-)



	#	Name	Sample Text	ID	Std. Conc	RT	Area	IS Area	Response	Detection Flags	ug/L	%Rec	Trace
1	1...	Perchlorate	ICAL-4 2.5 PPB	GC0461-07	2.500	6.539	529.482	1245.426	5.557	bb	2.425	96.996	99 > 83
2	2...	Perchlorate (Cl18O4-)	ICAL-4 2.5 PPB	GC0461-07	2.500	6.477	1245.426		1245.426	bb	10.323	103.228	107 > 89

	Sec.Trace	S/N	Height/Area	Acq.Date	Acq.Time	Initial Wt./Volume (g/mL)	Final Volume (mL)	Dilution Fac...	Ion Ratio	Ion Ratio (pred.)
1	101>85	107.637	2.110	17-Oct-07	11:08:44	1.000	1.000	1.000	3.257	3.080
2		241.716	2.057	17-Oct-07	11:08:44	1.000	1.000	1.000		

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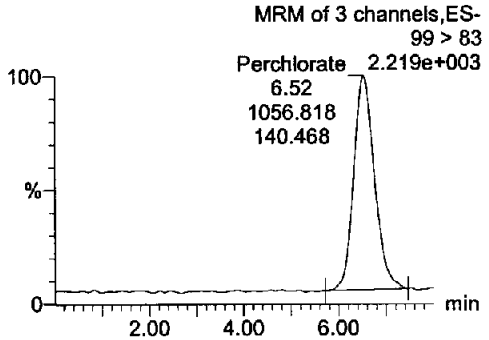
TestAmerica St. Louis

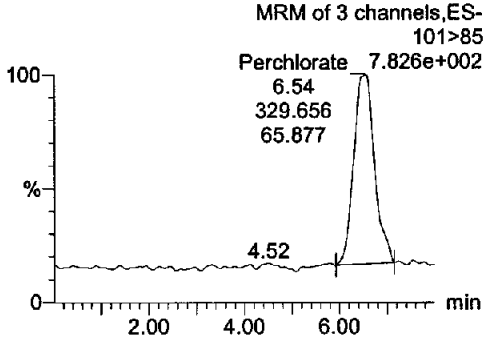
Quantify Sample Report **MassLynx 4.1**
Test America, INC. St. Louis
Dataset: C:\MassLynx\Perchlorates.PRO\DataSetSaved\New Folder\101707WCurve_per.qld
Last Altered: Wednesday, October 17, 2007 12:24:52 Central Daylight Time
Printed: Wednesday, October 17, 2007 12:25:36 Central Daylight Time

Name: P1017710
Date: 17-Oct-2007
Time: 11:17:47
ID: GC0460-07
Description: ICAL-5 5.0 PPB
User: BH/WH
Vial: 1:6
Instrument: LCMSMSR

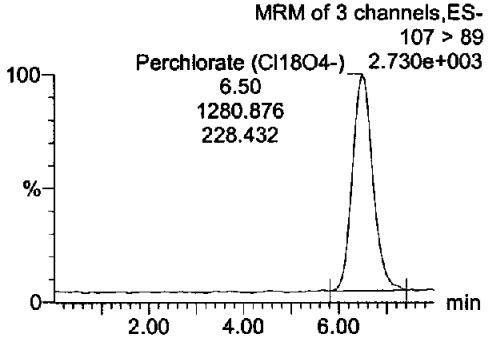
Perchlorate



Perchlorate



Perchlorate (Cl18O4-)



	#	Name	Sample Text	ID	Std. Conc	RT	Area	IS Area	Response	Detection Flags	ug/L	%Rec	Trace
1	1...	Perchlorate	ICAL-5 5.0 PPB	GC0460-07	5.000	6.518	1056.818	1280.876	10.824	bb	4.679	93.577	99 > 83
2	2...	Perchlorate (Cl18O4-)	ICAL-5 5.0 PPB	GC0460-07	5.000	6.498	1280.876		1280.876	bb	10.617	106.167	107 > 89

	Sec.Trace	S/N	Height/Area	Acq.Date	Acq.Time	Initial Wt./Volume (g/mL)	Final Volume (mL)	Dilution Fac...	Ion Ratio	Ion Ratio (pred.)
1	101>85	140.468	1.973	17-Oct-07	11:17:47	1.000	1.000	1.000	3.206	3.080
2		228.432	2.026	17-Oct-07	11:17:47	1.000	1.000	1.000		

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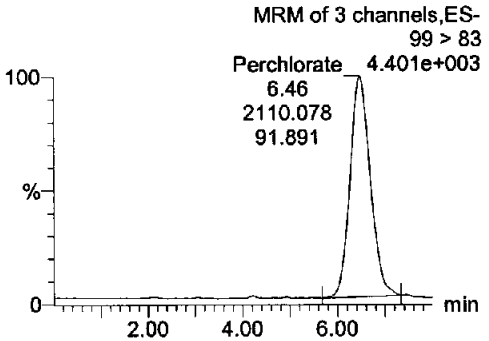
TestAmerica St. Louis

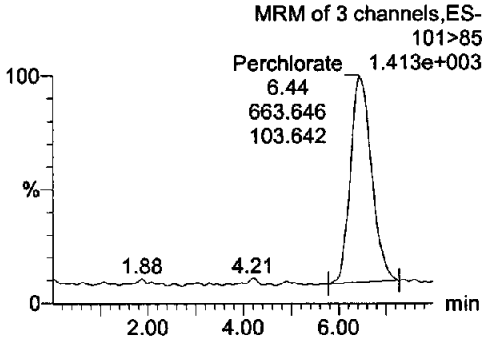
Quantify Sample Report **MassLynx 4.1**
Test America, INC. St. Louis
Dataset: C:\MassLynx\Perchlorates.PRO\DataSetSaved\New Folder\101707WCurve_per.qld
Last Altered: Wednesday, October 17, 2007 12:24:52 Central Daylight Time
Printed: Wednesday, October 17, 2007 12:25:36 Central Daylight Time

Name: P1017711
Date: 17-Oct-2007
Time: 11:26:49
ID: GC0459-07
Description: ICAL-6 10.0 PPB
User: BH/WH
Vial: 1:7
Instrument: LCMSMSR

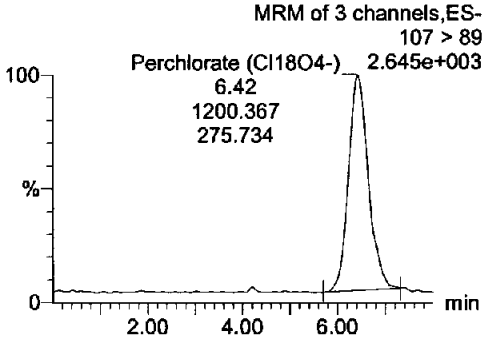
Perchlorate



Perchlorate



Perchlorate (Cl18O4-)



	#	Name	Sample Text	ID	Std. Conc	RT	Area	IS Area	Response	Detection Flags	ug/L	%Rec	Trace
1	1...	Perchlorate	ICAL-6 10.0 PPB	GC0459-07	10.000	6.457	2110.078	1200.367	23.107	bb	9.934	99.344	99 > 83
2	2...	Perchlorate (Cl18O4-)	ICAL-6 10.0 PPB	GC0459-07	10.000	6.416	1200.367		1200.367	bb	9.949	99.494	107 > 89

	Sec.Trace	S/N	Height/Area	Acq.Date	Acq.Time	Initial Wt./Volume (g/mL)	Final Volume (mL)	Dilution Fac...	Ion Ratio	Ion Ratio (pred.)
1	101>85	91.891	2.018	17-Oct-07	11:26:49	1.000	1.000	1.000	3.180	3.080
2		275.734	2.089	17-Oct-07	11:26:49	1.000	1.000	1.000		

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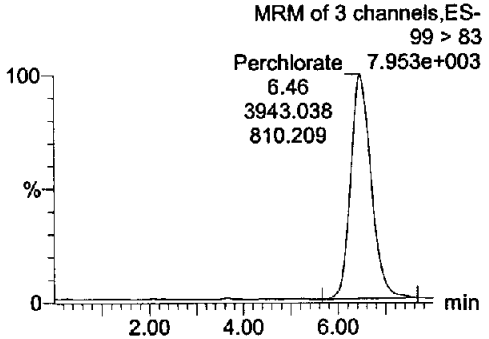
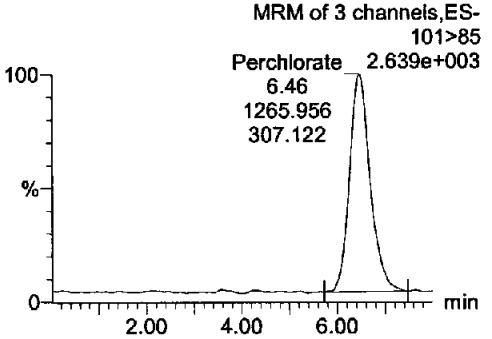
Quantify Sample Report **MassLynx 4.1**
Test America, INC. St. Louis
Dataset: C:\MassLynx\Perchlorates.PRO\DataSetSaved\New Folder\101707WCurve_per.qld
Last Altered: Wednesday, October 17, 2007 12:24:52 Central Daylight Time
Printed: Wednesday, October 17, 2007 12:25:36 Central Daylight Time

Name: P1017712
Date: 17-Oct-2007
Time: 11:35:53
ID: GC0458-07
Description: ICAL-7 20.0 PPB
User: BH/WH
Vial: 1:8
Instrument: LCMSMSR

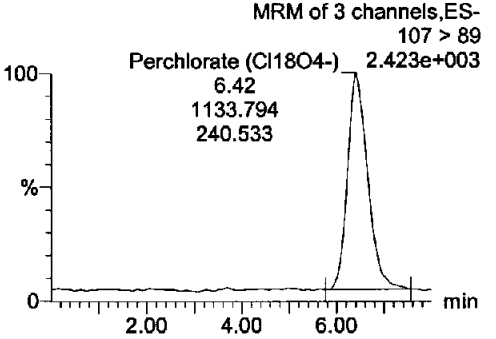
Perchlorate



Perchlorate



Perchlorate (Cl18O4-)



	#	Name	Sample Text	ID	Std. Conc	RT	Area	IS Area	Response	Detection Flags	ug/L	%Rec	Trace
1	1...	Perchlorate	ICAL-7 20.0 PPB	GC0458-07	20.000	6.457	3943.038	1133.794	45.943	bb	19.705	98.527	99 > 83
2	2...	Perchlorate (Cl18O4-)	ICAL-7 20.0 PPB	GC0458-07	20.000	6.416	1133.794		1133.794	bb	9.398	93.976	107 > 89

	Sec.Trace	S/N	Height/Area	Acq.Date	Acq.Time	Initial Wt./Volume (g/mL)	Final Volume (mL)	Dilution Fac...	Ion Ratio	Ion Ratio (pred.)
1	101>85	810.209	1.984	17-Oct-07	11:35:53	1.000	1.000	1.000	3.115	3.080
2		240.533	2.030	17-Oct-07	11:35:53	1.000	1.000	1.000		

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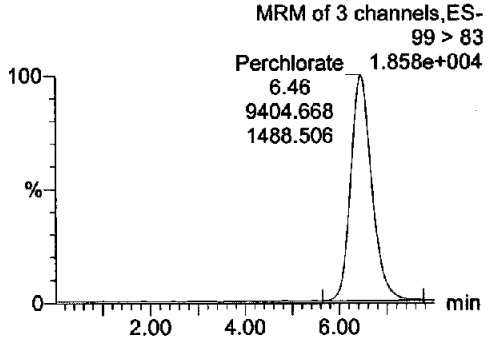
TestAmerica St. Louis

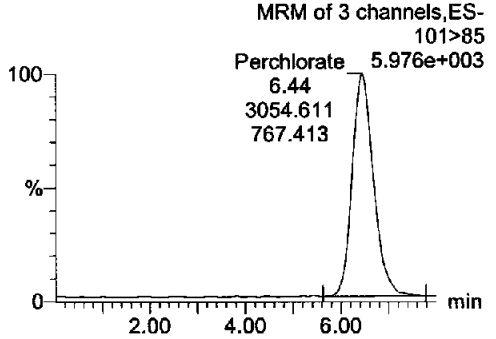
Quantify Sample Report **MassLynx 4.1**
Test America, INC. St. Louis
Dataset: C:\MassLynx\Perchlorates.PRO\DataSetSaved\New Folder\101707WCurve_per.qld
Last Altered: Wednesday, October 17, 2007 12:24:52 Central Daylight Time
Printed: Wednesday, October 17, 2007 12:25:36 Central Daylight Time

Name: P1017713
Date: 17-Oct-2007
Time: 11:44:53
ID: GC0457-07
Description: ICAL-8 50.0 PPB
User: BH/WH
Vial: 1:9
Instrument: LCMSMSR

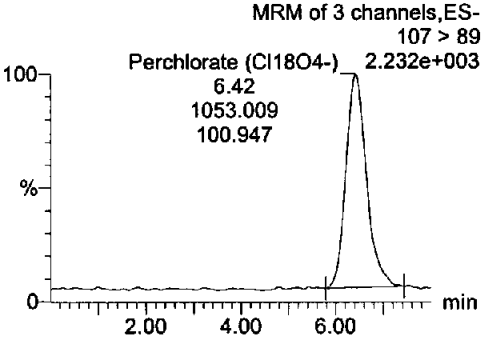
Perchlorate



Perchlorate



Perchlorate (Cl18O4-)



	#	Name	Sample Text	ID	Std. Conc	RT	Area	IS Area	Response	Detection Flags	ug/L	%Rec	Trace
1	1...	Perchlorate	ICAL-8 50.0 PPB	GC0457-07	50.000	6.457	9404.668	1053.009	118.321	bb	50.674	101.348	99 > 83
2	2...	Perchlorate (Cl18O4-)	ICAL-8 50.0 PPB	GC0457-07	50.000	6.416	1053.009		1053.009	bb	8.728	87.280	107 > 89

	Sec.Trace	S/N	Height/Area	Acq.Date	Acq.Time	Initial Wt./Volume (g/mL)	Final Volume (mL)	Dilution Fac...	Ion Ratio	Ion Ratio (pred.)
1	101>85	1488.5...	1.959	17-Oct-07	11:44:53	1.000	1.000	1.000	3.079	3.080
2		100.947	1.990	17-Oct-07	11:44:53	1.000	1.000	1.000		

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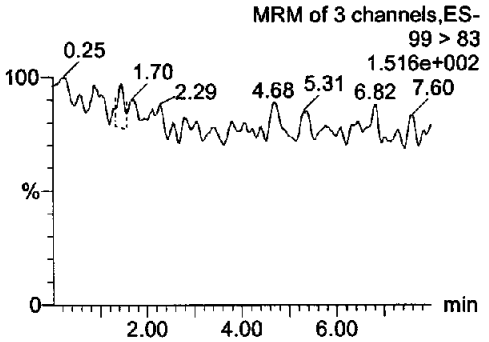
TestAmerica St. Louis

Quantify Sample Report **MassLynx 4.1**
Test America, INC. St. Louis
Dataset: C:\MassLynx\Perchlorates.PRO\DataSetSaved\New Folder\101707WICV_per.qld
Last Altered: Wednesday, October 17, 2007 12:26:24 Central Daylight Time
Printed: Wednesday, October 17, 2007 12:26:52 Central Daylight Time

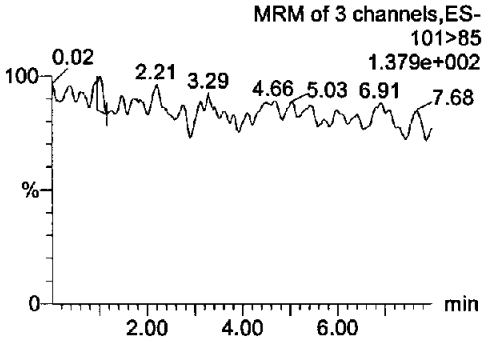
Method: C:\MassLynx\Perchlorates.PRO\MethDB\PerchlorateMRMWater.mdb 17 Oct 2007 12:14:26
Calibration: C:\MassLynx\Perchlorates.PRO\CurveDB\PerchlorateMRM101707W.cdb 17 Oct 2007 12:24:52

Name: P1017714
Date: 17-Oct-2007
Time: 11:53:56
ID:
Description: INST BLK
User: BH/WH
Vial: 1:1
Instrument: LCMSMSR

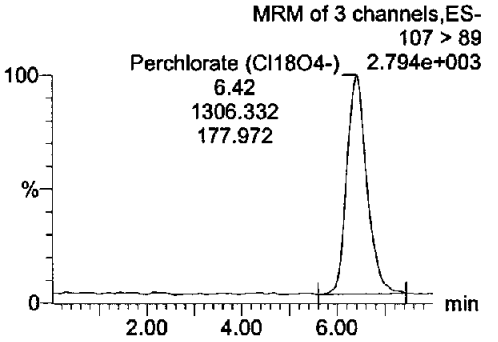
Perchlorate



Perchlorate



Perchlorate (Cl18O4-)



	#	Name	Sample Text	ID	Std. Conc	RT	Area	IS Area	Response	Detection Flags	ug/L	%Rec	Trace
1	1...	Perchlorate	INST BLK					1306.332		MM-			99 > 83
2	2...	Perchlorate (Cl18O4-)	INST BLK			6.416	1306.332		1306.332	bb	10.828	108.277	107 > 89

	Sec.Trace	S/N	Height/Area	Acq.Date	Acq.Time	Initial Wt./Volume (g/mL)	Final Volume (mL)	Dilution Fac...	Ion Ratio	Ion Ratio (pred.)
1	101>85			17-Oct-07	11:53:56	1.000	1.000	1.000	0.000	3.080
2		177.972	2.054	17-Oct-07	11:53:56	1.000	1.000	1.000		

1. Peak Not Found
2. Incomplete Integration
3. Assign Peak
4. Wrong Peak
5. Baseline Smoothing
6. Split Peak
7. Other _____

WH
10/17/07

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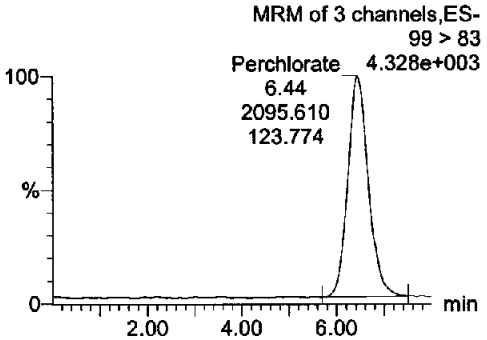
TestAmerica St. Louis

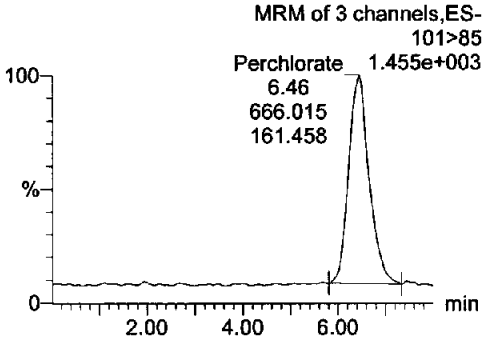
Quantify Sample Report **MassLynx 4.1**
Test America, INC. St. Louis
Dataset: C:\MassLynx\Perchlorates.PRO\DataSetSaved\New Folder\101707WICV_per.qld
Last Altered: Wednesday, October 17, 2007 12:26:24 Central Daylight Time
Printed: Wednesday, October 17, 2007 12:26:52 Central Daylight Time

Name: P1017715
Date: 17-Oct-2007
Time: 12:02:59
ID: GC0482-07
Description: ICV10.0
User: BH/WH
Vial: 1:10
Instrument: LCMSMSR

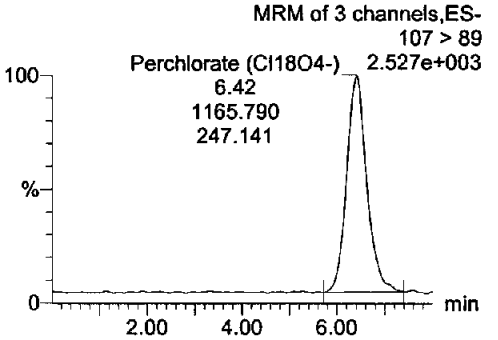
Perchlorate



Perchlorate



Perchlorate (Cl18O4-)



	#	Name	Sample Text	ID	Std. Conc	RT	Area	IS Area	Response	Detection Flags	ug/L	%Rec	Trace
1	1...	Perchlorate	ICV10.0	GC0482-07	10.000	6.437	2095.610	1165.790	23.689	bb	10.183	101.833	99 > 83
2	2...	Perchlorate (Cl18O4-)	ICV10.0	GC0482-07	10.000	6.416	1165.790		1165.790	bb	9.663	96.628	107 > 89

	Sec.Trace	S/N	Height/Area	Acq.Date	Acq.Time	Initial Wt./Volume (g/mL)	Final Volume (mL)	Dilution Fac...	Ion Ratio	Ion Ratio (pred.)
1	101>85	123.774	2.004	17-Oct-07	12:02:59	1.000	1.000	1.000	3.146	3.080
2		247.141	2.064	17-Oct-07	12:02:59	1.000	1.000	1.000		

WH
10/17/07

LOT# 7160279

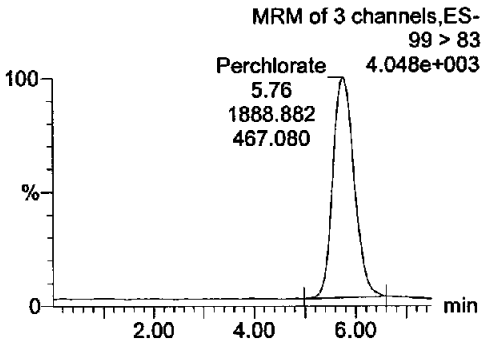
TestAmerica St. Louis

Quantify Sample Report **MassLynx 4.1**
Test America, INC. St. Louis
Dataset: C:\MassLynx\Perchlorates.PRO\DataSetSaved\R101707SW\101707WCCVDSS1_per.qld
Last Altered: Wednesday, October 17, 2007 17:24:03 Central Daylight Time
Printed: Wednesday, October 17, 2007 17:25:42 Central Daylight Time

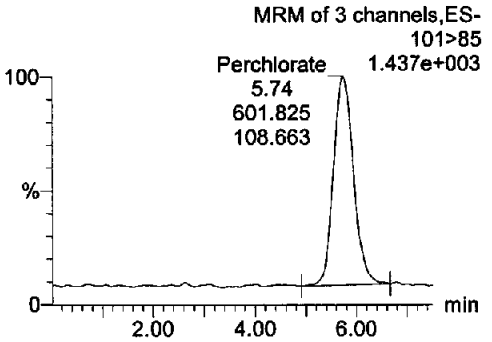
Method: C:\MassLynx\Perchlorates.PRO\MethDB\PerchlorateMRMWater.mdb 17 Oct 2007 12:14:26
Calibration: C:\MassLynx\Perchlorates.PRO\CurveDB\PerchlorateMRM101707W.cdb 17 Oct 2007 12:24:52

Name: P1017741
Date: 17-Oct-2007
Time: 16:10:43
ID: GC0459-07
Description: CCV
User: BH/WH
Vial: 1:7
Instrument: LCMSMSR

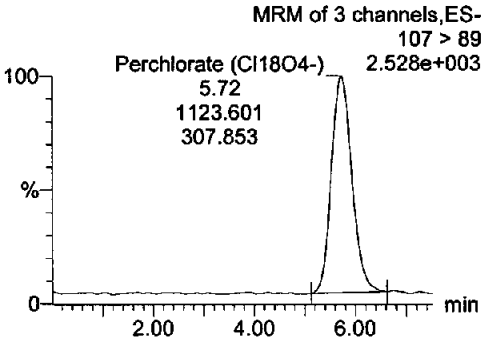
Perchlorate



Perchlorate



Perchlorate (Cl18O4-)



	#	Name	Sample Text	ID	Std. Conc	RT	Area	IS Area	Response	Detection Flags	ug/L	%Rec	Trace
1	1...	Perchlorate	CCV	GC0459-07	10.000	5.762	1888.882	1123.601	22.167	bb	9.532	95.322	99 > 83
2	2...	Perchlorate (Cl18O4-)	CCV	GC0459-07	10.000	5.721	1123.601		1123.601	bb	9.313	93.131	107 > 89

	Sec.Trace	S/N	Height/Area	Acq.Date	Acq.Time	Initial Wt./Volume (g/mL)	Final Volume (mL)	Dilution Fac...	Ion Ratio	Ion Ratio (pred.)
1	101>85	467.080	2.070	17-Oct-07	16:10:43	1.000	1.000	1.000	3.139	3.080
2		307.853	2.139	17-Oct-07	16:10:43	1.000	1.000	1.000		

LCMS 6027
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TestAmerica St. Louis

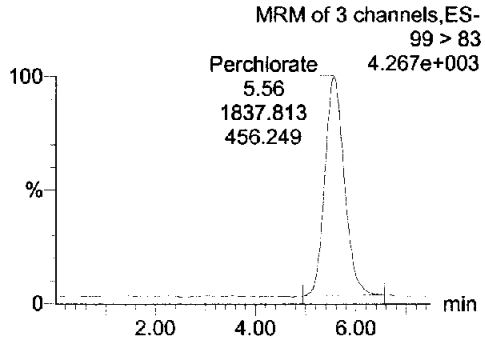
Quantify Sample Report **MassLynx 4.1**

Test America, INC. St. Louis
Dataset: C:\MassLynx\Perchlorates.PRO\DataSetSaved\R101707SW\101707WCCV2_per.qld
Last Altered: Wednesday, October 17, 2007 19:21:36 Central Daylight Time
Printed: Wednesday, October 17, 2007 19:22:18 Central Daylight Time

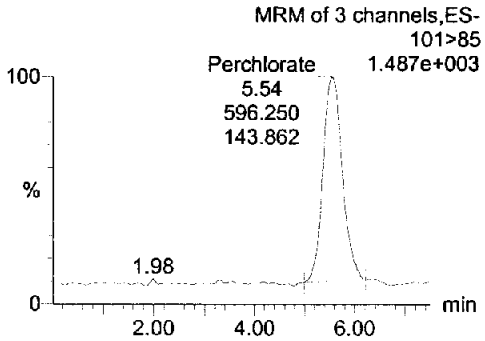
Method: C:\MassLynx\Perchlorates.PRO\MethDB\PerchlorateMRMWater.mdb 17 Oct 2007 12:14:26
Calibration: C:\MassLynx\Perchlorates.PRO\CurveDB\PerchlorateMRM101707W.cdb 17 Oct 2007 12:24:52

Name: P1017756
Date: 17-Oct-2007
Time: 18:20:03
ID: GC0459-07
Description: CCV
User: BH/WH
Vial: 1:7
Instrument: LCMSMSR

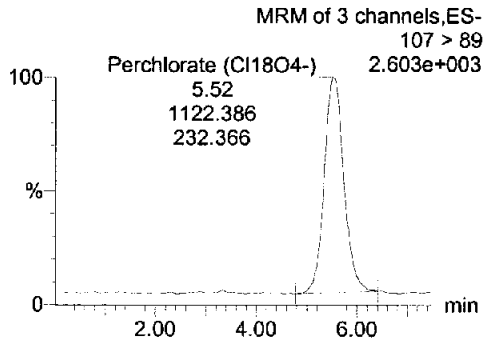
Perchlorate



Perchlorate



Perchlorate (Cl18O4-)



	#	Name	Sample Text	ID	Std. Conc	RT	Area	IS Area	Response	Detection Flags	ug/L	%Rec	Trace
1	1...	Perchlorate	CCV	GC0459-07	10.000	5.558	1837.813	1122.386	21.687	bb	9.327	93.265 ✓	99 > 83
2	2...	Perchlorate (Cl18O4-)	CCV	GC0459-07	10.000	5.517	1122.386		1122.386	bb	9.303	93.030	107 > 89

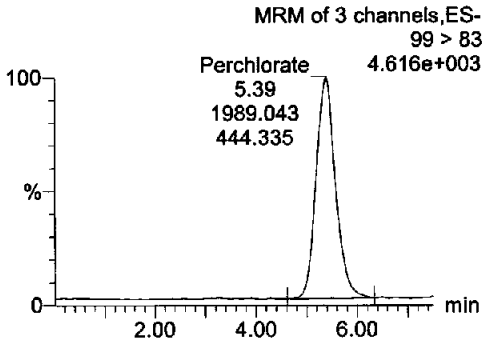
	Sec.Trace	S/N	Height/Area	Acq.Date	Acq.Time	Initial Wt/Volume (g/mL)	Final Volume (mL)	Dilution Fac...	Ion Ratio	Ion Ratio (pred.)
1	101>85	456.249	2.239	17-Oct-07	18:20:03	1.000	1.000	1.000	3.082✓	3.080
2		232.366	2.197	17-Oct-07	18:20:03	1.000	1.000	1.000		

Quantify Sample Report **MassLynx 4.1**
Test America, INC. St. Louis
Dataset: C:\MassLynx\Perchlorates.PRO\DataSetSaved\R101707SW\101707WCCV2DSS2_per.qld
Last Altered: Thursday, October 18, 2007 08:56:24 Central Daylight Time
Printed: Thursday, October 18, 2007 08:56:47 Central Daylight Time

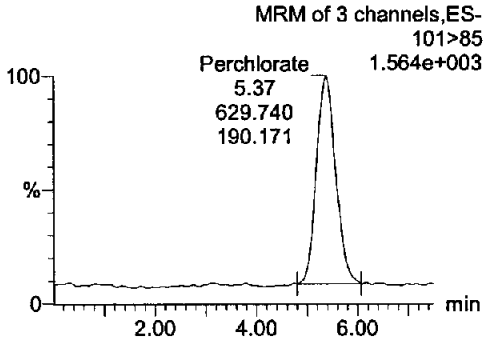
Method: C:\MassLynx\Perchlorates.PRO\MethDB\PerchlorateMRMWater.mdb 17 Oct 2007 12:14:26
Calibration: C:\MassLynx\Perchlorates.PRO\CurveDB\PerchlorateMRM101707W.cdb 17 Oct 2007 12:24:52

Name: P1017770
Date: 17-Oct-2007
Time: 20:20:39
ID: GC0459-07
Description: CCV
User: BH/WH
Vial: 1:7
Instrument: LCMSMSR

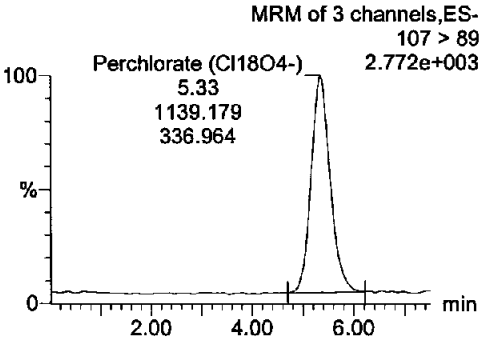
Perchlorate



Perchlorate



Perchlorate (Cl18O4-)



	#	Name	Sample Text	ID	Std. Conc	RT	Area	IS Area	Response	Detection Flags	ug/L	%Rec	Trace
1	1...	Perchlorate	CCV	GC0459-07	10.000	5.395	1989.043	1139.179	22.988	bb	9.884	98.835	99 > 83
2	2...	Perchlorate (Cl18O4-)	CCV	GC0459-07	10.000	5.333	1139.179		1139.179	bb	9.442	94.422	107 > 89

	Sec.Trace	S/N	Height/Area	Acq.Date	Acq.Time	Initial Wt./Volume (g/mL)	Final Volume (mL)	Dilution Fac...	Ion Ratio	Ion Ratio (pred.)
1	101>85	444.335	2.255	17-Oct-07	20:20:39	1.000	1.000	1.000	3.159	3.080
2		336.964	2.317	17-Oct-07	20:20:39	1.000	1.000	1.000		

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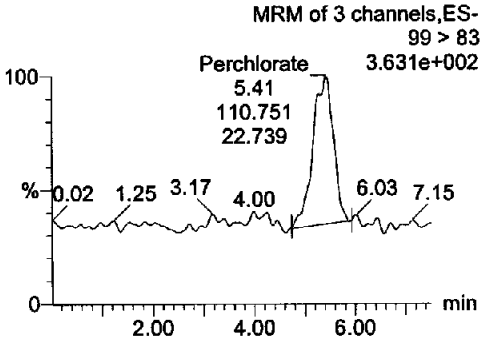
TestAmerica St. Louis

Quantify Sample Report **MassLynx 4.1**
Test America, INC. St. Louis
Dataset: C:\MassLynx\Perchlorates.PRO\DataSetSaved\R101707SW\101707WCCVDSS1_per.qld
Last Altered: Wednesday, October 17, 2007 17:24:03 Central Daylight Time
Printed: Wednesday, October 17, 2007 17:25:42 Central Daylight Time

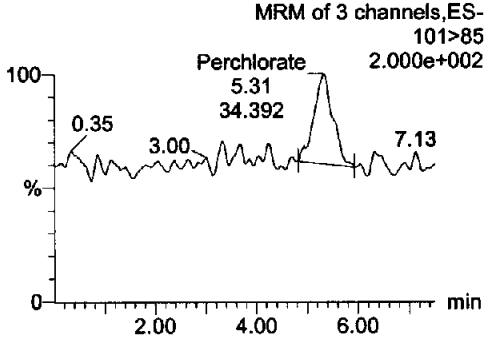
LOT# 160279

Name: P1017743
Date: 17-Oct-2007
Time: 16:27:58
ID: GC0262-07
Description: FORTIFIED DSS SPIKE 1000 MG/L 0.5 PPB
User: BH/WH
Vial: 1:11
Instrument: LCMSMSR

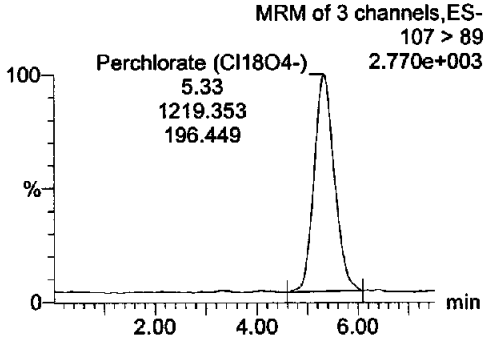
Perchlorate



Perchlorate



Perchlorate (Cl18O4-)



	#	Name	Sample Text	ID	Std. Conc	RT	Area	IS Area	Response	Detection Flags	ug/L	%Rec	Trace
1	1...	Perchlorate	FORTIFIED DSS SPIK...	GC0262-07	0.500	5.415	110.751	1219.353	1.190	MM	0.557	111.333 ✓	99 > 83
2	2...	Perchlorate (Cl18O4-)	FORTIFIED DSS SPIK...	GC0262-07	0.500	5.333	1219.353		1219.353	bb	10.107	101.067	107 > 89

	Sec.Trace	S/N	Height/Area	Acq.Date	Acq.Time	Initial Wt./Volume (g/mL)	Final Volume (mL)	Dilution Fac...	Ion Ratio	Ion Ratio (pred.)
1	101>85	22.739	2.131	17-Oct-07	16:27:58	10.000	10.000	1.000	3.220 ✓	3.080
2		196.449	2.165	17-Oct-07	16:27:58	1.000	1.000	1.000		

1. **Peak Not Found**
2. **Incomplete Integration**
3. **Assign Peak**
4. **Wrong Peak**
5. **Baseline Smoothing**
6. **Split Peak**
7. **Other** _____

WH 10/17/07

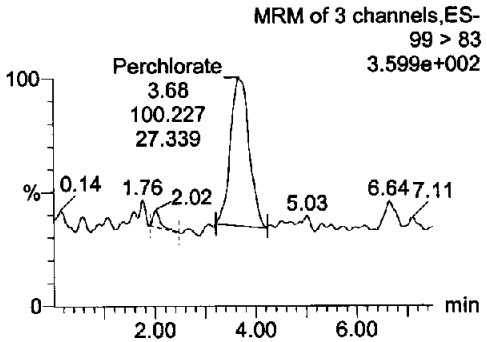
TestAmerica St. Louis

Quantify Sample Report **MassLynx 4.1**
Test America, INC. St. Louis
Dataset: C:\MassLynx\Perchlorates.PRO\DataSetSaved\R101707SW\101707WCCV2DSS2_per.qld
Last Altered: Thursday, October 18, 2007 08:56:24 Central Daylight Time
Printed: Thursday, October 18, 2007 08:56:47 Central Daylight Time

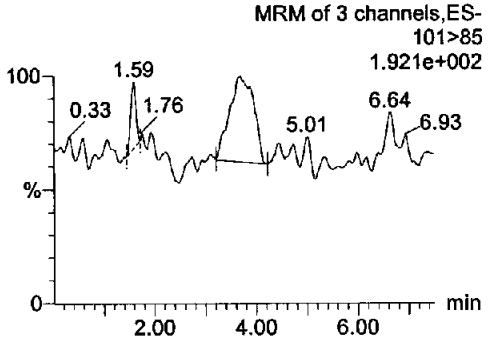
LOT#/160279

Name: P1017772
Date: 17-Oct-2007
Time: 20:37:54
ID: GC0262-07
Description: FORTIFIED DSS SPIKE 1000 MG/L 0.5 PPB
User: BH/WH
Vial: 1:11
Instrument: LCMSMSR

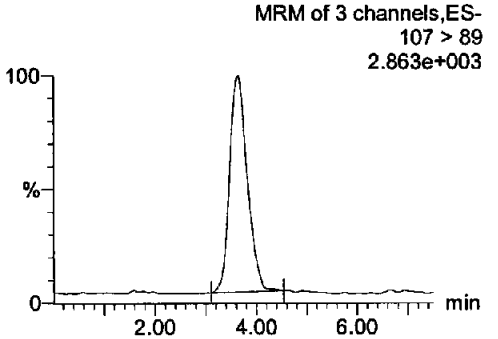
Perchlorate



Perchlorate



Perchlorate (Cl18O4-)



	#	Name	Sample Text	ID	Std. Conc	RT	Area	IS Area	Response	Detection Flags	ug/L	%Rec	Trace
1	1...	Perchlorate	FORTIFIED DSS SPIK...	GC0262-07	0.500	3.678	100.227	1101.178	1.270	MM	0.591	118.160	99 > 83
2	2...	Perchlorate (Cl18O4-)	FORTIFIED DSS SPIK...	GC0262-07	0.500	3.637	1101.178		1101.178	bb	9.127	91.272	107 > 89

	Sec.Trace	S/N	Height/Area	Acq.Date	Acq.Time	Initial Wt./Volume (g/mL)	Final Volume (mL)	Dilution Fac...	Ion Ratio	Ion Ratio (pred.)
1	101>85	27.339	2.335	17-Oct-07	20:37:54	10.000	10.000	1.000	2.529	3.080
2		245.319	2.476	17-Oct-07	20:37:54	1.000	1.000	1.000		

1. Peak Not Found
2. Incomplete Integration
3. Assign Peak
4. Wrong Peak
5. Baseline Smoothing
6. Split Peak
7. Other _____

10/18/07

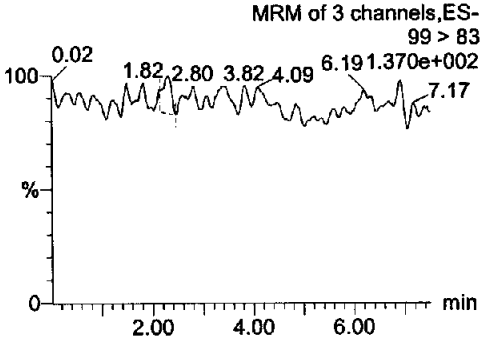
TestAmerica St. Louis

Quantify Sample Report **MassLynx 4.1**
Test America, INC. St. Louis
Dataset: C:\MassLynx\Perchlorates.PRO\DataSetSaved\R101707SW\101707WCCVDSS1_per.qld
Last Altered: Wednesday, October 17, 2007 17:24:03 Central Daylight Time
Printed: Wednesday, October 17, 2007 17:25:42 Central Daylight Time

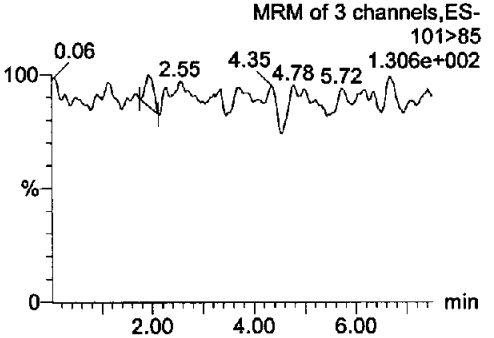
LOQ #760279

Name: P1017742
Date: 17-Oct-2007
Time: 16:19:19
ID:
Description: INST BLK
User: BH/WH
Vial: 1:1
Instrument: LCMSMSR

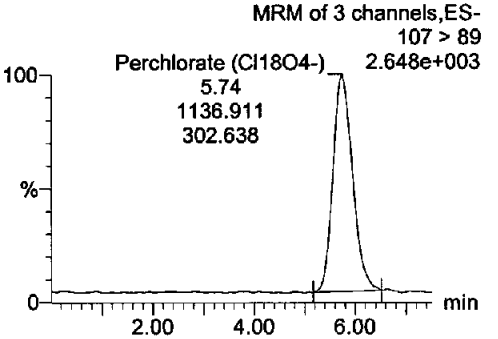
Perchlorate



Perchlorate



Perchlorate (Cl18O4-)



	#	Name	Sample Text	ID	Std. Conc	RT	Area	IS Area	Response	Detection Flags	ug/L	%Rec	Trace
1	1...	Perchlorate	INST BLK					1136.911		MM-			99 > 83
2	2...	Perchlorate (Cl18O4-)	INST BLK			5.742	1136.911		1136.911	bb	9.423	94.234	107 > 89

	Sec.Trace	S/N	Height/Area	Acq.Date	Acq.Time	Initial Wt./Volume (g/mL)	Final Volume (mL)	Dilution Fac...	Ion Ratio	Ion Ratio (pred.)
1	101>85			17-Oct-07	16:19:19	1.000	1.000	1.000	0.000	3.080
2		302.638	2.221	17-Oct-07	16:19:19	1.000	1.000	1.000		

1. Peak Not Found
2. Incomplete Integration
3. Assign Peak
4. Wrong Peak
5. Baseline Smoothing
6. Split Peak
7. Other _____

WH 10/17/07

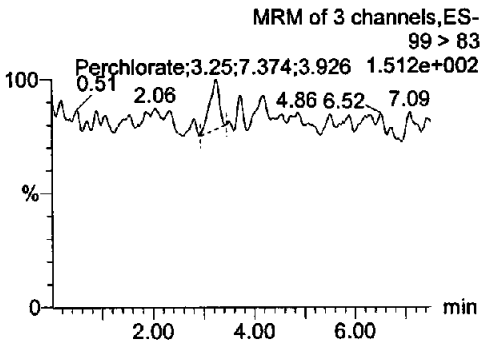
TestAmerica St. Louis

Quantify Sample Report **MassLynx 4.1**
Test America, INC. St. Louis
Dataset: C:\MassLynx\Perchlorates.PRO\DataSetSaved\R101707SW\101707WSMP1_per.qld
Last Altered: Wednesday, October 17, 2007 18:10:01 Central Daylight Time
Printed: Wednesday, October 17, 2007 18:10:20 Central Daylight Time

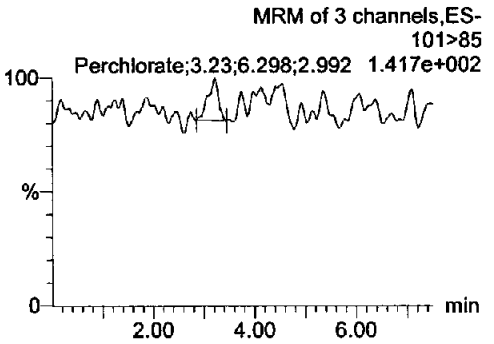
Method: C:\MassLynx\Perchlorates.PRO\MethDB\PerchlorateMRMWater.mdb 17 Oct 2007 12:14:26
Calibration: C:\MassLynx\Perchlorates.PRO\CurveDB\PerchlorateMRM101707W.cdb 17 Oct 2007 12:24:52

Name: P1017744
Date: 17-Oct-2007
Time: 16:36:36
ID:
Description: INST BLK
User: BH/WH
Vial: 2:1
Instrument: LCMSMSR

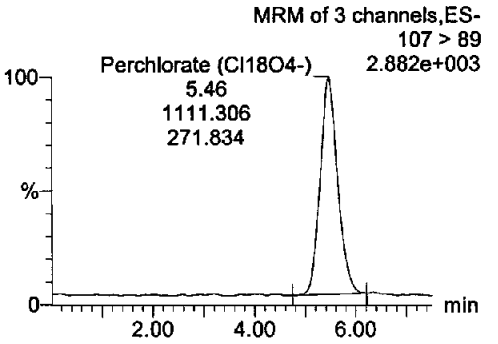
Perchlorate



Perchlorate



Perchlorate (Cl18O4-)



	#	Name	Sample Text	ID	Std. Conc	RT	Area	IS Area	Response	Detection Flags	ug/L	%Rec	Trace
1	1...	Perchlorate	INST BLK					1111.306		MM-			99 > 83
2	2...	Perchlorate (Cl18O4-)	INST BLK			5.456	1111.306		1111.306	bb	9.211	92.112	107 > 89

	Sec.Trace	S/N	Height/Area	Acq.Date	Acq.Time	Initial Wt/Volume (g/mL)	Final Volume (mL)	Dilution Fac...	Ion Ratio	Ion Ratio (pred.)
1	101>85			17-Oct-07	16:36:36	1.000	1.000	1.000	0.000	3.080
2		271.834	2.475	17-Oct-07	16:36:36	1.000	1.000	1.000		

1. Peak Not Found
2. Incomplete Integration
3. Assign Peak
4. Wrong Peak
5. Baseline Smoothing
6. Split Peak
7. Other _____

WH 10/17/07

LOG# 1760270
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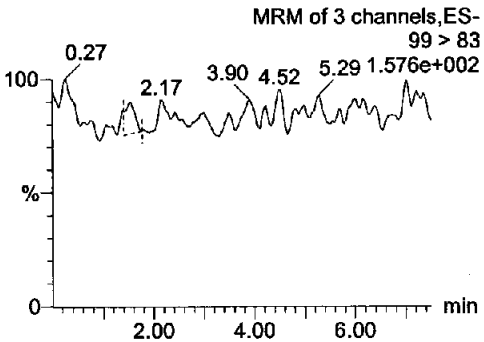
TestAmerica St. Louis

Quantify Sample Report **MassLynx 4.1**
Test America, INC. St. Louis
Dataset: C:\MassLynx\Perchlorates.PRO\DataSetSaved\R101707SW\101707WCCV2DSS2_per.qld
Last Altered: Thursday, October 18, 2007 08:56:24 Central Daylight Time
Printed: Thursday, October 18, 2007 08:56:47 Central Daylight Time

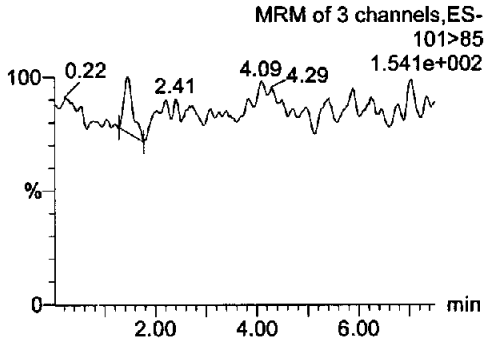
LOT#9160279

Name: P1017771
Date: 17-Oct-2007
Time: 20:29:16
ID:
Description: INST BLK
User: BH/WH
Vial: 2:1
Instrument: LCMSMSR

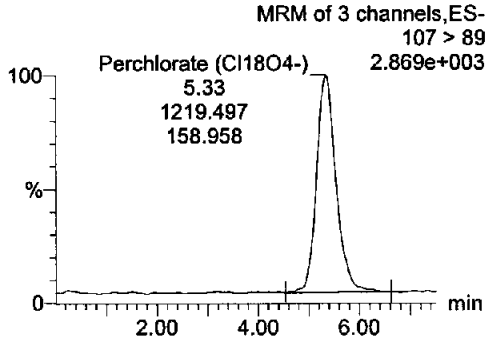
Perchlorate



Perchlorate



Perchlorate (Cl18O4-)



	#	Name	Sample Text	ID	Std. Conc	RT	Area	IS Area	Response	Detection Flags	ug/L	%Rec	Trace
1	1...	Perchlorate	INST BLK					1219.497		MM-			99 > 83
2	2...	Perchlorate (Cl18O4-)	INST BLK			5.333	1219.497		1219.497	bb	10.108	101.079	107 > 89

	Sec.Trace	S/N	Height/Area	Acq.Date	Acq.Time	Initial Wt./Volume (g/mL)	Final Volume (mL)	Dilution Fac...	Ion Ratio	Ion Ratio (pred.)
1	101>85			17-Oct-07	20:29:16	1.000	1.000	1.000	0.000	3.080
2		158.958	2.243	17-Oct-07	20:29:16	1.000	1.000	1.000		

1. Peak Not Found
2. Incomplete Integration
3. Assign Peak
4. Wrong Peak
5. Baseline Smoothing
6. Split Peak
7. Other _____

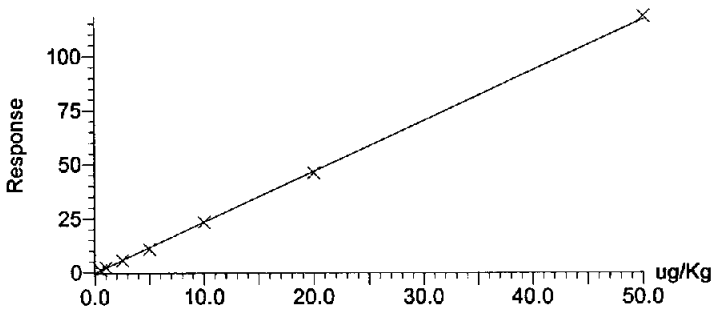
WH 10/18/07

TestAmerica St. Louis

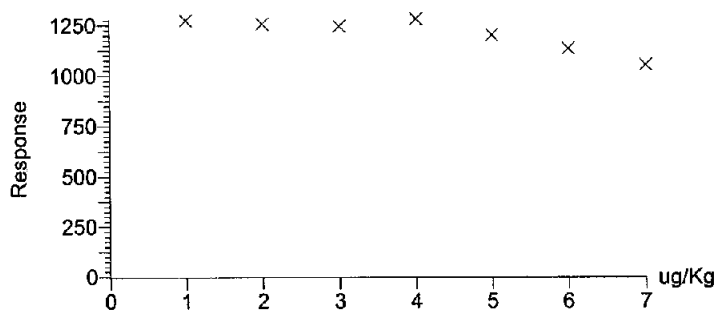
Quantify Calibration Report **MassLynx 4.1**
Test America, INC. St. Louis
Dataset: C:\MassLynx\Perchlorates.PRO\DataSetSaved\New Folder\101707SCurve_per.qld
Last Altered: Wednesday, October 17, 2007 12:06:45 Central Daylight Time
Printed: Wednesday, October 17, 2007 12:08:03 Central Daylight Time

Method: C:\MassLynx\Perchlorates.PRO\MethDB\PerchlorateMRMSoil.mdb 17 Oct 2007 11:59:07
Calibration: C:\MassLynx\Perchlorates.PRO\CurveDB\PerchlorateMRM101707S.cdb 17 Oct 2007 12:06:45

Compound name: Perchlorate
Correlation coefficient: r = 0.999740, r^2 = 0.999479
Calibration curve: 2.3401 * x + -0.160557
Response type: Internal Std (Ref 2), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None



Compound name: Perchlorate (Cl18O4-)
Response Factor: 120.648
RRF SD: 8.47906, % Relative SD: 7.02795
Response type: External Std, Area
Curve type: RF



Curve good. 0.5 - 50ppb

WH
10/17/07

LOT#1607027
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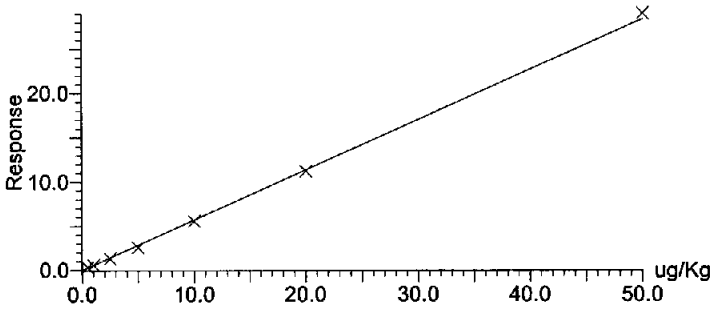
TestAmerica St. Louis

Quantify Calibration Report **MassLynx 4.1**
Test America, INC. St. Louis
Dataset: C:\MassLynx\Perchlorates.PRO\DataSetSaved\New Folder\101707SCurve_per.qld
Last Altered: Wednesday, October 17, 2007 12:06:45 Central Daylight Time
Printed: Wednesday, October 17, 2007 12:08:03 Central Daylight Time

Compound name: Perchlorate (37ClO4-)
Correlation coefficient: r = 0.999264, r^2 = 0.998528
Calibration curve: 0.567259 * x + 0.00152402
Response type: Internal Std (Ref 2), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None



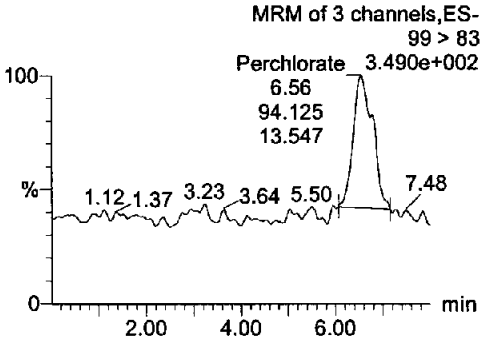
LOT#1760279
213 of 428
TestAmerica St. Louis

Quantify Sample Report **MassLynx 4.1**
Test America, INC. St. Louis
Dataset: C:\MassLynx\Perchlorates.PRO\DataSetSaved\New Folder\101707SCurve_per.qld
Last Altered: Wednesday, October 17, 2007 12:06:45 Central Daylight Time
Printed: Wednesday, October 17, 2007 12:08:03 Central Daylight Time

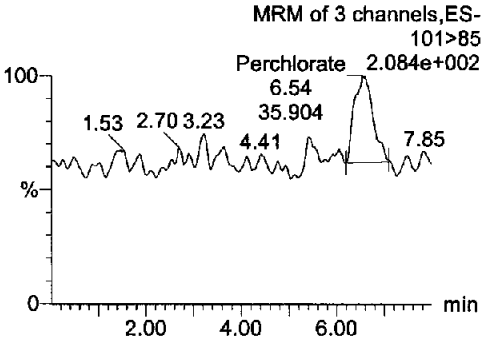
Method: C:\MassLynx\Perchlorates.PRO\MethDB\PerchlorateMRMSoil.mdb 17 Oct 2007 11:59:07
Calibration: C:\MassLynx\Perchlorates.PRO\CurveDB\PerchlorateMRM101707S.cdb 17 Oct 2007 12:06:45

Name: P1017707
Date: 17-Oct-2007
Time: 10:50:38
ID: GC0463-07
Description: ICAL-2 0.5 PPB
User: BH/WH
Vial: 1:3
Instrument: LCMSMSR

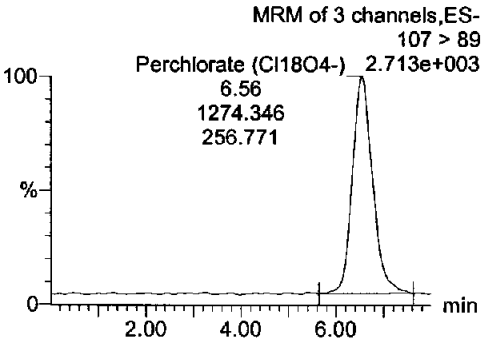
Perchlorate



Perchlorate



Perchlorate (Cl18O4-)



	#	Name	Sample Text	ID	Std. Conc	RT	Area	IS Area	Response	Detection Flags	ug/Kg	%Rec	Trace
1	1...	Perchlorate	ICAL-2 0.5 PPB	GC0463-07	0.500	6.559	94.125	1274.346	1.020	MM	0.505	100.928	99 > 83
2	2...	Perchlorate (Cl18O4-)	ICAL-2 0.5 PPB	GC0463-07	0.500	6.559	1274.346		1274.346	bb	10.563	105.625	107 > 89

	Sec.Trace	S/N	Height/Area	Acq.Date	Acq.Time	Initial Wt./Volume (g/mL)	Final Volume (mL)	Dilution Fac...	Ion Ratio	Ion Ratio (pred.)
1	101>85	13.547	2.135	17-Oct-07	10:50:38	1.000	1.000	1.000	2.622	3.080
2		256.771	2.024	17-Oct-07	10:50:38	1.000	1.000	1.000		

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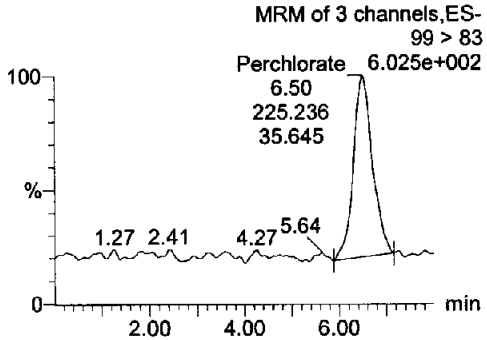
TestAmerica St. Louis

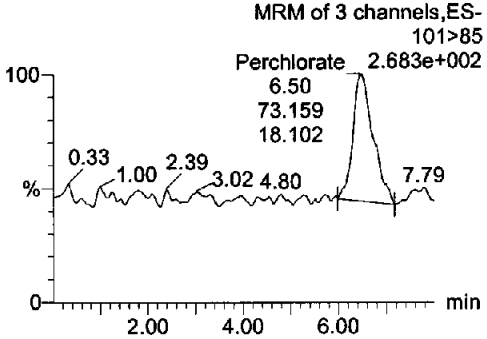
Quantify Sample Report **MassLynx 4.1**
Test America, INC. St. Louis
Dataset: C:\MassLynx\Perchlorates.PRO\DataSetSaved\New Folder\101707SCurve_per.qld
Last Altered: Wednesday, October 17, 2007 12:06:45 Central Daylight Time
Printed: Wednesday, October 17, 2007 12:08:03 Central Daylight Time

Name: P1017708
Date: 17-Oct-2007
Time: 10:59:42
ID: GC0462-07
Description: ICAL-3 1.0 PPB
User: BH/WH
Vial: 1:4
Instrument: LCMSMSR

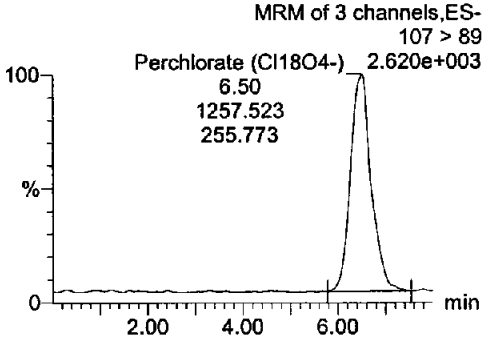
Perchlorate



Perchlorate



Perchlorate (Cl18O4-)



	#	Name	Sample Text	ID	Std. Conc	RT	Area	IS Area	Response	Detection Flags	ug/Kg	%Rec	Trace
1	1...	Perchlorate	ICAL-3 1.0 PPB	GC0462-07	1.000	6.498	225.236	1257.523	2.373	bb	1.083	108.262	99 > 83
2	2...	Perchlorate (Cl18O4-)	ICAL-3 1.0 PPB	GC0462-07	1.000	6.498	1257.523		1257.523	bb	10.423	104.231	107 > 89

	Sec.Trace	S/N	Height/Area	Acq.Date	Acq.Time	Initial Wt./Volume (g/mL)	Final Volume (mL)	Dilution Fac..	Ion Ratio	Ion Ratio (pred.)
1	101>85	35.645	2.131	17-Oct-07	10:59:42	1.000	1.000	1.000	3.079	3.080
2		255.773	1.985	17-Oct-07	10:59:42	1.000	1.000	1.000		

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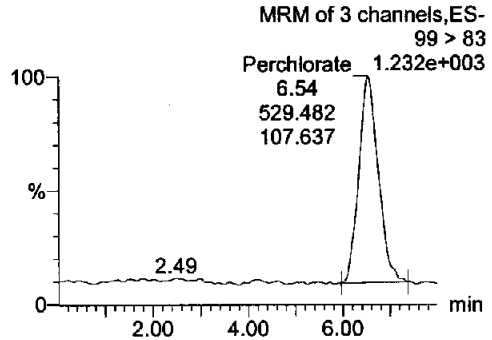
TestAmerica St. Louis

Quantify Sample Report **MassLynx 4.1**

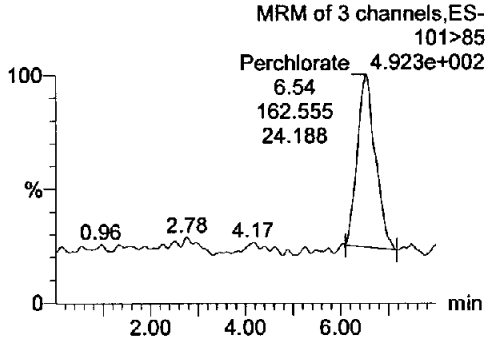
Test America, INC. St. Louis
Dataset: C:\MassLynx\Perchlorates.PRO\DataSetSaved\New Folder\101707SCurve_per.qld
Last Altered: Wednesday, October 17, 2007 12:06:45 Central Daylight Time
Printed: Wednesday, October 17, 2007 12:08:03 Central Daylight Time

Name: P1017709
Date: 17-Oct-2007
Time: 11:08:44
ID: GC0461-07
Description: ICAL-4 2.5 PPB
User: BH/WH
Vial: 1:5
Instrument: LCMSMSR

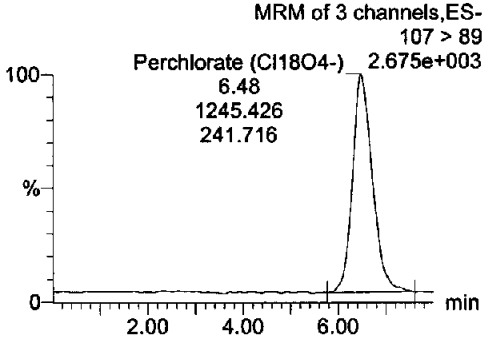
Perchlorate



Perchlorate



Perchlorate (Cl18O4-)



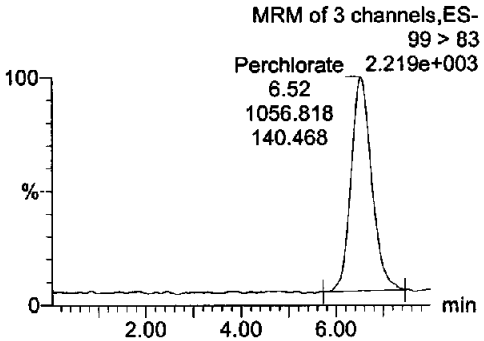
	#	Name	Sample Text	ID	Std. Conc	RT	Area	IS Area	Response	Detection Flags	ug/Kg	%Rec	Trace
1	1...	Perchlorate	ICAL-4 2.5 PPB	GC0461-07	2.500	6.539	529.482	1245.426	5.557	bb	2.443	97.725	99 > 83
2	2...	Perchlorate (Cl18O4-)	ICAL-4 2.5 PPB	GC0461-07	2.500	6.477	1245.426		1245.426	bb	10.323	103.228	107 > 89

	Sec.Trace	S/N	Height/Area	Acq.Date	Acq.Time	Initial Wt./Volume (g/mL)	Final Volume (mL)	Dilution Fac...	Ion Ratio	Ion Ratio (pred.)
1	101>85	107.637	2.110	17-Oct-07	11:08:44	1.000	1.000	1.000	3.257	3.080
2		241.716	2.057	17-Oct-07	11:08:44	1.000	1.000	1.000		

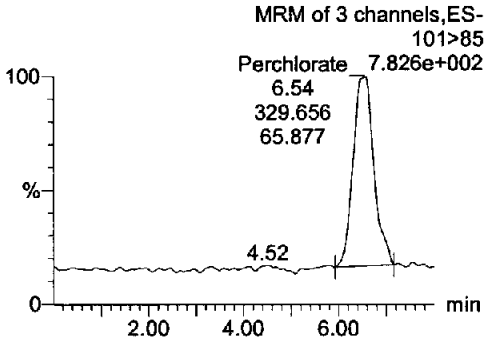
Quantify Sample Report **MassLynx 4.1**
Test America, INC. St. Louis
Dataset: C:\MassLynx\Perchlorates.PRO\DataSetSaved\New Folder\101707SCurve_per.qld
Last Altered: Wednesday, October 17, 2007 12:06:45 Central Daylight Time
Printed: Wednesday, October 17, 2007 12:08:03 Central Daylight Time

Name: P1017710
Date: 17-Oct-2007
Time: 11:17:47
ID: GC0460-07
Description: ICAL-5 5.0 PPB
User: BH/WH
Vial: 1:6
Instrument: LCMSMSR

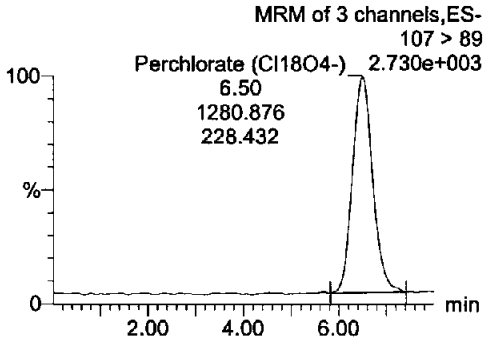
Perchlorate



Perchlorate



Perchlorate (Cl18O4-)



	#	Name	Sample Text	ID	Std. Conc	RT	Area	IS Area	Response	Detection Flags	ug/Kg	%Rec	Trace
1	1...	Perchlorate	ICAL-5 5.0 PPB	GC0460-07	5.000	6.518	1056.818	1280.876	10.824	bb	4.694	93.885	99 > 83
2	2...	Perchlorate (Cl18O4-)	ICAL-5 5.0 PPB	GC0460-07	5.000	6.498	1280.876		1280.876	bb	10.617	106.167	107 > 89

	Sec.Trace	S/N	Height/Area	Acq.Date	Acq.Time	Initial Wt./Volume (g/mL)	Final Volume (mL)	Dilution Fac...	Ion Ratio	Ion Ratio (pred.)
1	101>85	140.468	1.973	17-Oct-07	11:17:47	1.000	1.000	1.000	3.206	3.080
2		228.432	2.026	17-Oct-07	11:17:47	1.000	1.000	1.000		

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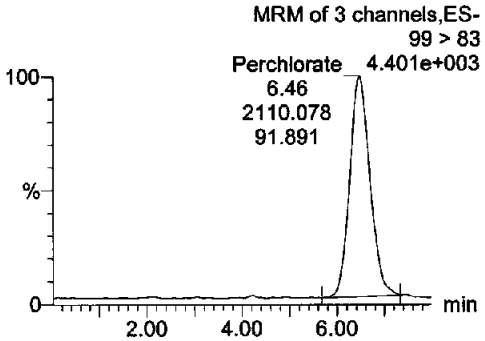
TestAmerica St. Louis

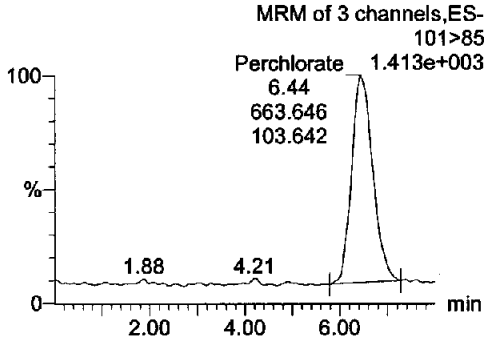
Quantify Sample Report **MassLynx 4.1**
Test America, INC. St. Louis
Dataset: C:\MassLynx\Perchlorates.PRO\DataSetSaved\New Folder\101707SCurve_per.qld
Last Altered: Wednesday, October 17, 2007 12:06:45 Central Daylight Time
Printed: Wednesday, October 17, 2007 12:08:03 Central Daylight Time

Name: P1017711
Date: 17-Oct-2007
Time: 11:26:49
ID: GC0459-07
Description: ICAL-6 10.0 PPB
User: BH/WH
Vial: 1:7
Instrument: LCMSMSR

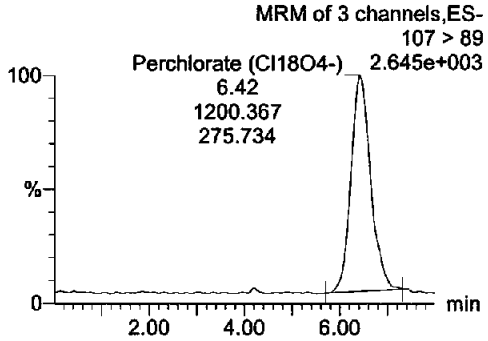
Perchlorate



Perchlorate



Perchlorate (Cl18O4-)



	#	Name	Sample Text	ID	Std. Conc	RT	Area	IS Area	Response	Detection Flags	ug/Kg	%Rec	Trace
1	1...	Perchlorate	ICAL-6 10.0 PPB	GC0459-07	10.000	6.457	2110.078	1200.367	23.107	bb	9.943	99.431	99 > 83
2	2...	Perchlorate (Cl18O4-)	ICAL-6 10.0 PPB	GC0459-07	10.000	6.416	1200.367		1200.367	bb	9.949	99.494	107 > 89

	Sec.Trace	S/N	Height/Area	Acq.Date	Acq.Time	Initial Wt./Volume (g/mL)	Final Volume (mL)	Dilution Fac...	Ion Ratio	Ion Ratio (pred.)
1	101>85	91.891	2.018	17-Oct-07	11:26:49	1.000	1.000	1.000	3.180	3.080
2		275.734	2.089	17-Oct-07	11:26:49	1.000	1.000	1.000		

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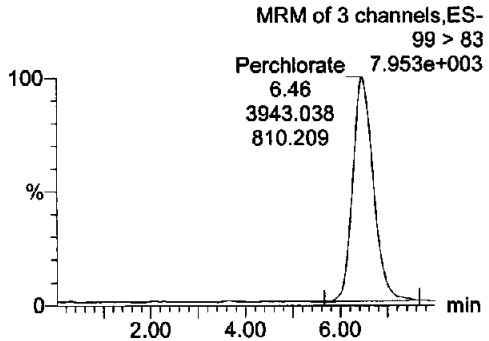
TestAmerica St. Louis

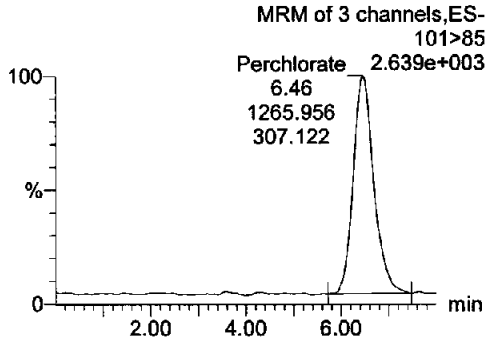
Quantify Sample Report **MassLynx 4.1**
Test America, INC. St. Louis
Dataset: C:\MassLynx\Perchlorates.PRO\DataSetSaved\New Folder\101707SCurve_per.qld
Last Altered: Wednesday, October 17, 2007 12:06:45 Central Daylight Time
Printed: Wednesday, October 17, 2007 12:08:03 Central Daylight Time

Name: P1017712
Date: 17-Oct-2007
Time: 11:35:53
ID: GC0458-07
Description: ICAL-7 20.0 PPB
User: BH/WH
Vial: 1:8
Instrument: LCMSMSR

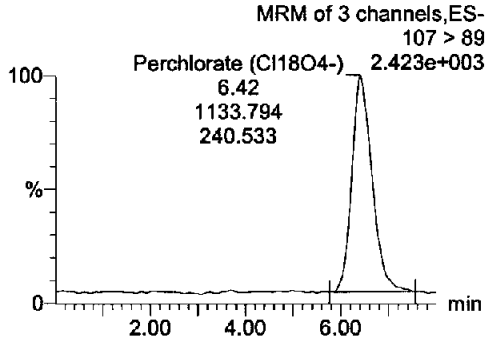
Perchlorate



Perchlorate



Perchlorate (Cl18O4-)



	#	Name	Sample Text	ID	Std. Conc	RT	Area	IS Area	Response	Detection Flags	ug/Kg	%Rec	Trace
1	1...	Perchlorate	ICAL-7 20.0 PPB	GC0458-07	20.000	6.457	3943.038	1133.794	45.943	bb	19.702	98.508	99 > 83
2	2...	Perchlorate (Cl18O4-)	ICAL-7 20.0 PPB	GC0458-07	20.000	6.416	1133.794		1133.794	bb	9.398	93.976	107 > 89

	Sec.Trace	S/N	Height/Area	Acq.Date	Acq.Time	Initial Wt./Volume (g/mL)	Final Volume (mL)	Dilution Fac...	Ion Ratio	Ion Ratio (pred.)
1	101>85	810.209	1.984	17-Oct-07	11:35:53	1.000	1.000	1.000	3.115	3.080
2		240.533	2.030	17-Oct-07	11:35:53	1.000	1.000	1.000		

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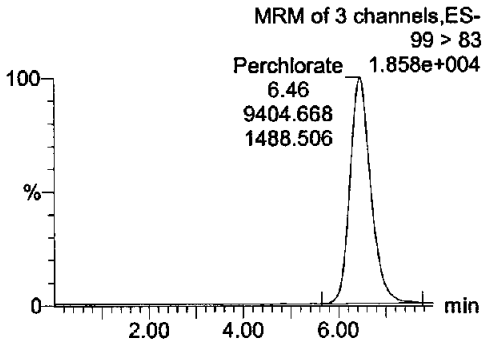
TestAmerica St. Louis

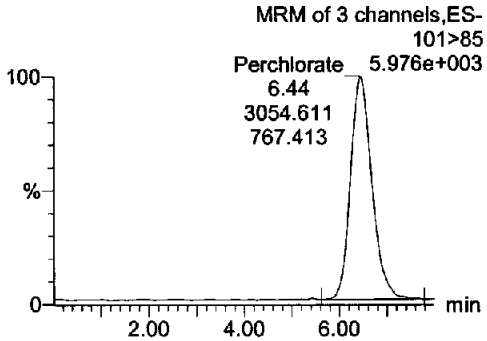
Quantify Sample Report **MassLynx 4.1**
Test America, INC. St. Louis
Dataset: C:\MassLynx\Perchlorates.PRO\DataSetSaved\New Folder\101707SCurve_per.qld
Last Altered: Wednesday, October 17, 2007 12:06:45 Central Daylight Time
Printed: Wednesday, October 17, 2007 12:08:03 Central Daylight Time

Name: P1017713
Date: 17-Oct-2007
Time: 11:44:53
ID: GC0457-07
Description: ICAL-8 50.0 PPB
User: BH/WH
Vial: 1:9
Instrument: LCMSMSR

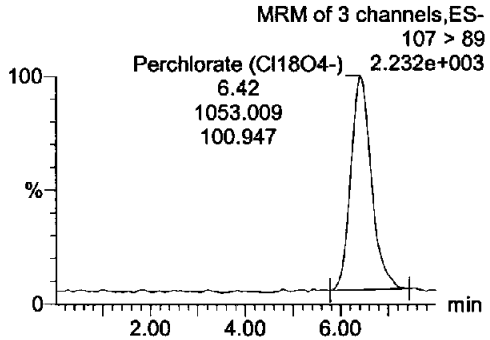
Perchlorate



Perchlorate



Perchlorate (Cl18O4-)



	#	Name	Sample Text	ID	Std. Conc	RT	Area	IS Area	Response	Detection Flags	ug/Kg	%Rec	Trace
1	1...	Perchlorate	ICAL-8 50.0 PPB	GC0457-07	50.000	6.457	9404.668	1053.009	118.321	bb	50.631	101.262	99 > 83
2	2...	Perchlorate (Cl18O4-)	ICAL-8 50.0 PPB	GC0457-07	50.000	6.416	1053.009		1053.009	bb	8.728	87.280	107 > 89

	Sec.Trace	S/N	Height/Area	Acq.Date	Acq.Time	Initial Wt./Volume (g/mL)	Final Volume (mL)	Dilution Fac...	Ion Ratio	Ion Ratio (pred.)
1	101>85	1488.5...	1.959	17-Oct-07	11:44:53	1.000	1.000	1.000	3.079	3.080
2		100.947	1.990	17-Oct-07	11:44:53	1.000	1.000	1.000		

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TestAmerica St. Louis

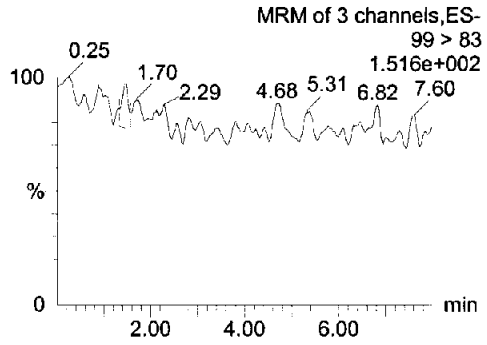
Quantify Sample Report **MassLynx 4.1**

Test America, INC. St. Louis
Dataset: C:\MassLynx\Perchlorates.PRO\DataSetSaved\New Folder\101707SICV_per.qld
Last Altered: Wednesday, October 17, 2007 12:15:37 Central Daylight Time
Printed: Wednesday, October 17, 2007 12:16:25 Central Daylight Time

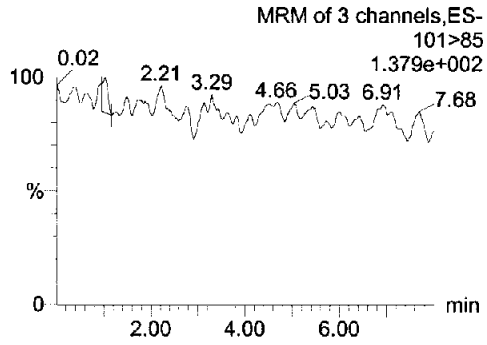
Method: C:\MassLynx\Perchlorates.PRO\MethDB\PerchlorateMRMSoil.mdb 17 Oct 2007 11:59:07
Calibration: C:\MassLynx\Perchlorates.PRO\CurveDB\PerchlorateMRM101707S.cdb 17 Oct 2007 12:06:45

Name: P1017714
Date: 17-Oct-2007
Time: 11:53:56
ID:
Description: INST BLK
User: BH/WH
Vial: 1:1
Instrument: LCMSMSR

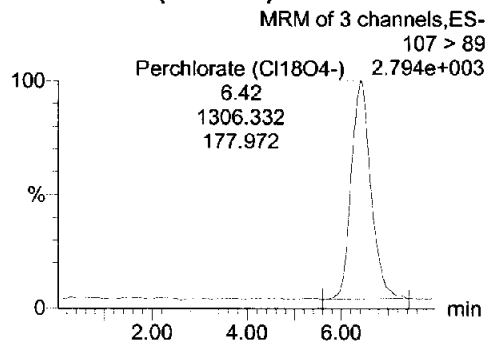
Perchlorate



Perchlorate



Perchlorate (Cl18O4-)



	#	Name	Sample Text	ID	Std. Conc	RT	Area	IS Area	Response	Detection Flags	ug/Kg	%Rec	Trace
1	1...	Perchlorate	INST BLK					1306.332		MM-			99 > 83
2	2...	Perchlorate (Cl18O4-)	INST BLK			6.416	1306.332		1306.332	bb	10.828	108.277	107 > 89

	Sec.Trace	S/N	Height/Area	Acq.Date	Acq.Time	Initial Wt./Volume (g/mL)	Final Volume (mL)	Dilution Fac...	Ion Ratio	Ion Ratio (pred.)
1	101>85			17-Oct-07	11:53:56	1.000	1.000	1.000	0.000	3.080
2		177.972	2.054	17-Oct-07	11:53:56	1.000	1.000	1.000		

1. Peak Not Found
2. Incomplete Integration
3. Assign Peak
4. Wrong Peak
5. Baseline Smoothing
6. Split Peak
7. Other _____

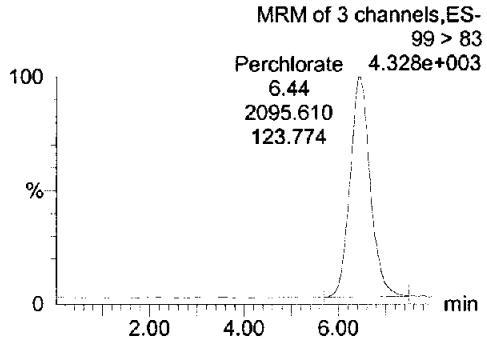
WH
10/17/07

Quantify Sample Report **MassLynx 4.1**

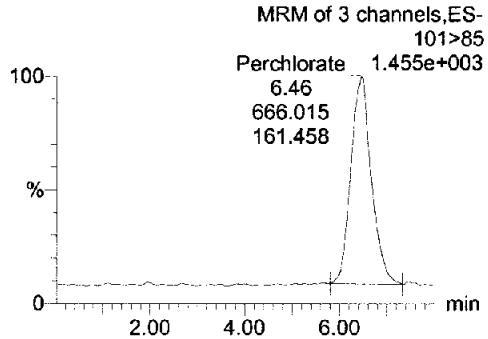
Test America, INC. St. Louis
Dataset: C:\MassLynx\Perchlorates.PRO\DataSetSaved\New Folder\101707SICV_per.qld
Last Altered: Wednesday, October 17, 2007 12:15:37 Central Daylight Time
Printed: Wednesday, October 17, 2007 12:16:25 Central Daylight Time

Name: P1017715
Date: 17-Oct-2007
Time: 12:02:59
ID: GC0482-07
Description: ICV10.0
User: BH/WH
Vial: 1:10
Instrument: LCMSMSR

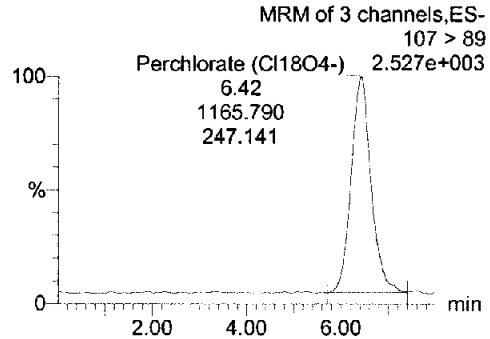
Perchlorate



Perchlorate



Perchlorate (Cl18O4-)



	#	Name	Sample Text	ID	Std. Conc	RT	Area	IS Area	Response	Detection Flags	ug/Kg	%Rec	Trace
1	1...	Perchlorate	ICV10.0	GC0482-07	10.000	6.437	2095.610	1165.790	23.689	bb	10.192	101.916	99 > 83
2	2...	Perchlorate (Cl18O4-)	ICV10.0	GC0482-07	10.000	6.416	1165.790		1165.790	bb	9.663	96.628	107 > 89

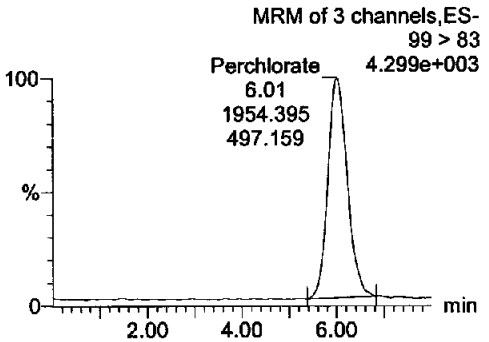
	Sec.Trace	S/N	Height/Area	Acq.Date	Acq.Time	Initial Wt./Volume (g/mL)	Final Volume (mL)	Dilution Fac...	Ion Ratio	Ion Ratio (pred.)
1	101>85	123.774	2.004	17-Oct-07	12:02:59	1.000	1.000	1.000	3.146	3.080
2		247.141	2.064	17-Oct-07	12:02:59	1.000	1.000	1.000		

WH
10/17/07

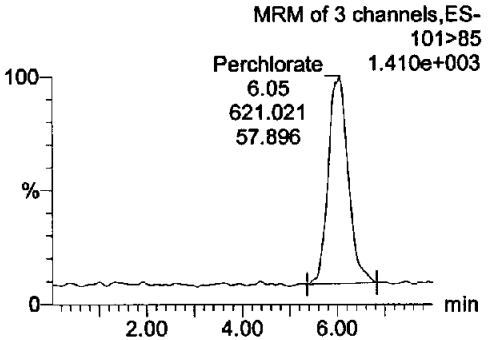
Quantify Sample Report **MassLynx 4.1**
Test America, INC. St. Louis
Dataset: C:\MassLynx\Perchlorates.PRO\DataSetSaved\New Folder\101707SSMP1_per.qld
Last Altered: Wednesday, October 17, 2007 15:06:16 Central Daylight Time
Printed: Wednesday, October 17, 2007 15:07:27 Central Daylight Time

Name: P1017731
Date: 17-Oct-2007
Time: 14:42:17
ID: GC0459-07
Description: CCV
User: BH/WH
Vial: 1:7
Instrument: LCMSMSR

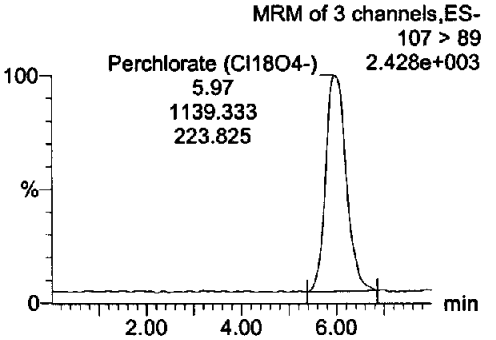
Perchlorate



Perchlorate



Perchlorate (Cl18O4-)



	#	Name	Sample Text	ID	Std. Conc	RT	Area	IS Area	Response	Detection Flags	ug/Kg	%Rec	Trace
1	1...	Perchlorate	CCV	GC0459-07	10.000	6.007	1954.395	1139.333	22.605	bb	9.728	97.283	99 > 83
2	2...	Perchlorate (Cl18O4-)	CCV	GC0459-07	10.000	5.967	1139.333		1139.333	bb	9.443	94.435	107 > 89

	Sec.Trace	S/N	Height/Area	Acq.Date	Acq.Time	Initial Wt./Volume (g/mL)	Final Volume (mL)	Dilution Fac...	Ion Ratio	Ion Ratio (pred.)
1	101>85	497.159	2.126	17-Oct-07	14:42:17	1.000	1.000	1.000	3.147	3.080
2		223.825	2.021	17-Oct-07	14:42:17	1.000	1.000	1.000		

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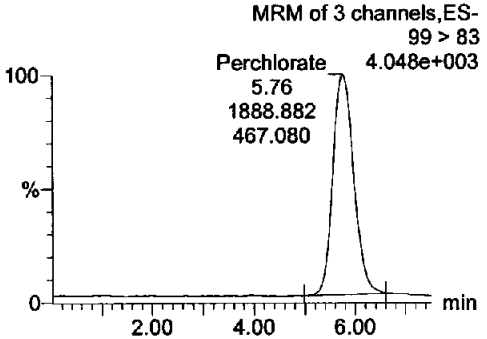
TestAmerica St. Louis

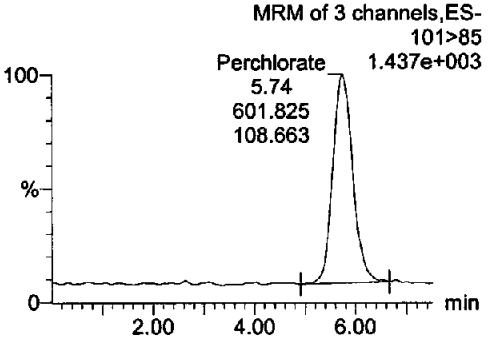
Quantify Sample Report **MassLynx 4.1**
Test America, INC. St. Louis
Dataset: C:\MassLynx\Perchlorates.PRO\DataSetSaved\R101707SW\101707SSMP2_per.qld
Last Altered: Wednesday, October 17, 2007 17:18:13 Central Daylight Time
Printed: Wednesday, October 17, 2007 17:18:55 Central Daylight Time

Name: P1017741
Date: 17-Oct-2007
Time: 16:10:43
ID: GC0459-07
Description: CCV
User: BH/WH
Vial: 1:7
Instrument: LCMSMSR

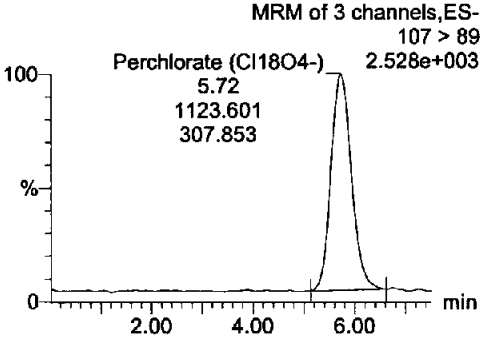
Perchlorate



Perchlorate



Perchlorate (Cl18O4-)



	#	Name	Sample Text	ID	Std. Conc	RT	Area	IS Area	Response	Detection Flags	ug/Kg	%Rec	Trace
1	1...	Perchlorate	CCV	GC0459-07	10.000	5.762	1888.882	1123.601	22.167	bb	9.541	95.413	99 > 83
2	2...	Perchlorate (Cl18O4-)	CCV	GC0459-07	10.000	5.721	1123.601		1123.601	bb	9.313	93.131	107 > 89

	Sec.Trace	S/N	Height/Area	Acq.Date	Acq.Time	Initial Wt./Volume (g/mL)	Final Volume (mL)	Dilution Fac...	Ion Ratio	Ion Ratio (pred.)
1	101>85	467.080	2.070	17-Oct-07	16:10:43	1.000	1.000	1.000	3.139	3.080
2		307.853	2.139	17-Oct-07	16:10:43	1.000	1.000	1.000		

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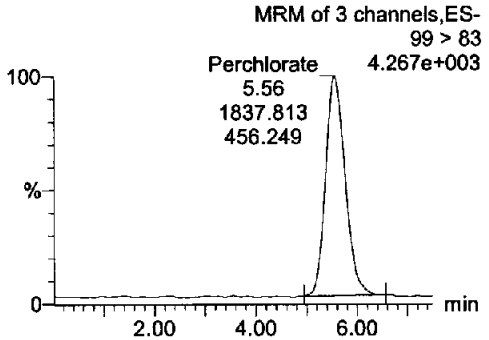
TestAmerica St. Louis

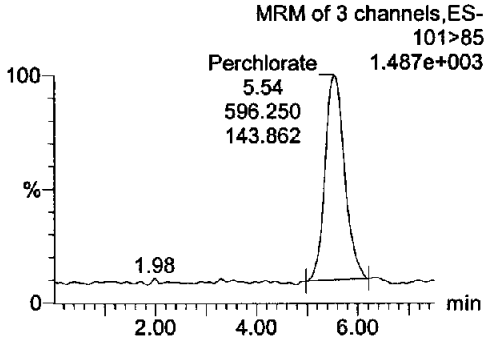
Quantify Sample Report **MassLynx 4.1**
Test America, INC. St. Louis
Dataset: C:\MassLynx\Perchlorates.PRO\DataSetSaved\R101707SW\101707SSMP3_per.qld
Last Altered: Thursday, October 18, 2007 08:35:20 Central Daylight Time
Printed: Thursday, October 18, 2007 08:36:18 Central Daylight Time

Name: P1017756
Date: 17-Oct-2007
Time: 18:20:03
ID: GC0459-07
Description: CCV
User: BH/WH
Vial: 1:7
Instrument: LCMSMSR

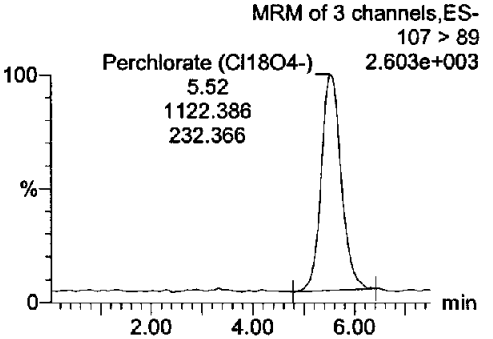
Perchlorate



Perchlorate



Perchlorate (Cl18O4-)



	#	Name	Sample Text	ID	Std. Conc	RT	Area	IS Area	Response	Detection Flags	ug/Kg	%Rec	Trace
1	1...	Perchlorate	CCV	GC0459-07	10.000	5.558	1837.813	1122.386	21.687	bb	9.336	93.359	99 > 83
2	2...	Perchlorate (Cl18O4-)	CCV	GC0459-07	10.000	5.517	1122.386		1122.386	bb	9.303	93.030	107 > 89

	Sec.Trace	S/N	Height/Area	Acq.Date	Acq.Time	Initial Wt./Volume (g/mL)	Final Volume (mL)	Dilution Fac...	Ion Ratio	Ion Ratio (pred.)
1	101>85	456.249	2.239	17-Oct-07	18:20:03	1.000	1.000	1.000	3.082	3.080
2		232.366	2.197	17-Oct-07	18:20:03	1.000	1.000	1.000		

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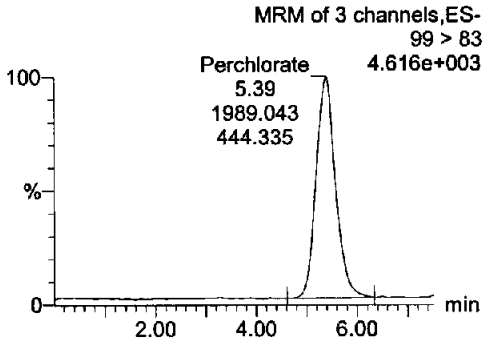
TestAmerica St. Louis

Quantify Sample Report **MassLynx 4.1**
Test America, INC. St. Louis
Dataset: C:\MassLynx\Perchlorates.PRO\DataSetSaved\R101707SW\101707SCCV4DSS3_per.qld
Last Altered: Thursday, October 18, 2007 08:38:53 Central Daylight Time
Printed: Thursday, October 18, 2007 08:40:23 Central Daylight Time

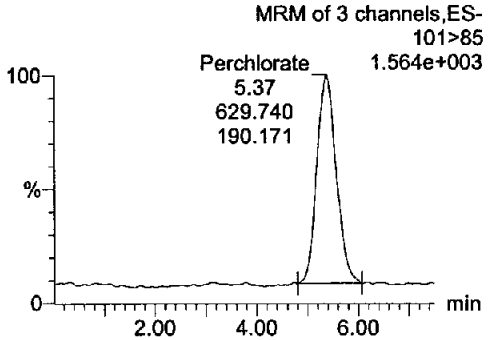
Method: C:\MassLynx\Perchlorates.PRO\MethDB\PerchlorateMRMSoil.mdb 17 Oct 2007 11:59:07
Calibration: C:\MassLynx\Perchlorates.PRO\CurveDB\PerchlorateMRM101707S.cdb 17 Oct 2007 12:06:45

Name: P1017770
Date: 17-Oct-2007
Time: 20:20:39
ID: GC0459-07
Description: CCV
User: BH/WH
Vial: 1:7
Instrument: LCMSMSR

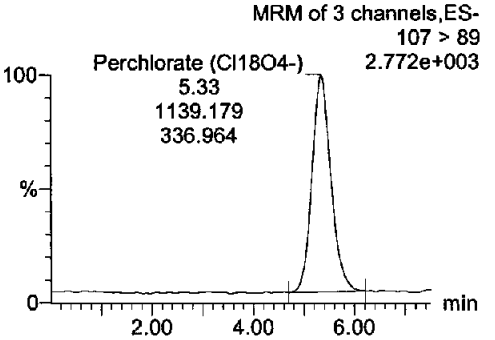
Perchlorate



Perchlorate



Perchlorate (Cl18O4-)



	#	Name	Sample Text	ID	Std. Conc	RT	Area	IS Area	Response	Detection Flags	ug/Kg	%Rec	Trace
1	1...	Perchlorate	CCV	GC0459-07	10.000	5.395	1989.043	1139.179	22.988	bb	9.892	98.923 ✓	99 > 83
2	2...	Perchlorate (Cl18O4-)	CCV	GC0459-07	10.000	5.333	1139.179		1139.179	bb	9.442	94.422	107 > 89

	Sec.Trace	S/N	Height/Area	Acq.Date	Acq.Time	Initial Wt./Volume (g/mL)	Final Volume (mL)	Dilution Fac...	Ion Ratio	Ion Ratio (pred.)
1	101>85	444.335	2.255	17-Oct-07	20:20:39	1.000	1.000	1.000	3.159 ✓	3.080
2		336.964	2.317	17-Oct-07	20:20:39	1.000	1.000	1.000		

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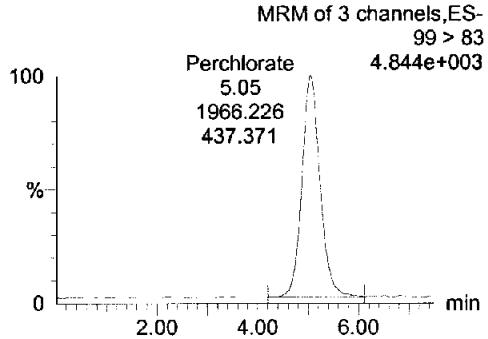
TestAmerica St. Louis

Quantify Sample Report **MassLynx 4.1**

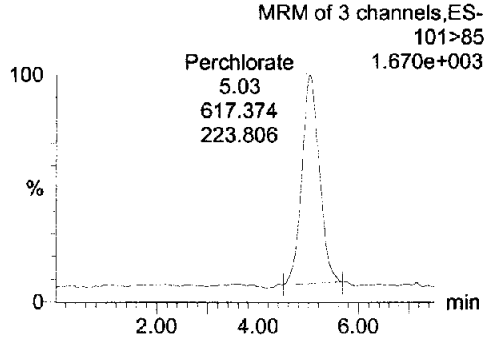
Test America, INC. St. Louis
Dataset: C:\MassLynx\Perchlorates.PRO\DataSetSaved\R101707SW\101707SENDCCV_per.qld
Last Altered: Thursday, October 18, 2007 09:19:08 Central Daylight Time
Printed: Thursday, October 18, 2007 09:19:51 Central Daylight Time

Name: P1017787
Date: 17-Oct-2007
Time: 22:46:45
ID: GC0459-07
Description: CCV
User: BH/WH
Vial: 1:7
Instrument: LCMSMSR

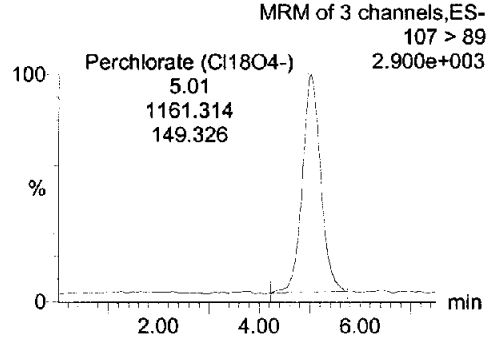
Perchlorate



Perchlorate



Perchlorate (Cl18O4-)



	#	Name	Sample Text	ID	Std. Conc	RT	Area	IS Area	Response	Detection Flags	ug/Kg	%Rec	Trace
1	1...	Perchlorate	CCV	GC0459-07	10.000	5.047	1966.226	1161.314	22.247	bb	9.576	95.755	99 > 83
2	2...	Perchlorate (Cl18O4-)	CCV	GC0459-07	10.000	5.006	1161.314		1161.314	bb	9.626	96.257	107 > 89

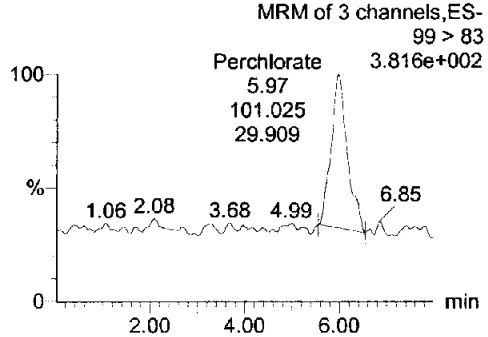
	Sec.Trace	S/N	Height/Area	Acq.Date	Acq.Time	Initial Wt./Volume (g/mL)	Final Volume (mL)	Dilution Fac...	Ion Ratio	Ion Ratio (pred.)
1	101>85	437.371	2.400	17-Oct-07	22:46:45	1.000	1.000	1.000	3.185	3.080
2		149.326	2.394	17-Oct-07	22:46:45	1.000	1.000	1.000		

Quantify Sample Report **MassLynx 4.1**

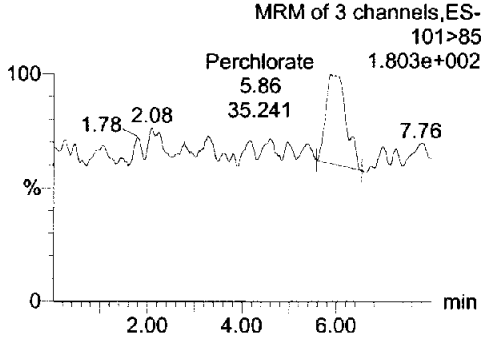
Test America, INC. St. Louis
Dataset: C:\MassLynx\Perchlorates.PRO\DataSetSaved\New Folder\101707SDSS1_per.qld
Last Altered: Wednesday, October 17, 2007 12:34:44 Central Daylight Time
Printed: Wednesday, October 17, 2007 12:35:14 Central Daylight Time

Name: P1017717
Date: 17-Oct-2007
Time: 12:21:04
ID:
Description: FORTIFIED DSS SPK 1000 MG/L 0.5 PPB
User: BH/WH
Vial: 1:11
Instrument: LCMSMSR

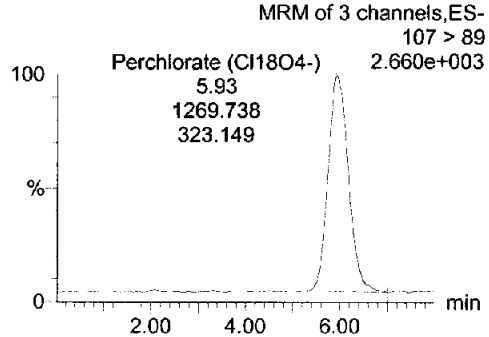
Perchlorate



Perchlorate



Perchlorate (Cl18O4-)



	#	Name	Sample Text	ID	Std. Conc	RT	Area	IS Area	Response	Detection Flags	ug/Kg	%Rec	Trace
1	1...	Perchlorate	FORTIFIED DSS SPK ...		0.500	5.967	101.025	1269.738	1.073	MM	0.527	105.443	99 > 83
2	2...	Perchlorate (Cl18O4-)	FORTIFIED DSS SPK ...		0.500	5.926	1269.738		1269.738	bb	10.524	105.243	107 > 89

	Sec.Trace	S/N	Height/Area	Acq.Date	Acq.Time	Initial Wt./Volume (g/mL)	Final Volume (mL)	Dilution Fac...	Ion Ratio	Ion Ratio (pred.)
1	101>85	29.909	2.554	17-Oct-07	12:21:04	10.000	10.000	1.000	2.867	3.080
2		323.149	2.001	17-Oct-07	12:21:04	1.000	1.000	1.000		

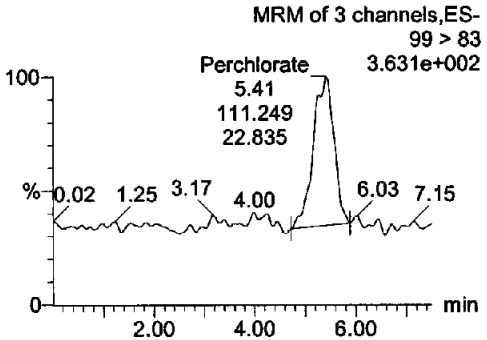
1. **Peak Not Found**
2. **Incomplete Integration**
3. **Assign Peak**
4. **Wrong Peak**
5. **Baseline Smoothing**
6. **Split Peak**
7. **Other** _____

WH 10/17/07

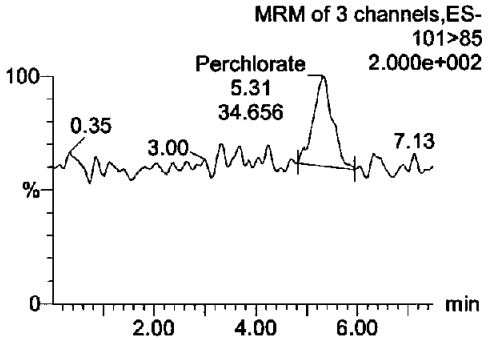
Quantify Sample Report **MassLynx 4.1**
Test America, INC. St. Louis
Dataset: C:\MassLynx\Perchlorates.PRO\DataSetSaved\R101707SW\101707SSMP2_per.qld
Last Altered: Wednesday, October 17, 2007 17:18:13 Central Daylight Time
Printed: Wednesday, October 17, 2007 17:18:55 Central Daylight Time

Name: P1017743
Date: 17-Oct-2007
Time: 16:27:58
ID: GC0262-07
Description: FORTIFIED DSS SPIKE 1000 MG/L 0.5 PPB
User: BH/WH
Vial: 1:11
Instrument: LCMSMSR

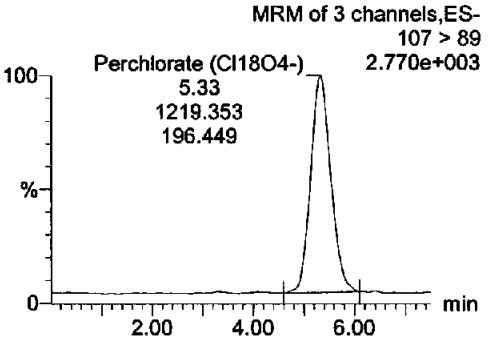
Perchlorate



Perchlorate



Perchlorate (Cl18O4-)



	#	Name	Sample Text	ID	Std. Conc	RT	Area	IS Area	Response	Detection Flags	ug/Kg	%Rec	Trace
1	1...	Perchlorate	FORTIFIED DSS SPIK...	GC0262-07	0.500	5.415	111.249	1219.353	1.197	MM	0.580	115.989	99 > 83
2	2...	Perchlorate (Cl18O4-)	FORTIFIED DSS SPIK...	GC0262-07	0.500	5.333	1219.353		1219.353	bb	10.107	101.067	107 > 89

	Sec.Trace	S/N	Height/Area	Acq.Date	Acq.Time	Initial Wt./Volume (g/mL)	Final Volume (mL)	Dilution Fac...	Ion Ratio	Ion Ratio (pred.)
1	101>85	22.835	2.130	17-Oct-07	16:27:58	10.000	10.000	1.000	3.210	3.080
2		196.449	2.165	17-Oct-07	16:27:58	1.000	1.000	1.000		

1. Peak Not Found
2. Incomplete Integration
3. Assign Peak
4. Wrong Peak
5. Baseline Smoothing
6. Split Peak
7. Other _____

WH 10/17/07

LOT# 760270
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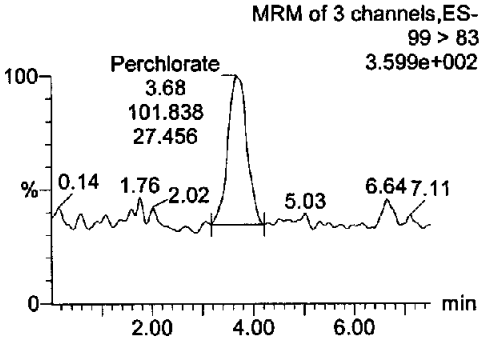
TestAmerica St. Louis

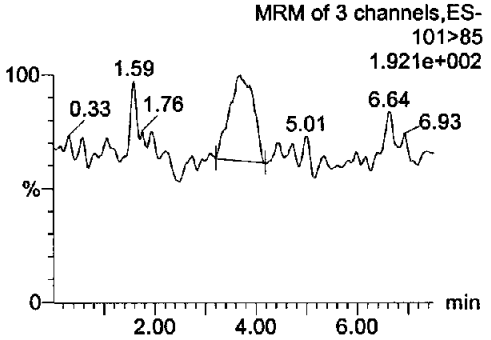
Quantify Sample Report **MassLynx 4.1**
Test America, INC. St. Louis
Dataset: C:\MassLynx\Perchlorates.PRO\DataSetSaved\R101707SW\101707SCCV4DSS3_per.qld
Last Altered: Thursday, October 18, 2007 08:38:53 Central Daylight Time
Printed: Thursday, October 18, 2007 08:40:23 Central Daylight Time

Name: P1017772
Date: 17-Oct-2007
Time: 20:37:54
ID: GC0262-07
Description: FORTIFIED DSS SPIKE 1000 MG/L 0.5 PPB
User: BH/WH
Vial: 1:11
Instrument: LCMSMSR

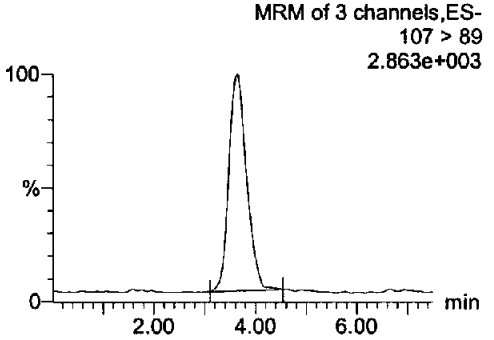
Perchlorate



Perchlorate



Perchlorate (Cl18O4-)



	#	Name	Sample Text	ID	Std. Conc	RT	Area	IS Area	Response	Detection Flags	ug/Kg	%Rec	Trace
1	1...	Perchlorate	FORTIFIED DSS SPIK...	GC0262-07	0.500	3.678	101.838	1101.178	1.288	MM	0.619	123.826	99 > 83
2	2...	Perchlorate (Cl18O4-)	FORTIFIED DSS SPIK...	GC0262-07	0.500	3.637	1101.178		1101.178	bb	9.127	91.272	107 > 89

	Sec.Trace	S/N	Height/Area	Acq.Date	Acq.Time	Initial Wt/Volume (g/mL)	Final Volume (mL)	Dilution Fac...	Ion Ratio	Ion Ratio (pred.)
1	101>85	27.456	2.308	17-Oct-07	20:37:54	10.000	10.000	1.000	2.544	3.080
2		245.319	2.476	17-Oct-07	20:37:54	1.000	1.000	1.000		

1. Peak Not Found
2. Incomplete Integration
3. Assign Peak
4. Wrong Peak
5. Baseline Smoothing
6. Split Peak
7. Other _____

10/18/07

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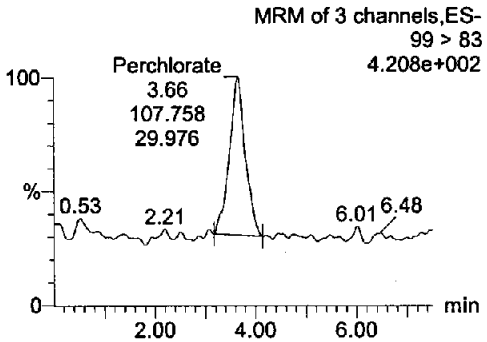
TestAmerica St. Louis

Quantify Sample Report **MassLynx 4.1**
Test America, INC. St. Louis
Dataset: C:\MassLynx\Perchlorates.PRO\DataSetSaved\R101707SW\101707SDSS4_per.qld
Last Altered: Thursday, October 18, 2007 08:53:30 Central Daylight Time
Printed: Thursday, October 18, 2007 08:54:15 Central Daylight Time

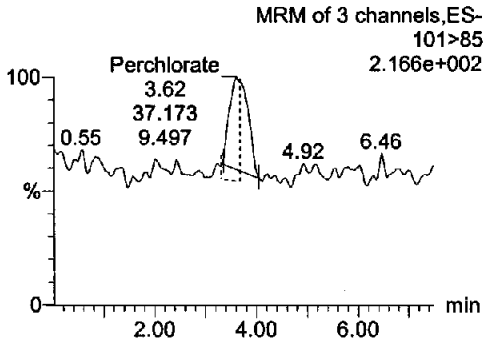
Method: C:\MassLynx\Perchlorates.PRO\MethDB\PerchlorateMRMSoil.mdb 17 Oct 2007 11:59:07
Calibration: C:\MassLynx\Perchlorates.PRO\CurveDB\PerchlorateMRM101707S.cdb 17 Oct 2007 12:06:45

Name: P1017785
Date: 17-Oct-2007
Time: 22:29:30
ID: GC0262-07
Description: FORTIFIED DSS SPIKE 1000 MG/L 0.5 PPB
User: BH/WH
Vial: 1:11
Instrument: LCMSMSR

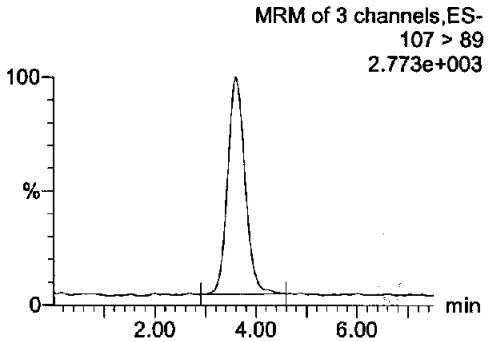
Perchlorate



Perchlorate



Perchlorate (Cl18O4-)



1. Peak Not Found
2. Incomplete Integration
3. Assign Peak
4. Wrong Peak
5. Baseline Smoothing
6. Split Peak
7. Other _____

WH 10/18/07

	#	Name	Sample Text	ID	Std. Conc	RT	Area	IS Area	Response	Detection Flags	ug/Kg	%Rec	Trace
1	1...	Perchlorate	FORTIFIED DSS SPIK...	GC0262-07	0.500	3.658	107.758	1062.734	1.364	bb	0.651	130.277	99 > 83
2	2...	Perchlorate (Cl18O4-)	FORTIFIED DSS SPIK...	GC0262-07	0.500	3.596	1062.734		1062.734	bb	8.809	88.086	107 > 89

	Sec.Trace	S/N	Height/Area	Acq.Date	Acq.Time	Initial Wt./Volume (g/mL)	Final Volume (mL)	Dilution Fac...	Ion Ratio	Ion Ratio (pred.)
1	101>85	29.976	2.700	17-Oct-07	22:29:30	10.000	10.000	1.000	2.899	3.080
2		126.966	2.486	17-Oct-07	22:29:30	1.000	1.000	1.000		

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TestAmerica St. Louis

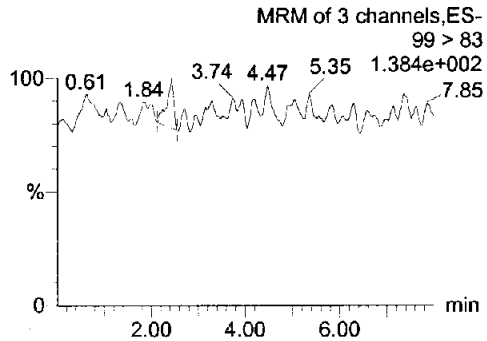
Quantify Sample Report **MassLynx 4.1**

Test America, INC. St. Louis
Dataset: C:\MassLynx\Perchlorates.PRO\DataSetSaved\New Folder\101707SDSS1_per.qld
Last Altered: Wednesday, October 17, 2007 12:34:44 Central Daylight Time
Printed: Wednesday, October 17, 2007 12:35:14 Central Daylight Time

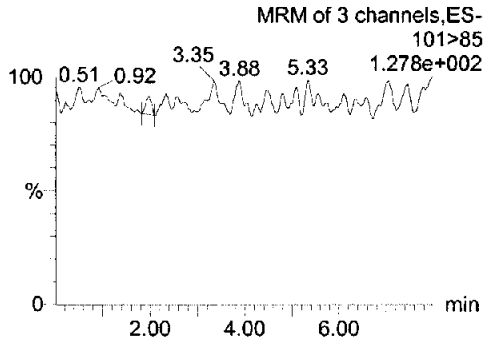
Method: C:\MassLynx\Perchlorates.PRO\MethDB\PerchlorateMRMSoil.mdb 17 Oct 2007 11:59:07
Calibration: C:\MassLynx\Perchlorates.PRO\CurveDB\PerchlorateMRM101707S.cdb 17 Oct 2007 12:06:45

Name: P1017716
Date: 17-Oct-2007
Time: 12:12:01
ID:
Description: INST BLK
User: BH/WH
Vial: 1:1
Instrument: LCMSMSR

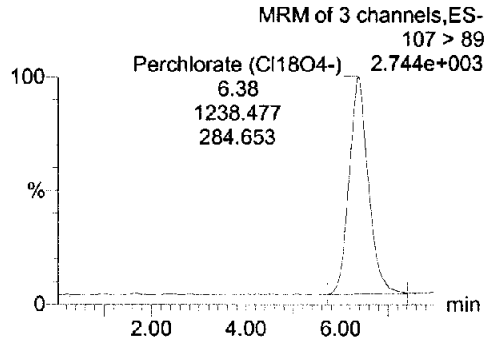
Perchlorate



Perchlorate



Perchlorate (Cl18O4-)



	#	Name	Sample Text	ID	Std. Conc	RT	Area	IS Area	Response	Detection Flags	ug/Kg	%Rec	Trace
1	1...	Perchlorate	INST BLK					1238.477		MM-			99 > 83
2	2...	Perchlorate (Cl18O4-)	INST BLK			6.375	1238.477		1238.477	bb	10.265	102.652	107 > 89

	Sec.Trace	S/N	Height/Area	Acq.Date	Acq.Time	Initial Wt./Volume (g/mL)	Final Volume (mL)	Dilution Fac...	Ion Ratio	Ion Ratio (pred.)
1	101>85			17-Oct-07	12:12:01	1.000	1.000	1.000	0.000	3.080
2		284.653	2.117	17-Oct-07	12:12:01	1.000	1.000	1.000		

1. Peak Not Found
2. Incomplete Integration
3. Assign Peak
4. Wrong Peak
5. Baseline Smoothing
6. Split Peak
7. Other _____

WH 10/17/07

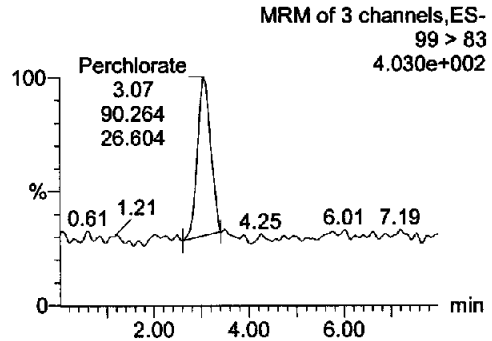
Quantify Sample Report **MassLynx 4.1**
Test America, INC. St. Louis
Dataset: C:\MassLynx\Perchlorates.PRO\DataSetSaved\New Folder\101707SSMP1_per.qld
Last Altered: Wednesday, October 17, 2007 15:06:16 Central Daylight Time
Printed: Wednesday, October 17, 2007 15:07:27 Central Daylight Time

LOT#: 7J160270

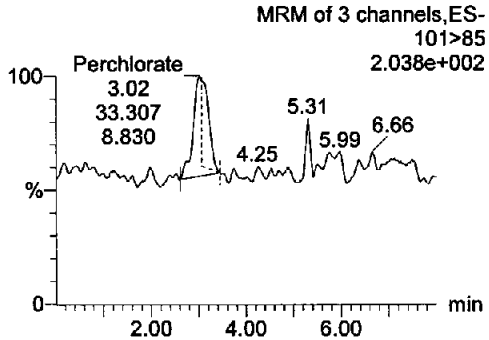
Method: C:\MassLynx\Perchlorates.PRO\MethDB\PerchlorateMRMSoil.mdb 17 Oct 2007 11:59:07
Calibration: C:\MassLynx\Perchlorates.PRO\CurveDB\PerchlorateMRM101707S.cdb 17 Oct 2007 12:06:45

Name: P1017718
Date: 17-Oct-2007
Time: 12:44:53
ID:
Description: INST BLK
User: BH/WH
Vial: 1:12
Instrument: LCMSMSR

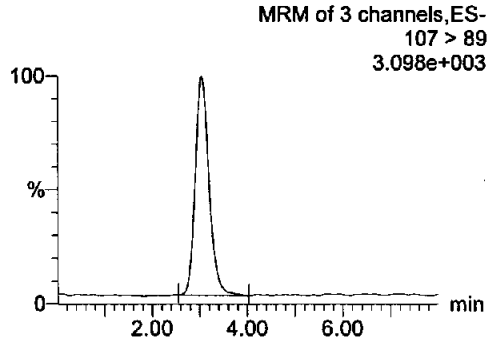
Perchlorate



Perchlorate



Perchlorate (Cl18O4-)



	#	Name	Sample Text	ID	Std. Conc	RT	Area	IS Area	Response	Detection Flags	ug/Kg	%Rec	Trace
1	1...	Perchlorate	INST BLK			3.065	90.264	1002.144	1.233	bb	0.596		99 > 83
2	2...	Perchlorate (Cl18O4-)	INST BLK			3.045	1002.144		1002.144	bb	8.306	83.064	107 > 89

	Sec.Trace	S/N	Height/Area	Acq.Date	Acq.Time	Initial Wt./Volume (g/mL)	Final Volume (mL)	Dilution Fac...	Ion Ratio	Ion Ratio (pred.)
1	101>85	26.604	3.102	17-Oct-07	12:44:53	1.000	1.000	1.000	2.710	3.080
2		315.578	2.977	17-Oct-07	12:44:53	1.000	1.000	1.000		

Test DSS std

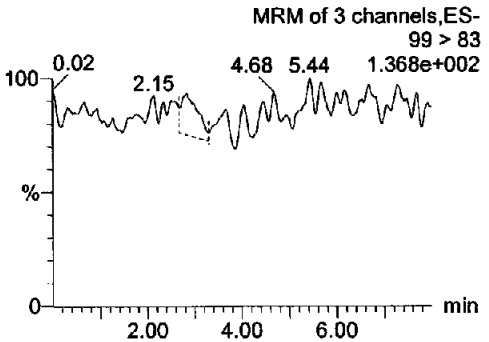
TestAmerica St. Louis

Quantify Sample Report **MassLynx 4.1**
Test America, INC. St. Louis
Dataset: C:\MassLynx\Perchlorates.PRO\DataSetSaved\R101707SW\101707SSMP2_per.qld
Last Altered: Wednesday, October 17, 2007 17:18:13 Central Daylight Time
Printed: Wednesday, October 17, 2007 17:18:55 Central Daylight Time

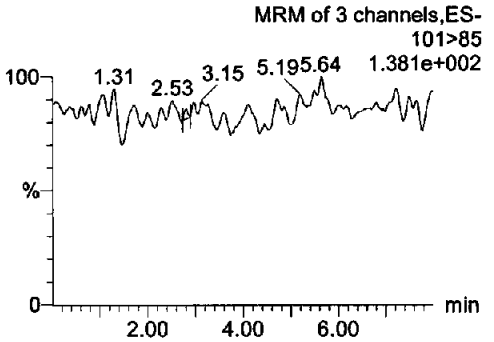
Method: C:\MassLynx\Perchlorates.PRO\MethDB\PerchlorateMRMSoil.mdb 17 Oct 2007 11:59:07
Calibration: C:\MassLynx\Perchlorates.PRO\CurveDB\PerchlorateMRM101707S.cdb 17 Oct 2007 12:06:45

Name: P1017732
Date: 17-Oct-2007
Time: 14:51:22
ID:
Description: INST BLK
User: BH/WH
Vial: 1:1
Instrument: LCMSMSR

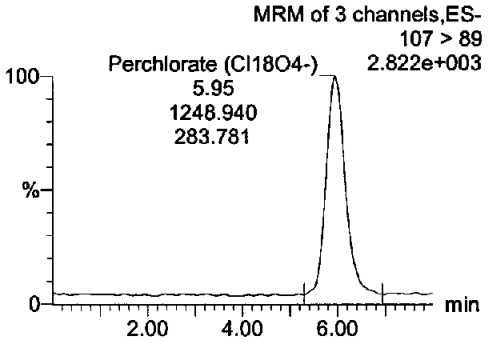
Perchlorate



Perchlorate



Perchlorate (Cl18O4-)



	#	Name	Sample Text	ID	Std. Conc	RT	Area	IS Area	Response	Detection Flags	ug/Kg	%Rec	Trace
1	1...	Perchlorate	INST BLK					1248.940		MM-			99 > 83
2	2...	Perchlorate (Cl18O4-)	INST BLK			5.946	1248.940		1248.940	bb	10.352	103.520	107 > 89

	Sec.Trace	S/N	Height/Area	Acq.Date	Acq.Time	Initial Wt/Volume (g/mL)	Final Volume (mL)	Dilution Fac...	Ion Ratio	Ion Ratio (pred.)
1	101>85			17-Oct-07	14:51:22	1.000	1.000	1.000	0.000	3.080
2		283.781	2.165	17-Oct-07	14:51:22	1.000	1.000	1.000		

1. Peak Not Found
2. Incomplete Integration
3. Assign Peak
4. Wrong Peak
5. Baseline Smoothing
6. Split Peak
7. Other _____

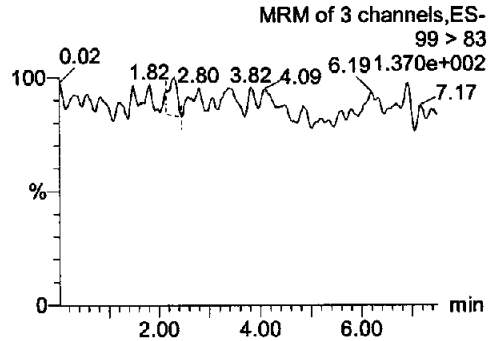
WH 10/17/07

LOG#7/60270
234 of 420
TestAmerica St. Louis

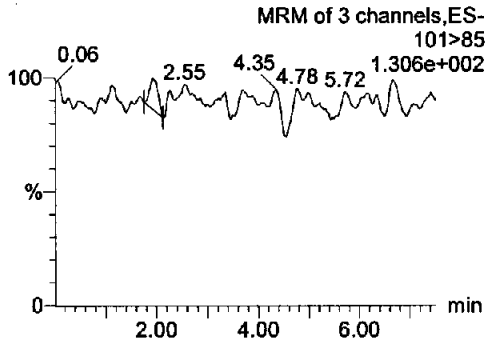
Quantify Sample Report **MassLynx 4.1**
Test America, INC. St. Louis
Dataset: C:\MassLynx\Perchlorates.PRO\DataSetSaved\R101707SW\101707SSMP2_per.qld
Last Altered: Wednesday, October 17, 2007 17:18:13 Central Daylight Time
Printed: Wednesday, October 17, 2007 17:18:55 Central Daylight Time

Name: P1017742
Date: 17-Oct-2007
Time: 16:19:19
ID:
Description: INST BLK
User: BH/WH
Vial: 1:1
Instrument: LCMSMSR

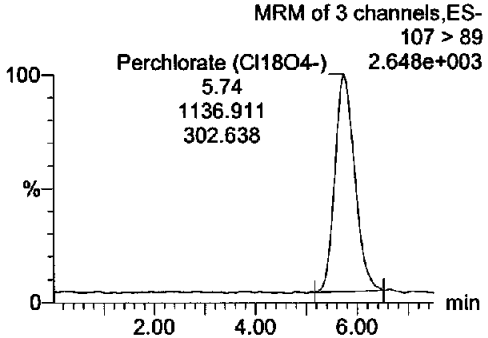
Perchlorate



Perchlorate



Perchlorate (Cl18O4-)



	#	Name	Sample Text	ID	Std. Conc	RT	Area	IS Area	Response	Detection Flags	ug/Kg	%Rec	Trace
1	1...	Perchlorate	INST BLK					1136.911		MM-			99 > 83
2	2...	Perchlorate (Cl18O4-)	INST BLK			5.742	1136.911		1136.911	bb	9.423	94.234	107 > 89

	Sec.Trace	S/N	Height/Area	Acq.Date	Acq.Time	Initial Wt./Volume (g/mL)	Final Volume (mL)	Dilution Fac...	Ion Ratio	Ion Ratio (pred.)
1	101>85			17-Oct-07	16:19:19	1.000	1.000	1.000	0.000	3.080
2		302.638	2.221	17-Oct-07	16:19:19	1.000	1.000	1.000		

1. Peak Not Found
2. Incomplete Integration
3. Assign Peak
4. Wrong Peak
5. Baseline Smoothing
6. Split Peak
7. Other _____

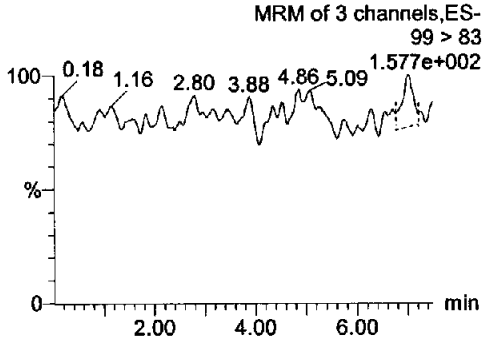
WH 10/17/07

LOG#160279
235 of 422
TestAmerica St. Louis

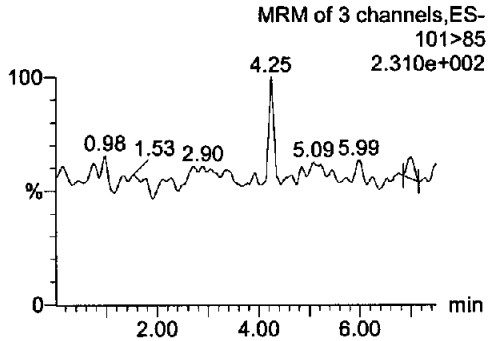
Quantify Sample Report **MassLynx 4.1**
Test America, INC. St. Louis
Dataset: C:\MassLynx\Perchlorates.PRO\DataSetSaved\R101707SW\101707SSMP3_per.qld
Last Altered: Thursday, October 18, 2007 08:35:20 Central Daylight Time
Printed: Thursday, October 18, 2007 08:36:18 Central Daylight Time

Name: P1017757
Date: 17-Oct-2007
Time: 18:28:44
ID:
Description: INST BLK
User: BH/WH
Vial: 2:1
Instrument: LCMSMSR

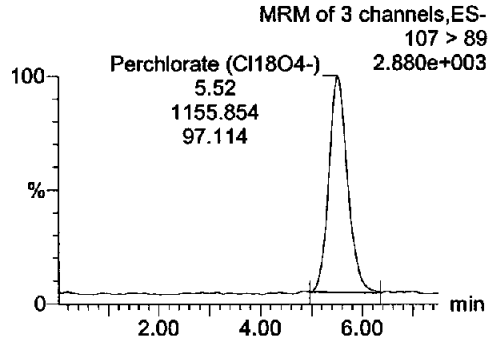
Perchlorate



Perchlorate



Perchlorate (Cl18O4-)



	#	Name	Sample Text	ID	Std. Conc	RT	Area	IS Area	Response	Detection Flags	ug/Kg	%Rec	Trace
1	1...	Perchlorate	INST BLK					1155.854		MM-			99 > 83
2	2...	Perchlorate (Cl18O4-)	INST BLK			5.517	1155.854		1155.854	bb	9.580	95.804	107 > 89

	Sec.Trace	S/N	Height/Area	Acq.Date	Acq.Time	Initial Wt./Volume (g/mL)	Final Volume (mL)	Dilution Fac...	Ion Ratio	Ion Ratio (pred.)
1	101>85			17-Oct-07	18:28:44	1.000	1.000	1.000	0.000	3.080
2		97.114	2.369	17-Oct-07	18:28:44	1.000	1.000	1.000		

1. Peak Not Found
2. Incomplete Integration
3. Assign Peak
4. Wrong Peak
5. Baseline Smoothing
6. Split Peak
7. Other _____

WH 10/18/07

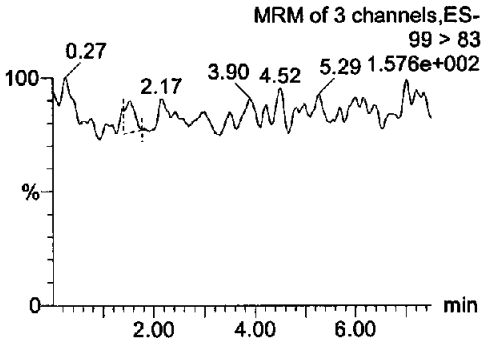
LOT#6021179
236 of 422
TestAmerica St. Louis

Quantify Sample Report **MassLynx 4.1**

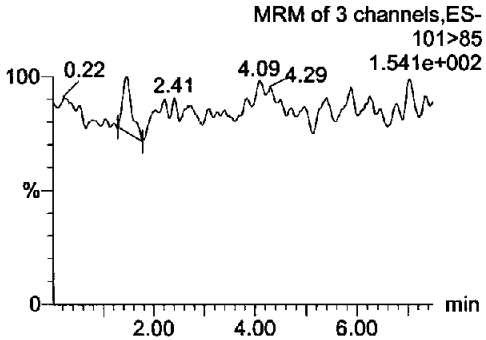
Test America, INC. St. Louis
Dataset: C:\MassLynx\Perchlorates.PRO\DataSetSaved\R101707SW\101707SCCV4DSS3_per.qld
Last Altered: Thursday, October 18, 2007 08:38:53 Central Daylight Time
Printed: Thursday, October 18, 2007 08:40:23 Central Daylight Time

Name: P1017771
Date: 17-Oct-2007
Time: 20:29:16
ID:
Description: INST BLK
User: BH/WH
Vial: 2:1
Instrument: LCMSMSR

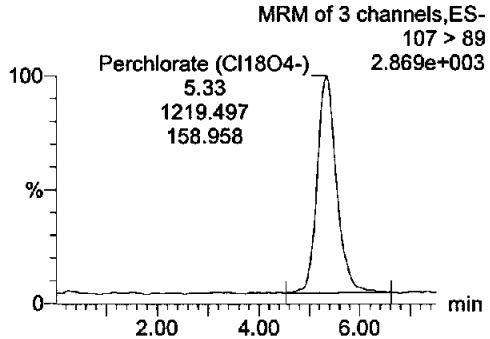
Perchlorate



Perchlorate



Perchlorate (Cl18O4-)



	#	Name	Sample Text	ID	Std. Conc	RT	Area	IS Area	Response	Detection Flags	ug/Kg	%Rec	Trace
1	1...	Perchlorate	INST BLK					1219.497		MM-			99 > 83
2	2...	Perchlorate (Cl18O4-)	INST BLK			5.333	1219.497		1219.497	bb	10.108	101.079	107 > 89

	Sec.Trace	S/N	Height/Area	Acq.Date	Acq.Time	Initial Wt./Volume (g/mL)	Final Volume (mL)	Dilution Fac...	Ion Ratio	Ion Ratio (pred.)
1	101>85			17-Oct-07	20:29:16	1.000	1.000	1.000	0.000	3.080
2		158.958	2.243	17-Oct-07	20:29:16	1.000	1.000	1.000		

1. Peak Not Found
2. Incomplete Integration
3. Assign Peak
4. Wrong Peak
5. Baseline Smoothing
6. Split Peak
7. Other _____

WH 10/18/07

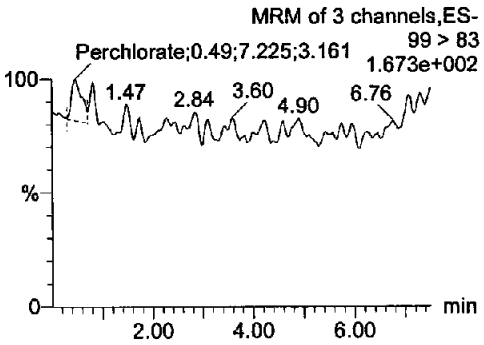
TestAmerica St. Louis

Quantify Sample Report **MassLynx 4.1**
Test America, INC. St. Louis
Dataset: C:\MassLynx\Perchlorates.PRO\DataSetSaved\R101707SW\101707SSMP4_per.qld
Last Altered: Thursday, October 18, 2007 08:50:49 Central Daylight Time
Printed: Thursday, October 18, 2007 08:51:19 Central Daylight Time

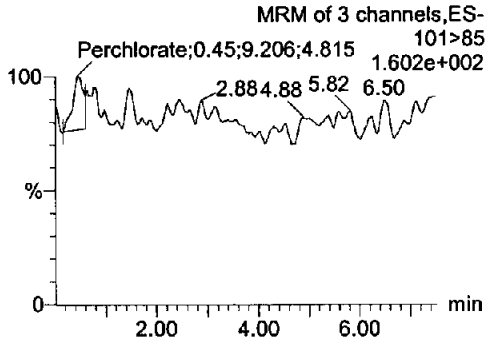
Method: C:\MassLynx\Perchlorates.PRO\MethDB\PerchlorateMRMSoil.mdb 17 Oct 2007 11:59:07
Calibration: C:\MassLynx\Perchlorates.PRO\CurveDB\PerchlorateMRM101707S.cdb 17 Oct 2007 12:06:45

Name: P1017773
Date: 17-Oct-2007
Time: 20:46:36
ID:
Description: INST BLK
User: BH/WH
Vial: 1:1
Instrument: LCMSMSR

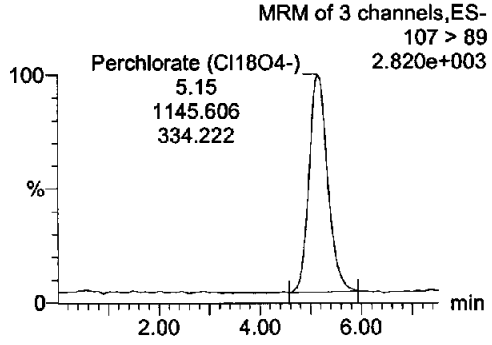
Perchlorate



Perchlorate



Perchlorate (Cl18O4-)



	#	Name	Sample Text	ID	Std. Conc	RT	Area	IS Area	Response	Detection Flags	ug/Kg	%Rec	Trace
1	1...	Perchlorate	INST BLK					1145.606		MM-			99 > 83
2	2...	Perchlorate (Cl18O4-)	INST BLK			5.149	1145.606		1145.606	bb	9.495	94.955	107 > 89

	Sec.Trace	S/N	Height/Area	Acq.Date	Acq.Time	Initial Wt./Volume (g/mL)	Final Volume (mL)	Dilution Fac...	Ion Ratio	Ion Ratio (pred.)
1	101>85			17-Oct-07	20:46:36	1.000	1.000	1.000	0.000	3.080
2		334.222	2.349	17-Oct-07	20:46:36	1.000	1.000	1.000		

1. Peak Not Found
2. Incomplete Integration
3. Assign Peak
4. Wrong Peak
5. Baseline Smoothing
6. Split Peak
7. Other _____

WH 10/18/07

L0#1602792
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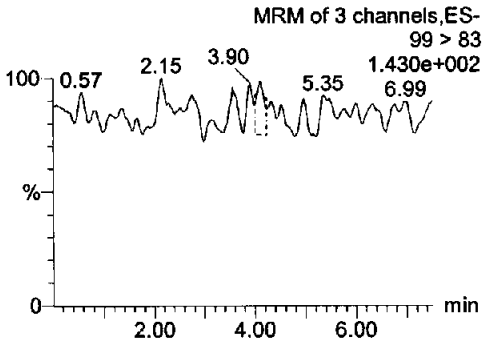
TestAmerica St. Louis

Quantify Sample Report **MassLynx 4.1**
Test America, INC. St. Louis
Dataset: C:\MassLynx\Perchlorates.PRO\DataSetSaved\R101707SW\101707SSMP4_per.qld
Last Altered: Thursday, October 18, 2007 08:50:49 Central Daylight Time
Printed: Thursday, October 18, 2007 08:51:19 Central Daylight Time

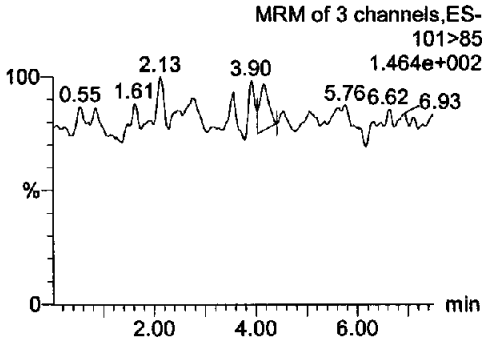
LOT#: 7160279

Name: P1017784
Date: 17-Oct-2007
Time: 22:20:52
ID:
Description: INST BLK
User: BH/WH
Vial: 2:1
Instrument: LCMSMSR

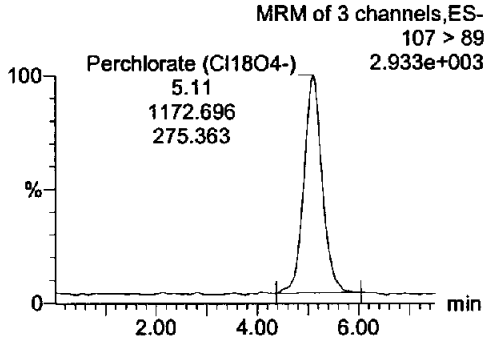
Perchlorate



Perchlorate



Perchlorate (Cl18O4-)



	#	Name	Sample Text	ID	Std. Conc	RT	Area	IS Area	Response	Detection Flags	ug/Kg	%Rec	Trace
1	1...	Perchlorate	INST BLK					1172.696		MM-			99 > 83
2	2...	Perchlorate (Cl18O4-)	INST BLK			5.108	1172.696		1172.696	bb	9.720	97.200	107 > 89

	Sec.Trace	S/N	Height/Area	Acq.Date	Acq.Time	Initial Wt./Volume (g/mL)	Final Volume (mL)	Dilution Fac...	Ion Ratio	Ion Ratio (pred.)
1	101>85			17-Oct-07	22:20:52	1.000	1.000	1.000	0.000	3.080
2		275.363	2.389	17-Oct-07	22:20:52	1.000	1.000	1.000		

1. Peak Not Found
2. Incomplete Integration
3. Assign Peak
4. Wrong Peak
5. Baseline Smoothing
6. Split Peak
7. Other _____

WH 10/18/07

TestAmerica St. Louis

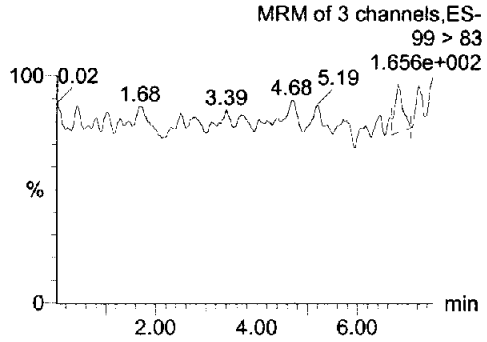
Quantify Sample Report **MassLynx 4.1**

Test America, INC. St. Louis
Dataset: C:\MassLynx\Perchlorates.PRO\DataSetSaved\R101707SW\101707SENDCCV_per.qld
Last Altered: Thursday, October 18, 2007 09:19:08 Central Daylight Time
Printed: Thursday, October 18, 2007 09:19:51 Central Daylight Time

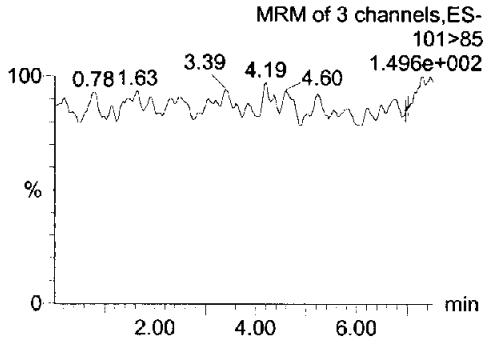
Method: C:\MassLynx\Perchlorates.PRO\MethDB\PerchlorateMRMSoil.mdb 17 Oct 2007 11:59:07
Calibration: C:\MassLynx\Perchlorates.PRO\CurveDB\PerchlorateMRM101707S.cdb 17 Oct 2007 12:06:45

Name: P1017786
Date: 17-Oct-2007
Time: 22:38:08
ID:
Description: INST BLK
User: BH/WH
Vial: 1:1
Instrument: LCMSMSR

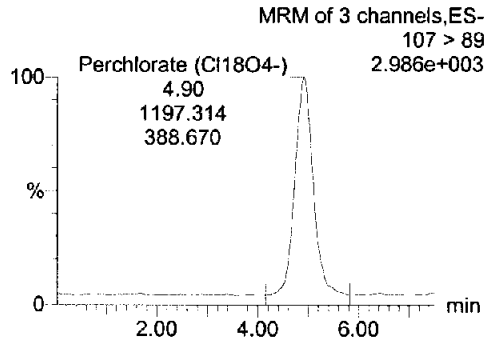
Perchlorate



Perchlorate



Perchlorate (Cl18O4-)



	#	Name	Sample Text	ID	Std. Conc	RT	Area	IS Area	Response	Detection Flags	ug/Kg	%Rec	Trace
1	1...	Perchlorate	INST BLK					1197.314		MM-			99 > 83
2	2...	Perchlorate (Cl18O4-)	INST BLK			4.904	1197.314		1197.314	bb	9.924	99.240	107 > 89

	Sec.Trace	S/N	Height/Area	Acq.Date	Acq.Time	Initial Wt./Volume (g/mL)	Final Volume (mL)	Dilution Fac...	Ion Ratio	Ion Ratio (pred.)
1	101>85			17-Oct-07	22:38:08	1.000	1.000	1.000	0.000	3.080
2		388.670	2.390	17-Oct-07	22:38:08	1.000	1.000	1.000		

1. Peak Not Found
2. Incomplete Integration
3. Assign Peak
4. Wrong Peak
5. Baseline Smoothing
6. Split Peak
7. Other _____

WH 10/18/07

RAW SAMPLE DATA

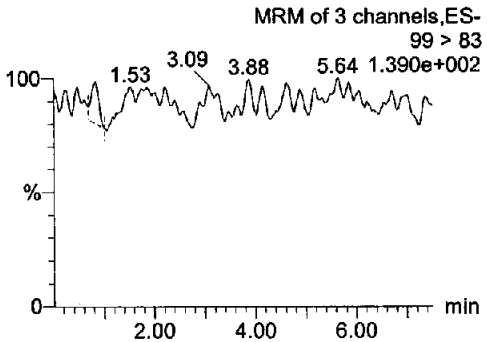
Quantify Sample Report **MassLynx 4.1**
Test America, INC. St. Louis
Dataset: C:\MassLynx\Perchlorates.PRO\DataSetSaved\R101707SW\101707SSMP3_per.qld
Last Altered: Thursday, October 18, 2007 08:35:20 Central Daylight Time
Printed: Thursday, October 18, 2007 08:36:18 Central Daylight Time

LOT #: F7J160279

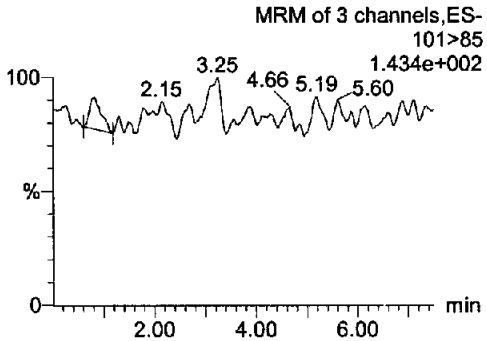
Method: C:\MassLynx\Perchlorates.PRO\MethDB\PerchlorateMRMSoil.mdb 17 Oct 2007 11:59:07
Calibration: C:\MassLynx\Perchlorates.PRO\CurveDB\PerchlorateMRM101707S.cdb 17 Oct 2007 12:06:45

Name: P1017753
Date: 17-Oct-2007
Time: 17:54:21
ID: J835E1AD
Description: F7J160279-018
User: BH/WH
Vial: 1:35
Instrument: LCMSMSR

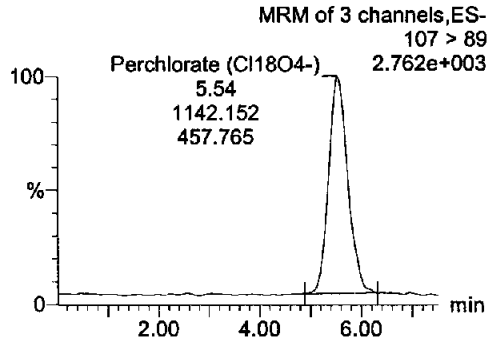
Perchlorate



Perchlorate



Perchlorate (Cl18O4-)



	#	Name	Sample Text	ID	Std. Conc	RT	Area	IS Area	Response	Detection Flags	ug/Kg	%Rec	Trace
1	1...	Perchlorate	F7J160279-018	J835E1AD				1142.152		MM-			99 > 83
2	2...	Perchlorate (Cl18O4-)	F7J160279-018	J835E1AD		5.537	1142.152		1142.152	bb	9.467	94.668	107 > 89

	Sec.Trace	S/N	Height/Area	Acq.Date	Acq.Time	Initial Wt./Volume (g/mL)	Final Volume (mL)	Dilution Fac...	Ion Ratio	Ion Ratio (pred.)
1	101>85			17-Oct-07	17:54:21	2.446	20.000	1.000	0.000	3.080
2		457.765	2.301	17-Oct-07	17:54:21	1.000	1.000	1.000		

1. Peak Not Found
2. Incomplete Integration
3. Assign Peak
4. Wrong Peak
5. Baseline Smoothing
6. Split Peak
7. Other _____

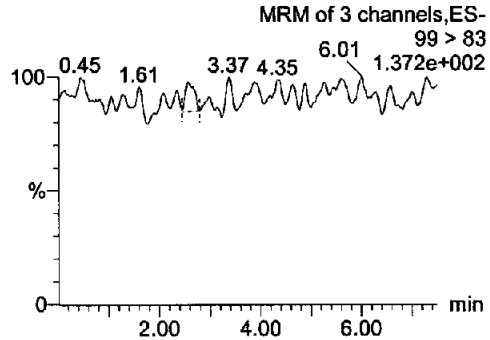
WH 10/18/07

TestAmerica St. Louis

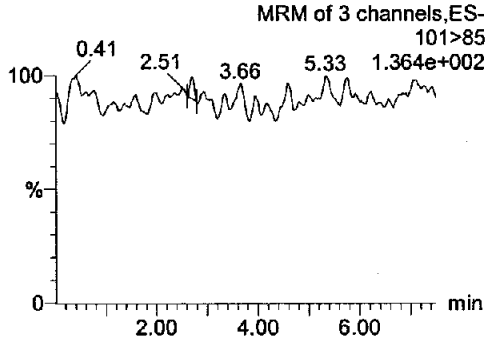
Quantify Sample Report **MassLynx 4.1**
Test America, INC. St. Louis
Dataset: C:\MassLynx\Perchlorates.PRO\DataSetSaved\R101707SW\101707SSMP3_per.qld
Last Altered: Thursday, October 18, 2007 08:35:20 Central Daylight Time
Printed: Thursday, October 18, 2007 08:36:18 Central Daylight Time

Name: P1017754
Date: 17-Oct-2007
Time: 18:02:56
ID: J835J1AD
Description: F7J160279-019
User: BH/WH
Vial: 1:36
Instrument: LCMSMSR

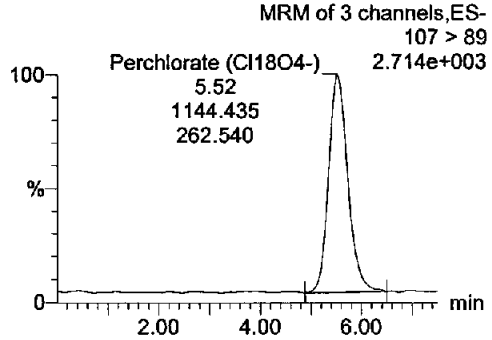
Perchlorate



Perchlorate



Perchlorate (Cl18O4-)



	#	Name	Sample Text	ID	Std. Conc	RT	Area	IS Area	Response	Detection Flags	ug/Kg	%Rec	Trace
1	1...	Perchlorate	F7J160279-019	J835J1AD				1144.435		MM-			99 > 83
2	2...	Perchlorate (Cl18O4-)	F7J160279-019	J835J1AD		5.517	1144.435		1144.435	bb	9.486	94.858	107 > 89

	Sec.Trace	S/N	Height/Area	Acq.Date	Acq.Time	Initial Wt./Volume (g/mL)	Final Volume (mL)	Dilution Fac...	Ion Ratio	Ion Ratio (pred.)
1	101>85			17-Oct-07	18:02:56	2.337	20.000	1.000	0.000	3.080
2		262.540	2.267	17-Oct-07	18:02:56	1.000	1.000	1.000		

1. Peak Not Found
2. Incomplete Integration
3. Assign Peak
4. Wrong Peak
5. Baseline Smoothing
6. Split Peak
7. Other _____

BH 10/18/07

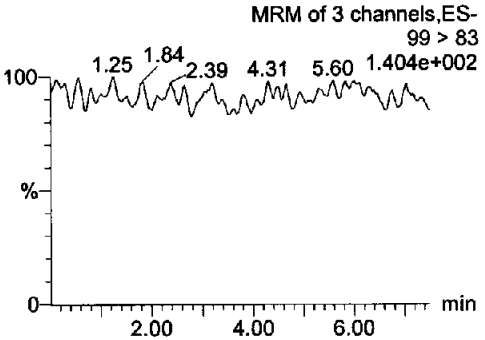
LOG# 160279
243 of 423
TestAmerica St. Louis

Quantify Sample Report **MassLynx 4.1**
Test America, INC. St. Louis
Dataset: C:\MassLynx\Perchlorates.PRO\DataSetSaved\R101707SW\101707SSMP3_per.qld
Last Altered: Thursday, October 18, 2007 08:35:20 Central Daylight Time
Printed: Thursday, October 18, 2007 08:36:18 Central Daylight Time

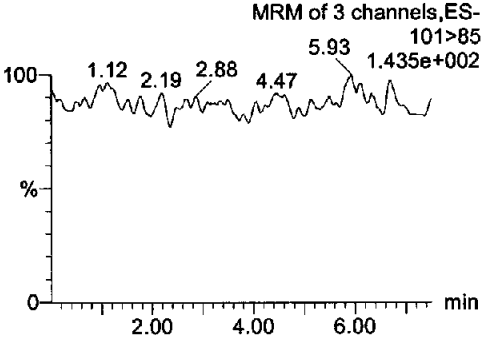
LOT#F7J160279

Name: P1017755
Date: 17-Oct-2007
Time: 18:11:33
ID: J835N1AD
Description: F7J160279-020
User: BH/WH
Vial: 1:37
Instrument: LCMSMSR

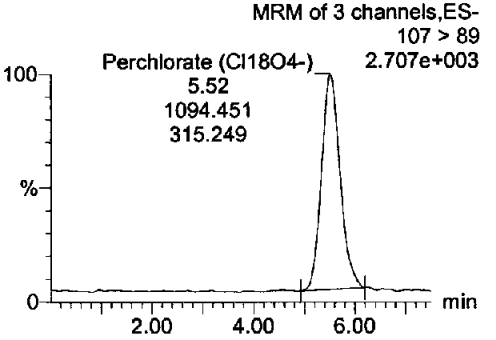
Perchlorate



Perchlorate



Perchlorate (Cl18O4-)



	#	Name	Sample Text	ID	Std. Conc	RT	Area	IS Area	Response	Detection Flags	ug/Kg	%Rec	Trace
1	1...	Perchlorate	F7J160279-020	J835N1AD				1094.451					99 > 83
2	2...	Perchlorate (Cl18O4-)	F7J160279-020	J835N1AD		5.517	1094.451		1094.451	bb	9.071	90.715	107 > 89

	Sec.Trace	S/N	Height/Area	Acq.Date	Acq.Time	Initial Wt./Volume (g/mL)	Final Volume (mL)	Dilution Fac...	Ion Ratio	Ion Ratio (pred.)
1				17-Oct-07	18:11:33	2.475	20.000	1.000		
2		315.249	2.344	17-Oct-07	18:11:33	1.000	1.000	1.000		

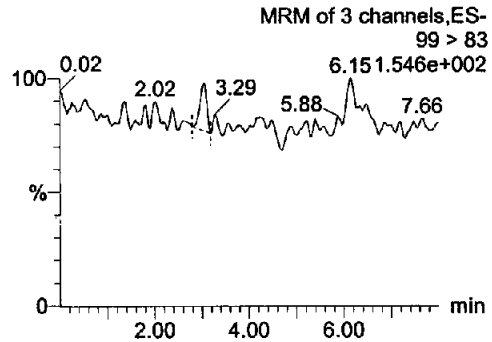
TestAmerica St. Louis

Quantify Sample Report **MassLynx 4.1**

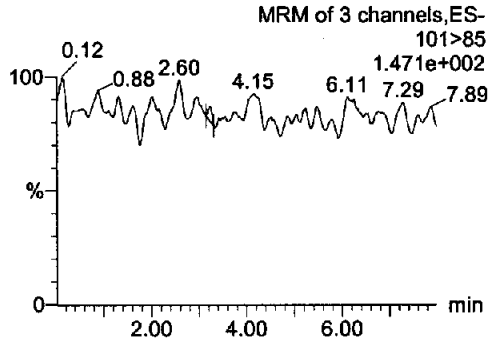
Test America, INC. St. Louis
Dataset: C:\MassLynx\Perchlorates.PRO\DataSetSaved\New Folder\101707SSMP1_per.qld
Last Altered: Wednesday, October 17, 2007 15:06:16 Central Daylight Time
Printed: Wednesday, October 17, 2007 15:07:27 Central Daylight Time

Name: P1017721
Date: 17-Oct-2007
Time: 13:11:55
ID: J835Q1AD
Description: F7J160279-021
User: BH/WH
Vial: 2:4
Instrument: LCMSMSR

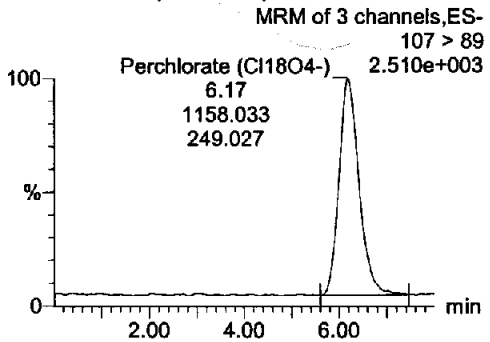
Perchlorate



Perchlorate



Perchlorate (Cl18O4-)



	#	Name	Sample Text	ID	Std. Conc	RT	Area	IS Area	Response	Detection Flags	ug/Kg	%Rec	Trace
1	1...	Perchlorate	F7J160279-021	J835Q1AD				1158.033		MM-			99 > 83
2	2...	Perchlorate (Cl18O4-)	F7J160279-021	J835Q1AD		6.171	1158.033		1158.033	bb	9.598	95.985	107 > 89

	Sec.Trace	S/N	Height/Area	Acq.Date	Acq.Time	Initial Wt./Volume (g/mL)	Final Volume (mL)	Dilution Fac.	Ion Ratio	Ion Ratio (pred.)
1	101>85			17-Oct-07	13:11:55	2.134	20.000	1.000	0.000	3.080
2		249.027	2.064	17-Oct-07	13:11:55	1.000	1.000	1.000		

1. Peak Not Found
2. Incomplete Integration
3. Assign Peak
4. Wrong Peak
5. Baseline Smoothing
6. Split Peak
7. Other _____

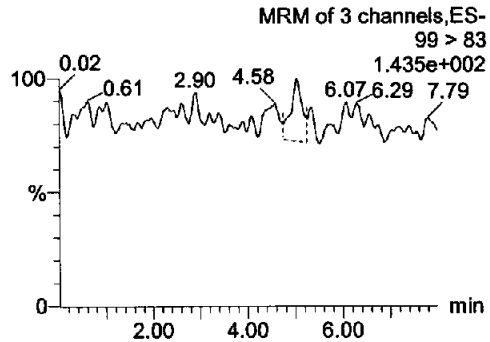
WH
10/17/07

Quantify Sample Report **MassLynx 4.1**
Test America, INC. St. Louis
Dataset: C:\MassLynx\Perchlorates.PRO\DataSetSaved\New Folder\101707SSMP1_per.qld
Last Altered: Wednesday, October 17, 2007 15:06:16 Central Daylight Time
Printed: Wednesday, October 17, 2007 15:07:27 Central Daylight Time

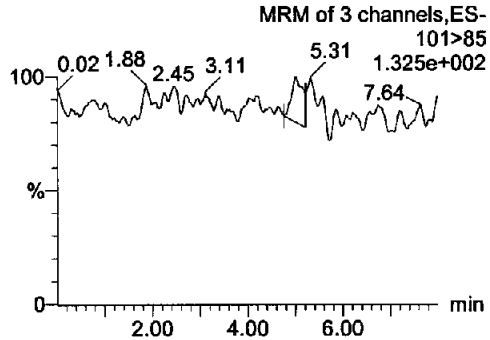
LOT#F7J160279

Name: P1017725
Date: 17-Oct-2007
Time: 13:48:07
ID: J835W1AD
Description: F7J160279-022
User: BH/WH
Vial: 2:8
Instrument: LCMSMSR

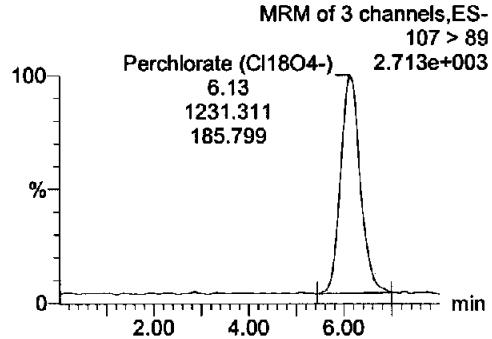
Perchlorate



Perchlorate



Perchlorate (Cl18O4-)



	#	Name	Sample Text	ID	Std. Conc	RT	Area	IS Area	Response	Detection Flags	ug/Kg	%Rec	Trace
1	1...	Perchlorate	F7J160279-022	J835W1AD				1231.311		MM-			99 > 83
2	2...	Perchlorate (Cl18O4-)	F7J160279-022	J835W1AD		6.130	1231.311		1231.311	bb	10.206	102.058	107 > 89

	Sec.Trace	S/N	Height/Area	Acq.Date	Acq.Time	Initial Wt./Volume (g/mL)	Final Volume (mL)	Dilution Fac...	Ion Ratio	Ion Ratio (pred.)
1	101>85			17-Oct-07	13:48:07	2.539	20.000	1.000	0.000	3.080
2		185.799	2.109	17-Oct-07	13:48:07	1.000	1.000	1.000		

1. Peak Not Found
2. Incomplete Integration
3. Assign Peak
4. Wrong Peak
5. Baseline Smoothing
6. Split Peak
7. Other _____

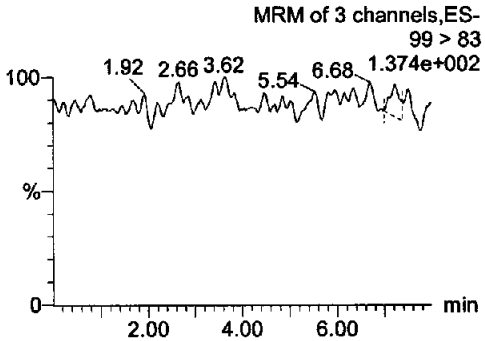
WH 10/17/07

TestAmerica St. Louis

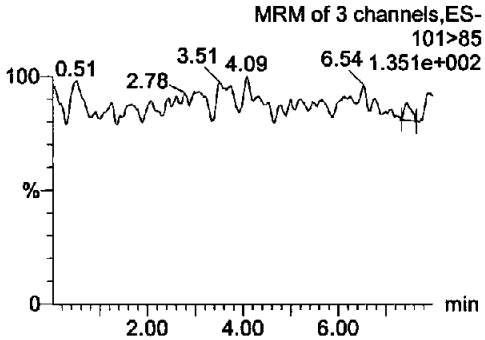
Quantify Sample Report **MassLynx 4.1**
Test America, INC. St. Louis
Dataset: C:\MassLynx\Perchlorates.PRO\DataSetSaved\New Folder\101707SSMP1_per.qld
Last Altered: Wednesday, October 17, 2007 15:06:16 Central Daylight Time
Printed: Wednesday, October 17, 2007 15:07:27 Central Daylight Time

Name: P1017726
Date: 17-Oct-2007
Time: 13:57:06
ID: J83511AD
Description: F7J160279-023
User: BH/WH
Vial: 2:9
Instrument: LCMSMSR

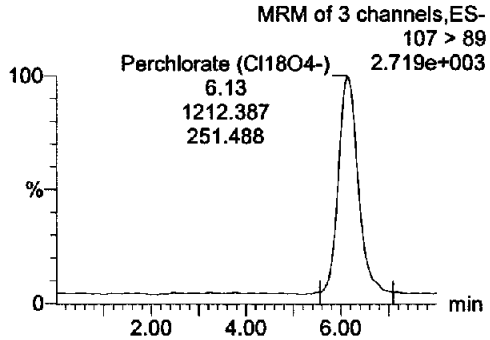
Perchlorate



Perchlorate



Perchlorate (Cl18O4-)



	#	Name	Sample Text	ID	Std. Conc	RT	Area	IS Area	Response	Detection Flags	ug/Kg	%Rec	Trace
1	1...	Perchlorate	F7J160279-023	J83511AD				1212.387		MM-			99 > 83
2	2...	Perchlorate (Cl18O4-)	F7J160279-023	J83511AD		6.130	1212.387		1212.387	bb	10.049	100.490	107 > 89

	Sec.Trace	S/N	Height/Area	Acq.Date	Acq.Time	Initial Wt./Volume (g/mL)	Final Volume (mL)	Dilution Fac...	Ion Ratio	Ion Ratio (pred.)
1	101>85			17-Oct-07	13:57:06	2.522	20.000	1.000	0.000	3.080
2		251.488	2.134	17-Oct-07	13:57:06	1.000	1.000	1.000		

1. Peak Not Found
2. Incomplete Integration
3. Assign Peak
4. Wrong Peak
5. Baseline Smoothing
6. Split Peak
7. Other _____

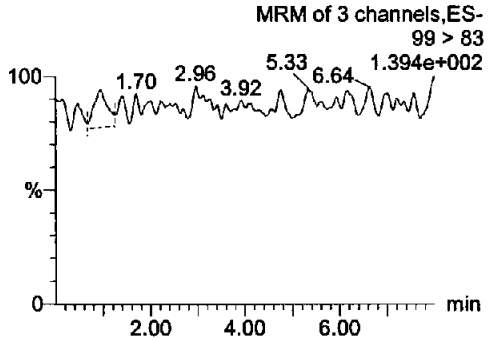
WH 10/17/07

LOG# 7160279
247 of 420
TestAmerica St. Louis

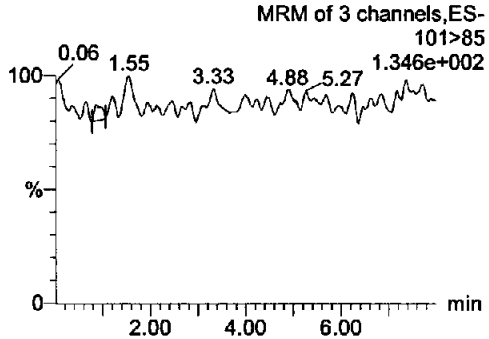
Quantify Sample Report **MassLynx 4.1**
Test America, INC. St. Louis
Dataset: C:\MassLynx\Perchlorates.PRO\DataSetSaved\New Folder\101707SSMP1_per.qld
Last Altered: Wednesday, October 17, 2007 15:06:16 Central Daylight Time
Printed: Wednesday, October 17, 2007 15:07:27 Central Daylight Time

Name: P1017727
Date: 17-Oct-2007
Time: 14:06:07
ID: J83531AD
Description: F7J160279-024
User: BH/WH
Vial: 2:10
Instrument: LCMSMSR

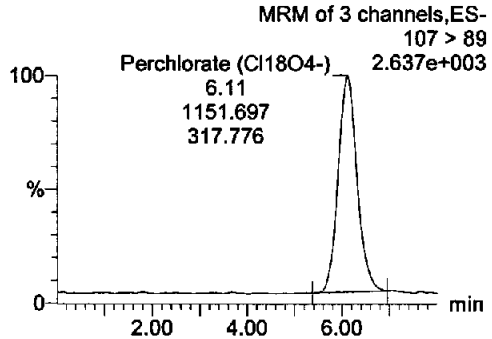
Perchlorate



Perchlorate



Perchlorate (Cl18O4-)



	#	Name	Sample Text	ID	Std. Conc	RT	Area	IS Area	Response	Detection Flags	ug/Kg	%Rec	Trace
1	1...	Perchlorate	F7J160279-024	J83531AD				1151.697		MM-			99 > 83
2	2...	Perchlorate (Cl18O4-)	F7J160279-024	J83531AD		6.110	1151.697		1151.697	bb	9.546	95.459	107 > 89

	Sec.Trace	S/N	Height/Area	Acq.Date	Acq.Time	Initial Wt./Volume (g/mL)	Final Volume (mL)	Dilution Fac...	Ion Ratio	Ion Ratio (pred.)
1	101>85			17-Oct-07	14:06:07	2.340	20.000	1.000	0.000	3.080
2		317.776	2.174	17-Oct-07	14:06:07	1.000	1.000	1.000		

1. Peak Not Found
2. Incomplete Integration
3. Assign Peak
4. Wrong Peak
5. Baseline Smoothing
6. Split Peak
7. Other _____

WH 10/17/07

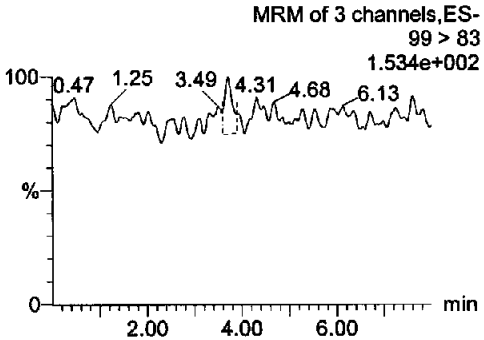
LOG # 160279
248 of 420
TestAmerica St. Louis

Quantify Sample Report **MassLynx 4.1**
Test America, INC. St. Louis
Dataset: C:\MassLynx\Perchlorates.PRO\DataSetSaved\New Folder\101707SSMP1_per.qld
Last Altered: Wednesday, October 17, 2007 15:06:16 Central Daylight Time
Printed: Wednesday, October 17, 2007 15:07:27 Central Daylight Time

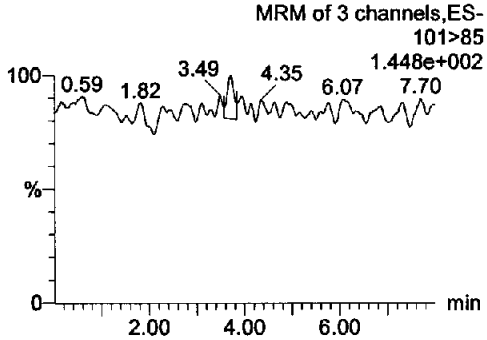
LOT#F7J160279

Name: P1017728
Date: 17-Oct-2007
Time: 14:15:09
ID: J83551AD
Description: F7J160279-025
User: BH/WH
Vial: 2:11
Instrument: LCMSMSR

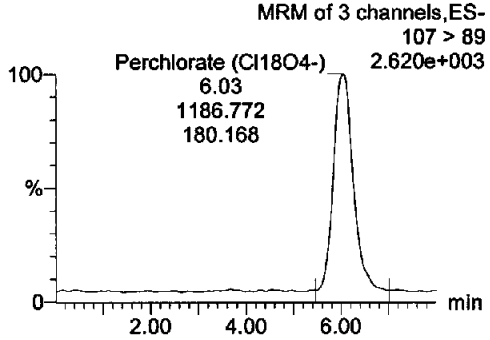
Perchlorate



Perchlorate



Perchlorate (Cl18O4-)



	#	Name	Sample Text	ID	Std. Conc	RT	Area	IS Area	Response	Detection Flags	ug/Kg	%Rec	Trace
1	1...	Perchlorate	F7J160279-025	J83551AD				1186.772		MM-			99 > 83
2	2...	Perchlorate (Cl18O4-)	F7J160279-025	J83551AD		6.028	1186.772		1186.772	bb	9.837	98.367	107 > 89

	Sec.Trace	S/N	Height/Area	Acq.Date	Acq.Time	Initial Wt./Volume (g/mL)	Final Volume (mL)	Dilution Fac...	Ion Ratio	Ion Ratio (pred.)
1	101>85			17-Oct-07	14:15:09	2.870	20.000	1.000	0.000	3.080
2		180.168	2.096	17-Oct-07	14:15:09	1.000	1.000	1.000		

1. Peak Not Found
2. Incomplete Integration
3. Assign Peak
4. Wrong Peak
5. Baseline Smoothing
6. Split Peak
7. Other _____

WH 10/17/07

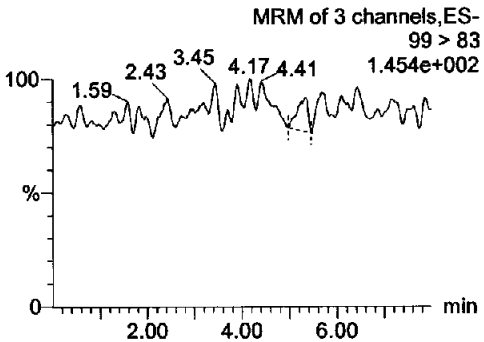
TestAmerica St. Louis

Quantify Sample Report **MassLynx 4.1**
Test America, INC. St. Louis
Dataset: C:\MassLynx\Perchlorates.PRO\DataSetSaved\New Folder\101707SSMP1_per.qld
Last Altered: Wednesday, October 17, 2007 15:06:16 Central Daylight Time
Printed: Wednesday, October 17, 2007 15:07:27 Central Daylight Time

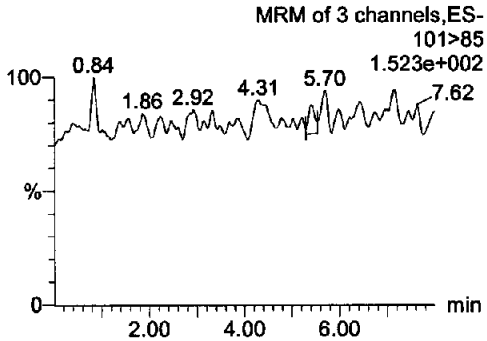
LOT#/F7J160279

Name: P1017729
Date: 17-Oct-2007
Time: 14:24:14
ID: J83561AD
Description: F7J160279-026
User: BH/WH
Vial: 2:12
Instrument: LCMSMSR

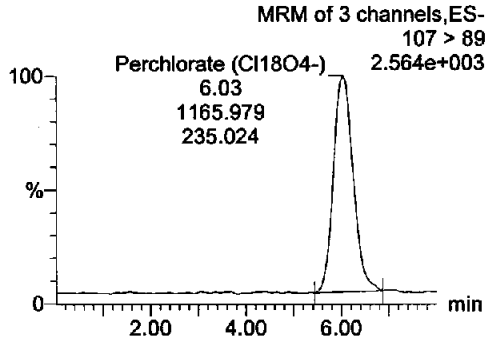
Perchlorate



Perchlorate



Perchlorate (Cl18O4-)



	#	Name	Sample Text	ID	Std. Conc	RT	Area	IS Area	Response	Detection Flags	ug/Kg	%Rec	Trace
1	1...	Perchlorate	F7J160279-026	J83561AD				1165.979		MM-			99 > 83
2	2...	Perchlorate (Cl18O4-)	F7J160279-026	J83561AD		6.028	1165.979		1165.979	bb	9.664	96.643	107 > 89

	Sec.Trace	S/N	Height/Area	Acq.Date	Acq.Time	Initial Wt./Volume (g/mL)	Final Volume (mL)	Dilution Fac...	Ion Ratio	Ion Ratio (pred.)
1	101>85			17-Oct-07	14:24:14	2.115	20.000	1.000	0.000	3.080
2		235.024	2.086	17-Oct-07	14:24:14	1.000	1.000	1.000		

1. Peak Not Found
2. Incomplete Integration
3. Assign Peak
4. Wrong Peak
5. Baseline Smoothing
6. Split Peak
7. Other _____

WH 10/17/07

TestAmerica St. Louis

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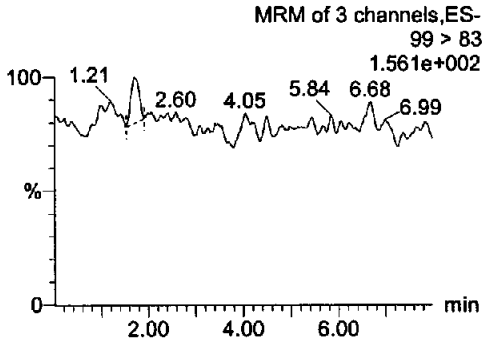
Quantify Sample Report **MassLynx 4.1**
Test America, INC. St. Louis
Dataset: C:\MassLynx\Perchlorates.PRO\DataSetSaved\New Folder\101707SSMP1_per.qld
Last Altered: Wednesday, October 17, 2007 15:06:16 Central Daylight Time
Printed: Wednesday, October 17, 2007 15:07:27 Central Daylight Time

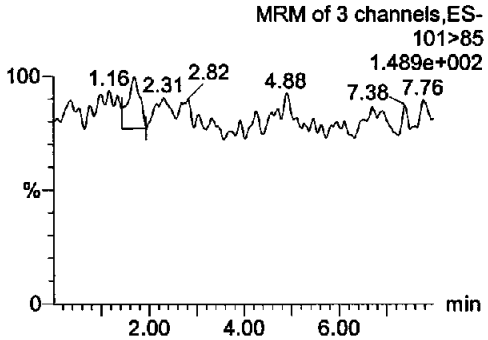
LOT# F7J160279

Name: P1017730
Date: 17-Oct-2007
Time: 14:33:15
ID: J83591AD
Description: F7J160279-027
User: BH/WH
Vial: 2:13
Instrument: LCMSMSR

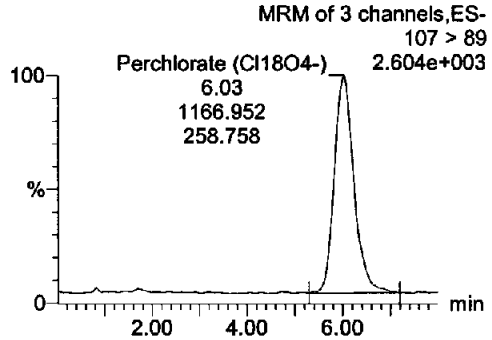
Perchlorate



Perchlorate



Perchlorate (Cl18O4-)



	#	Name	Sample Text	ID	Std. Conc	RT	Area	IS Area	Response	Detection Flags	ug/Kg	%Rec	Trace
1	1...	Perchlorate	F7J160279-027	J83591AD				1166.952		MM-			99 > 83
2	2...	Perchlorate (Cl18O4-)	F7J160279-027	J83591AD		6.028	1166.952		1166.952	bb	9.672	96.724	107 > 89

	Sec.Trace	S/N	Height/Area	Acq.Date	Acq.Time	Initial Wt./Volume (g/mL)	Final Volume (mL)	Dilution Fac...	Ion Ratio	Ion Ratio (pred.)
1	101>85			17-Oct-07	14:33:15	2.256	20.000	1.000	0.000	3.080
2		258.758	2.129	17-Oct-07	14:33:15	1.000	1.000	1.000		

1. Peak Not Found
2. Incomplete Integration
3. Assign Peak
4. Wrong Peak
5. Baseline Smoothing
6. Split Peak
7. Other _____

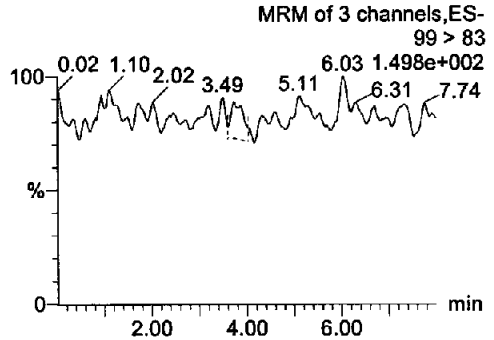
WH 10/17/07

TestAmerica St. Louis

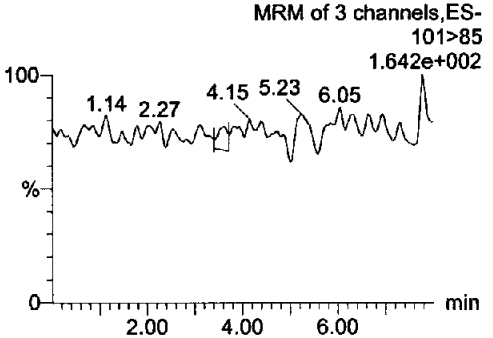
Quantify Sample Report **MassLynx 4.1**
Test America, INC. St. Louis
Dataset: C:\MassLynx\Perchlorates.PRO\DataSetSaved\R101707SW\101707SSMP2_per.qld
Last Altered: Wednesday, October 17, 2007 17:18:13 Central Daylight Time
Printed: Wednesday, October 17, 2007 17:18:55 Central Daylight Time

Name: P1017733
Date: 17-Oct-2007
Time: 15:00:23
ID: J836A1AD
Description: F7J160279-028
User: BH/WH
Vial: 2:14
Instrument: LCMSMSR

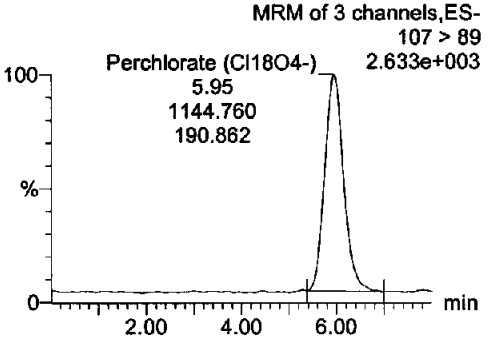
Perchlorate



Perchlorate



Perchlorate (Cl18O4-)



	#	Name	Sample Text	ID	Std. Conc	RT	Area	IS Area	Response	Detection Flags	ug/Kg	%Rec	Trace
1	1...	Perchlorate	F7J160279-028	J836A1AD				1144.760		MM-			99 > 83
2	2...	Perchlorate (Cl18O4-)	F7J160279-028	J836A1AD		5.946	1144.760		1144.760	bb	9.488	94.885	107 > 89

	Sec.Trace	S/N	Height/Area	Acq.Date	Acq.Time	Initial Wt./Volume (g/mL)	Final Volume (mL)	Dilution Fac...	Ion Ratio	Ion Ratio (pred.)
1	101>85			17-Oct-07	15:00:23	2.259	20.000	1.000	0.000	3.080
2		190.862	2.187	17-Oct-07	15:00:23	1.000	1.000	1.000		

1. Peak Not Found
2. Incomplete Integration
3. Assign Peak
4. Wrong Peak
5. Baseline Smoothing
6. Split Peak
7. Other _____

WH 10/17/07

LOG# 160279
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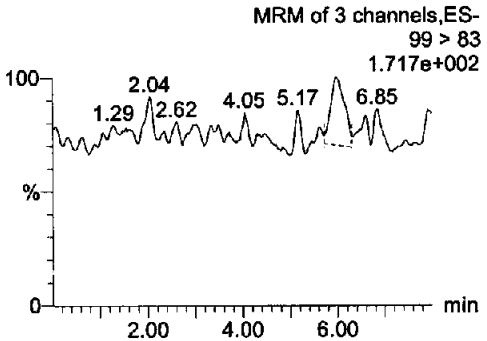
TestAmerica St. Louis

Quantify Sample Report **MassLynx 4.1**
Test America, INC. St. Louis
Dataset: C:\MassLynx\Perchlorates.PRO\DataSetSaved\R101707SW\101707SSMP2_per.qld
Last Altered: Wednesday, October 17, 2007 17:18:13 Central Daylight Time
Printed: Wednesday, October 17, 2007 17:18:55 Central Daylight Time

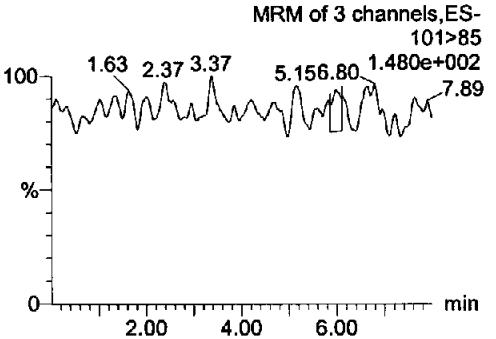
LOT#F7J160279

Name: P1017734
Date: 17-Oct-2007
Time: 15:09:24
ID: J836C1AD
Description: F7J160279-029
User: BH/WH
Vial: 2:15
Instrument: LCMSMSR

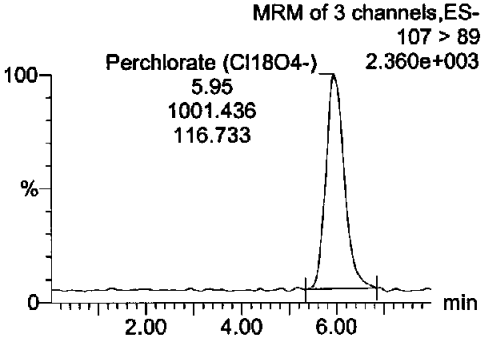
Perchlorate



Perchlorate



Perchlorate (Cl18O4-)



	#	Name	Sample Text	ID	Std. Conc	RT	Area	IS Area	Response	Detection Flags	ug/Kg	%Rec	Trace
1	1...	Perchlorate	F7J160279-029	J836C1AD				1001.436		MM-			99 > 83
2	2...	Perchlorate (Cl18O4-)	F7J160279-029	J836C1AD		5.946	1001.436		1001.436	bb	8.300	83.005	107 > 89

	Sec.Trace	S/N	Height/Area	Acq.Date	Acq.Time	Initial Wt./Volume (g/mL)	Final Volume (mL)	Dilution Fac...	Ion Ratio	Ion Ratio (pred.)
1	101>85			17-Oct-07	15:09:24	2.246	20.000	1.000	0.000	3.080
2		116.733	2.220	17-Oct-07	15:09:24	1.000	1.000	1.000		

1. Peak Not Found
2. Incomplete Integration
3. Assign Peak
4. Wrong Peak
5. Baseline Smoothing
6. Split Peak
7. Other Ratio out, <MDL

WH 10/17/07

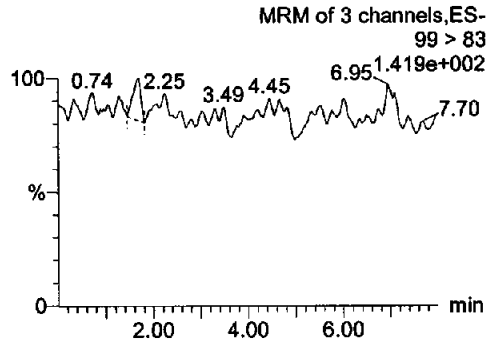
TestAmerica St. Louis

Quantify Sample Report **MassLynx 4.1**

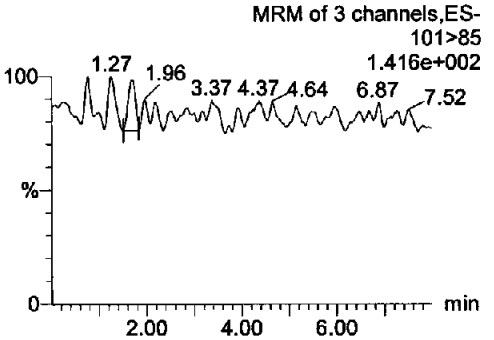
Test America, INC. St. Louis
Dataset: C:\MassLynx\Perchlorates.PRO\DataSetSaved\R101707SW\101707SSMP2_per.qld
Last Altered: Wednesday, October 17, 2007 17:18:13 Central Daylight Time
Printed: Wednesday, October 17, 2007 17:18:55 Central Daylight Time

Name: P1017735
Date: 17-Oct-2007
Time: 15:18:26
ID: J836D1AD
Description: F7J160279-030
User: BH/WH
Vial: 2:16
Instrument: LCMSMSR

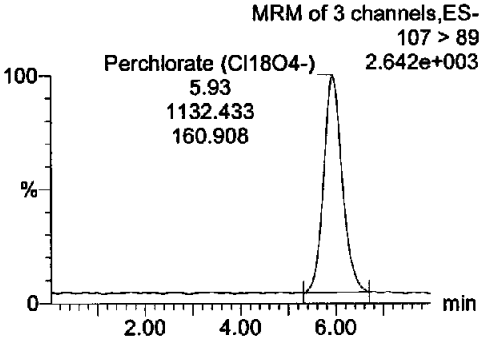
Perchlorate



Perchlorate



Perchlorate (Cl18O4-)



	#	Name	Sample Text	ID	Std. Conc	RT	Area	IS Area	Response	Detection Flags	ug/Kg	%Rec	Trace
1	1...	Perchlorate	F7J160279-030	J836D1AD				1132.433		MM-			99 > 83
2	2...	Perchlorate (Cl18O4-)	F7J160279-030	J836D1AD		5.926	1132.433		1132.433	bb	9.386	93.863	107 > 89

	Sec.Trace	S/N	Height/Area	Acq.Date	Acq.Time	Initial Wt./Volume (g/mL)	Final Volume (mL)	Dilution Fac...	Ion Ratio	Ion Ratio (pred.)
1	101>85			17-Oct-07	15:18:26	2.472	20.000	1.000	0.000	3.080
2		160.908	2.228	17-Oct-07	15:18:26	1.000	1.000	1.000		

1. Peak Not Found
2. Incomplete Integration
3. Assign Peak
4. Wrong Peak
5. Baseline Smoothing
6. Split Peak
7. Other _____

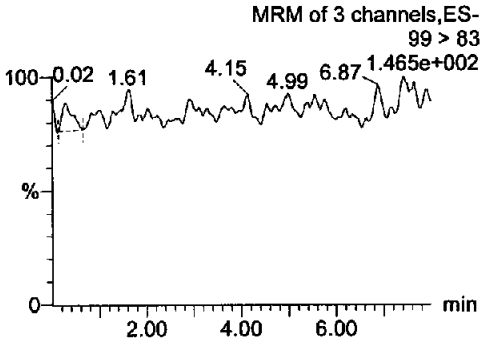
WH 10/17/07

Quantify Sample Report **MassLynx 4.1**
Test America, INC. St. Louis
Dataset: C:\MassLynx\Perchlorates.PRO\DataSetSaved\R101707SW\101707SSMP2_per.qld
Last Altered: Wednesday, October 17, 2007 17:18:13 Central Daylight Time
Printed: Wednesday, October 17, 2007 17:18:55 Central Daylight Time

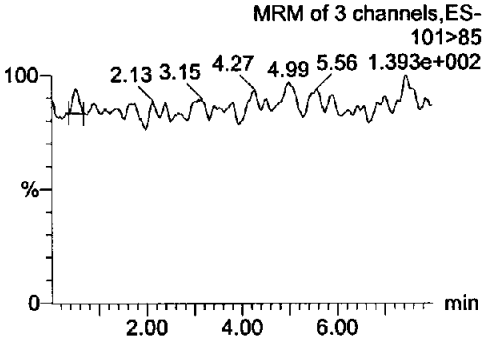
LOT# 160279

Name: P1017736
Date: 17-Oct-2007
Time: 15:27:28
ID: J836E1AD
Description: F7J160279-031
User: BH/WH
Vial: 2:17
Instrument: LCMSMSR

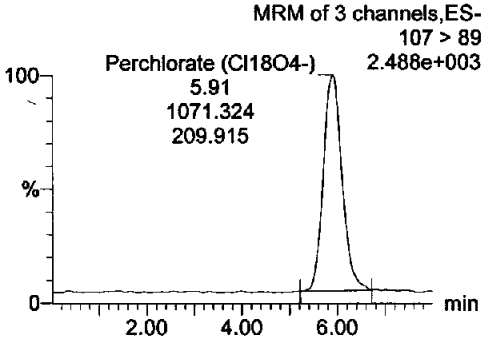
Perchlorate



Perchlorate



Perchlorate (Cl18O4-)



	#	Name	Sample Text	ID	Std. Conc	RT	Area	IS Area	Response	Detection Flags	ug/Kg	%Rec	Trace
1	1...	Perchlorate	F7J160279-031	J836E1AD				1071.324		MM-			99 > 83
2	2...	Perchlorate (Cl18O4-)	F7J160279-031	J836E1AD		5.905	1071.324		1071.324	bb	8.880	88.798	107 > 89

	Sec.Trace	S/N	Height/Area	Acq.Date	Acq.Time	Initial Wt./Volume (g/mL)	Final Volume (mL)	Dilution Fac...	Ion Ratio	Ion Ratio (pred.)
1	101>85			17-Oct-07	15:27:28	2.447	20.000	1.000	0.000	3.080
2		209.915	2.198	17-Oct-07	15:27:28	1.000	1.000	1.000		

1. Peak Not Found
2. Incomplete Integration
3. Assign Peak
4. Wrong Peak
5. Baseline Smoothing
6. Split Peak
7. Other _____

WH 10/17/07

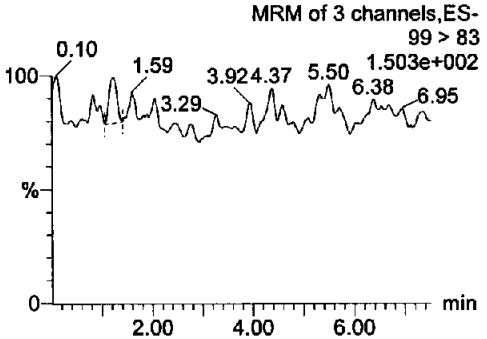
TestAmerica St. Louis

Quantify Sample Report **MassLynx 4.1**
Test America, INC. St. Louis
Dataset: C:\MassLynx\Perchlorates.PRO\DataSetSaved\R101707SW\101707SSMP2_per.qld
Last Altered: Wednesday, October 17, 2007 17:18:13 Central Daylight Time
Printed: Wednesday, October 17, 2007 17:18:55 Central Daylight Time

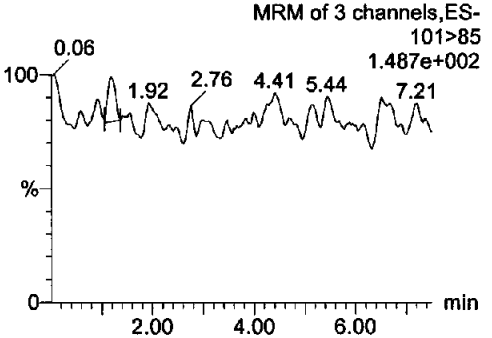
LOG # 160279

Name: P1017737
Date: 17-Oct-2007
Time: 15:36:31
ID: J836F1AD
Description: F7J160279-032
User: BH/WH
Vial: 2:18
Instrument: LCMSMSR

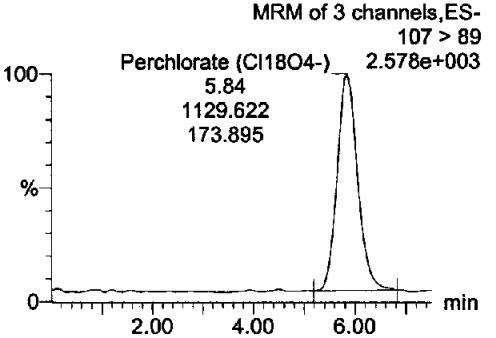
Perchlorate



Perchlorate



Perchlorate (Cl18O4-)



	#	Name	Sample Text	ID	Std. Conc	RT	Area	IS Area	Response	Detection Flags	ug/Kg	%Rec	Trace
1	1...	Perchlorate	F7J160279-032	J836F1AD				1129.622		MM-			99 > 83
2	2...	Perchlorate (Cl18O4-)	F7J160279-032	J836F1AD		5.844	1129.622		1129.622	bb	9.363	93.630	107 > 89

	Sec.Trace	S/N	Height/Area	Acq.Date	Acq.Time	Initial Wt./Volume (g/mL)	Final Volume (mL)	Dilution Fac...	Ion Ratio	Ion Ratio (pred.)
1	101>85			17-Oct-07	15:36:31	2.459	20.000	1.000	0.000	3.080
2		173.895	2.171	17-Oct-07	15:36:31	1.000	1.000	1.000		

1. Peak Not Found
2. Incomplete Integration
3. Assign Peak
4. Wrong Peak
5. Baseline Smoothing
6. Split Peak
7. Other _____

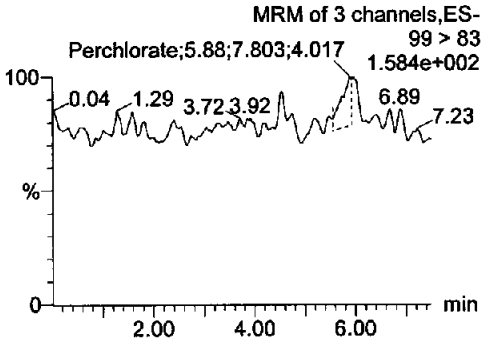
WH 10/17/07

TestAmerica St. Louis

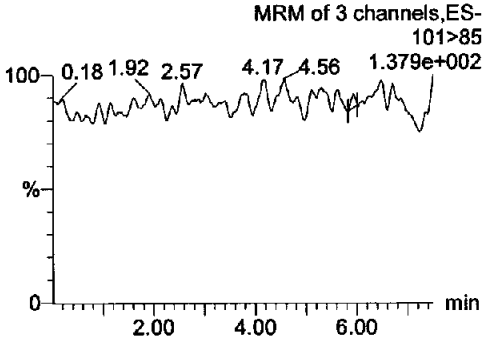
Quantify Sample Report **MassLynx 4.1**
Test America, INC. St. Louis
Dataset: C:\MassLynx\Perchlorates.PRO\DataSetSaved\R101707SW\101707SSMP2_per.qld
Last Altered: Wednesday, October 17, 2007 17:18:13 Central Daylight Time
Printed: Wednesday, October 17, 2007 17:18:55 Central Daylight Time

Name: P1017738
Date: 17-Oct-2007
Time: 15:45:02
ID: J836G1AD
Description: F7J160279-033
User: BH/WH
Vial: 2:19
Instrument: LCMSMSR

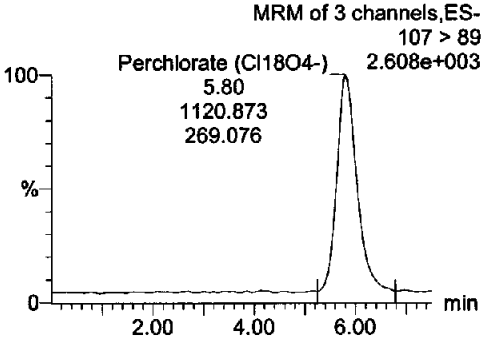
Perchlorate



Perchlorate



Perchlorate (Cl18O4-)



	#	Name	Sample Text	ID	Std. Conc	RT	Area	IS Area	Response	Detection Flags	ug/Kg	%Rec	Trace
1	1...	Perchlorate	F7J160279-033	J836G1AD				1120.873		MM-			99 > 83
2	2...	Perchlorate (Cl18O4-)	F7J160279-033	J836G1AD		5.803	1120.873		1120.873	bb	9.290	92.905	107 > 89

	Sec.Trace	S/N	Height/Area	Acq.Date	Acq.Time	Initial Wt./Volume (g/mL)	Final Volume (mL)	Dilution Fac...	Ion Ratio	Ion Ratio (pred.)
1	101>85			17-Oct-07	15:45:02	2.885	20.000	1.000	0.000	3.080
2		269.076	2.213	17-Oct-07	15:45:02	1.000	1.000	1.000		

1. Peak Not Found
2. Incomplete Integration
3. Assign Peak
4. Wrong Peak
5. Baseline Smoothing
6. Split Peak
7. Other Ratio out, <MDL

10/17/07

LOG# 160279
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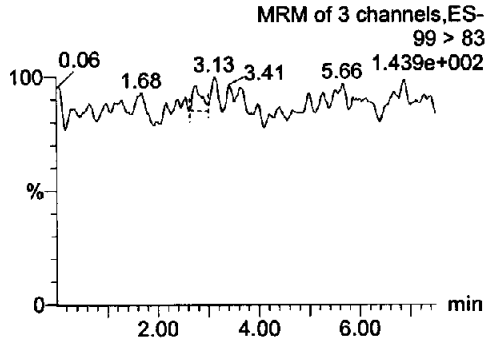
TestAmerica St. Louis

Quantify Sample Report **MassLynx 4.1**
Test America, INC. St. Louis
Dataset: C:\MassLynx\Perchlorates.PRO\DataSetSaved\R101707SW\101707SSMP2_per.qld
Last Altered: Wednesday, October 17, 2007 17:18:13 Central Daylight Time
Printed: Wednesday, October 17, 2007 17:18:55 Central Daylight Time

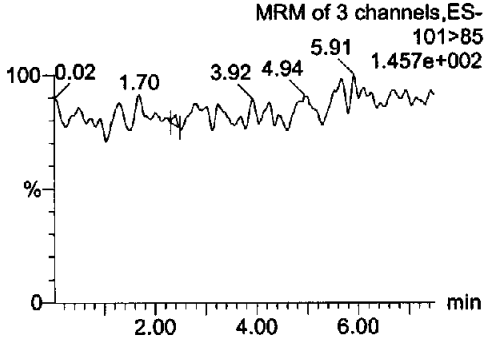
LOT#F7J160279

Name: P1017739
Date: 17-Oct-2007
Time: 15:53:33
ID: J836H1AD
Description: F7J160279-034
User: BH/WH
Vial: 2:20
Instrument: LCMSMSR

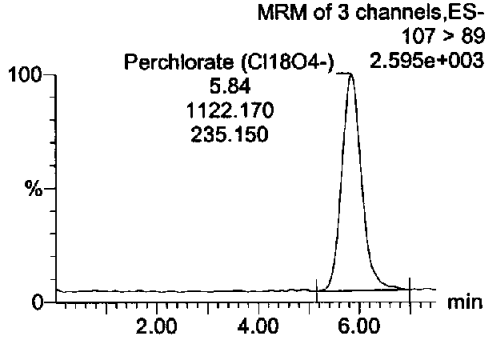
Perchlorate



Perchlorate



Perchlorate (Cl18O4-)



	#	Name	Sample Text	ID	Std. Conc	RT	Area	IS Area	Response	Detection Flags	ug/Kg	%Rec	Trace
1	1...	Perchlorate	F7J160279-034	J836H1AD				1122.170		MM-			99 > 83
2	2...	Perchlorate (Cl18O4-)	F7J160279-034	J836H1AD		5.844	1122.170		1122.170	bb	9.301	93.012	107 > 89

	Sec.Trace	S/N	Height/Area	Acq.Date	Acq.Time	Initial Wt./Volume (g/mL)	Final Volume (mL)	Dilution Fac...	Ion Ratio	Ion Ratio (pred.)
1	101>85			17-Oct-07	15:53:33	2.587	20.000	1.000	0.000	3.080
2		235.150	2.204	17-Oct-07	15:53:33	1.000	1.000	1.000		

1. Peak Not Found
2. Incomplete Integration
3. Assign Peak
4. Wrong Peak
5. Baseline Smoothing
6. Split Peak
7. Other _____

WH 10/17/07

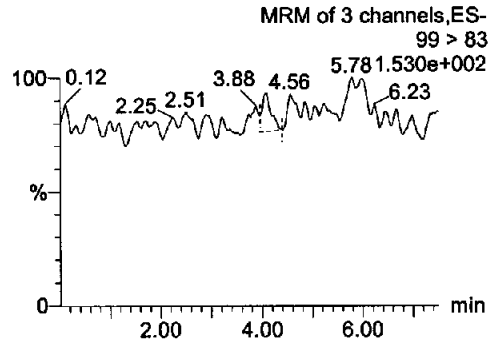
TestAmerica St. Louis

Quantify Sample Report **MassLynx 4.1**
Test America, INC. St. Louis
Dataset: C:\MassLynx\Perchlorates.PRO\DataSetSaved\R101707SW\101707SSMP2_per.qld
Last Altered: Wednesday, October 17, 2007 17:18:13 Central Daylight Time
Printed: Wednesday, October 17, 2007 17:18:55 Central Daylight Time

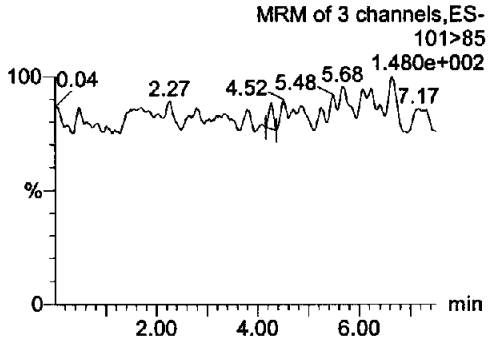
LOT#F7J160279

Name: P1017740
Date: 17-Oct-2007
Time: 16:02:04
ID: J836T1AD
Description: F7J160279-037
User: BH/WH
Vial: 2:21
Instrument: LCMSMSR

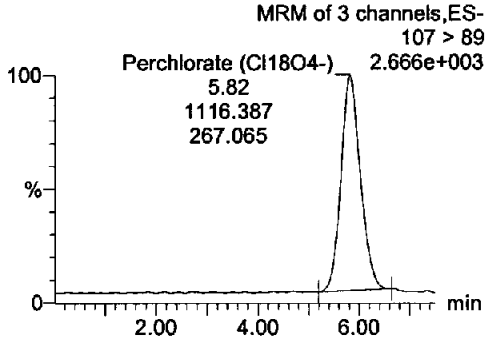
Perchlorate



Perchlorate



Perchlorate (Cl18O4-)



	#	Name	Sample Text	ID	Std. Conc	RT	Area	IS Area	Response	Detection Flags	ug/Kg	%Rec	Trace
1	1...	Perchlorate	F7J160279-037	J836T1AD				1116.387		MM-			99 > 83
2	2...	Perchlorate (Cl18O4-)	F7J160279-037	J836T1AD		5.824	1116.387		1116.387	bb	9.253	92.533	107 > 89

	Sec.Trace	S/N	Height/Area	Acq.Date	Acq.Time	Initial Wt./Volume (g/mL)	Final Volume (mL)	Dilution Fac...	Ion Ratio	Ion Ratio (pred.)
1	101>85			17-Oct-07	16:02:04	2.339	20.000	1.000	0.000	3.080
2		267.065	2.260	17-Oct-07	16:02:04	1.000	1.000	1.000		

1. Peak Not Found
2. Incomplete Integration
3. Assign Peak
4. Wrong Peak
5. Baseline Smoothing
6. Split Peak
7. Other _____

WH 10/17/07

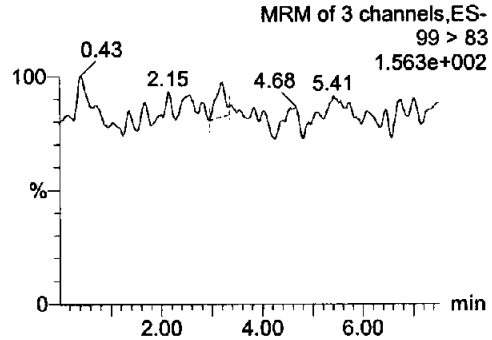
TestAmerica St. Louis

Quantify Sample Report **MassLynx 4.1**

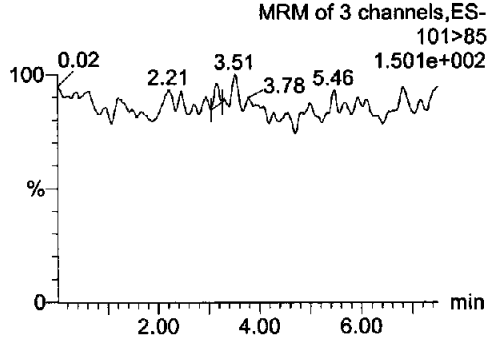
Test America, INC. St. Louis
Dataset: C:\MassLynx\Perchlorates.PRO\DataSetSaved\R101707SW\101707SSMP3_per.qld
Last Altered: Thursday, October 18, 2007 08:35:20 Central Daylight Time
Printed: Thursday, October 18, 2007 08:36:18 Central Daylight Time

Name: P1017760
Date: 17-Oct-2007
Time: 18:54:35
ID: J83XG1AD
Description: F7J160279-001
User: BH/WH
Vial: 1:15
Instrument: LCMSMSR

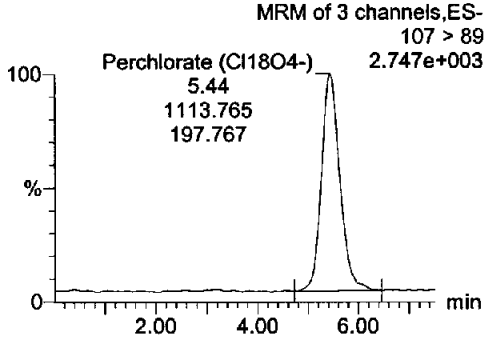
Perchlorate



Perchlorate



Perchlorate (Cl18O4-)



	#	Name	Sample Text	ID	Std. Conc	RT	Area	IS Area	Response	Detection Flags	ug/Kg	%Rec	Trace
1	1...	Perchlorate	F7J160279-001	J83XG1AD				1113.765		MM-			99 > 83
2	2...	Perchlorate (Cl18O4-)	F7J160279-001	J83XG1AD		5.435	1113.765		1113.765	bb	9.232	92.315	107 > 89

	Sec.Trace	S/N	Height/Area	Acq.Date	Acq.Time	Initial Wt./Volume (g/mL)	Final Volume (mL)	Dilution Fac...	Ion Ratio	Ion Ratio (pred.)
1	101>85			17-Oct-07	18:54:35	2.114	20.000	1.000	0.000	3.080
2		197.767	2.352	17-Oct-07	18:54:35	1.000	1.000	1.000		

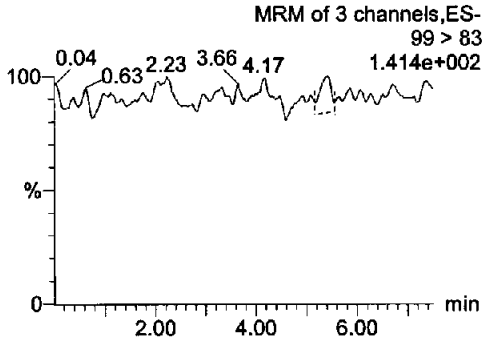
1. Peak Not Found
2. Incomplete Integration
3. Assign Peak
4. Wrong Peak
5. Baseline Smoothing
6. Split Peak
7. Other _____

WH 10/18/07

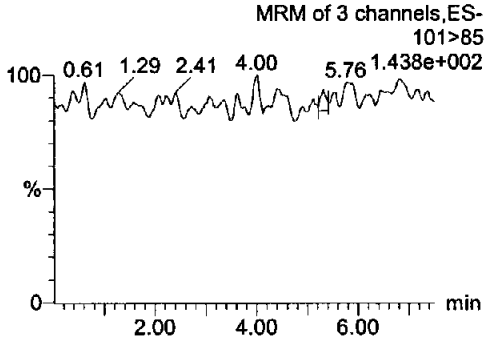
Quantify Sample Report **MassLynx 4.1**
Test America, INC. St. Louis
Dataset: C:\MassLynx\Perchlorates.PRO\DataSetSaved\R101707SW\101707SSMP3_per.qld
Last Altered: Thursday, October 18, 2007 08:35:20 Central Daylight Time
Printed: Thursday, October 18, 2007 08:36:18 Central Daylight Time

Name: P1017764
Date: 17-Oct-2007
Time: 19:28:59
ID: J83371AD
Description: F7J160279-002
User: BH/WH
Vial: 1:19
Instrument: LCMSMSR

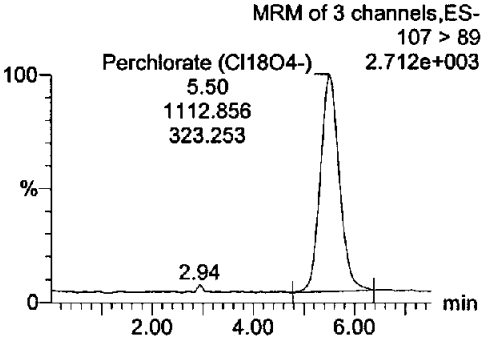
Perchlorate



Perchlorate



Perchlorate (Cl18O4-)



	#	Name	Sample Text	ID	Std. Conc	RT	Area	IS Area	Response	Detection Flags	ug/Kg	%Rec	Trace
1	1...	Perchlorate	F7J160279-002	J83371AD				1112.856		MM-			99 > 83
2	2...	Perchlorate (Cl18O4-)	F7J160279-002	J83371AD		5.497	1112.856		1112.856	bb	9.224	92.240	107 > 89

	Sec.Trace	S/N	Height/Area	Acq.Date	Acq.Time	Initial Wt./Volume (g/mL)	Final Volume (mL)	Dilution Fac...	Ion Ratio	Ion Ratio (pred.)
1	101>85			17-Oct-07	19:28:59	2.356	20.000	1.000	0.000	3.080
2		323.253	2.320	17-Oct-07	19:28:59	1.000	1.000	1.000		

1. **Peak Not Found**
2. **Incomplete Integration**
3. **Assign Peak**
4. **Wrong Peak**
5. **Baseline Smoothing**
6. **Split Peak**
7. **Other** S/N < 1

WH 10/18/07

LOG# 7J160279
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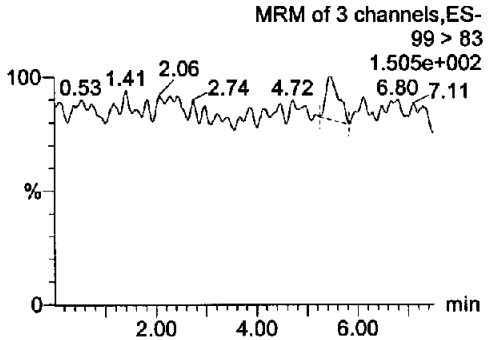
TestAmerica St. Louis

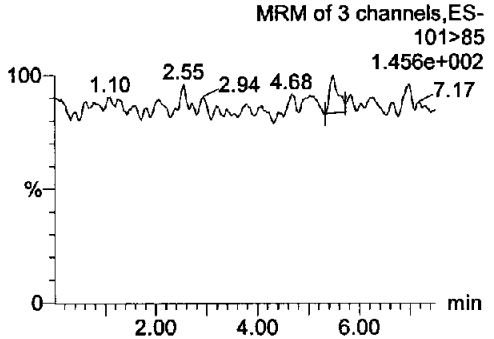
Quantify Sample Report **MassLynx 4.1**
Test America, INC. St. Louis
Dataset: C:\MassLynx\Perchlorates.PRO\DataSetSaved\R101707SW\101707SSMP3_per.qld
Last Altered: Thursday, October 18, 2007 08:35:20 Central Daylight Time
Printed: Thursday, October 18, 2007 08:36:18 Central Daylight Time

Name: P1017765
Date: 17-Oct-2007
Time: 19:37:36
ID: J834C1AD
Description: F7J160279-003
User: BH/WH
Vial: 1:20
Instrument: LCMSMSR

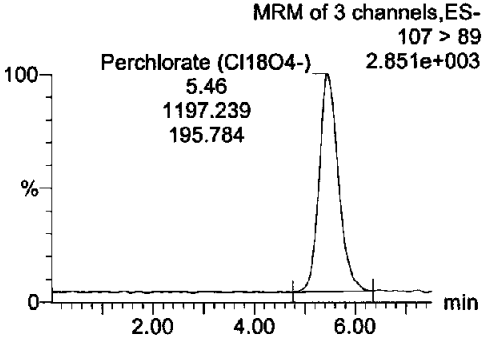
Perchlorate



Perchlorate



Perchlorate (Cl18O4-)



	#	Name	Sample Text	ID	Std. Conc	RT	Area	IS Area	Response	Detection Flags	ug/Kg	%Rec	Trace
1	1...	Perchlorate	F7J160279-003	J834C1AD				1197.239		MM-			99 > 83
2	2...	Perchlorate (Cl18O4-)	F7J160279-003	J834C1AD		5.456	1197.239		1197.239	bb	9.923	99.234	107 > 89

	Sec.Trace	S/N	Height/Area	Acq.Date	Acq.Time	Initial Wt./Volume (g/mL)	Final Volume (mL)	Dilution Fac...	Ion Ratio	Ion Ratio (pred.)
1	101>85			17-Oct-07	19:37:36	2.217	20.000	1.000	0.000	3.080
2		195.784	2.274	17-Oct-07	19:37:36	1.000	1.000	1.000		

1. **Peak Not Found**
2. **Incomplete Integration**
3. **Assign Peak**
4. **Wrong Peak**
5. **Baseline Smoothing**
6. **Split Peak**
7. **Other** S/N<5, Ratio out

WH 10/18/07

LOG# F7J160279
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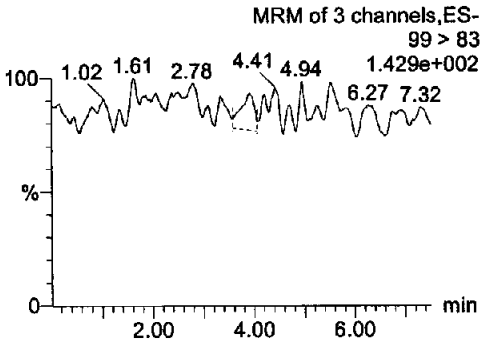
TestAmerica St. Louis

Quantify Sample Report **MassLynx 4.1**
Test America, INC. St. Louis
Dataset: C:\MassLynx\Perchlorates.PRO\DataSetSaved\R101707SW\101707SSMP3_per.qld
Last Altered: Thursday, October 18, 2007 08:35:20 Central Daylight Time
Printed: Thursday, October 18, 2007 08:36:18 Central Daylight Time

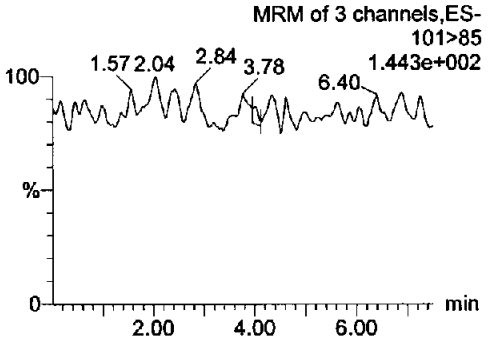
LOT# F7J160279

Name: P1017766
Date: 17-Oct-2007
Time: 19:46:06
ID: J834F1AD
Description: F7J160279-004
User: BH/WH
Vial: 1:21
Instrument: LCMSMSR

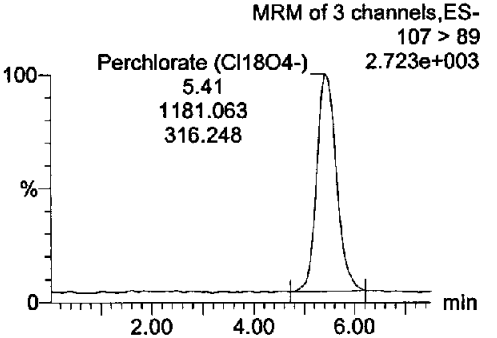
Perchlorate



Perchlorate



Perchlorate (Cl18O4-)



	#	Name	Sample Text	ID	Std. Conc	RT	Area	IS Area	Response	Detection Flags	ug/Kg	%Rec	Trace
1	1...	Perchlorate	F7J160279-004	J834F1AD				1181.063		MM-			99 > 83
2	2...	Perchlorate (Cl18O4-)	F7J160279-004	J834F1AD		5.415	1181.063		1181.063	bb	9.789	97.894	107 > 89

	Sec.Trace	S/N	Height/Area	Acq.Date	Acq.Time	Initial Wt./Volume (g/mL)	Final Volume (mL)	Dilution Fac...	Ion Ratio	Ion Ratio (pred.)
1	101>85			17-Oct-07	19:46:06	2.564	20.000	1.000	0.000	3.080
2		316.248	2.198	17-Oct-07	19:46:06	1.000	1.000	1.000		

1. Peak Not Found
2. Incomplete Integration
3. Assign Peak
4. Wrong Peak
5. Baseline Smoothing
6. Split Peak
7. Other _____

WH 10/18/07

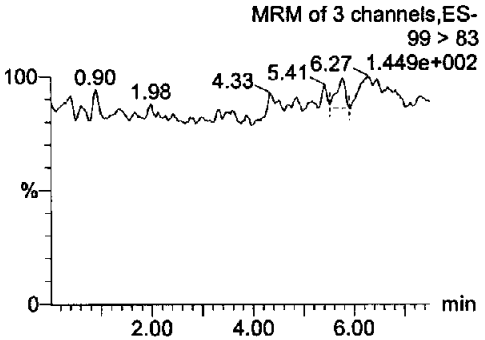
TestAmerica St. Louis

Quantify Sample Report **MassLynx 4.1**
Test America, INC. St. Louis
Dataset: C:\MassLynx\Perchlorates.PRO\DataSetSaved\R101707SW\101707SSMP3_per.qld
Last Altered: Thursday, October 18, 2007 08:35:20 Central Daylight Time
Printed: Thursday, October 18, 2007 08:36:18 Central Daylight Time

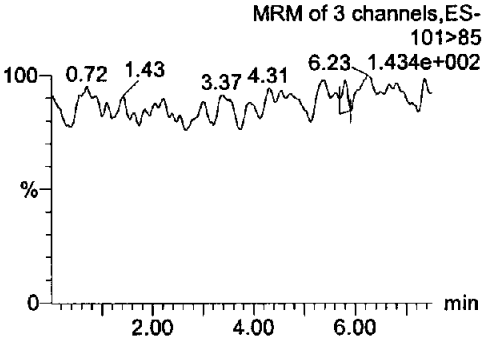
LOT# 160279

Name: P1017767
Date: 17-Oct-2007
Time: 19:54:45
ID: J834H1AD
Description: F7J160279-005
User: BH/WH
Vial: 1:22
Instrument: LCMSMSR

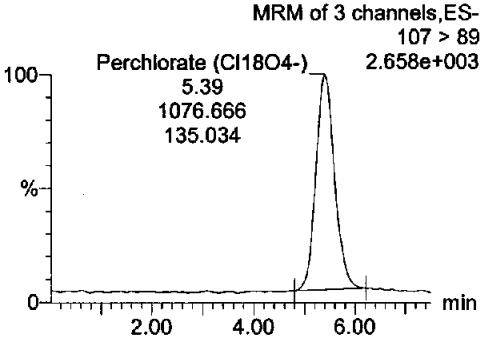
Perchlorate



Perchlorate



Perchlorate (Cl18O4-)



	#	Name	Sample Text	ID	Std. Conc	RT	Area	IS Area	Response	Detection Flags	ug/Kg	%Rec	Trace
1	1...	Perchlorate	F7J160279-005	J834H1AD				1076.666		MM-			99 > 83
2	2...	Perchlorate (Cl18O4-)	F7J160279-005	J834H1AD		5.394	1076.666		1076.666	bb	8.924	89.240	107 > 89

	Sec.Trace	S/N	Height/Area	Acq.Date	Acq.Time	Initial Wt./Volume (g/mL)	Final Volume (mL)	Dilution Fac...	Ion Ratio	Ion Ratio (pred.)
1	101>85			17-Oct-07	19:54:45	2.877	20.000	1.000	0.000	3.080
2		135.034	2.334	17-Oct-07	19:54:45	1.000	1.000	1.000		

1. Peak Not Found
2. Incomplete Integration
3. Assign Peak
4. Wrong Peak
5. Baseline Smoothing
6. Split Peak
7. Other _____

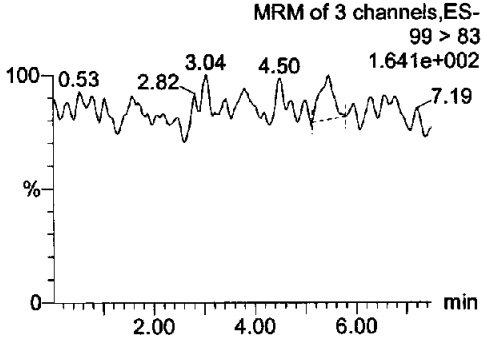
10/18/07

TestAmerica St. Louis

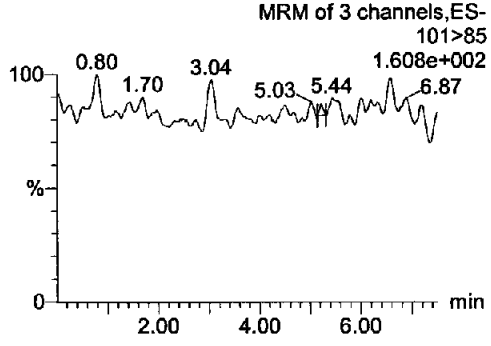
Quantify Sample Report **MassLynx 4.1**
Test America, INC. St. Louis
Dataset: C:\MassLynx\Perchlorates.PRO\DataSetSaved\R101707SW\101707SSMP3_per.qld
Last Altered: Thursday, October 18, 2007 08:35:20 Central Daylight Time
Printed: Thursday, October 18, 2007 08:36:18 Central Daylight Time

Name: P1017768
Date: 17-Oct-2007
Time: 20:03:23
ID: J834L1AD
Description: F7J160279-006
User: BH/WH
Vial: 1:23
Instrument: LCMSMSR

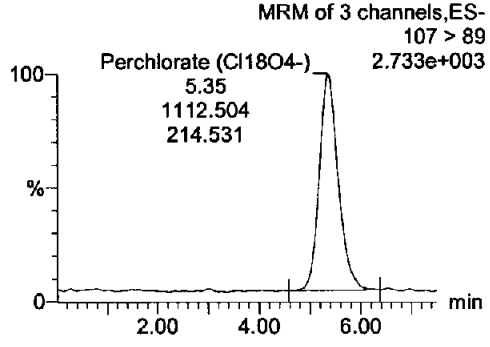
Perchlorate



Perchlorate



Perchlorate (Cl18O4-)



	#	Name	Sample Text	ID	Std. Conc	RT	Area	IS Area	Response	Detection Flags	ug/Kg	%Rec	Trace
1	1...	Perchlorate	F7J160279-006	J834L1AD				1112.504		MM-			99 > 83
2	2...	Perchlorate (Cl18O4-)	F7J160279-006	J834L1AD		5.354	1112.504		1112.504	bb	9.221	92.211	107 > 89

	Sec.Trace	S/N	Height/Area	Acq.Date	Acq.Time	Initial Wt./Volume (g/mL)	Final Volume (mL)	Dilution Fac...	Ion Ratio	Ion Ratio (pred.)
1	101>85			17-Oct-07	20:03:23	2.281	20.000	1.000	0.000	3.080
2		214.531	2.335	17-Oct-07	20:03:23	1.000	1.000	1.000		

1. Peak Not Found
2. Incomplete Integration
3. Assign Peak
4. Wrong Peak
5. Baseline Smoothing
6. Split Peak
7. Other S/N<5, Ratio out

WH 10/18/07

LOG# F160279
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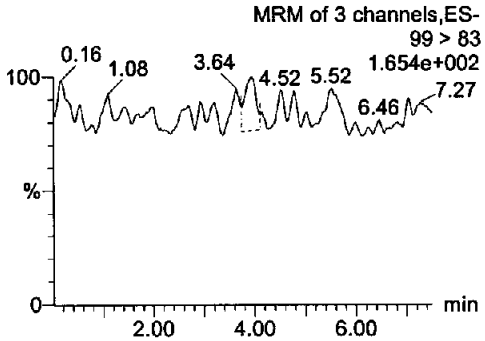
TestAmerica St. Louis

Quantify Sample Report **MassLynx 4.1**
Test America, INC. St. Louis
Dataset: C:\MassLynx\Perchlorates.PRO\DataSetSaved\R101707SW\101707SSMP3_per.qld
Last Altered: Thursday, October 18, 2007 08:35:20 Central Daylight Time
Printed: Thursday, October 18, 2007 08:36:18 Central Daylight Time

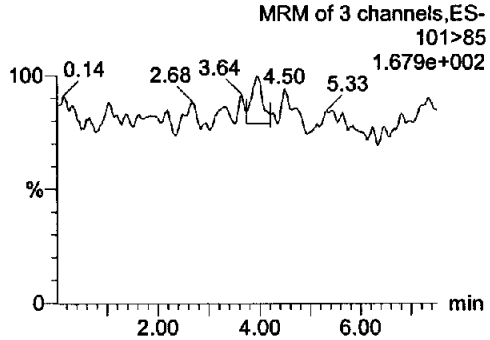
LOT# F160279

Name: P1017769
Date: 17-Oct-2007
Time: 20:12:02
ID: J834M1AD
Description: F7J160279-007
User: BH/WH
Vial: 1:24
Instrument: LCMSMSR

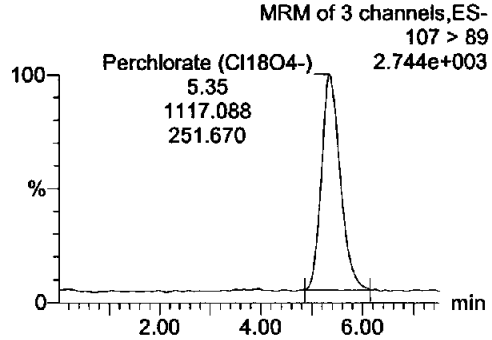
Perchlorate



Perchlorate



Perchlorate (Cl18O4-)



	#	Name	Sample Text	ID	Std. Conc	RT	Area	IS Area	Response	Detection Flags	ug/Kg	%Rec	Trace
1	1...	Perchlorate	F7J160279-007	J834M1AD				1117.088		MM-			99 > 83
2	2...	Perchlorate (Cl18O4-)	F7J160279-007	J834M1AD		5.354	1117.088		1117.088	bb	9.259	92.591	107 > 89

	Sec.Trace	S/N	Height/Area	Acq.Date	Acq.Time	Initial Wt./Volume (g/mL)	Final Volume (mL)	Dilution Fac...	Ion Ratio	Ion Ratio (pred.)
1	101>85			17-Oct-07	20:12:02	2.362	20.000	1.000	0.000	3.080
2		251.670	2.323	17-Oct-07	20:12:02	1.000	1.000	1.000		

1. Peak Not Found
2. Incomplete Integration
3. Assign Peak
4. Wrong Peak
5. Baseline Smoothing
6. Split Peak
7. Other _____

WH 10/18/07

TestAmerica St. Louis

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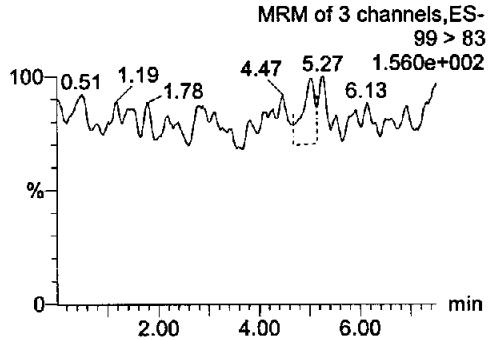
Quantify Sample Report **MassLynx 4.1**
Test America, INC. St. Louis
Dataset: C:\MassLynx\Perchlorates.PRO\DataSetSaved\R101707SW\101707SSMP4_per.qld
Last Altered: Thursday, October 18, 2007 08:50:49 Central Daylight Time
Printed: Thursday, October 18, 2007 08:51:19 Central Daylight Time

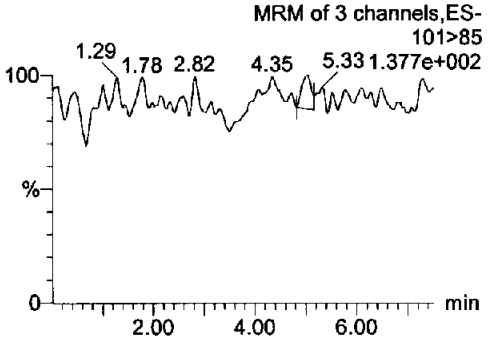
LOT# F7J160279

Name: P1017774
Date: 17-Oct-2007
Time: 20:55:10
ID: J834N1AD
Description: F7J160279-008
User: BH/WH
Vial: 1:25
Instrument: LCMSMSR

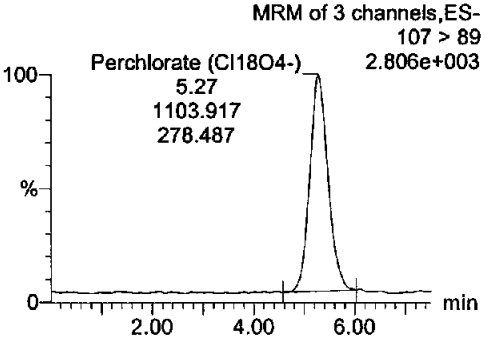
Perchlorate



Perchlorate



Perchlorate (Cl18O4-)



	#	Name	Sample Text	ID	Std. Conc	RT	Area	IS Area	Response	Detection Flags	ug/Kg	%Rec	Trace
1	1...	Perchlorate	F7J160279-008	J834N1AD				1103.917		MM-			99 > 83
2	2...	Perchlorate (Cl18O4-)	F7J160279-008	J834N1AD		5.272	1103.917		1103.917	bb	9.150	91.499	107 > 89

	Sec.Trace	S/N	Height/Area	Acq.Date	Acq.Time	Initial Wt./Volume (g/mL)	Final Volume (mL)	Dilution Fac...	Ion Ratio	Ion Ratio (pred.)
1	101>85			17-Oct-07	20:55:10	2.466	20.000	1.000	0.000	3.080
2		278.487	2.418	17-Oct-07	20:55:10	1.000	1.000	1.000		

1. Peak Not Found
2. Incomplete Integration
3. Assign Peak
4. Wrong Peak
5. Baseline Smoothing
6. Split Peak
7. Other S/N < 5

10/18/07

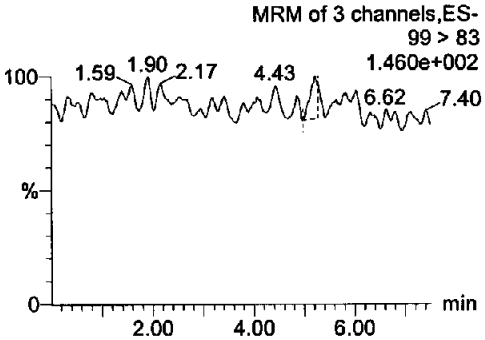
TestAmerica St. Louis

Quantify Sample Report **MassLynx 4.1**
Test America, INC. St. Louis
Dataset: C:\MassLynx\Perchlorates.PRO\DataSetSaved\R101707SW\101707SSMP4_per.qld
Last Altered: Thursday, October 18, 2007 08:50:49 Central Daylight Time
Printed: Thursday, October 18, 2007 08:51:19 Central Daylight Time

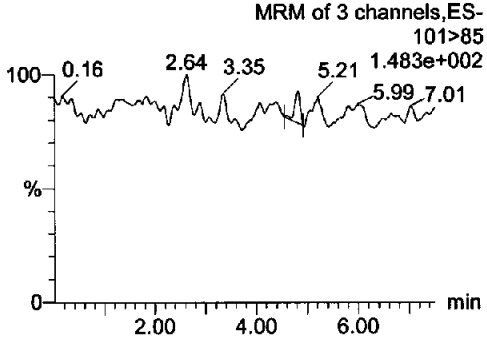
LOT#F7J160279

Name: P1017775
Date: 17-Oct-2007
Time: 21:03:46
ID: J834P1AD
Description: F7J160279-009
User: BH/WH
Vial: 1:26
Instrument: LCMSMSR

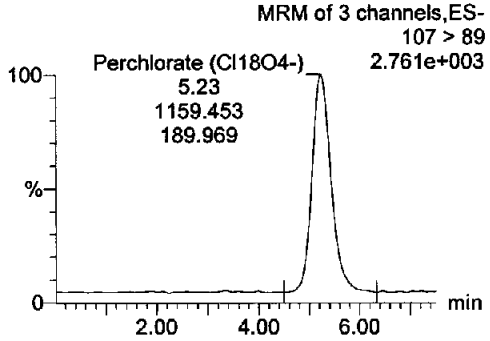
Perchlorate



Perchlorate



Perchlorate (Cl18O4-)



	#	Name	Sample Text	ID	Std. Conc	RT	Area	IS Area	Response	Detection Flags	ug/Kg	%Rec	Trace
1	1...	Perchlorate	F7J160279-009	J834P1AD				1159.453		MM-			99 > 83
2	2...	Perchlorate (Cl18O4-)	F7J160279-009	J834P1AD		5.231	1159.453		1159.453	bb	9.610	96.102	107 > 89

	Sec.Trace	S/N	Height/Area	Acq.Date	Acq.Time	Initial Wt./Volume (g/mL)	Final Volume (mL)	Dilution Fac...	Ion Ratio	Ion Ratio (pred.)
1	101>85			17-Oct-07	21:03:46	2.118	20.000	1.000	0.000	3.080
2		189.969	2.278	17-Oct-07	21:03:46	1.000	1.000	1.000		

1. Peak Not Found
2. Incomplete Integration
3. Assign Peak
4. Wrong Peak
5. Baseline Smoothing
6. Split Peak
7. Other _____

WH 10/18/07

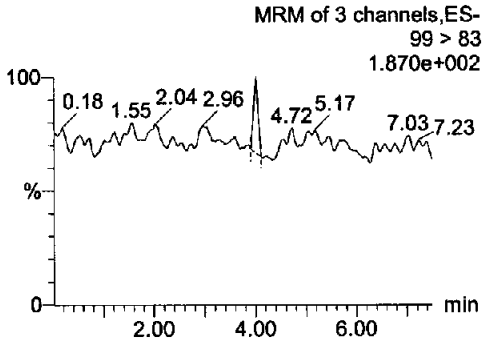
TestAmerica St. Louis

Quantify Sample Report **MassLynx 4.1**
Test America, INC. St. Louis
Dataset: C:\MassLynx\Perchlorates.PRO\DataSetSaved\R101707SW\101707SSMP4_per.qld
Last Altered: Thursday, October 18, 2007 08:50:49 Central Daylight Time
Printed: Thursday, October 18, 2007 08:51:19 Central Daylight Time

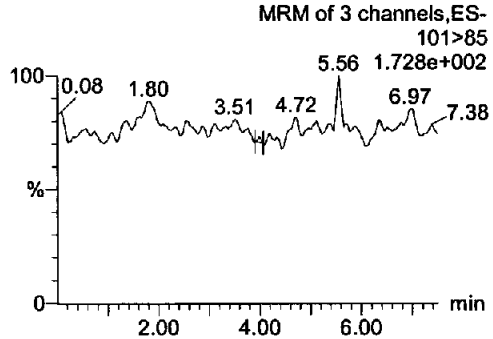
LOT# F7J160279

Name: P1017776
Date: 17-Oct-2007
Time: 21:12:21
ID: J834Q1AD
Description: F7J160279-010
User: BH/WH
Vial: 1:27
Instrument: LCMSMSR

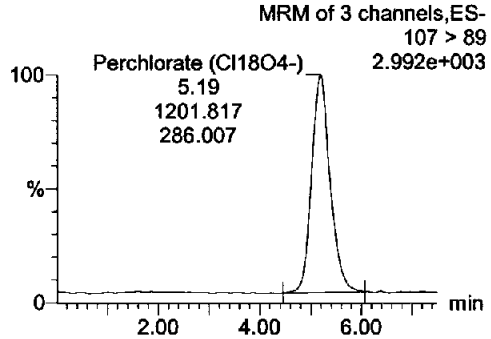
Perchlorate



Perchlorate



Perchlorate (Cl18O4-)



	#	Name	Sample Text	ID	Std. Conc	RT	Area	IS Area	Response	Detection Flags	ug/Kg	%Rec	Trace
1	1...	Perchlorate	F7J160279-010	J834Q1AD				1201.817		MM-			99 > 83
2	2...	Perchlorate (Cl18O4-)	F7J160279-010	J834Q1AD		5.190	1201.817		1201.817	bb	9.961	99.614	107 > 89

	Sec.Trace	S/N	Height/Area	Acq.Date	Acq.Time	Initial Wt./Volume (g/mL)	Final Volume (mL)	Dilution Fac...	Ion Ratio	Ion Ratio (pred.)
1	101>85			17-Oct-07	21:12:21	2.338	20.000	1.000	0.000	3.080
2		286.007	2.379	17-Oct-07	21:12:21	1.000	1.000	1.000		

1. Peak Not Found
2. Incomplete Integration
3. Assign Peak
4. Wrong Peak
5. Baseline Smoothing
6. Split Peak
7. Other _____

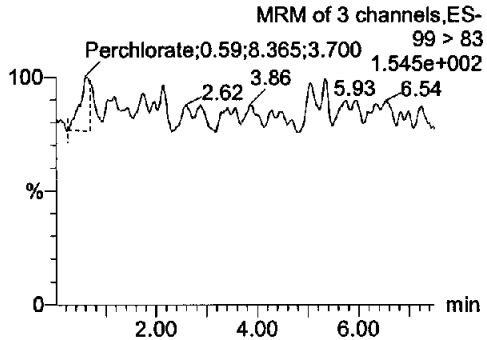
WH 10/18/07

TestAmerica St. Louis

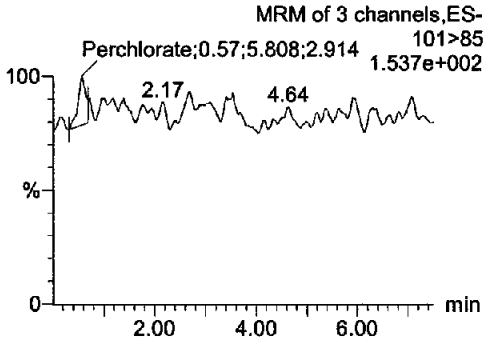
Quantify Sample Report **MassLynx 4.1**
Test America, INC. St. Louis
Dataset: C:\MassLynx\Perchlorates.PRO\DataSetSaved\R101707SW\101707SSMP4_per.qld
Last Altered: Thursday, October 18, 2007 08:50:49 Central Daylight Time
Printed: Thursday, October 18, 2007 08:51:19 Central Daylight Time

Name: P1017777
Date: 17-Oct-2007
Time: 21:20:57
ID: J834V1AD
Description: F7J160279-011
User: BH/WH
Vial: 1:28
Instrument: LCMSMSR

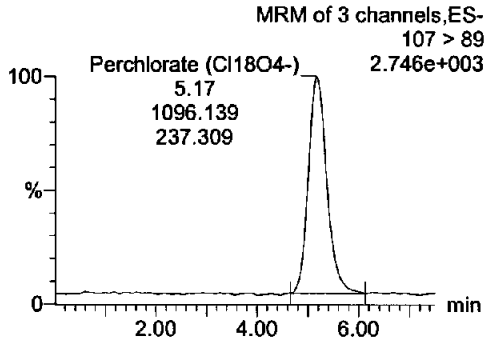
Perchlorate



Perchlorate



Perchlorate (Cl18O4-)



	#	Name	Sample Text	ID	Std. Conc	RT	Area	IS Area	Response	Detection Flags	ug/Kg	%Rec	Trace
1	1...	Perchlorate	F7J160279-011	J834V1AD				1096.139		MM-			99 > 83
2	2...	Perchlorate (Cl18O4-)	F7J160279-011	J834V1AD		5.170	1096.139		1096.139	bb	9.085	90.855	107 > 89

	Sec.Trace	S/N	Height/Area	Acq.Date	Acq.Time	Initial Wt/Volume (g/mL)	Final Volume (mL)	Dilution Fac...	Ion Ratio	Ion Ratio (pred.)
1	101>85			17-Oct-07	21:20:57	2.148	20.000	1.000	0.000	3.080
2		237.309	2.387	17-Oct-07	21:20:57	1.000	1.000	1.000		

1. Peak Not Found
2. Incomplete Integration
3. Assign Peak
4. Wrong Peak
5. Baseline Smoothing
6. Split Peak
7. Other _____

WH 10/18/07

LOG# 7F160279
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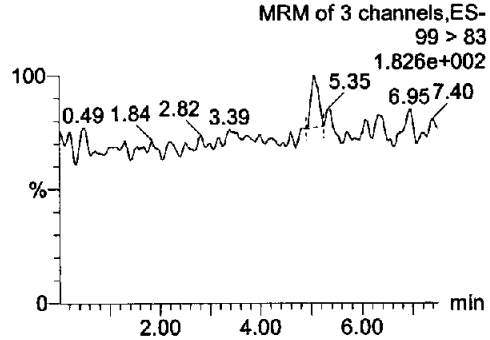
TestAmerica St. Louis

Quantify Sample Report **MassLynx 4.1**
Test America, INC. St. Louis
Dataset: C:\MassLynx\Perchlorates.PRO\DataSetSaved\R101707SW\101707SSMP4_per.qld
Last Altered: Thursday, October 18, 2007 08:50:49 Central Daylight Time
Printed: Thursday, October 18, 2007 08:51:19 Central Daylight Time

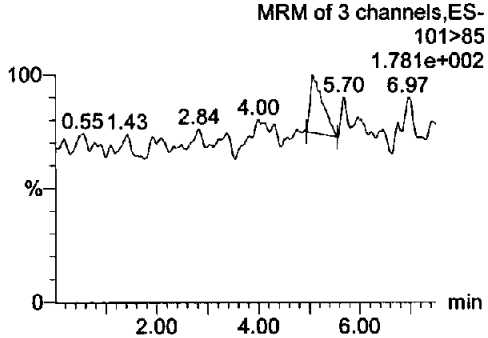
LOT#/F160279

Name: P1017778
Date: 17-Oct-2007
Time: 21:29:28
ID: J834W1AD
Description: F7J160279-012
User: BH/WH
Vial: 1:29
Instrument: LCMSMSR

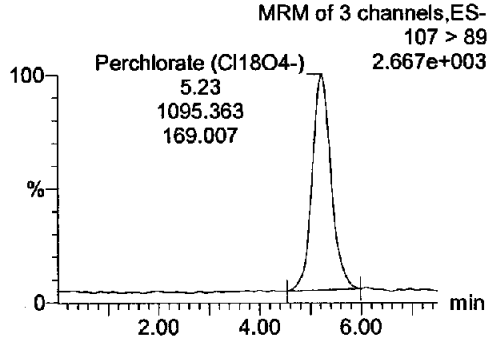
Perchlorate



Perchlorate



Perchlorate (Cl18O4-)



	#	Name	Sample Text	ID	Std. Conc	RT	Area	IS Area	Response	Detection Flags	ug/Kg	%Rec	Trace
1	1...	Perchlorate	F7J160279-012	J834W1AD				1095.363		MM-			99 > 83
2	2...	Perchlorate (Cl18O4-)	F7J160279-012	J834W1AD		5.231	1095.363		1095.363	bb	9.079	90.790	107 > 89

	Sec.Trace	S/N	Height/Area	Acq.Date	Acq.Time	Initial Wt./Volume (g/mL)	Final Volume (mL)	Dilution Fac...	Ion Ratio	Ion Ratio (pred.)
1	101>85			17-Oct-07	21:29:28	2.594	20.000	1.000	0.000	3.080
2		169.007	2.302	17-Oct-07	21:29:28	1.000	1.000	1.000		

1. Peak Not Found
2. Incomplete Integration
3. Assign Peak
4. Wrong Peak
5. Baseline Smoothing
6. Split Peak
7. Other S/N <5 Ratio out

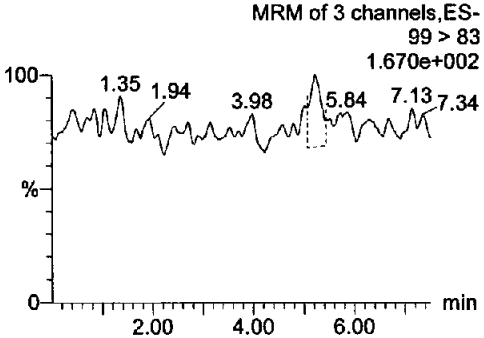
WH 10/18/07

TestAmerica St. Louis

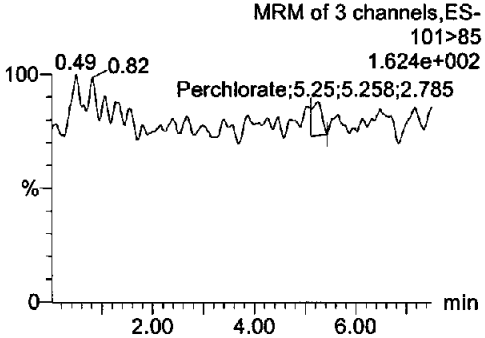
Quantify Sample Report **MassLynx 4.1**
Test America, INC. St. Louis
Dataset: C:\MassLynx\Perchlorates.PRO\DataSetSaved\R101707SW\101707SSMP4_per.qld
Last Altered: Thursday, October 18, 2007 08:50:49 Central Daylight Time
Printed: Thursday, October 18, 2007 08:51:19 Central Daylight Time

Name: P1017779
Date: 17-Oct-2007
Time: 21:37:58
ID: J834X1AD
Description: F7J160279-013
User: BH/WH
Vial: 1:30
Instrument: LCMSMSR

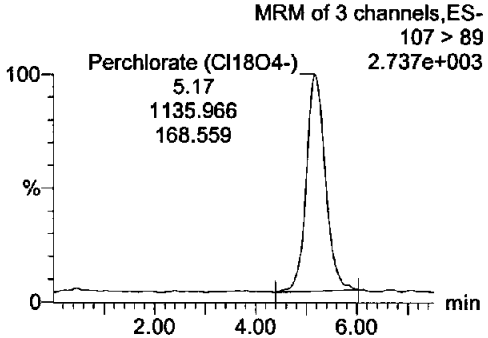
Perchlorate



Perchlorate



Perchlorate (Cl18O4-)



	#	Name	Sample Text	ID	Std. Conc	RT	Area	IS Area	Response	Detection Flags	ug/Kg	%Rec	Trace
1	1...	Perchlorate	F7J160279-013	J834X1AD				1135.966		MM-			99 > 83
2	2...	Perchlorate (Cl18O4-)	F7J160279-013	J834X1AD		5.170	1135.966		1135.966	bb	9.416	94.156	107 > 89

	Sec.Trace	S/N	Height/Area	Acq.Date	Acq.Time	Initial Wt./Volume (g/mL)	Final Volume (mL)	Dilution Fac...	Ion Ratio	Ion Ratio (pred.)
1	101>85			17-Oct-07	21:37:58	2.359	20.000	1.000	0.000	3.080
2		168.559	2.291	17-Oct-07	21:37:58	1.000	1.000	1.000		

1. Peak Not Found
2. Incomplete Integration
3. Assign Peak
4. Wrong Peak
5. Baseline Smoothing
6. Split Peak
7. Other S/N < 5

WH 10/18/07

LOG# 160279
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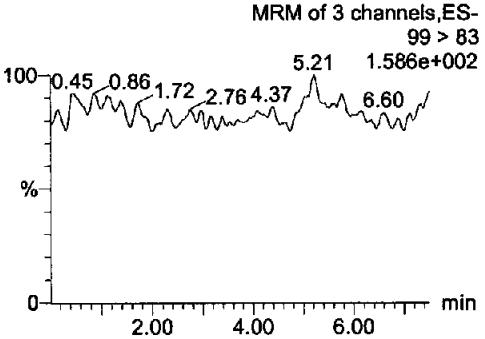
TestAmerica St. Louis

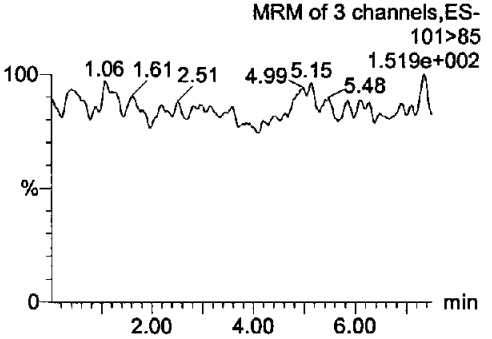
Quantify Sample Report **MassLynx 4.1**
Test America, INC. St. Louis
Dataset: C:\MassLynx\Perchlorates.PRO\DataSetSaved\R101707SW\101707SSMP4_per.qld
Last Altered: Thursday, October 18, 2007 08:50:49 Central Daylight Time
Printed: Thursday, October 18, 2007 08:51:19 Central Daylight Time

Name: P1017780
Date: 17-Oct-2007
Time: 21:46:28
ID: J83401AD
Description: F7J160279-014
User: BH/WH
Vial: 1:31
Instrument: LCMSMSR

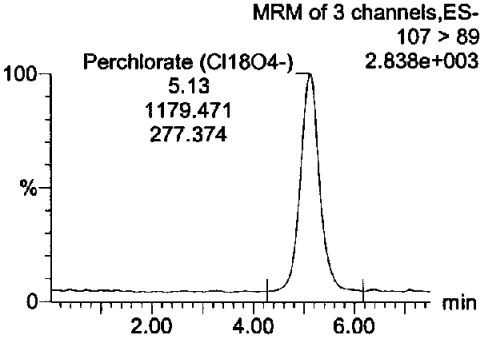
Perchlorate



Perchlorate



Perchlorate (Cl18O4-)



	#	Name	Sample Text	ID	Std. Conc	RT	Area	IS Area	Response	Detection Flags	ug/Kg	%Rec	Trace
1	1...	Perchlorate	F7J160279-014	J83401AD				1179.471					99 > 83
2	2...	Perchlorate (Cl18O4-)	F7J160279-014	J83401AD		5.129	1179.471		1179.471	bb	9.776	97.762	107 > 89

	Sec.Trace	S/N	Height/Area	Acq.Date	Acq.Time	Initial Wt./Volume (g/mL)	Final Volume (mL)	Dilution Fac...	Ion Ratio	Ion Ratio (pred.)
1				17-Oct-07	21:46:28	2.006	20.000	1.000		
2		277.374	2.298	17-Oct-07	21:46:28	1.000	1.000	1.000		

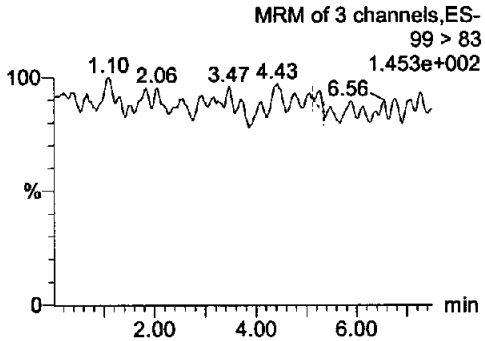
LOG # F7J160279
273 of 423
TestAmerica St. Louis

Quantify Sample Report **MassLynx 4.1**
Test America, INC. St. Louis
Dataset: C:\MassLynx\Perchlorates.PRO\DataSetSaved\R101707SW\101707SSMP4_per.qld
Last Altered: Thursday, October 18, 2007 08:50:49 Central Daylight Time
Printed: Thursday, October 18, 2007 08:51:19 Central Daylight Time

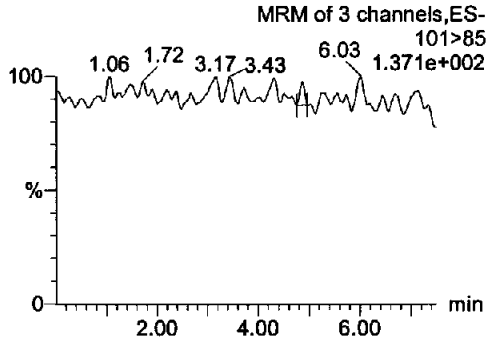
LOT#F7J160279

Name: P1017781
Date: 17-Oct-2007
Time: 21:54:58
ID: J83441AD
Description: F7J160279-015
User: BH/WH
Vial: 1:32
Instrument: LCMSMSR

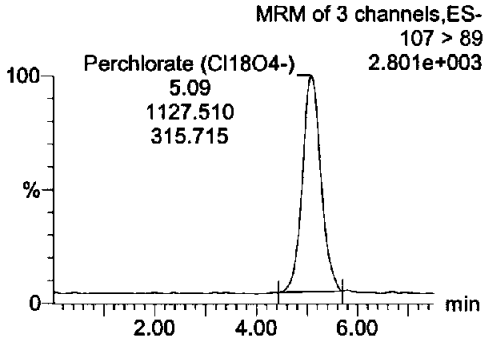
Perchlorate



Perchlorate



Perchlorate (Cl18O4-)



	#	Name	Sample Text	ID	Std. Conc	RT	Area	IS Area	Response	Detection Flags	ug/Kg	%Rec	Trace
1	1...	Perchlorate	F7J160279-015	J83441AD				1127.510		MM-			99 > 83
2	2...	Perchlorate (Cl18O4-)	F7J160279-015	J83441AD		5.088	1127.510		1127.510	bb	9.345	93.455	107 > 89

	Sec.Trace	S/N	Height/Area	Acq.Date	Acq.Time	Initial Wt./Volume (g/mL)	Final Volume (mL)	Dilution Fac...	Ion Ratio	Ion Ratio (pred.)
1	101>85			17-Oct-07	21:54:58	2.291	20.000	1.000	0.000	3.080
2		315.715	2.359	17-Oct-07	21:54:58	1.000	1.000	1.000		

1. Peak Not Found
2. Incomplete Integration
3. Assign Peak
4. Wrong Peak
5. Baseline Smoothing
6. Split Peak
7. Other S/N<5

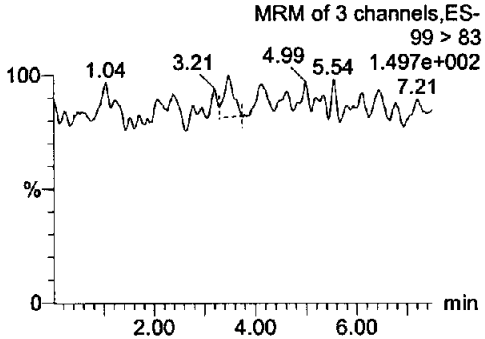
WH 10/18/07

TestAmerica St. Louis

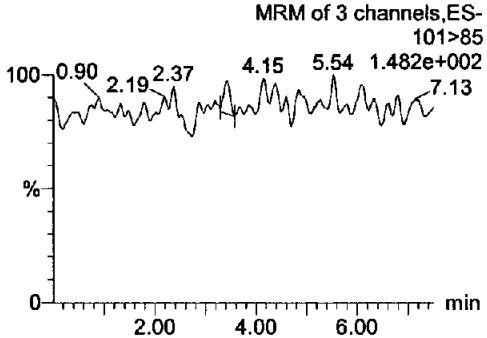
Quantify Sample Report **MassLynx 4.1**
Test America, INC. St. Louis
Dataset: C:\MassLynx\Perchlorates.PRO\DataSetSaved\R101707SW\101707SSMP4_per.qld
Last Altered: Thursday, October 18, 2007 08:50:49 Central Daylight Time
Printed: Thursday, October 18, 2007 08:51:19 Central Daylight Time

Name: P1017782
Date: 17-Oct-2007
Time: 22:03:35
ID: J83481AD
Description: F7J160279-016
User: BH/WH
Vial: 1:33
Instrument: LCMSMSR

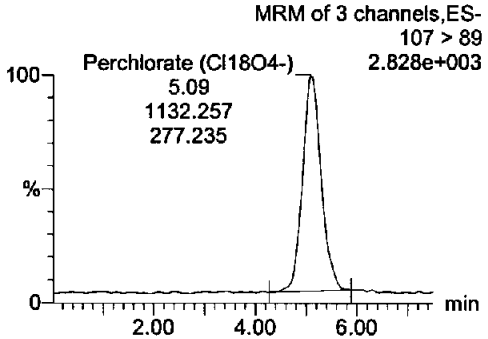
Perchlorate



Perchlorate



Perchlorate (Cl18O4-)



	#	Name	Sample Text	ID	Std. Conc	RT	Area	IS Area	Response	Detection Flags	ug/Kg	%Rec	Trace
1	1...	Perchlorate	F7J160279-016	J83481AD				1132.257		MM-			99 > 83
2	2...	Perchlorate (Cl18O4-)	F7J160279-016	J83481AD		5.088	1132.257		1132.257	bb	9.385	93.848	107 > 89

	Sec.Trace	S/N	Height/Area	Acq.Date	Acq.Time	Initial Wt./Volume (g/mL)	Final Volume (mL)	Dilution Fac...	Ion Ratio	Ion Ratio (pred.)
1	101>85			17-Oct-07	22:03:35	2.039	20.000	1.000	0.000	3.080
2		277.235	2.370	17-Oct-07	22:03:35	1.000	1.000	1.000		

1. Peak Not Found
2. Incomplete Integration
3. Assign Peak
4. Wrong Peak
5. Baseline Smoothing
6. Split Peak
7. Other _____

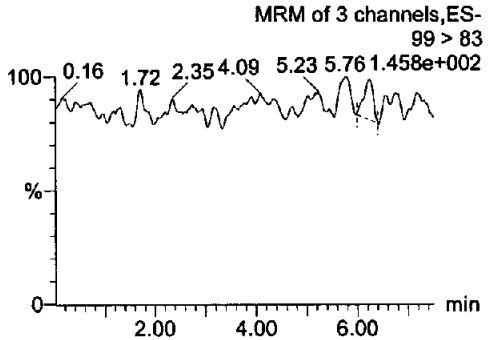
WH 10/18/07

LOG# 7F160279
275 of 420
TestAmerica St. Louis

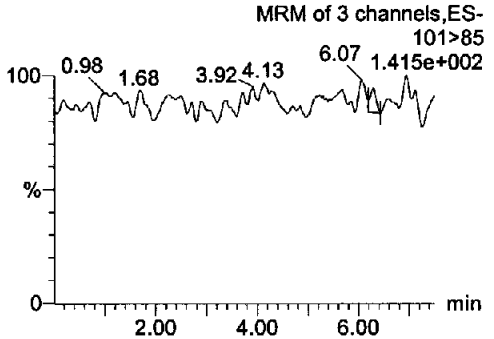
Quantify Sample Report **MassLynx 4.1**
Test America, INC. St. Louis
Dataset: C:\MassLynx\Perchlorates.PRO\DataSetSaved\R101707SW\101707SSMP4_per.qld
Last Altered: Thursday, October 18, 2007 08:50:49 Central Daylight Time
Printed: Thursday, October 18, 2007 08:51:19 Central Daylight Time

Name: P1017783
Date: 17-Oct-2007
Time: 22:12:13
ID: J835A1AD
Description: F7J160279-017
User: BH/WH
Vial: 1:34
Instrument: LCMSMSR

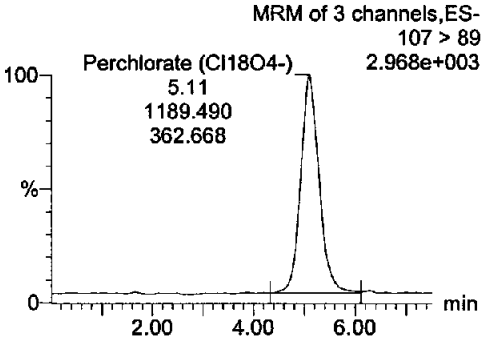
Perchlorate



Perchlorate



Perchlorate (Cl18O4-)



	#	Name	Sample Text	ID	Std. Conc	RT	Area	IS Area	Response	Detection Flags	ug/Kg	%Rec	Trace
1	1...	Perchlorate	F7J160279-017	J835A1AD				1189.490		MM-			99 > 83
2	2...	Perchlorate (Cl18O4-)	F7J160279-017	J835A1AD		5.108	1189.490		1189.490	bd	9.859	98.592	107 > 89

	Sec.Trace	S/N	Height/Area	Acq.Date	Acq.Time	Initial Wt./Volume (g/mL)	Final Volume (mL)	Dilution Fac...	Ion Ratio	Ion Ratio (pred.)
1	101>85			17-Oct-07	22:12:13	2.453	20.000	1.000	0.000	3.080
2		362.668	2.387	17-Oct-07	22:12:13	1.000	1.000	1.000		

1. Peak Not Found
2. Incomplete Integration
3. Assign Peak
4. Wrong Peak
5. Baseline Smoothing
6. Split Peak
7. Other _____

WH 10/18/07

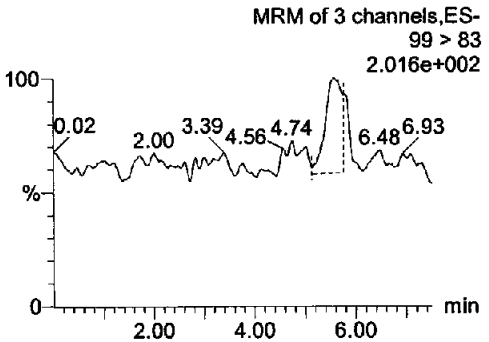
LOG# 7J160279
276 of 428
TestAmerica St. Louis

Quantify Sample Report **MassLynx 4.1**
Test America, INC. St. Louis
Dataset: C:\MassLynx\Perchlorates.PRO\DataSetSaved\R101707SW\101707WSMP1_per.qld
Last Altered: Wednesday, October 17, 2007 18:10:01 Central Daylight Time
Printed: Wednesday, October 17, 2007 18:10:20 Central Daylight Time

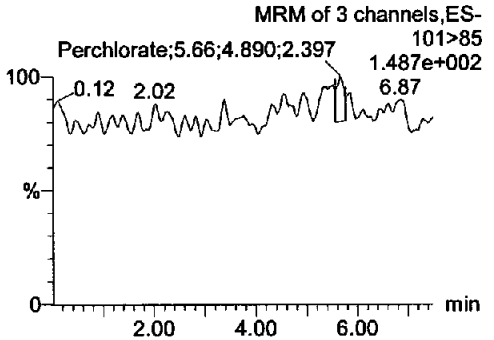
LOG#160279

Name: P1017747
Date: 17-Oct-2007
Time: 17:02:30
ID: J836J1AC
Description: F7J160279-035
User: BH/WH
Vial: 2:27
Instrument: LCMSMSR

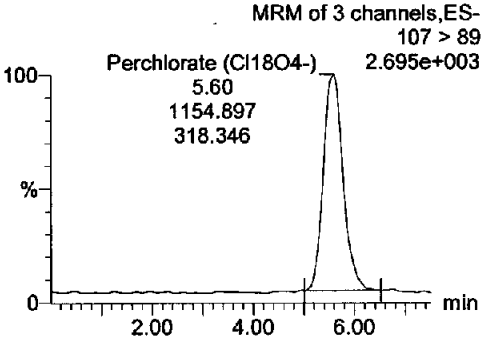
Perchlorate



Perchlorate



Perchlorate (Cl18O4-)



	#	Name	Sample Text	ID	Std. Conc	RT	Area	IS Area	Response	Detection Flags	ug/L	%Rec	Trace
1	1...	Perchlorate	F7J160279-035	J836J1AC				1154.897		MM-			99 > 83
2	2...	Perchlorate (Cl18O4-)	F7J160279-035	J836J1AC		5.599	1154.897		1154.897	bb	9.572	95.725	107 > 89

	Sec.Trace	S/N	Height/Area	Acq.Date	Acq.Time	Initial Wt./Volume (g/mL)	Final Volume (mL)	Dilution Fac...	Ion Ratio	Ion Ratio (pred.)
1	101>85			17-Oct-07	17:02:30	10.000	10.000	1.000	0.000	3.080
2		318.346	2.211	17-Oct-07	17:02:30	1.000	1.000	1.000		

1. Peak Not Found
2. Incomplete Integration
3. Assign Peak
4. Wrong Peak
5. Baseline Smoothing
6. Split Peak
7. Other S/N <5, Ratio out

WH 10/17/07

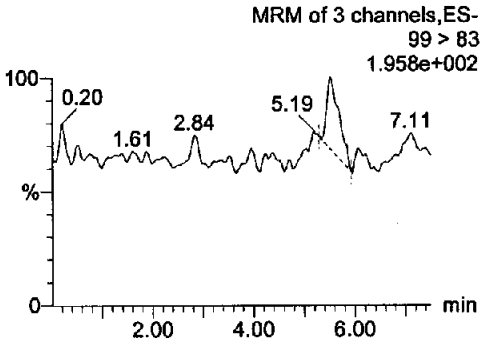
TestAmerica St. Louis

Quantify Sample Report **MassLynx 4.1**
Test America, INC. St. Louis
Dataset: C:\MassLynx\Perchlorates.PRO\DataSetSaved\R101707SW\101707WSMP1_per.qld
Last Altered: Wednesday, October 17, 2007 18:10:01 Central Daylight Time
Printed: Wednesday, October 17, 2007 18:10:20 Central Daylight Time

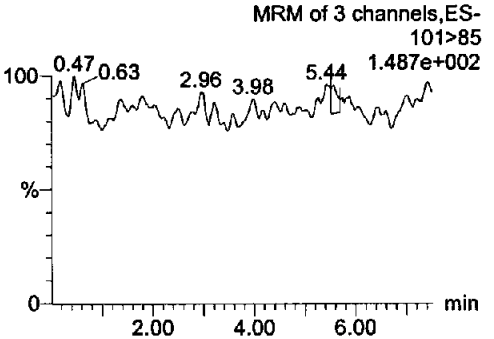
LOT# F7J160279

Name: P1017751
Date: 17-Oct-2007
Time: 17:37:02
ID: J836M1AC
Description: F7J160279-036
User: BH/WH
Vial: 2:31
Instrument: LCMSMSR

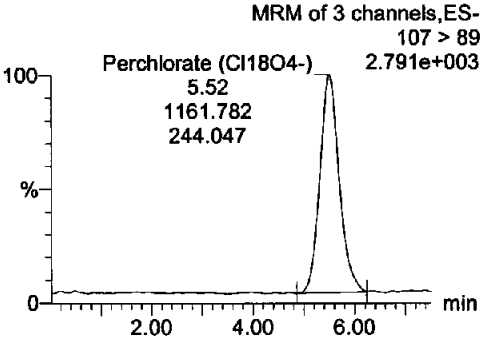
Perchlorate



Perchlorate



Perchlorate (Cl18O4-)



	#	Name	Sample Text	ID	Std. Conc	RT	Area	IS Area	Response	Detection Flags	ug/L	%Rec	Trace
1	1...	Perchlorate	F7J160279-036	J836M1AC				1161.782		MM-			99 > 83
2	2...	Perchlorate (Cl18O4-)	F7J160279-036	J836M1AC		5.517	1161.782		1161.782	bb	9.630	96.295	107 > 89

	Sec.Trace	S/N	Height/Area	Acq.Date	Acq.Time	Initial Wt./Volume (g/mL)	Final Volume (mL)	Dilution Fac...	Ion Ratio	Ion Ratio (pred.)
1	101>85			17-Oct-07	17:37:02	10.000	10.000	1.000	0.000	3.080
2		244.047	2.295	17-Oct-07	17:37:02	1.000	1.000	1.000		

1. **Peak Not Found**
2. **Incomplete Integration**
3. **Assign Peak**
4. **Wrong Peak**
5. **Baseline Smoothing**
6. **Split Peak**
7. **Other** S/N <5, Ratio out

WH 10/17/07

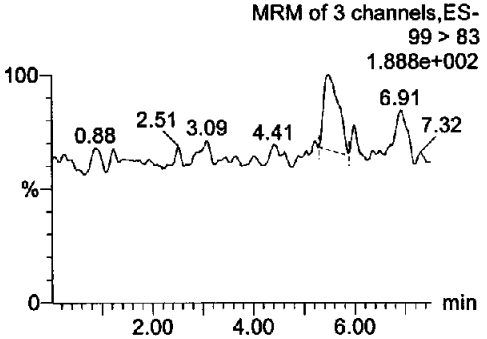
TestAmerica St. Louis

Quantify Sample Report **MassLynx 4.1**
Test America, INC. St. Louis
Dataset: C:\MassLynx\Perchlorates.PRO\DataSetSaved\R101707SW\101707WSMP1_per.qld
Last Altered: Wednesday, October 17, 2007 18:10:01 Central Daylight Time
Printed: Wednesday, October 17, 2007 18:10:20 Central Daylight Time

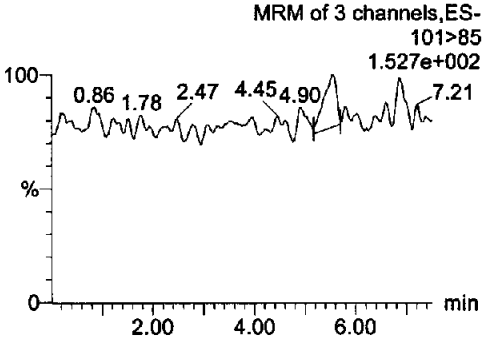
LOG# F7J160279

Name: P1017752
Date: 17-Oct-2007
Time: 17:45:40
ID: J836W1AC
Description: F7J160279-038
User: BH/WH
Vial: 2:32
Instrument: LCMSMSR

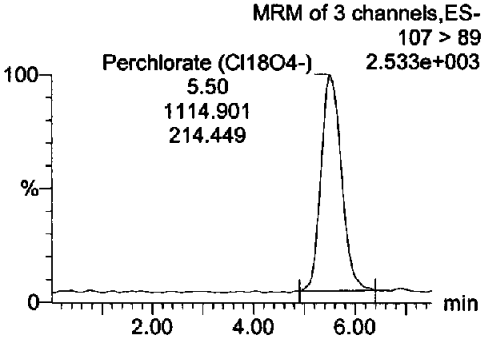
Perchlorate



Perchlorate



Perchlorate (Cl18O4-)



	#	Name	Sample Text	ID	Std. Conc	RT	Area	IS Area	Response	Detection Flags	ug/L	%Rec	Trace
1	1...	Perchlorate	F7J160279-038	J836W1AC				1114.901		MM-			99 > 83
2	2...	Perchlorate (Cl18O4-)	F7J160279-038	J836W1AC		5.497	1114.901		1114.901	bb	9.241	92.410	107 > 89

	Sec.Trace	S/N	Height/Area	Acq.Date	Acq.Time	Initial Wt./Volume (g/mL)	Final Volume (mL)	Dilution Fac...	Ion Ratio	Ion Ratio (pred.)
1	101>85			17-Oct-07	17:45:40	10.000	10.000	1.000	0.000	3.080
2		214.449	2.156	17-Oct-07	17:45:40	1.000	1.000	1.000		

1. Peak Not Found
2. Incomplete Integration
3. Assign Peak
4. Wrong Peak
5. Baseline Smoothing
6. Split Peak
7. Other S/N < 5, Ratio out

WH 10/17/07

TestAmerica St. Louis

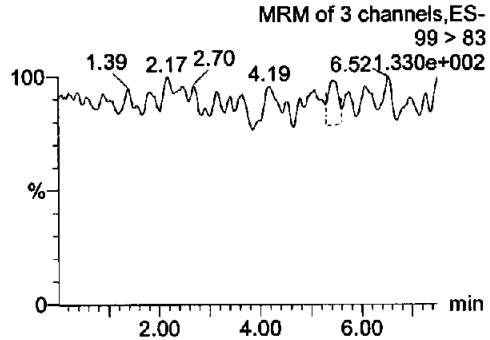
Method 6850, Perchlorate By LCMSMS

RAW QC DATA

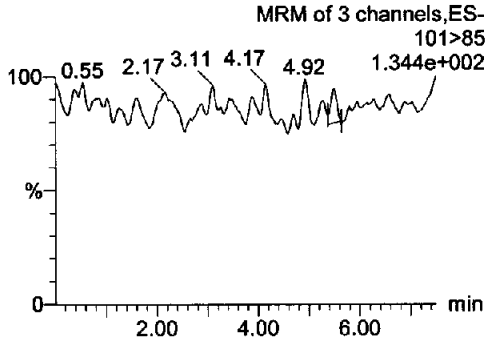
Quantify Sample Report **MassLynx 4.1**
Test America, INC. St. Louis
Dataset: C:\MassLynx\Perchlorates.PRO\DataSetSaved\R101707SW\101707WSMP1_per.qld
Last Altered: Wednesday, October 17, 2007 18:10:01 Central Daylight Time
Printed: Wednesday, October 17, 2007 18:10:20 Central Daylight Time

Name: P1017745
Date: 17-Oct-2007
Time: 16:45:13
ID: J85521AA
Description: F7J170000-361B
User: BH/WH
Vial: 2:25
Instrument: LCMSMSR

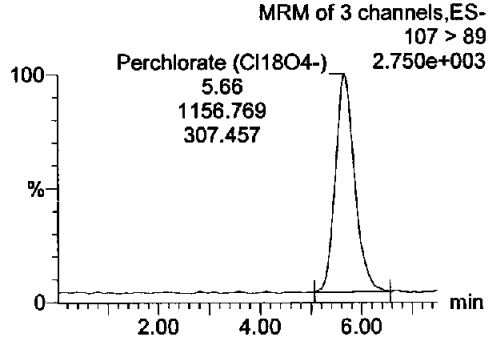
Perchlorate



Perchlorate



Perchlorate (Cl18O4-)



	#	Name	Sample Text	ID	Std. Conc	RT	Area	IS Area	Response	Detection Flags	ug/L	%Rec	Trace
1	1...	Perchlorate	F7J170000-361B	J85521AA	0.000			1156.769		MM-			99 > 83
2	2...	Perchlorate (Cl18O4-)	F7J170000-361B	J85521AA	0.000	5.660	1156.769		1156.769	bb	9.588	95.880	107 > 89

	Sec.Trace	S/N	Height/Area	Acq.Date	Acq.Time	Initial Wt./Volume (g/mL)	Final Volume (mL)	Dilution Fac...	Ion Ratio	Ion Ratio (pred.)
1	101>85			17-Oct-07	16:45:13	10.000	10.000	1.000	0.000	3.080
2		307.457	2.273	17-Oct-07	16:45:13	1.000	1.000	1.000		

1. Peak Not Found
2. Incomplete Integration
3. Assign Peak
4. Wrong Peak
5. Baseline Smoothing
6. Split Peak
7. Other _____

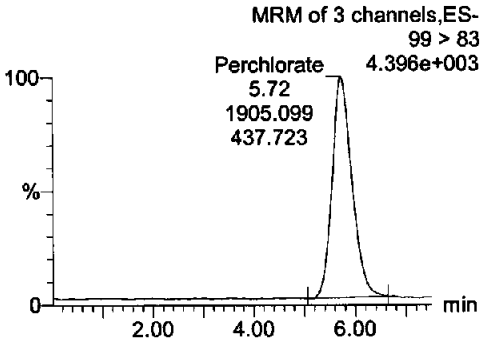
WH 10/17/07

LO#: 160279
281 of 422
TestAmerica St. Louis

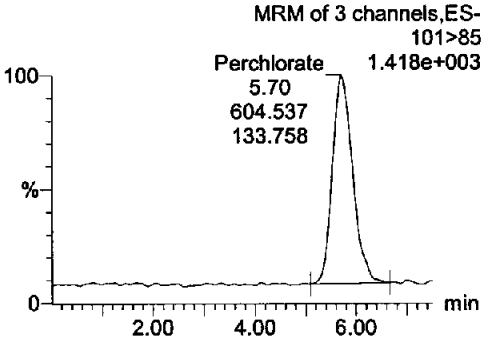
Quantify Sample Report **MassLynx 4.1**
Test America, INC. St. Louis
Dataset: C:\MassLynx\Perchlorates.PRO\DataSetSaved\R101707SW\101707WSMP1_per.qld
Last Altered: Wednesday, October 17, 2007 18:10:01 Central Daylight Time
Printed: Wednesday, October 17, 2007 18:10:20 Central Daylight Time

Name: P1017746
Date: 17-Oct-2007
Time: 16:53:52
ID: J85521AC
Description: F7J170000-361C
User: BH/WH
Vial: 2:26
Instrument: LCMSMSR

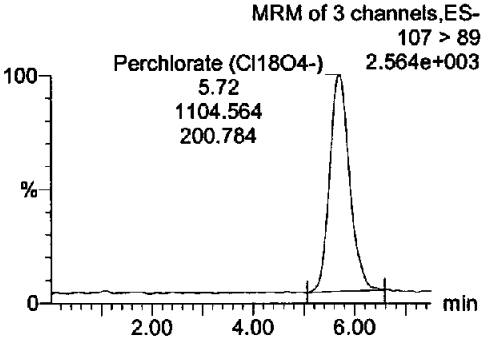
Perchlorate



Perchlorate



Perchlorate (Cl18O4-)



	#	Name	Sample Text	ID	Std. Conc	RT	Area	IS Area	Response	Detection Flags	ug/L	%Rec	Trace
1	1...	Perchlorate	F7J170000-361C	J85521AC	10.000	5.721	1905.099	1104.564	22.721	bb	9.769	97.690 ✓	99 > 83
2	2...	Perchlorate (Cl18O4-)	F7J170000-361C	J85521AC	10.000	5.721	1104.564		1104.564	bb	9.155	91.553	107 > 89

	Sec.Trace	S/N	Height/Area	Acq.Date	Acq.Time	Initial Wt./Volume (g/mL)	Final Volume (mL)	Dilution Fac...	Ion Ratio	Ion Ratio (pred.)
1	101>85	437.723	2.239	17-Oct-07	16:53:52	10.000 ✓	10.000	1.000	3.151 ✓	3.080
2		200.784	2.205	17-Oct-07	16:53:52	1.000	1.000	1.000		

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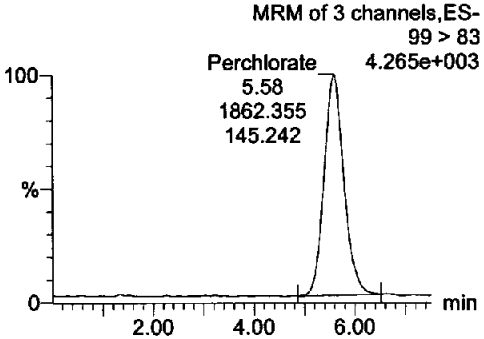
TestAmerica St. Louis

Quantify Sample Report **MassLynx 4.1**

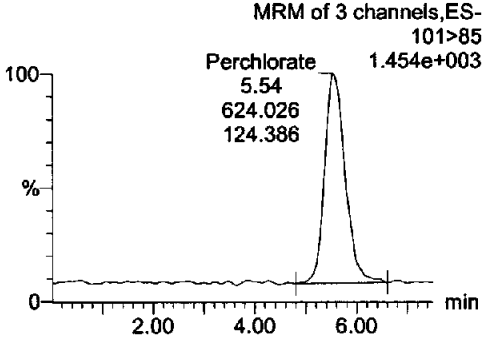
Test America, INC. St. Louis
Dataset: C:\MassLynx\Perchlorates.PRO\DataSetSaved\R101707SW\101707WSMP1_per.qld
Last Altered: Wednesday, October 17, 2007 18:10:01 Central Daylight Time
Printed: Wednesday, October 17, 2007 18:10:20 Central Daylight Time

Name: P1017748
Date: 17-Oct-2007
Time: 17:11:08
ID: J836J1AE
Description: F7J160279-035S
User: BH/WH
Vial: 2:28
Instrument: LCMSMSR

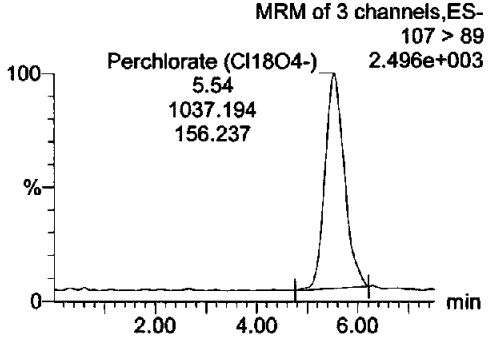
Perchlorate



Perchlorate



Perchlorate (Cl18O4-)



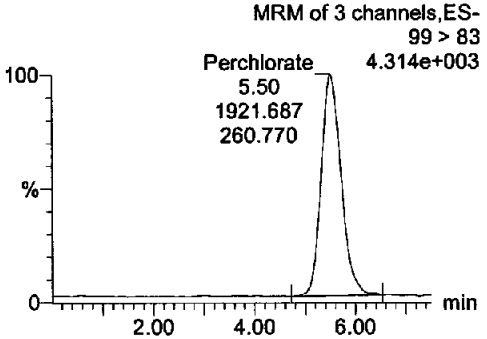
	#	Name	Sample Text	ID	Std. Conc	RT	Area	IS Area	Response	Detection Flags	ug/L	%Rec	Trace
1	1...	Perchlorate	F7J160279-035S	J836J1AE	10.000	5.578	1862.355	1037.194	23.972	bb	10.305	103.045	99 > 83
2	2...	Perchlorate (Cl18O4-)	F7J160279-035S	J836J1AE	10.000	5.537	1037.194		1037.194	bb	8.597	85.969	107 > 89

	Sec.Trace	S/N	Height/Area	Acq.Date	Acq.Time	Initial Wt./Volume (g/mL)	Final Volume (mL)	Dilution Fac...	Ion Ratio	Ion Ratio (pred.)
1	101>85	145.242	2.217	17-Oct-07	17:11:08	10.000	10.000	1.000	2.984	3.080
2		156.237	2.272	17-Oct-07	17:11:08	1.000	1.000	1.000		

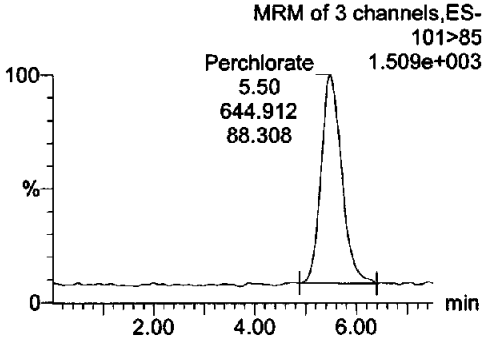
Quantify Sample Report **MassLynx 4.1**
Test America, INC. St. Louis
Dataset: C:\MassLynx\Perchlorates.PRO\DataSetSaved\R101707SW\101707WSMP1_per.qld
Last Altered: Wednesday, October 17, 2007 18:10:01 Central Daylight Time
Printed: Wednesday, October 17, 2007 18:10:20 Central Daylight Time

Name: P1017749
Date: 17-Oct-2007
Time: 17:19:46
ID: J836J1AF
Description: F7J160279-035D
User: BH/WH
Vial: 2:29
Instrument: LCMSMSR

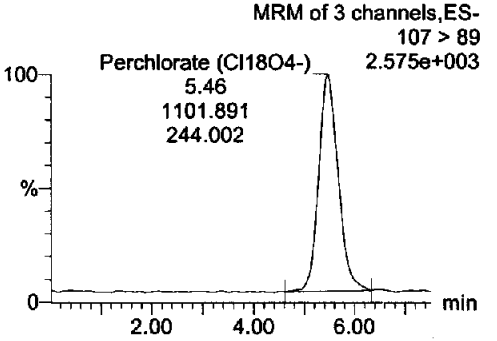
Perchlorate



Perchlorate



Perchlorate (Cl18O4-)



	#	Name	Sample Text	ID	Std. Conc	RT	Area	IS Area	Response	Detection Flags	ug/L	%Rec	Trace
1	1...	Perchlorate	F7J160279-035D	J836J1AF	10.000	5.497	1921.687	1101.891	23.293	bb	10.014	100.138	99 > 83
2	2...	Perchlorate (Cl18O4-)	F7J160279-035D	J836J1AF	10.000	5.456	1101.891		1101.891	bb	9.133	91.331	107 > 89

	Sec.Trace	S/N	Height/Area	Acq.Date	Acq.Time	Initial Wt./Volume (g/mL)	Final Volume (mL)	Dilution Fac...	Ion Ratio	Ion Ratio (pred.)
1	101>85	260.770	2.179	17-Oct-07	17:19:46	10.000	10.000	1.000	2.980	3.080
2		244.002	2.223	17-Oct-07	17:19:46	1.000	1.000	1.000		

LOG# 160279
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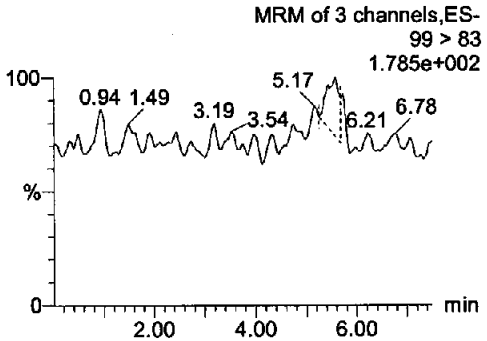
TestAmerica St. Louis

Quantify Sample Report **MassLynx 4.1**
Test America, INC. St. Louis
Dataset: C:\MassLynx\Perchlorates.PRO\DataSetSaved\R101707SW\101707WSMP1_per.qld
Last Altered: Wednesday, October 17, 2007 18:10:01 Central Daylight Time
Printed: Wednesday, October 17, 2007 18:10:20 Central Daylight Time

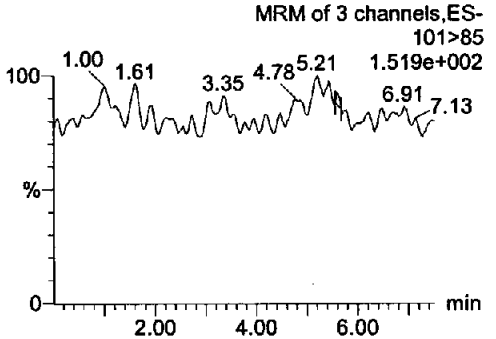
LOT# F7J160279

Name: P1017750
Date: 17-Oct-2007
Time: 17:28:24
ID: J836J1AG
Description: F7J160279-035X
User: BH/WH
Vial: 2:30
Instrument: LCMSMSR

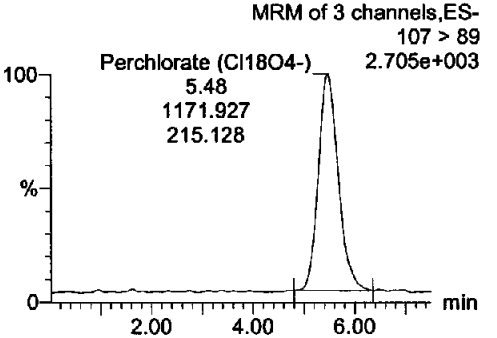
Perchlorate



Perchlorate



Perchlorate (Cl18O4-)



	#	Name	Sample Text	ID	Std. Conc	RT	Area	IS Area	Response	Detection Flags	ug/L	%Rec	Trace
1	1...	Perchlorate	F7J160279-035X	J836J1AG				1171.927		MM-			99 > 83
2	2...	Perchlorate (Cl18O4-)	F7J160279-035X	J836J1AG		5.476	1171.927		1171.927	bb	9.714	97.136	107 > 89

	Sec.Trace	S/N	Height/Area	Acq.Date	Acq.Time	Initial Wt./Volume (g/mL)	Final Volume (mL)	Dilution Fac...	Ion Ratio	Ion Ratio (pred.)
1	101>85			17-Oct-07	17:28:24	10.000	10.000	1.000	0.000	3.080
2		215.128	2.194	17-Oct-07	17:28:24	1.000	1.000	1.000		

1. Peak Not Found
2. Incomplete Integration
3. Assign Peak
4. Wrong Peak
5. Baseline Smoothing
6. Split Peak
7. Other S/N<5, Ratio out

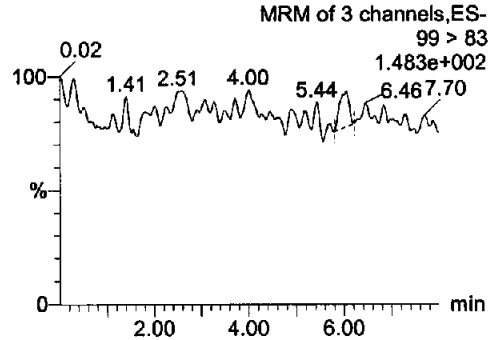
JH 10/17/07

TestAmerica St. Louis

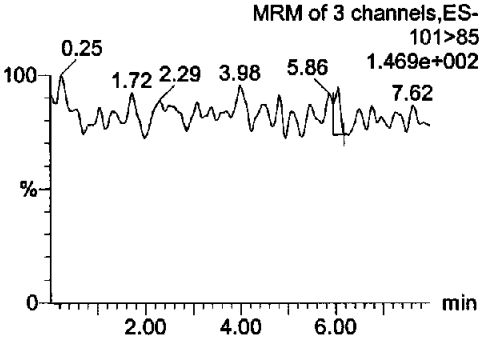
Quantify Sample Report **MassLynx 4.1**
Test America, INC. St. Louis
Dataset: C:\MassLynx\Perchlorates.PRO\DataSetSaved\New Folder\101707SSMP1_per.qld
Last Altered: Wednesday, October 17, 2007 15:06:16 Central Daylight Time
Printed: Wednesday, October 17, 2007 15:07:27 Central Daylight Time

Name: P1017719
Date: 17-Oct-2007
Time: 12:53:54
ID: J846L1AA
Description: F7J170000-155B
User: BH/WH
Vial: 2:2
Instrument: LCMSMSR

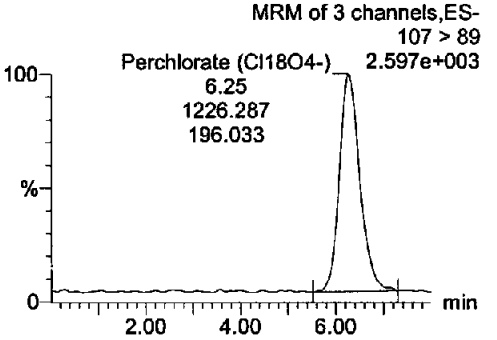
Perchlorate



Perchlorate



Perchlorate (Cl18O4-)



	#	Name	Sample Text	ID	Std. Conc	RT	Area	IS Area	Response	Detection Flags	ug/Kg	%Rec	Trace
1	1...	Perchlorate	F7J170000-155B	J846L1AA	0.000			1226.287		MM-			99 > 83
2	2...	Perchlorate (Cl18O4-)	F7J170000-155B	J846L1AA	0.000	6.253	1226.287		1226.287	bb	10.164	101.642	107 > 89

	Sec.Trace	S/N	Height/Area	Acq.Date	Acq.Time	Initial Wt./Volume (g/mL)	Final Volume (mL)	Dilution Fac...	Ion Ratio	Ion Ratio (pred.)
1	101>85			17-Oct-07	12:53:54	2.000	20.000	1.000	0.000	3.080
2		196.033	2.021	17-Oct-07	12:53:54	1.000	1.000	1.000		

1. Peak Not Found
2. Incomplete Integration
3. Assign Peak
4. Wrong Peak
5. Baseline Smoothing
6. Split Peak
7. Other _____

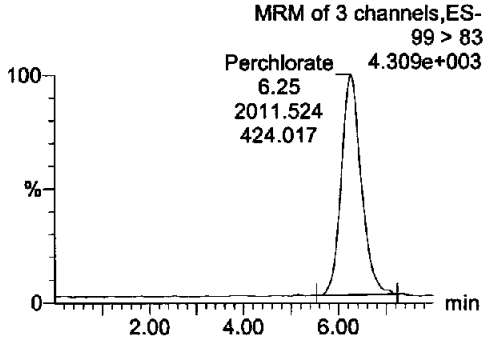
WH 10/17/07

LOT# 760279
286 of 420
TestAmerica St. Louis

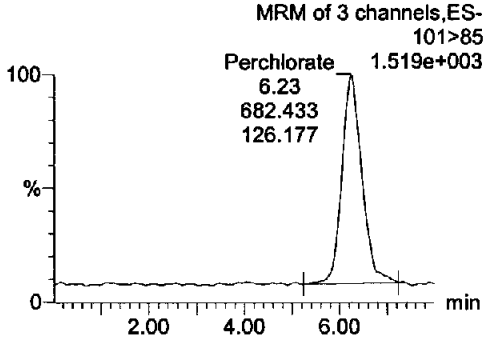
Quantify Sample Report **MassLynx 4.1**
Test America, INC. St. Louis
Dataset: C:\MassLynx\Perchlorates.PRO\DataSetSaved\New Folder\101707SSMP1_per.qld
Last Altered: Wednesday, October 17, 2007 15:06:16 Central Daylight Time
Printed: Wednesday, October 17, 2007 15:07:27 Central Daylight Time

Name: P1017720
Date: 17-Oct-2007
Time: 13:02:53
ID: J846L1AC
Description: F7J170000-155C
User: BH/WH
Vial: 2:3
Instrument: LCMSMSR

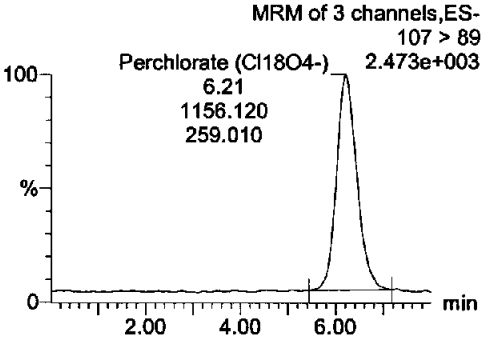
Perchlorate



Perchlorate



Perchlorate (Cl18O4-)



	#	Name	Sample Text	ID	Std. Conc	RT	Area	IS Area	Response	Detection Flags	ug/Kg	%Rec	Trace
1	1...	Perchlorate	F7J170000-155C	J846L1AC	10.000	6.253	2011.524	1156.120	23.302	bb	100.262	100.262	99 > 83
2	2...	Perchlorate (Cl18O4-)	F7J170000-155C	J846L1AC	10.000	6.212	1156.120		1156.120	bb	9.583	95.826	107 > 89

	Sec.Trace	S/N	Height/Area	Acq.Date	Acq.Time	Initial Wt./Volume (g/mL)	Final Volume (mL)	Dilution Fac...	Ion Ratio	Ion Ratio (pred.)
1	101>85	424.017	2.071	17-Oct-07	13:02:53	2.000	20.000	1.000	2.948	3.080
2		259.010	2.025	17-Oct-07	13:02:53	1.000	1.000	1.000		

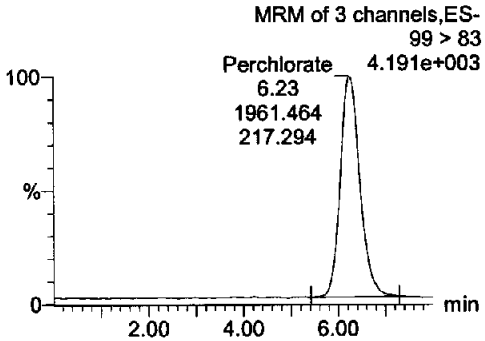
LOT 7J160270
287 of 423
TestAmerica St. Louis

Quantify Sample Report **MassLynx 4.1**

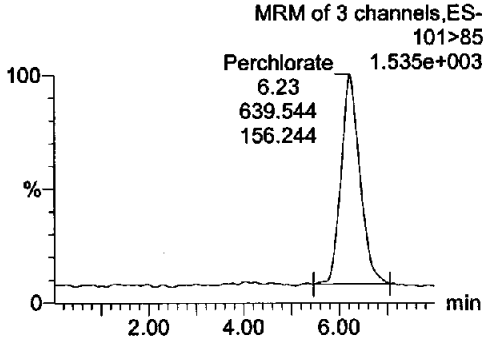
Test America, INC. St. Louis
Dataset: C:\MassLynx\Perchlorates.PRO\DataSetSaved\New Folder\101707SSMP1_per.qld
Last Altered: Wednesday, October 17, 2007 15:06:16 Central Daylight Time
Printed: Wednesday, October 17, 2007 15:07:27 Central Daylight Time

Name: P1017722
Date: 17-Oct-2007
Time: 13:20:58
ID: J835Q1AE
Description: F7J160279-021S
User: BH/WH
Vial: 2:5
Instrument: LCMSMSR

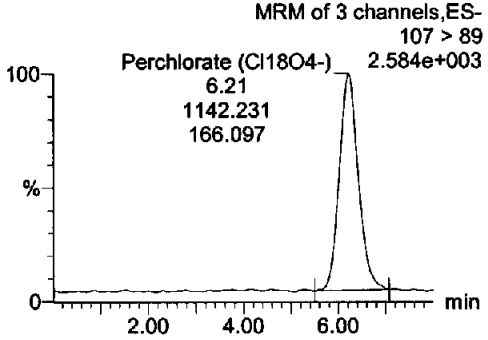
Perchlorate



Perchlorate



Perchlorate (Cl18O4-)



	#	Name	Sample Text	ID	Std. Conc	RT	Area	IS Area	Response	Detection Flags	ug/Kg	%Rec	Trace
1	1...	Perchlorate	F7J160279-021S	J835Q1AE	10.000	6.232	1961.464	1142.231	22.771	bb	92.361	97.995	99 > 83
2	2...	Perchlorate (Cl18O4-)	F7J160279-021S	J835Q1AE	10.000	6.212	1142.231		1142.231	bb	9.467	94.675	107 > 89

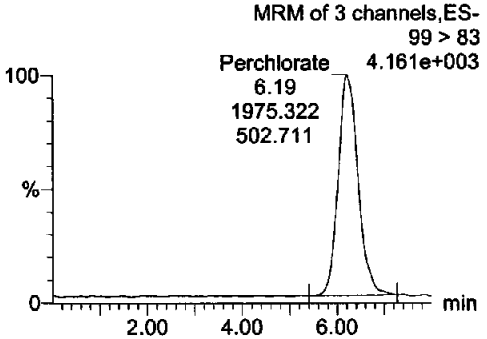
	Sec.Trace	S/N	Height/Area	Acq.Date	Acq.Time	Initial Wt./Volume (g/mL)	Final Volume (mL)	Dilution Fac...	Ion Ratio	Ion Ratio (pred.)
1	101>85	217.294	2.070	17-Oct-07	13:20:58	2.122	20.000	1.000	3.067	3.080
2		166.097	2.152	17-Oct-07	13:20:58	1.000	1.000	1.000		

True spk 94.2507

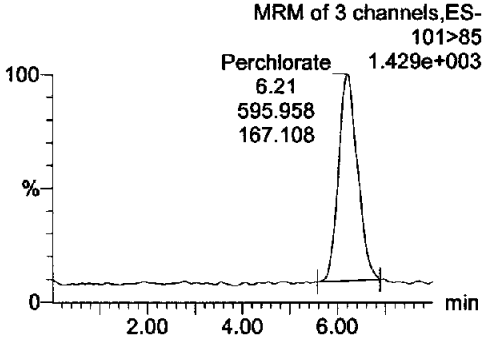
Quantify Sample Report **MassLynx 4.1**
Test America, INC. St. Louis
Dataset: C:\MassLynx\Perchlorates.PRO\DataSetSaved\New Folder\101707SSMP1_per.qld
Last Altered: Wednesday, October 17, 2007 15:06:16 Central Daylight Time
Printed: Wednesday, October 17, 2007 15:07:27 Central Daylight Time

Name: P1017723
Date: 17-Oct-2007
Time: 13:29:59
ID: J835Q1AF
Description: F7J160279-021D
User: BH/WH
Vial: 2:6
Instrument: LCMSMSR

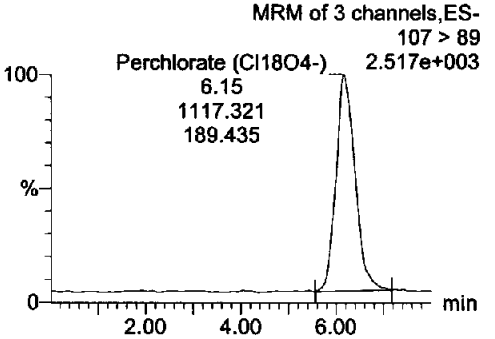
Perchlorate



Perchlorate



Perchlorate (Cl18O4-)



	#	Name	Sample Text	ID	Std. Conc	RT	Area	IS Area	Response	Detection Flags	ug/Kg	%Rec	Trace
1	1...	Perchlorate	F7J160279-021D	J835Q1AF	10.000	6.191	1975.322	1117.321	23.013	bb	90.107	99.027	99 > 83
2	2...	Perchlorate (Cl18O4-)	F7J160279-021D	J835Q1AF	10.000	6.150	1117.321		1117.321	bb	9.261	92.610	107 > 89

	Sec.Trace	S/N	Height/Area	Acq.Date	Acq.Time	Initial Wt./Volume (g/mL)	Final Volume (mL)	Dilution Fac...	Ion Ratio	Ion Ratio (pred.)
1	101>85	502.711	2.041	17-Oct-07	13:29:59	2.198	20.000	1.000	3.315	3.080
2		189.435	2.141	17-Oct-07	13:29:59	1.000	1.000	1.000		

True spk 90.9918

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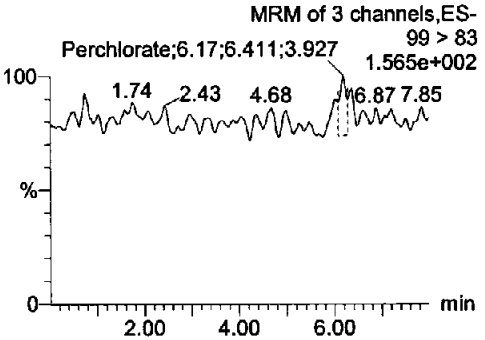
TestAmerica St. Louis

Quantify Sample Report **MassLynx 4.1**
Test America, INC. St. Louis
Dataset: C:\MassLynx\Perchlorates.PRO\DataSetSaved\New Folder\101707SSMP1_per.qld
Last Altered: Wednesday, October 17, 2007 15:06:16 Central Daylight Time
Printed: Wednesday, October 17, 2007 15:07:27 Central Daylight Time

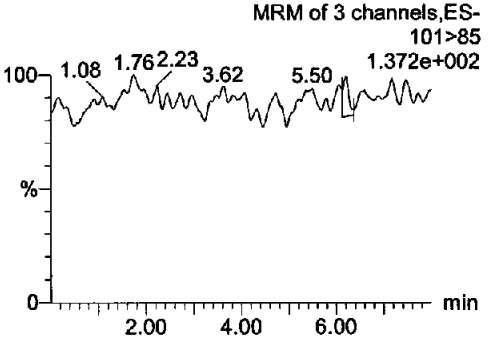
LOG#: 160279

Name: P1017724
Date: 17-Oct-2007
Time: 13:39:01
ID: J835Q1AG
Description: F7J160279-021X
User: BH/WH
Vial: 2:7
Instrument: LCMSMSR

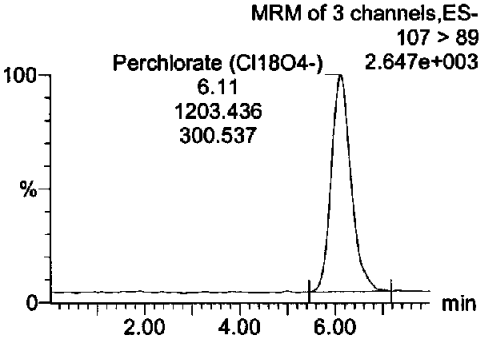
Perchlorate



Perchlorate



Perchlorate (Cl18O4-)



	#	Name	Sample Text	ID	Std. Conc	RT	Area	IS Area	Response	Detection Flags	ug/Kg	%Rec	Trace
1	1...	Perchlorate	F7J160279-021X	J835Q1AG				1203.436		MM-			99 > 83
2	2...	Perchlorate (Cl18O4-)	F7J160279-021X	J835Q1AG		6.110	1203.436		1203.436	bb	9.975	99.748	107 > 89

	Sec.Trace	S/N	Height/Area	Acq.Date	Acq.Time	Initial Wt./Volume (g/mL)	Final Volume (mL)	Dilution Fac...	Ion Ratio	Ion Ratio (pred.)
1	101>85			17-Oct-07	13:39:01	2.126	20.000	1.000	0.000	3.080
2		300.537	2.096	17-Oct-07	13:39:01	1.000	1.000	1.000		

1. Peak Not Found
2. Incomplete Integration
3. Assign Peak
4. Wrong Peak
5. Baseline Smoothing
6. Split Peak
7. Other _____

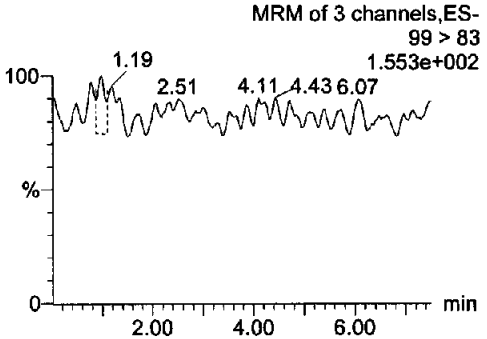
WH 10/17/07

TestAmerica St. Louis

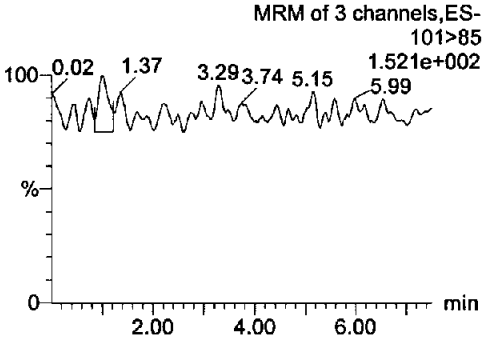
Quantify Sample Report **MassLynx 4.1**
Test America, INC. St. Louis
Dataset: C:\MassLynx\Perchlorates.PRO\DataSetSaved\R101707SW\101707SSMP3_per.qld
Last Altered: Thursday, October 18, 2007 08:35:20 Central Daylight Time
Printed: Thursday, October 18, 2007 08:36:18 Central Daylight Time

Name: P1017758
Date: 17-Oct-2007
Time: 18:37:20
ID: J844V1AA
Description: F7J170000-152B
User: BH/WH
Vial: 1:13
Instrument: LCMSMSR

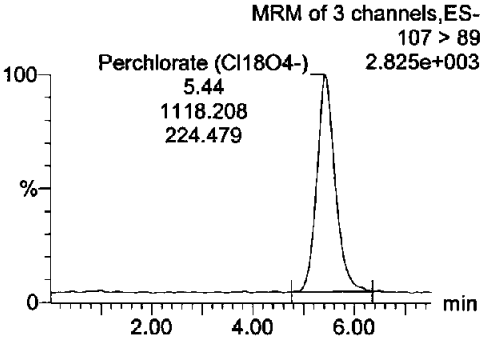
Perchlorate



Perchlorate



Perchlorate (Cl18O4-)



	#	Name	Sample Text	ID	Std. Conc	RT	Area	IS Area	Response	Detection Flags	ug/Kg	%Rec	Trace
1	1...	Perchlorate	F7J170000-152B	J844V1AA	0.000			1118.208		MM-			99 > 83
2	2...	Perchlorate (Cl18O4-)	F7J170000-152B	J844V1AA	0.000	5.435	1118.208		1118.208	bb	9.268	92.684	107 > 89

	Sec.Trace	S/N	Height/Area	Acq.Date	Acq.Time	Initial Wt./Volume (g/mL)	Final Volume (mL)	Dilution Fac...	Ion Ratio	Ion Ratio (pred.)
1	101>85			17-Oct-07	18:37:20	2.000	20.000	1.000	0.000	3.080
2		224.479	2.406	17-Oct-07	18:37:20	1.000	1.000	1.000		

1. Peak Not Found
2. Incomplete Integration
3. Assign Peak
4. Wrong Peak
5. Baseline Smoothing
6. Split Peak
7. Other _____

WH 10/18/07

LOG 7016027
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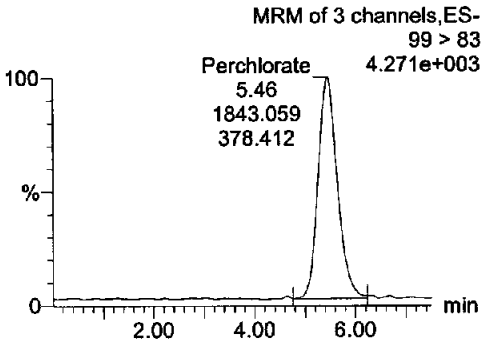
TestAmerica St. Louis

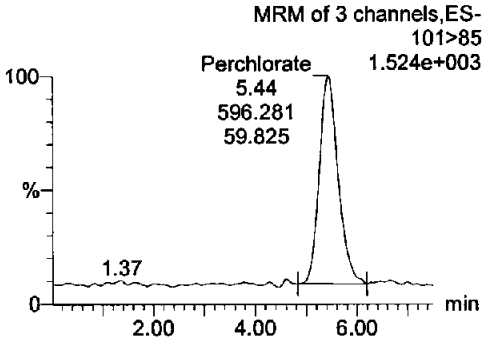
Quantify Sample Report **MassLynx 4.1**
Test America, INC. St. Louis
Dataset: C:\MassLynx\Perchlorates.PRO\DataSetSaved\R101707SW\101707SSMP3_per.qld
Last Altered: Thursday, October 18, 2007 08:35:20 Central Daylight Time
Printed: Thursday, October 18, 2007 08:36:18 Central Daylight Time

Name: P1017759
Date: 17-Oct-2007
Time: 18:45:58
ID: J844V1AC
Description: F7J170000-152C
User: BH/WH
Vial: 1:14
Instrument: LCMSMSR

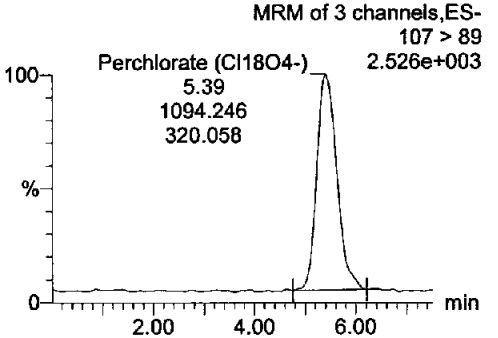
Perchlorate



Perchlorate



Perchlorate (Cl18O4-)



	#	Name	Sample Text	ID	Std. Conc	RT	Area	IS Area	Response	Detection Flags	ug/Kg	%Rec	Trace
1	1...	Perchlorate	F7J170000-152C	J844V1AC	10.000	5.456	1843.059	1094.246	22.292	dd	95.949	95.949	99 > 83
2	2...	Perchlorate (Cl18O4-)	F7J170000-152C	J844V1AC	10.000	5.394	1094.246		1094.246	bb	9.070	90.698	107 > 89

	Sec.Trace	S/N	Height/Area	Acq.Date	Acq.Time	Initial Wt./Volume (g/mL)	Final Volume (mL)	Dilution Fac...	Ion Ratio	Ion Ratio (pred.)
1	101>85	378.412	2.252	17-Oct-07	18:45:58	2.000	20.000	1.000	3.091	3.080
2		320.058	2.187	17-Oct-07	18:45:58	1.000	1.000	1.000		

LOT#160279
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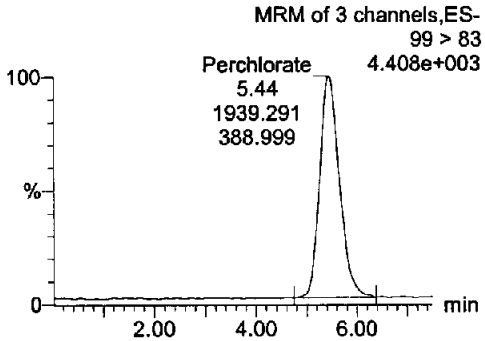
TestAmerica St. Louis

Quantify Sample Report **MassLynx 4.1**
Test America, INC. St. Louis
Dataset: C:\MassLynx\Perchlorates.PRO\DataSetSaved\R101707SW\101707SSMP3_per.qld
Last Altered: Thursday, October 18, 2007 08:35:20 Central Daylight Time
Printed: Thursday, October 18, 2007 08:36:18 Central Daylight Time

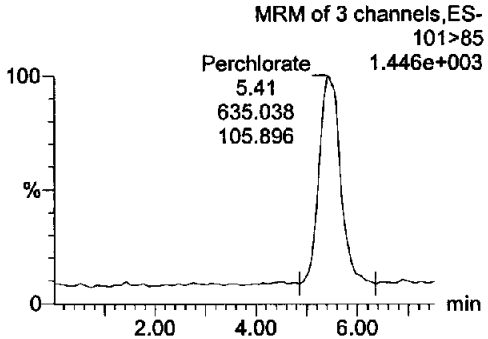
LOT# F7J160279

Name: P1017761
Date: 17-Oct-2007
Time: 19:03:05
ID: J83XG1AE
Description: F7J160279-001S
User: BH/WH
Vial: 1:16
Instrument: LCMSMSR

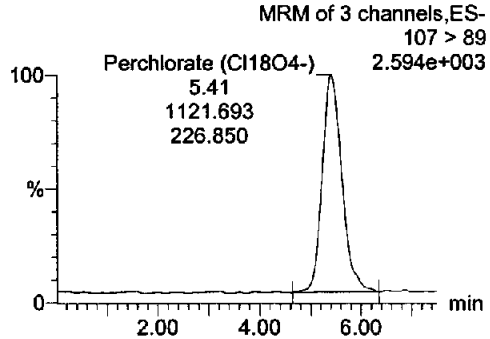
Perchlorate



Perchlorate



Perchlorate (Cl18O4-)



	#	Name	Sample Text	ID	Std. Conc	RT	Area	IS Area	Response	Detection Flags	ug/Kg	%Rec	Trace
1	1...	Perchlorate	F7J160279-001S	J83XG1AE	10.000	5.435	1939.291	1121.693	22.950	bb	94.013	98.760	99 > 83
2	2...	Perchlorate (Cl18O4-)	F7J160279-001S	J83XG1AE	10.000	5.415	1121.693		1121.693	bb	9.297	92.973	107 > 89

	Sec.Trace	S/N	Height/Area	Acq.Date	Acq.Time	Initial Wt./Volume (g/mL)	Final Volume (mL)	Dilution Fac...	Ion Ratio	Ion Ratio (pred.)
1	101>85	388.999	2.205	17-Oct-07	19:03:05	2.101	20.000	1.000	3.054	3.080
2		226.850	2.204	17-Oct-07	19:03:05	1.000	1.000	1.000		

true spk 95.1928

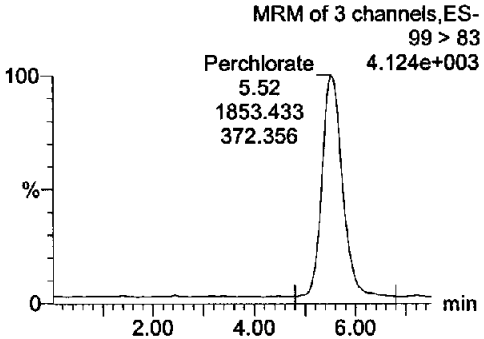
TestAmerica St. Louis

Quantify Sample Report **MassLynx 4.1**
Test America, INC. St. Louis
Dataset: C:\MassLynx\Perchlorates.PRO\DataSetSaved\R101707SW\101707SSMP3_per.qld
Last Altered: Thursday, October 18, 2007 08:35:20 Central Daylight Time
Printed: Thursday, October 18, 2007 08:36:18 Central Daylight Time

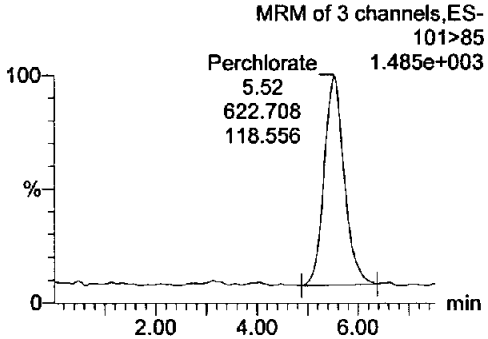
LOT# F7J160279

Name: P1017762
Date: 17-Oct-2007
Time: 19:11:43
ID: J83XG1AF
Description: F7J160279-001D
User: BH/WH
Vial: 1:17
Instrument: LCMSMSR

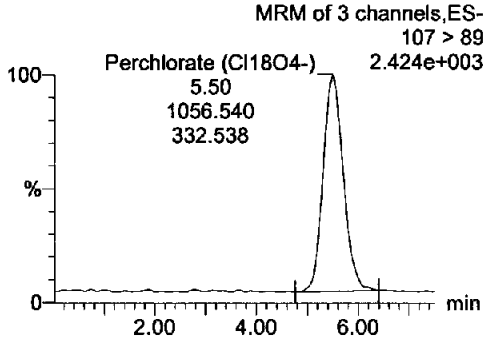
Perchlorate



Perchlorate



Perchlorate (Cl18O4-)



	#	Name	Sample Text	ID	Std. Conc	RT	Area	IS Area	Response	Detection Flags	ug/Kg	%Rec	Trace
1	1...	Perchlorate	F7J160279-001D	J83XG1AF	10.000	5.517	1853.433	1056.540	23.436	bb	92.852	100.837	99 > 83
2	2...	Perchlorate (Cl18O4-)	F7J160279-001D	J83XG1AF	10.000	5.497	1056.540		1056.540	bb	8.757	87.572	107 > 89

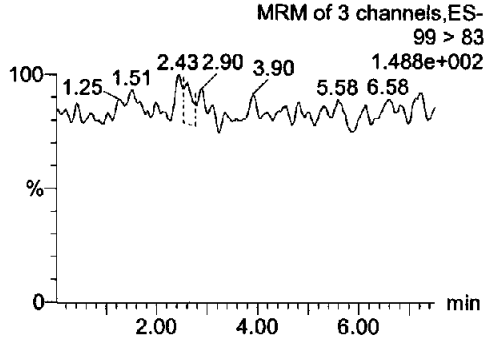
	Sec.Trace	S/N	Height/Area	Acq.Date	Acq.Time	Initial Wt./Volume (g/mL)	Final Volume (mL)	Dilution Fac...	Ion Ratio	Ion Ratio (pred.)
1	101>85	372.356	2.160	17-Oct-07	19:11:43	2.172	20.000	1.000	2.976	3.080
2		332.538	2.181	17-Oct-07	19:11:43	1.000	1.000	1.000		

True spk 92.0810

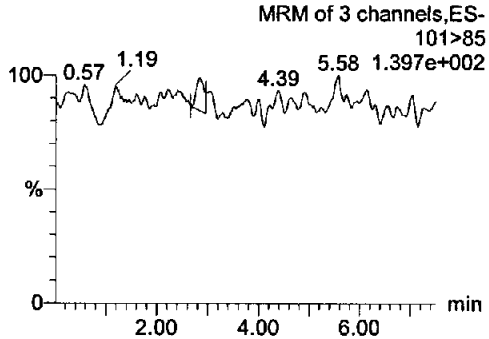
Quantify Sample Report **MassLynx 4.1**
Test America, INC. St. Louis
Dataset: C:\MassLynx\Perchlorates.PRO\DataSetSaved\R101707SW\101707SSMP3_per.qld
Last Altered: Thursday, October 18, 2007 08:35:20 Central Daylight Time
Printed: Thursday, October 18, 2007 08:36:18 Central Daylight Time

Name: P1017763
Date: 17-Oct-2007
Time: 19:20:20
ID: J83XG1AG
Description: F7J160279-001X
User: BH/WH
Vial: 1:18
Instrument: LCMSMSR

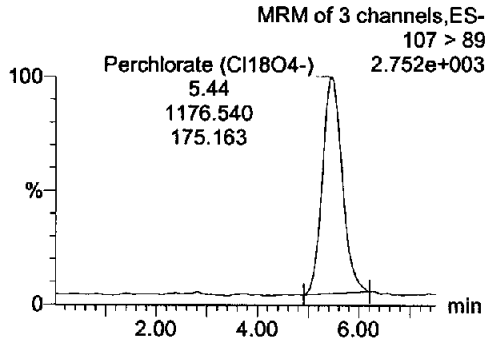
Perchlorate



Perchlorate



Perchlorate (Cl18O4-)



	#	Name	Sample Text	ID	Std. Conc	RT	Area	IS Area	Response	Detection Flags	ug/Kg	%Rec	Trace
1	1...	Perchlorate	F7J160279-001X	J83XG1AG				1176.540		MM-			99 > 83
2	2...	Perchlorate (Cl18O4-)	F7J160279-001X	J83XG1AG		5.435	1176.540		1176.540	bb	9.752	97.519	107 > 89

	Sec.Trace	S/N	Height/Area	Acq.Date	Acq.Time	Initial Wt./Volume (g/mL)	Final Volume (mL)	Dilution Fac...	Ion Ratio	Ion Ratio (pred.)
1	101>85			17-Oct-07	19:20:20	2.140	20.000	1.000	0.000	3.080
2		175.163	2.224	17-Oct-07	19:20:20	1.000	1.000	1.000		

1. Peak Not Found
2. Incomplete Integration
3. Assign Peak
4. Wrong Peak
5. Baseline Smoothing
6. Split Peak
7. Other _____

WH 10/18/07

LOG# 7160279
295 of 420
TestAmerica St. Louis

Extraction Log (s)
Run Log (s)

RQC058

Severn Trent Laboratories, Inc.
EXTRACTION BENCH WORKSHEET

Run Date: 10/17/07
Time: 12:27:54

LEV 1	LEV 2		LEV 1	LEV 2	
_	_	Blank	_	_	Weights/Volumes
_	_	Check	_	_	Spike & Surrogate Worksheet
_	_	MS/MSD	_	_	Vial contains correct volume
			_	_	Labels, greenbars, worksheets
			_	_	computer batch: correct & all match
			_	_	Anomalies to Extraction Method

_ Expanded Deliverable
_ COC Completed
_ Bench Sheet Copied
_ Package Submitted to AnalyticalGroup
_ Bench Sheet Copied per COC

Extractionist: _____

Concentrationist: _____

Reviewer/Date: _____ / 0/00/00

QC BATCH: 7290361

PREP DATE: 10/17/07
COMP DATE: 10/17/07

6850, Perchlorate by LC/MS/MS
NO SAMPLE PREPARATION PERFORMED / DIRECT INJECTION

EXTR EXPR	ANL DUE	LOT#,MSRUN#/ WORK ORDER	TEST FLGS	EXT	MTH	MATRIX	INIT/FIN WT/VOL	INIT	PH"S ADJ1	ADJ2	SOLVENTS EXTRACTION	VOL	EXCHANGE	VOL	SPIKE STANDARD/ SURROGATE ID
0/00/00	10/18/07	F7J160279-035 **J836J-1-AC**	7290245 DR	88	9B	WATER	10 1mL 10.00mL	NA	NA	NA		.0		.0	
COMMENTS:															
0/00/00	10/18/07	F7J160279-035 **J836J-1-AES**	7290245 DR	88	9B	WATER	10 1mL 10.00mL	NA	NA	NA		.0		.0	
COMMENTS:															
0/00/00	10/18/07	F7J160279-035 **J836J-1-AFD**	7290245 DR	88	9B	WATER	10 1mL 10.00mL	NA	NA	NA		.0		.0	
COMMENTS:															
0/00/00	10/18/07	F7J160279-035 **J836J-1-AGX**	7290245 DR	88	9B	WATER	10 1mL 10.00mL	NA	NA	NA		.0		.0	
COMMENTS:															
0/00/00	10/18/07	F7J160279-036 **J836M-1-AC**	7290245 DR	88	9B	WATER	10 1mL 10.00mL	NA	NA	NA		.0		.0	
COMMENTS:															
0/00/00	10/18/07	F7J160279-038 **J836W-1-AC**	7290245 DR	88	9B	WATER	10 1mL 10.00mL	NA	NA	NA		.0		.0	
COMMENTS:															
0/00/00	0/00/00	F7J170000-361 **J8552-1-AAB**		88	9B	WATER	10 1mL 10.00mL	NA	NA	NA		.0		.0	
COMMENTS:															

All corrections made by BA 10/17/07

TestAmerica St. Louis

RQC058

Severn Trent Laboratories, Inc.
EXTRACTION BENCH WORKSHEET

Run Date: 10/17/07
Time: 12:27:54

QC BATCH: 7290361

PREP DATE: 10/17/07
COMP DATE: 10/17/07

EXTR EXPR	ANL DUE	LOT#,MSRUN#/ WORK ORDER	TEST FLGS	EXT	MTH	MATRIX	INIT/FIN WT/VOL	INIT	PH"S ADJ1	ADJ2	SOLVENTS EXTRACTION	VOL	EXCHANGE	VOL	SPIKE STANDARD/ SURROGATE ID
0/00/00	0/00/00	F7J170000-361 **J8552-1-ACC**		88	9B	WATER	**1mL** 10.00mL	NA	NA	NA		.0		.0	

COMMENTS:

R = RUSH C = CLP
E = EPA 600 D = EXP.DEL)
M = CLIENT REQ MS/MSD

NUMBER OF WORK ORDERS IN BATCH: 8

TestAmerica St. Louis

RQC058

Severn Trent Laboratories, Inc.
EXTRACTION BENCH WORKSHEET

Run Date: 10/17/07
Time: 10:09:15

LEV 1	LEV 2		LEV 1	LEV 2	
_	_	Blank	_	_	Weights/Volumes
_	_	Check	_	_	Spike & Surrogate Worksheet
_	_	MS/MSD	_	_	Vial contains correct volume
			_	_	Labels, greenbars, worksheets
					computer batch: correct & all match
			_	_	Anomalies to Extraction Method

_ Expanded Deliverable
_ COC Completed
_ Bench Sheet Copied
_ Package Submitted to AnalyticalGroup
_ Bench Sheet Copied per COC

Extractionist: _____

Concentrationist: _____

QC BATCH: 7290152

PREP DATE: 10/17/07
COMP DATE: 10/17/07

Reviewer/Date: _____ / 0/00/00

6850, Perchlorate by LC/MS/MS
LEACHATE, DI (Routine)

EXTR EXPR	ANL DUE	LOT#,MSRUN#/ WORK ORDER	TEST FLGS	EXT	MTH	MATRIX	INIT/FIN WT/VOL	INIT	PH"S ADJI	ADJ2	SOLVENTS EXTRACTION	VOL	EXCHANGE	VOL	SPIKE STANDARD/ SURROGATE ID
11/11/07	10/22/07	F7J160279-001 **J83XG-1-AD**	7290118 DR	82	9B	SOLID	**2.114g** 20.00mL	NA	NA	NA		.0		.0	
COMMENTS:															
11/11/07	10/22/07	F7J160279-001 **J83XG-1-AES**	7290118 DR	82	9B	SOLID	**2.101g** 20.00mL	NA	NA	NA		.0		.0	
COMMENTS:															
11/11/07	10/22/07	F7J160279-001 **J83XG-1-AFD**	7290118 DR	82	9B	SOLID	**2.172g** 20.00mL	NA	NA	NA		.0		.0	
COMMENTS:															
11/11/07	10/22/07	F7J160279-001 **J83XG-1-AGX**	7290118 DR	82	9B	SOLID	**2.14g** 20.00mL	NA	NA	NA		.0		.0	
COMMENTS:															
11/11/07	10/22/07	F7J160279-002 **J8337-1-AD**	7290118 DR	82	9B	SOLID	**2.356g** 20.00mL	NA	NA	NA		.0		.0	
COMMENTS:															
11/11/07	10/22/07	F7J160279-003 **J834C-1-AD**	7290118 DR	82	9B	SOLID	**2.217g** 20.00mL	NA	NA	NA		.0		.0	
COMMENTS:															
11/11/07	10/22/07	F7J160279-004 **J834F-1-AD**	7290118 DR	82	9B	SOLID	**2.564g** 20.00mL	NA	NA	NA		.0		.0	
COMMENTS:															

RQC058

Severn Trent Laboratories, Inc.
EXTRACTION BENCH WORKSHEET

Run Date: 10/17/07
Time: 10:09:15

QC BATCH: 7290152

PREP DATE: 10/17/07
COMP DATE: 10/17/07

EXTR EXPR	ANL DUE	LOT#,MSRUN#/ WORK ORDER	TEST FLGS	EXT	MTH	MATRIX	INIT/FIN WT/VOL	INIT	PH"S ADJ1	ADJ2	SOLVENTS EXTRACTION	VOL	EXCHANGE	VOL	SPIKE STANDARD/ SURROGATE ID
11/11/07	10/22/07	F7J160279-005 **J834H-1-AD**	7290118 DR	82	9B	SOLID	**2.877g** 20.00mL	NA	NA	NA		.0		.0	
COMMENTS:															
11/11/07	10/22/07	F7J160279-006 **J834L-1-AD**	7290118 DR	82	9B	SOLID	**2.281g** 20.00mL	NA	NA	NA		.0		.0	
COMMENTS:															
11/11/07	10/22/07	F7J160279-007 **J834M-1-AD**	7290118 DR	82	9B	SOLID	**2.362g** 20.00mL	NA	NA	NA		.0		.0	
COMMENTS:															
11/10/07	10/22/07	F7J160279-008 **J834N-1-AD**	7290118 DR	82	9B	SOLID	**2.466g** 20.00mL	NA	NA	NA		.0		.0	
COMMENTS:															
11/10/07	10/22/07	F7J160279-009 **J834P-1-AD**	7290118 DR	82	9B	SOLID	**2.118g** 20.00mL	NA	NA	NA		.0		.0	
COMMENTS:															
11/10/07	10/22/07	F7J160279-010 **J834Q-1-AD**	7290118 DR	82	9B	SOLID	**2.338g** 20.00mL	NA	NA	NA		.0		.0	
COMMENTS:															
11/10/07	10/22/07	F7J160279-011 **J834V-1-AD**	7290118 DR	82	9B	SOLID	**2.148g** 20.00mL	NA	NA	NA		.0		.0	
COMMENTS:															
11/10/07	10/22/07	F7J160279-012 **J834W-1-AD**	7290118 DR	82	9B	SOLID	**2.594g** 20.00mL	NA	NA	NA		.0		.0	
COMMENTS:															
11/11/07	10/22/07	F7J160279-013 **J834X-1-AD**	7290118 DR	82	9B	SOLID	**2.359g** 20.00mL	NA	NA	NA		.0		.0	
COMMENTS:															
11/11/07	10/22/07	F7J160279-014 **J8340-1-AD**	7290118 DR	82	9B	SOLID	**2.006g** 20.00mL	NA	NA	NA		.0		.0	
COMMENTS:															

TestAmerica St. Louis

RQC058

Severn Trent Laboratories, Inc.
EXTRACTION BENCH WORKSHEET

Run Date: 10/17/07
Time: 10:09:15

QC BATCH: 7290152

PREP DATE: 10/17/07
COMP DATE: 10/17/07

EXTR EXPR	ANL DUE	LOT#,MSRUN#/ WORK ORDER	TEST FLGS	EXT	MTH	MATRIX	INIT/FIN WT/VOL	PH"S INIT	PH"S ADJT	ADJ2	SOLVENTS EXTRACTION	VOL	EXCHANGE	VOL	SPIKE STANDARD/ SURROGATE ID
11/11/07	10/22/07	F7J160279-015 **J8344-1-AD**	7290118 DR	82	9B	SOLID	**2.291g** 20.00mL	NA	NA	NA		.0		.0	
COMMENTS:															
11/10/07	10/22/07	F7J160279-016 **J8348-1-AD**	7290118 DR	82	9B	SOLID	**2.039g** 20.00mL	NA	NA	NA		.0		.0	
COMMENTS:															
11/11/07	10/22/07	F7J160279-017 **J835A-1-AD**	7290118 DR	82	9B	SOLID	**2.453g** 20.00mL	NA	NA	NA		.0		.0	
COMMENTS:															
11/11/07	10/22/07	F7J160279-018 **J835E-1-AD**	7290118 DR	82	9B	SOLID	**2.446g** 20.00mL	NA	NA	NA		.0		.0	
COMMENTS:															
11/11/07	10/22/07	F7J160279-019 **J835J-1-AD**	7290118 DR	82	9B	SOLID	**2.337g** 20.00mL	NA	NA	NA		.0		.0	
COMMENTS:															
11/11/07	10/22/07	F7J160279-020 **J835N-1-AD**	7290118 DR	82	9B	SOLID	**2.475g** 20.00mL	NA	NA	NA		.0		.0	
COMMENTS:															
11/11/07	0/00/00	F7J170000-152 **J844V-1-AA**B		82	9B	SOLID	**2** 20.00mL	NA	NA	NA		.0		.0	
COMMENTS:															
11/11/07	0/00/00	F7J170000-152 **J844V-1-AC**C		82	9B	SOLID	**2** 20.00mL	NA	NA	NA		.0		.0	
COMMENTS:															

R = RUSH C = CLP
E = EPA 600 D = EXP.DEL)
M = CLIENT REQ MS/MSD

NUMBER OF WORK ORDERS IN BATCH: 25

TestAmerica St. Louis

RQC058

Severn Trent Laboratories, Inc.
EXTRACTION BENCH WORKSHEET

Run Date: 10/17/07
Time: 10:09:43

LEV 1	LEV 2		LEV 1	LEV 2	
_	_	Blank	_	_	Weights/Volumes
_	_	Check	_	_	Spike & Surrogate Worksheet
_	_	MS/MSD	_	_	Vial contains correct volume
			_	_	Labels, greenbars, worksheets
			_	_	computer batch: correct & all match
			_	_	Anomalies to Extraction Method

_ Expanded Deliverable
_ COC Completed
_ Bench Sheet Copied
_ Package Submitted to AnalyticalGroup
_ Bench Sheet Copied per COC

Extractionist: _____

Concentrationist: _____

****
* QC BATCH: 7290155 *
****

PREP DATE: 10/17/07
COMP DATE: 10/17/07

Reviewer/Date: _____ / 0/00/00

6850, Perchlorate by LC/MS/MS
LEACHATE, DI (Routine)

EXTR EXPR	ANL DUE	LOT#,MSRUN#/ WORK ORDER	TEST FLGS	EXT	MTH	MATRIX	INIT/FIN WT/VOL	INIT	PH"S ADJ1	ADJ2	SOLVENTS EXTRACTION	VOL	EXCHANGE	VOL	SPIKE STANDARD/ SURROGATE ID
11/10/07	10/22/07	F7J160279-021 **J835Q-1-AD**	7290119 DR	82	9B	SOLID	**2.134g** 20.00mL	NA	NA	NA		.0		.0	
COMMENTS:															
11/10/07	10/22/07	F7J160279-021 **J835Q-1-AES**	7290119 DR	82	9B	SOLID	**2.122g** 20.00mL	NA	NA	NA		.0		.0	
COMMENTS:															
11/10/07	10/22/07	F7J160279-021 **J835Q-1-AFD**	7290119 DR	82	9B	SOLID	**2.198g** 20.00mL	NA	NA	NA		.0		.0	
COMMENTS:															
11/10/07	10/22/07	F7J160279-021 **J835Q-1-AGX**	7290119 DR	82	9B	SOLID	**2.126g** 20.00mL	NA	NA	NA		.0		.0	
COMMENTS:															
11/11/07	10/22/07	F7J160279-022 **J835W-1-AD**	7290119 DR	82	9B	SOLID	**2.539g** 20.00mL	NA	NA	NA		.0		.0	
COMMENTS:															
11/11/07	10/22/07	F7J160279-023 **J8351-1-AD**	7290119 DR	82	9B	SOLID	**2.522g** 20.00mL	NA	NA	NA		.0		.0	
COMMENTS:															
11/11/07	10/22/07	F7J160279-024 **J8353-1-AD**	7290119 DR	82	9B	SOLID	**2.34g** 20.00mL	NA	NA	NA		.0		.0	
COMMENTS:															

RQC058

Severn Trent Laboratories, Inc.
EXTRACTION BENCH WORKSHEET

Run Date: 10/17/07
Time: 10:09:43

QC BATCH: 7290155

PREP DATE: 10/17/07
COMP DATE: 10/17/07

EXTR EXPR	ANL DUE	LOT#,MSRUN#/ WORK ORDER	TEST FLGS	EXT	MTH	MATRIX	INIT/FIN WT/VOL	PH"S INIT	PH"S ADJ1	PH"S ADJ2	SOLVENTS EXTRACTION	SOLVENTS VOL	SOLVENTS EXCHANGE	SOLVENTS VOL	SPIKE STANDARD/ SURROGATE ID
11/11/07	10/22/07	F7J160279-025 **J8355-1-AD**	7290119 DR	82	9B	SOLID	**2.87g** 20.00mL	NA	NA	NA		.0		.0	
COMMENTS:															
11/11/07	10/22/07	F7J160279-026 **J8356-1-AD**	7290119 DR	82	9B	SOLID	**2.115g** 20.00mL	NA	NA	NA		.0		.0	
COMMENTS:															
11/11/07	10/22/07	F7J160279-027 **J8359-1-AD**	7290119 DR	82	9B	SOLID	**2.256g** 20.00mL	NA	NA	NA		.0		.0	
COMMENTS:															
11/10/07	10/22/07	F7J160279-028 **J836A-1-AD**	7290119 DR	82	9B	SOLID	**2.259g** 20.00mL	NA	NA	NA		.0		.0	
COMMENTS:															
11/11/07	10/22/07	F7J160279-029 **J836C-1-AD**	7290119 DR	82	9B	SOLID	**2.246g** 20.00mL	NA	NA	NA		.0		.0	
COMMENTS:															
11/10/07	10/22/07	F7J160279-030 **J836D-1-AD**	7290119 DR	82	9B	SOLID	**2.472g** 20.00mL	NA	NA	NA		.0		.0	
COMMENTS:															
11/10/07	10/22/07	F7J160279-031 **J836E-1-AD**	7290119 DR	82	9B	SOLID	**2.447g** 20.00mL	NA	NA	NA		.0		.0	
COMMENTS:															
11/10/07	10/22/07	F7J160279-032 **J836F-1-AD**	7290119 DR	82	9B	SOLID	**2.459g** 20.00mL	NA	NA	NA		.0		.0	
COMMENTS:															
11/11/07	10/22/07	F7J160279-033 **J836G-1-AD**	7290119 DR	82	9B	SOLID	**2.885g** 20.00mL	NA	NA	NA		.0		.0	
COMMENTS:															
11/11/07	10/22/07	F7J160279-034 **J836H-1-AD**	7290119 DR	82	9B	SOLID	**2.587g** 20.00mL	NA	NA	NA		.0		.0	
COMMENTS:															

TestAmerica St. Louis

RQC058

Severn Trent Laboratories, Inc.
EXTRACTION BENCH WORKSHEET

Run Date: 10/17/07
Time: 10:09:43

QC BATCH: 7290155

PREP DATE: 10/17/07
COMP DATE: 10/17/07

EXTR EXPR	ANL DUE	LOT#,MSRUN#/ WORK ORDER	TEST FLGS	EXT	MTH	MATRIX	INIT/FIN WT/VOL	INIT	PH"S ADJ1	ADJ2	SOLVENTS EXTRACTION	VOL	EXCHANGE	VOL	SPIKE STANDARD/ SURROGATE ID
11/11/07	10/22/07	F7J160279-037 7290119 **J836T-1-AD**	DR	82	9B	SOLID	**2.339g** 20.00mL	NA	NA	NA		.0		.0	
COMMENTS:															
11/10/07	0/00/00	F7J170000-155 **J846L-1-AAB**		82	9B	SOLID	**2** 20.00mL	NA	NA	NA		.0		.0	
COMMENTS:															
11/10/07	0/00/00	F7J170000-155 **J846L-1-ACC**		82	9B	SOLID	**2** 20.00mL	NA	NA	NA		.0		.0	
COMMENTS:															

R = RUSH C = CLP
E = EPA 600 D = EXP.DEL)
M = CLIENT REQ MS/MSD
‡

NUMBER OF WORK ORDERS IN BATCH: 20

TestAmerica St. Louis

Logbook No.: 2999 | Instrument ID No.: LCMSMS R

TestAmerica St. Louis

LC/MS/MS Runlog

#	Data File	Lab I.D.	Dil.	STD#	Matrix S / W	Date	Oper.	Method
1	P1015736	J7NXQ1FK	1X		S	10-15-07	BH/WM	6810
2	37	1FL						
3	38	J7N1K1CH						
4	39	7ICH						
5	40	9ICH						
6	41	J8PGJ1AM	50X		W			
7	42	Inst BLK						
8	43	DSS 1000/0.5						
9	44	Inst BLK						
10	45	CCV 10.0		GC0459-07				
11	46	Inst BLK						
12	47	J8PGE1AM	50X		W			
13	48	J2AM	500X					
14	49	K2AM	5X					
15	50	P1AM	50X					
16	51	E2AM	200X					
17	52	P2AM						
18	53	Inst BLK						
19	54	DSS 1000/0.5						
20	55	Inst BLK						
21	56	CCV 10.0		GC0459-07				
22	P1017701	Inst BLK				10-17-07	BH/WM	6850
23	02							
24	03							
25	04							
26	05	Inst BLK						
27	06	ICAL-1 0.2ppb		GC0464-07				
28	07	-2 0.5		463				
29	08	-3 1.0		462				
30	09	-4 2.5		461				
31	10	-5 5.0		460				
32	11	-6 10.0		459				
33	12	-7 20.0		458				
34	13	-8 50.0		457				
35	14	Inst BLK						

Form: SL-ORG-0028, Rev. 09/21/07

QC Type Suffixes: B=Blank; C=Laboratory Control Sample; L=Laboratory Control Sample Duplicate; S=Matrix Spike; D=Matrix Spike Duplicate. SOP References: STL-LC-0001, Rev 6 07/30/07, STL-LC-0002, Rev 9 05/23/07.

Logbook No.: 2999 | Instrument ID No.: LCMSMS R

TestAmerica St. Louis

LC/MS/MS Runlog

Batch #	Comments		#
7282116	F7J260236-001D	OK	1
	-001X	OK	2
	-002	OK	3
	-003	OK	4
	-004	OK	5
7288169	F7J110175-006	RR100X	6
		OK	7
		OK	8
		OK	9
		OK	10
		OK	11
7288169	F7J110175-005	RR200X	12
	-006	OK	13
	-007	OK	14
	-009	RR200X	15
	-005	OK	16
	-009	OK	17
		OK	18
		OK	19
		OK	20
		OK	21
		-	22
	new column	-	23
		-	24
		-	25
		OK	26
	Not used	-	27
	Curve good 0.5-50 ppb	OK	28
		OK	29
		OK	30
		OK	31
		OK	32
		OK	33
		OK	34
		OK	35

Reviewed by: Wayne Hum 10/16/07

Form: SL-ORG-0028, Rev. 09/21/07

QC Type Suffixes: B=Blank; C=Laboratory Control Sample; L=Laboratory Control Sample Duplicate; S=Matrix Spike; D=Matrix Spike Duplicate. SOP References: STL-LC-0001, Rev 6 07/30/07, STL-LC-0002, Rev 9 05/23/07.

Logbook No.: 2999 | Instrument ID No.: LCMSMS R

TestAmerica St. Louis

LC/MS/MS Runlog

#	Data File	Lab I.D.	Dil.	STD#	Matrix S / W	Date	Oper.	Method
1	P1017715	ICV10.0		GC0482-07		10-17-07	BH/WH	6850
2	16	Inst BLK						
3	17	DSS 1000/0.5						
4	18	Inst BLK						
5	19	J8461AA	1X		S			
6	20	↓ 1AC						
7	21	J835Q1AD						
8	22	1AE						
9	23	1AF						
10	24	1AG						
11	25	J835W1AD						
12	26	11AD						
13	27	31AD						
14	28	51AD						
15	29	61AD						
16	30	91AD						
17	31	CCV 10.0		GC0459-07				
18	32	Inst BLK						
19	33	J836A1AD						
20	34	C1AD						
21	35	D1AD						
22	36	E1AD						
23	37	F1AD						
24	38	G1AD						
25	39	H1AD						
26	40	J836T1AD ~~CCV 10.0~~ WH 10/17/07		~~GC0459-07~~	↓			
27	41	CCV 10.0		GC0459-07				
28	42	Inst BLK						
29	43	DSS 1000/0.5						
30	44	Inst BLK						
31	45	J8552 1AA			W			
32	46	↓ 1AC						
33	47	J836J1AC						
34	48	1AE						
35	49	1AF						

QC Type Suffixes: B=Blank; C=Laboratory Control Sample; L=Laboratory Control Sample Duplicate; S=Matrix Spike; D=Matrix Spike Duplicate. SOP References: STL-LC-0001, Rev 6 07/30/07, STL-LC-0002, Rev 9 05/23/07.

Logbook No.: 2999 | Instrument ID No.: LCMSMS R

TestAmerica St. Louis

LC/MS/MS Runlog

Batch #	Comments		#
	ICV good	OK	1
		OK	2
		OK	3
	new DSS test	OK	4
7290155	F7J170000-155B	OK	5
↓	↓ -155C	OK	6
7290155	~~F7J170000-155B~~ F7J160279-021	OK	7
	~~-155C~~ ↓ -021S	OK	8
	F7J160279-~~021~~ 021D	OK	9
	-~~021S~~ 021X	OK	10
	-~~021D~~ 022	OK	11
	-~~021X~~ 023	OK	12
	-03224	OK	13
	-03325 WH 10/17/07	OK	14
	-03426	OK	15
	-03527	OK	16
	~~-026~~	OK	17
	~~-027~~	OK	18
	F7J160279-028	OK	19
	-029	OK	20
	-030	OK	21
	-031	OK	22
	-032	OK	23
	-033	OK	24
	-034	OK	25
	-037	OK	26
		OK	27
		OK	28
		OK	29
		OK	30
7290361	F7J170000-361B	OK	31
	↓ -361C	OK	32
	F7J160279-035	OK	33
	-035S	OK	34
	↓ -035D	OK	35

Reviewed by: [signature] 10/17/07

QC Type Suffixes: B=Blank; C=Laboratory Control Sample; L=Laboratory Control Sample Duplicate; S=Matrix Spike; D=Matrix Spike Duplicate. SOP References: STL-LC-0001, Rev 6 07/30/07, STL-LC-0002, Rev 9 05/23/07.

Logbook No.: 2999 | Instrument ID No.: LCMSMS R

TestAmerica St. Louis

LC/MS/MS Runlog

#	Data File	Lab I.D.	Dil.	STD#	Matrix S / W	Date	Oper.	Method
1	P1017750	J836J1AG	1X		W	10-17-07	BH/WH	6850
2	51	M1ABC						
3	52	W1AC						
4	53	J835E1AD			S			
5	54	J1AD						
6	55	N1AD						
7	56	CCV 10.0		GC0459-07				
8	57	Inst BLK						
9	58	J844V1AA			S			
10	59	1AC						
11	60	J83XG1AD						
12	61	1AE						
13	62	1AF						
14	63	1AG						
15	64	J8337 1AD						
16	65	J834C1AD						
17	66	F1AD						
18	67	H1AD						
19	68	L1AD						
20	69	M1AD						
21	70	CCV 10.0		GC0459-07				
22	71	Inst BLK						
23	72	DSS 1000/0.5						
24	73	Inst BLK						
25	74	J834N1AD						
26	75	P1AD						
27	76	Q1AD						
28	77	V1AD						
29	78	W1AD						
30	79	X1AD						
31	80	Φ1AD						
32	81	41AD						
33	82	81AD						
34	83	J835A1AD						
35	84	Inst BLK						

Form: SL-ORG-0028, Rev. 09/21/07

QC Type Suffixes: B=Blank; C=Laboratory Control Sample; L=Laboratory Control Sample Duplicate; S=Matrix Spike; D=Matrix Spike Duplicate. SOP References: STL-LC-0001, Rev 6 07/30/07, STL-LC-0002, Rev 9 05/23/07.

Logbook No.: 2999 | Instrument ID No.: LCMSMS R

TestAmerica St. Louis

LC/MS/MS Runlog

Batch #	Comments		#
7290361	F7J160279-035X	OK	1
	-036	OK	2
	-038	OK	3
7290152	F7J160279-018	OK	4
	-019	OK	5
	-020	OK	6
		OK	7
		OK	8
7290152	F7J170000-152B	OK	9
	-152C	OK	10
	F7J160279-001	OK	11
	-001S	OK	12
	-001D	OK	13
	-001X	OK	14
	-002	OK	15
	-003	OK	16
	-004	OK	17
	-005	OK	18
	-006	OK	19
	-007	OK	20
		OK	21
		OK	22
		OK	23
		OK	24
7290152	F7J160279-008	OK	25
	-009	OK	26
	-010	OK	27
	-011	OK	28
	-012	OK	29
	-013	OK	30
	-014	OK	31
	-015	OK	32
	-016	OK	33
	-017	OK	34
		OK	35

Reviewed by: [illegible] 10/17/07

Form: SL-ORG-0028, Rev. 09/21/07

QC Type Suffixes: B=Blank; C=Laboratory Control Sample; L=Laboratory Control Sample Duplicate; S=Matrix Spike; D=Matrix Spike Duplicate. SOP References: STL-LC-0001, Rev 6 07/30/07, STL-LC-0002, Rev 9 05/23/07.

Logbook No.: 2999 | Instrument ID No.: LCMSMS R

TestAmerica St. Louis

LC/MS/MS Runlog

#	Data File	Lab I.D.	Dil.	STD#	Matrix S / W	Date	Oper.	Method
1	P1017785	DSS 1000/0.5	1x		S	10-17-07	BJ/WM	6810
2	86	Inst BLK						
3	87	CCV 10.0		GC0459-07				
4	88	Inst BLK						
5								
6								
7								
8								
9								
10								
11								
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Form: SL-ORG-0028, Rev. 09/21/07

QC Type Suffixes: B=Blank; C=Laboratory Control Sample; L=Laboratory Control Sample Duplicate; S=Matrix Spike; D=Matrix Spike Duplicate. SOP References: STL-LC-0001, Rev 6 07/30/07, STL-LC-0002, Rev 9 05/23/07.

Logbook No.: 2999 | Instrument ID No.: LCMSMS R

TestAmerica St. Louis

LC/MS/MS Runlog

Batch #	Comments	#
	130.2 WCM OK	1
	OK	2
	OK	3
	flush –	4
		5
		6
		7
		8
		9
		10
		11
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		34
		35

Reviewed by: [illegible] 10/18/07

Form: SL-ORG-0028, Rev. 09/21/07

QC Type Suffixes: B=Blank; C=Laboratory Control Sample; L=Laboratory Control Sample Duplicate; S=Matrix Spike; D=Matrix Spike Duplicate. SOP References: STL-LC-0001, Rev 6 07/30/07, STL-LC-0002, Rev 9 05/23/07.

WET CHEMISTRY

(ALPHABETICALLY BY ANALYSIS)

RQC050 Severn Trent Laboratories, Inc. Run Date: 10/18/07
WET CHEM BATCHSHEET Time: 13:44:52

TestAmerica St. Louis

PRODUCTION FIGURES - WET CHEM

TOTAL NUMBER	SAMPLE NUMBER	QC	RE-RUN MATRIX	RE-RUN OTHER	MISC NUMBER	TOTAL HOURS	EXPANDED DELIVERABLE

METHOD: C9 Nitrate as N (300.0A, Ion Chromatography)
QC BATCH #: **7291371** INITIALS: DATA ENTRY:
PREP DATE: 10/17/07 PREP _____ INITIALS _____
COMP DATE: 10/17/07 ANAL _____ DATE _____
USER: BOYDJ

Work Order	Lab Number	Structured Analysis	Exp. Del.	Analysis Date	Sample ID:
J83XG-1-AC	F-7J160279-001	XX A 82 C9 9A	Y-D		MD21-07-6797
J8337-1-AC	F-7J160279-002	XX A 82 C9 9A	Y-D		MD21-07-6773
J834C-1-AC	F-7J160279-003	XX A 82 C9 9A	Y-D		MD21-07-6786
J834F-1-AC	F-7J160279-004	XX A 82 C9 9A	Y-D		MD21-07-6770
J834H-1-AC	F-7J160279-005	XX A 82 C9 9A	Y-D		MD21-07-6726
J834L-1-AC	F-7J160279-006	XX A 82 C9 9A	Y-D		MD21-07-6785
J834M-1-AC	F-7J160279-007	XX A 82 C9 9A	Y-D		MD21-07-6732
J834N-1-AC	F-7J160279-008	XX A 82 C9 9A	Y-D		MD21-07-6761
J834N-1-AF	F-7J160279-008-S	XX A 82 C9 9A	Y-D		MD21-07-6761
J834N-1-AG	F-7J160279-008-X	XX A 82 C9 9A	Y-D		MD21-07-6761 DUP
J834P-1-AC	F-7J160279-009	XX A 82 C9 9A	Y-D		MD21-07-6756
J834Q-1-AC	F-7J160279-010	XX A 82 C9 9A	Y-D		MD21-07-6777
J834V-1-AC	F-7J160279-011	XX A 82 C9 9A	Y-D		MD21-07-6775
J834W-1-AC	F-7J160279-012	XX A 82 C9 9A	Y-D		MD21-07-6755
J834X-1-AC	F-7J160279-013	XX A 82 C9 9A	Y-D		MD21-07-6771
J8340-1-AC	F-7J160279-014	XX A 82 C9 9A	Y-D		MD21-07-6792
J8348-1-AC	F-7J160279-016	XX A 82 C9 9A	Y-D		MD21-07-6763
J835Q-1-AC	F-7J160279-021	XX A 82 C9 9A	Y-D		MD21-07-6754
J836A-1-AC	F-7J160279-028	XX A 82 C9 9A	Y-D		MD21-07-6798

J836D-1-AC	F-7J160279-030	XX A 82 C9 9A Y-D	_____	MD21-07-6776
J836E-1-AC	F-7J160279-031	XX A 82 C9 9A Y-D	_____	MD21-07-6762
J836F-1-AC	F-7J160279-032	XX A 82 C9 9A Y-D	_____	MD21-07-6757
J89MR-1-AA	F-7J180000-371-B	XX A 82 C9 9A	_____	INTRA-LAB BLANK
J89MR-1-AC	F-7J180000-371-C	XX A 82 C9 9A	_____	INTRA-LAB CHECK

Control Limits

(75-125)

(80-120)

RQC050

Severn Trent Laboratories, Inc.
WET CHEM BATCHSHEET

Run Date: 10/18/07
Time: 13:45:43

TestAmerica St. Louis

PRODUCTION FIGURES - WET CHEM

TOTAL NUMBER	SAMPLE NUMBER	QC	RE-RUN MATRIX	RE-RUN OTHER	MISC NUMBER	TOTAL HOURS	EXPANDED DELIVERABLE

METHOD: C9 Nitrate as N (300.0A, Ion Chromatography)
QC BATCH #: **7291373**
PREP DATE: 10/17/07
COMP DATE: 10/17/07
USER: BOYDJ

INITIALS:
PREP _____
ANAL _____

DATA ENTRY:
INITIALS _____
DATE _____

Work Order	Lab Number	Structured Analysis	Exp. Del.	Analysis Date	Sample ID:
J8344-1-AC	F-7J160279-015	XX A 82 C9 9A	Y-D		MD21-07-6783
J8344-1-AF	F-7J160279-015-S	XX A 82 C9 9A	Y-D		MD21-07-6783
J8344-1-AG	F-7J160279-015-X	XX A 82 C9 9A	Y-D		MD21-07-6783 DUP
J835A-1-AC	F-7J160279-017	XX A 82 C9 9A	Y-D		MD21-07-6742
J835E-1-AC	F-7J160279-018	XX A 82 C9 9A	Y-D		MD21-07-6733
J835J-1-AC	F-7J160279-019	XX A 82 C9 9A	Y-D		MD21-07-6784
J835N-1-AC	F-7J160279-020	XX A 82 C9 9A	Y-D		MD21-07-6769
J835W-1-AC	F-7J160279-022	XX A 82 C9 9A	Y-D		MD21-07-6787
J8351-1-AC	F-7J160279-023	XX A 82 C9 9A	Y-D		MD21-07-6795
J8353-1-AC	F-7J160279-024	XX A 82 C9 9A	Y-D		MD21-07-6741
J8355-1-AC	F-7J160279-025	XX A 82 C9 9A	Y-D		MD21-07-6793
J8356-1-AC	F-7J160279-026	XX A 82 C9 9A	Y-D		MD21-07-6772
J8359-1-AC	F-7J160279-027	XX A 82 C9 9A	Y-D		MD21-07-6768
J836C-1-AC	F-7J160279-029	XX A 82 C9 9A	Y-D		MD21-07-6740
J836G-1-AC	F-7J160279-033	XX A 82 C9 9A	Y-D		MD21-07-6725
J836H-1-AC	F-7J160279-034	XX A 82 C9 9A	Y-D		MD21-07-6727
J836T-1-AC	F-7J160279-037	XX A 82 C9 9A	Y-D		MD21-07-7022
J89M1-1-AA	F-7J180000-373-B	XX A 82 C9 9A			INTRA-LAB BLANK
J89M1-1-AC	F-7J180000-373-C	XX A 82 C9 9A			INTRA-LAB CHECK

Control Limits
(75-125)
(80-120)

PDE115

TestAmerica Laboratories, Inc.
Inorganics Batch Review
QC Batch **7291371**

Date 10/18/2007
Time 15:00:51

Method Code:**C9 Nitrate as N (300.0A, Ion Chromatography)**
Analyst:**Jacob Boyd**

Work Order	Result	Units	LDL/Dil	Prep. - Anal.	Total Solids	PSRL Flag	R/R	Rounded Result	Output LDL	Dil.
J83XG-1-AC	ND	mg/kg	0.2	10/17-10/18/07	.00	N		** ND	0.20	1.00
J8337-1-AC	ND	mg/kg	0.2	10/17-10/18/07	.00	N		** ND	0.20	1.00
J834C-1-AC	ND	mg/kg	0.2	10/17-10/18/07	.00	N		** ND	0.20	1.00
J834F-1-AC	ND	mg/kg	0.2	10/17-10/18/07	.00	N		** ND	0.20	1.00
J834H-1-AC	ND	mg/kg	0.2	10/17-10/18/07	.00	N		** ND	0.20	1.00
J834L-1-AC	0.165106	mg/kg	0.2	10/17-10/18/07	.00	N		0.17 J	0.20	1.00
J834M-1-AC	ND	mg/kg	0.2	10/17-10/18/07	.00	N		** ND	0.20	1.00
J834N-1-AC	ND	mg/kg	0.2	10/17-10/18/07	.00	N		** ND	0.20	1.00
J834N-1-AG	ND	mg/kg	0.2	10/17-10/18/07	.00	N		** ND	0.20	1.00
J834P-1-AC	ND	mg/kg	0.2	10/17-10/18/07	.00	N		** ND	0.20	1.00
J834Q-1-AC	ND	mg/kg	0.2	10/17-10/18/07	.00	N		** ND	0.20	1.00
J834V-1-AC	0.541727	mg/kg	0.2	10/17-10/18/07	.00	N		0.54	0.20	1.00
J834W-1-AC	ND	mg/kg	0.2	10/17-10/18/07	.00	N		** ND	0.20	1.00
J834X-1-AC	ND	mg/kg	0.2	10/17-10/18/07	.00	N		** ND	0.20	1.00
J8340-1-AC	ND	mg/kg	0.2	10/17-10/18/07	.00	N		** ND	0.20	1.00
J8348-1-AC	ND	mg/kg	0.2	10/17-10/18/07	.00	N		** ND	0.20	1.00
J835Q-1-AC	1.048448	mg/kg	0.2	10/17-10/18/07	.00	N		1.0	0.20	1.00
J836A-1-AC	ND	mg/kg	0.2	10/17-10/18/07	.00	N		** ND	0.20	1.00
J836D-1-AC	0.169824	mg/kg	0.2	10/17-10/18/07	.00	N		0.17 J	0.20	1.00
J836E-1-AC	ND	mg/kg	0.2	10/17-10/18/07	.00	N		** ND	0.20	1.00
J836F-1-AC	ND	mg/kg	0.2	10/17-10/18/07	.00	N		** ND	0.20	1.00
J89MR-1-AA	ND	mg/kg	0.2	10/17-10/18/07	.00			ND	0.20	1.00

Notes:
Results and reporting limits have been adjusted for dry weight.
J Estimated result. Result is less than RL.

PDE115

TestAmerica Laboratories, Inc.
Inorganics Batch Review
QC Batch **7291371**

Date 10/18/2007
Time 15:00:51

Method Code:**C9 Nitrate as N (300.0A, Ion Chromatography)**
Analyst:**Jacob Boyd**

Check Standard

Work Order	Exception Code	True Spike	Measured Spike	Percent Recovered	Prep. - Anal.	Control Limits	Dil.
J89MR-1-AC		4.0	3.786611	94.66	10/17-10/18/07	(80-120)	1.00

Notes:

Measured Spike

Work Order	Exception Code	Measured Sample	True Spike	Measured Spike	Percent Recovered	Prep. - Anal.	Dil.
J834N-1-AF		ND	5.0	4.814323	96.28	10/17-10/18/07	1.00

Notes:
Results and reporting limits have been adjusted for dry weight.

JB
10/18/07

PRODUCTION TOTALS

TEST	TOTAL #	SAMPLE #	QC #	MATRIX #	OTHER #	MISC #	HOURS
	0	0	0	0	0	0	.0

PDE115

TestAmerica Laboratories, Inc.
Inorganics Batch Review
QC Batch **7291373**

Date 10/18/2007
Time 15:00:59

Method Code:**C9 Nitrate as N (300.0A, Ion Chromatography)**
Analyst:**Jacob Boyd**

Work Order	Result	Units	LDL/Dil	Prep. - Anal.	Total Solids	PSRL Flag	R/R	Rounded Result	Output LDL	Dil.
J8344-1-AC	ND	mg/kg	0.2	10/17-10/18/07	.00	N		** ND	0.20	1.00
J8344-1-AG	ND	mg/kg	0.2	10/17-10/18/07	.00	N		** ND	0.20	1.00
J835A-1-AC	ND	mg/kg	0.2	10/17-10/18/07	.00	N		** ND	0.20	1.00
J835E-1-AC	0.212271	mg/kg	0.2	10/17-10/18/07	.00	N		0.21	0.20	1.00
J835J-1-AC	ND	mg/kg	0.2	10/17-10/18/07	.00	N		** ND	0.20	1.00
J835N-1-AC	ND	mg/kg	0.2	10/17-10/18/07	.00	N		** ND	0.20	1.00
J835W-1-AC	ND	mg/kg	0.2	10/17-10/18/07	.00	N		** ND	0.20	1.00
J8351-1-AC	ND	mg/kg	0.2	10/17-10/18/07	.00	N		** ND	0.20	1.00
J8353-1-AC	ND	mg/kg	0.2	10/17-10/18/07	.00	N		** ND	0.20	1.00
J8355-1-AC	ND	mg/kg	0.2	10/17-10/18/07	.00	N		** ND	0.20	1.00
J8356-1-AC	ND	mg/kg	0.2	10/17-10/18/07	.00	N		** ND	0.20	1.00
J8359-1-AC	ND	mg/kg	0.2	10/17-10/18/07	.00	N		** ND	0.20	1.00
J836C-1-AC	ND	mg/kg	0.2	10/17-10/18/07	.00	N		** ND	0.20	1.00
J836G-1-AC	ND	mg/kg	0.2	10/17-10/18/07	.00	N		** ND	0.20	1.00
J836H-1-AC	ND	mg/kg	0.2	10/17-10/18/07	.00	N		** ND	0.20	1.00
J836T-1-AC	0.166908	mg/kg	0.2	10/17-10/18/07	.00	N		0.17 J	0.20	1.00
J89M1-1-AA	ND	mg/kg	0.2	10/17-10/18/07	.00			ND	0.20	1.00

Notes:
Results and reporting limits have been adjusted for dry weight.
J Estimated result. Result is less than RL.

Check Standard

Work Order	Exception Code	True Spike	Measured Spike	Percent Recovered	Prep. - Anal.	Control Limits	Dil.
J89M1-1-AC		4.0	3.587382	89.68	10/17-10/18/07	(80-120)	1.00

Notes:

JB
10/18/07

PDE115

TestAmerica Laboratories, Inc.
Inorganics Batch Review
QC Batch **7291373**

Date 10/18/2007
Time 15:00:59

Method Code:**C9 Nitrate as N (300.0A, Ion Chromatography)**
Analyst:**Jacob Boyd**
Measured Spike

Work Order	Exception Code	Measured Sample	True Spike	Measured Spike	Percent Recovered	Prep. - Anal.	Dil.
J8344-1-AF		ND	5.0	5.225206	104.50	10/17-10/18/07	1.00

Notes:
Results and reporting limits have been adjusted for dry weight. JB 10/18/07

PRODUCTION TOTALS

TEST	TOTAL #	SAMPLE #	QC #	MATRIX #	OTHER #	MISC #	HOURS
	0	0	0	0	0	0	.0

SEVERN TRENT SERVICES

Ion Chromatography Data Summary

STL St. Louis
13715 Rider Trail North
Earth City, MO 63045

Work Order #	ClientID	QC	Anion	Batch	Dil	Conc.	Date\TimeCollected	Analyst
Batch Group: 1								
J8337								
J83371AC	MD21-07-6773		Nitrate	7291371	1	0.000 mg/L	10/18/2007 8:16	
J8340								
J83401AC	MD21-07-6792		Nitrate	7291371	1	0.000 mg/L	10/18/2007 10:05	
J8348								
J83481AC	MD21-07-6763		Nitrate	7291371	1	0.000 mg/L	10/18/2007 6:33	
J834C								
J834C1AC	MD21-07-6786		Nitrate	7291371	1	0.000 mg/L	10/18/2007 8:28	
J834F								
J834F1AC	MD21-07-6770		Nitrate	7291371	1	0.000 mg/L	10/18/2007 8:39	
J834H								
J834H1AC	MD21-07-6726		Nitrate	7291371	1	0.000 mg/L	10/18/2007 8:51	
J834L								
J834L1AC	MD21-07-6785		Nitrate	7291371	1	0.017 mg/L	10/18/2007 9:02	
J834M								
J834M1AC	MD21-07-6732		Nitrate	7291371	1	0.000 mg/L	10/18/2007 9:13	
J834N								
J834N1AC	MD21-07-6761		Nitrate	7291371	1	0.000 mg/L	10/18/2007 5:14	
J834N1AF	MD21-07-6761	S	Nitrate	7291371	1	0.481 mg/L	10/18/2007 5:36	
J834N1AG	MD21-07-6761 DUP	X	Nitrate	7291371	1	0.000 mg/L	10/18/2007 5:25	
J834P								
J834P1AC	MD21-07-6756		Nitrate	7291371	1	0.000 mg/L	10/18/2007 5:48	
J834Q								
J834Q1AC	MD21-07-6777		Nitrate	7291371	1	0.000 mg/L	10/18/2007 5:59	
J834V								
J834V1AC	MD21-07-6775		Nitrate	7291371	1	0.054 mg/L	10/18/2007 6:11	
J834W								
J834W1AC	MD21-07-6755		Nitrate	7291371	1	0.000 mg/L	10/18/2007 6:22	
J834X								
J834X1AC	MD21-07-6771		Nitrate	7291371	1	0.000 mg/L	10/18/2007 9:54	
J835Q								
J835Q1AC	MD21-07-6754		Nitrate	7291371	1	0.105 mg/L	10/18/2007 6:45	
J836A								
J836A1AC	MD21-07-6798		Nitrate	7291371	1	0.000 mg/L	10/18/2007 6:56	
J836D								
J836D1AC	MD21-07-6776		Nitrate	7291371	1	0.017 mg/L	10/18/2007 7:31	
J836E								
J836E1AC	MD21-07-6762		Nitrate	7291371	1	0.000 mg/L	10/18/2007 7:42	
J836F								
J836F1AC	MD21-07-6757		Nitrate	7291371	1	0.000 mg/L	10/18/2007 7:53	
J83XG								
J83XG1AC	MD21-07-6797		Nitrate	7291371	1	0.000 mg/L	10/18/2007 8:05	
J89MR								
J89MR1AA	INTRA-LAB BLANK	B	Nitrate	7291371	1	0.000 mg/L	10/18/2007 5:02	
J89MR1AC	INTRA-LAB CHECK	C	Nitrate	7291371	1	0.379 mg/L	10/18/2007 4:51	

SEVERN TRENT SERVICES

Ion Chromatography QC Summary

STL St. Louis
13715 Rider Trail North
Earth City, MO 63045

Anion	Dil	Result	QC Conc	Recovery	LCL	UCL	Acceptance
Continuing Calibration Blank		-					
Date\TimeCollected	10/17/2007 7:07:00 PM						
Bromide	1	0.101 mg/L	0.25		-0.25	0.25	Acceptable
Chloride	1	0.000 mg/L	0.2		-0.2	0.2	Acceptable
Fluoride	1	0.000 mg/L	0.1		-0.1	0.1	Acceptable
Nitrate	1	0.000 mg/L	0.02		-0.02	0.02	Acceptable
Nitrite	1	0.000 mg/L	0.02		-0.02	0.02	Acceptable
Ortho-Phosphate	1	0.442 mg/L	0.5		-0.5	0.5	Acceptable
Sulfate	1	0.000 mg/L	0.5		-0.5	0.5	Acceptable
Date\TimeCollected	10/17/2007 8:51:00 PM						
Bromide	1	0.000 mg/L	0.25		-0.25	0.25	Acceptable
Chloride	1	0.000 mg/L	0.2		-0.2	0.2	Acceptable
Fluoride	1	0.000 mg/L	0.1		-0.1	0.1	Acceptable
Nitrate	1	0.000 mg/L	0.02		-0.02	0.02	Acceptable
Nitrite	1	0.000 mg/L	0.02		-0.02	0.02	Acceptable
Ortho-Phosphate	1	0.000 mg/L	0.5		-0.5	0.5	Acceptable
Sulfate	1	0.000 mg/L	0.5		-0.5	0.5	Acceptable
Date\TimeCollected	10/17/2007 10:11:00 PM						
Bromide	1	0.000 mg/L	0.25		-0.25	0.25	Acceptable
Chloride	1	0.000 mg/L	0.2		-0.2	0.2	Acceptable
Fluoride	1	0.000 mg/L	0.1		-0.1	0.1	Acceptable
Nitrate	1	0.000 mg/L	0.02		-0.02	0.02	Acceptable
Nitrite	1	0.000 mg/L	0.02		-0.02	0.02	Acceptable
Ortho-Phosphate	1	0.781 mg/L	0.5		-0.5	0.5	~~OUTSIDE LIMITS~~ NR JB 10/18/07
Sulfate	1	0.000 mg/L	0.5		-0.5	0.5	Acceptable
Date\TimeCollected	10/18/2007 12:28:00 AM						
Bromide	1	0.000 mg/L	0.25		-0.25	0.25	Acceptable
Chloride	1	0.000 mg/L	0.2		-0.2	0.2	Acceptable
Fluoride	1	0.000 mg/L	0.1		-0.1	0.1	Acceptable
Nitrate	1	0.000 mg/L	0.02		-0.02	0.02	Acceptable
Nitrite	1	0.000 mg/L	0.02		-0.02	0.02	Acceptable
Ortho-Phosphate	1	0.000 mg/L	0.5		-0.5	0.5	Acceptable
Sulfate	1	0.000 mg/L	0.5		-0.5	0.5	Acceptable
Date\TimeCollected	10/18/2007 2:45:00 AM						
Bromide	1	0.000 mg/L	0.25		-0.25	0.25	Acceptable
Chloride	1	0.000 mg/L	0.2		-0.2	0.2	Acceptable
Fluoride	1	0.000 mg/L	0.1		-0.1	0.1	Acceptable
Nitrate	1	0.000 mg/L	0.02		-0.02	0.02	Acceptable
Nitrite	1	0.000 mg/L	0.02		-0.02	0.02	Acceptable
Ortho-Phosphate	1	0.000 mg/L	0.5		-0.5	0.5	Acceptable
Sulfate	1	0.000 mg/L	0.5		-0.5	0.5	Acceptable

Anion	Dil	Result	QC Conc	Recovery	LCL	UCL	Acceptance
Continuing Calibration Blank							
Date\TimeCollected 10/18/2007 7:19:00 AM							
Bromide	1	0.000 mg/L	0.25		-0.25	0.25	Acceptable
Chloride	1	0.000 mg/L	0.2		-0.2	0.2	Acceptable
Fluoride	1	0.000 mg/L	0.1		-0.1	0.1	Acceptable
Nitrate	1	0.000 mg/L	0.02		-0.02	0.02	Acceptable
Nitrite	1	0.000 mg/L	0.02		-0.02	0.02	Acceptable
Ortho-Phosphate	1	0.000 mg/L	0.5		-0.5	0.5	Acceptable
Sulfate	1	0.000 mg/L	0.5		-0.5	0.5	Acceptable
Date\TimeCollected 10/18/2007 9:43:00 AM							
Bromide	1	0.000 mg/L	0.25		-0.25	0.25	Acceptable
Chloride	1	0.000 mg/L	0.2		-0.2	0.2	Acceptable
Fluoride	1	0.000 mg/L	0.1		-0.1	0.1	Acceptable
Nitrate	1	0.000 mg/L	0.02		-0.02	0.02	Acceptable
Nitrite	1	0.000 mg/L	0.02		-0.02	0.02	Acceptable
Ortho-Phosphate	1	0.000 mg/L	0.5		-0.5	0.5	Acceptable
Sulfate	1	0.000 mg/L	0.5		-0.5	0.5	Acceptable
Date\TimeCollected 10/18/2007 10:28:00 AM							
Bromide	1	0.000 mg/L	0.25		-0.25	0.25	Acceptable
Chloride	1	0.000 mg/L	0.2		-0.2	0.2	Acceptable
Fluoride	1	0.038 mg/L	0.1		-0.1	0.1	Acceptable
Nitrate	1	0.000 mg/L	0.02		-0.02	0.02	Acceptable
Nitrite	1	0.000 mg/L	0.02		-0.02	0.02	Acceptable
Ortho-Phosphate	1	0.000 mg/L	0.5		-0.5	0.5	Acceptable
Sulfate	1	0.000 mg/L	0.5		-0.5	0.5	Acceptable
Date\TimeCollected 10/18/2007 12:40:00 PM							
Bromide	1	0.000 mg/L	0.25		-0.25	0.25	Acceptable
Chloride	1	0.000 mg/L	0.2		-0.2	0.2	Acceptable
Fluoride	1	0.000 mg/L	0.1		-0.1	0.1	Acceptable
Nitrate	1	0.000 mg/L	0.02		-0.02	0.02	Acceptable
Nitrite	1	0.000 mg/L	0.02		-0.02	0.02	Acceptable
Ortho-Phosphate	1	0.000 mg/L	0.5		-0.5	0.5	Acceptable
Sulfate	1	0.000 mg/L	0.5		-0.5	0.5	Acceptable
Date\TimeCollected 10/18/2007 2:19:00 PM							
Bromide	1	0.000 mg/L	0.25		-0.25	0.25	Acceptable
Chloride	1	0.000 mg/L	0.2		-0.2	0.2	Acceptable
Fluoride	1	0.000 mg/L	0.1		-0.1	0.1	Acceptable
Nitrate	1	0.000 mg/L	0.02		-0.02	0.02	Acceptable
Nitrite	1	0.000 mg/L	0.02		-0.02	0.02	Acceptable
Ortho-Phosphate	1	0.000 mg/L	0.5		-0.5	0.5	Acceptable
Sulfate	1	0.000 mg/L	0.5		-0.5	0.5	Acceptable

Anion	Dil	Result	QC Conc	Recovery	LCL	UCL	Acceptance
Continuing Calibration Verification							
Date\TimeCollected	10/17/2007 6:56:00 PM						
Bromide	1	1.875 mg/L	2	93.77%	1.8 (90%)	2.2 (110%)	Acceptable
Chloride	1	1.873 mg/L	2	93.65%	1.8 (90%)	2.2 (110%)	Acceptable
Fluoride	1	1.093 mg/L	1	109.26%	0.9 (90%)	1.1 (110%)	Acceptable
Nitrate	1	0.377 mg/L	0.4	94.32%	0.36 (90%)	0.44 (110%)	Acceptable
Nitrite	1	0.170 mg/L	0.16	106.03%	0.144 (90%)	0.176 (110%)	Acceptable
Ortho-Phosphate	1	8.196 mg/L	8	102.45%	7.2 (90%)	8.8 (110%)	Acceptable
Sulfate	1	7.510 mg/L	8	93.88%	7.2 (90%)	8.8 (110%)	Acceptable
Date\TimeCollected	10/17/2007 8:40:00 PM						
Bromide	1	1.899 mg/L	2	94.95%	1.8 (90%)	2.2 (110%)	Acceptable
Chloride	1	1.845 mg/L	2	92.27%	1.8 (90%)	2.2 (110%)	Acceptable
Fluoride	1	1.054 mg/L	1	105.38%	0.9 (90%)	1.1 (110%)	Acceptable
Nitrate	1	0.370 mg/L	0.4	92.62%	0.36 (90%)	0.44 (110%)	Acceptable
Nitrite	1	0.158 mg/L	0.16	99.05%	0.144 (90%)	0.176 (110%)	Acceptable
Ortho-Phosphate	1	8.577 mg/L	8	107.21%	7.2 (90%)	8.8 (110%)	Acceptable
Sulfate	1	7.569 mg/L	8	94.61%	7.2 (90%)	8.8 (110%)	Acceptable
Date\TimeCollected	10/17/2007 9:59:00 PM						
Bromide	1	1.838 mg/L	2	91.91%	1.8 (90%)	2.2 (110%)	Acceptable
Chloride	1	1.882 mg/L	2	94.09%	1.8 (90%)	2.2 (110%)	Acceptable
Fluoride	1	1.049 mg/L	1	104.92%	0.9 (90%)	1.1 (110%)	Acceptable
Nitrate	1	0.391 mg/L	0.4	97.63%	0.36 (90%)	0.44 (110%)	Acceptable
Nitrite	1	0.175 mg/L	0.16	109.11%	0.144 (90%)	0.176 (110%)	Acceptable
Ortho-Phosphate	1	8.729 mg/L	8	109.11%	7.2 (90%)	8.8 (110%)	Acceptable
Sulfate	1	7.700 mg/L	8	96.25%	7.2 (90%)	8.8 (110%)	Acceptable
Date\TimeCollected	10/18/2007 12:17:00 AM						
Bromide	1	1.972 mg/L	2	98.58%	1.8 (90%)	2.2 (110%)	Acceptable
Chloride	1	1.813 mg/L	2	90.66%	1.8 (90%)	2.2 (110%)	Acceptable
Fluoride	1	0.984 mg/L	1	98.43%	0.9 (90%)	1.1 (110%)	Acceptable
Nitrate	1	0.371 mg/L	0.4	92.71%	0.36 (90%)	0.44 (110%)	Acceptable
Nitrite	1	0.151 mg/L	0.16	94.36%	0.144 (90%)	0.176 (110%)	Acceptable
Ortho-Phosphate	1	8.518 mg/L	8	106.47%	7.2 (90%)	8.8 (110%)	Acceptable
Sulfate	1	7.463 mg/L	8	93.29%	7.2 (90%)	8.8 (110%)	Acceptable
Date\TimeCollected	10/18/2007 2:34:00 AM						
Bromide	1	2.063 mg/L	2	103.15%	1.8 (90%)	2.2 (110%)	Acceptable
Chloride	1	1.943 mg/L	2	97.16%	1.8 (90%)	2.2 (110%)	Acceptable
Fluoride	1	1.014 mg/L	1	101.41%	0.9 (90%)	1.1 (110%)	Acceptable
Nitrate	1	0.413 mg/L	0.4	103.19%	0.36 (90%)	0.44 (110%)	Acceptable
Nitrite	1	0.168 mg/L	0.16	105.28%	0.144 (90%)	0.176 (110%)	Acceptable
Ortho-Phosphate	1	7.776 mg/L	8	97.21%	7.2 (90%)	8.8 (110%)	Acceptable
Sulfate	1	7.453 mg/L	8	93.16%	7.2 (90%)	8.8 (110%)	Acceptable

Anion	Dil	Result	QC Conc	Recovery	LCL	UCL	Acceptance
Continuing Calibration Verification							
Date\TimeCollected 10/18/2007 7:08:00 AM							
Bromide	1	1.940 mg/L	2	96.99%	1.8 (90%)	2.2 (110%)	Acceptable
Chloride	1	1.852 mg/L	2	92.59%	1.8 (90%)	2.2 (110%)	Acceptable
Fluoride	1	1.034 mg/L	1	103.38%	0.9 (90%)	1.1 (110%)	Acceptable
Nitrate	1	0.369 mg/L	0.4	92.35%	0.36 (90%)	0.44 (110%)	Acceptable
Nitrite	1	0.164 mg/L	0.16	102.75%	0.144 (90%)	0.176 (110%)	Acceptable
Ortho-Phosphate	1	8.163 mg/L	8	102.04%	7.2 (90%)	8.8 (110%)	Acceptable
Sulfate	1	7.787 mg/L	8	97.33%	7.2 (90%)	8.8 (110%)	Acceptable
Date\TimeCollected 10/18/2007 9:31:00 AM							
Bromide	1	1.897 mg/L	2	94.86%	1.8 (90%)	2.2 (110%)	Acceptable
Chloride	1	1.991 mg/L	2	99.55%	1.8 (90%)	2.2 (110%)	Acceptable
Fluoride	1	0.999 mg/L	1	99.90%	0.9 (90%)	1.1 (110%)	Acceptable
Nitrate	1	0.384 mg/L	0.4	96.11%	0.36 (90%)	0.44 (110%)	Acceptable
Nitrite	1	0.153 mg/L	0.16	95.66%	0.144 (90%)	0.176 (110%)	Acceptable
Ortho-Phosphate	1	0.000 mg/L	8	0.00%	7.2 (90%)	8.8 (110%)	~~OUTSIDE LIMITS~~ JB 10/18/07
Sulfate	1	7.776 mg/L	8	97.20%	7.2 (90%)	8.8 (110%)	Acceptable
Date\TimeCollected 10/18/2007 10:17:00 AM							
Bromide	1	1.927 mg/L	2	96.33%	1.8 (90%)	2.2 (110%)	Acceptable
Chloride	1	1.946 mg/L	2	97.28%	1.8 (90%)	2.2 (110%)	Acceptable
Fluoride	1	0.958 mg/L	1	95.84%	0.9 (90%)	1.1 (110%)	Acceptable
Nitrate	1	0.359 mg/L	0.4	89.68%	0.36 (90%)	0.44 (110%)	~~OUTSIDE LIMITS~~ OK JB 10/18/07
Nitrite	1	0.163 mg/L	0.16	101.72%	0.144 (90%)	0.176 (110%)	Acceptable
Ortho-Phosphate	1	0.000 mg/L	8	0.00%	7.2 (90%)	8.8 (110%)	~~OUTSIDE LIMITS~~ NR x2
Sulfate	1	7.744 mg/L	8	96.80%	7.2 (90%)	8.8 (110%)	Acceptable
Date\TimeCollected 10/18/2007 12:29:00 PM							
Bromide	1	2.018 mg/L	2	100.90%	1.8 (90%)	2.2 (110%)	Acceptable
Chloride	1	1.943 mg/L	2	97.17%	1.8 (90%)	2.2 (110%)	Acceptable
Fluoride	1	0.941 mg/L	1	94.13%	0.9 (90%)	1.1 (110%)	Acceptable
Nitrate	1	0.384 mg/L	0.4	95.95%	0.36 (90%)	0.44 (110%)	Acceptable
Nitrite	1	0.159 mg/L	0.16	99.32%	0.144 (90%)	0.176 (110%)	Acceptable
Ortho-Phosphate	1	0.000 mg/L	8	0.00%	7.2 (90%)	8.8 (110%)	~~OUTSIDE LIMITS~~ NR
Sulfate	1	7.715 mg/L	8	96.44%	7.2 (90%)	8.8 (110%)	Acceptable JB 10/18/07
Date\TimeCollected 10/18/2007 2:08:00 PM							
Bromide	1	1.917 mg/L	2	95.85%	1.8 (90%)	2.2 (110%)	Acceptable
Chloride	1	1.939 mg/L	2	96.95%	1.8 (90%)	2.2 (110%)	Acceptable
Fluoride	1	0.923 mg/L	1	92.33%	0.9 (90%)	1.1 (110%)	Acceptable
Nitrate	1	0.396 mg/L	0.4	98.90%	0.36 (90%)	0.44 (110%)	Acceptable
Nitrite	1	0.159 mg/L	0.16	99.44%	0.144 (90%)	0.176 (110%)	Acceptable
Ortho-Phosphate	1	4.653 mg/L	8	58.16%	7.2 (90%)	8.8 (110%)	~~OUTSIDE LIMITS~~ NR
Sulfate	1	7.641 mg/L	8	95.52%	7.2 (90%)	8.8 (110%)	Acceptable JB 10/18/07

Anion	Dil	Result	QC Conc	Recovery	LCL	UCL	Acceptance
Laboratory Contol Sample		**C**					
Date\TimeCollected	10/18/2007 4:51:00 AM						
Bromide	1	2.157 mg/L	2	107.87%	1.8 (90%)	2.2 (110%)	Acceptable
Chloride	1	1.862 mg/L	2	93.10%	1.8 (90%)	2.2 (110%)	Acceptable
Fluoride	1	0.976 mg/L	1	97.55%	0.9 (90%)	1.1 (110%)	Acceptable
Nitrate	1	0.379 mg/L	0.4	94.67%	0.36 (90%)	0.44 (110%)	Acceptable
Nitrite	1	0.161 mg/L	0.16	100.33%	0.144 (90%)	0.176 (110%)	Acceptable
Ortho-Phosphate	1	7.969 mg/L	8	99.62%	7.2 (90%)	8.8 (110%)	Acceptable
Sulfate	1	7.527 mg/L	8	94.08%	7.2 (90%)	8.8 (110%)	Acceptable
Prep Blank		**B**					
Date\TimeCollected	10/18/2007 5:02:00 AM						
Bromide	1	0.000 mg/L	0.25		-0.25	0.25	Acceptable
Chloride	1	0.000 mg/L	0.2		-0.2	0.2	Acceptable
Fluoride	1	0.000 mg/L	0.1		-0.1	0.1	Acceptable
Nitrate	1	0.000 mg/L	0.02		-0.02	0.02	Acceptable
Nitrite	1	0.000 mg/L	0.02		-0.02	0.02	Acceptable
Ortho-Phosphate	1	0.000 mg/L	0.5		-0.5	0.5	Acceptable
Sulfate	1	0.000 mg/L	0.5		-0.5	0.5	Acceptable

SEVERN TRENT SERVICES

Ion Chromatography Data Summary

STL St. Louis
13715 Rider Trail North
Earth City, MO 63045

Work Order #	ClientID	QC	Anion	Batch	Dil	Conc.	Date\TimeCollected	Analyst
Batch Group: 1								
J8344								
J83441AC	MD21-07-6783		Nitrate	7291373	1	0.000 mg/L	10/18/2007 10:40	
J83441AF	MD21-07-6783	S	Nitrate	7291373	1	0.523 mg/L	10/18/2007 11:02	
J83441AG	MD21-07-6783 DUP	X	Nitrate	7291373	1	0.000 mg/L	10/18/2007 10:51	
J8351								
J83511AC	MD21-07-6795		Nitrate	7291373	1	0.000 mg/L	10/18/2007 12:07	
J8353								
J83531AC	MD21-07-6741		Nitrate	7291373	1	0.000 mg/L	10/18/2007 12:18	
J8355								
J83551AC	MD21-07-6793		Nitrate	7291373	1	0.000 mg/L	10/18/2007 12:51	
J8356								
J83561AC	MD21-07-6772		Nitrate	7291373	1	0.000 mg/L	10/18/2007 13:02	
J8359								
J83591AC	MD21-07-6768		Nitrate	7291373	1	0.000 mg/L	10/18/2007 13:13	
J835A								
J835A1AC	MD21-07-6742		Nitrate	7291373	1	0.000 mg/L	10/18/2007 11:13	
J835E								
J835E1AC	MD21-07-6733		Nitrate	7291373	1	0.021 mg/L	10/18/2007 11:24	
J835J								
J835J1AC	MD21-07-6784		Nitrate	7291373	1	0.000 mg/L	10/18/2007 11:35	
J835N								
J835N1AC	MD21-07-6769		Nitrate	7291373	1	0.000 mg/L	10/18/2007 11:46	
J835W								
J835W1AC	MD21-07-6787		Nitrate	7291373	1	0.000 mg/L	10/18/2007 11:57	
J836C								
J836C1AC	MD21-07-6740		Nitrate	7291373	1	0.000 mg/L	10/18/2007 13:24	
J836G								
J836G1AC	MD21-07-6725		Nitrate	7291373	1	0.000 mg/L	10/18/2007 13:35	
J836H								
J836H1AC	MD21-07-6727		Nitrate	7291373	1	0.000 mg/L	10/18/2007 13:46	
J836T								
J836T1AC	MD21-07-7022		Nitrate	7291373	1	0.017 mg/L	10/18/2007 13:57	
J89M1								
J89M11AA	INTRA-LAB BLANK	B	Nitrate	7291373	1	0.000 mg/L	10/18/2007 10:28	
J89M11AC	INTRA-LAB CHECK	C	Nitrate	7291373	1	0.359 mg/L	10/18/2007 10:17	

SEVERN TRENT SERVICES

Ion Chromatography QC Summary

STL St. Louis
13715 Rider Trail North
Earth City, MO 63045

Anion	Dil	Result	QC Conc	Recovery	LCL	UCL	Acceptance
Continuing Calibration Blank							
Date\TimeCollected 10/17/2007 7:07:00 PM							
Bromide	1	0.101 mg/L	0.25		-0.25	0.25	Acceptable
Chloride	1	0.000 mg/L	0.2		-0.2	0.2	Acceptable
Fluoride	1	0.000 mg/L	0.1		-0.1	0.1	Acceptable
Nitrate	1	0.000 mg/L	0.02		-0.02	0.02	Acceptable
Nitrite	1	0.000 mg/L	0.02		-0.02	0.02	Acceptable
Ortho-Phosphate	1	0.442 mg/L	0.5		-0.5	0.5	Acceptable
Sulfate	1	0.000 mg/L	0.5		-0.5	0.5	Acceptable
Date\TimeCollected 10/17/2007 8:51:00 PM							
Bromide	1	0.000 mg/L	0.25		-0.25	0.25	Acceptable
Chloride	1	0.000 mg/L	0.2		-0.2	0.2	Acceptable
Fluoride	1	0.000 mg/L	0.1		-0.1	0.1	Acceptable
Nitrate	1	0.000 mg/L	0.02		-0.02	0.02	Acceptable
Nitrite	1	0.000 mg/L	0.02		-0.02	0.02	Acceptable
Ortho-Phosphate	1	0.000 mg/L	0.5		-0.5	0.5	Acceptable
Sulfate	1	0.000 mg/L	0.5		-0.5	0.5	Acceptable
Date\TimeCollected 10/17/2007 10:11:00 PM							
Bromide	1	0.000 mg/L	0.25		-0.25	0.25	Acceptable
Chloride	1	0.000 mg/L	0.2		-0.2	0.2	Acceptable
Fluoride	1	0.000 mg/L	0.1		-0.1	0.1	Acceptable
Nitrate	1	0.000 mg/L	0.02		-0.02	0.02	Acceptable
Nitrite	1	0.000 mg/L	0.02		-0.02	0.02	Acceptable
Ortho-Phosphate	1	0.781 mg/L	0.5		-0.5	0.5	~~OUTSIDE LIMITS~~ NR
Sulfate	1	0.000 mg/L	0.5		-0.5	0.5	Acceptable JB 10/18/07
Date\TimeCollected 10/18/2007 12:28:00 AM							
Bromide	1	0.000 mg/L	0.25		-0.25	0.25	Acceptable
Chloride	1	0.000 mg/L	0.2		-0.2	0.2	Acceptable
Fluoride	1	0.000 mg/L	0.1		-0.1	0.1	Acceptable
Nitrate	1	0.000 mg/L	0.02		-0.02	0.02	Acceptable
Nitrite	1	0.000 mg/L	0.02		-0.02	0.02	Acceptable
Ortho-Phosphate	1	0.000 mg/L	0.5		-0.5	0.5	Acceptable
Sulfate	1	0.000 mg/L	0.5		-0.5	0.5	Acceptable
Date\TimeCollected 10/18/2007 2:45:00 AM							
Bromide	1	0.000 mg/L	0.25		-0.25	0.25	Acceptable
Chloride	1	0.000 mg/L	0.2		-0.2	0.2	Acceptable
Fluoride	1	0.000 mg/L	0.1		-0.1	0.1	Acceptable
Nitrate	1	0.000 mg/L	0.02		-0.02	0.02	Acceptable
Nitrite	1	0.000 mg/L	0.02		-0.02	0.02	Acceptable
Ortho-Phosphate	1	0.000 mg/L	0.5		-0.5	0.5	Acceptable
Sulfate	1	0.000 mg/L	0.5		-0.5	0.5	Acceptable

Anion	Dil	Result	QC Conc	Recovery	LCL	UCL	Acceptance
Continuing Calibration Blank							
Date\TimeCollected	10/18/2007 5:02:00 AM						
Bromide	1	0.000 mg/L	0.25		-0.25	0.25	Acceptable
Chloride	1	0.000 mg/L	0.2		-0.2	0.2	Acceptable
Fluoride	1	0.000 mg/L	0.1		-0.1	0.1	Acceptable
Nitrate	1	0.000 mg/L	0.02		-0.02	0.02	Acceptable
Nitrite	1	0.000 mg/L	0.02		-0.02	0.02	Acceptable
Ortho-Phosphate	1	0.000 mg/L	0.5		-0.5	0.5	Acceptable
Sulfate	1	0.000 mg/L	0.5		-0.5	0.5	Acceptable
Date\TimeCollected	10/18/2007 7:19:00 AM						
Bromide	1	0.000 mg/L	0.25		-0.25	0.25	Acceptable
Chloride	1	0.000 mg/L	0.2		-0.2	0.2	Acceptable
Fluoride	1	0.000 mg/L	0.1		-0.1	0.1	Acceptable
Nitrate	1	0.000 mg/L	0.02		-0.02	0.02	Acceptable
Nitrite	1	0.000 mg/L	0.02		-0.02	0.02	Acceptable
Ortho-Phosphate	1	0.000 mg/L	0.5		-0.5	0.5	Acceptable
Sulfate	1	0.000 mg/L	0.5		-0.5	0.5	Acceptable
Date\TimeCollected	10/18/2007 9:43:00 AM						
Bromide	1	0.000 mg/L	0.25		-0.25	0.25	Acceptable
Chloride	1	0.000 mg/L	0.2		-0.2	0.2	Acceptable
Fluoride	1	0.000 mg/L	0.1		-0.1	0.1	Acceptable
Nitrate	1	0.000 mg/L	0.02		-0.02	0.02	Acceptable
Nitrite	1	0.000 mg/L	0.02		-0.02	0.02	Acceptable
Ortho-Phosphate	1	0.000 mg/L	0.5		-0.5	0.5	Acceptable
Sulfate	1	0.000 mg/L	0.5		-0.5	0.5	Acceptable
Date\TimeCollected	10/18/2007 12:40:00 PM						
Bromide	1	0.000 mg/L	0.25		-0.25	0.25	Acceptable
Chloride	1	0.000 mg/L	0.2		-0.2	0.2	Acceptable
Fluoride	1	0.000 mg/L	0.1		-0.1	0.1	Acceptable
Nitrate	1	0.000 mg/L	0.02		-0.02	0.02	Acceptable
Nitrite	1	0.000 mg/L	0.02		-0.02	0.02	Acceptable
Ortho-Phosphate	1	0.000 mg/L	0.5		-0.5	0.5	Acceptable
Sulfate	1	0.000 mg/L	0.5		-0.5	0.5	Acceptable
Date\TimeCollected	10/18/2007 2:19:00 PM						
Bromide	1	0.000 mg/L	0.25		-0.25	0.25	Acceptable
Chloride	1	0.000 mg/L	0.2		-0.2	0.2	Acceptable
Fluoride	1	0.000 mg/L	0.1		-0.1	0.1	Acceptable
Nitrate	1	0.000 mg/L	0.02		-0.02	0.02	Acceptable
Nitrite	1	0.000 mg/L	0.02		-0.02	0.02	Acceptable
Ortho-Phosphate	1	0.000 mg/L	0.5		-0.5	0.5	Acceptable
Sulfate	1	0.000 mg/L	0.5		-0.5	0.5	Acceptable

Anion	Dil	Result	QC Conc	Recovery	LCL	UCL	Acceptance
Continuing Calibration Verification							
Date\TimeCollected	10/17/2007 6:56:00 PM						
Bromide	1	1.875 mg/L	2	93.77%	1.8 (90%)	2.2 (110%)	Acceptable
Chloride	1	1.873 mg/L	2	93.65%	1.8 (90%)	2.2 (110%)	Acceptable
Fluoride	1	1.093 mg/L	1	109.26%	0.9 (90%)	1.1 (110%)	Acceptable
Nitrate	1	0.377 mg/L	0.4	94.32%	0.36 (90%)	0.44 (110%)	Acceptable
Nitrite	1	0.170 mg/L	0.16	106.03%	0.144 (90%)	0.176 (110%)	Acceptable
Ortho-Phosphate	1	8.196 mg/L	8	102.45%	7.2 (90%)	8.8 (110%)	Acceptable
Sulfate	1	7.510 mg/L	8	93.88%	7.2 (90%)	8.8 (110%)	Acceptable
Date\TimeCollected	10/17/2007 8:40:00 PM						
Bromide	1	1.899 mg/L	2	94.95%	1.8 (90%)	2.2 (110%)	Acceptable
Chloride	1	1.845 mg/L	2	92.27%	1.8 (90%)	2.2 (110%)	Acceptable
Fluoride	1	1.054 mg/L	1	105.38%	0.9 (90%)	1.1 (110%)	Acceptable
Nitrate	1	0.370 mg/L	0.4	92.62%	0.36 (90%)	0.44 (110%)	Acceptable
Nitrite	1	0.158 mg/L	0.16	99.05%	0.144 (90%)	0.176 (110%)	Acceptable
Ortho-Phosphate	1	8.577 mg/L	8	107.21%	7.2 (90%)	8.8 (110%)	Acceptable
Sulfate	1	7.569 mg/L	8	94.61%	7.2 (90%)	8.8 (110%)	Acceptable
Date\TimeCollected	10/17/2007 9:59:00 PM						
Bromide	1	1.838 mg/L	2	91.91%	1.8 (90%)	2.2 (110%)	Acceptable
Chloride	1	1.882 mg/L	2	94.09%	1.8 (90%)	2.2 (110%)	Acceptable
Fluoride	1	1.049 mg/L	1	104.92%	0.9 (90%)	1.1 (110%)	Acceptable
Nitrate	1	0.391 mg/L	0.4	97.63%	0.36 (90%)	0.44 (110%)	Acceptable
Nitrite	1	0.175 mg/L	0.16	109.11%	0.144 (90%)	0.176 (110%)	Acceptable
Ortho-Phosphate	1	8.729 mg/L	8	109.11%	7.2 (90%)	8.8 (110%)	Acceptable
Sulfate	1	7.700 mg/L	8	96.25%	7.2 (90%)	8.8 (110%)	Acceptable
Date\TimeCollected	10/18/2007 12:17:00 AM						
Bromide	1	1.972 mg/L	2	98.58%	1.8 (90%)	2.2 (110%)	Acceptable
Chloride	1	1.813 mg/L	2	90.66%	1.8 (90%)	2.2 (110%)	Acceptable
Fluoride	1	0.984 mg/L	1	98.43%	0.9 (90%)	1.1 (110%)	Acceptable
Nitrate	1	0.371 mg/L	0.4	92.71%	0.36 (90%)	0.44 (110%)	Acceptable
Nitrite	1	0.151 mg/L	0.16	94.36%	0.144 (90%)	0.176 (110%)	Acceptable
Ortho-Phosphate	1	8.518 mg/L	8	106.47%	7.2 (90%)	8.8 (110%)	Acceptable
Sulfate	1	7.463 mg/L	8	93.29%	7.2 (90%)	8.8 (110%)	Acceptable
Date\TimeCollected	10/18/2007 2:34:00 AM						
Bromide	1	2.063 mg/L	2	103.15%	1.8 (90%)	2.2 (110%)	Acceptable
Chloride	1	1.943 mg/L	2	97.16%	1.8 (90%)	2.2 (110%)	Acceptable
Fluoride	1	1.014 mg/L	1	101.41%	0.9 (90%)	1.1 (110%)	Acceptable
Nitrate	1	0.413 mg/L	0.4	103.19%	0.36 (90%)	0.44 (110%)	Acceptable
Nitrite	1	0.168 mg/L	0.16	105.28%	0.144 (90%)	0.176 (110%)	Acceptable
Ortho-Phosphate	1	7.776 mg/L	8	97.21%	7.2 (90%)	8.8 (110%)	Acceptable
Sulfate	1	7.453 mg/L	8	93.16%	7.2 (90%)	8.8 (110%)	Acceptable

Anion	Dil	Result	QC Conc	Recovery	LCL	UCL	Acceptance
Continuing Calibration Verification							
Date\TimeCollected 10/18/2007 4:51:00 AM							
Bromide	1	2.157 mg/L	2	107.87%	1.8 (90%)	2.2 (110%)	Acceptable
Chloride	1	1.862 mg/L	2	93.10%	1.8 (90%)	2.2 (110%)	Acceptable
Fluoride	1	0.976 mg/L	1	97.55%	0.9 (90%)	1.1 (110%)	Acceptable
Nitrate	1	0.379 mg/L	0.4	94.67%	0.36 (90%)	0.44 (110%)	Acceptable
Nitrite	1	0.161 mg/L	0.16	100.33%	0.144 (90%)	0.176 (110%)	Acceptable
Ortho-Phosphate	1	7.969 mg/L	8	99.62%	7.2 (90%)	8.8 (110%)	Acceptable
Sulfate	1	7.527 mg/L	8	94.08%	7.2 (90%)	8.8 (110%)	Acceptable
Date\TimeCollected 10/18/2007 7:08:00 AM							
Bromide	1	1.940 mg/L	2	96.99%	1.8 (90%)	2.2 (110%)	Acceptable
Chloride	1	1.852 mg/L	2	92.59%	1.8 (90%)	2.2 (110%)	Acceptable
Fluoride	1	1.034 mg/L	1	103.38%	0.9 (90%)	1.1 (110%)	Acceptable
Nitrate	1	0.369 mg/L	0.4	92.35%	0.36 (90%)	0.44 (110%)	Acceptable
Nitrite	1	0.164 mg/L	0.16	102.75%	0.144 (90%)	0.176 (110%)	Acceptable
Ortho-Phosphate	1	8.163 mg/L	8	102.04%	7.2 (90%)	8.8 (110%)	Acceptable
Sulfate	1	7.787 mg/L	8	97.33%	7.2 (90%)	8.8 (110%)	Acceptable
Date\TimeCollected 10/18/2007 9:31:00 AM							
Bromide	1	1.897 mg/L	2	94.86%	1.8 (90%)	2.2 (110%)	Acceptable
Chloride	1	1.991 mg/L	2	99.55%	1.8 (90%)	2.2 (110%)	Acceptable
Fluoride	1	0.999 mg/L	1	99.90%	0.9 (90%)	1.1 (110%)	Acceptable
Nitrate	1	0.384 mg/L	0.4	96.11%	0.36 (90%)	0.44 (110%)	Acceptable
Nitrite	1	0.153 mg/L	0.16	95.66%	0.144 (90%)	0.176 (110%)	Acceptable
Ortho-Phosphate	1	0.000 mg/L	8	0.00%	7.2 (90%)	8.8 (110%)	~~OUTSIDE LIMITS~~ NR
Sulfate	1	7.776 mg/L	8	97.20%	7.2 (90%)	8.8 (110%)	Acceptable JB 10/18/07
Date\TimeCollected 10/18/2007 12:29:00 PM							
Bromide	1	2.018 mg/L	2	100.90%	1.8 (90%)	2.2 (110%)	Acceptable
Chloride	1	1.943 mg/L	2	97.17%	1.8 (90%)	2.2 (110%)	Acceptable
Fluoride	1	0.941 mg/L	1	94.13%	0.9 (90%)	1.1 (110%)	Acceptable
Nitrate	1	0.384 mg/L	0.4	95.95%	0.36 (90%)	0.44 (110%)	Acceptable
Nitrite	1	0.159 mg/L	0.16	99.32%	0.144 (90%)	0.176 (110%)	Acceptable NR
Ortho-Phosphate	1	0.000 mg/L	8	0.00%	7.2 (90%)	8.8 (110%)	~~OUTSIDE LIMITS~~ JB 10/18/07
Sulfate	1	7.715 mg/L	8	96.44%	7.2 (90%)	8.8 (110%)	Acceptable
Date\TimeCollected 10/18/2007 2:08:00 PM							
Bromide	1	1.917 mg/L	2	95.85%	1.8 (90%)	2.2 (110%)	Acceptable
Chloride	1	1.939 mg/L	2	96.95%	1.8 (90%)	2.2 (110%)	Acceptable
Fluoride	1	0.923 mg/L	1	92.33%	0.9 (90%)	1.1 (110%)	Acceptable
Nitrate	1	0.396 mg/L	0.4	98.90%	0.36 (90%)	0.44 (110%)	Acceptable
Nitrite	1	0.159 mg/L	0.16	99.44%	0.144 (90%)	0.176 (110%)	Acceptable
Ortho-Phosphate	1	4.653 mg/L	8	58.16%	7.2 (90%)	8.8 (110%)	~~OUTSIDE LIMITS~~ NR
Sulfate	1	7.641 mg/L	8	95.52%	7.2 (90%)	8.8 (110%)	Acceptable JB 10/18/07

Anion	Dil	Result	QC Conc	Recovery	LCL	UCL	Acceptance
Laboratory Contol Sample		C					
Date\TimeCollected	10/18/2007 10:17:00 AM						
Bromide	1	1.927 mg/L	2	96.33%	1.8 (90%)	2.2 (110%)	Acceptable
Chloride	1	1.946 mg/L	2	97.28%	1.8 (90%)	2.2 (110%)	Acceptable
Fluoride	1	0.958 mg/L	1	95.84%	0.9 (90%)	1.1 (110%)	Acceptable
Nitrate	1	0.359 mg/L	0.4	89.68%	0.36 (90%)	0.44 (110%)	~~OUTSIDE LIMITS~~ OK 90%
Nitrite	1	0.163 mg/L	0.16	101.72%	0.144 (90%)	0.176 (110%)	Acceptable JB 10/18/07 x2
Ortho-Phosphate	1	0.000 mg/L	8	0.00%	7.2 (90%)	8.8 (110%)	~~OUTSIDE LIMITS~~ NR
Sulfate	1	7.744 mg/L	8	96.80%	7.2 (90%)	8.8 (110%)	Acceptable
Prep Blank		B					
Date\TimeCollected	10/18/2007 10:28:00 AM						
Bromide	1	0.000 mg/L	0.25		-0.25	0.25	Acceptable
Chloride	1	0.000 mg/L	0.2		-0.2	0.2	Acceptable
Fluoride	1	0.038 mg/L	0.1		-0.1	0.1	Acceptable
Nitrate	1	0.000 mg/L	0.02		-0.02	0.02	Acceptable
Nitrite	1	0.000 mg/L	0.02		-0.02	0.02	Acceptable
Ortho-Phosphate	1	0.000 mg/L	0.5		-0.5	0.5	Acceptable
Sulfate	1	0.000 mg/L	0.5		-0.5	0.5	Acceptable

STL St. Louis

Anion Worksheet

Analyst: JB
Date: 10/17/07

Method: IC 300 & 9056A
Instrument: IC ICS2500

All result as ppb

LANL: 7291371

Lot Number	Sample ID	Fluoride	Chloride	Nitrite	Bromide	Nitrate	Phosphate	Sulfate	Chlorate
F7J160279	J834N					ND			
	J834P					ND			
	J834Q					ND			
	J834V					54 ~~ND~~	JB 10/18/07		
	J834W					ND			
	J8348					ND			
	J835Q					104			
	J836A					ND			
	J836D					ND			
	J836E					ND			
	J836F					ND			
	J83XG					ND			
	J8337					ND			
	J834C					ND			
	J834F					ND			
	J834H					ND			
	J834L					ND			
	J834m					ND			
	J834X					ND			
	J834O					ND			

STL St. Louis

Anion Worksheet

Analyst: JB
Date: 10/17/07

Method: IC 300
Instrument: IC ICS 2500

All result as ppb

LANL: 7291373

Lot Number	Sample ID	Fluoride	Chloride	Nitrite	Bromide	Nitrate	Phosphate	Sulfate	Chlorate
F7J160279	J834					ND			
	J835A					ND			
	J835E					21			
	J835J					ND			
	J835N					ND			
	J835W					ND			
	J8351					ND			
	J8353					ND			
	J8355					ND			
	J8356					ND			
	J8359					ND			
	J836C					ND			
	J836G					ND			
	J836H					ND			
	J836T					ND			

DI Leach Log

Analyst: JB
Date: 10/18/2007
Batch: 7291371, 7291373

Lab Sample Number	Leach Date	Sample Weight (g)	Final volume (ml)
J834N	10/18/2007	4	40
J834N-S	10/18/2007	4	40
J834P	10/18/2007	4	40
J834Q	10/18/2007	4	40
J834V	10/18/2007	4	40
J834W	10/18/2007	4	40
J8348	10/18/2007	4	40
J835Q	10/18/2007	4	40
J836A	10/18/2007	4	40
J836D	10/18/2007	4	40
J836E	10/18/2007	4	40
J836F	10/18/2007	4	40
J83XG	10/18/2007	4	40
J8337	10/18/2007	4	40
J834C	10/18/2007	4	40
J834F	10/18/2007	4	40
J834H	10/18/2007	4	40
J834L	10/18/2007	4	40
J834M	10/18/2007	4	40
J834X	10/18/2007	4	40
J8340	10/18/2007	4	40
J8344	10/18/2007	4	40
J8344-S	10/18/2007	4	40
J835A	10/18/2007	4	40
J835E	10/18/2007	4	40
J835J	10/18/2007	4	40
J835N	10/18/2007	4	40
J835W	10/18/2007	4	40
J8351	10/18/2007	4	40
J8353	10/18/2007	4	40
J8355	10/18/2007	4	40
J8356	10/18/2007	4	40
J8359	10/18/2007	4	40
J836C	10/18/2007	4	40
J836G	10/18/2007	4	40
J836H	10/18/2007	4	40
J836T	10/18/2007	4	40

SL-INORG-0104
Rev 0, 04/05/07

Sequence: 101707CALCH
Operator: chemist

Printed: 10/18/2007 2:43:55 PM

Title:
Datasource: SLIC03_local
Location: SLIC03_1\SEQUENCES\07OCT
Timebase: SLIC03_1
#Samples: 129

Created: 10/17/2007 8:50:54 AM by chemist
Last Update: 10/18/2007 2:43:50 PM by chemist

No.	Name	Type	Pos.	Inj. Vol.	Program	Method	Status	Inj. Date/Time
1	CAL 1	Standard	31	50.0	SLIC03_local	STLANIONS	Finished	10/17/2007 4:00:08 PM
2	CAL 2	Standard	31	50.0	SLIC03_local	STLANIONS	Finished	10/17/2007 4:12:33 PM
3	CAL 3	Standard	32	50.0	SLIC03_local	STLANIONS	Finished	10/17/2007 4:24:58 PM
4	CAL 4	Standard	33	50.0	SLIC03_local	STLANIONS	Finished	10/17/2007 4:37:24 PM
5	CAL 5	Standard	34	50.0	SLIC03_local	STLANIONS	Finished	10/17/2007 4:49:49 PM
6	CAL 6	Standard	35	50.0	SLIC03_local	STLANIONS	Finished	10/17/2007 5:02:14 PM
7	ICV/LCS	Unknown	36	50.0	SLIC03_local	STLANIONS	Finished	10/17/2007 5:19:22 PM
8	CCB	Unknown	37	50.0	SLIC03_local	STLANIONS	Finished	10/17/2007 5:48:37 PM
9	J86HL	Unknown	38	50.0	SLIC03_local	STLANIONS	Finished	10/17/2007 6:10:22 PM
10	J85WA	Unknown	39	50.0	SLIC03_local	STLANIONS	Finished	10/17/2007 6:21:47 PM
11	J85WA-X	Unknown	40	50.0	SLIC03_local	STLANIONS	Finished	10/17/2007 6:33:12 PM
12	J85WA-S	Unknown	41	50.0	SLIC03_local	STLANIONS	Finished	10/17/2007 6:44:37 PM
13	CCV	Unknown	42	50.0	SLIC03_local	STLANIONS	Finished	10/17/2007 6:56:02 PM
14	CCB	Unknown	43	50.0	SLIC03_local	STLANIONS	Finished	10/17/2007 7:07:27 PM
15	J87K4	Unknown	44	50.0	SLIC03_local	STLANIONS	Finished	10/17/2007 7:18:52 PM
16	J87K4-X	Unknown	45	50.0	SLIC03_local	STLANIONS	Finished	10/17/2007 7:42:55 PM
17	J87K4-S	Unknown	46	50.0	SLIC03_local	STLANIONS	Finished	10/17/2007 7:54:20 PM
18	J87K4-50X	Unknown	47	50.0	SLIC03_local	STLANIONS	Finished	10/17/2007 8:05:45 PM
19	J87K4-50X-X	Unknown	48	50.0	SLIC03_local	STLANIONS	Finished	10/17/2007 8:17:10 PM
20	J87K4-50X-S	Unknown	49	50.0	SLIC03_local	STLANIONS	Finished	10/17/2007 8:28:35 PM
21	CCV	Unknown	50	50.0	SLIC03_local	STLANIONS	Finished	10/17/2007 8:40:01 PM
22	CCB	Unknown	51	50.0	SLIC03_local	STLANIONS	Finished	10/17/2007 8:51:26 PM
23	J86HL-X	Unknown	52	50.0	SLIC03_local	STLANIONS	Finished	10/17/2007 9:02:52 PM
24	J86HL-S	Unknown	53	50.0	SLIC03_local	STLANIONS	Finished	10/17/2007 9:14:17 PM
25	J86HL-10X	Unknown	54	50.0	SLIC03_local	STLANIONS	Finished	10/17/2007 9:25:42 PM
26	J86HL-10X-X	Unknown	55	50.0	SLIC03_local	STLANIONS	Finished	10/17/2007 9:37:07 PM
27	J86HL-10X-S	Unknown	56	50.0	SLIC03_local	STLANIONS	Finished	10/17/2007 9:48:32 PM
28	CCV	Unknown	71	50.0	SLIC03_local	STLANIONS	Finished	10/17/2007 9:59:58 PM
29	CCB	Unknown	72	50.0	SLIC03_local	STLANIONS	Finished	10/17/2007 10:11:23 PM
30	J87DP-10X	Unknown	73	50.0	SLIC03_local	STLANIONS	Finished	10/17/2007 10:22:48 PM
31	J87DP-10X-X	Unknown	74	50.0	SLIC03_local	STLANIONS	Finished	10/17/2007 10:34:13 PM
32	J87DP-10X-S	Unknown	75	50.0	SLIC03_local	STLANIONS	Finished	10/17/2007 10:45:38 PM
33	J87DP-100X	Unknown	76	50.0	SLIC03_local	STLANIONS	Finished	10/17/2007 10:57:04 PM
34	J87DP-100X-X	Unknown	77	50.0	SLIC03_local	STLANIONS	Finished	10/17/2007 11:08:29 PM
35	J87DP-100X-S	Unknown	78	50.0	SLIC03_local	STLANIONS	Finished	10/17/2007 11:19:55 PM
36	J87DP-1000X	Unknown	79	50.0	SLIC03_local	STLANIONS	Finished	10/17/2007 11:31:20 PM
37	J87DP-1000X-X	Unknown	80	50.0	SLIC03_local	STLANIONS	Finished	10/17/2007 11:42:45 PM
38	J87DP-1000X-S	Unknown	81	50.0	SLIC03_local	STLANIONS	Finished	10/17/2007 11:54:10 PM
39	J8692-10X	Unknown	82	50.0	SLIC03_local	STLANIONS	Finished	10/18/2007 12:05:36 AM
40	CCV	Unknown	83	50.0	SLIC03_local	STLANIONS	Finished	10/18/2007 12:17:01 AM
41	CCB	Unknown	84	50.0	SLIC03_local	STLANIONS	Finished	10/18/2007 12:28:28 AM
42	J8692-100X	Unknown	85	50.0	SLIC03_local	STLANIONS	Finished	10/18/2007 12:39:53 AM

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Sequence: 101707CALCH
Operator: chemist

Printed: 10/18/2007 2:43:55 PM

Title:
Datasource: SLIC03_local
Location: SLIC03_1\SEQUENCES\07OCT
Timebase: SLIC03_1
#Samples: 129

Created: 10/17/2007 8:50:54 AM by chemist
Last Update: 10/18/2007 2:43:50 PM by chemist

No.	Name	Weight	Dil. Factor	ISTD Amount	Sample ID	Replicate ID	Comment
1	CAL 1	1.0000	1.0000	1.0000		1	
2	CAL 2	1.0000	1.0000	1.0000		1	
3	CAL 3	1.0000	1.0000	1.0000		1	
4	CAL 4	1.0000	1.0000	1.0000		1	
5	CAL 5	1.0000	1.0000	1.0000		1	
6	CAL 6	1.0000	1.0000	1.0000		1	
7	ICV/LCS	1.0000	1.0000	1.0000		1	
8	CCB	1.0000	1.0000	1.0000		1	
9	J86HL	1.0000	1.0000	1.0000		1	
10	J85WA	1.0000	1.0000	1.0000		1	
11	J85WA-X	1.0000	1.0000	1.0000		1	
12	J85WA-S	1.0000	1.0000	1.0000		1	
13	CCV	1.0000	1.0000	1.0000		1	
14	CCB	1.0000	1.0000	1.0000		1	
15	J87K4	1.0000	1.0000	1.0000		1	
16	J87K4-X	1.0000	1.0000	1.0000		1	
17	J87K4-S	1.0000	1.0000	1.0000		1	
18	J87K4-50X	1.0000	50.0000	1.0000		1	
19	J87K4-50X-X	1.0000	50.0000	1.0000		1	
20	J87K4-50X-S	1.0000	50.0000	1.0000		1	
21	CCV	1.0000	1.0000	1.0000		1	
22	CCB	1.0000	1.0000	1.0000		1	
23	J86HL-X	1.0000	1.0000	1.0000		1	
24	J86HL-S	1.0000	1.0000	1.0000		1	
25	J86HL-10X	1.0000	10.0000	1.0000		1	
26	J86HL-10X-X	1.0000	10.0000	1.0000		1	
27	J86HL-10X-S	1.0000	10.0000	1.0000		1	
28	CCV	1.0000	1.0000	1.0000		1	
29	CCB	1.0000	1.0000	1.0000		1	
30	J87DP-10X	1.0000	10.0000	1.0000		1	
31	J87DP-10X-X	1.0000	10.0000	1.0000		1	
32	J87DP-10X-S	1.0000	10.0000	1.0000		1	
33	J87DP-100X	1.0000	100.0000	1.0000		1	
34	J87DP-100X-X	1.0000	100.0000	1.0000		1	
35	J87DP-100X-S	1.0000	100.0000	1.0000		1	
36	J87DP-1000X	1.0000	1000.0000	1.0000		1	
37	J87DP-1000X-X	1.0000	1000.0000	1.0000		1	
38	J87DP-1000X-S	1.0000	1000.0000	1.0000		1	
39	J8692-10X	1.0000	10.0000	1.0000		1	
40	CCV	1.0000	1.0000	1.0000		1	
41	CCB	1.0000	1.0000	1.0000		1	
42	J8692-100X	1.0000	100.0000	1.0000		1	

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Sequence: 101707CALCH
Operator: chemist

Printed: 10/18/2007 2:43:55 PM

Title:
Datasource: SLIC03_local
Location: SLIC03_1\SEQUENCES\07OCT
Timebase: SLIC03_1
#Samples: 129

Created: 10/17/2007 8:50:54 AM by chemist
Last Update: 10/18/2007 2:43:50 PM by chemist

No.	Name	Type	Pos.	Inj. Vol.	Program	Method	Status	Inj. Date/Time
43	J8692-1000X	Unknown	86	50.0	SLIC03_local	STLANIONS	Finished	10/18/2007 12:51:19 AM
44	J87C7-10X	Unknown	87	50.0	SLIC03_local	STLANIONS	Finished	10/18/2007 1:02:44 AM
45	J87C7-100X	Unknown	88	50.0	SLIC03_local	STLANIONS	Finished	10/18/2007 1:14:09 AM
46	J87C7-1000X	Unknown	89	50.0	SLIC03_local	STLANIONS	Finished	10/18/2007 1:25:35 AM
47	J87C0-10X	Unknown	90	50.0	SLIC03_local	STLANIONS	Finished	10/18/2007 1:37:00 AM
48	J87C0-100X	Unknown	91	50.0	SLIC03_local	STLANIONS	Finished	10/18/2007 1:48:25 AM
49	J87C0-1000X	Unknown	92	50.0	SLIC03_local	STLANIONS	Finished	10/18/2007 1:59:50 AM
50	J87CM-10X	Unknown	93	50.0	SLIC03_local	STLANIONS	Finished	10/18/2007 2:11:15 AM
51	J87CM-100X	Unknown	94	50.0	SLIC03_local	STLANIONS	Finished	10/18/2007 2:22:41 AM
52	CCV	Unknown	95	50.0	SLIC03_local	STLANIONS	Finished	10/18/2007 2:34:06 AM
53	CCB	Unknown	96	50.0	SLIC03_local	STLANIONS	Finished	10/18/2007 2:45:31 AM
54	J87CM-1000X	Unknown	97	50.0	SLIC03_local	STLANIONS	Finished	10/18/2007 2:56:57 AM
55	J87DC-10X	Unknown	98	50.0	SLIC03_local	STLANIONS	Finished	10/18/2007 3:08:22 AM
56	J87DC-100X	Unknown	99	50.0	SLIC03_local	STLANIONS	Finished	10/18/2007 3:19:47 AM
57	J87DC-1000X	Unknown	100	50.0	SLIC03_local	STLANIONS	Finished	10/18/2007 3:31:13 AM
58	J87DH-10X	Unknown	101	50.0	SLIC03_local	STLANIONS	Finished	10/18/2007 3:42:37 AM
59	J87DH-100X	Unknown	102	50.0	SLIC03_local	STLANIONS	Finished	10/18/2007 3:54:03 AM
60	J87DH-1000X	Unknown	103	50.0	SLIC03_local	STLANIONS	Finished	10/18/2007 4:05:28 AM
61	J869G-10X	Unknown	104	50.0	SLIC03_local	STLANIONS	Finished	10/18/2007 4:16:54 AM
62	J869G-100X	Unknown	105	50.0	SLIC03_local	STLANIONS	Finished	10/18/2007 4:28:19 AM
63	J869G-1000X	Unknown	106	50.0	SLIC03_local	STLANIONS	Finished	10/18/2007 4:39:44 AM
64	CCV	Unknown	107	50.0	SLIC03_local	STLANIONS	Finished	10/18/2007 4:51:09 AM
65	CCB	Unknown	108	50.0	SLIC03_local	STLANIONS	Finished	10/18/2007 5:02:35 AM
66	J834N	Unknown	109	50.0	SLIC03_local	STLANIONS	Finished	10/18/2007 5:14:00 AM
67	J834N-X	Unknown	110	50.0	SLIC03_local	STLANIONS	Finished	10/18/2007 5:25:25 AM
68	J834N-S	Unknown	111	50.0	SLIC03_local	STLANIONS	Finished	10/18/2007 5:36:51 AM
69	J834P	Unknown	112	50.0	SLIC03_local	STLANIONS	Finished	10/18/2007 5:48:16 AM
70	J834Q	Unknown	113	50.0	SLIC03_local	STLANIONS	Finished	10/18/2007 5:59:42 AM
71	J834V	Unknown	114	50.0	SLIC03_local	STLANIONS	Finished	10/18/2007 6:11:07 AM
72	J834W	Unknown	115	50.0	SLIC03_local	STLANIONS	Finished	10/18/2007 6:22:32 AM
73	J8348	Unknown	116	50.0	SLIC03_local	STLANIONS	Finished	10/18/2007 6:33:58 AM
74	J835Q	Unknown	117	50.0	SLIC03_local	STLANIONS	Finished	10/18/2007 6:45:24 AM
75	J836A	Unknown	118	50.0	SLIC03_local	STLANIONS	Finished	10/18/2007 6:56:49 AM
76	CCV	Unknown	119	50.0	SLIC03_local	STLANIONS	Finished	10/18/2007 7:08:13 AM
77	CCB	Unknown	120	50.0	SLIC03_local	STLANIONS	Finished	10/18/2007 7:19:38 AM
78	J836D	Unknown	121	50.0	SLIC03_local	STLANIONS	Finished	10/18/2007 7:31:04 AM
79	J836E	Unknown	122	50.0	SLIC03_local	STLANIONS	Finished	10/18/2007 7:42:29 AM
80	J836F	Unknown	123	50.0	SLIC03_local	STLANIONS	Finished	10/18/2007 7:53:54 AM
81	J83XG	Unknown	124	50.0	SLIC03_local	STLANIONS	Finished	10/18/2007 8:05:20 AM
82	J8337	Unknown	125	50.0	SLIC03_local	STLANIONS	Finished	10/18/2007 8:16:45 AM
83	J834C	Unknown	126	50.0	SLIC03_local	STLANIONS	Finished	10/18/2007 8:28:10 AM
84	J834F	Unknown	127	50.0	SLIC03_local	STLANIONS	Finished	10/18/2007 8:39:35 AM

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Sequence: 101707CALCH
Operator: chemist

Printed: 10/18/2007 2:43:55 PM

Title:
Datasource: SLIC03_local
Location: SLIC03_1\SEQUENCES\07OCT
Timebase: SLIC03_1
#Samples: 129

Created: 10/17/2007 8:50:54 AM by chemist
Last Update: 10/18/2007 2:43:50 PM by chemist

No.	Name	Weight	Dil. Factor	ISTD Amount	Sample ID	Replicate ID	Comment
43	J8692-1000X	1.0000	1000.0000	1.0000		1	
44	J87C7-10X	1.0000	10.0000	1.0000		1	
45	J87C7-100X	1.0000	100.0000	1.0000		1	
46	J87C7-1000X	1.0000	1000.0000	1.0000		1	
47	J87C0-10X	1.0000	10.0000	1.0000		1	
48	J87C0-100X	1.0000	100.0000	1.0000		1	
49	J87C0-1000X	1.0000	1000.0000	1.0000		1	
50	J87CM-10X	1.0000	10.0000	1.0000		1	
51	J87CM-100X	1.0000	100.0000	1.0000		1	
52	CCV	1.0000	1.0000	1.0000		1	
53	CCB	1.0000	1.0000	1.0000		1	
54	J87CM-1000X	1.0000	1000.0000	1.0000		1	
55	J87DC-10X	1.0000	10.0000	1.0000		1	
56	J87DC-100X	1.0000	100.0000	1.0000		1	
57	J87DC-1000X	1.0000	1000.0000	1.0000		1	
58	J87DH-10X	1.0000	10.0000	1.0000		1	
59	J87DH-100X	1.0000	100.0000	1.0000		1	
60	J87DH-1000X	1.0000	1000.0000	1.0000		1	
61	J869G-10X	1.0000	10.0000	1.0000		1	
62	J869G-100X	1.0000	100.0000	1.0000		1	
63	J869G-1000X	1.0000	1000.0000	1.0000		1	
64	CCV	1.0000	1.0000	1.0000		1	
65	CCB	1.0000	1.0000	1.0000		1	
66	J834N	1.0000	1.0000	1.0000		1	
67	J834N-X	1.0000	1.0000	1.0000		1	
68	J834N-S	1.0000	1.0000	1.0000		1	
69	J834P	1.0000	1.0000	1.0000		1	
70	J834Q	1.0000	1.0000	1.0000		1	
71	J834V	1.0000	1.0000	1.0000		1	
72	J834W	1.0000	1.0000	1.0000		1	
73	J8348	1.0000	1.0000	1.0000		1	
74	J835Q	1.0000	1.0000	1.0000		1	
75	J836A	1.0000	1.0000	1.0000		1	
76	CCV	1.0000	1.0000	1.0000		1	
77	CCB	1.0000	1.0000	1.0000		1	
78	J836D	1.0000	1.0000	1.0000		1	
79	J836E	1.0000	1.0000	1.0000		1	
80	J836F	1.0000	1.0000	1.0000		1	
81	J83XG	1.0000	1.0000	1.0000		1	
82	J8337	1.0000	1.0000	1.0000		1	
83	J834C	1.0000	1.0000	1.0000		1	
84	J834F	1.0000	1.0000	1.0000		1	

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Sequence: 101707CALCH
Operator: chemist

Printed: 10/18/2007 2:43:55 PM

Title:
Datasource: SLIC03_local
Location: SLIC03_1\SEQUENCES\07OCT
Timebase: SLIC03_1
#Samples: 129

Created: 10/17/2007 8:50:54 AM by chemist
Last Update: 10/18/2007 2:43:50 PM by chemist

No.	Name	Type	Pos.	Inj. Vol.	Program	Method	Status	Inj. Date/Time
85	J834H	Unknown	128	50.0	SLIC03_local	STLANIONS	Finished	10/18/2007 8:51:00 AM
86	J834L	Unknown	129	50.0	SLIC03_local	STLANIONS	Finished	10/18/2007 9:02:25 AM
87	J834M	Unknown	130	50.0	SLIC03_local	STLANIONS	Finished	10/18/2007 9:13:50 AM
88	CCV	Unknown	131	50.0	SLIC03_local	STLANIONS	Finished	10/18/2007 9:31:36 AM
89	CCB	Unknown	132	50.0	SLIC03_local	STLANIONS	Finished	10/18/2007 9:43:01 AM
90	J834X	Unknown	133	50.0	SLIC03_local	STLANIONS	Finished	10/18/2007 9:54:27 AM
91	J8340	Unknown	134	50.0	SLIC03_local	STLANIONS	Finished	10/18/2007 10:05:52 AM
92	CCV	Unknown	135	50.0	SLIC03_local	STLANIONS	Finished	10/18/2007 10:17:17 AM
93	CCB	Unknown	136	50.0	SLIC03_local	STLANIONS	Finished	10/18/2007 10:28:42 AM
94	J8344	Unknown	137	50.0	SLIC03_local	STLANIONS	Finished	10/18/2007 10:40:07 AM
95	J8344-X	Unknown	138	50.0	SLIC03_local	STLANIONS	Finished	10/18/2007 10:51:32 AM
96	J8344-S	Unknown	139	50.0	SLIC03_local	STLANIONS	Finished	10/18/2007 11:02:28 AM
97	J835A	Unknown	140	50.0	SLIC03_local	STLANIONS	Finished	10/18/2007 11:13:23 AM
98	J835E	Unknown	141	50.0	SLIC03_local	STLANIONS	Finished	10/18/2007 11:24:18 AM
99	J835J	Unknown	142	50.0	SLIC03_local	STLANIONS	Finished	10/18/2007 11:35:13 AM
100	J835N	Unknown	143	50.0	SLIC03_local	STLANIONS	Finished	10/18/2007 11:46:09 AM
101	J835W	Unknown	144	50.0	SLIC03_local	STLANIONS	Finished	10/18/2007 11:57:04 AM
102	J8351	Unknown	145	50.0	SLIC03_local	STLANIONS	Finished	10/18/2007 12:07:59 PM
103	J8353	Unknown	146	50.0	SLIC03_local	STLANIONS	Finished	10/18/2007 12:18:54 PM
104	CCV	Unknown	147	50.0	SLIC03_local	STLANIONS	Finished	10/18/2007 12:29:50 PM
105	CCB	Unknown	148	50.0	SLIC03_local	STLANIONS	Finished	10/18/2007 12:40:45 PM
106	J8355	Unknown	149	50.0	SLIC03_local	STLANIONS	Finished	10/18/2007 12:51:40 PM
107	J8356	Unknown	150	50.0	SLIC03_local	STLANIONS	Finished	10/18/2007 1:02:35 PM
108	J8359	Unknown	151	50.0	SLIC03_local	STLANIONS	Finished	10/18/2007 1:13:31 PM
109	J836C	Unknown	152	50.0	SLIC03_local	STLANIONS	Finished	10/18/2007 1:24:26 PM
110	J836G	Unknown	153	50.0	SLIC03_local	STLANIONS	Finished	10/18/2007 1:35:21 PM
111	J836H	Unknown	154	50.0	SLIC03_local	STLANIONS	Finished	10/18/2007 1:46:16 PM
112	J836T	Unknown	155	50.0	SLIC03_local	STLANIONS	Finished	10/18/2007 1:57:11 PM
113	CCV	Unknown	156	50.0	SLIC03_local	STLANIONS	Finished	10/18/2007 2:08:06 PM
114	CCB	Unknown	157	50.0	SLIC03_local	STLANIONS	Finished	10/18/2007 2:19:02 PM
	J87DP-5000X	Unknown	158	50.0	SLIC03_local	STLANIONS	Running	10/18/2007 2:41:38 PM
116	J8692-10X-X	Unknown	159	50.0	SLIC03_local	STLANIONS	Single	
117	J8692-10X-S	Unknown	160	50.0	SLIC03_local	STLANIONS	Single	
118	J8692-100X-X	Unknown	161	50.0	SLIC03_local	STLANIONS	Single	
119	J8692-100X-S	Unknown	162	50.0	SLIC03_local	STLANIONS	Single	
120	J8692-1000X-X	Unknown	163	50.0	SLIC03_local	STLANIONS	Single	
121	J8692-1000X-S	Unknown	164	50.0	SLIC03_local	STLANIONS	Single	
122	J87C7-5000X	Unknown	165	50.0	SLIC03_local	STLANIONS	Single	
123	J87CM-5000X	Unknown	166	50.0	SLIC03_local	STLANIONS	Single	
124	J87DH-2000X	Unknown	167	50.0	SLIC03_local	STLANIONS	Single	
125	CCV	Unknown	168	50.0	SLIC03_local	STLANIONS	Single	
126	CCB	Unknown	169	50.0	SLIC03_local	STLANIONS	Single	

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Sequence: 101707CALCH
Operator: chemist

Printed: 10/18/2007 2:43:55 PM

Title:
Datasource: SLIC03_local
Location: SLIC03_1\SEQUENCES\07OCT
Timebase: SLIC03_1
#Samples: 129

Created: 10/17/2007 8:50:54 AM by chemist
Last Update: 10/18/2007 2:43:50 PM by chemist

No.	Name	Weight	Dil. Factor	ISTD Amount	Sample ID	Replicate ID	Comment
85	J834H	1.0000	1.0000	1.0000		1	
86	J834L	1.0000	1.0000	1.0000		1	
87	J834M	1.0000	1.0000	1.0000		1	
88	CCV	1.0000	1.0000	1.0000		1	
89	CCB	1.0000	1.0000	1.0000		1	
90	J834X	1.0000	1.0000	1.0000		1	
91	J8340	1.0000	1.0000	1.0000		1	
92	CCV	1.0000	1.0000	1.0000		1	
93	CCB	1.0000	1.0000	1.0000		1	
94	J8344	1.0000	1.0000	1.0000		1	
95	J8344-X	1.0000	1.0000	1.0000		1	
96	J8344-S	1.0000	1.0000	1.0000		1	
97	J835A	1.0000	1.0000	1.0000		1	
98	J835E	1.0000	1.0000	1.0000		1	
99	J835J	1.0000	1.0000	1.0000		1	
100	J835N	1.0000	1.0000	1.0000		1	
101	J835W	1.0000	1.0000	1.0000		1	
102	J8351	1.0000	1.0000	1.0000		1	
103	J8353	1.0000	1.0000	1.0000		1	
104	CCV	1.0000	1.0000	1.0000		1	
105	CCB	1.0000	1.0000	1.0000		1	
106	J8355	1.0000	1.0000	1.0000		1	
107	J8356	1.0000	1.0000	1.0000		1	
108	J8359	1.0000	1.0000	1.0000		1	
109	J836C	1.0000	1.0000	1.0000		1	
110	J836G	1.0000	1.0000	1.0000		1	
111	J836H	1.0000	1.0000	1.0000		1	
112	J836T	1.0000	1.0000	1.0000		1	
113	CCV	1.0000	1.0000	1.0000		1	
114	CCB	1.0000	1.0000	1.0000		1	
[redacted]	J87DP-5000X	1.0000	5000.0000	1.0000		1	
116	J8692-10X-X	1.0000	10.0000	1.0000		1	
117	J8692-10X-S	1.0000	10.0000	1.0000		1	
118	J8692-100X-X	1.0000	100.0000	1.0000		1	
119	J8692-100X-S	1.0000	100.0000	1.0000		1	
120	J8692-1000X-X	1.0000	1000.0000	1.0000		1	
121	J8692-1000X-S	1.0000	1000.0000	1.0000		1	
122	J87C7-5000X	1.0000	5000.0000	1.0000		1	
123	J87CM-5000X	1.0000	5000.0000	1.0000		1	
124	J87DH-2000X	1.0000	2000.0000	1.0000		1	
125	CCV	1.0000	1.0000	1.0000		1	
126	CCB	1.0000	1.0000	1.0000		1	

Chromeleon © Dionex Corporation, Version 6.50 SP4 Build 1000

Sequence: 101707CALCH
Operator: chemist

Printed: 10/18/2007 2:43:55 PM

Title:
Datasource: SLIC03_local
Location: SLIC03_1\SEQUENCES\07OCT
Timebase: SLIC03_1
#Samples: 129

Created: 10/17/2007 8:50:54 AM by chemist
Last Update: 10/18/2007 2:43:50 PM by chemist

No.	Name	Type	Pos.	Inj. Vol.	Program	Method	Status	Inj. Date/Time
127	J869G-2000X	Unknown	170	50.0	SLIC03_local	STLANIONS	Single	
128	CCV	Unknown	171	50.0	SLIC03_local	STLANIONS	Single	
129	CCB	Unknown	172	50.0	SLIC03_local	STLANIONS	Single	

Chromeleon © Dionex Corporation, Version 6.50 SP4 Build 1000

Sequence: 101707CALCH
Operator: chemist

Printed: 10/18/2007 2:43:55 PM

Title:
Datasource: SLIC03_local
Location: SLIC03_1\SEQUENCES\07OCT
Timebase: SLIC03_1
#Samples: 129

Created: 10/17/2007 8:50:54 AM by chemist
Last Update: 10/18/2007 2:43:50 PM by chemist

No.	Name	Weight	Dil. Factor	ISTD Amount	Sample ID	Replicate ID	Comment
127	J869G-2000X	1.0000	2000.0000	1.0000		1	
128	CCV	1.0000	1.0000	1.0000		1	
129	CCB	1.0000	1.0000	1.0000		1	

Chromeleon © Dionex Corporation, Version 6.50 SP4 Build 1000

Method File:	STLANIONS		Page 1 of 8
Operator:	chemist		Printed: 10/18/2007 2:43:55 PM
Title:			
Datasource:	SLIC03_local	Created:	12/5/2005 3:14:39 PM by chemist
Location:	SLIC03_1\SEQUENCES\07OCT\101707CALCH.SEQ	Last Update:	10/17/2007 5:19:20 PM by chemist

Blank Run Subtraction: No Blank Run Subtraction

Detection Table:

No.	Ret. Time [min]	Param. Name	Param. Value	Channel
1	0.000	Detect Negative Peaks	On - Don't label	All Channels
2	0.000	Minimum Area	0.005 "[Signal]*min"	All Channels

Title:
Datasource: SLIC03_local
Location: SLIC03_1\SEQUENCES\07OCT\101707CALCH.SEQ
Created: 12/5/2005 3:14:39 PM by chemist
Last Update: 10/17/2007 5:19:20 PM by chemist

Peak Table:

Use Recently Detected Ret. Times: Off
Dead time:
Delay time of 2nd detector: <None>

No.	Peak Name	Ret.Time	Window	Standard	Int.Type	Cal.Type	Peak Type	Group	Comment
1	F	2.317 min	10.000 RG	External	Area	Lin	Auto		Autogenerated
2	Cl	3.092 min	10.000 RG	External	Area	Lin	Auto		Autogenerated
3	NO2	3.600 min	10.000 RG	External	Area	Lin	Auto		Autogenerated
4	Br	4.284 min	10.000 RG	External	Area	Lin	Auto		Autogenerated
5	NO3	4.917 min	10.000 RG	External	Area	Lin	Auto		Autogenerated
6	ClO3	5.675 min	10.000 RG	External	Area	Lin	Auto		Autogenerated
7	OPO4	6.225 min	10.000 RG	External	Area	Lin	Auto		Autogenerated
8	*SO4*	*7.358 min*	*10.000 RG*	*External*	*Area*	*Lin*	*Auto*		*Autogenerated*

Title:
Datasource: SLIC03_local
Location: SLIC03_1\SEQUENCES\07OCT\101707CALCH.SEQ
Created: 12/5/2005 3:14:39 PM by chemist
Last Update: 10/17/2007 5:19:20 PM by chemist

Amount Table:

Dimension of Amounts:
Reference Volume for Amounts: Use inject volume of first standard

No.	Peak Name	Ret.Time	Resp.Fact.	Amount CAL 1	Amount CAL 2	Amount CAL 3	Amount CAL 4	Amount CAL 5	Amount CAL 6
1	F	2.317 min	1.000000	0.000000	100.000000	250.000000	500.000000	1250.000000	2500.000000
2	Cl	3.092 min	1.000000	0.000000	200.000000	500.000000	1000.000000	2500.000000	5000.000000
3	NO2	3.600 min	1.000000	0.000000	20.000000	40.000000	80.000000	200.000000	400.000000
4	Br	4.284 min	1.000000	0.000000	250.000000	500.000000	1000.000000	2500.000000	5000.000000
5	NO3	4.917 min	1.000000	0.000000	20.000000	100.000000	200.000000	500.000000	1000.000000
6	ClO3	5.675 min	1.000000	0.000000	500.000000	2000.000000	4000.000000	10000.000000	20000.000000
7	OPO4	6.225 min	1.000000	0.000000	500.000000	2000.000000	4000.000000	10000.000000	20000.000000
8	*SO4*	*7.358 min*	*1.000000*	*0.000000*	*500.000000*	*2000.000000*	*4000.000000*	*10000.000000*	*20000.000000*

Title:
Datasource: SLIC03_local
Location: SLIC03_1\SEQUENCES\07OCT\101707CALCH.SEQ
Created: 12/5/2005 3:14:39 PM by chemist
Last Update: 10/17/2007 5:19:20 PM by chemist

Amount Table:

Dimension of Amounts:
Reference Volume for Amounts: Use inject volume of first standard

No.	Peak Name	Ret.Time	Comment	C0 ECD_1	C1 ECD_1	C2 ECD_1
1	F	2.317 min	Autogenerated	0.000000	0.000204	0.000000
2	Cl	3.092 min	Autogenerated	0.000000	0.000167	0.000000
3	NO2	3.600 min	Autogenerated	0.000000	0.000274	0.000000
4	Br	4.284 min	Autogenerated	0.000000	0.000069	0.000000
5	NO3	4.917 min	Autogenerated	0.000000	0.000384	0.000000
6	ClO3	5.675 min	Autogenerated	0.000000	0.000063	0.000000
7	OPO4	6.225 min	Autogenerated	0.000000	0.000055	0.000000
8	*SO4*	*7.358 min*	*Autogenerated*	*0.000000*	*0.000126*	*0.000000*

Title:
Datasource: SLIC03_local
Location: SLIC03_1\SEQUENCES\07OCT\101707CALCH.SEQ
Created: 12/5/2005 3:14:39 PM by chemist
Last Update: 10/17/2007 5:19:20 PM by chemist

Calibration:

Calibration Mode: Fixed
Auto Recalibrate: Off
Last Calibration: 10/17/2007 5:16:43 PM by chemist

No.	Enabled	Name	Smp.No.	Pos.	Inj. Vol.	Weight	ISTD Amount	Dil. Factor	Inj. Date/Time	Sample Comment
1	☒	CAL 1	1	31	50.0	1.0000	1.0000	1.0000	10/17/2007 4:00:08 PM	
2	☒	CAL 2	2	31	50.0	1.0000	1.0000	1.0000	10/17/2007 4:12:33 PM	
3	☒	CAL 3	3	32	50.0	1.0000	1.0000	1.0000	10/17/2007 4:24:58 PM	
4	☒	CAL 4	4	33	50.0	1.0000	1.0000	1.0000	10/17/2007 4:37:24 PM	
5	☒	CAL 5	5	34	50.0	1.0000	1.0000	1.0000	10/17/2007 4:49:49 PM	
6	☒	*CAL 6*	*6*	*35*	*50.0*	*1.0000*	*1.0000*	*1.0000*	*10/17/2007 5:02:14 PM*	

Title:
Datasource: SLIC03_local
Location: SLIC03_1\SEQUENCES\07OCT\101707CALCH.SEQ
Created: 12/5/2005 3:14:39 PM by chemist
Last Update: 10/17/2007 5:19:20 PM by chemist

Calibration:

Calibration Mode: Fixed
Auto Recalibrate: Off
Last Calibration: 10/17/2007 5:16:43 PM by chemist

No.	Enabled	Name	Calib. Comment
1	☒	CAL 1	Couldn't find the peak in the chromatogram.
2	☒	CAL 2	Ok
3	☒	CAL 3	Ok
4	☒	CAL 4	Ok
5	☒	CAL 5	Ok
6	☒	*CAL 6*	*Ok*

Title:
Datasource: SLIC03_local
Location: SLIC03_1\SEQUENCES\07OCT\101707CALCH.SEQ
Created: 12/5/2005 3:14:39 PM by chemist
Last Update: 10/17/2007 5:19:20 PM by chemist

System Suitability Test:

No.	Name	Sample Condition	Test Condition	Aggregate	Operator	Value	Channel	Peak	N.A.
1									

Method File:	STLANIONS		Page 8 of 8
Operator:	chemist		Printed: 10/18/2007 2:43:55 PM
Title:			
Datasource:	SLIC03_local	Created:	12/5/2005 3:14:39 PM by chemist
Location:	SLIC03_1\SEQUENCES\07OCT\101707CALCH.SEQ	Last Update:	10/17/2007 5:19:20 PM by chemist

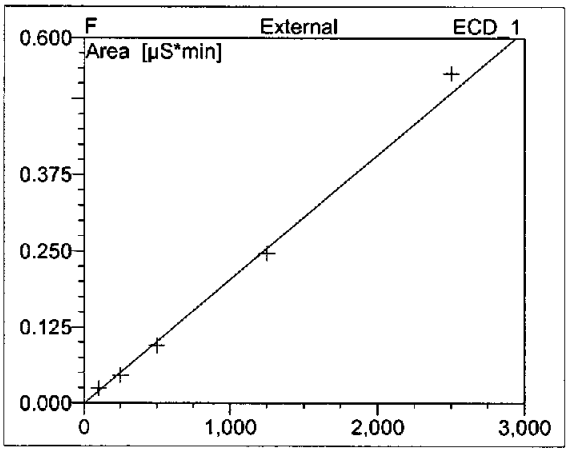
System Suitability Test:

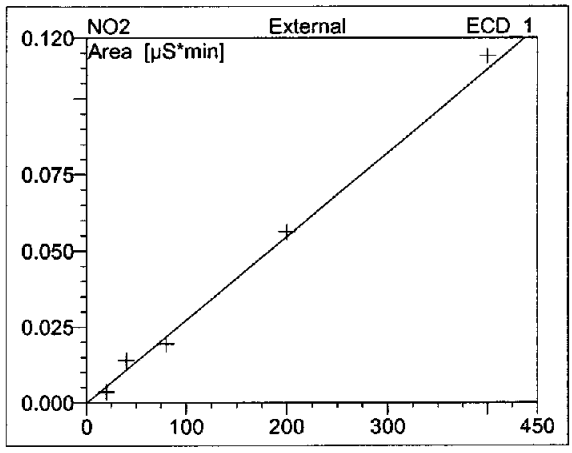
No.	Name	Fail-Action	Result	SST Message
1				

Operator:chemist Timebase:SLIC03_1 Sequence:101707CALCH

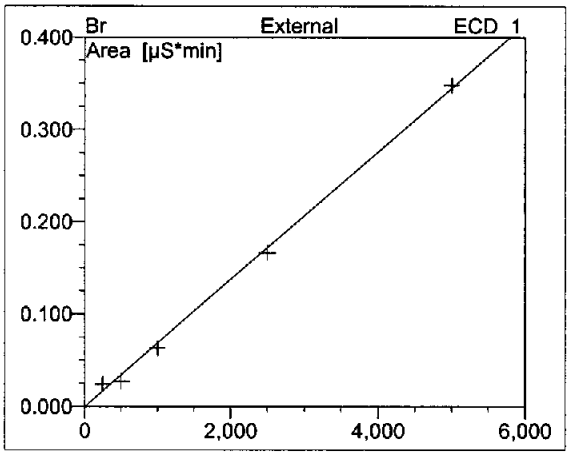
Calibration Batch Report - ECD_1

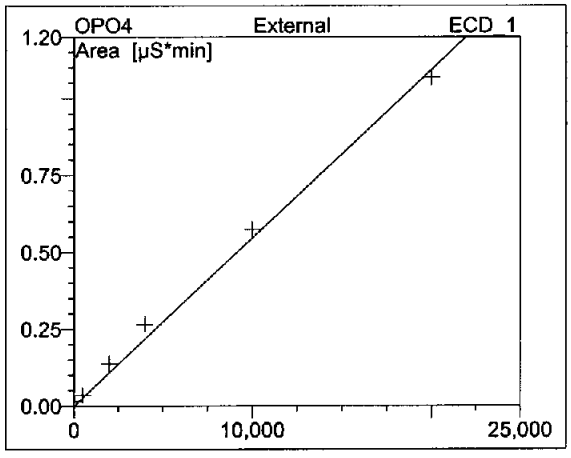
Sequence:	101707CALCH	Inj. Vol.:	50.0
Program:	SLIC03_local	Operator:	SLIC03
Inj. Date/Time:	10/17/07 17:02	Run Time:	10.00

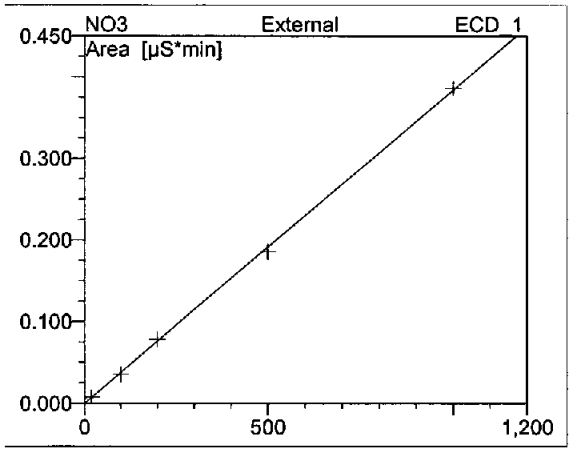


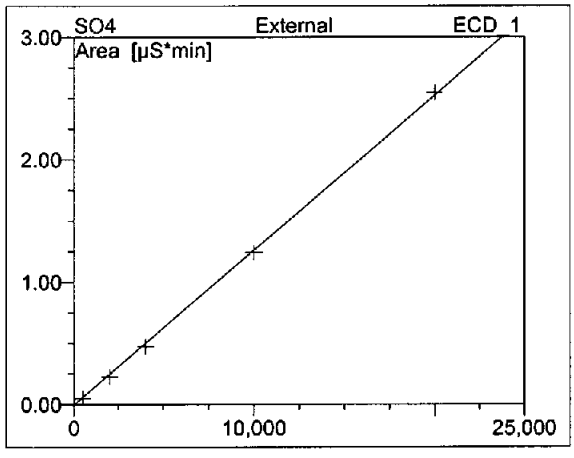


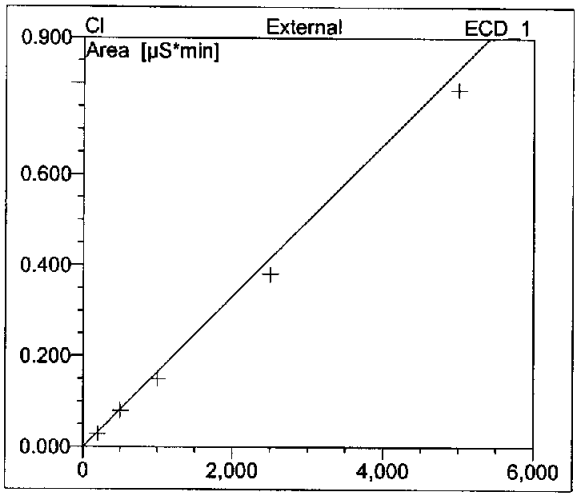
IC 300.0
JB
10/18/07

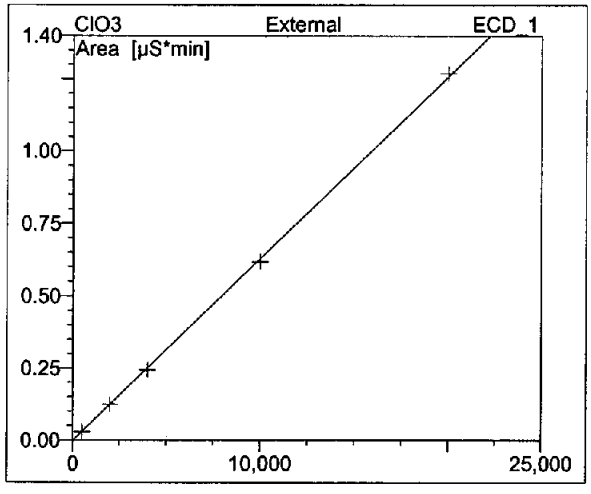












Sequence:	101707CALCH	*Inj. Vol.:*	50.0
Program:	SLIC03_local	*Operator:*	n.a.
Inj. Date/Time:	10/17/07 17:02	*Run Time:*	10.00

No. ECD_1	Ret.Time ECD_1 min	Peak Name ECD_1	Cal.Type ECD_1	Points ECD_1	Offset ECD_1 (C0)	Slope ECD_1 (C1)	Curve ECD_1 (C2)	Corr.Coeff. ECD_1 %
1	2.32	F	Lin	5	0.000	0.000	0.000	99.874
3	3.09	Cl	Lin	5	0.000	0.000	0.000	99.983
4	3.60	NO2	Lin	5	0.000	0.000	0.000	99.876
5	4.28	Br	Lin	5	0.000	0.000	0.000	99.897
6	4.92	NO3	Lin	5	0.000	0.000	0.000	99.975
7	5.68	ClO3	Lin	5	0.000	0.000	0.000	99.992
8	6.23	OPO4	Lin	6	0.000	0.000	0.000	99.887
9	7.36	SO4	Lin	5	0.000	0.000	0.000	99.992
AVERAGE:					0.0000	0.0002	0.0000	99.9346

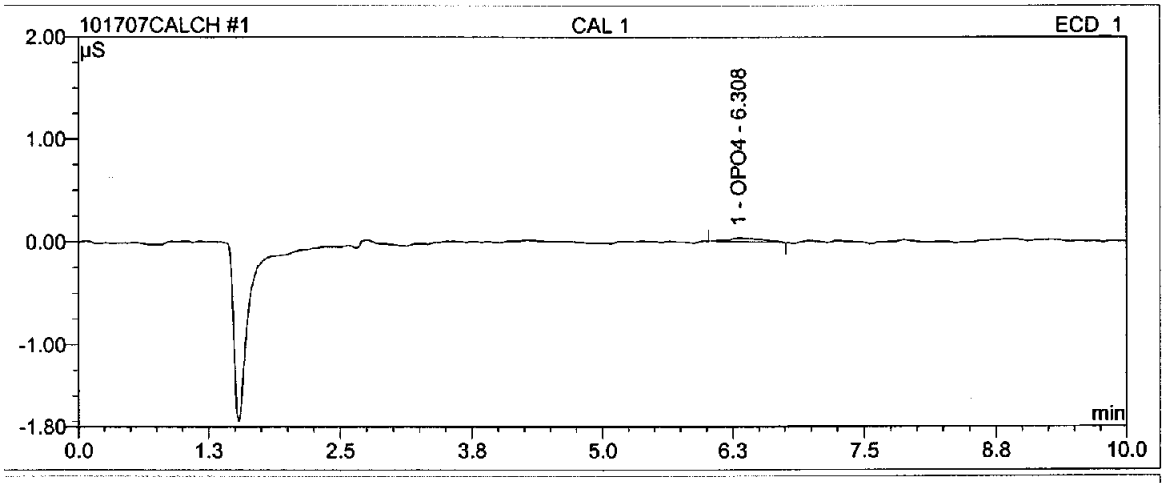
✓

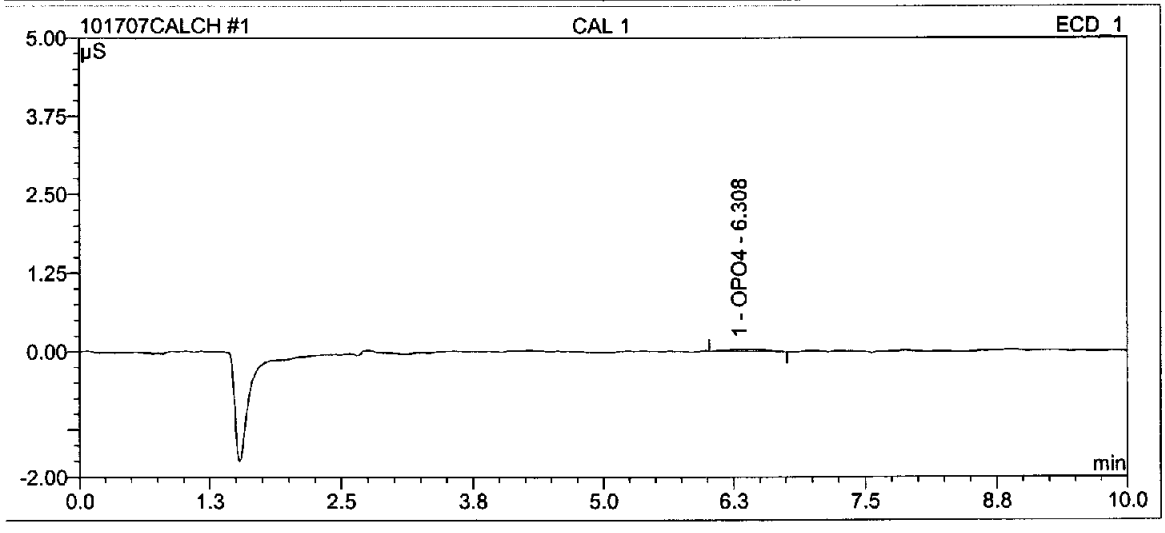
JB
10/18/07

Integration Report - ECD_1

Sample Name:	**CAL 1**	*Inj. Vol.:*	**50.0**
Sample Type:	**standard**	*Dilution Factor:*	**1.0000**
Program:	**SLIC03_local**	*Operator:*	**n.a.**
Inj. Date/Time:	**17.10.07 16:00**	*Run Time:*	**10.00**

No. ECD_1	Time ECD_1 min	Peak Name ECD_1	Type ECD_1	Area ECD_1 µS*min	Height ECD_1 µS	Amount ECD_1
1	6.31	OPO4	BMB	0.015	0.038	367.9166
		TOTAL:		0.01	0.04	367.92





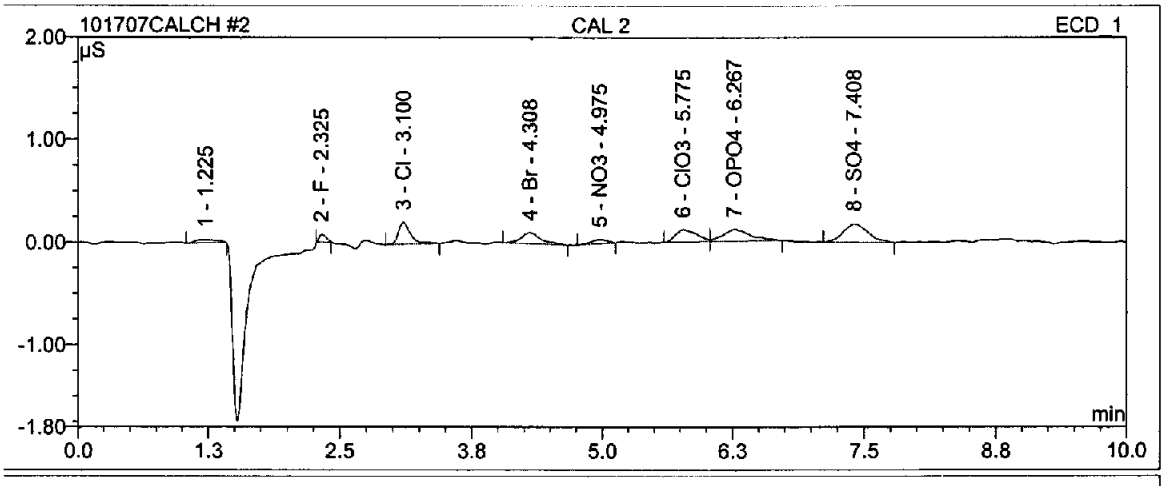
Operator:chemist Timebase:SLIC03_1 Sequence:101707CALCH

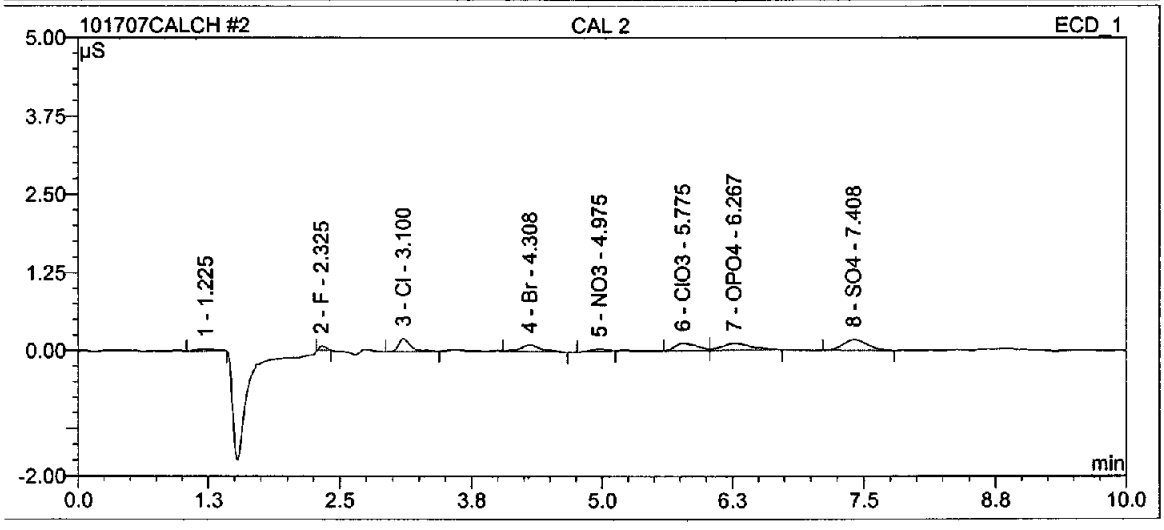
10/17/2007 4:25 PM

Integration Report - ECD_1

Sample Name:	CAL 2	*Inj. Vol.:*	50.0
Sample Type:	standard	*Dilution Factor:*	1.0000
Program:	SLIC03_local	*Operator:*	n.a.
Inj. Date/Time:	17.10.07 16:12	*Run Time:*	10.00

No. ECD_1	Time ECD_1 min	Peak Name ECD_1	Type ECD_1	Area ECD_1 µS*min	Height ECD_1 µS	Amount ECD_1
2	2.33	F	BMB	0.006	0.073	35.9729
3	3.10	Cl	BMB	0.028	0.210	212.8232
4	4.31	Br	BMB	0.024	0.106	434.7017
5	4.98	NO3	BMB	0.007	0.040	23.4985
6	5.78	ClO3	BM	0.029	0.120	583.9328
7	6.27	OPO4	MB	0.036	0.116	909.7728
8	7.41	SO4	BMB	0.049	0.179	494.0524
		TOTAL:		0.18	0.85	2694.75





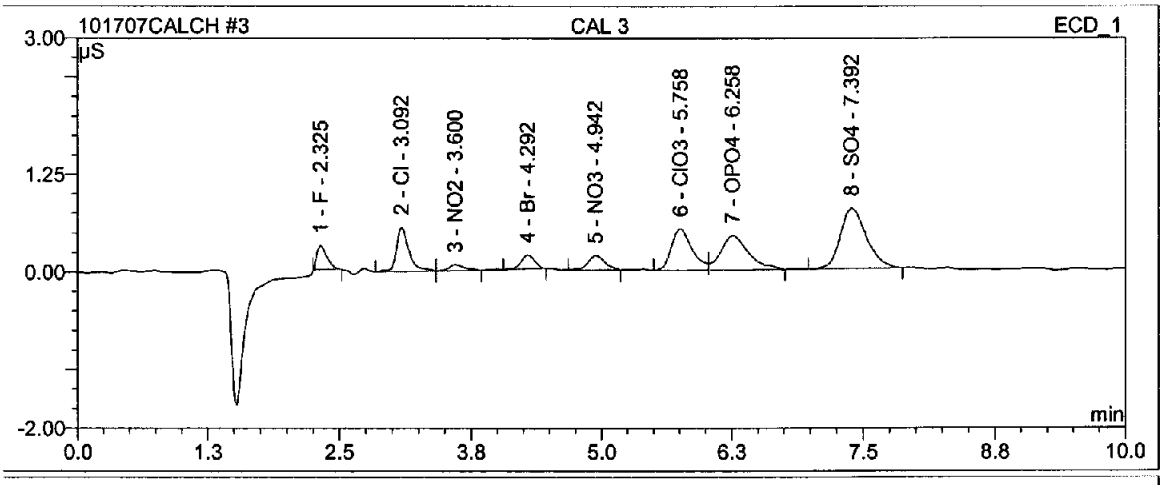
Operator:chemist Timebase:SLIC03_1 Sequence:101707CALCH

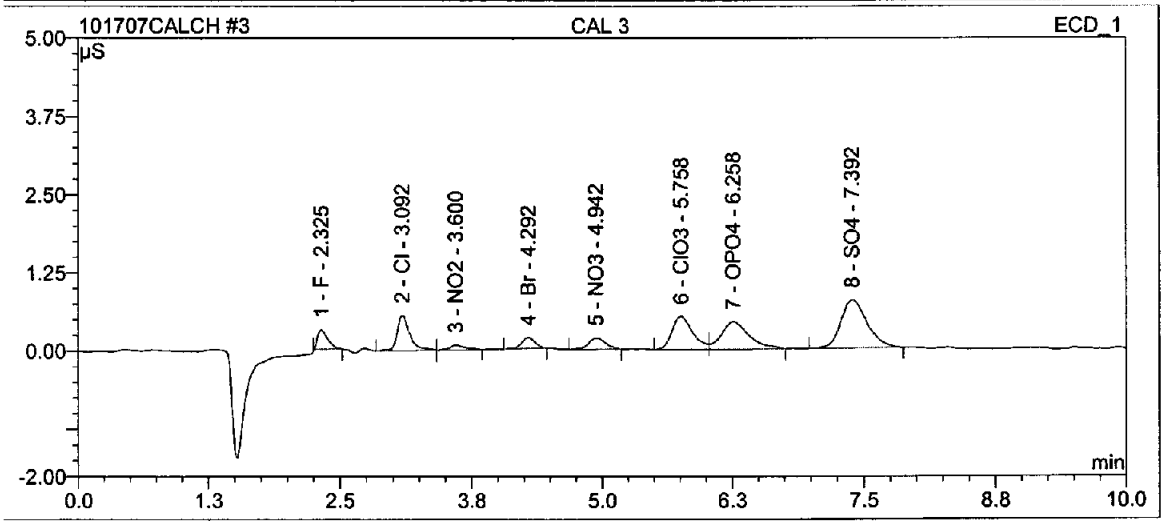
10/17/2007 4:37 PM

Integration Report - ECD_1

Sample Name:	CAL 3	*Inj. Vol.:*	50.0
Sample Type:	standard	*Dilution Factor:*	1.0000
Program:	SLIC03_local	*Operator:*	n.a.
Inj. Date/Time:	17.10.07 16:24	*Run Time:*	10.00

No. ECD_1	Time ECD_1 min	Peak Name ECD_1	Type ECD_1	Area ECD_1 µS*min	Height ECD_1 µS	Amount ECD_1
1	2.33	F	BM	0.034	0.308	209.5537
2	3.09	Cl	BM	0.079	0.566	601.0950
3	3.60	NO2	MB	0.014	0.078	59.3024
4	4.29	Br	BMB	0.027	0.178	494.5057
5	4.94	NO3	BMB	0.035	0.182	117.2247
6	5.76	ClO3	BM	0.123	0.533	2517.0140
7	6.26	OPO4	MB	0.136	0.442	3428.7005
8	7.39	SO4	BMB	0.222	0.768	2230.6978
		TOTAL:		0.67	3.06	9658.09

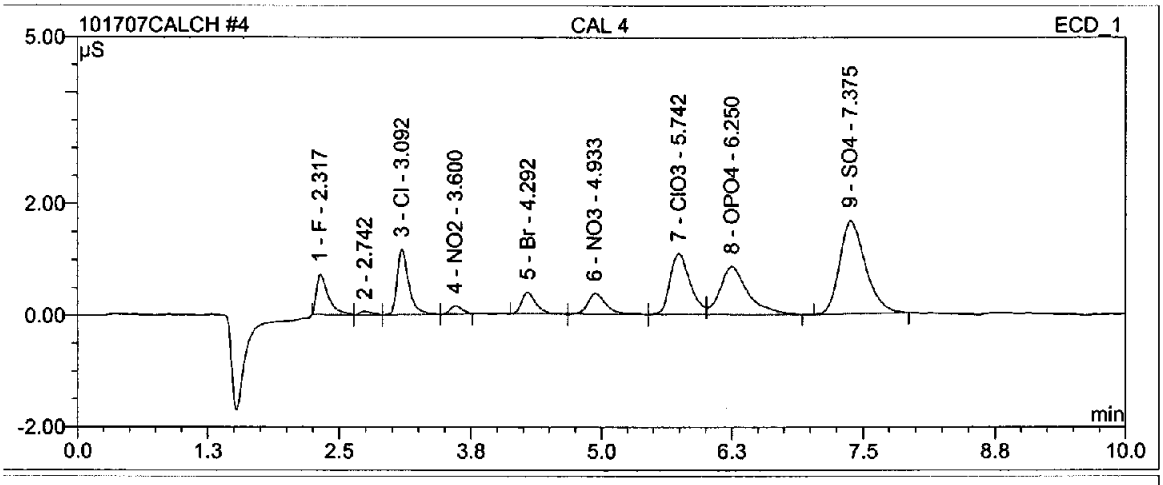


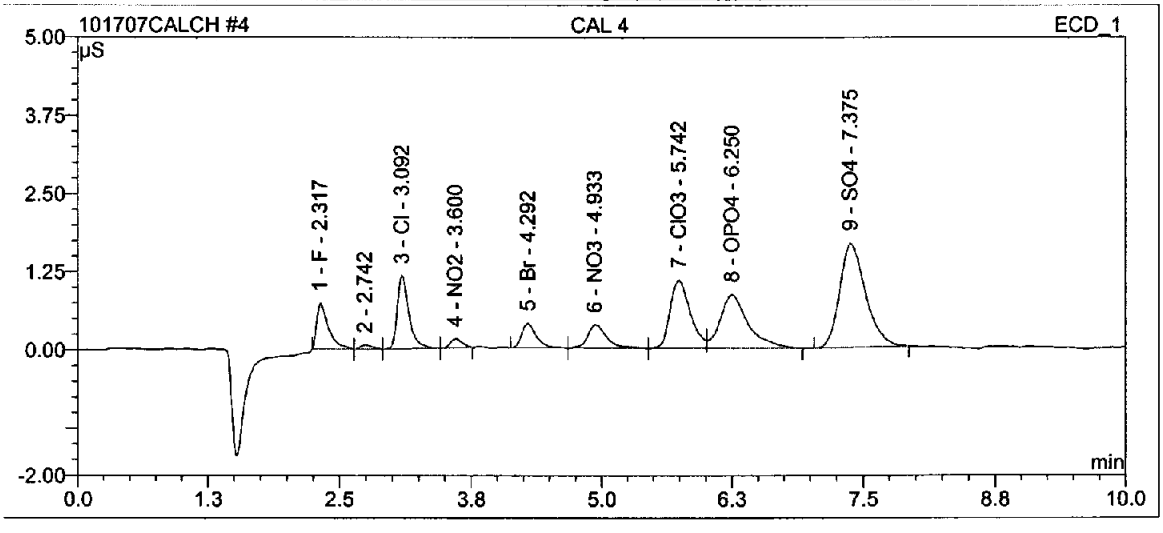


Integration Report - ECD_1

Sample Name:	CAL 4	*Inj. Vol.:*	50.0
Sample Type:	standard	*Dilution Factor:*	1.0000
Program:	SLIC03_local	*Operator:*	n.a.
Inj. Date/Time:	17.10.07 16:37	*Run Time:*	10.00

No. ECD_1	Time ECD_1 min	Peak Name ECD_1	Type ECD_1	Area ECD_1 µS*min	Height ECD_1 µS	Amount ECD_1
1	2.32	F	BMB	0.095	0.722	587.0976
3	3.09	Cl	bMB	0.150	1.166	1135.4737
4	3.60	NO2	bMB	0.019	0.147	82.2892
5	4.29	Br	BM	0.063	0.390	1152.4482
6	4.93	NO3	M	0.078	0.374	259.8772
7	5.74	ClO3	M	0.244	1.088	4984.0859
8	6.25	OPO4	MB	0.265	0.858	6681.6289
9	7.38	SO4	BMB	0.473	1.671	4743.2743
		TOTAL:		1.39	6.41	19626.17





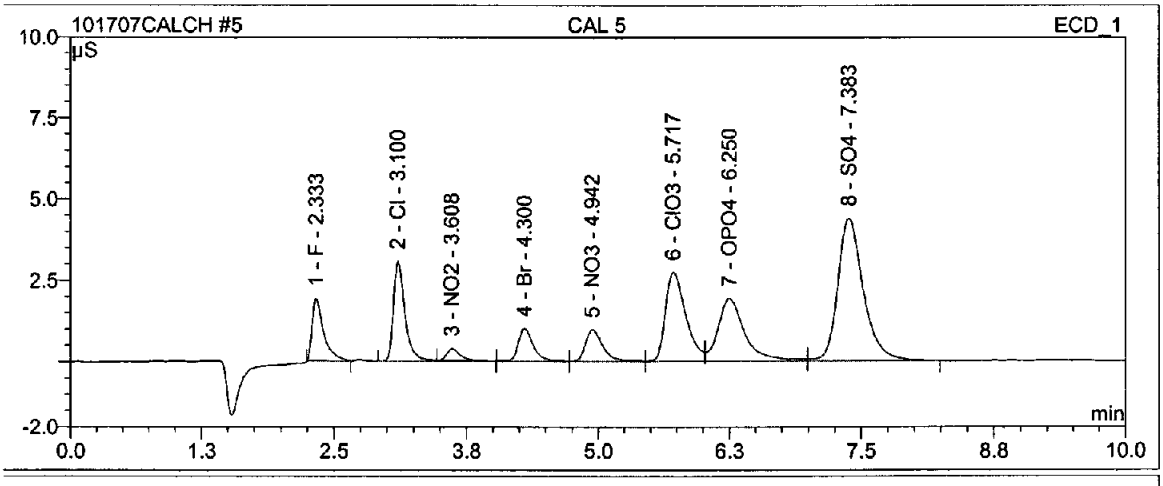
Operator:chemist Timebase:SLIC03_1 Sequence:101707CALCH

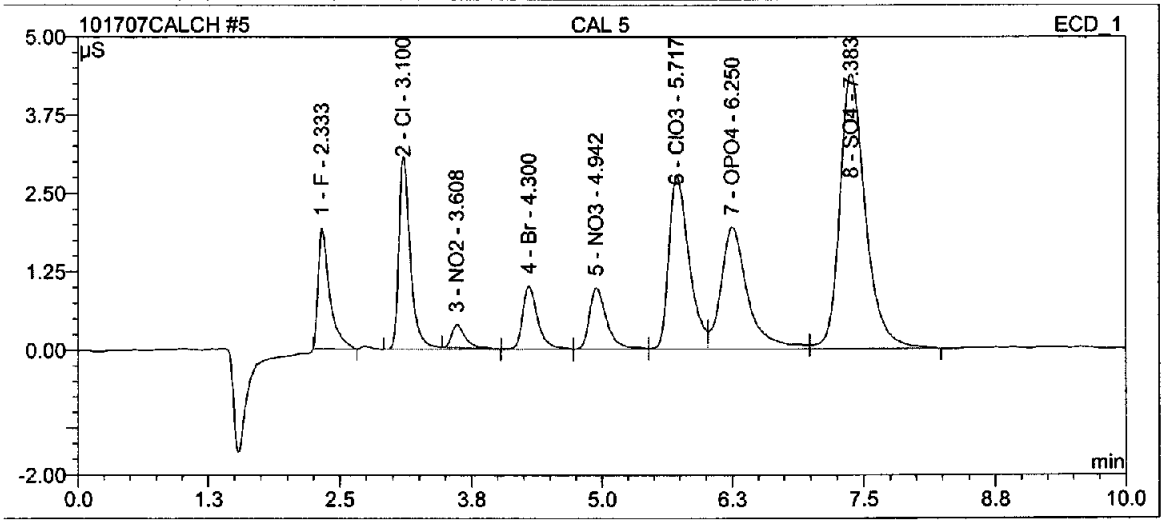
10/17/2007 5:02 PM

Integration Report - ECD_1

Sample Name:	**CAL 5**	*Inj. Vol.:*	**50.0**
Sample Type:	**standard**	*Dilution Factor:*	**1.0000**
Program:	**SLIC03_local**	*Operator:*	**n.a.**
Inj. Date/Time:	**17.10.07 16:49**	*Run Time:*	**10.00**

No. ECD_1	Time ECD_1 min	Peak Name ECD_1	Type ECD_1	Area ECD_1 µS*min	Height ECD_1 µS	Amount ECD_1
1	2.33	F	BMB	0.246	1.923	1524.7012
2	3.10	Cl	BM	0.402	3.067	3049.2859
3	3.61	NO2	Rd	0.055	0.366	233.5363
4	4.30	Br	M	0.171	1.010	3131.0688
5	4.94	NO3	M	0.189	0.975	627.8278
6	5.72	ClO3	M	0.620	2.747	12667.6511
7	6.25	OPO4	M	0.576	1.942	14504.3806
8	7.38	SO4	MB	1.240	4.383	12445.2444
			TOTAL:	3.50	16.41	48183.70





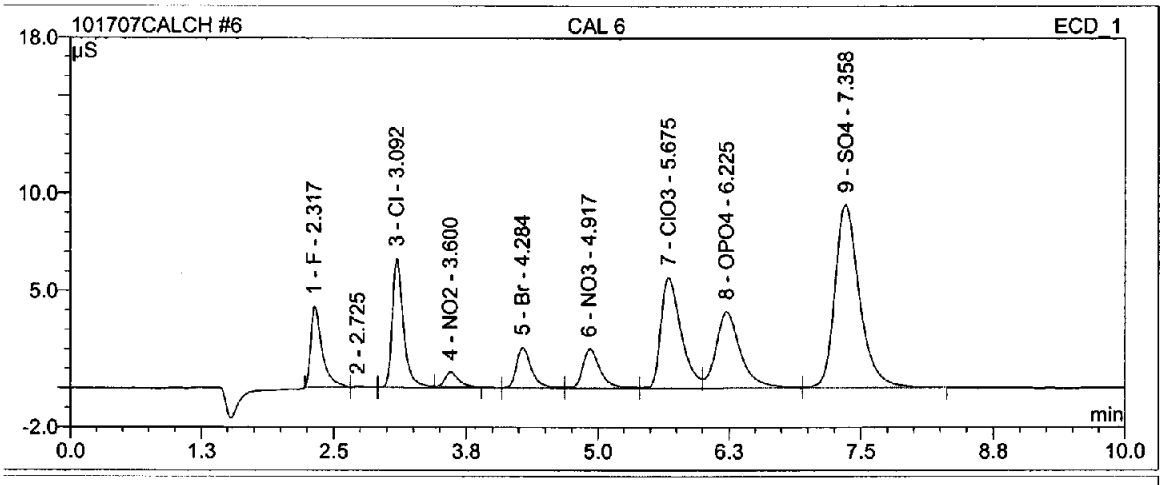
Operator:chemist Timebase:SLIC03_1 Sequence:101707CALCH

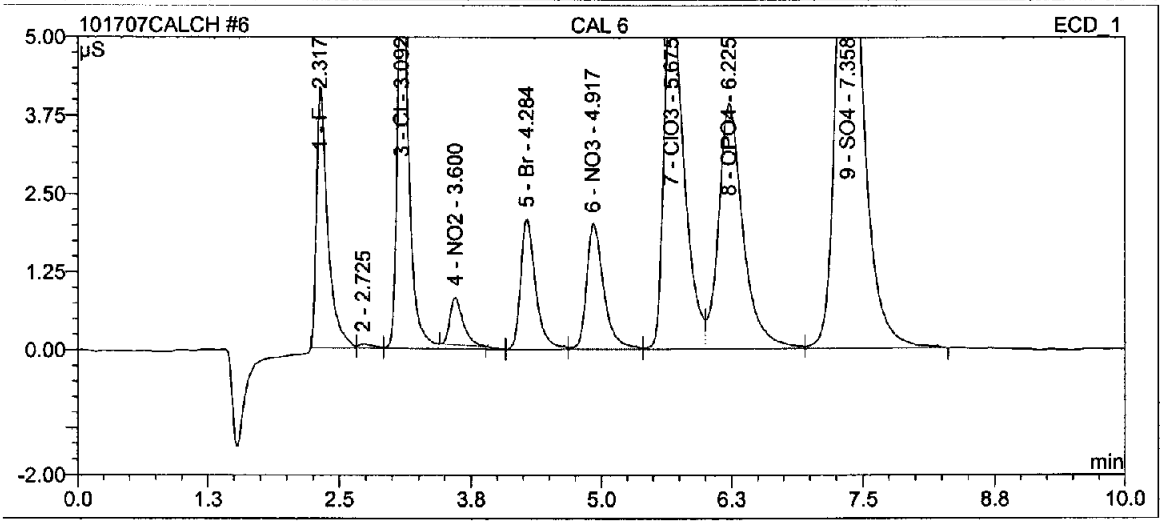
10/17/2007 5:14 PM

Integration Report - ECD_1

Sample Name:	CAL 6	*Inj. Vol.:*	50.0
Sample Type:	standard	*Dilution Factor:*	1.0000
Program:	SLIC03_local	*Operator:*	n.a.
Inj. Date/Time:	17.10.07 17:02	*Run Time:*	10.00

No. ECD_1	Time ECD_1 min	Peak Name ECD_1	Type ECD_1	Area ECD_1 µS*min	Height ECD_1 µS	Amount ECD_1
1	2.32	F	BM	0.518	4.162	3206.3509
3	3.09	Cl	MB	0.844	6.642	6407.4473
4	3.60	NO2	Rd	0.110	0.754	466.7756
5	4.28	Br	bM	0.348	2.089	6391.4193
6	4.92	NO3	M	0.386	2.010	1282.0733
7	5.68	ClO3	M	1.269	5.685	25937.0482
8	6.23	OPO4	M	1.068	3.931	26879.4871
9	7.36	SO4	MB	2.546	9.390	25550.1588
		TOTAL:		7.09	34.66	96120.76

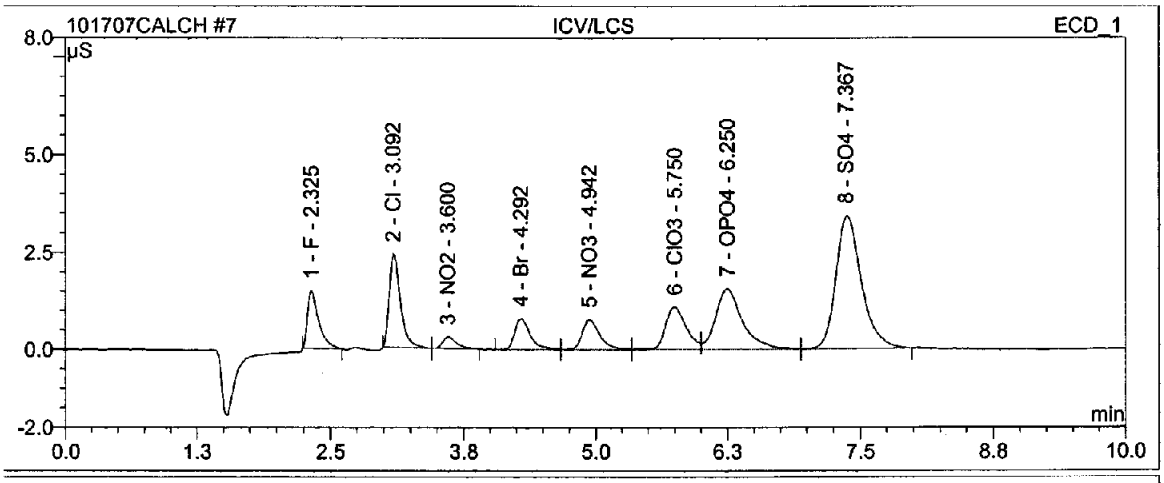


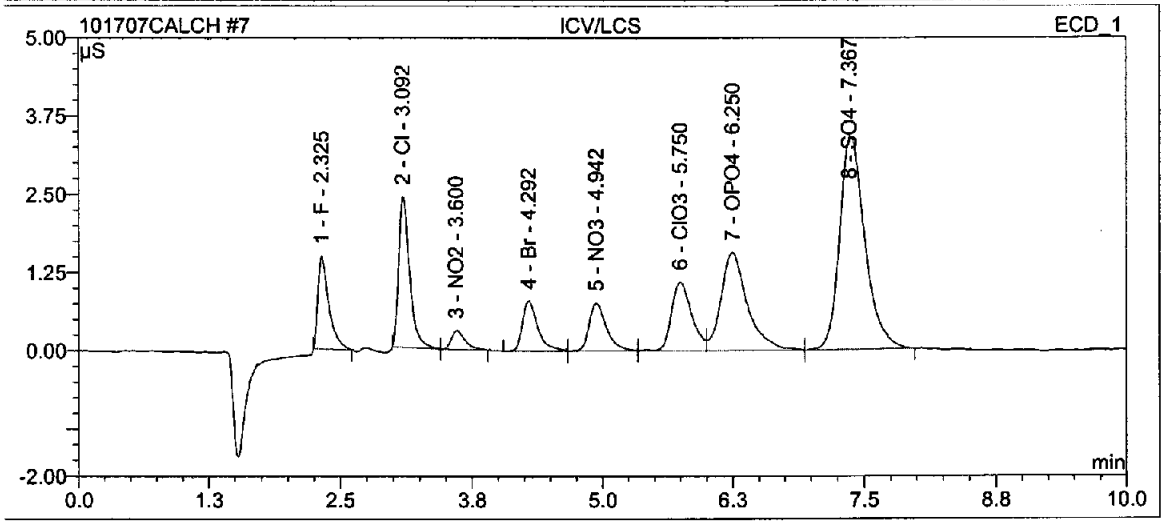


Integration Report - ECD_1

Sample Name:	ICV/LCS	*Inj. Vol.:*	50.0
Sample Type:	unknown	*Dilution Factor:*	1.0000
Program:	SLIC03_local	*Operator:*	n.a.
Inj. Date/Time:	17.10.07 17:19	*Run Time:*	10.00

No. ECD_1	Time ECD_1 min	Peak Name ECD_1	Type ECD_1	Area ECD_1 µS*min	Height ECD_1 µS	Amount ECD_1
1	2.33	F	BMB	0.181	1.488	886.1000
2	3.09	Cl	BMB	0.292	2.409	1753.8779
3	3.60	NO2	bMB	0.046	0.302	168.1487
4	4.29	Br	BM	0.136	0.802	1972.5564
5	4.94	NO3	M	0.147	0.765	382.6951
6	5.75	ClO3	M	0.248	1.099	3935.5637
7	6.25	OPO4	Mb	0.459	1.566	8382.3148
8	7.37	SO4	bMB	0.950	3.413	7521.0711
		TOTAL:		2.46	11.84	25002.33





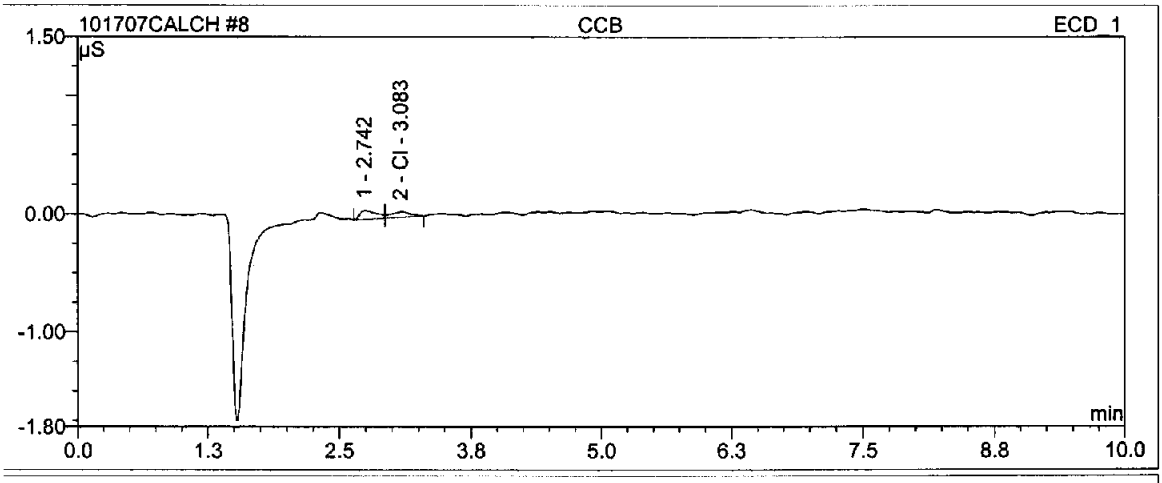
Operator:chemist Timebase:SLIC03_1 Sequence:101707CALCH

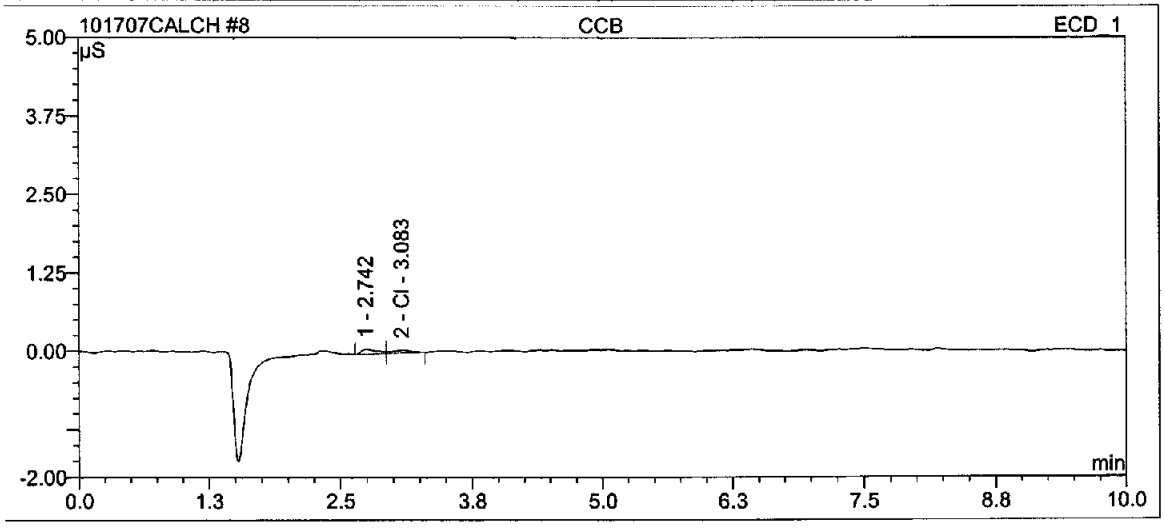
10/17/2007 6:01 PM

Integration Report - ECD_1

Sample Name:	CCB	*Inj. Vol.:*	50.0
Sample Type:	unknown	*Dilution Factor:*	1.0000
Program:	SLIC03_local	*Operator:*	n.a.
Inj. Date/Time:	17.10.07 17:48	*Run Time:*	10.00

No. ECD_1	Time ECD_1 min	Peak Name ECD_1	Type ECD_1	Area ECD_1 µS*min	Height ECD_1 µS	Amount ECD_1
2	3.08	Cl	MB	0.010	0.046	60.8674
		TOTAL:		0.01	0.05	60.87



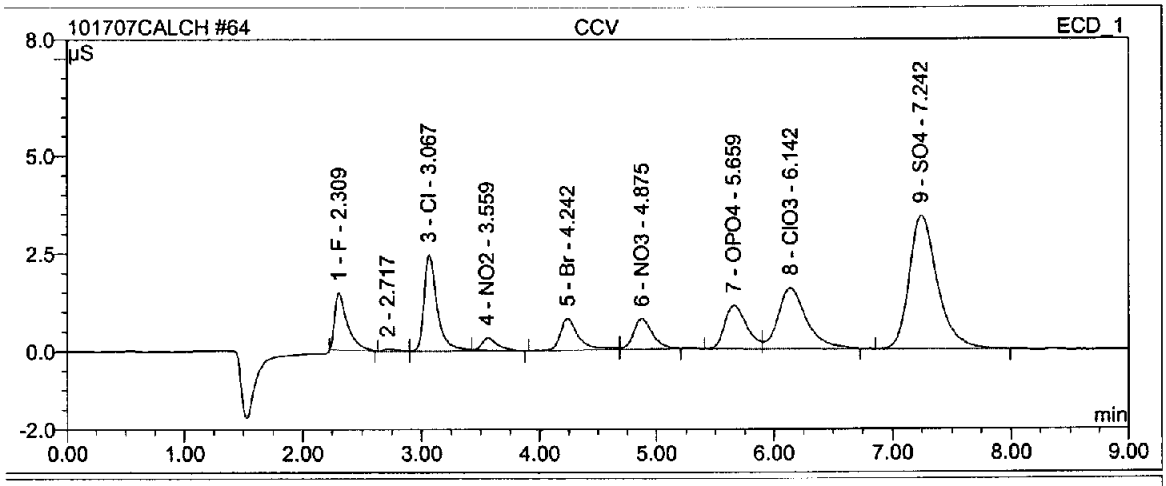


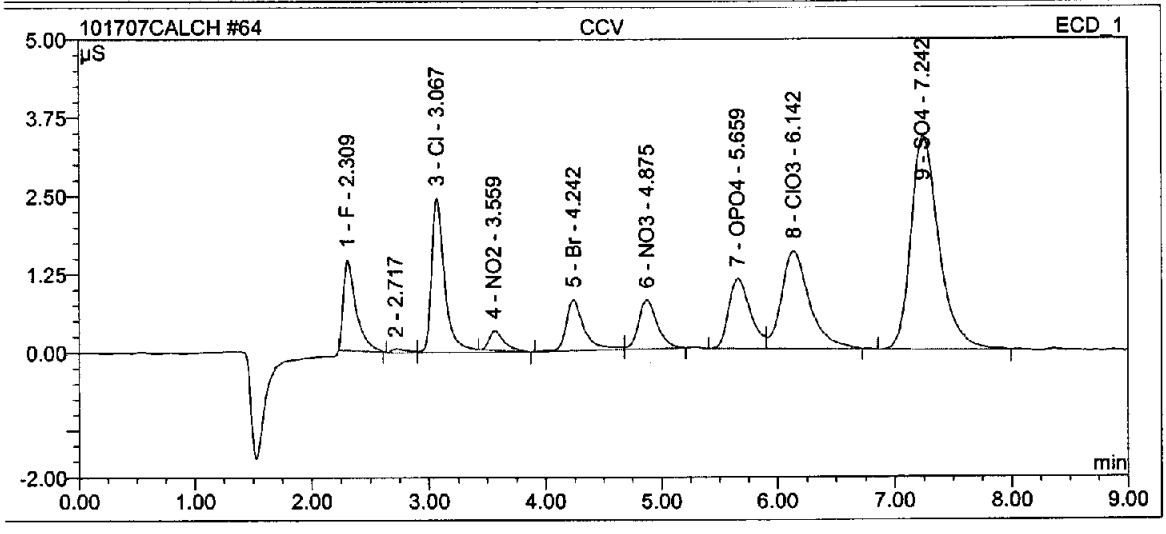
Operator:chemist Timebase:SLIC03_1 Sequence:101707CALCH

Integration Report - ECD_1

Sample Name:	CCV	*Inj. Vol.:*	50.0
Sample Type:	unknown	*Dilution Factor:*	1.0000
Program:	SLIC03_local	*Operator:*	n.a.
Inj. Date/Time:	18.10.07 04:51	*Run Time:*	9.00

No. ECD_1	Time ECD_1 min	Peak Name ECD_1	Type ECD_1	Area ECD_1 µS*min	Height ECD_1 µS	Amount ECD_1
1	2.31	F	BMB	0.181	1.457	886.4188
3	3.07	Cl	MB	0.331	2.467	1988.5769
4	3.56	NO2	Rd	0.047	0.311	170.5578
5	4.24	Br	BM	0.149	0.813	2157.3043
6	4.88	NO3	MB	0.146	0.784	378.6611
7	5.66	OPO4	BM	0.243	1.124	4433.7397
8	6.14	ClO3	MB	0.436	1.566	6916.0884
9	7.24	SO4	BMB	0.950	3.410	7526.7937
		TOTAL:		2.48	11.93	24458.14

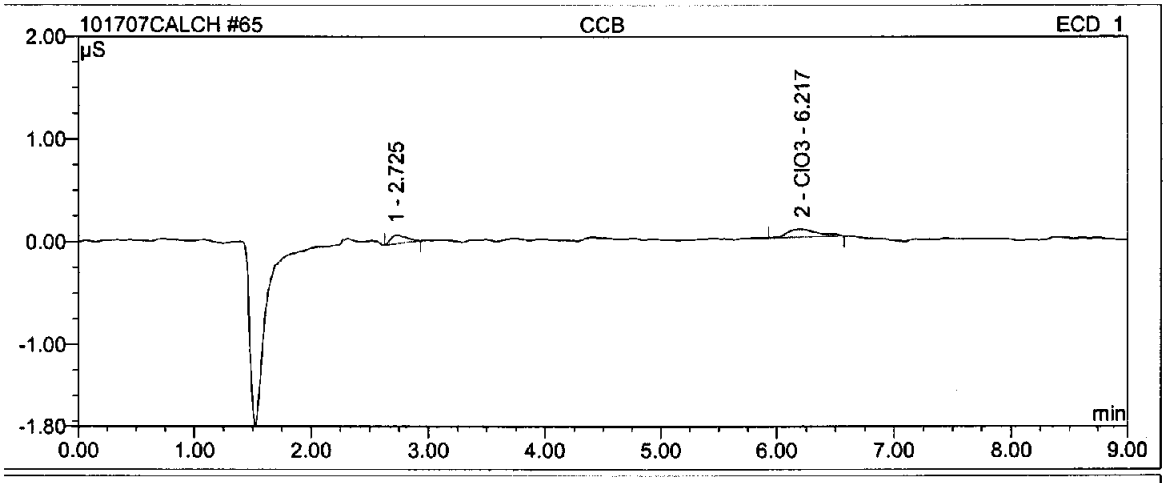


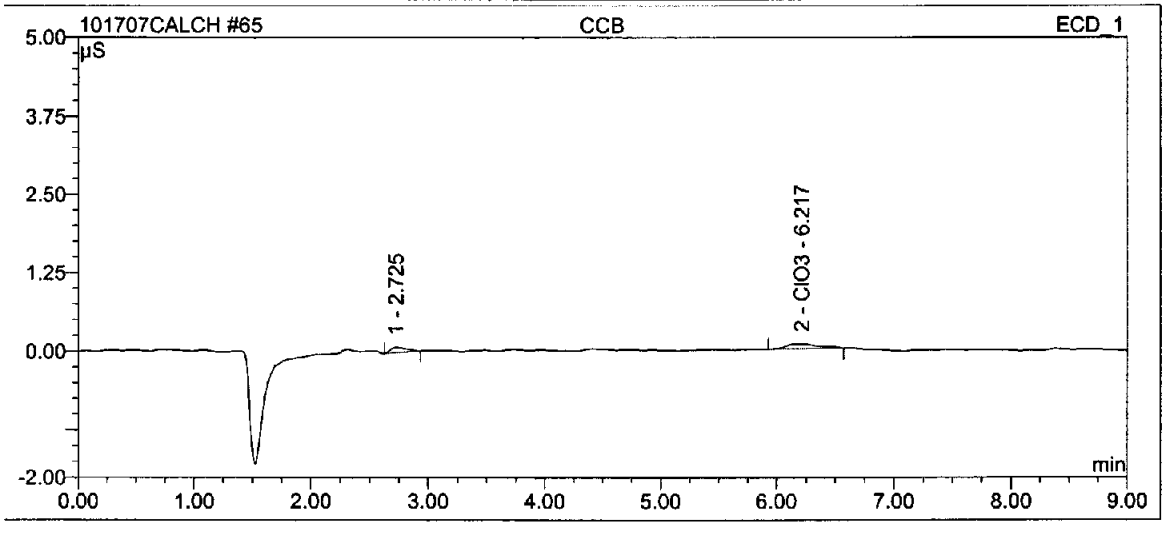


Integration Report - ECD_1

Sample Name:	CCB	*Inj. Vol.:*	50.0
Sample Type:	unknown	*Dilution Factor:*	1.0000
Program:	SLIC03_local	*Operator:*	n.a.
Inj. Date/Time:	18.10.07 05:02	*Run Time:*	9.00

No. ECD_1	Time ECD_1 min	Peak Name ECD_1	Type ECD_1	Area ECD_1 µS*min	Height ECD_1 µS	Amount ECD_1
2	6.22	ClO3	BMB	0.023	0.076	370.4326
		TOTAL:		0.02	0.08	370.43

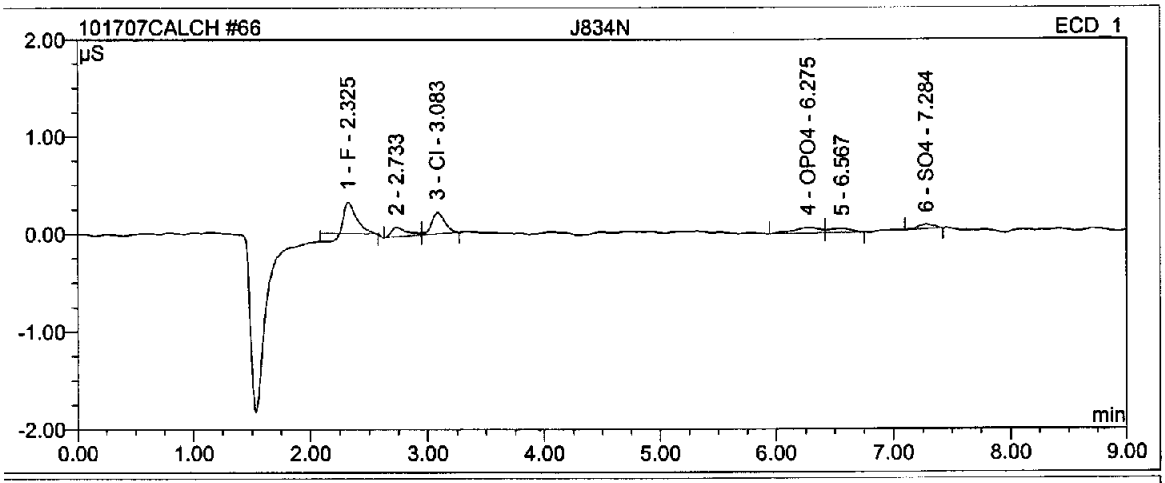


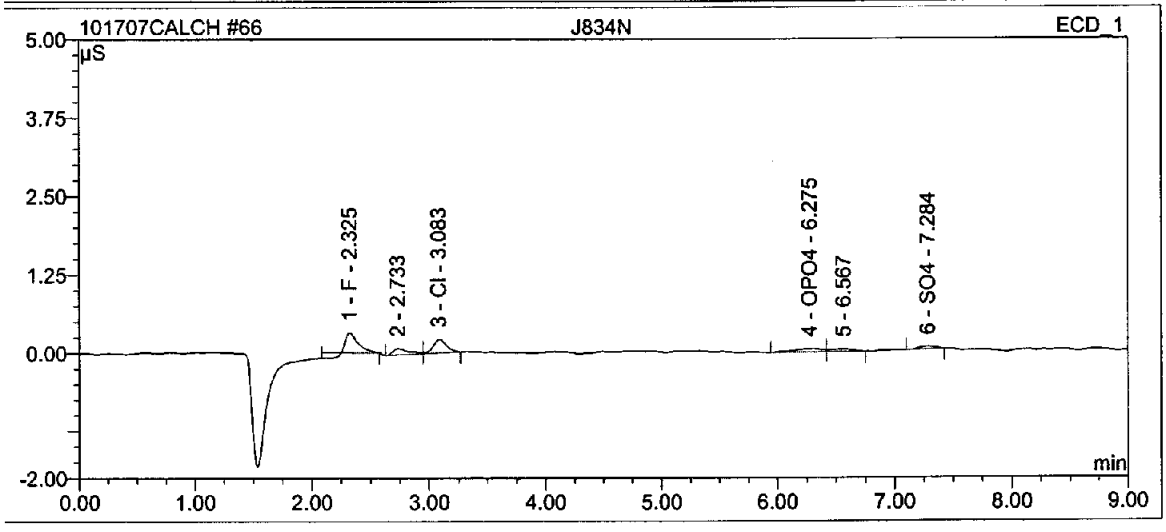


Integration Report - ECD_1

Sample Name:	**J834N**	*Inj. Vol.:*	**50.0**
Sample Type:	**unknown**	*Dilution Factor:*	**1.0000**
Program:	**SLIC03_local**	*Operator:*	**n.a.**
Inj. Date/Time:	**18.10.07 05:14**	*Run Time:*	**9.00**

No. ECD_1	Time ECD_1 min	Peak Name ECD_1	Type ECD_1	Area ECD_1 µS*min	Height ECD_1 µS	Amount ECD_1
1	2.33	F	MB	0.029	0.322	141.5807
3	3.08	Cl	MB	0.028	0.219	171.0783
4	6.28	OPO4	BM	0.016	0.058	288.5158
6	7.28	SO4	BMB	0.007	0.043	54.8953
			TOTAL:	0.08	0.64	656.07





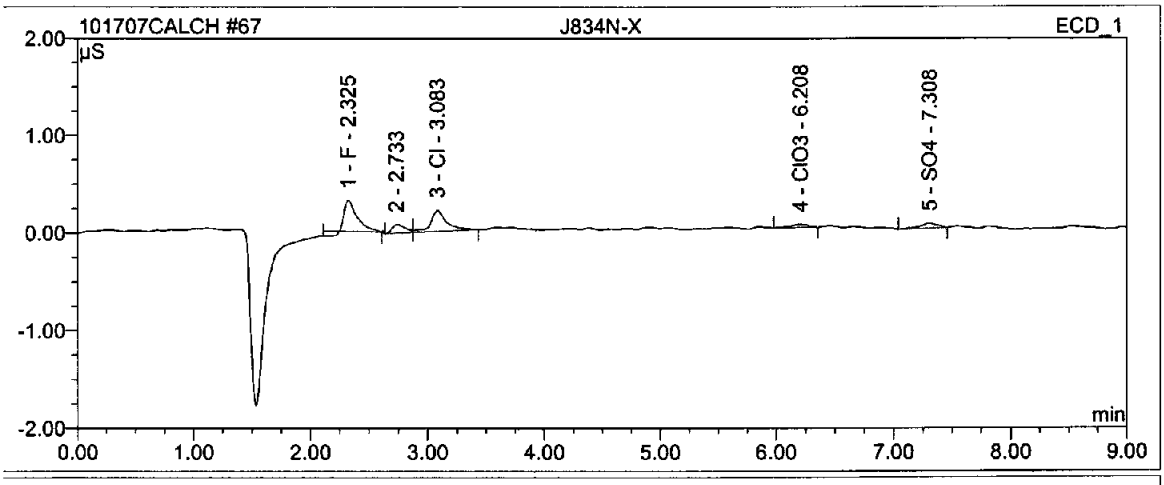
Operator:chemist Timebase:SLIC03_1 Sequence:101707CALCH

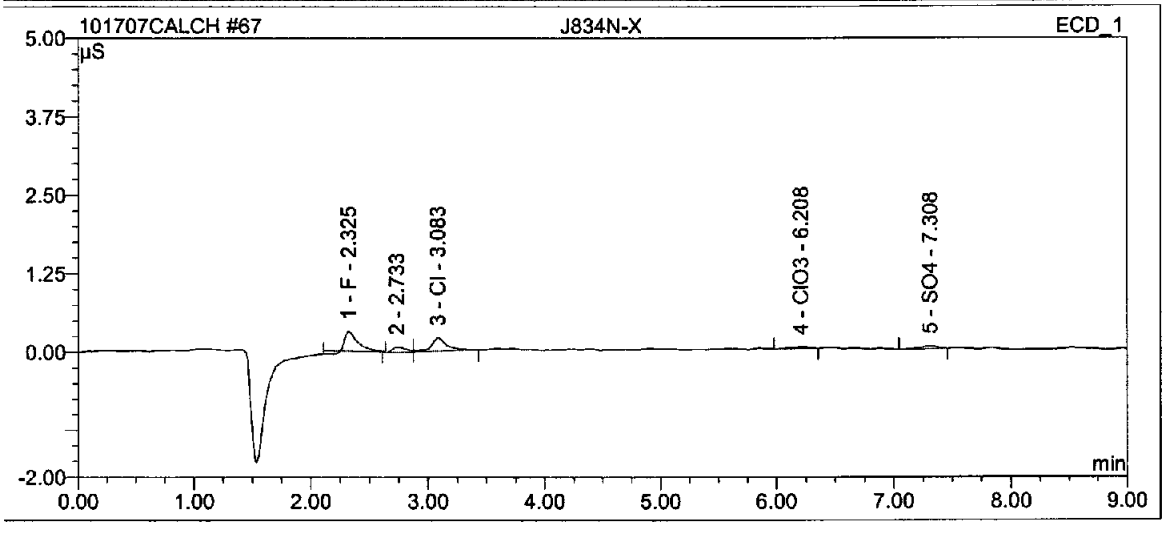
10/18/2007 5:36 AM

Integration Report - ECD_1

Sample Name:	J834N-X	*Inj. Vol.:*	50.0
Sample Type:	unknown	*Dilution Factor:*	1.0000
Program:	SLIC03_local	*Operator:*	n.a.
Inj. Date/Time:	18.10.07 05:25	*Run Time:*	9.00

No. ECD_1	Time ECD_1 min	Peak Name ECD_1	Type ECD_1	Area ECD_1 µS*min	Height ECD_1 µS	Amount ECD_1
1	2.33	F	MB	0.035	0.315	173.5010
3	3.08	Cl	MB	0.034	0.215	206.9447
4	6.21	ClO3	BMB	0.006	0.031	88.6350
5	7.31	SO4	BMB	0.008	0.045	65.4672
		TOTAL:		0.08	0.61	534.55





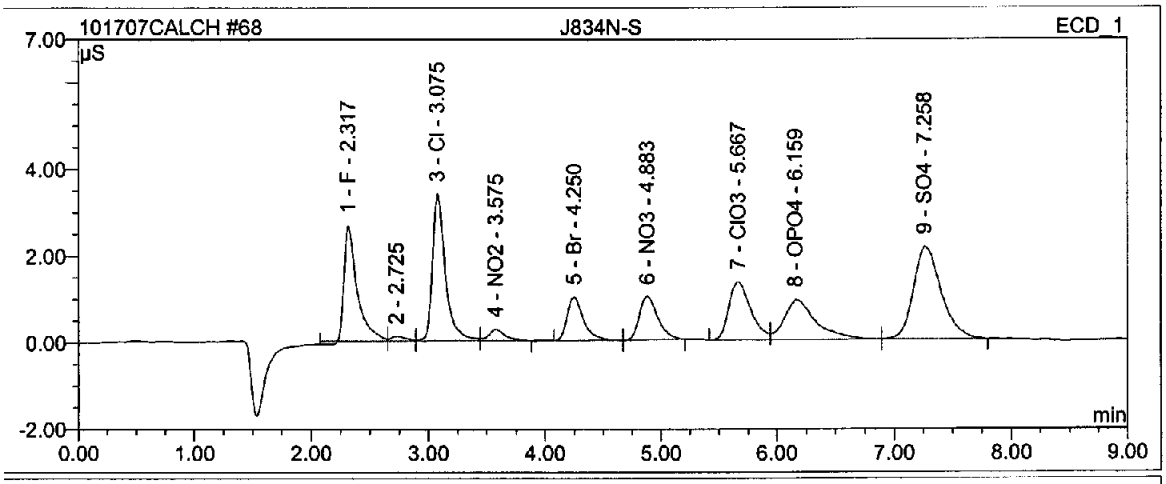
Operator:chemist Timebase:SLIC03_1 Sequence:101707CALCH

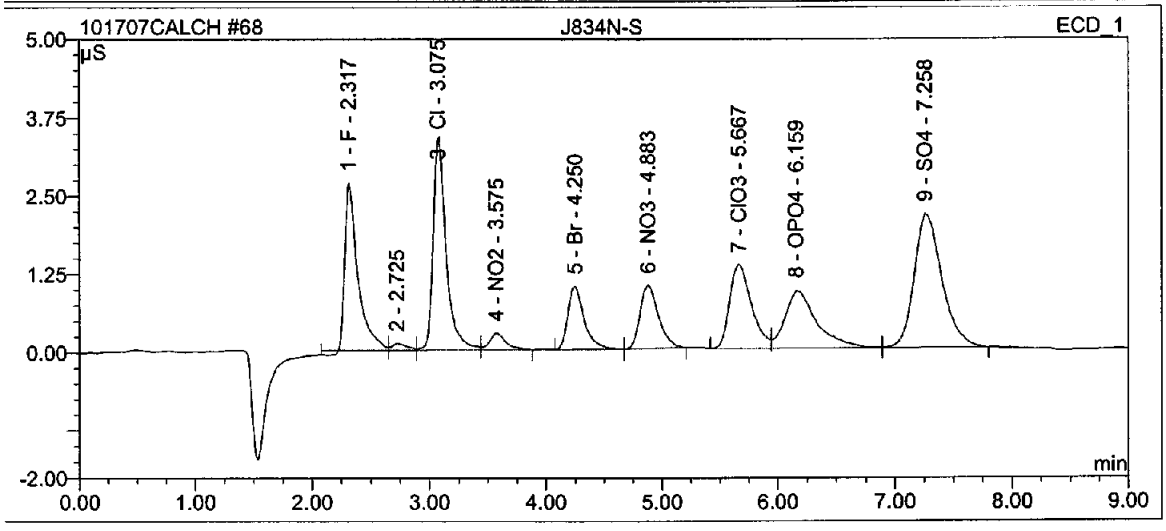
10/18/2007 5:48 AM

Integration Report - ECD_1

Sample Name:	J834N-S	*Inj. Vol.:*	50.0
Sample Type:	unknown	*Dilution Factor:*	1.0000
Program:	SLIC03_local	*Operator:*	n.a.
Inj. Date/Time:	18.10.07 05:36	*Run Time:*	9.00

No. ECD_1	Time ECD_1 min	Peak Name ECD_1	Type ECD_1	Area ECD_1 µS*min	Height ECD_1 µS	Amount ECD_1
1	2.32	F	M	0.336	2.663	1648.9362
3	3.08	Cl	M	0.436	3.388	2618.5685
4	3.58	NO2	MB	0.044	0.268	161.3606
5	4.25	Br	BMb	0.165	1.007	2387.8945
6	4.88	NO3	bMB	0.185	1.008	481.4323
7	5.67	ClO3	BM	0.292	1.339	4637.0653
8	6.16	OPO4	M	0.286	0.925	5233.8288
9	7.26	SO4	MB	0.586	2.137	4642.3019
		TOTAL:		2.33	12.74	21811.39





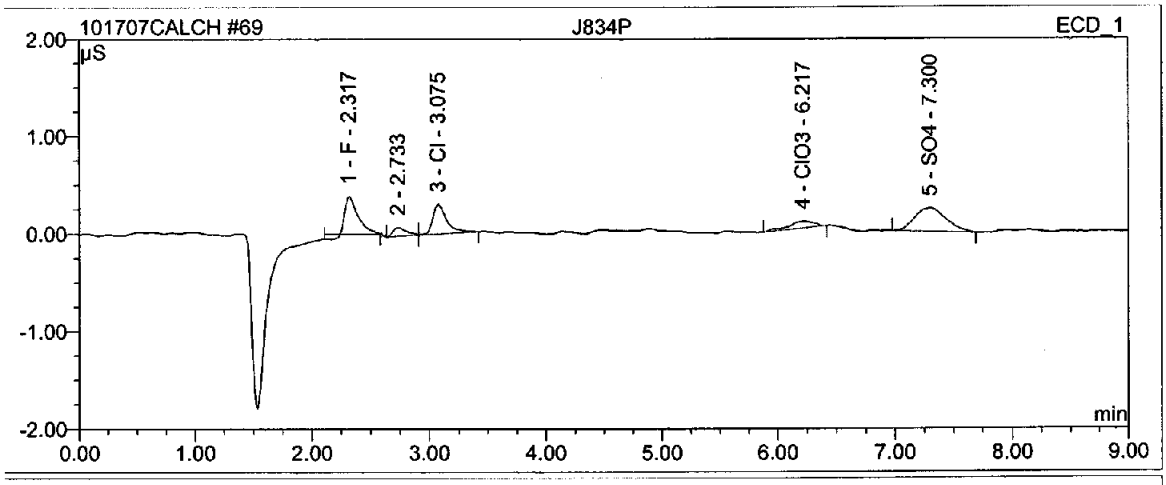
Operator:chemist Timebase:SLIC03_1 Sequence:101707CALCH

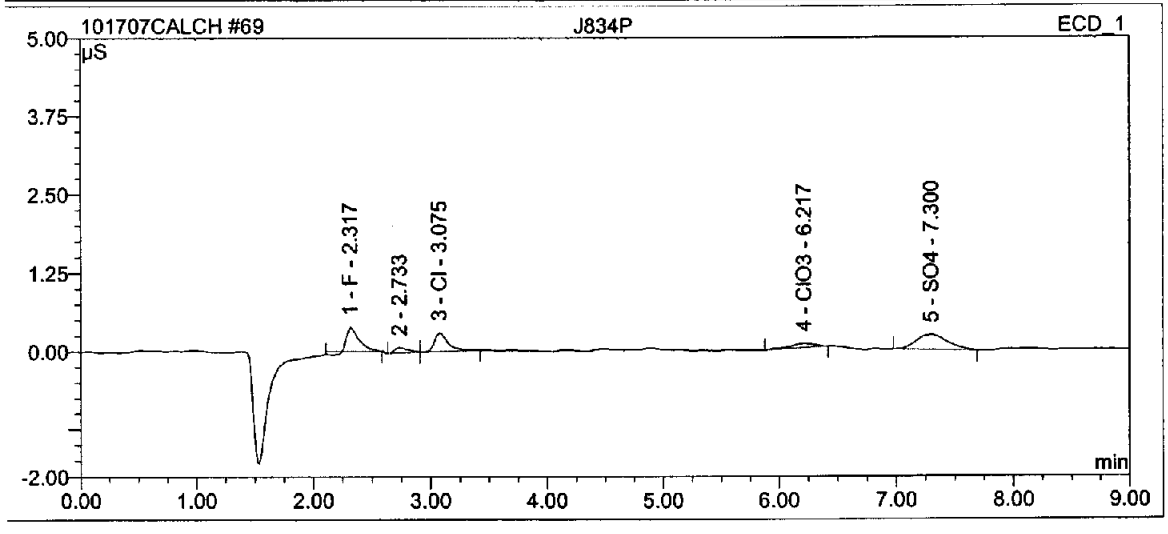
10/18/2007 5:59 AM

Integration Report - ECD_1

Sample Name:	J834P	*Inj. Vol.:*	50.0
Sample Type:	unknown	*Dilution Factor:*	1.0000
Program:	SLIC03_local	*Operator:*	n.a.
Inj. Date/Time:	18.10.07 05:48	*Run Time:*	9.00

No. ECD_1	Time ECD_1 min	Peak Name ECD_1	Type ECD_1	Area ECD_1 µS*min	Height ECD_1 µS	Amount ECD_1
1	2.32	F	MB	0.043	0.382	211.3322
3	3.08	Cl	MB	0.041	0.298	247.1423
4	6.22	ClO3	BMB	0.017	0.065	272.0863
5	7.30	SO4	BMB	0.074	0.234	583.1547
		TOTAL:		0.18	0.98	1313.72





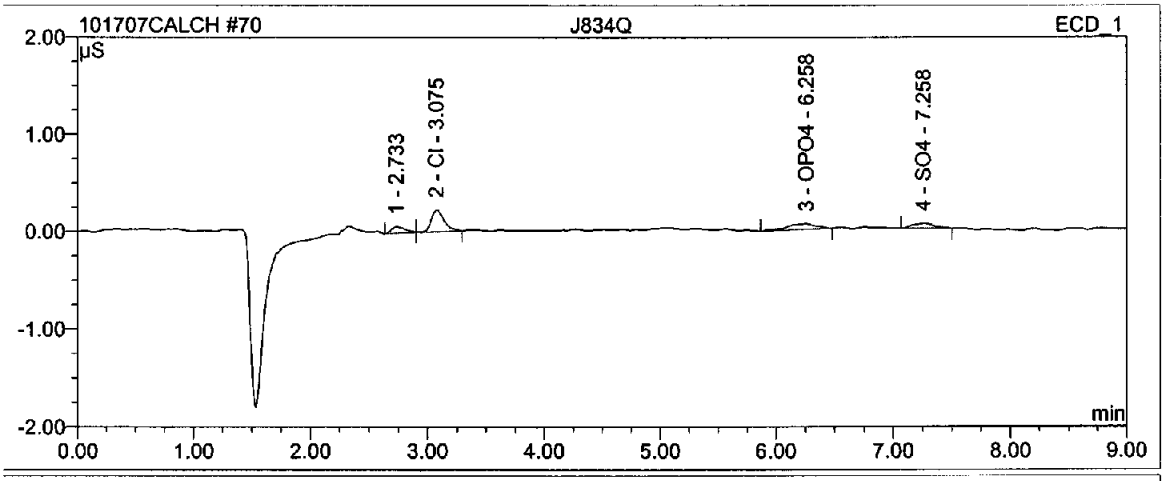
Operator:chemist Timebase:SLIC03_1 Sequence:101707CALCH

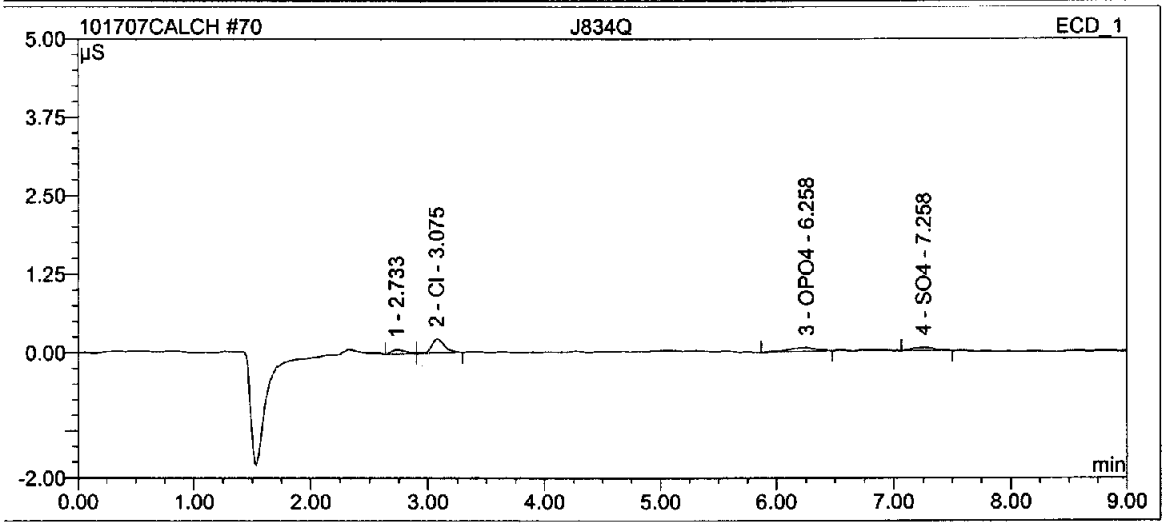
10/18/2007 6:11 AM

Integration Report - ECD_1

Sample Name:	J834Q	*Inj. Vol.:*	50.0
Sample Type:	unknown	*Dilution Factor:*	1.0000
Program:	SLIC03_local	*Operator:*	n.a.
Inj. Date/Time:	18.10.07 05:59	*Run Time:*	9.00

No. ECD_1	Time ECD_1 min	Peak Name ECD_1	Type ECD_1	Area ECD_1 µS*min	Height ECD_1 µS	Amount ECD_1
2	3.08	Cl	MB	0.028	0.223	171.0199
3	6.26	OPO4	BMB	0.017	0.056	308.9776
4	7.26	SO4	BMB	0.011	0.051	86.9040
		TOTAL:		0.06	0.33	566.90

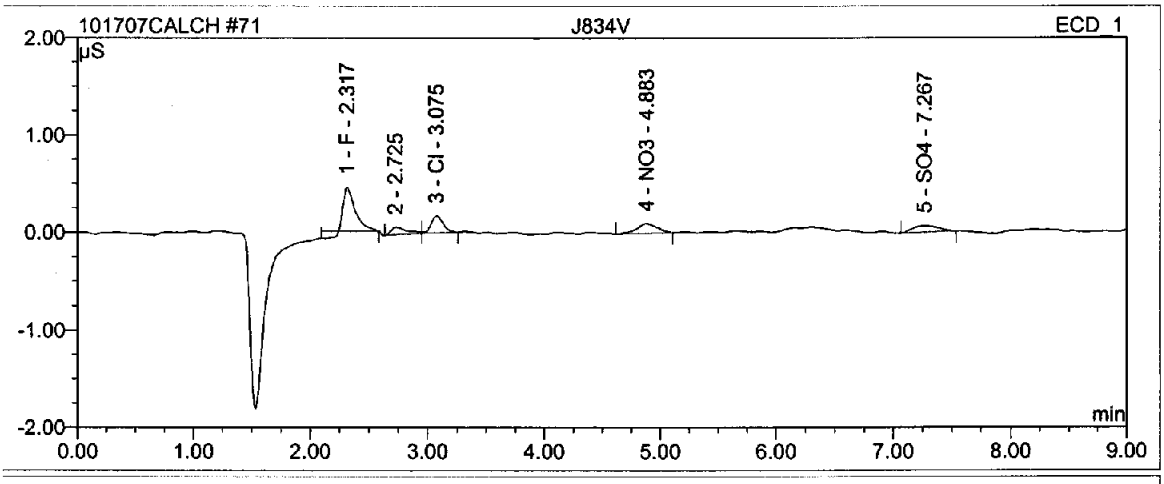


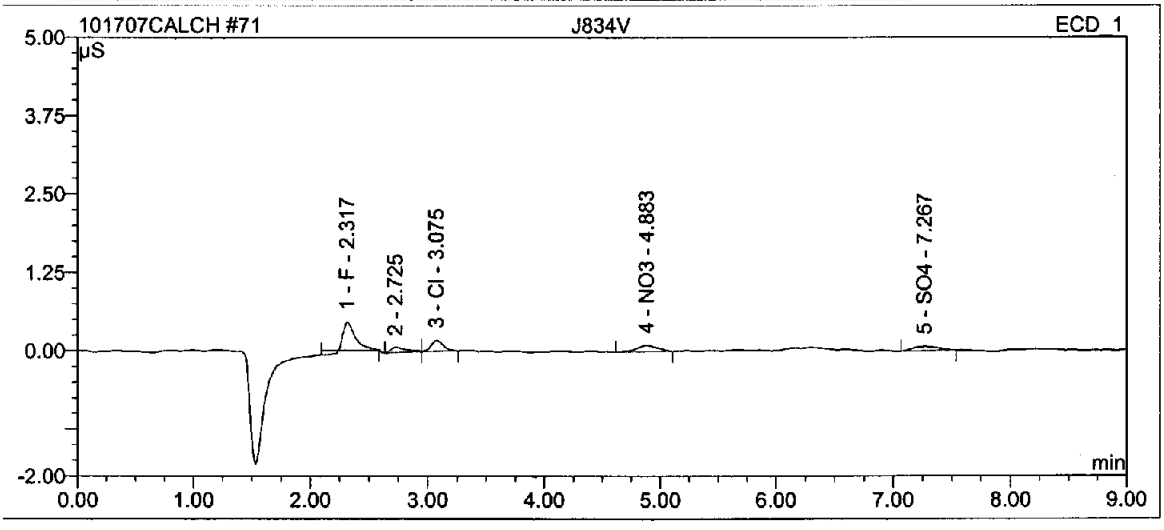


Integration Report - ECD_1

Sample Name:	J834V	*Inj. Vol.:*	50.0
Sample Type:	unknown	*Dilution Factor:*	1.0000
Program:	SLIC03_local	*Operator:*	n.a.
Inj. Date/Time:	18.10.07 06:11	*Run Time:*	9.00

No. ECD_1	Time ECD_1 min	Peak Name ECD_1	Type ECD_1	Area ECD_1 µS*min	Height ECD_1 µS	Amount ECD_1
1	2.32	F	MB	0.045	0.448	221.1968
3	3.08	Cl	MB	0.021	0.176	126.0471
4	4.88	NO3	BMB	0.021	0.101	54.1727
5	7.27	SO4	BMB	0.017	0.068	134.3642
		TOTAL:		0.10	0.79	535.78





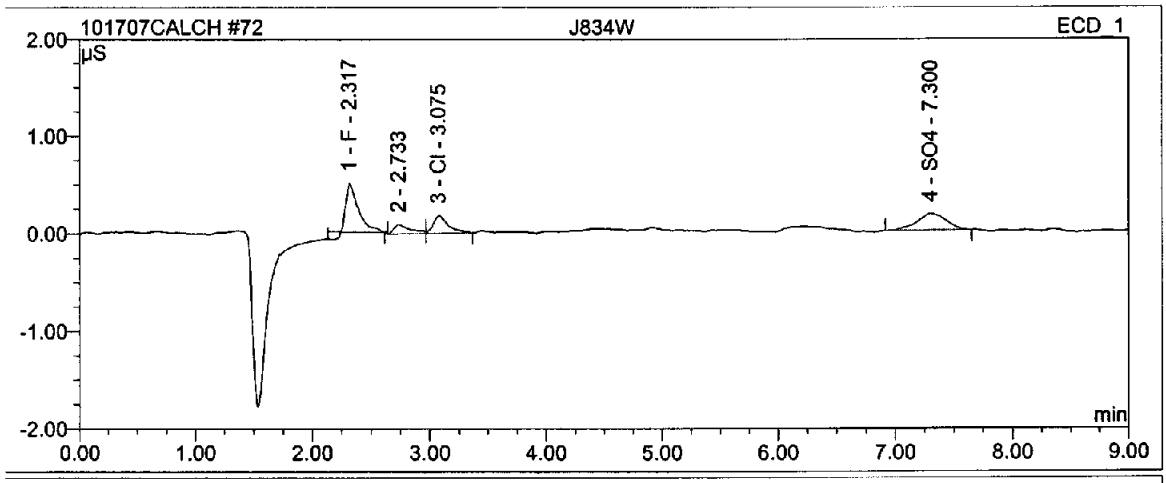
Operator:chemist Timebase:SLIC03_1 Sequence:101707CALCH

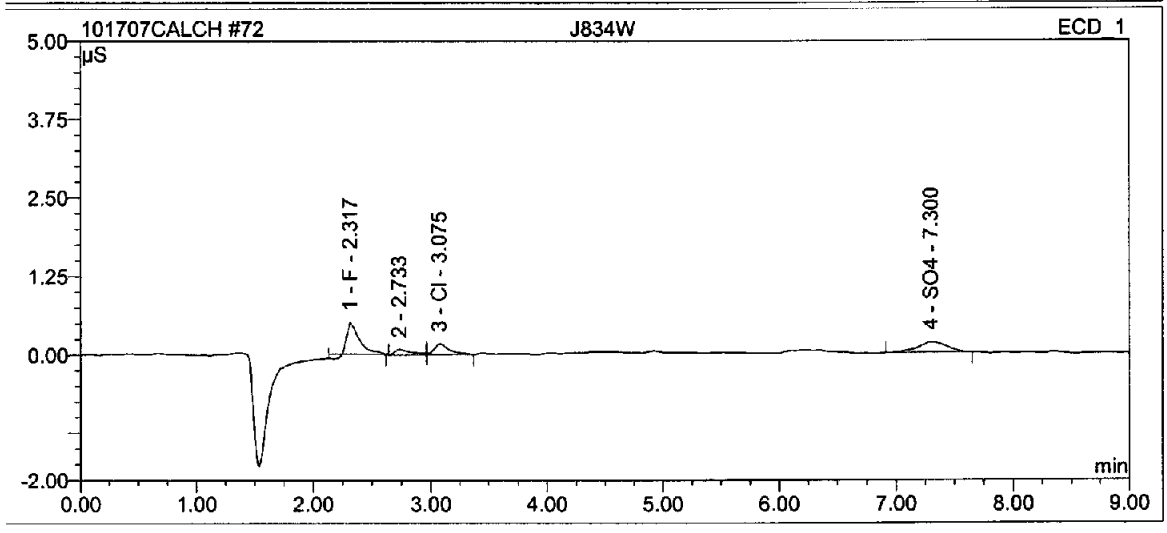
10/18/2007 6:34 AM

Integration Report - ECD_1

Sample Name:	J834W	*Inj. Vol.:*	50.0
Sample Type:	unknown	*Dilution Factor:*	1.0000
Program:	SLIC03_local	*Operator:*	n.a.
Inj. Date/Time:	18.10.07 06:22	*Run Time:*	9.00

No. ECD_1	Time ECD_1 min	Peak Name ECD_1	Type ECD_1	Area ECD_1 µS*min	Height ECD_1 µS	Amount ECD_1
1	2.32	F	MB	0.054	0.495	266.9874
3	3.08	Cl	MB	0.026	0.174	158.2131
4	7.30	SO4	BMB	0.048	0.166	379.5745
		TOTAL:		0.13	0.84	804.78

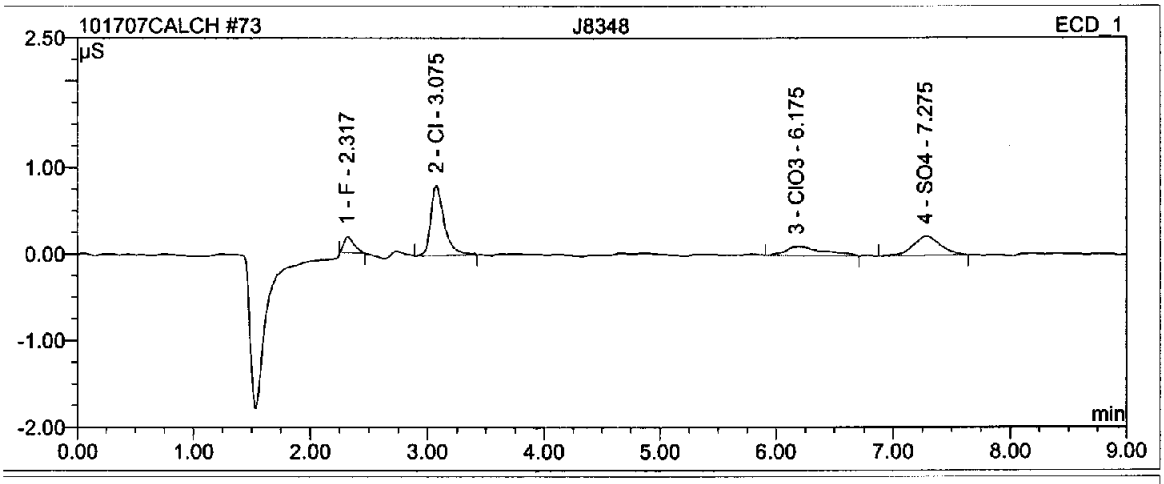


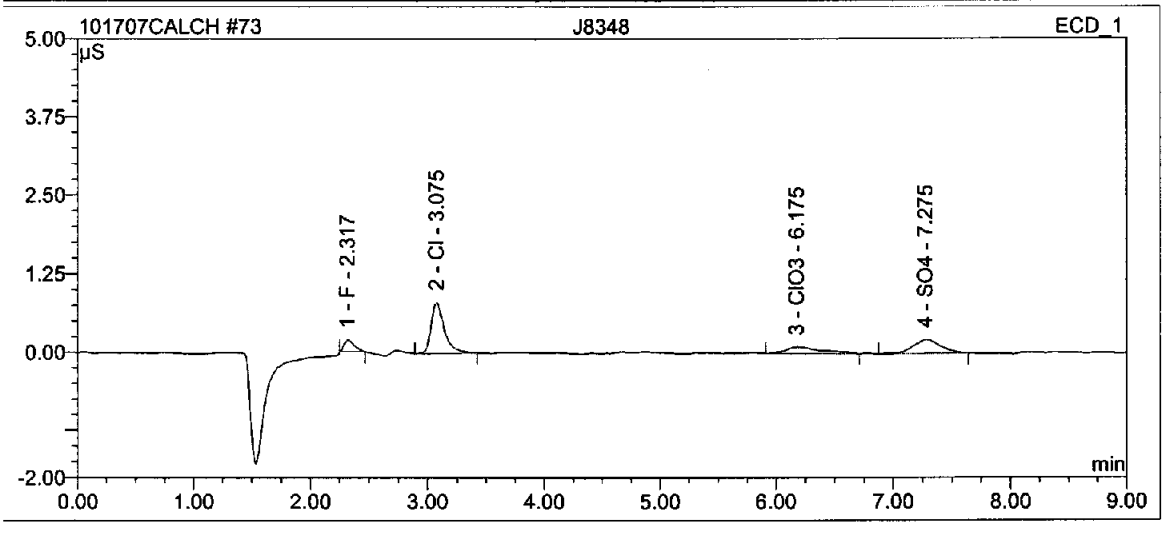


Integration Report - ECD_1

Sample Name:	J8348	*Inj. Vol.:*	50.0
Sample Type:	unknown	*Dilution Factor:*	1.0000
Program:	SLIC03_local	*Operator:*	n.a.
Inj. Date/Time:	18.10.07 06:33	*Run Time:*	9.00

No. ECD_1	Time ECD_1 min	Peak Name ECD_1	Type ECD_1	Area ECD_1 µS*min	Height ECD_1 µS	Amount ECD_1
1	2.32	F	BMB	0.019	0.186	91.8538
2	3.08	Cl	BMB	0.108	0.812	651.0469
3	6.18	ClO3	BMB	0.039	0.103	613.1111
4	7.28	SO4	BMB	0.061	0.224	486.2132
		TOTAL:		0.23	1.33	1842.23





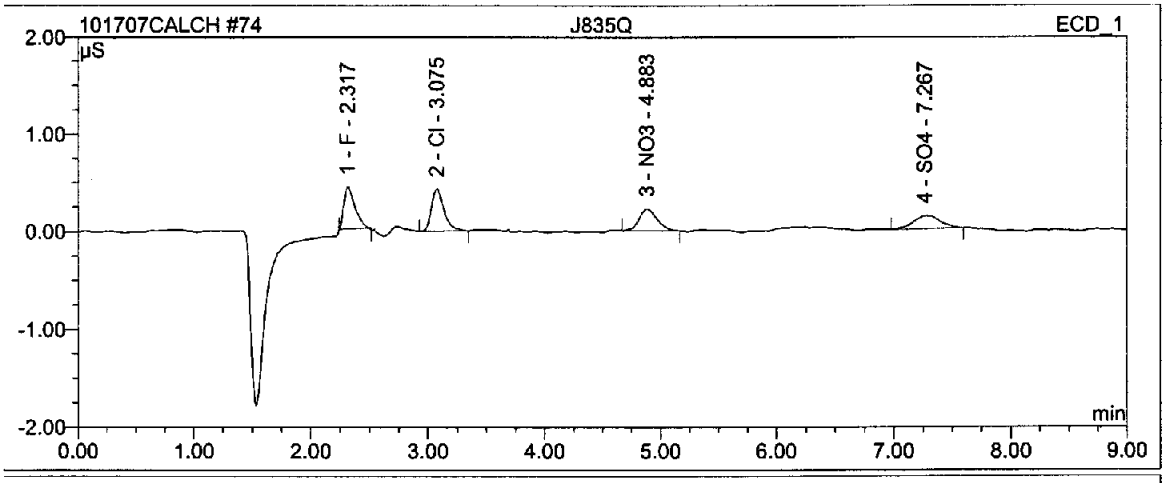
Operator:chemist Timebase:SLIC03_1 Sequence:101707CALCH

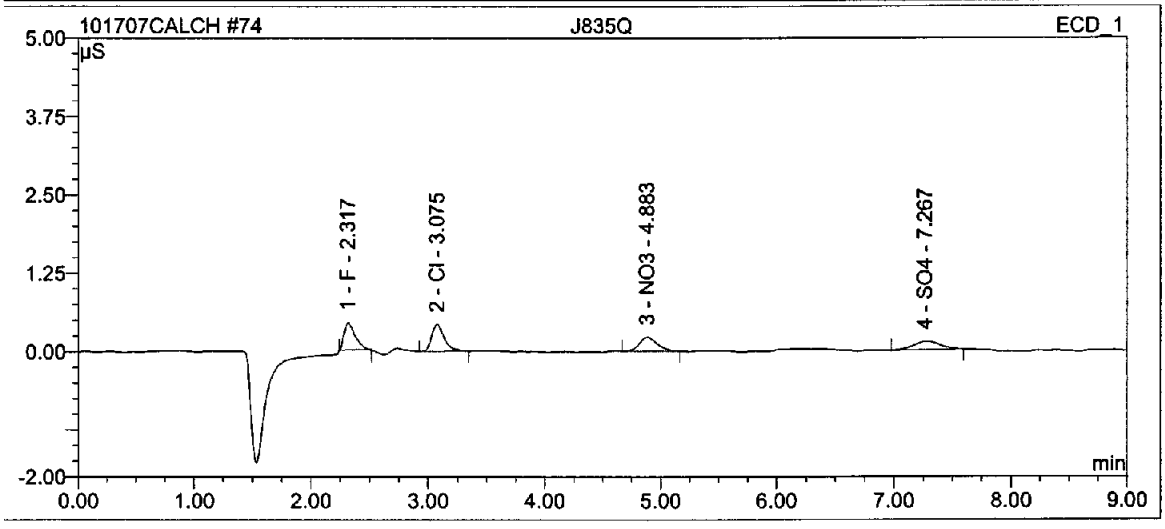
10/18/2007 6:56 AM

Integration Report - ECD_1

Sample Name:	J835Q	*Inj. Vol.:*	50.0
Sample Type:	unknown	*Dilution Factor:*	1.0000
Program:	SLIC03_local	*Operator:*	n.a.
Inj. Date/Time:	18.10.07 06:45	*Run Time:*	9.00

No. ECD_1	Time ECD_1 min	Peak Name ECD_1	Type ECD_1	Area ECD_1 µS*min	Height ECD_1 µS	Amount ECD_1
1	2.32	F	BM	0.046	0.430	227.3207
2	3.08	Cl	BMB	0.054	0.434	325.1793
3	4.88	NO3	BMB	0.040	0.223	104.8448
4	7.27	SO4	BMB	0.035	0.133	278.9704
			TOTAL:	0.18	1.22	936.32

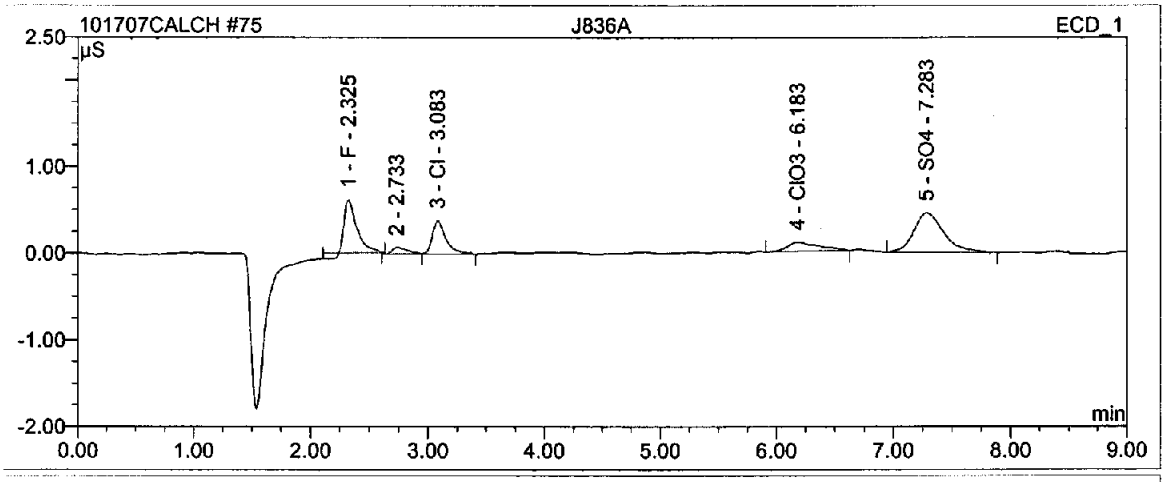


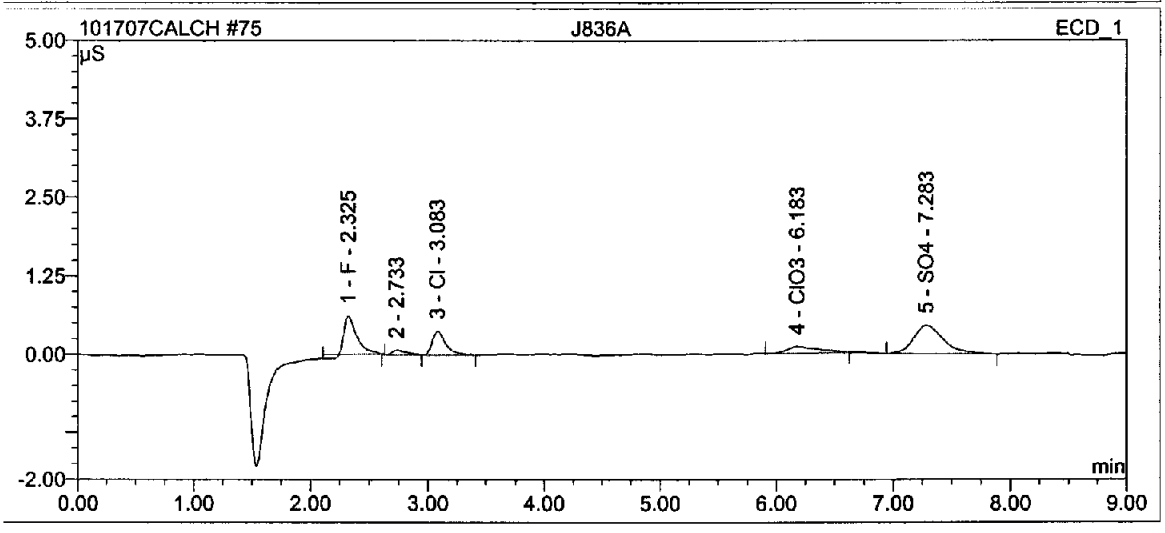


Integration Report - ECD_1

Sample Name:	J836A	*Inj. Vol.:*	50.0
Sample Type:	unknown	*Dilution Factor:*	1.0000
Program:	SLIC03_local	*Operator:*	n.a.
Inj. Date/Time:	18.10.07 06:56	*Run Time:*	9.00

No. ECD_1	Time ECD_1 min	Peak Name ECD_1	Type ECD_1	Area ECD_1 µS*min	Height ECD_1 µS	Amount ECD_1
1	2.33	F	MB	0.071	0.611	345.8561
3	3.08	Cl	BMB	0.054	0.384	324.2498
4	6.18	ClO3	BMB	0.034	0.107	532.6161
5	7.28	SO4	BMB	0.136	0.453	1077.7260
		TOTAL:		0.29	1.55	2280.45

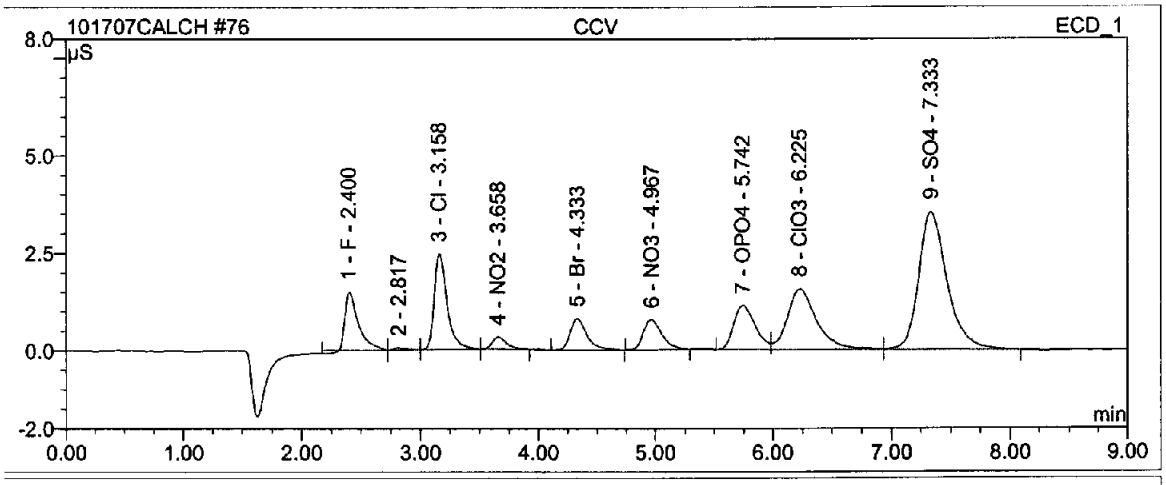


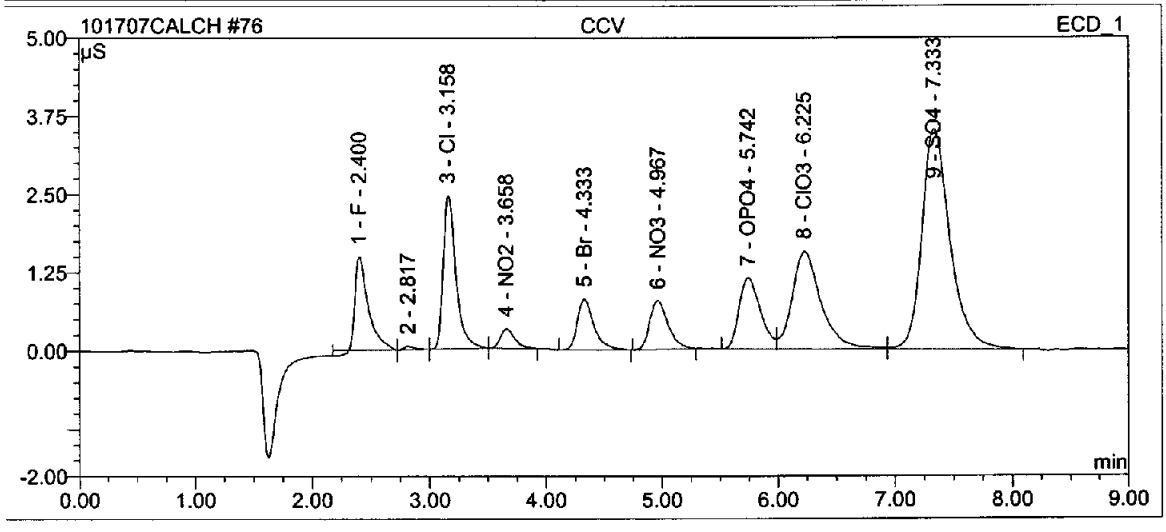


Integration Report - ECD_1

Sample Name:	CCV	*Inj. Vol.:*	50.0
Sample Type:	unknown	*Dilution Factor:*	1.0000
Program:	SLIC03_local	*Operator:*	n.a.
Inj. Date/Time:	18.10.07 07:08	*Run Time:*	9.00

No. ECD_1	Time ECD_1 min	Peak Name ECD_1	Type ECD_1	Area ECD_1 µS*min	Height ECD_1 µS	Amount ECD_1
1	2.40	F	Mb	0.188	1.492	920.2685
3	3.16	Cl	bMb	0.308	2.449	1851.8608
4	3.66	NO2	bMB	0.045	0.311	164.3976
5	4.33	Br	BMB	0.134	0.807	1939.7184
6	4.97	NO3	BMB	0.142	0.775	369.4155
7	5.74	OPO4	BM	0.242	1.136	4416.4619
8	6.23	ClO3	M	0.447	1.559	7084.1116
9	7.33	SO4	MB	0.983	3.525	7786.6102
		TOTAL:		2.49	12.05	24532.84

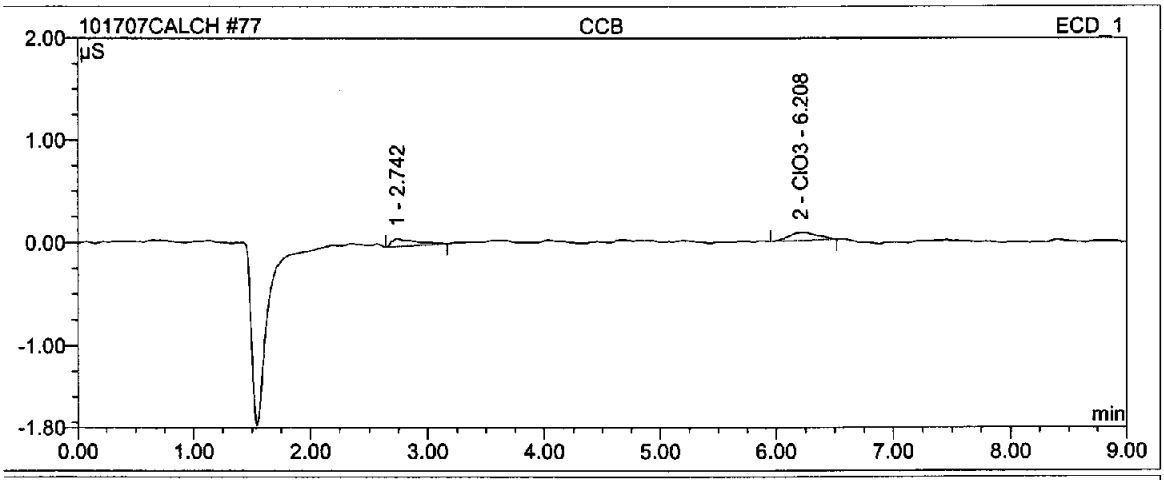


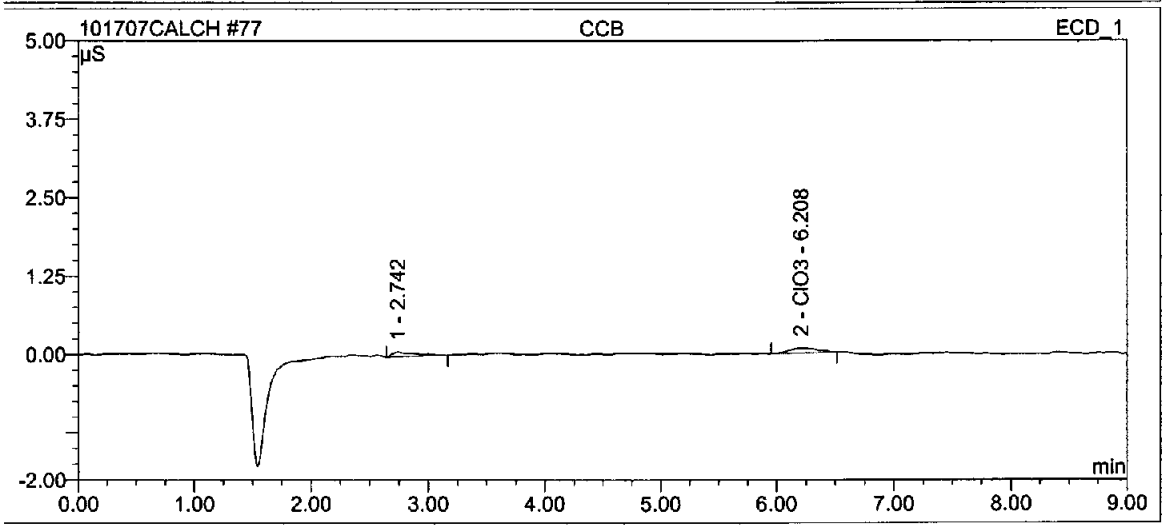


Integration Report - ECD_1

Sample Name:	CCB	*Inj. Vol.:*	50.0
Sample Type:	unknown	*Dilution Factor:*	1.0000
Program:	SLIC03_local	*Operator:*	n.a.
Inj. Date/Time:	18.10.07 07:19	*Run Time:*	9.00

No. ECD_1	Time ECD_1 min	Peak Name ECD_1	Type ECD_1	Area ECD_1 µS*min	Height ECD_1 µS	Amount ECD_1
2	6.21	ClO3	BMB	0.022	0.079	354.0672
		TOTAL:		0.02	0.08	354.07



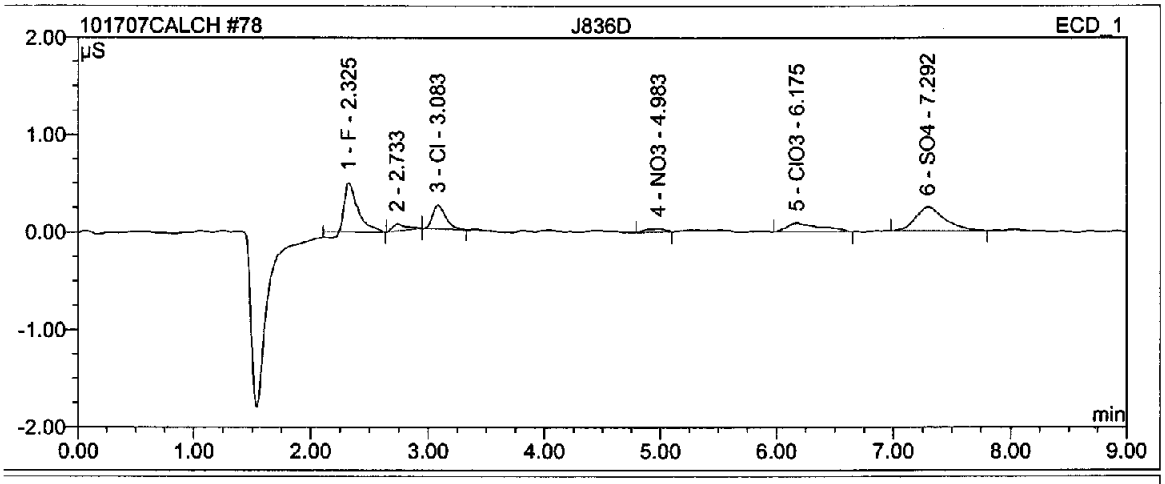


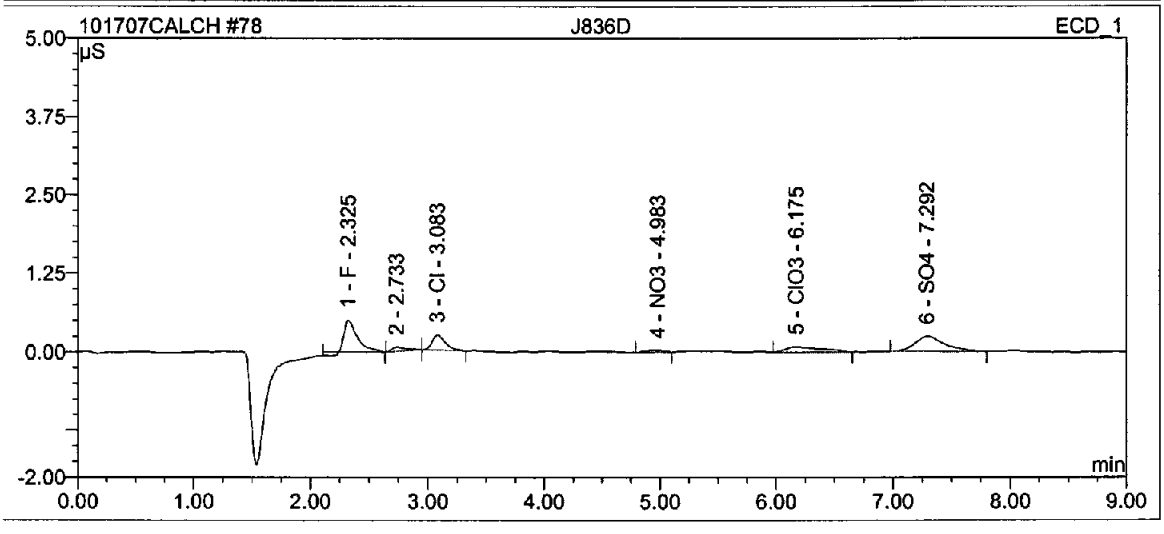
Operator:chemist Timebase:SLIC03_1 Sequence:101707CALCH

Integration Report - ECD_1

Sample Name:	J836D	*Inj. Vol.:*	50.0
Sample Type:	unknown	*Dilution Factor:*	1.0000
Program:	SLIC03_local	*Operator:*	n.a.
Inj. Date/Time:	18.10.07 07:31	*Run Time:*	9.00

No. ECD_1	Time ECD_1 min	Peak Name ECD_1	Type ECD_1	Area ECD_1 µS*min	Height ECD_1 µS	Amount ECD_1
1	2.33	F	MB	0.061	0.503	298.5288
3	3.08	Cl	bMB	0.031	0.244	188.8685
4	4.98	NO3	BMB	0.007	0.033	16.9824
5	6.18	ClO3	BMB	0.030	0.087	476.6192
6	7.29	SO4	BMB	0.071	0.242	563.6693
		TOTAL:		0.20	1.11	1544.67





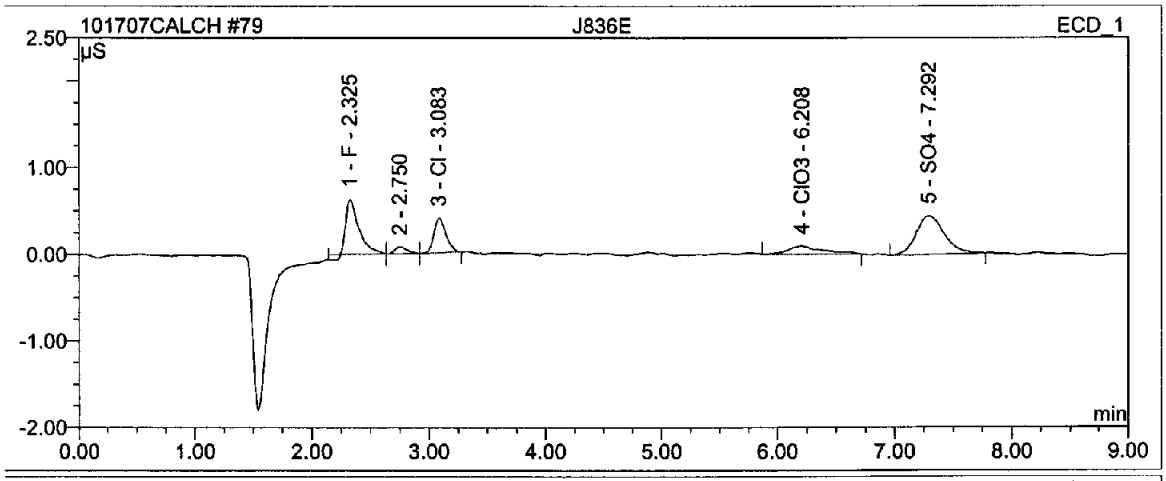
Operator:chemist Timebase:SLIC03_1 Sequence:101707CALCH

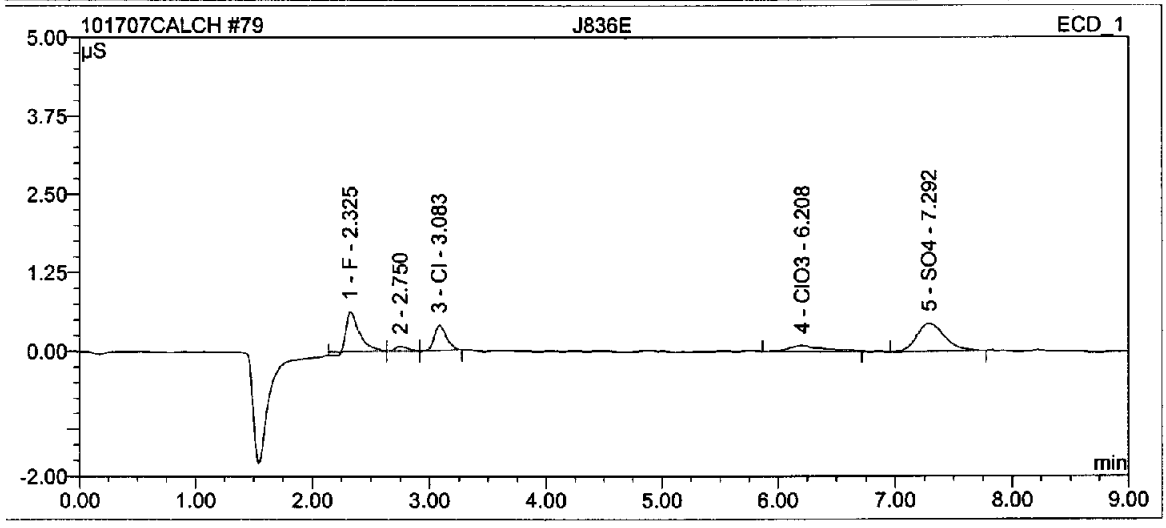
10/18/2007 7:54 AM

Integration Report - ECD_1

Sample Name:	J836E	*Inj. Vol.:*	50.0
Sample Type:	unknown	*Dilution Factor:*	1.0000
Program:	SLIC03_local	*Operator:*	n.a.
Inj. Date/Time:	18.10.07 07:42	*Run Time:*	9.00

No. ECD_1	Time ECD_1 min	Peak Name ECD_1	Type ECD_1	Area ECD_1 µS*min	Height ECD_1 µS	Amount ECD_1
1	2.33	F	Mb	0.077	0.633	378.4823
3	3.08	Cl	bMB	0.048	0.397	286.3004
4	6.21	ClO3	BMB	0.033	0.094	528.1843
5	7.29	SO4	BMB	0.124	0.442	981.4399
		TOTAL:		0.28	1.57	2174.41

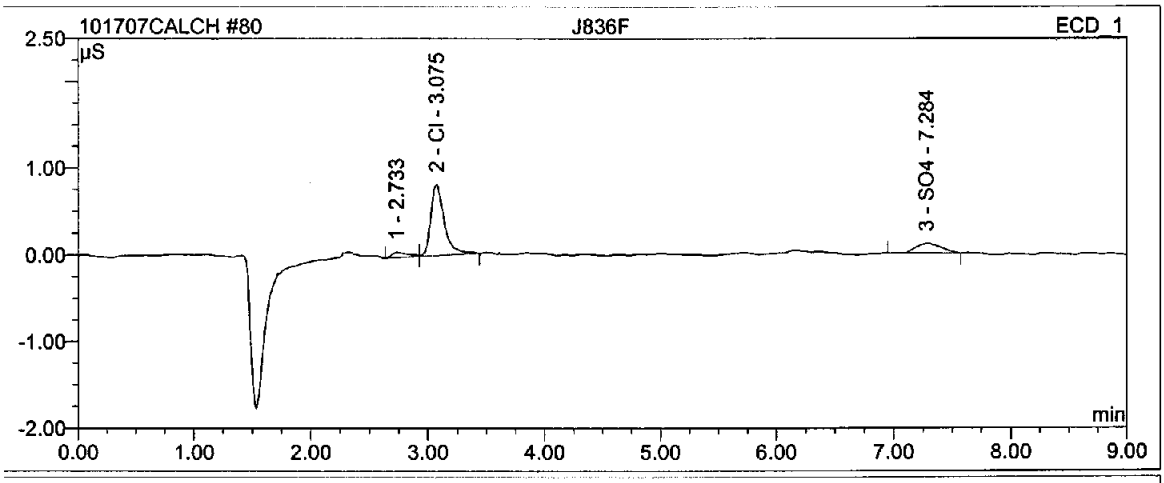


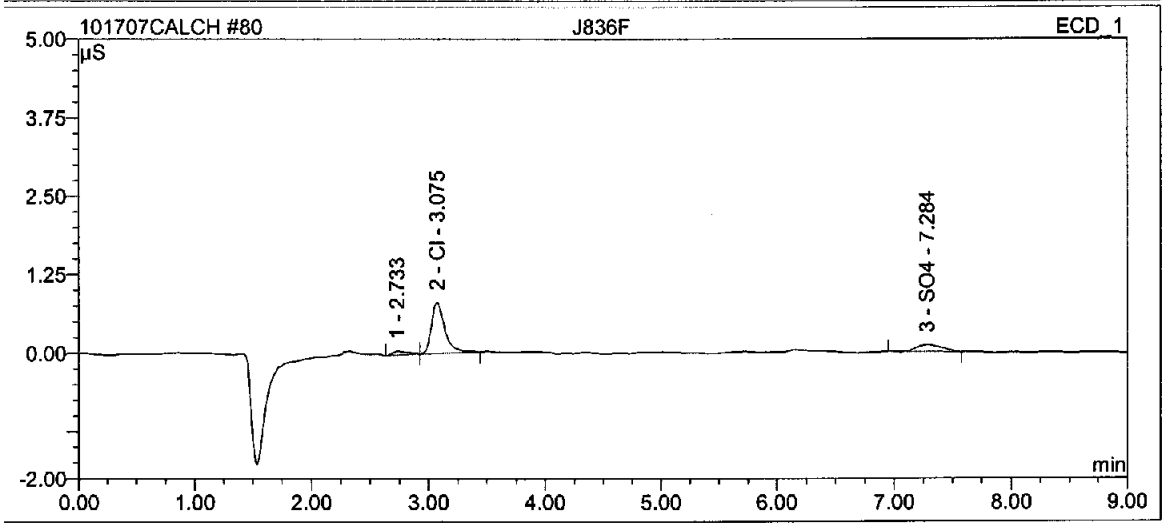


Integration Report - ECD_1

Sample Name:	J836F	*Inj. Vol.:*	50.0
Sample Type:	unknown	*Dilution Factor:*	1.0000
Program:	SLIC03_local	*Operator:*	n.a.
Inj. Date/Time:	18.10.07 07:53	*Run Time:*	9.00

No. ECD_1	Time ECD_1 min	Peak Name ECD_1	Type ECD_1	Area ECD_1 µS*min	Height ECD_1 µS	Amount ECD_1
2	3.08	Cl	MB	0.110	0.815	658.1746
3	7.28	SO4	MB	0.027	0.111	217.0024
		TOTAL:		0.14	0.93	875.18

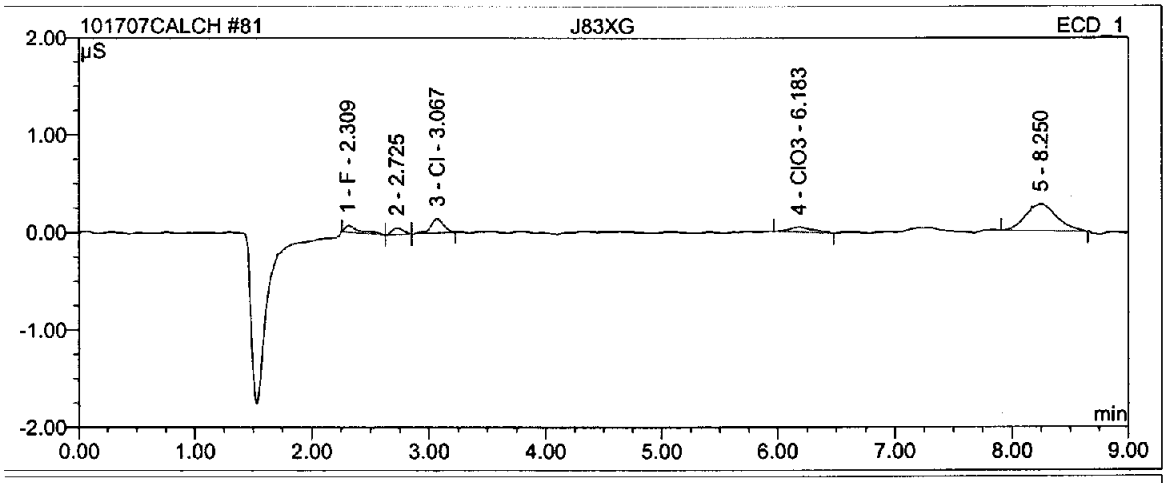


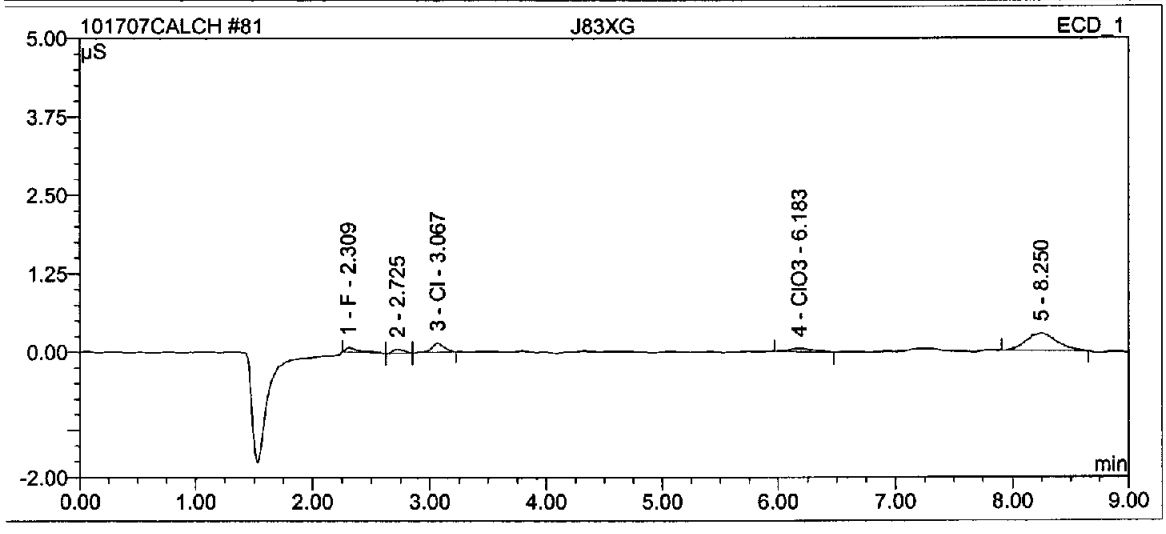


Integration Report - ECD_1

Sample Name:	**J83XG**	*Inj. Vol.:*	**50.0**
Sample Type:	**unknown**	*Dilution Factor:*	**1.0000**
Program:	**SLIC03_local**	*Operator:*	**n.a.**
Inj. Date/Time:	**18.10.07 08:05**	*Run Time:*	**9.00**

No. ECD_1	Time ECD_1 min	Peak Name ECD_1	Type ECD_1	Area ECD_1 µS*min	Height ECD_1 µS	Amount ECD_1
1	2.31	F	BMb	0.010	0.066	49.8412
3	3.07	Cl	bMB	0.019	0.143	111.1483
4	6.18	ClO3	BMB	0.013	0.051	201.4541
		TOTAL:		0.04	0.26	362.44





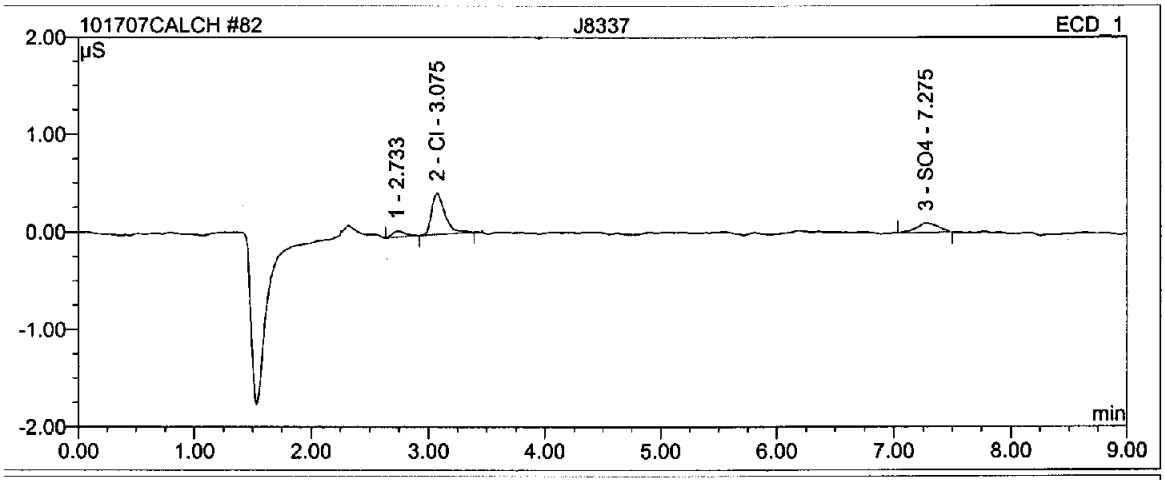
Operator:chemist Timebase:SLIC03_1 Sequence:101707CALCH

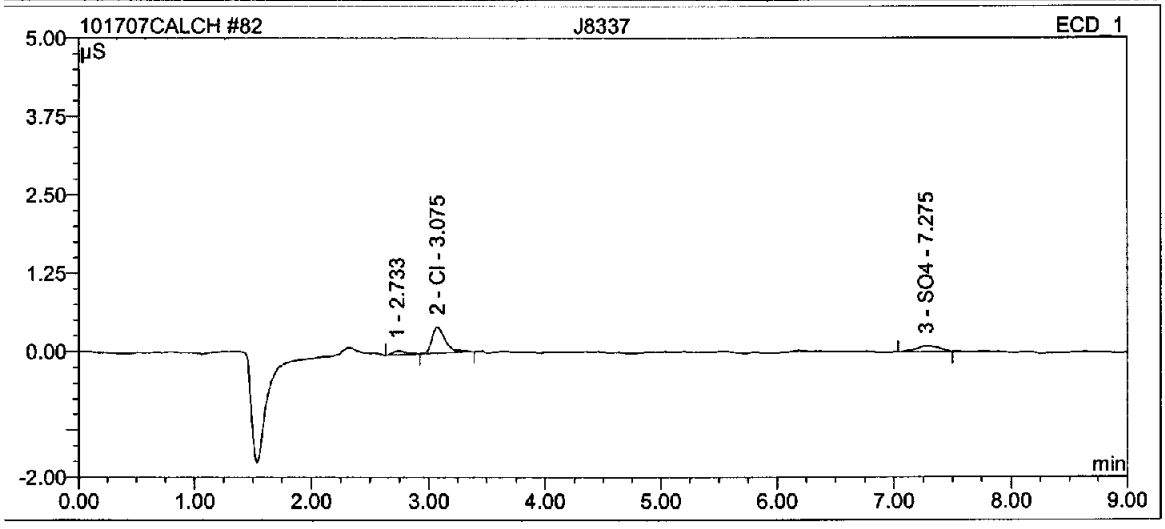
10/18/2007 8:28 AM

Integration Report - ECD_1

Sample Name:	J8337	*Inj. Vol.:*	50.0
Sample Type:	unknown	*Dilution Factor:*	1.0000
Program:	SLIC03_local	*Operator:*	n.a.
Inj. Date/Time:	18.10.07 08:16	*Run Time:*	9.00

No. ECD_1	Time ECD_1 min	Peak Name ECD_1	Type ECD_1	Area ECD_1 µS*min	Height ECD_1 µS	Amount ECD_1
2	3.08	Cl	BMB	0.056	0.420	333.5695
3	7.28	SO4	BMB	0.021	0.096	169.7783
		TOTAL:		0.08	0.52	503.35





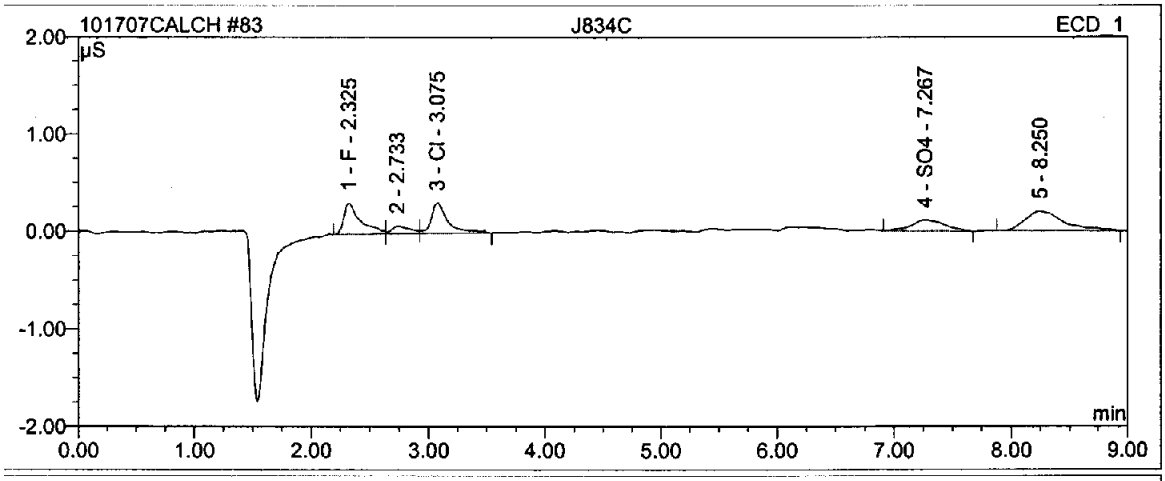
Operator:chemist Timebase:SLIC03_1 Sequence:101707CALCH

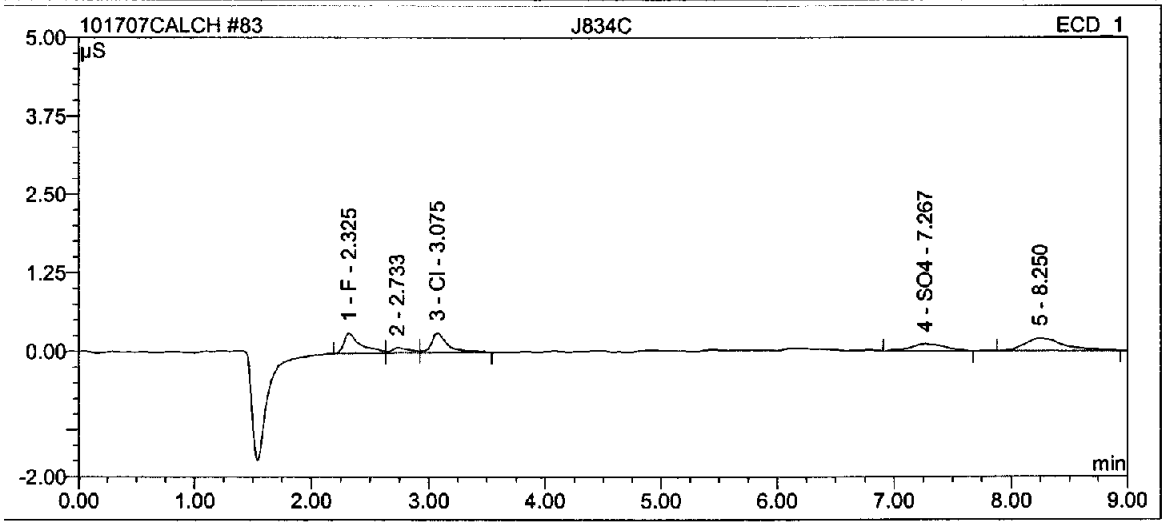
10/18/2007 8:39 AM

Integration Report - ECD_1

Sample Name:	J834C	*Inj. Vol.:*	50.0
Sample Type:	unknown	*Dilution Factor:*	1.0000
Program:	SLIC03_local	*Operator:*	n.a.
Inj. Date/Time:	18.10.07 08:28	*Run Time:*	9.00

No. ECD_1	Time ECD_1 min	Peak Name ECD_1	Type ECD_1	Area ECD_1 µS*min	Height ECD_1 µS	Amount ECD_1
1	2.33	F	BM	0.053	0.317	259.6786
3	3.08	Cl	MB	0.051	0.310	308.9991
4	7.27	SO4	BMB	0.038	0.113	300.8898
		TOTAL:		0.14	0.74	869.57

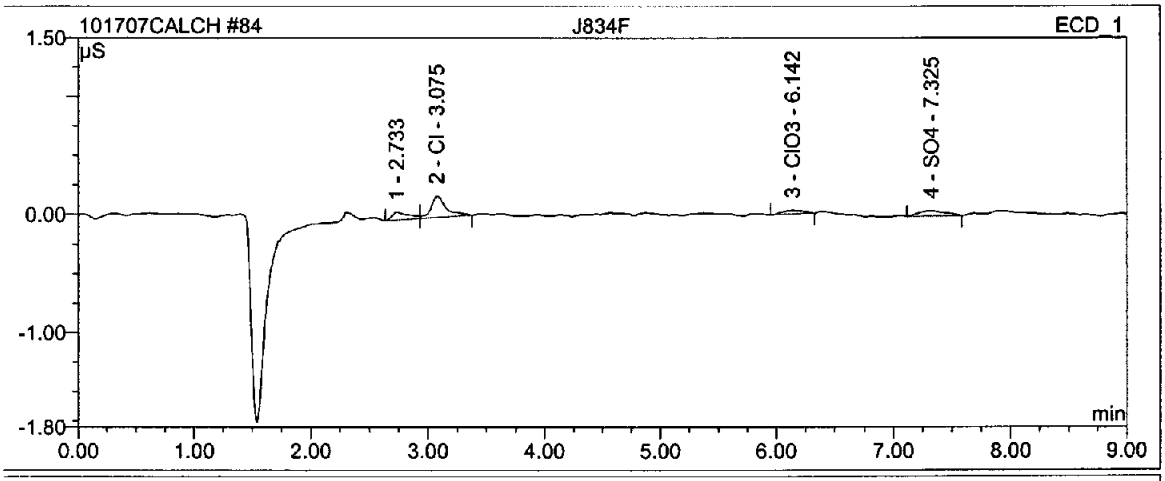


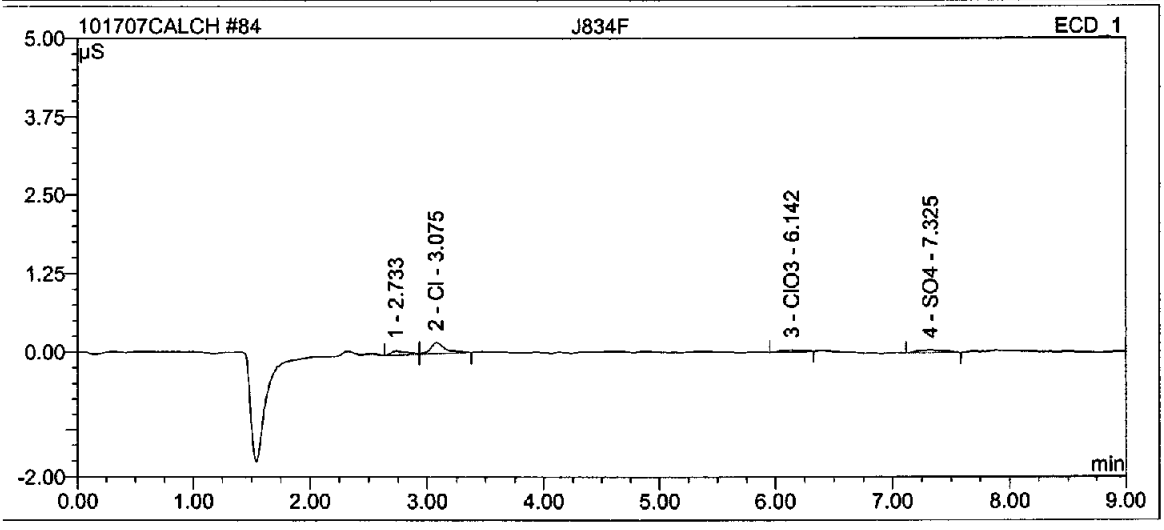


Integration Report - ECD_1

Sample Name:	**J834F**	*Inj. Vol.:*	**50.0**
Sample Type:	**unknown**	*Dilution Factor:*	**1.0000**
Program:	**SLIC03_local**	*Operator:*	**n.a.**
Inj. Date/Time:	**18.10.07 08:39**	*Run Time:*	**9.00**

No. ECD_1	Time ECD_1 min	Peak Name ECD_1	Type ECD_1	Area ECD_1 µS*min	Height ECD_1 µS	Amount ECD_1
2	3.08	Cl	MB	0.027	0.179	161.6310
3	6.14	ClO3	BMB	0.006	0.031	102.7770
4	7.33	SO4	BMB	0.012	0.046	96.0903
		TOTAL:		0.05	0.26	360.50





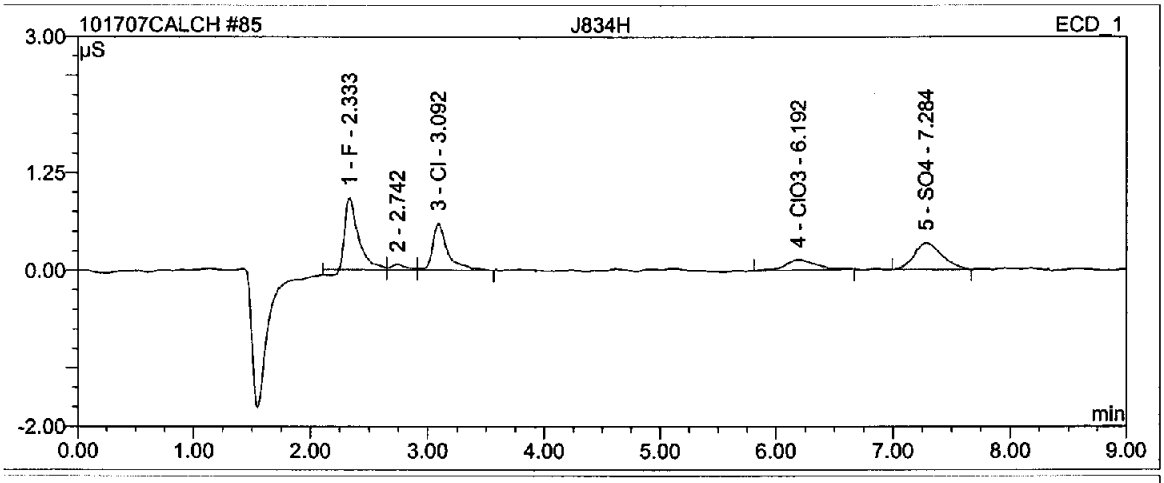
Operator:chemist Timebase:SLIC03_1 Sequence:101707CALCH

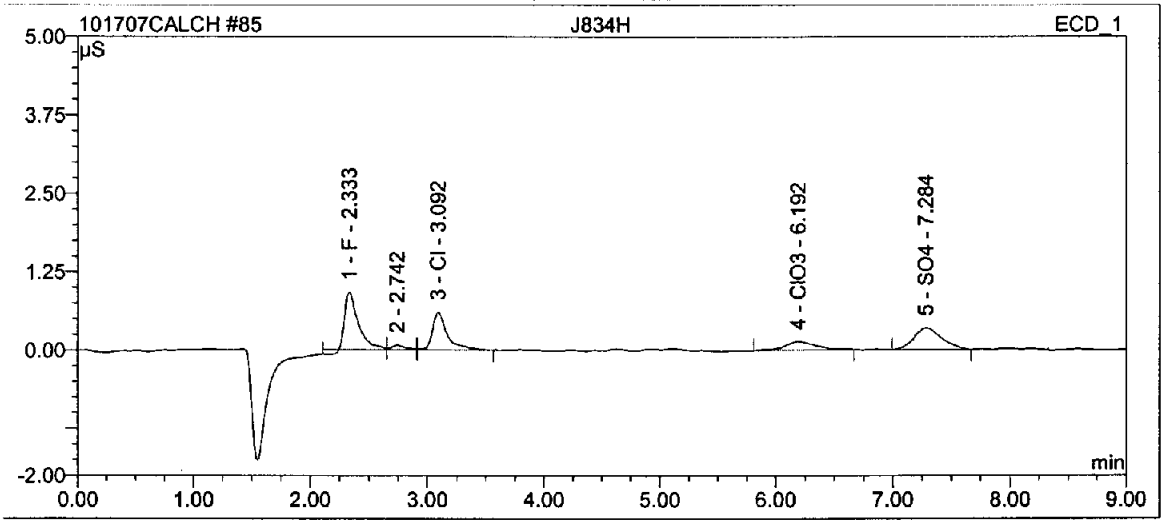
10/18/2007 9:02 AM

Integration Report - ECD_1

Sample Name:	J834H	*Inj. Vol.:*	50.0
Sample Type:	unknown	*Dilution Factor:*	1.0000
Program:	SLIC03_local	*Operator:*	n.a.
Inj. Date/Time:	18.10.07 08:51	*Run Time:*	9.00

No. ECD_1	Time ECD_1 min	Peak Name ECD_1	Type ECD_1	Area ECD_1 µS*min	Height ECD_1 µS	Amount ECD_1
1	2.33	F	M	0.116	0.916	569.1060
3	3.09	Cl	MB	0.089	0.596	535.2236
4	6.19	ClO3	BMB	0.041	0.134	657.8048
5	7.28	SO4	BMB	0.095	0.341	752.3867
		TOTAL:		0.34	1.99	2514.52





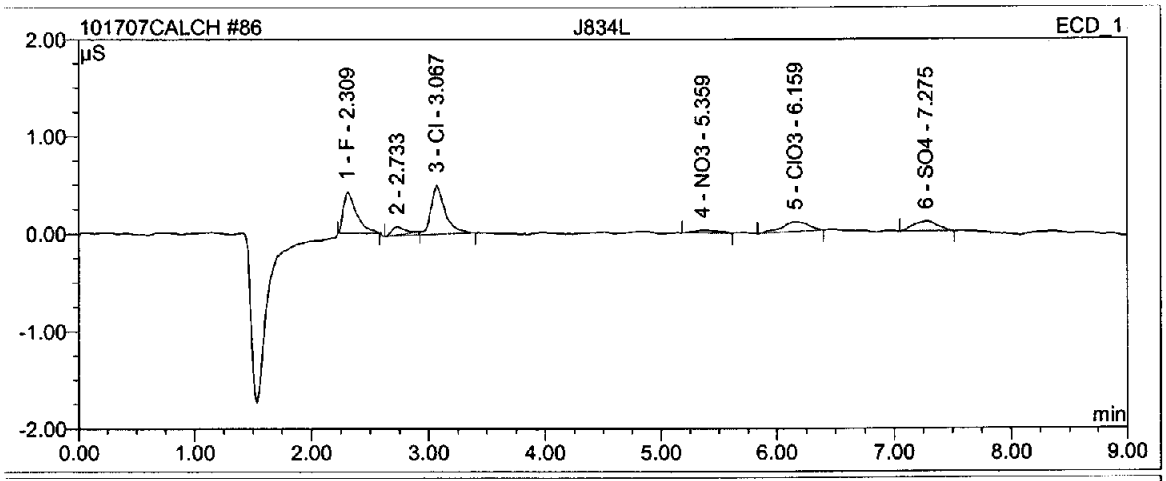
Operator:chemist Timebase:SLIC03_1 Sequence:101707CALCH

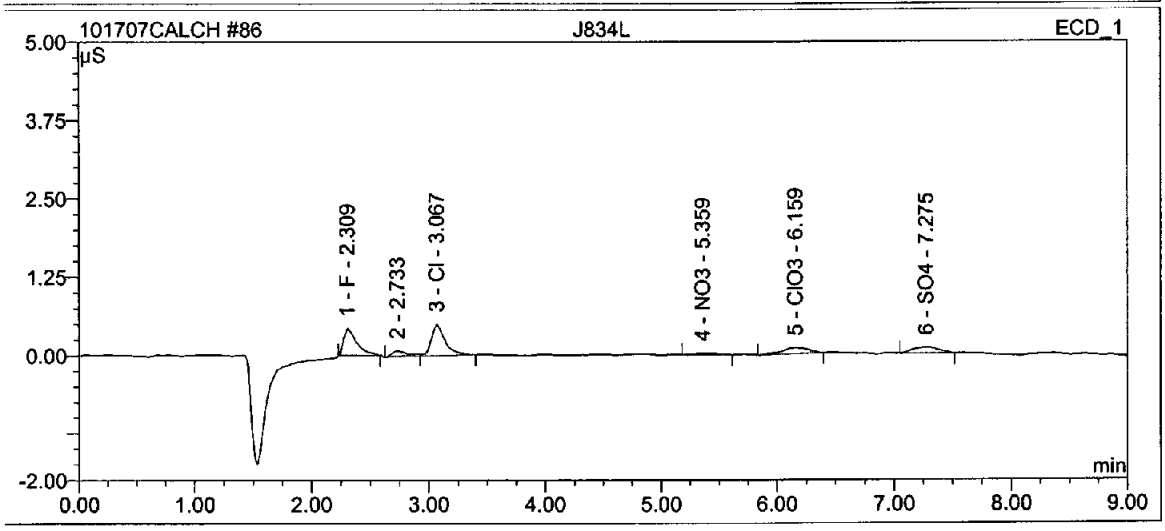
10/18/2007 9:13 AM

Integration Report - ECD_1

Sample Name:	J834L	*Inj. Vol.:*	50.0
Sample Type:	unknown	*Dilution Factor:*	1.0000
Program:	SLIC03_local	*Operator:*	n.a.
Inj. Date/Time:	18.10.07 09:02	*Run Time:*	9.00

No. ECD_1	Time ECD_1 min	Peak Name ECD_1	Type ECD_1	Area ECD_1 µS*min	Height ECD_1 µS	Amount ECD_1
1	2.31	F	BMB	0.054	0.416	266.8380
3	3.07	Cl	BMB	0.073	0.501	436.2486
4	5.36	NO3	BMB	0.006	0.026	16.5106
5	6.16	ClO3	BMB	0.026	0.096	409.3959
6	7.28	SO4	BMB	0.023	0.095	182.1063
		TOTAL:		0.18	1.13	1311.10

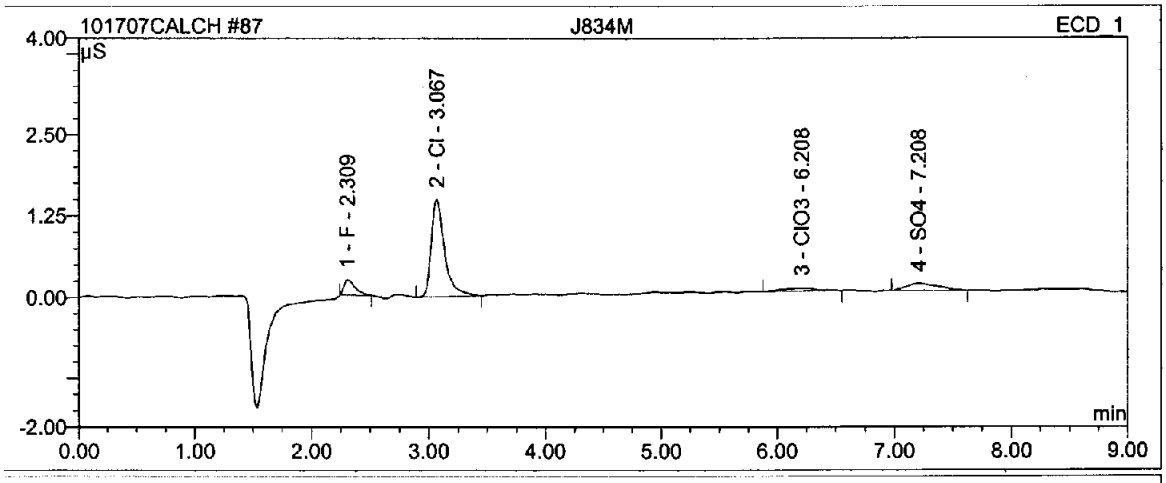


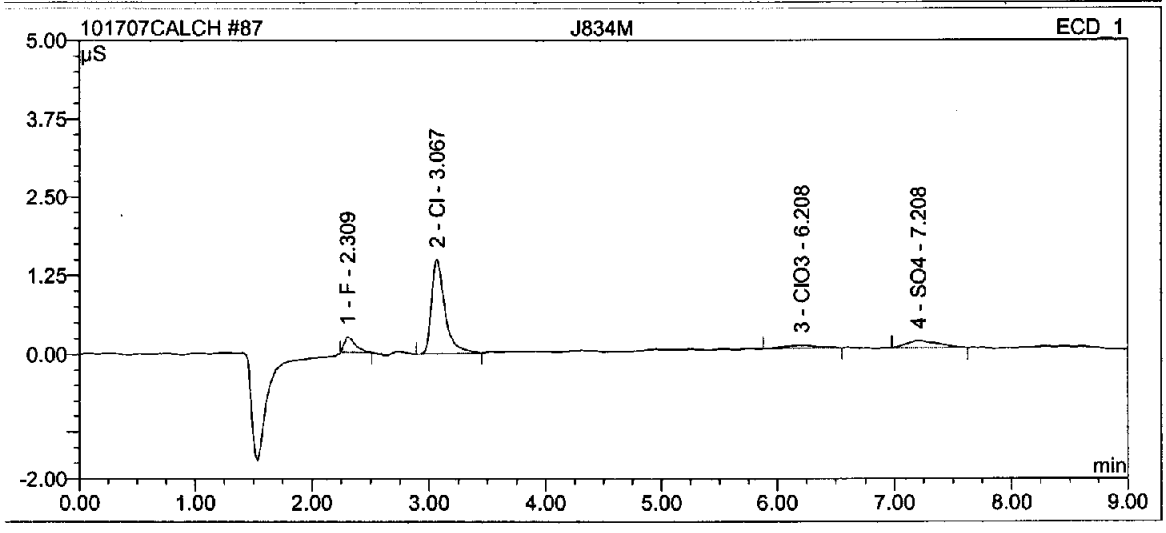


Integration Report - ECD_1

Sample Name:	**J834M**	*Inj. Vol.:*	**50.0**
Sample Type:	**unknown**	*Dilution Factor:*	**1.0000**
Program:	**SLIC03_local**	*Operator:*	**n.a.**
Inj. Date/Time:	**18.10.07 09:13**	*Run Time:*	**9.00**

No. ECD_1	Time ECD_1 min	Peak Name ECD_1	Type ECD_1	Area ECD_1 µS*min	Height ECD_1 µS	Amount ECD_1
1	2.31	F	BMB	0.027	0.238	131.2310
2	3.07	Cl	BMB	0.199	1.491	1196.7782
3	6.21	ClO3	BMB	0.016	0.049	252.0485
4	7.21	SO4	BMB	0.036	0.115	281.3704
			TOTAL:	0.28	1.89	1861.43





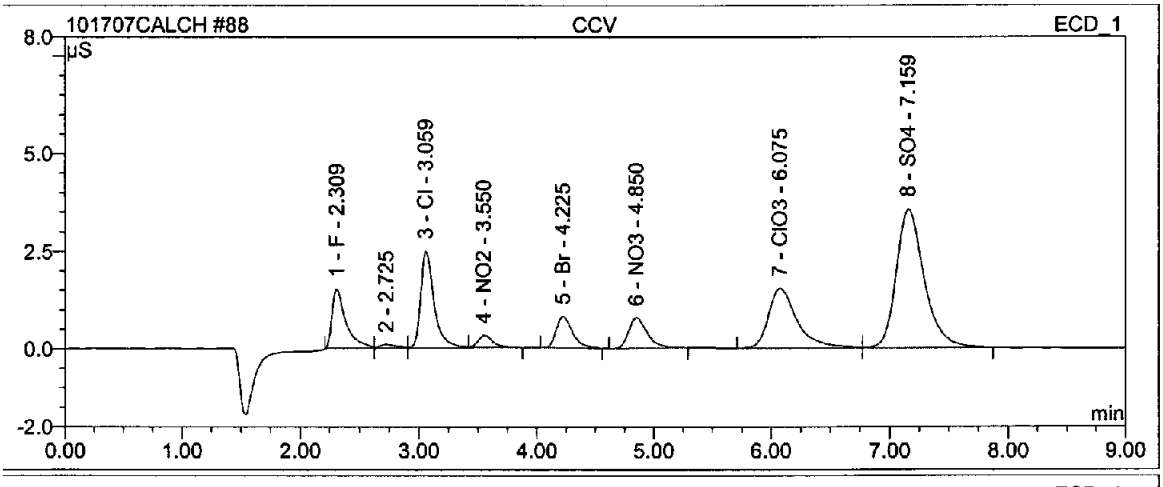
Operator:chemist Timebase:SLIC03_1 Sequence:101707CALCH

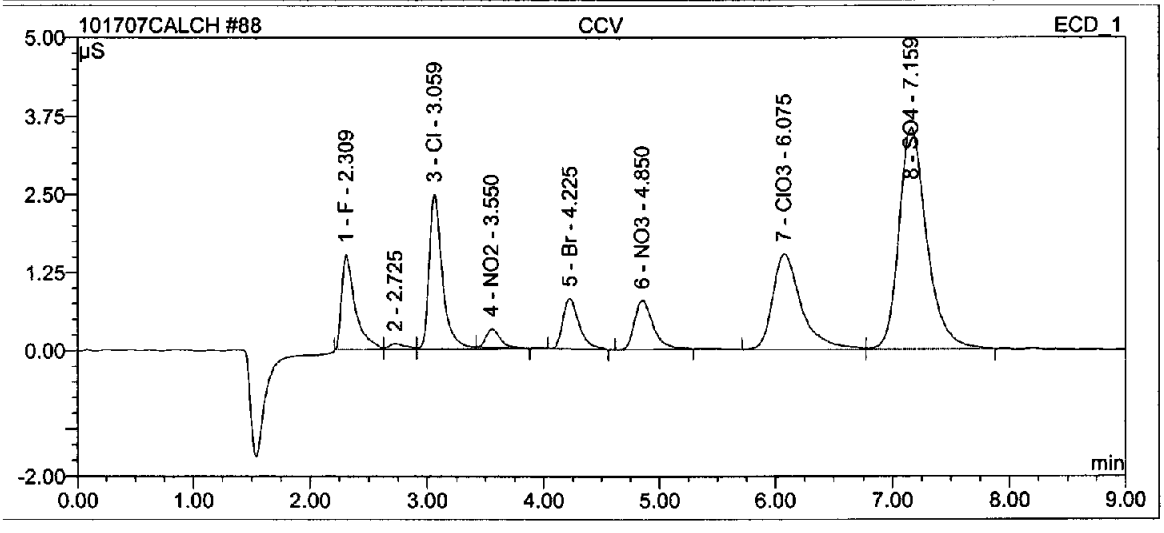
10/18/2007 9:43 AM

Integration Report - ECD_1

Sample Name:	**CCV**	*Inj. Vol.:*	**50.0**
Sample Type:	**unknown**	*Dilution Factor:*	**1.0000**
Program:	**SLIC03_local**	*Operator:*	**n.a.**
Inj. Date/Time:	**18.10.07 09:31**	*Run Time:*	**9.00**

No. ECD_1	Time ECD_1 min	Peak Name ECD_1	Type ECD_1	Area ECD_1 µS*min	Height ECD_1 µS	Amount ECD_1
1	2.31	F	BM	0.204	1.514	999.0136
3	3.06	Cl	MB	0.332	2.476	1991.0929
4	3.55	NO2	Rd	0.042	0.299	153.0624
5	4.23	Br	BMB	0.131	0.805	1897.2779
6	4.85	NO3	BMB	0.148	0.786	384.4311
7	6.08	ClO3	BM	0.440	1.540	6970.6099
8	7.16	SO4	MB	0.982	3.553	7776.1965
		TOTAL:		2.28	10.97	20171.68

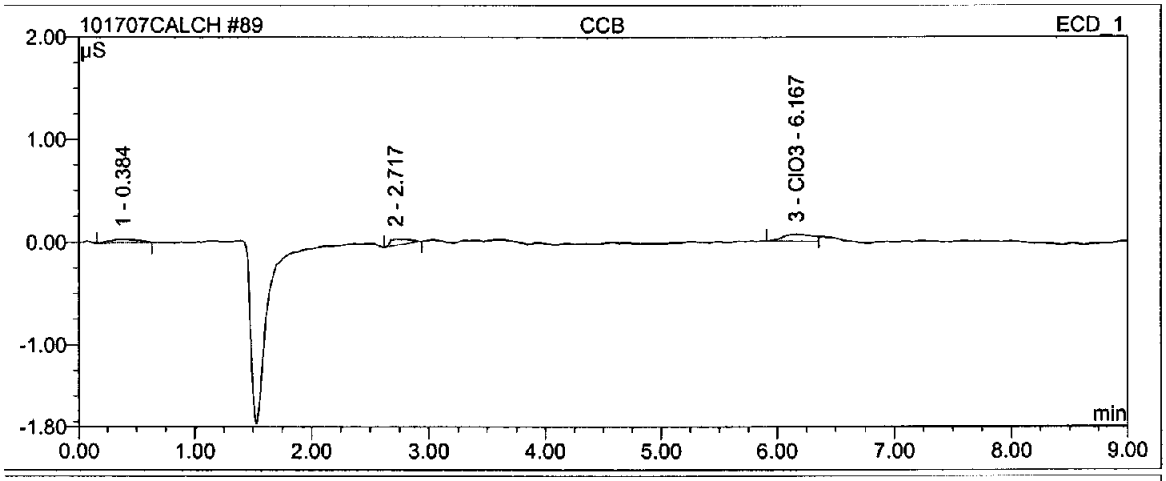


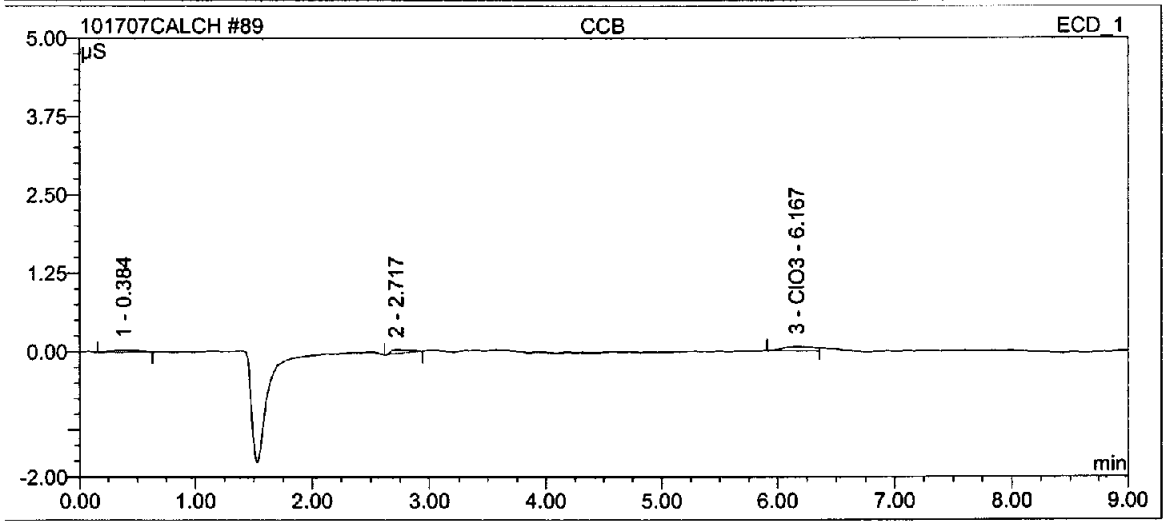


Integration Report - ECD_1

Sample Name:	CCB	*Inj. Vol.:*	50.0
Sample Type:	unknown	*Dilution Factor:*	1.0000
Program:	SLIC03_local	*Operator:*	n.a.
Inj. Date/Time:	18.10.07 09:43	*Run Time:*	9.00

No. ECD_1	Time ECD_1 min	Peak Name ECD_1	Type ECD_1	Area ECD_1 µS*min	Height ECD_1 µS	Amount ECD_1
3	6.17	ClO3	BM	0.020	0.067	323.5410
		TOTAL:		0.02	0.07	323.54





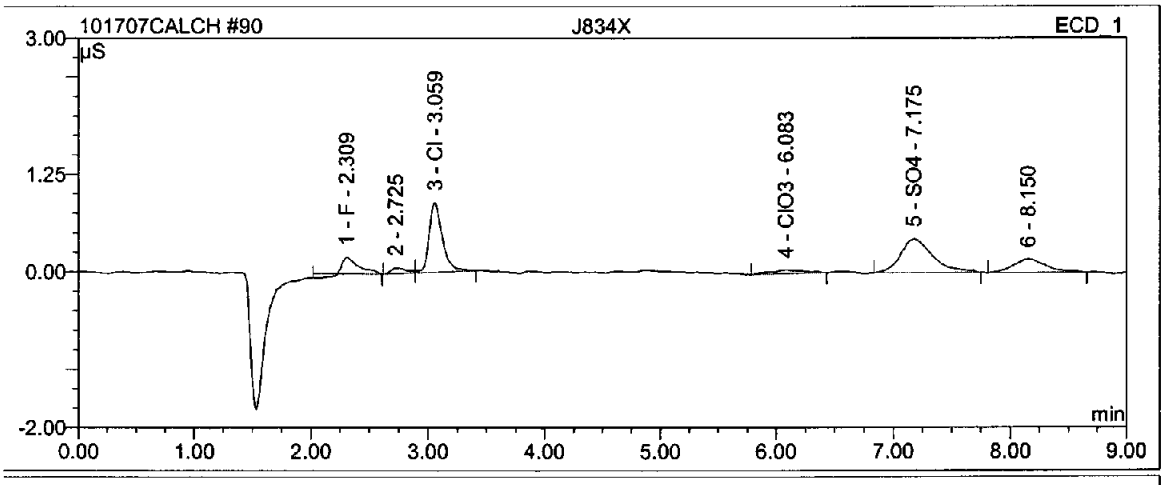
Operator:chemist Timebase:SLIC03_1 Sequence:101707CALCH

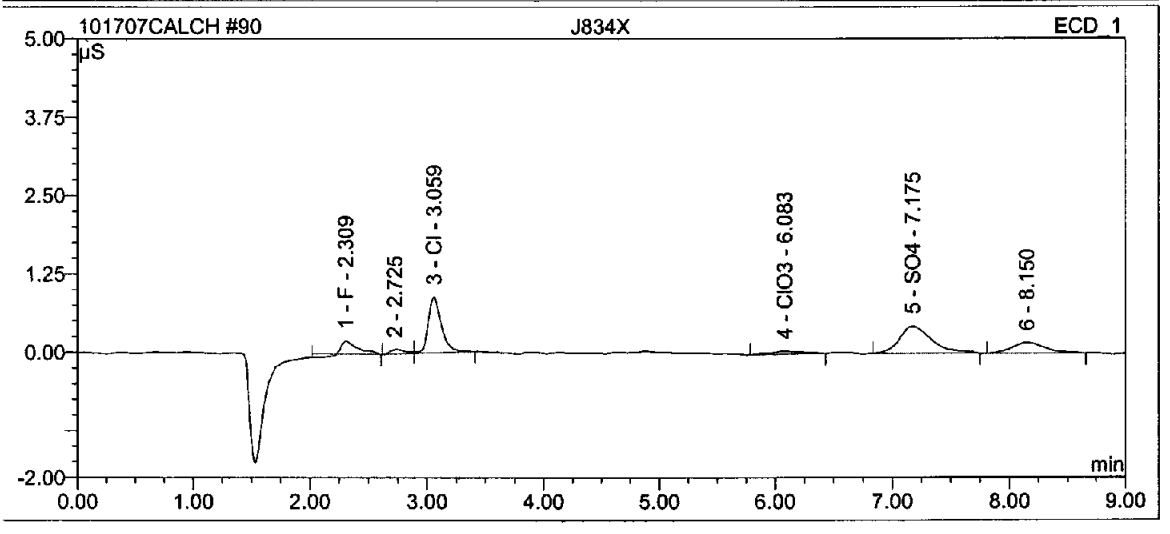
10/18/2007 10:05 AM

Integration Report - ECD_1

Sample Name:	J834X	*Inj. Vol.:*	50.0
Sample Type:	unknown	*Dilution Factor:*	1.0000
Program:	SLIC03_local	*Operator:*	n.a.
Inj. Date/Time:	18.10.07 09:54	*Run Time:*	9.00

No. ECD_1	Time ECD_1 min	Peak Name ECD_1	Type ECD_1	Area ECD_1 µS*min	Height ECD_1 µS	Amount ECD_1
1	2.31	F	MB	0.026	0.213	128.8987
3	3.06	Cl	MB	0.118	0.892	706.4959
4	6.08	ClO3	BMB	0.016	0.048	255.0699
5	7.18	SO4	BMB	0.139	0.434	1100.1825
		TOTAL:		0.30	1.59	2190.65

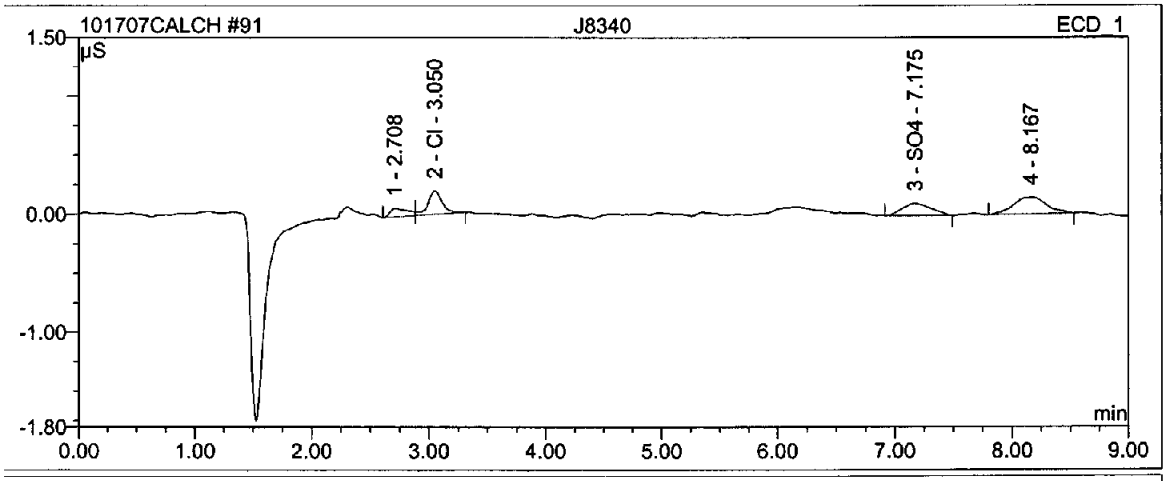


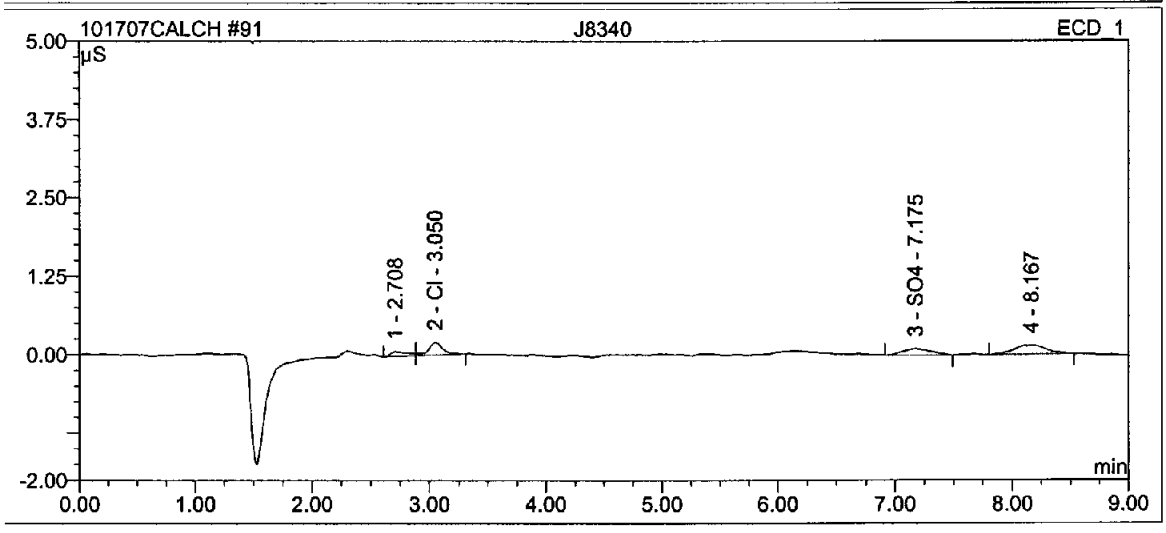


Integration Report - ECD_1

Sample Name:	J8340	*Inj. Vol.:*	50.0
Sample Type:	unknown	*Dilution Factor:*	1.0000
Program:	SLIC03_local	*Operator:*	n.a.
Inj. Date/Time:	18.10.07 10:05	*Run Time:*	9.00

No. ECD_1	Time ECD_1 min	Peak Name ECD_1	Type ECD_1	Area ECD_1 µS*min	Height ECD_1 µS	Amount ECD_1
2	3.05	Cl	MB	0.028	0.200	168.2434
3	7.18	SO4	BMB	0.030	0.104	235.0507
		TOTAL:		0.06	0.30	403.29

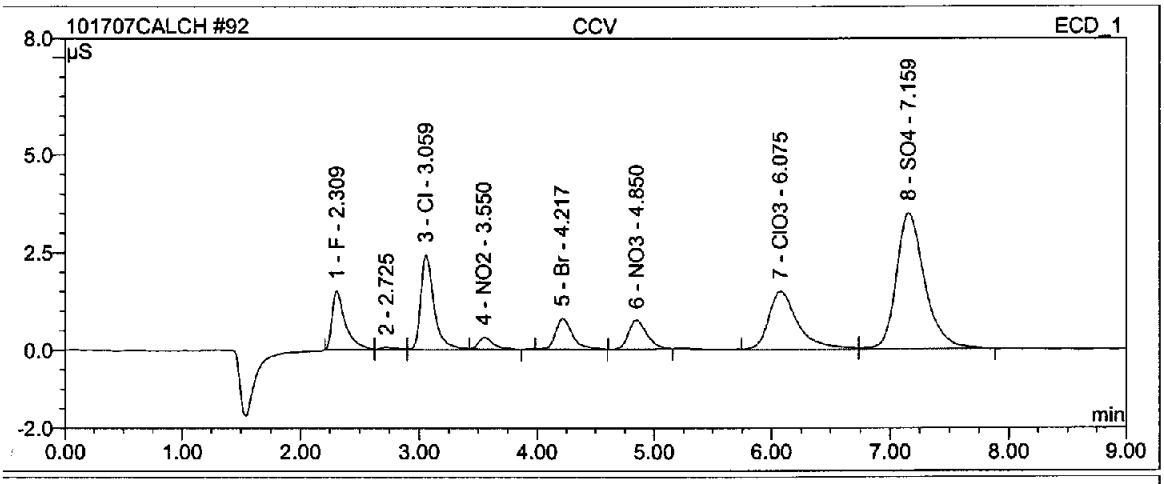


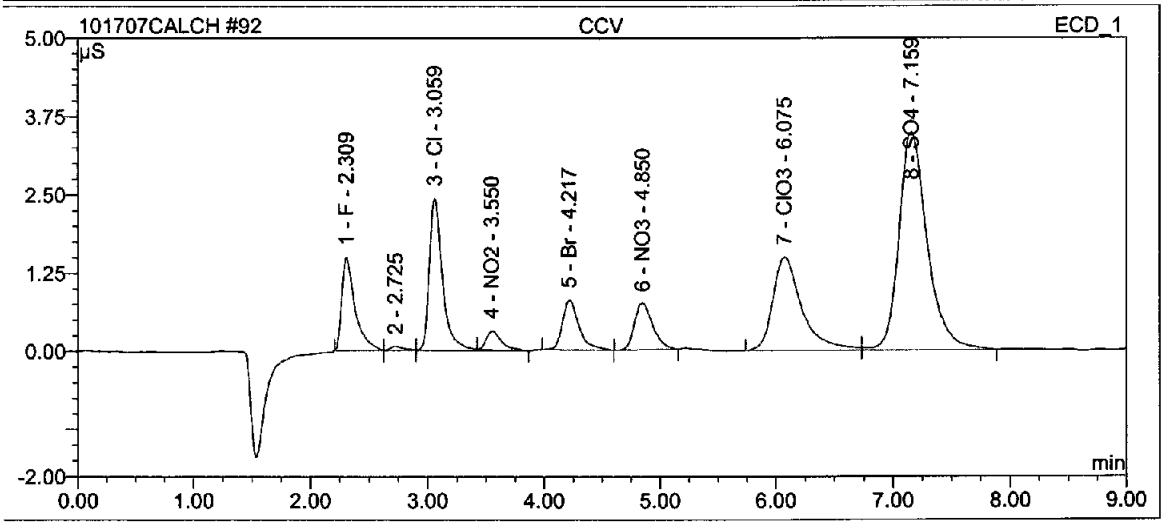


Integration Report - ECD_1

Sample Name:	CCV	*Inj. Vol.:*	50.0
Sample Type:	unknown	*Dilution Factor:*	1.0000
Program:	SLIC03_local	*Operator:*	n.a.
Inj. Date/Time:	18.10.07 10:17	*Run Time:*	9.00

No. ECD_1	Time ECD_1 min	Peak Name ECD_1	Type ECD_1	Area ECD_1 µS*min	Height ECD_1 µS	Amount ECD_1
1	2.31	F	BM	0.196	1.492	958.3594
3	3.06	Cl	MB	0.324	2.436	1945.5706
4	3.55	NO2	Rd	0.045	0.303	162.7512
5	4.22	Br	BMB	0.133	0.794	1926.6671
6	4.85	NO3	BMB	0.138	0.746	358.7382
7	6.08	ClO3	BM	0.432	1.491	6845.2337
8	7.16	SO4	MB	0.978	3.486	7744.0783
		TOTAL:		2.24	10.75	19941.40

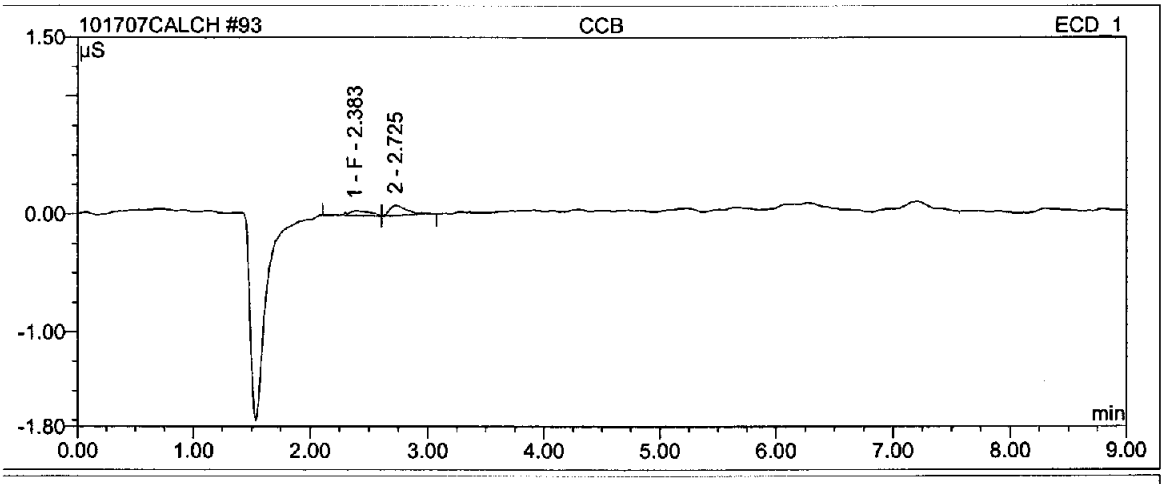


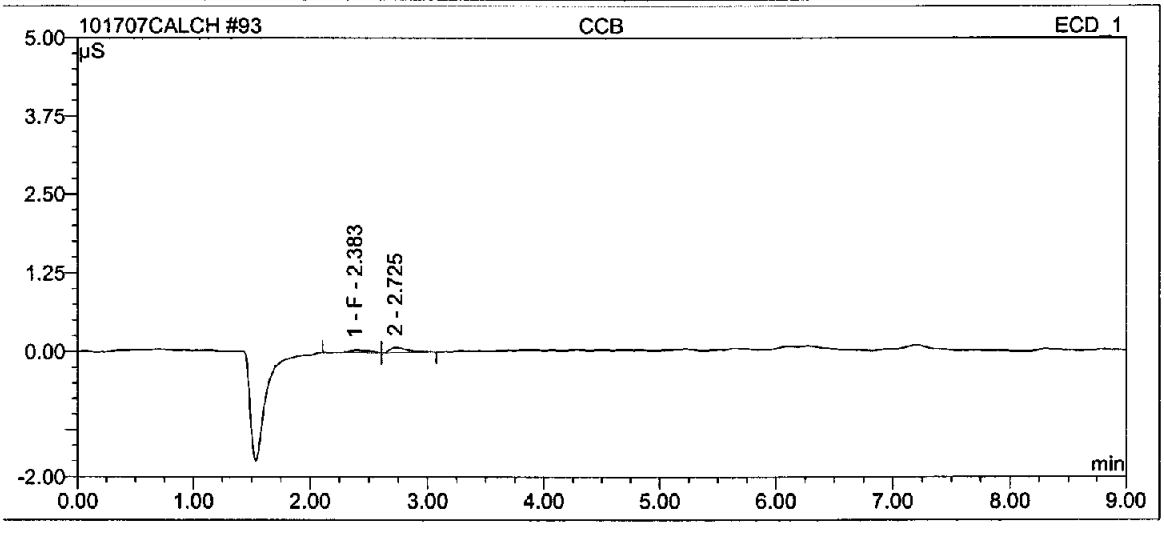


Integration Report - ECD_1

Sample Name:	CCB	*Inj. Vol.:*	50.0
Sample Type:	unknown	*Dilution Factor:*	1.0000
Program:	SLIC03_local	*Operator:*	n.a.
Inj. Date/Time:	18.10.07 10:28	*Run Time:*	9.00

No. ECD_1	Time ECD_1 min	Peak Name ECD_1	Type ECD_1	Area ECD_1 µS*min	Height ECD_1 µS	Amount ECD_1
1	2.38	F	MB	0.008	0.040	38.3893
		TOTAL:		0.01	0.04	38.39

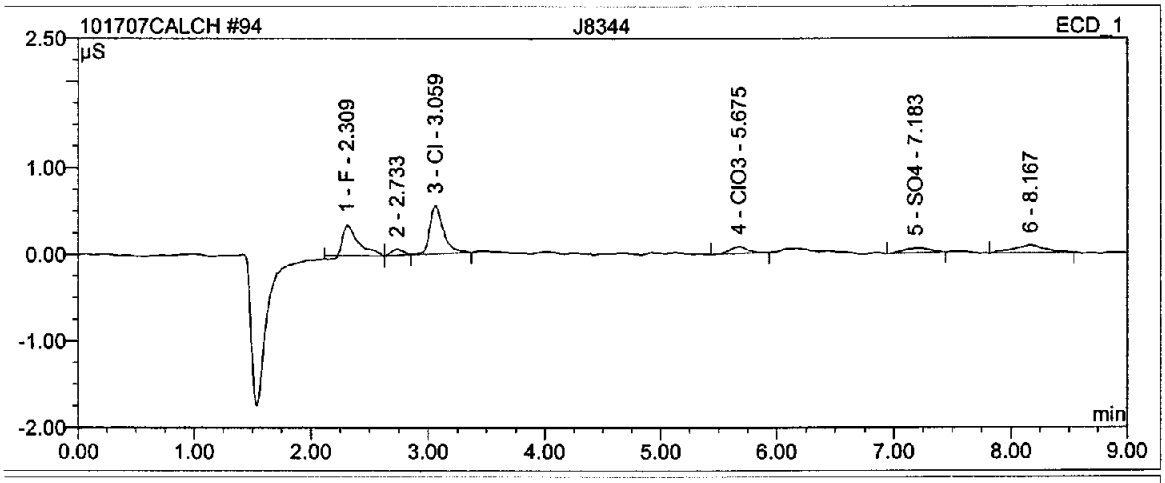


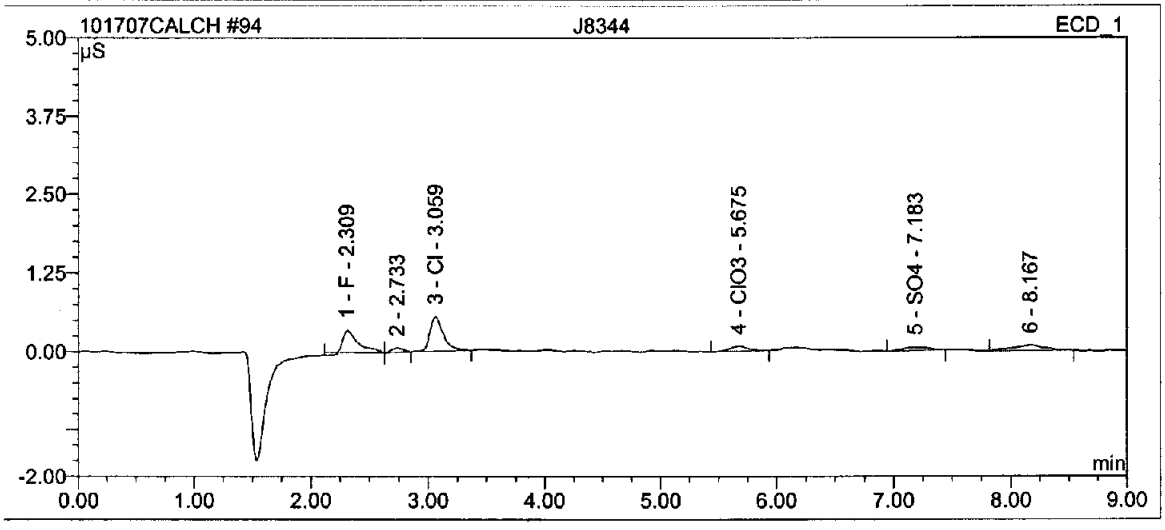


Integration Report - ECD_1

Sample Name:	J8344	*Inj. Vol.:*	50.0
Sample Type:	unknown	*Dilution Factor:*	1.0000
Program:	SLIC03_local	*Operator:*	n.a.
Inj. Date/Time:	18.10.07 10:40	*Run Time:*	9.00

No. ECD_1	Time ECD_1 min	Peak Name ECD_1	Type ECD_1	Area ECD_1 µS*min	Height ECD_1 µS	Amount ECD_1
1	2.31	F	MB	0.050	0.355	246.7303
3	3.06	Cl	bMB	0.077	0.552	460.5569
4	5.68	ClO3	BMB	0.014	0.078	227.9221
5	7.18	SO4	BMB	0.014	0.054	114.1127
		TOTAL:		0.16	1.04	1049.32





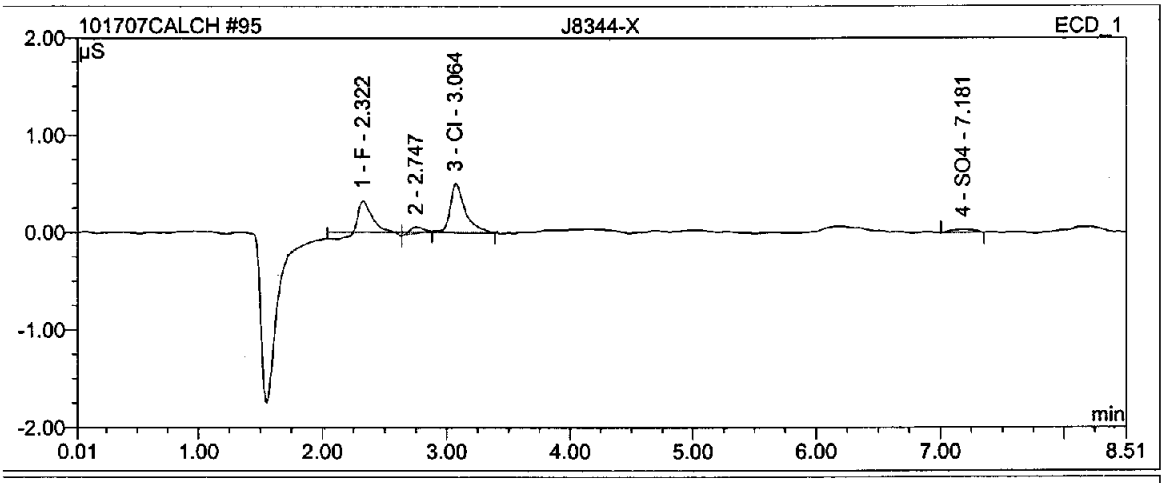
Operator:chemist Timebase:SLIC03_1 Sequence:101707CALCH

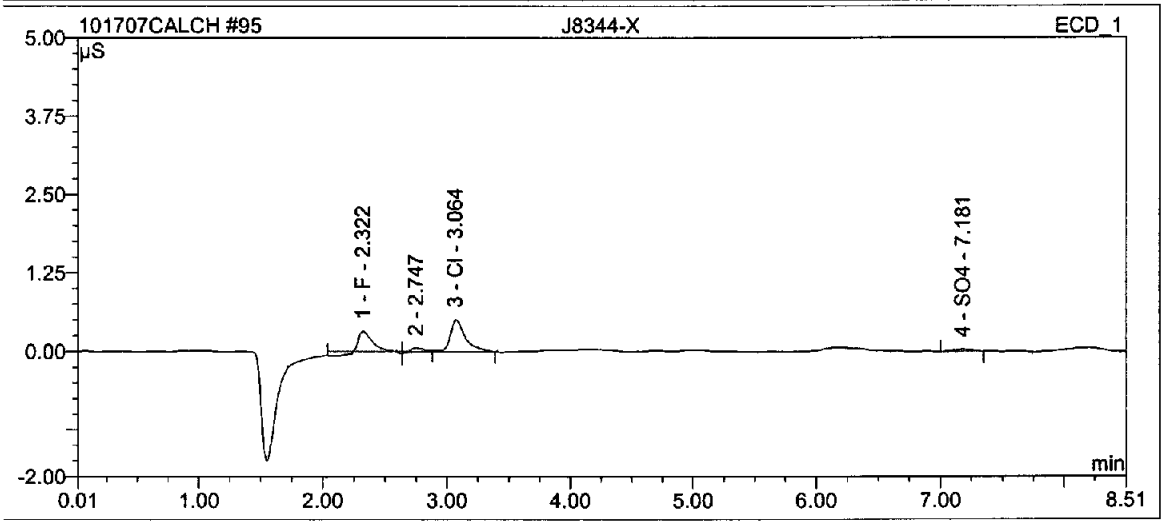
10/18/2007 11:02 AM

Integration Report - ECD_1

Sample Name:	J8344-X	*Inj. Vol.:*	50.0
Sample Type:	unknown	*Dilution Factor:*	1.0000
Program:	SLIC03_local	*Operator:*	n.a.
Inj. Date/Time:	18.10.07 10:51	*Run Time:*	8.51

No. ECD_1	Time ECD_1 min	Peak Name ECD_1	Type ECD_1	Area ECD_1 µS*min	Height ECD_1 µS	Amount ECD_1
1	2.32	F	M	0.029	0.321	143.5905
3	3.06	Cl	MB	0.071	0.507	425.0588
4	7.18	SO4	BMB	0.007	0.033	54.9331
		TOTAL:		0.11	0.86	623.58

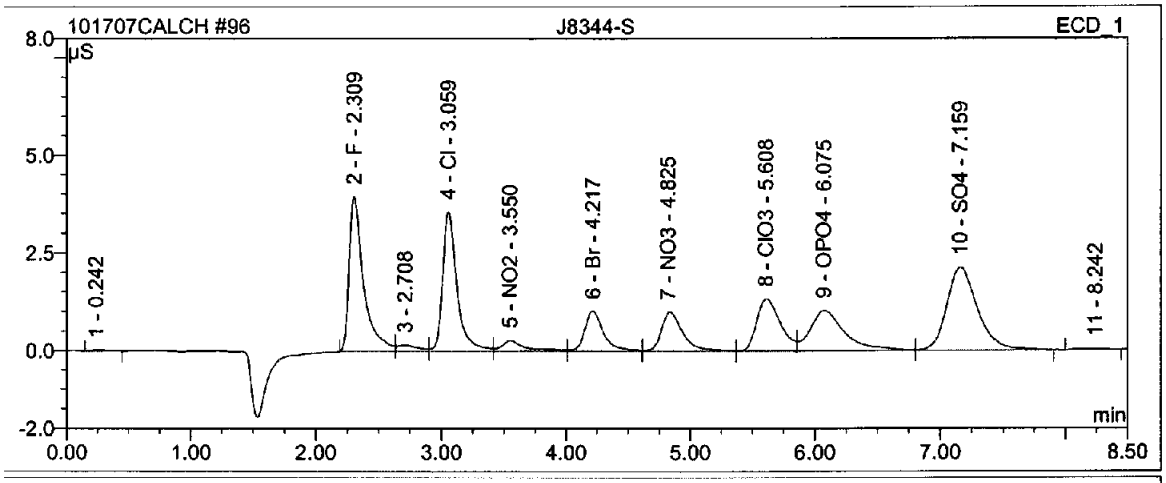


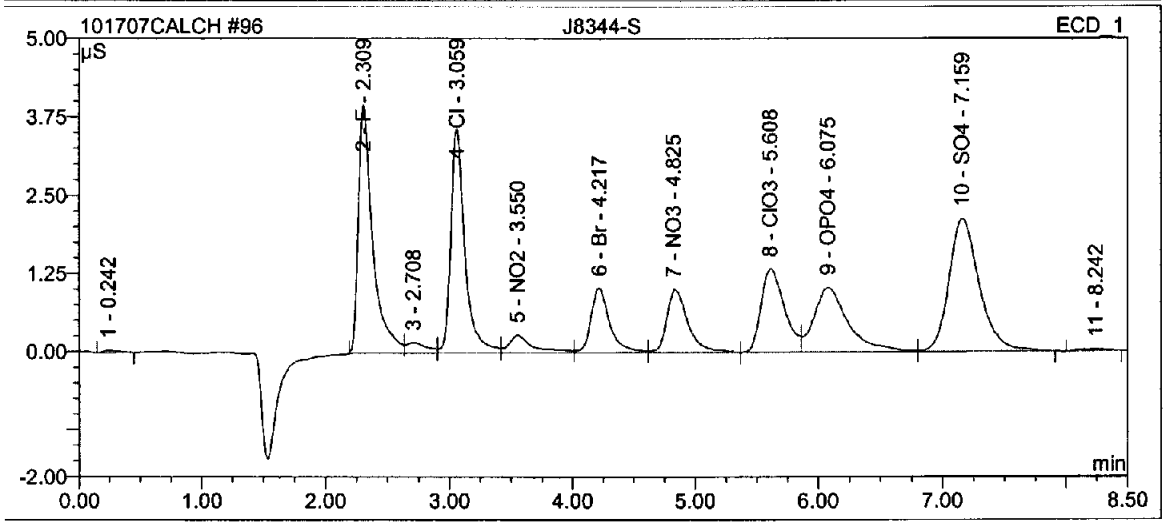


Integration Report - ECD_1

Sample Name:	J8344-S	*Inj. Vol.:*	50.0
Sample Type:	unknown	*Dilution Factor:*	1.0000
Program:	SLIC03_local	*Operator:*	n.a.
Inj. Date/Time:	18.10.07 11:02	*Run Time:*	8.50

No. ECD_1	Time ECD_1 min	Peak Name ECD_1	Type ECD_1	Area ECD_1 µS*min	Height ECD_1 µS	Amount ECD_1
2	2.31	F	BM	0.528	3.956	2590.0513
4	3.06	Cl	M	0.475	3.568	2851.6978
5	3.55	NO2	M	0.063	0.282	229.7268
6	4.22	Br	M	0.184	1.033	2658.0845
7	4.83	NO3	M	0.201	1.006	522.5206
8	5.61	ClO3	M	0.296	1.334	4688.1893
9	6.08	OPO4	M	0.328	1.033	5999.3765
10	7.16	SO4	MB	0.602	2.127	4770.0204
		TOTAL:		2.68	14.34	24309.67

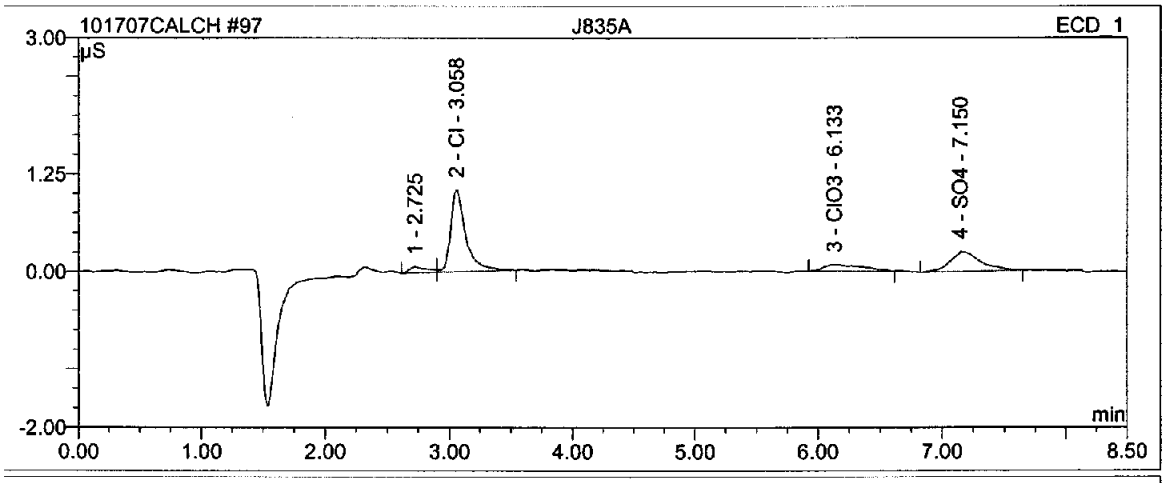


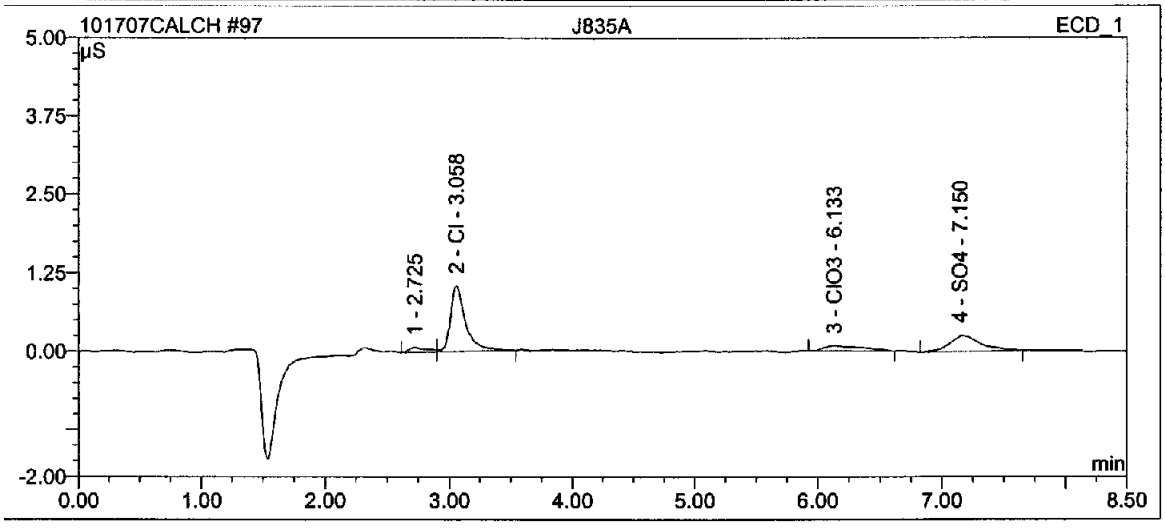


Integration Report - ECD_1

Sample Name:	J835A	*Inj. Vol.:*	50.0
Sample Type:	unknown	*Dilution Factor:*	1.0000
Program:	SLIC03_local	*Operator:*	n.a.
Inj. Date/Time:	18.10.07 11:13	*Run Time:*	8.50

No. ECD_1	Time ECD_1 min	Peak Name ECD_1	Type ECD_1	Area ECD_1 µS*min	Height ECD_1 µS	Amount ECD_1
2	3.06	Cl	MB	0.150	1.048	898.2725
3	6.13	ClO3	BMB	0.030	0.084	469.8784
4	7.15	SO4	BMB	0.074	0.265	585.1248
		TOTAL:		0.25	1.40	1953.28





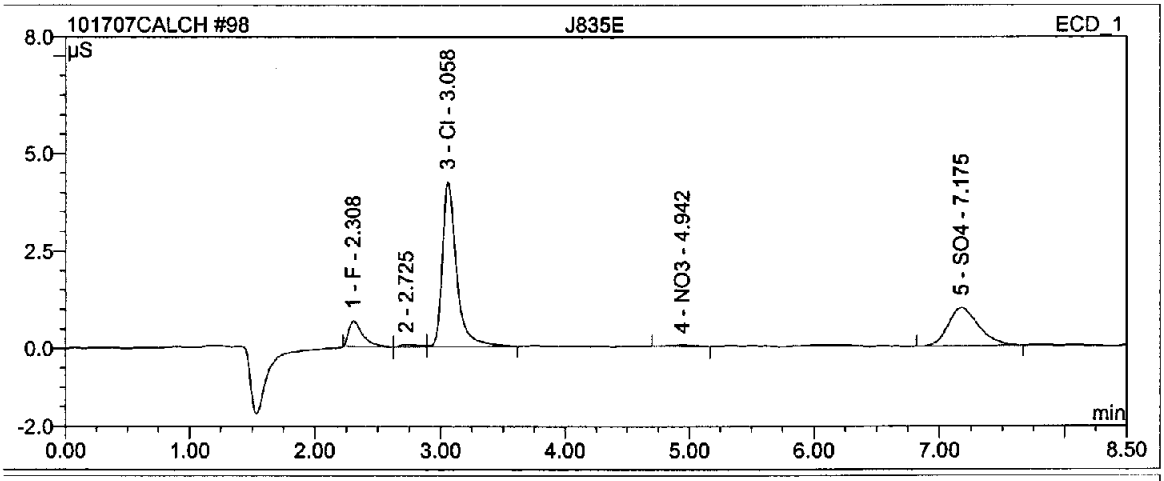
Operator:chemist Timebase:SLIC03_1 Sequence:101707CALCH

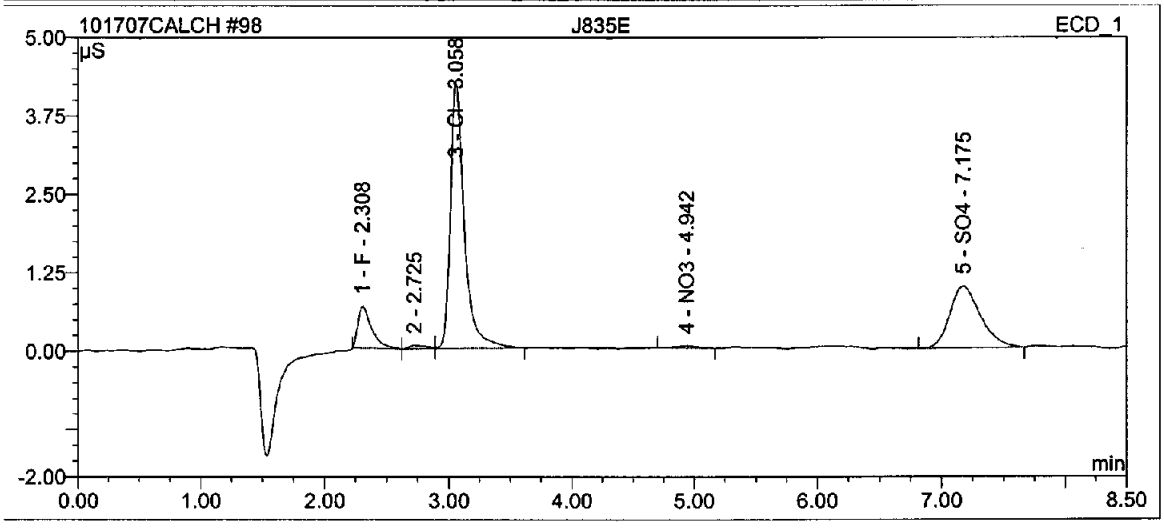
10/18/2007 11:35 AM

Integration Report - ECD_1

Sample Name:	J835E	*Inj. Vol.:*	50.0
Sample Type:	unknown	*Dilution Factor:*	1.0000
Program:	SLIC03_local	*Operator:*	n.a.
Inj. Date/Time:	18.10.07 11:24	*Run Time:*	8.50

No. ECD_1	Time ECD_1 min	Peak Name ECD_1	Type ECD_1	Area ECD_1 µS*min	Height ECD_1 µS	Amount ECD_1
1	2.31	F	BMB	0.085	0.665	416.3056
3	3.06	Cl	MB	0.558	4.237	3349.4457
4	4.94	NO3	BMB	0.008	0.038	21.2271
5	7.18	SO4	BMB	0.282	0.985	2230.9580
		TOTAL:		0.93	5.93	6017.94





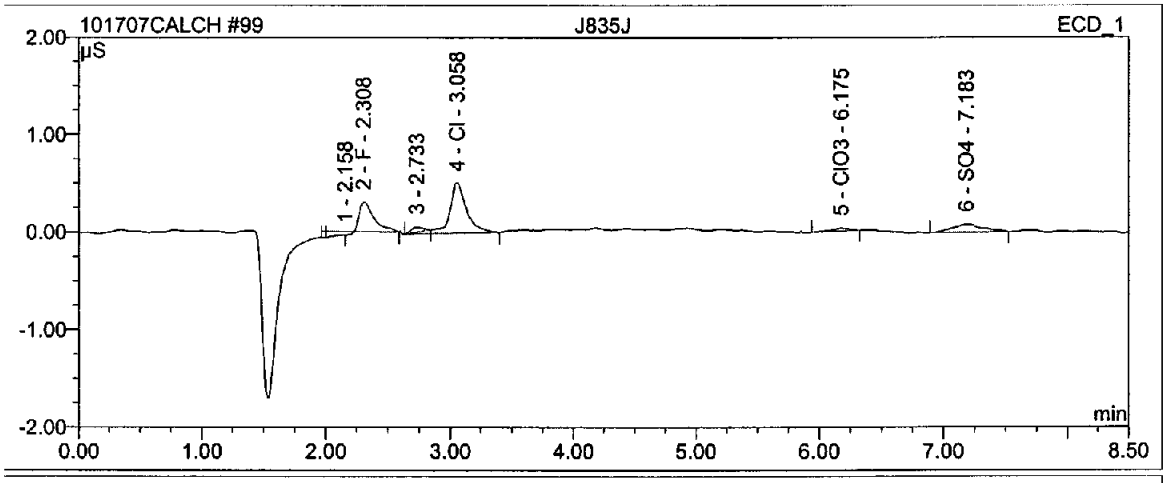
Operator:chemist Timebase:SLIC03_1 Sequence:101707CALCH

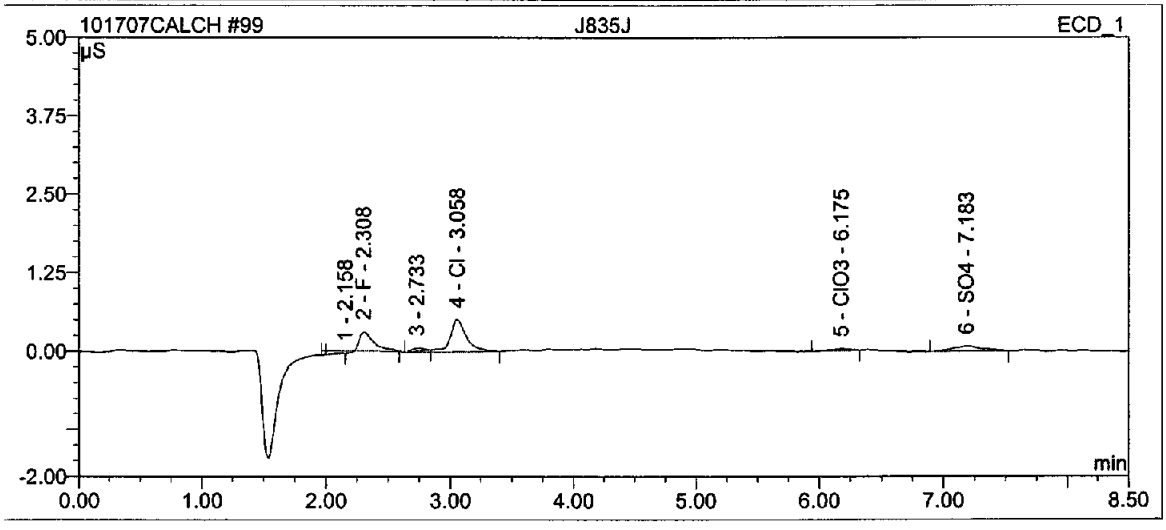
10/18/2007 11:46 AM

Integration Report - ECD_1

Sample Name:	**J835J**	*Inj. Vol.:*	**50.0**
Sample Type:	**unknown**	*Dilution Factor:*	**1.0000**
Program:	**SLIC03_local**	*Operator:*	**n.a.**
Inj. Date/Time:	**18.10.07 11:35**	*Run Time:*	**8.50**

No. ECD_1	Time ECD_1 min	Peak Name ECD_1	Type ECD_1	Area ECD_1 µS*min	Height ECD_1 µS	Amount ECD_1
2	2.31	F	MB	0.030	0.302	145.3426
4	3.06	Cl	BMB	0.084	0.511	506.6622
5	6.18	ClO3	BMB	0.006	0.030	89.9288
6	7.18	SO4	BMB	0.023	0.084	183.2582
			TOTAL:	0.14	0.93	925.19





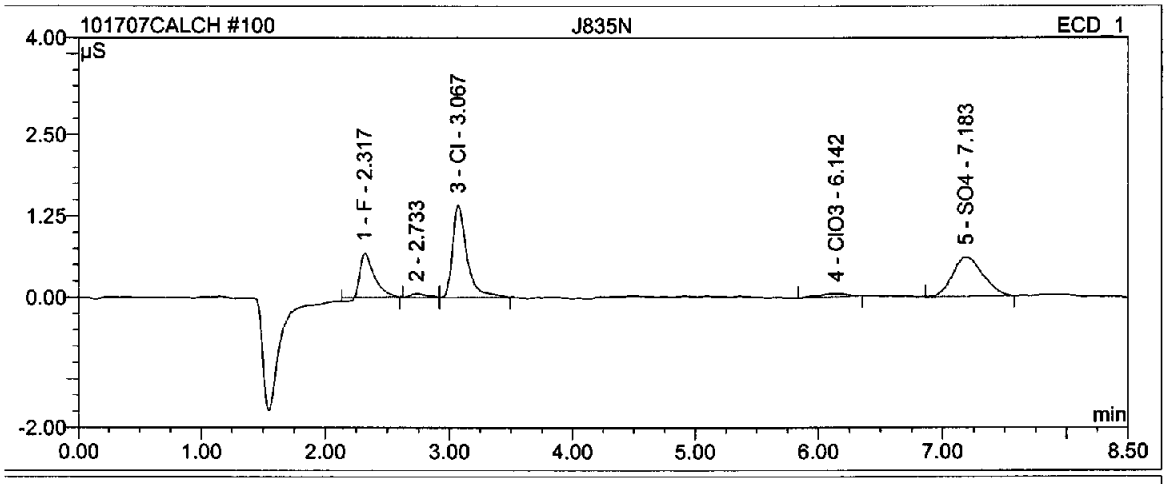
ANION_report/Integration - ECD_1

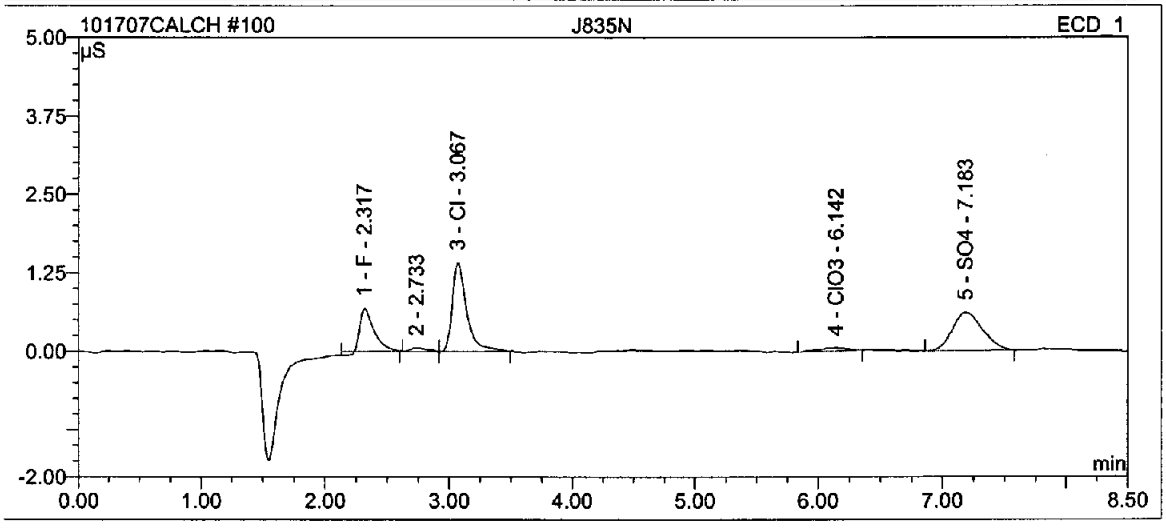
PeakNet 6 (r) Dionex 2001
Version 6.50 SP4 Build 1000

Integration Report - ECD_1

Sample Name:	**J835N**	*Inj. Vol.:*	**50.0**
Sample Type:	**unknown**	*Dilution Factor:*	**1.0000**
Program:	**SLIC03_local**	*Operator:*	**n.a.**
Inj. Date/Time:	**18.10.07 11:46**	*Run Time:*	**8.50**

No. ECD_1	Time ECD_1 min	Peak Name ECD_1	Type ECD_1	Area ECD_1 µS*min	Height ECD_1 µS	Amount ECD_1
1	2.32	F	MB	0.084	0.681	411.6114
3	3.07	Cl	MB	0.193	1.419	1158.2623
4	6.14	ClO3	BMB	0.014	0.052	215.8146
5	7.18	SO4	BMB	0.172	0.605	1365.2037
		TOTAL:		0.46	2.76	3150.89

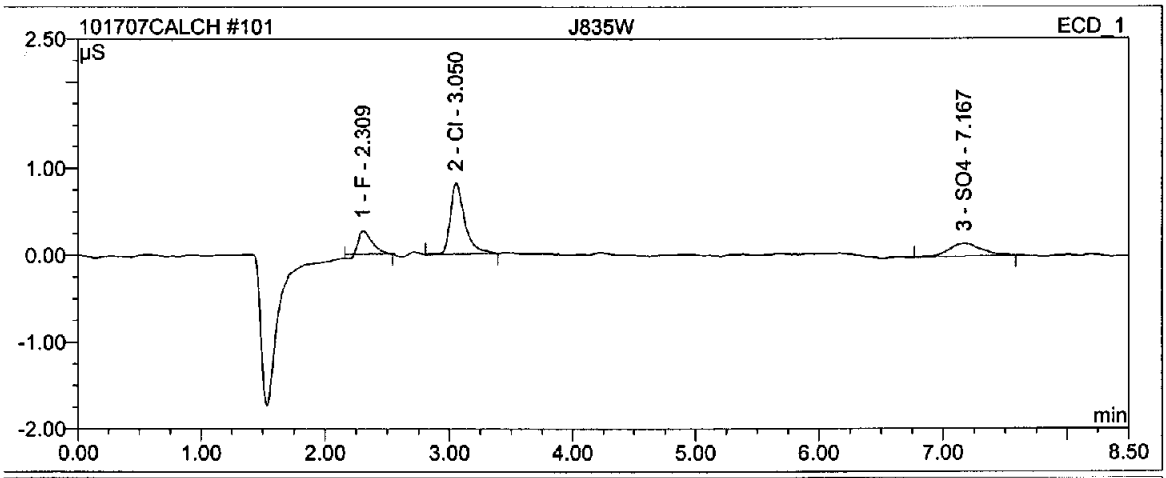


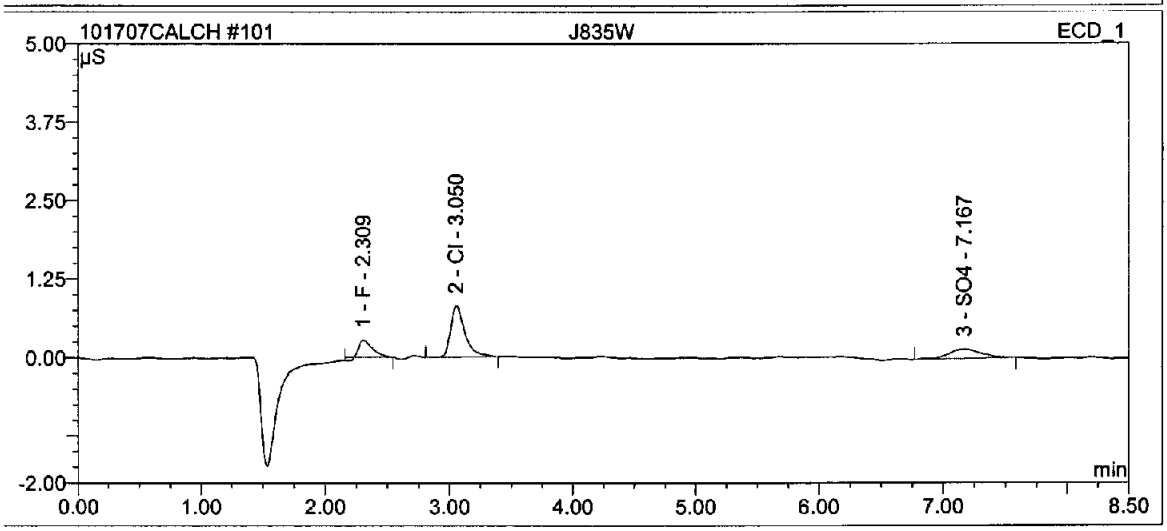


Integration Report - ECD_1

Sample Name:	**J835W**	*Inj. Vol.:*	**50.0**
Sample Type:	**unknown**	*Dilution Factor:*	**1.0000**
Program:	**SLIC03_local**	*Operator:*	**n.a.**
Inj. Date/Time:	**18.10.07 11:57**	*Run Time:*	**8.50**

No. ECD_1	Time ECD_1 min	Peak Name ECD_1	Type ECD_1	Area ECD_1 µS*min	Height ECD_1 µS	Amount ECD_1
1	2.31	F	MB	0.031	0.270	151.7526
2	3.05	Cl	BMB	0.110	0.813	662.0973
3	7.17	SO4	BMB	0.045	0.148	360.2383
		TOTAL:		0.19	1.23	1174.09

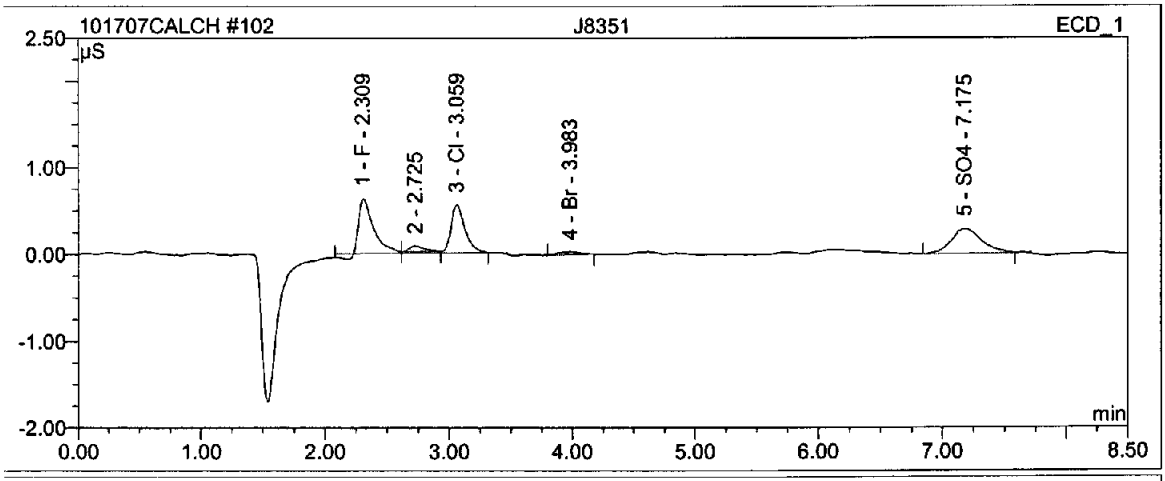


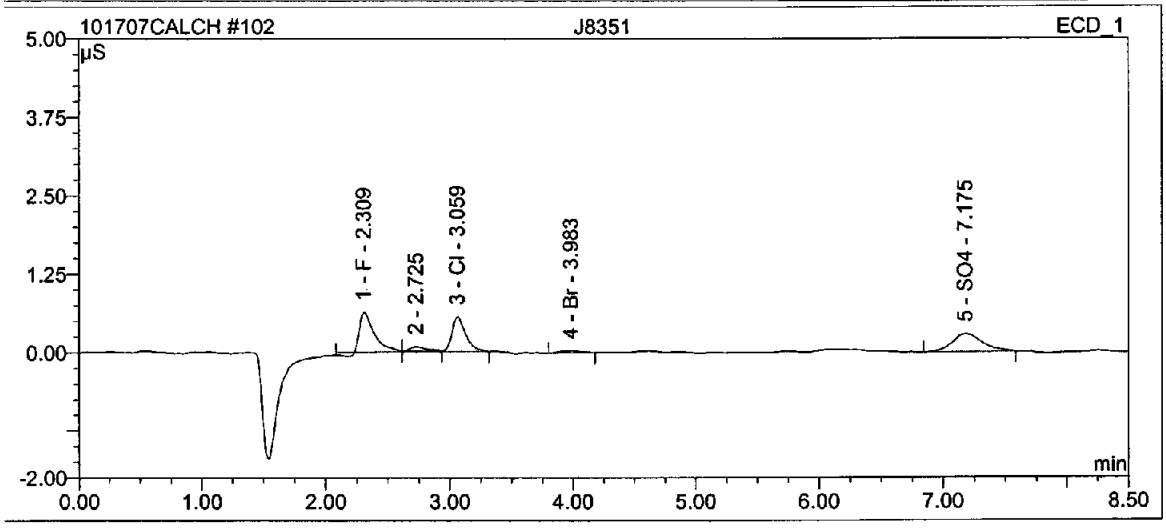


Integration Report - ECD_1

Sample Name:	J8351	*Inj. Vol.:*	50.0
Sample Type:	unknown	*Dilution Factor:*	1.0000
Program:	SLIC03_local	*Operator:*	n.a.
Inj. Date/Time:	18.10.07 12:07	*Run Time:*	8.50

No. ECD_1	Time ECD_1 min	Peak Name ECD_1	Type ECD_1	Area ECD_1 µS*min	Height ECD_1 µS	Amount ECD_1
1	2.31	F	M	0.080	0.630	389.7418
3	3.06	Cl	MB	0.078	0.552	468.5219
4	3.98	Br	BMB	0.006	0.032	93.2387
5	7.18	SO4	BMB	0.082	0.285	651.2203
		TOTAL:		0.25	1.50	1602.72

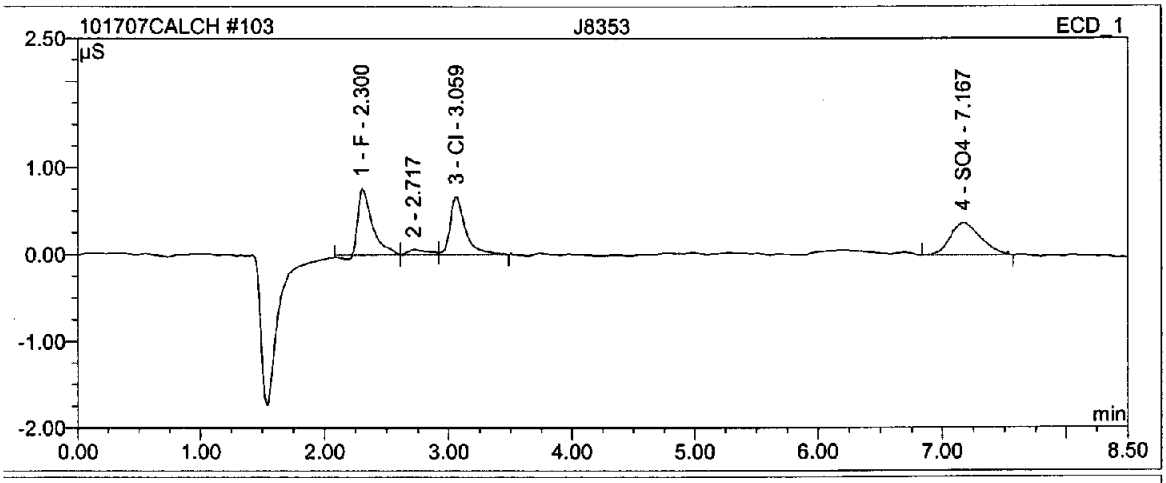


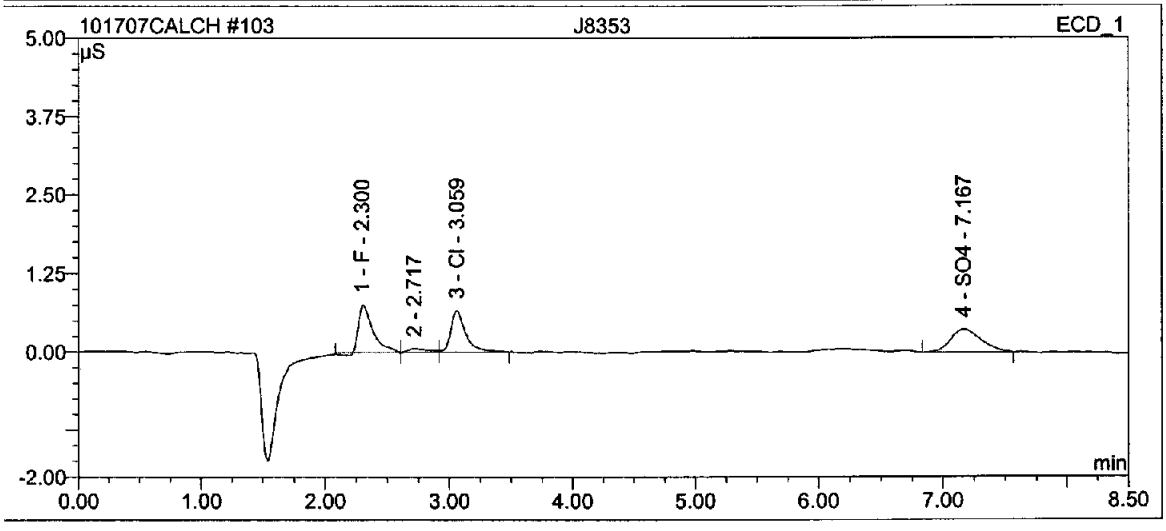


Integration Report - ECD_1

Sample Name:	J8353	*Inj. Vol.:*	50.0
Sample Type:	unknown	*Dilution Factor:*	1.0000
Program:	SLIC03_local	*Operator:*	n.a.
Inj. Date/Time:	18.10.07 12:18	*Run Time:*	8.50

No. ECD_1	Time ECD_1 min	Peak Name ECD_1	Type ECD_1	Area ECD_1 µS*min	Height ECD_1 µS	Amount ECD_1
1	2.30	F	M	0.097	0.761	475.6387
3	3.06	Cl	MB	0.095	0.668	569.4755
4	7.17	SO4	BMB	0.106	0.369	839.3873
		TOTAL:		0.30	1.80	1884.50

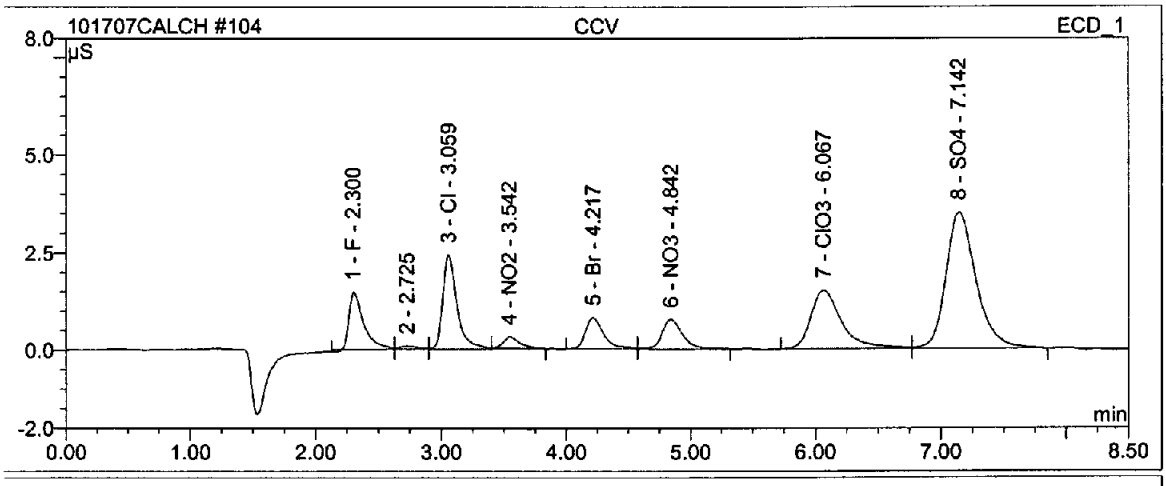


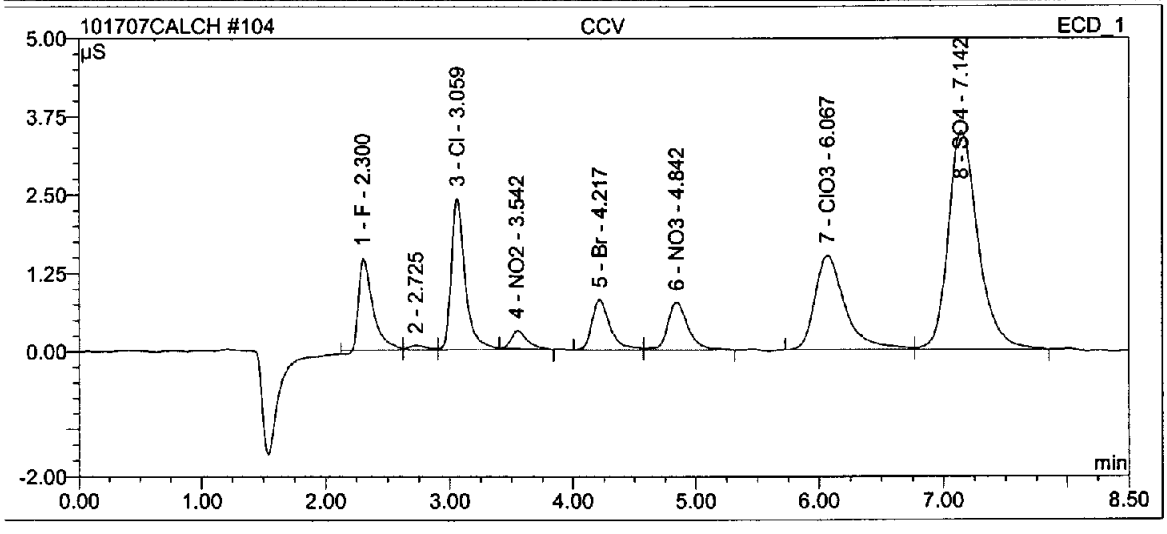


Integration Report - ECD_1

Sample Name:	CCV	*Inj. Vol.:*	50.0
Sample Type:	unknown	*Dilution Factor:*	1.0000
Program:	SLIC03_local	*Operator:*	n.a.
Inj. Date/Time:	18.10.07 12:29	*Run Time:*	8.50

No. ECD_1	Time ECD_1 min	Peak Name ECD_1	Type ECD_1	Area ECD_1 µS*min	Height ECD_1 µS	Amount ECD_1
1	2.30	F	M	0.192	1.465	941.3442
3	3.06	Cl	MB	0.324	2.412	1943.3279
4	3.54	NO2	Rd	0.044	0.291	158.9062
5	4.22	Br	BM	0.139	0.804	2018.0329
6	4.84	NO3	MB	0.147	0.761	383.8063
7	6.07	ClO3	BM	0.429	1.509	6801.0749
8	7.14	SO4	MB	0.974	3.491	7714.9710
		TOTAL:		2.25	10.73	19961.46





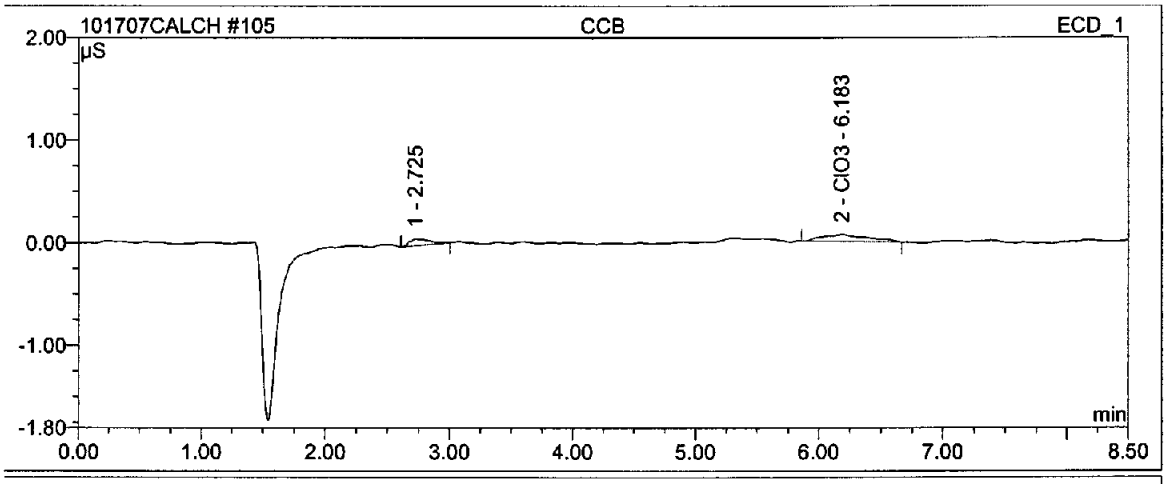
Operator:chemist Timebase:SLIC03_1 Sequence:101707CALCH

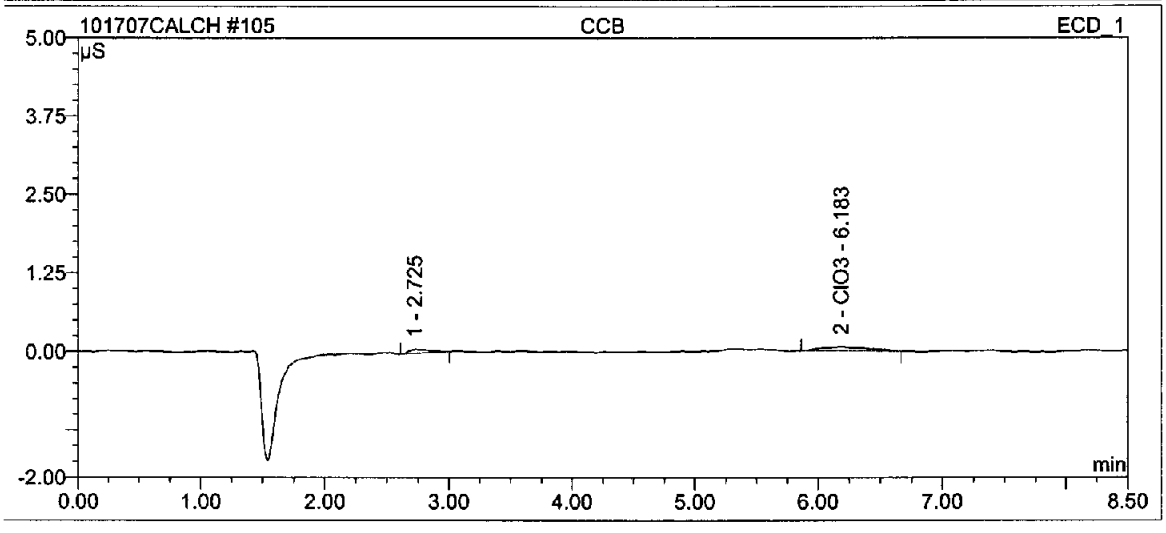
10/18/2007 12:51 PM

Integration Report - ECD_1

Sample Name:	CCB	*Inj. Vol.:*	50.0
Sample Type:	unknown	*Dilution Factor:*	1.0000
Program:	SLIC03_local	*Operator:*	n.a.
Inj. Date/Time:	18.10.07 12:40	*Run Time:*	8.50

No. ECD_1	Time ECD_1 min	Peak Name ECD_1	Type ECD_1	Area ECD_1 µS*min	Height ECD_1 µS	Amount ECD_1
2	6.18	ClO3	BMB	0.029	0.068	453.4001
		TOTAL:		0.03	0.07	453.40





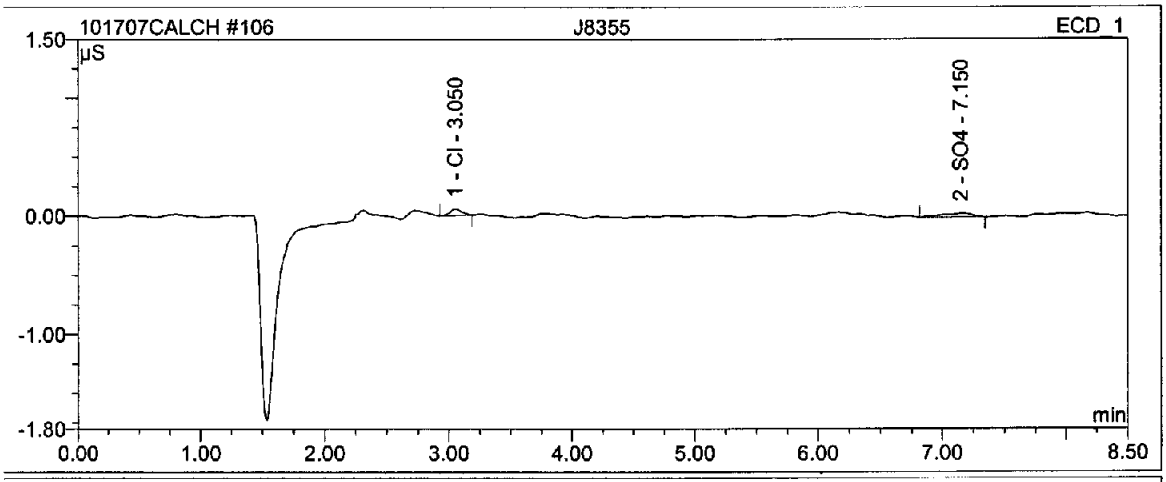
Operator:chemist Timebase:SLIC03_1 Sequence:101707CALCH

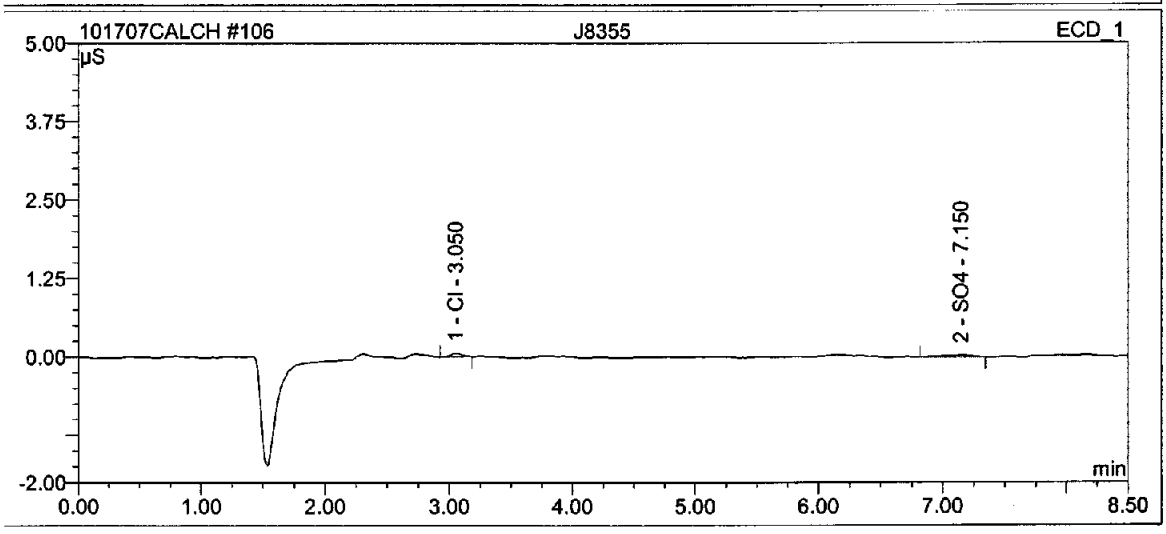
10/18/2007 1:02 PM

Integration Report - ECD_1

Sample Name:	J8355	*Inj. Vol.:*	50.0
Sample Type:	unknown	*Dilution Factor:*	1.0000
Program:	SLIC03_local	*Operator:*	n.a.
Inj. Date/Time:	18.10.07 12:51	*Run Time:*	8.50

No. ECD_1	Time ECD_1 min	Peak Name ECD_1	Type ECD_1	Area ECD_1 µS*min	Height ECD_1 µS	Amount ECD_1
1	3.05	Cl	BMB	0.006	0.054	36.1259
2	7.15	SO4	BMB	0.009	0.032	70.4283
		TOTAL:		0.01	0.09	106.55





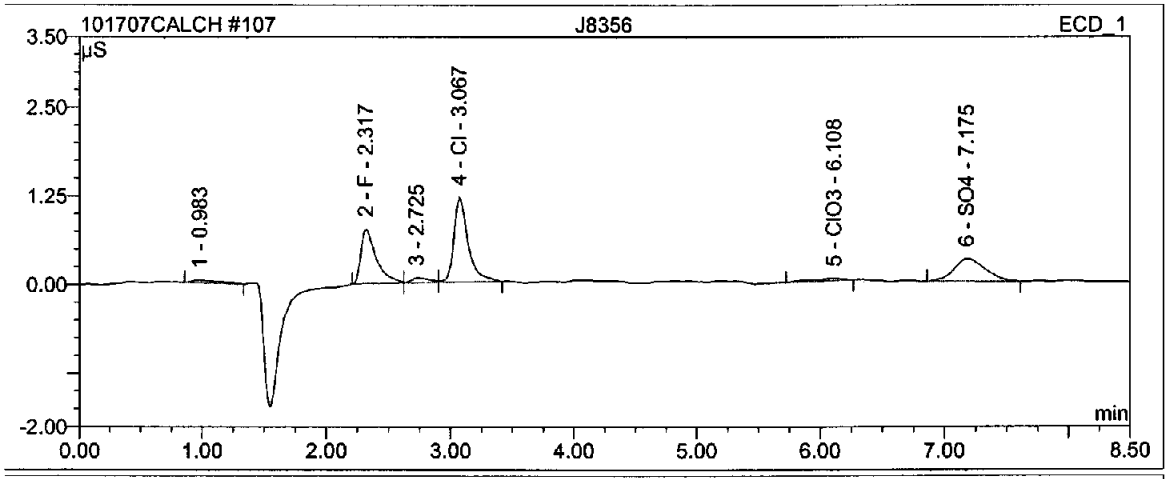
Operator:chemist Timebase:SLIC03_1 Sequence:101707CALCH

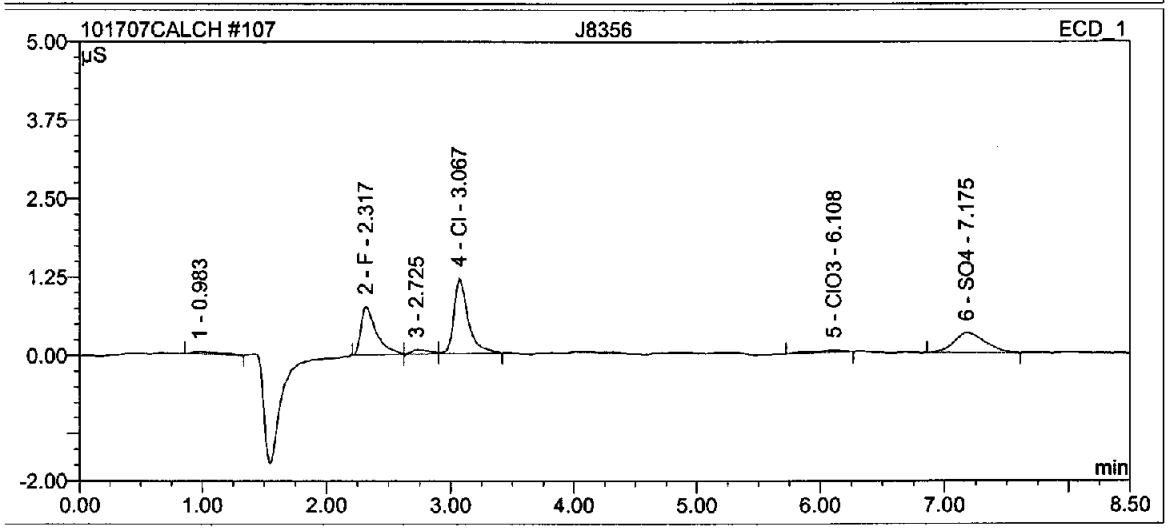
10/18/2007 1:13 PM

Integration Report - ECD_1

Sample Name:	J8356	*Inj. Vol.:*	50.0
Sample Type:	unknown	*Dilution Factor:*	1.0000
Program:	SLIC03_local	*Operator:*	n.a.
Inj. Date/Time:	18.10.07 13:02	*Run Time:*	8.50

No. ECD_1	Time ECD_1 min	Peak Name ECD_1	Type ECD_1	Area ECD_1 µS*min	Height ECD_1 µS	Amount ECD_1
2	2.32	F	BM	0.108	0.766	531.6730
4	3.07	Cl	MB	0.161	1.196	965.3550
5	6.11	ClO3	BMB	0.010	0.032	155.5617
6	7.18	SO4	BMB	0.094	0.319	744.2331
		TOTAL:		0.37	2.31	2396.82





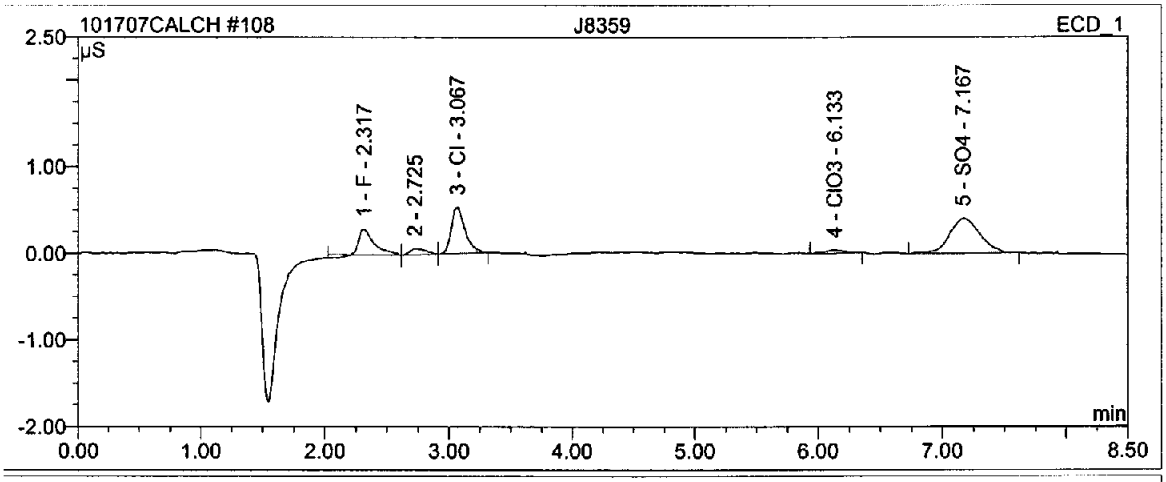
Operator:chemist Timebase:SLIC03_1 Sequence:101707CALCH

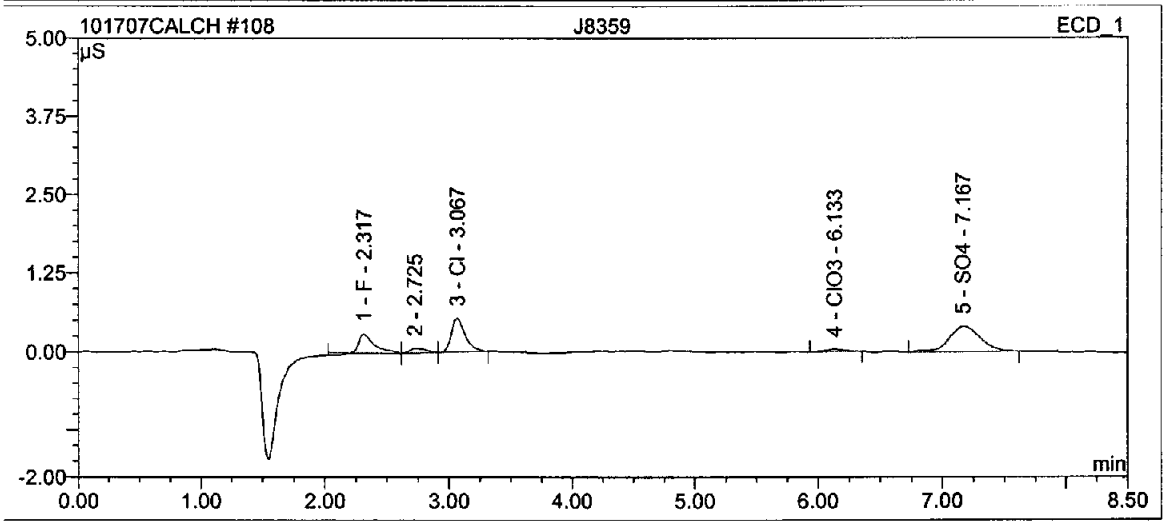
10/18/2007 1:24 PM

Integration Report - ECD_1

Sample Name:	J8359	*Inj. Vol.:*	50.0
Sample Type:	unknown	*Dilution Factor:*	1.0000
Program:	SLIC03_local	*Operator:*	n.a.
Inj. Date/Time:	18.10.07 13:13	*Run Time:*	8.50

No. ECD_1	Time ECD_1 min	Peak Name ECD_1	Type ECD_1	Area ECD_1 µS*min	Height ECD_1 µS	Amount ECD_1
1	2.32	F	MB	0.038	0.296	185.8247
3	3.07	Cl	bMB	0.069	0.531	415.5716
4	6.13	ClO3	BMB	0.007	0.038	109.5437
5	7.17	SO4	BMB	0.116	0.399	920.1999
		TOTAL:		0.23	1.26	1631.14

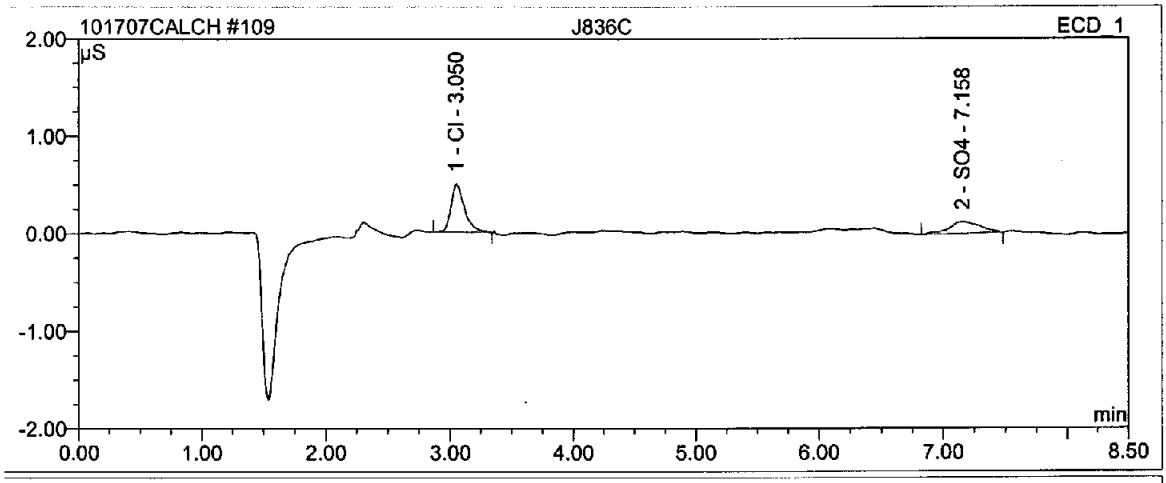


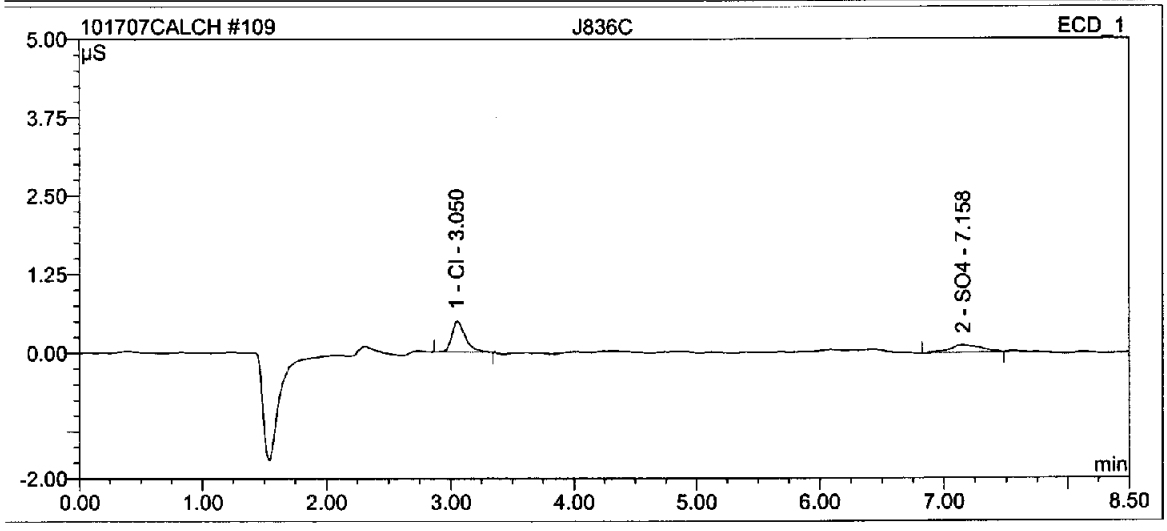


Integration Report - ECD_1

Sample Name:	J836C	*Inj. Vol.:*	50.0
Sample Type:	unknown	*Dilution Factor:*	1.0000
Program:	SLIC03_local	*Operator:*	n.a.
Inj. Date/Time:	18.10.07 13:24	*Run Time:*	8.50

No. ECD_1	Time ECD_1 min	Peak Name ECD_1	Type ECD_1	Area ECD_1 µS*min	Height ECD_1 µS	Amount ECD_1
1	3.05	Cl	BMB	0.063	0.493	379.9884
2	7.16	SO4	BMB	0.035	0.118	277.4569
		TOTAL:		0.10	0.61	657.45

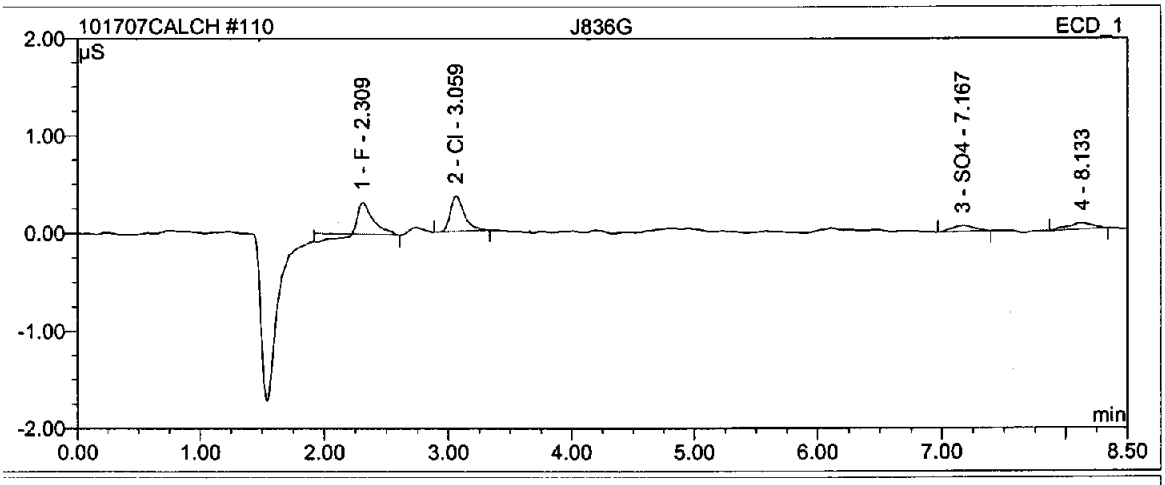


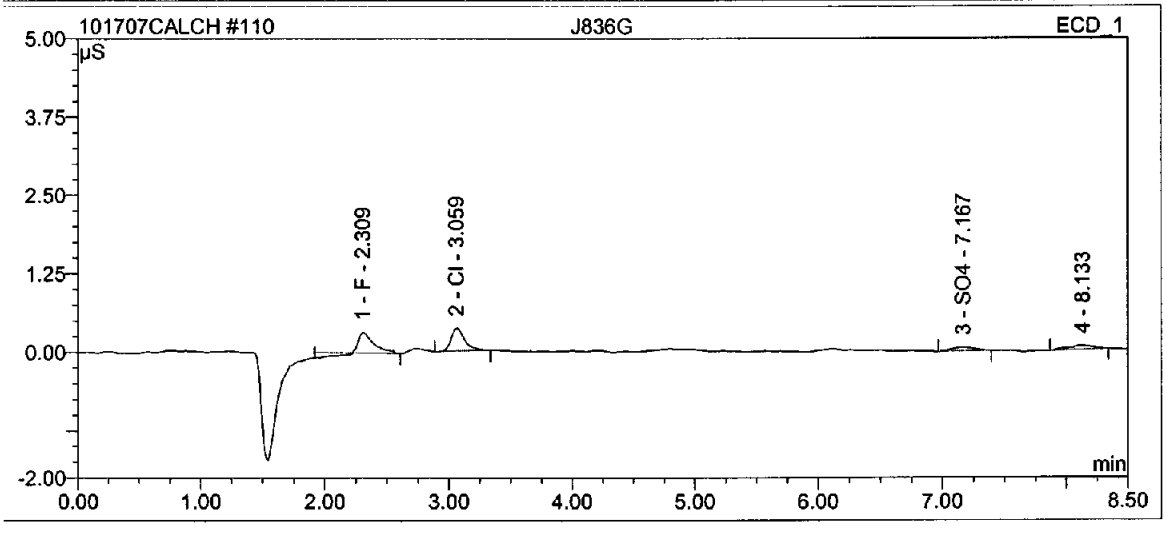


Integration Report - ECD_1

Sample Name:	J836G	*Inj. Vol.:*	50.0
Sample Type:	unknown	*Dilution Factor:*	1.0000
Program:	SLIC03_local	*Operator:*	n.a.
Inj. Date/Time:	18.10.07 13:35	*Run Time:*	8.50

No. ECD_1	Time ECD_1 min	Peak Name ECD_1	Type ECD_1	Area ECD_1 µS*min	Height ECD_1 µS	Amount ECD_1
1	2.31	F	MB	0.030	0.325	148.2346
2	3.06	Cl	BMB	0.047	0.364	283.4194
3	7.17	SO4	BMB	0.012	0.060	98.1054
		TOTAL:		0.09	0.75	529.76

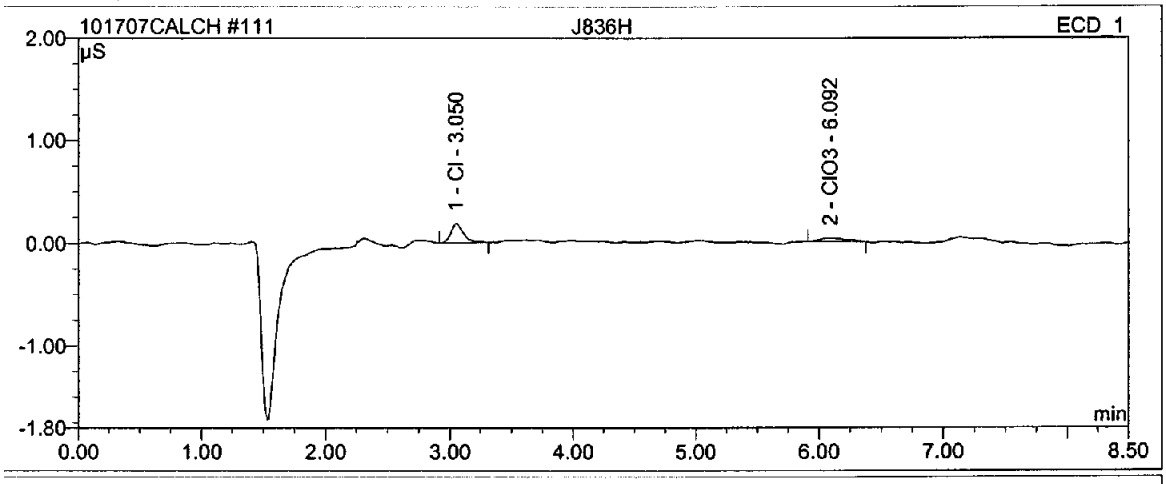


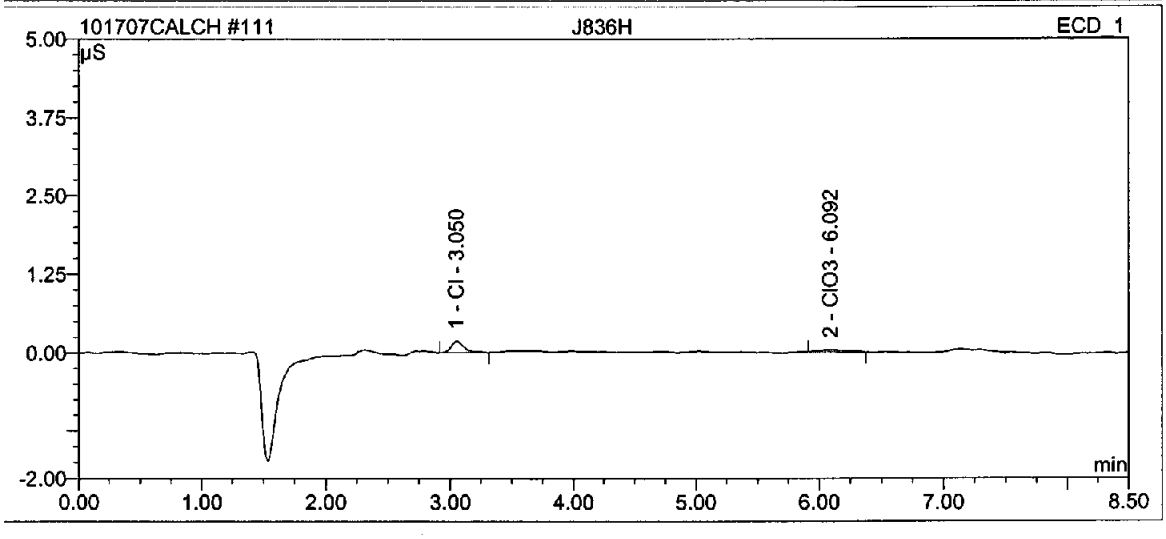


Integration Report - ECD_1

Sample Name:	J836H	*Inj. Vol.:*	50.0
Sample Type:	unknown	*Dilution Factor:*	1.0000
Program:	SLIC03_local	*Operator:*	n.a.
Inj. Date/Time:	18.10.07 13:46	*Run Time:*	8.50

No. ECD_1	Time ECD_1 min	Peak Name ECD_1	Type ECD_1	Area ECD_1 µS*min	Height ECD_1 µS	Amount ECD_1
1	3.05	Cl	BMB	0.023	0.186	137.3754
2	6.09	ClO3	BMB	0.010	0.039	152.3744
		TOTAL:		0.03	0.22	289.75

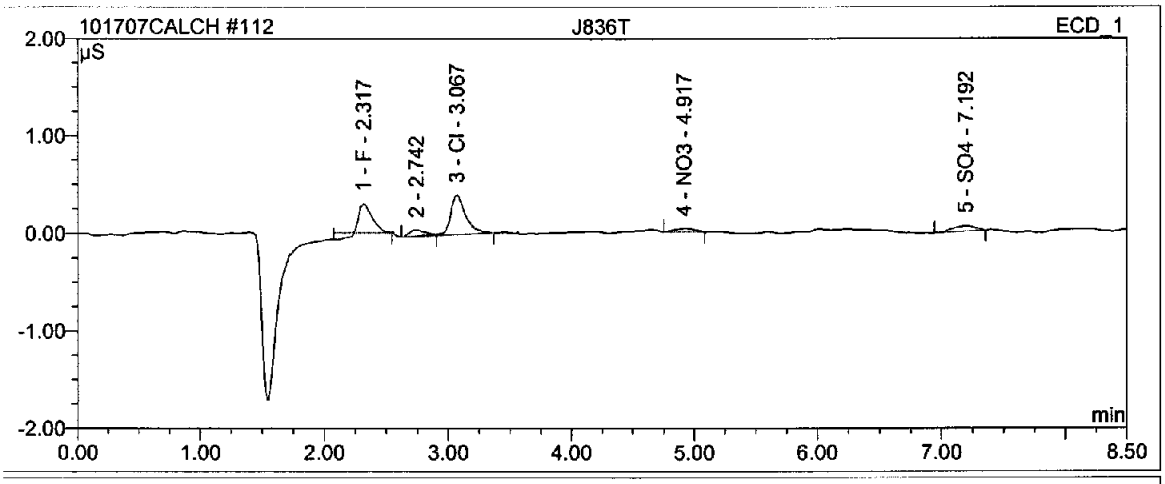


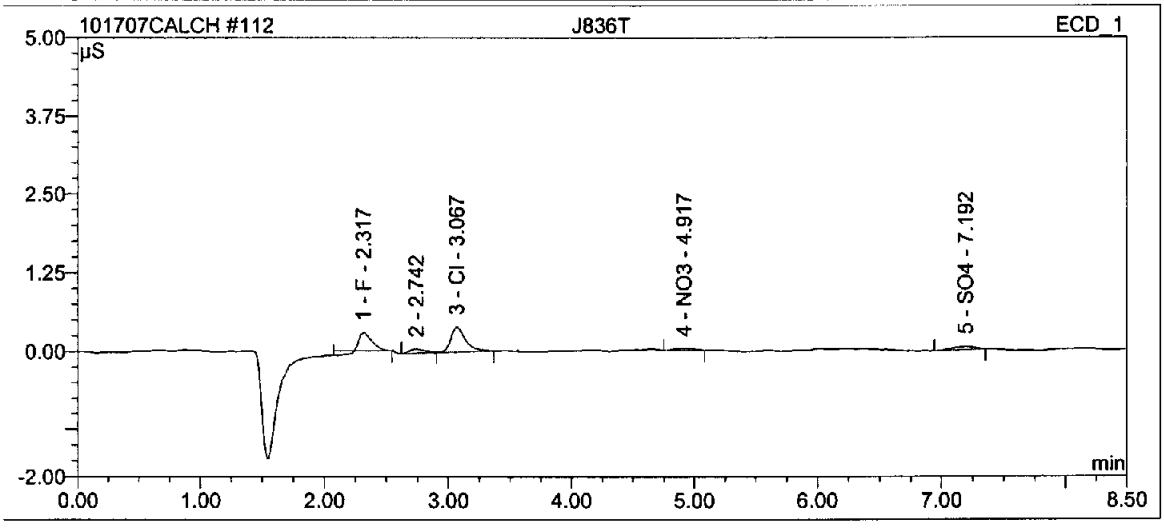


Integration Report - ECD_1

Sample Name:	**J836T**	*Inj. Vol.:*	**50.0**
Sample Type:	**unknown**	*Dilution Factor:*	**1.0000**
Program:	**SLIC03_local**	*Operator:*	**n.a.**
Inj. Date/Time:	**18.10.07 13:57**	*Run Time:*	**8.50**

No. ECD_1	Time ECD_1 min	Peak Name ECD_1	Type ECD_1	Area ECD_1 µS*min	Height ECD_1 µS	Amount ECD_1
1	2.32	F	MB	0.027	0.290	132.9249
3	3.07	Cl	BMB	0.059	0.401	352.3665
4	4.92	NO3	BMB	0.006	0.034	16.6908
5	7.19	SO4	BMB	0.011	0.053	87.4949
			TOTAL:	0.10	0.78	589.48





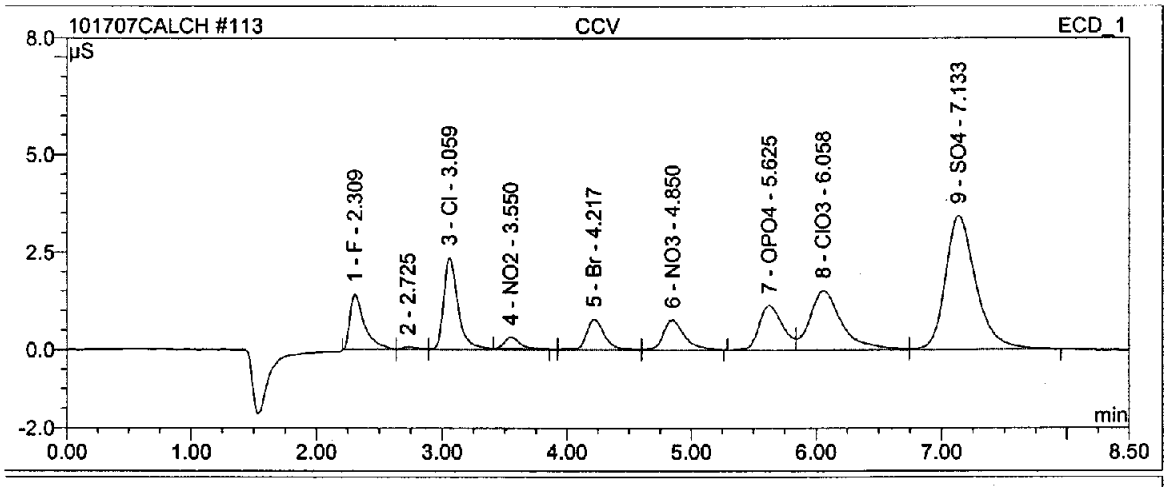
Operator:chemist Timebase:SLIC03_1 Sequence:101707CALCH

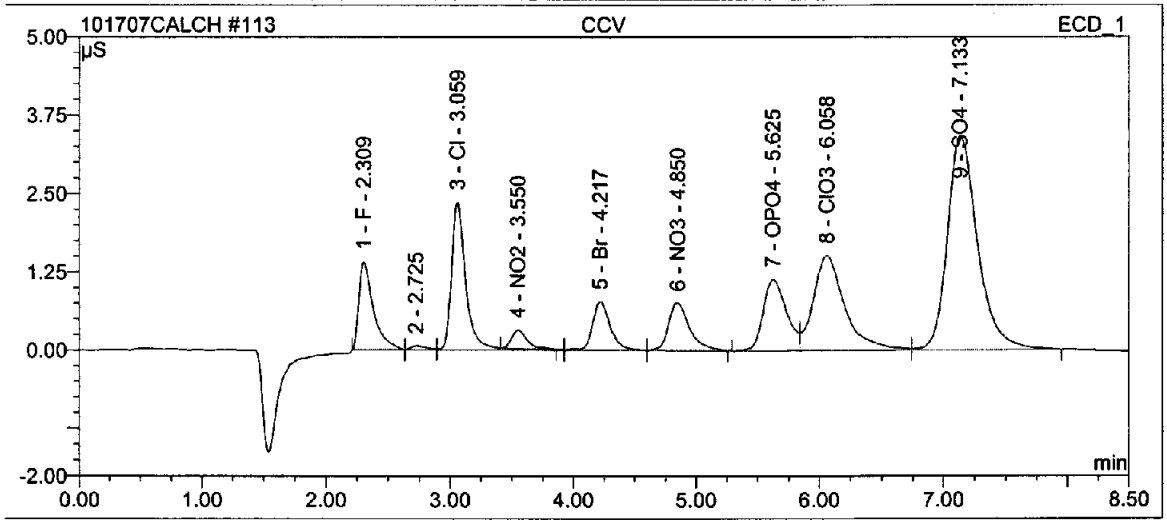
10/18/2007 2:19 PM

Integration Report - ECD_1

Sample Name:	CCV	*Inj. Vol.:*	50.0
Sample Type:	unknown	*Dilution Factor:*	1.0000
Program:	SLIC03_local	*Operator:*	n.a.
Inj. Date/Time:	18.10.07 14:08	*Run Time:*	8.50

No. ECD_1	Time ECD_1 min	Peak Name ECD_1	Type ECD_1	Area ECD_1 µS*min	Height ECD_1 µS	Amount ECD_1
1	2.31	F	BM	0.188	1.405	923.2982
3	3.06	Cl	M	0.323	2.360	1938.9942
4	3.55	NO2	Rd	0.044	0.295	159.1050
5	4.22	Br	M	0.132	0.780	1917.0657
6	4.85	NO3	MB	0.152	0.762	395.6046
7	5.63	OPO4	BM	0.255	1.144	4653.1346
8	6.06	ClO3	M	0.446	1.517	7074.6127
9	7.13	SO4	MB	0.965	3.421	7641.3656
		TOTAL:		2.50	11.69	24703.18





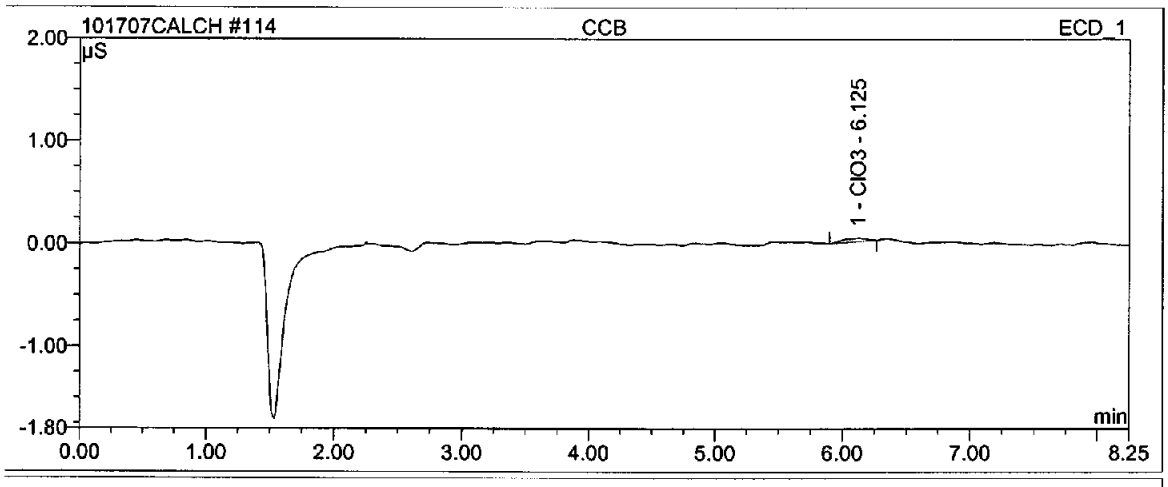
Operator:chemist Timebase:SLIC03_1 Sequence:101707CALCH

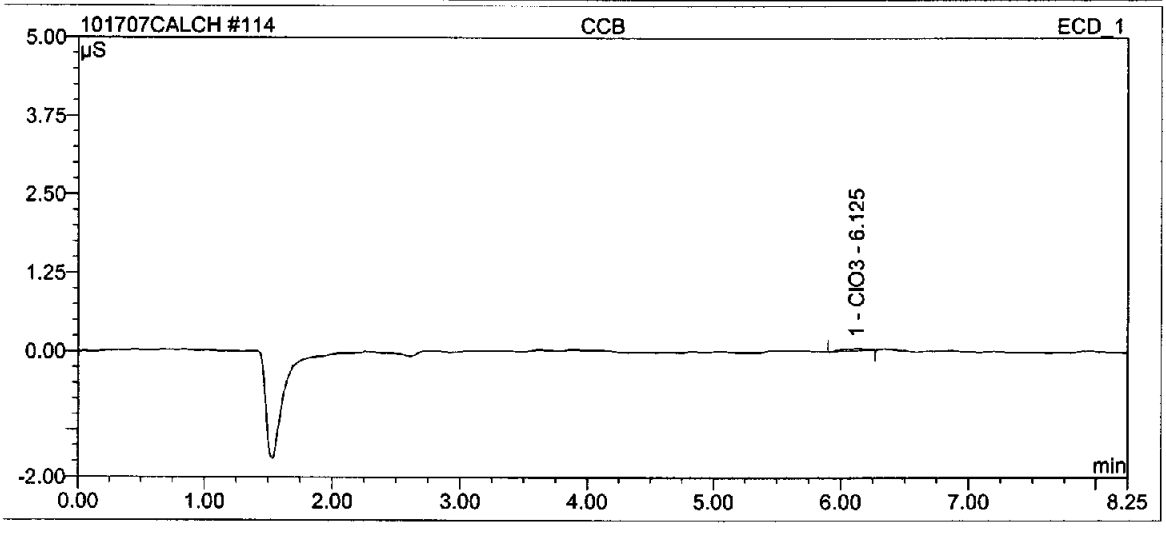
10/18/2007 2:29 PM

Integration Report - ECD_1

Sample Name:	**CCB**	*Inj. Vol.:*	**50.0**
Sample Type:	**unknown**	*Dilution Factor:*	**1.0000**
Program:	**SLIC03_local**	*Operator:*	**n.a.**
Inj. Date/Time:	**18.10.07 14:19**	*Run Time:*	**8.25**

No. ECD_1	Time ECD_1 min	Peak Name ECD_1	Type ECD_1	Area ECD_1 µS*min	Height ECD_1 µS	Amount ECD_1
1	6.13	ClO3	BMB	0.008	0.034	121.3479
		TOTAL:		0.01	0.03	121.35





RQC050 Severn Trent Laboratories, Inc. Run Date: 10/17/07
WET CHEM BATCHSHEET Time: 12:43:49

TestAmerica St. Louis

PRODUCTION FIGURES - WET CHEM

TOTAL NUMBER	SAMPLE NUMBER	QC	RE-RUN MATRIX	RE-RUN OTHER	MISC NUMBER	TOTAL HOURS	EXPANDED DELIVERABLE

METHOD: HN Nitrate-Nitrite (353.1)
QC BATCH #: **7290365**
PREP DATE: 10/17/07
COMP DATE: 10/17/07
USER: HARDINC

INITIALS:
PREP _____
ANAL _____

DATA ENTRY:
INITIALS _____
DATE _____

Work Order	Lab Number	Structured Analysis	Exp. Del.	Analysis Date	Sample ID:
J836J-1-AD	F-7J160279-035	XX I 23 HN 9A	Y-D		MD21-07-6799
J836J-1-AH	F-7J160279-035-S	XX I 23 HN 9A	Y-D		MD21-07-6799
J836J-1-AJ	F-7J160279-035-X	XX I 23 HN 9A	Y-D		MD21-07-6799 DUP
J836M-1-AD	F-7J160279-036	XX I 23 HN 9A	Y-D		MD21-07-6796
J836W-1-AD	F-7J160279-038	XX I 23 HN 9A	Y-D		MD21-08-7053
J858E-1-AA	F-7J170000-365-B	XX I 23 HN 9A			INTRA-LAB BLANK
J858E-1-AC	F-7J170000-365-C	XX I 23 HN 9A			INTRA-LAB CHECK
J858E-1-AD	F-7J170000-365-L	XX I 23 HN 9A			INTRA-LAB CHECK

Control Limits

(75-125)

(80-120)

(80-120)

PDE115

TestAmerica Laboratories, Inc.
Inorganics Batch Review
QC Batch **7290365**

Date 10/18/2007
Time 12:24:45

Method Code: **HN Nitrate-Nitrite (353.1)**
Analyst: **Chris Hough**

Work Order	Result	Units	LDL/Dil	Prep. - Anal.	Total Solids	PSRL Flag	R/R	Rounded Result	Output LDL	Dil.
J836J-1-AD	111.32	ug/L	50	10/17/07	.00	N		111	50.0	1.00
J836J-1-AJ	115.0	ug/L	50	10/17/07	.00	N		115	50.0	1.00
J836M-1-AD	108.82	ug/L	50	10/17/07	.00	N		109	50.0	1.00
J836W-1-AD	107.1	ug/L	50	10/17/07	.00	N		107	50.0	1.00
J858E-1-AA	ND	ug/L	50	10/17/07	.00			ND	50.0	1.00

Notes:

LCS - LCSD

Work Order	Exception Code	Measured Sample	True Spike	Measured SPIKE	Measured Dup.	Pct. Recovered SPIKE	Pct. Recovered DUP	RPD	Prep. - Anal.	Dil.
J858E-1-AC			400	403.66	398.37	100.91	99.59	1.31	10/17/07	1.00

Notes:

Measured Spike

Work Order	Exception Code	Measured Sample	True Spike	Measured Spike	Percent Recovered	Prep. - Anal.	Dil.
J836J-1-AH		111.32	400	637.89	131.64	10/17/07	1.00

Notes:

PRODUCTION TOTALS

TEST	TOTAL #	SAMPLE #	QC #	MATRIX #	OTHER #	MISC #	HOURS
	0	0	0	0	0	0	.0

Page: 1

Order of Fit: First
Coefs: 1st: -0.118814 2nd: 18.256174

Report Date: 10/17/07
Analysis Date: 10/17/07
Data File: N310177A
Method Name: NO3_N02
Units: ug/L
Description: N03-N + N02-N

R^2: 0.999941
Corr: 0.999970
Std. Dev.: 3.148092

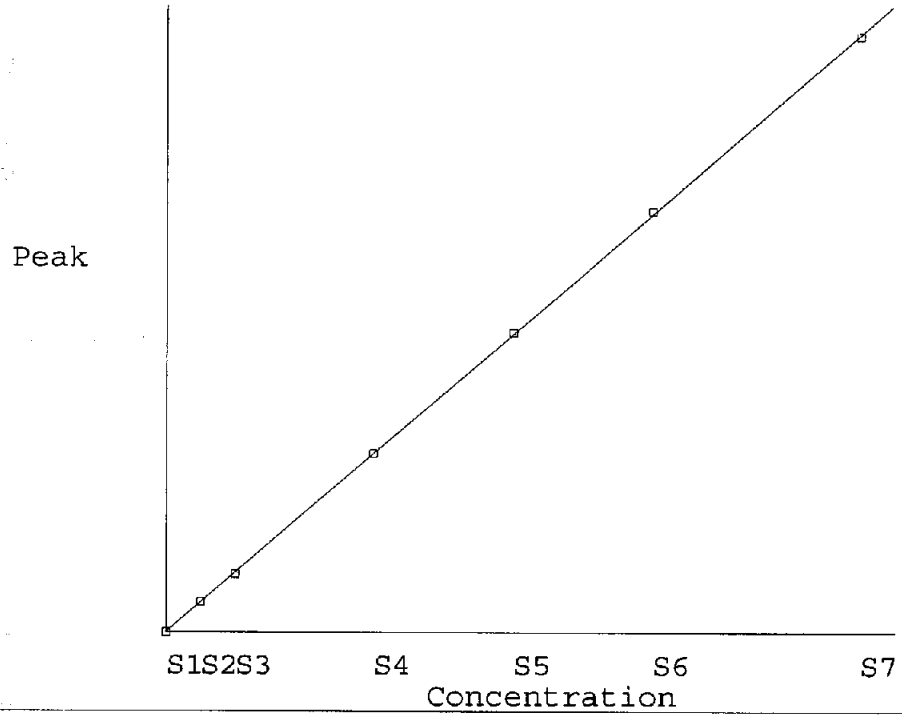
Sample	Sample ID	Dilution	Weight	Corr. Conc.	Flags	Time
1	P			1044.48		12:00:16
2	W			0.00	-zI	12:01:31
3	S1			0.00	-szI	12:02:46
4	S2			50.04	s	12:04:02
5	S3			97.35	s	12:05:17
6	S4			300.26	s	12:06:32
7	S5			501.83	s	12:07:47
8	S6			704.73	s	12:09:02
9	S7			995.91	s	12:10:17
10	ICV			405.71 !400		12:11:32
11	ICB			0.00	-zI	12:12:47
12	BLK			0.00	-zI	12:14:02
13	LCS			403.66 /400		12:15:17
14	LCSD			398.37 /400		12:16:33
15	J836J			111.32		12:17:48
16	J836J-S			637.89		12:19:03
17	J836J-X			115.00		12:20:18
18	J836M			108.82		12:21:34
19	J836W			107.10		12:22:49
20	CCV			397.83 /400		12:24:04
21	CCB			0.67	I	12:25:19
22	END OF RUN			0.00	-zI	12:26:34

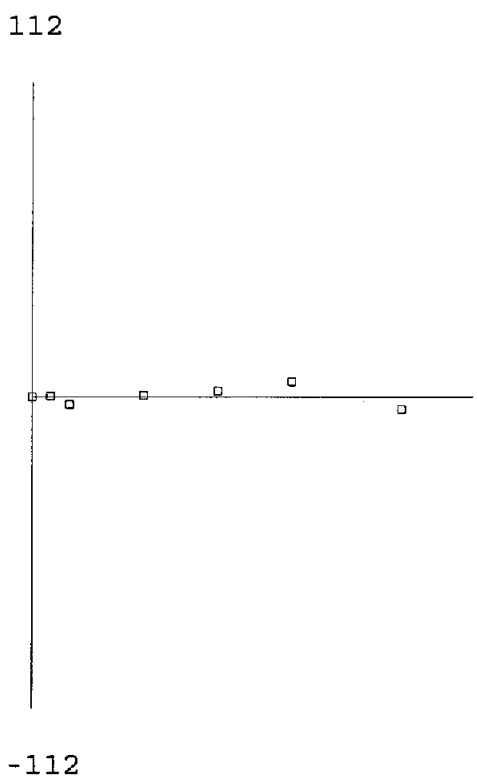
10/17/07 13:20 Standard Set #1. TestAmerica St. Louis

Data File: N310177A

Method File: NO3_N02

Sample Table File: N310177A





S#	Peak	Value	Calc	Residual
S1	0.00	0.00	-0.12	-0.12
S2	2.75	50.00	50.04	0.04
S3	5.34	100.00	97.35	-2.65
S4	16.45	300.00	300.26	0.26
S5	27.49	500.00	501.83	1.83
S6	38.61	700.00	704.73	4.73
S7	54.56	1000.00	995.91	-4.09

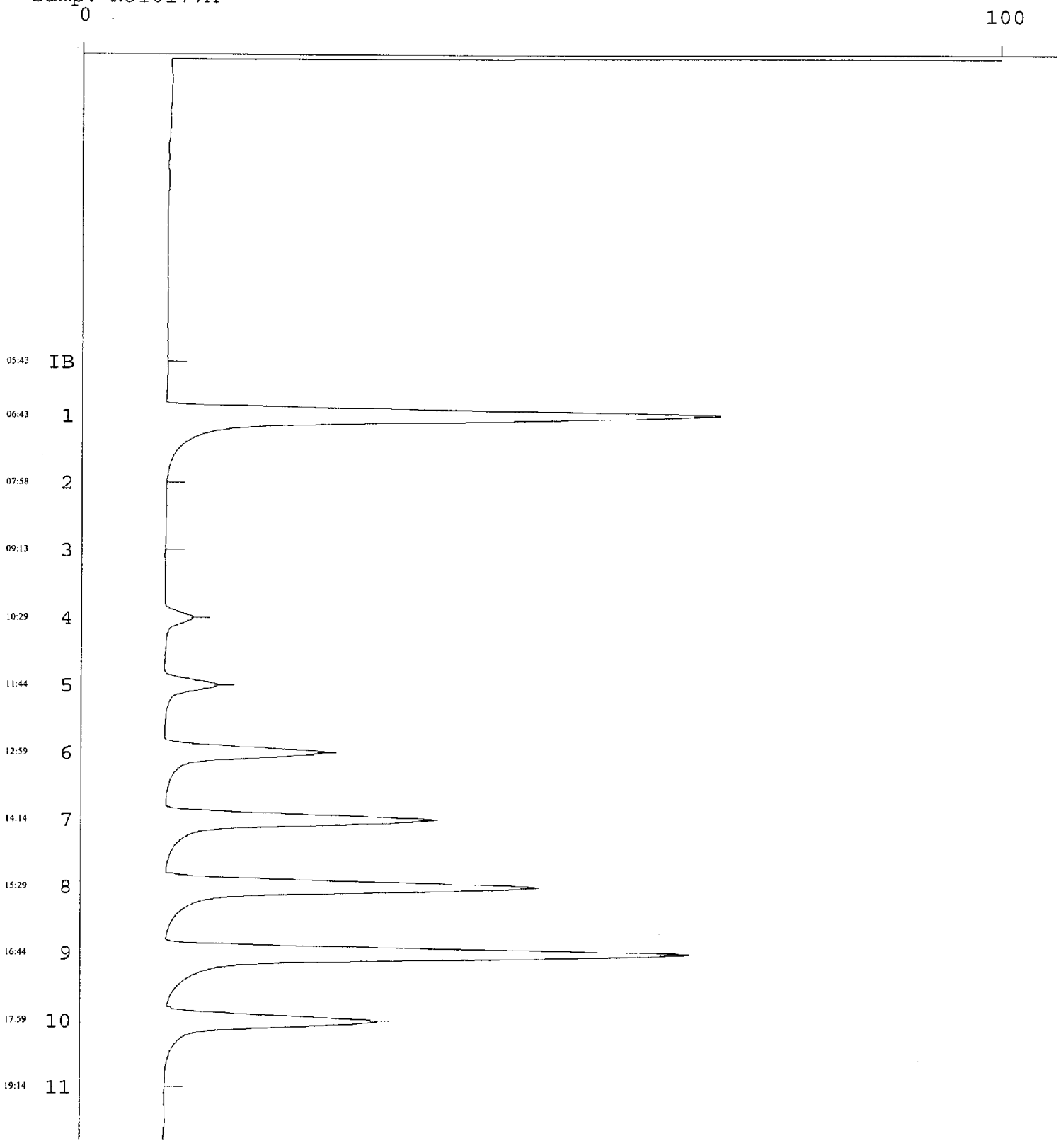
Coefficients:

Intercept :	-0.118814
Slope :	18.2562
Std Dev :	3.14809
Corr Coef :	0.99997
R^2 :	0.999941

10/17/2007 13:21

Page:1

Data: N310177A
Mthd: NO3_N02
Samp: N310177A



10/17/2007 13:21

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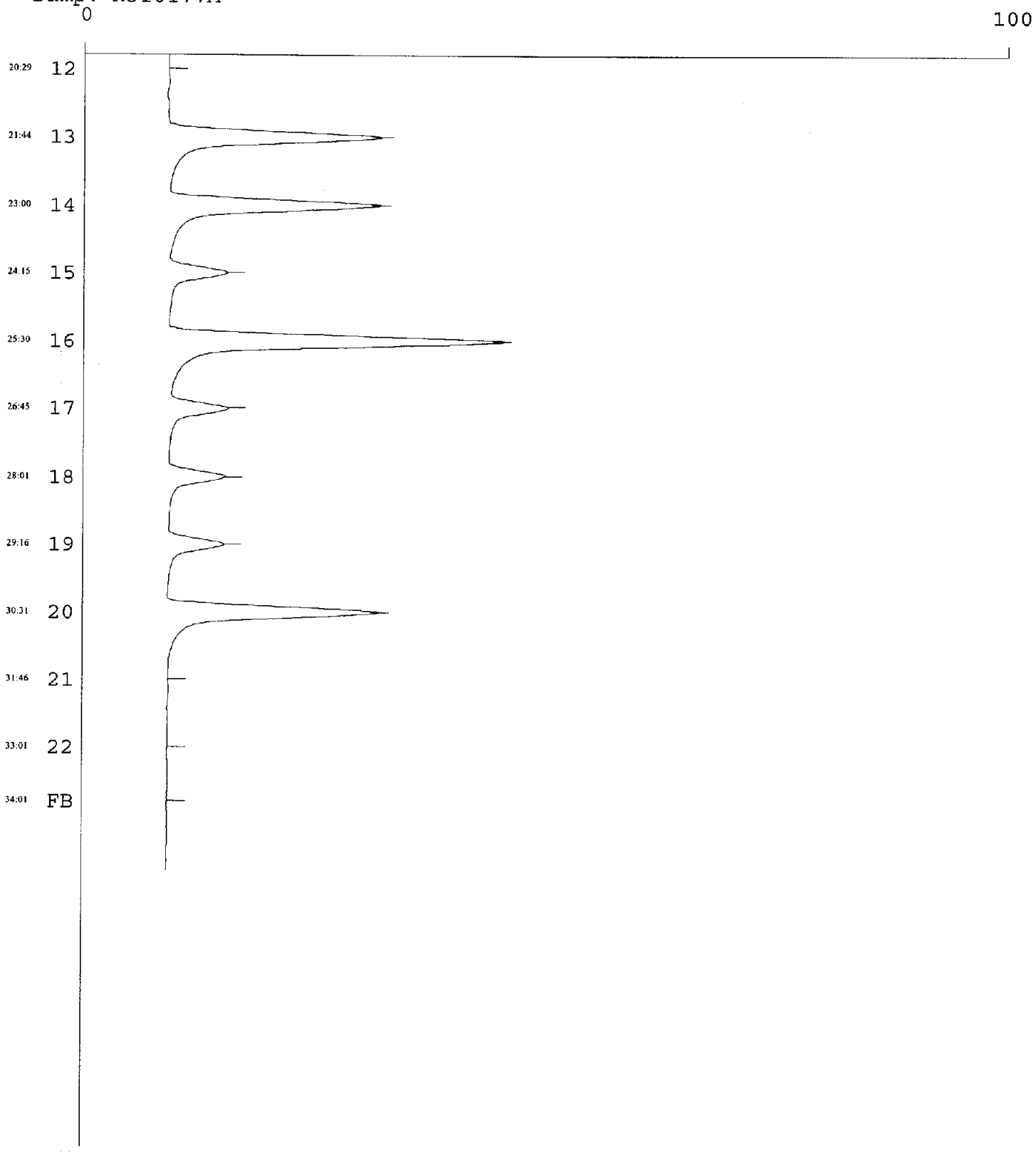

STL St. Louis Laboratory
NITRATE+NITRITE REPORT

Analyst: CH
Reviewed by: CH
Date: 10/18/07

Batch No.: 7290365
Run No.: N310177A

Prep Date: 10/17/2007
Analysis Date: 10/17/2007
Method No.: 353.1

Laboratory ID	Standard Id	Raw Value ug/L	Dilution	Sample Volume Liter	Sample Volume Gram	Extract Volume, L	Fraction Solid	Final Concentration as N ug/L	Final Concentration as N mg/Kg	Percent Recovery	RPD
BLK		0	1	0.004		0.004		0.0000			
LCS		403.66	1	0.004		0.004		403.6600			
LCSD		398.37	1	0.004		0.004		398.3700			
J836J		111.32	1	0.004		0.004		111.3200			
J836J-S		637.89	1	0.004		0.004		637.8900			
J836J-X		115	1	0.004		0.004		115.0000			
J836M		108.82	1	0.004		0.004		108.8200			
J836W		107.1	1	0.004		0.004		107.1000			
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Control Limits (Water/Soil): LCS = 90 - 110 MS = 90 - 110

Nitrate+Nitrite ug/L-N, mg/Kg-N = $\frac{\text{Raw Value X Dilution X Extract Volume (L)}}{\text{Sample Volume (L,G) X Fraction Solid}}$

SOP	Rev	Date
STL-WC-0023	6	4/21/2006

File: Slsvr01\Wet Chem Results\N310177A 7290365, modified 3/22/04

TestAmerica St. Louis

RQC050 Severn Trent Laboratories, Inc. Run Date: 10/18/07
WET CHEM BATCHSHEET Time: 16:32:18

TestAmerica St. Louis

PRODUCTION FIGURES - WET CHEM

TOTAL NUMBER	SAMPLE NUMBER	QC	RE-RUN MATRIX	RE-RUN OTHER	MISC NUMBER	TOTAL HOURS	EXPANDED DELIVERABLE

METHOD: WM Moisture, Percent (160.3)
QC BATCH #: **7291612**
PREP DATE: 10/17/07
COMP DATE: 10/18/07
USER: HOUGHC

INITIALS:
PREP _____
ANAL _____

DATA ENTRY:
INITIALS _____
DATE _____

Work Order	Lab Number	Structured Analysis	Exp. Del.	Analysis Date	Sample ID:
J83XG-1-AA	F-7J160279-001	XX A 88 WM 01	Y-D		MD21-07-6797
J8337-1-AA	F-7J160279-002	XX A 88 WM 01	Y-D		MD21-07-6773
J834C-1-AA	F-7J160279-003	XX A 88 WM 01	Y-D		MD21-07-6786
J834F-1-AA	F-7J160279-004	XX A 88 WM 01	Y-D		MD21-07-6770
J834H-1-AA	F-7J160279-005	XX A 88 WM 01	Y-D		MD21-07-6726
J834L-1-AA	F-7J160279-006	XX A 88 WM 01	Y-D		MD21-07-6785
J834M-1-AA	F-7J160279-007	XX A 88 WM 01	Y-D		MD21-07-6732
J834N-1-AA	F-7J160279-008	XX A 88 WM 01	Y-D		MD21-07-6761
J834P-1-AA	F-7J160279-009	XX A 88 WM 01	Y-D		MD21-07-6756
J834Q-1-AA	F-7J160279-010	XX A 88 WM 01	Y-D		MD21-07-6777
J834V-1-AA	F-7J160279-011	XX A 88 WM 01	Y-D		MD21-07-6775
J834W-1-AA	F-7J160279-012	XX A 88 WM 01	Y-D		MD21-07-6755
J834X-1-AA	F-7J160279-013	XX A 88 WM 01	Y-D		MD21-07-6771
J8340-1-AA	F-7J160279-014	XX A 88 WM 01	Y-D		MD21-07-6792
J8348-1-AA	F-7J160279-016	XX A 88 WM 01	Y-D		MD21-07-6763
J835Q-1-AA	F-7J160279-021	XX A 88 WM 01	Y-D		MD21-07-6754
J836A-1-AA	F-7J160279-028	XX A 88 WM 01	Y-D		MD21-07-6798
J836D-1-AA	F-7J160279-030	XX A 88 WM 01	Y-D		MD21-07-6776
J836E-1-AA	F-7J160279-031	XX A 88 WM 01	Y-D		MD21-07-6762

J836F-1-AA F-7J160279-032 XX A 88 WM 01 Y-D _____ MD21-07-6757

Control Limits

RQC050 Severn Trent Laboratories, Inc. Run Date: 10/18/07
WET CHEM BATCHSHEET Time: 16:32:43

TestAmerica St. Louis

PRODUCTION FIGURES - WET CHEM

TOTAL NUMBER	SAMPLE NUMBER	QC	RE-RUN MATRIX	RE-RUN OTHER	MISC NUMBER	TOTAL HOURS	EXPANDED DELIVERABLE

METHOD: WM Moisture, Percent (160.3)
QC BATCH #: **7291605** INITIALS: DATA ENTRY:
PREP DATE: 10/17/07 PREP _____ INITIALS _____
COMP DATE: 10/18/07 ANAL _____ DATE _____
USER: HOUGHC

Work Order	Lab Number	Structured Analysis	Exp. Del.	Analysis Date	Sample ID:
J8344-1-AA	F-7J160279-015	XX A 88 WM 01	Y-D		MD21-07-6783
J835A-1-AA	F-7J160279-017	XX A 88 WM 01	Y-D		MD21-07-6742
J835E-1-AA	F-7J160279-018	XX A 88 WM 01	Y-D		MD21-07-6733
J835J-1-AA	F-7J160279-019	XX A 88 WM 01	Y-D		MD21-07-6784
J835N-1-AA	F-7J160279-020	XX A 88 WM 01	Y-D		MD21-07-6769
J835W-1-AA	F-7J160279-022	XX A 88 WM 01	Y-D		MD21-07-6787
J8351-1-AA	F-7J160279-023	XX A 88 WM 01	Y-D		MD21-07-6795
J8353-1-AA	F-7J160279-024	XX A 88 WM 01	Y-D		MD21-07-6741
J8355-1-AA	F-7J160279-025	XX A 88 WM 01	Y-D		MD21-07-6793
J8356-1-AA	F-7J160279-026	XX A 88 WM 01	Y-D		MD21-07-6772
J8359-1-AA	F-7J160279-027	XX A 88 WM 01	Y-D		MD21-07-6768
J836C-1-AA	F-7J160279-029	XX A 88 WM 01	Y-D		MD21-07-6740
J836G-1-AA	F-7J160279-033	XX A 88 WM 01	Y-D		MD21-07-6725
J836H-1-AA	F-7J160279-034	XX A 88 WM 01	Y-D		MD21-07-6727
J836T-1-AA	F-7J160279-037	XX A 88 WM 01	Y-D		MD21-07-7022

Control Limits

PDE115

TestAmerica Laboratories, Inc.
Inorganics Batch Review
QC Batch **7291612**

Date 10/18/2007
Time 17:38:13

Method Code:**WM Moisture, Percent (160.3)**
Analyst:**Chris Hough**

Work Order	Result	Units	LDL/Dil	Prep. - Anal.	Total Solids	PSRL Flag	R/R	Rounded Result	Output LDL	Dil.
J83XG-1-AA	4.22	%	0.1	10/17-10/18/07	4.22	N	R	4.2	0.10	1.00
J8337-1-AA	2.92	%	0.1	10/17-10/18/07	2.92	N	R	2.9	0.10	1.00
J834C-1-AA	2.33	%	0.1	10/17-10/18/07	2.33	N	R	2.3	0.10	1.00
J834F-1-AA	2.69	%	0.1	10/17-10/18/07	2.69	N	R	2.7	0.10	1.00
J834H-1-AA	12.08	%	0.1	10/17-10/18/07	12.08	N	R	12.1	0.10	1.00
J834L-1-AA	10.10	%	0.1	10/17-10/18/07	10.10	N	R	10.1	0.10	1.00
J834M-1-AA	2.95	%	0.1	10/17-10/18/07	2.95	N	R	3.0	0.10	1.00
J834N-1-AA	9.54	%	0.1	10/17-10/18/07	9.54	N	R	9.5	0.10	1.00
J834P-1-AA	14.45	%	0.1	10/17-10/18/07	14.45	N	R	14.4	0.10	1.00
J834Q-1-AA	6.51	%	0.1	10/17-10/18/07	6.51	N	R	6.5	0.10	1.00
J834V-1-AA	15.45	%	0.1	10/17-10/18/07	15.45	N	R	15.4	0.10	1.00
J834W-1-AA	13.58	%	0.1	10/17-10/18/07	13.58	N	R	13.6	0.10	1.00
J834X-1-AA	4.39	%	0.1	10/17-10/18/07	4.39	N	R	4.4	0.10	1.00
J8340-1-AA	4.07	%	0.1	10/17-10/18/07	4.07	N	R	4.1	0.10	1.00
J8348-1-AA	9.28	%	0.1	10/17-10/18/07	9.28	N	R	9.3	0.10	1.00
J835Q-1-AA	9.93	%	0.1	10/17-10/18/07	9.93	N	R	9.9	0.10	1.00
J836A-1-AA	15.06	%	0.1	10/17-10/18/07	15.06	N	R	15.1	0.10	1.00
J836D-1-AA	15.02	%	0.1	10/17-10/18/07	15.02	N	R	15.0	0.10	1.00
J836E-1-AA	15.41	%	0.1	10/17-10/18/07	15.41	N	R	15.4	0.10	1.00
J836F-1-AA	6.20	%	0.1	10/17-10/18/07	6.20	N	R	6.2	0.10	1.00

Notes:

PRODUCTION TOTALS

TEST	TOTAL #	SAMPLE #	QC #	MATRIX #	OTHER #	MISC #	HOURS
	0	0	0	0	0	0	.0

PDE115

TestAmerica Laboratories, Inc.
Inorganics Batch Review
QC Batch **7291605**

Date 10/18/2007
Time 17:38:31

Method Code:**WM Moisture, Percent (160.3)**
Analyst:**Chris Hough**

Work Order	Result	Units	LDL/Dil	Prep. - Anal.	Total Solids	PSRL Flag	R/R	Rounded Result	Output LDL	Dil.
J8344-1-AA	5.42	%	0.1	10/17-10/18/07	5.42	N	R	5.4	0.10	1.00
J835A-1-AA	6.79	%	0.1	10/17-10/18/07	6.79	N	R	6.8	0.10	1.00
J835E-1-AA	2.47	%	0.1	10/17-10/18/07	2.47	N	R	2.5	0.10	1.00
J835J-1-AA	3.24	%	0.1	10/17-10/18/07	3.24	N	R	3.2	0.10	1.00
J835N-1-AA	8.36	%	0.1	10/17-10/18/07	8.36	N	R	8.4	0.10	1.00
J835W-1-AA	1.56	%	0.1	10/17-10/18/07	1.56	N	R	1.6	0.10	1.00
J8351-1-AA	9.60	%	0.1	10/17-10/18/07	9.60	N	R	9.6	0.10	1.00
J8353-1-AA	9.60	%	0.1	10/17-10/18/07	9.60	N	R	9.6	0.10	1.00
J8355-1-AA	1.23	%	0.1	10/17-10/18/07	1.23	N	R	1.2	0.10	1.00
J8356-1-AA	6.42	%	0.1	10/17-10/18/07	6.42	N	R	6.4	0.10	1.00
J8359-1-AA	6.13	%	0.1	10/17-10/18/07	6.13	N	R	6.1	0.10	1.00
J836C-1-AA	4.63	%	0.1	10/17-10/18/07	4.63	N	R	4.6	0.10	1.00
J836G-1-AA	5.91	%	0.1	10/17-10/18/07	5.91	N	R	5.9	0.10	1.00
J836H-1-AA	6.89	%	0.1	10/17-10/18/07	6.89	N	R	6.9	0.10	1.00
J836T-1-AA	5.84	%	0.1	10/17-10/18/07	5.84	N	R	5.8	0.10	1.00

Notes:

PRODUCTION TOTALS

TEST	TOTAL #	SAMPLE #	QC #	MATRIX #	OTHER #	MISC #	HOURS
	0	0	0	0	0	0	.0

% solids

STL St. Louis Laboratory
Percent Total Solid/Percent Moisture Logsheet

7291605

Analysis: %Moisture Time In: 16:29 Temp: 104.0 Batch: 7291131

Prep Date: 10/17/07 Time Out:* 8:00 Temp: 104.0 Analyst: sdb

Anal Date: 10/18/07 * if less than 12 hours, complete page 2 of this spreadsheet Reviewed By: CH

Balance 1 SN: E49883

SOP	Rev.	Date
STL-WC-0005	6	6/15/2007

Pan Number	Sample Id	Pan wt	Wet Sam + Pan g	Dry Sam + Pan wt	Results % Solids	Results % Moisture	Comments
1	J8344-001	1.3233	4.0537	3.9057	94.58	5.42	
2	J8344x	1.3124	6.8182	6.4704	93.68	6.32	
3	J835A-001	1.3298	6.4127	6.0676	93.21	6.79	
4	J835E-001	1.3171	8.1744	8.0050	97.53	2.47	
5	J835J-001	1.3129	7.9518	7.7370	96.76	3.24	
6	J835N-001	1.3157	10.8548	10.0572	91.64	8.36	
7	J835W-001	1.3109	7.2744	7.1815	98.44	1.56	
8	J8351-001	1.3126	17.7754	16.1945	90.40	9.60	
9	J8353-001	1.3132	11.1265	10.1849	90.40	9.60	
10	J8355-001	1.3137	8.0949	8.0113	98.77	1.23	
11	J8356-001	1.3212	10.2388	9.6663	93.58	6.42	
12	J8359-001	1.3174	11.2803	10.6698	93.87	6.13	
13	J836C-001	1.3021	8.0912	7.7771	95.37	4.63	
14	J836G-001	1.3037	9.3501	8.8748	94.09	5.91	
15	J836H-001	1.3129	5.8405	5.6645	96.11	3.89	
16	J836T-001	1.3150	9.9620	9.4570	94.16	5.84	
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36							
37							

% solids

STL St. Louis Laboratory
Percent Total Solid/Percent Moisture Logsheet

7291612
7291130

Analysis: %Moisture Time In: 16:07 Temp: 104.0 Batch:

Prep Date: 10/17/07 Time Out:* 8:00 Temp: 104.0 Analyst: CH

Anal Date: 10/18/07 * if less than 12 hours, complete page 2 of this spreadsheet Reviewed By: CH

Balance 1 SN: E49883

SOP	Rev.	Date
STL-WC-0005	6	6/15/2007

Pan Number	Sample Id	Pan wt	Wet Sam + Pan g	Dry Sam + Pan wt	Results % Solids	Results % Moisture	Comments
1	J834N-001	1.3117	6.4131	5.9264	90.46	9.54	
2	J834N-001x	1.3137	8.7980	8.0282	89.71	10.29	
3	J834P-001	1.3210	9.8433	8.6121	85.55	14.45	
4	J834Q-001	1.3140	11.0090	10.3780	93.49	6.51	
5	J834V-001	1.3224	8.5608	7.4422	84.55	15.45	
6	J834W-001	1.3118	13.3003	11.6718	86.42	13.58	
7	J8348-001	1.3114	7.5345	6.9573	90.72	9.28	
8	J835Q-001	1.3201	10.7955	9.8544	90.07	9.93	
9	J836A-001	1.3054	11.7796	10.2022	84.94	15.06	
10	J836D-001	1.3041	8.7550	7.6356	84.98	15.02	
11	J836E-001	1.3143	14.7264	12.6594	84.59	15.41	
12	J836F-001	1.3226	12.1337	11.4629	93.80	6.20	
13	J83XG-001	1.3107	7.6472	7.3798	95.78	4.22	
14	J8337-001	1.3171	9.2319	9.0009	97.08	2.92	
15	J834C-001	1.3076	10.6363	10.4193	97.67	2.33	
16	J834F-001	1.3126	9.7585	9.5310	97.31	2.69	
17	J834H-001	1.3172	12.7130	11.3369	87.92	12.08	
18	J834L-001	1.3258	7.3812	6.7699	89.90	10.10	
19	J834M-001	1.3108	10.3218	10.0558	97.05	2.95	
20	J834X-001	1.3120	9.4857	9.1268	95.61	4.39	
21	J8340-001	1.3029	9.6761	9.3352	95.93	4.07	
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URI	Request N	Sample ID	Excavated	Sample Ty	Sample U	Field Prep	Field QC	TPRS	Location I	Depth Ra	Field Matr	Media	RFI Class	Analyte C	Analyte	Percent M	Standard	Standard	Dilution F	Standard	Standard	Standard	Qualifier	Lab Samp	Analytical	Analytical	Lab Code	Analysis D	Collection Date
48272152	08-80	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	67.5000-7	GAS	na	RAD	H-3	Tritium	13.769		185.406	1	318.847	119.506	pCi/L	NQ	CS	H3	EPA:906.0	ARSL	########	########
48272162	08-80	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	150.5000-	GAS	na	RAD	H-3	Tritium	13.09		184.992	1	9385.24	989.166	pCi/L	NQ	CS	H3	EPA:906.0	ARSL	########	########
48272172	08-80	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	349.5000-	GAS	na	RAD	H-3	Tritium	13.873		186.078	1	243.472	116.573	pCi/L	NQ	CS	H3	EPA:906.0	ARSL	########	########
48272182	08-80	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	223.0000-	GAS	na	RAD	H-3	Tritium	14.532		186.399	1	141.323	112.961	pCi/L	U	CS	H3	EPA:906.0	ARSL	########	########
48272192	08-80	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	222.5000-	GAS	na	RAD	H-3	Tritium	14.103		186.722	1	206.76	115.483	pCi/L	NQ	CS	H3	EPA:906.0	ARSL	########	########
48452952	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	222.5000-	GAS	na	ORGANIC	75-34-3	Dichloroethane[1,1-]		0.18		1.75	0.88		ppbv	U	CS	VOC	EPA:TO1	ATL	########	########
48452962	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	223.0000-	GAS	na	ORGANIC	67-63-0	Propanol[2-]		0.24		1.83	3.7		ppbv	U	CS	VOC	EPA:TO1	ATL	########	########
48452972	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	67.5000-7	GAS	na	ORGANIC	78-93-3	Butanone[2-]		0.36		1.79	0.9		ppbv	U	CS	VOC	EPA:TO1	ATL	########	########
48452982	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	222.5000-	GAS	na	ORGANIC	107-06-2	Dichloroethane[1,2-]		0.18		1.75	1.6		ppbv	NQ	CS	VOC	EPA:TO1	ATL	########	########
48452992	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	67.5000-7	GAS	na	ORGANIC	75-71-8	Dichlorodifluorometh		0.18		1.79	2.1		ppbv	NQ	CS	VOC	EPA:TO1	ATL	########	########
48453002	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	222.5000-	GAS	na	ORGANIC	67-66-3	Chloroform		0.12		1.75	61		ppbv	NQ	CS	VOC	EPA:TO1	ATL	########	########
48453012	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	222.5000-	GAS	na	ORGANIC	108-10-1	Methyl-2-pentanone[		1.6		1.75	3.6		ug/m3	U	DUP	VOC	EPA:TO1	ATL	########	########
48453022	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	222.5000-	GAS	na	ORGANIC	124-48-1	Chlorodibromometha		1.5		1.75	7.4		ug/m3	U	DUP	VOC	EPA:TO1	ATL	########	########
48453032	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	150.5000-	GAS	na	ORGANIC	75-01-4	Vinyl Chloride		0.79		1.71	2.2		ug/m3	U	DUP	VOC	EPA:TO1	ATL	########	########
48453042	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	222.5000-	GAS	na	ORGANIC	56-23-5	Carbon Tetrachloride		0.14		1.75	29		ppbv	NQ	CS	VOC	EPA:TO1	ATL	########	########
48453052	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	349.5000-	GAS	na	ORGANIC	75-09-2	Methylene Chloride		1.2		2.8	1300		ug/m3	NQ	DUP	VOC	EPA:TO1	ATL	########	########
48453062	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	349.5000-	GAS	na	ORGANIC	10061-01-	Dichloropropene[cis-		1.6		2.8	6.4		ug/m3	U	DUP	VOC	EPA:TO1	ATL	########	########
48453072	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	150.5000-	GAS	na	ORGANIC	75-71-8	Dichlorodifluorometh		0.17		1.71	1.7		ppbv	NQ	CS	VOC	EPA:TO1	ATL	########	########
48453082	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	223.0000-	GAS	na	ORGANIC	75-34-3	Dichloroethane[1,1-]		0.74		1.83	3.7		ug/m3	U	DUP	VOC	EPA:TO1	ATL	########	########
48453092	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	222.5000-	GAS	na	ORGANIC	95-63-6	Trimethylbenzene[1,		0.35		1.75	0.88		ppbv	U	CS	VOC	EPA:TO1	ATL	########	########
48453102	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	349.5000-	GAS	na	ORGANIC	106-93-4	Dibromoethane[1,2-]		0.25		2.8	1.4		ppbv	U	CS	VOC	EPA:TO1	ATL	########	########
48453112	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	150.5000-	GAS	na	ORGANIC	75-00-3	Chloroethane		0.32		1.71	0.86		ppbv	U	CS	VOC	EPA:TO1	ATL	########	########
48453122	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	67.5000-7	GAS	na	ORGANIC	622-96-8	Ethyltoluene[4-]		3.1		1.79	4.4		ug/m3	U	DUP	VOC	EPA:TO1	ATL	########	########
48453132	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	150.5000-	GAS	na	ORGANIC	71-43-2	Benzene		0.2		1.71	0.92		ppbv	NQ	CS	VOC	EPA:TO1	ATL	########	########
48453142	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	349.5000-	GAS	na	ORGANIC	108-67-8	Trimethylbenzene[1,		1.3		2.8	1.4		ppbv	U	CS	VOC	EPA:TO1	ATL	########	########
48453152	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	349.5000-	GAS	na	ORGANIC	108-10-1	Methyl-2-pentanone[		2.6		2.8	5.7		ug/m3	U	DUP	VOC	EPA:TO1	ATL	########	########
48453162	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	67.5000-7	GAS	na	ORGANIC	76-13-1	Trichloro-1,2,2-trifluo		4.2		1.79	6.8		ug/m3	U	DUP	VOC	EPA:TO1	ATL	########	########
48453172	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	222.5000-	GAS	na	ORGANIC	108-90-7	Chlorobenzene		0.16		1.75	0.88		ppbv	U	CS	VOC	EPA:TO1	ATL	########	########
48453182	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	67.5000-7	GAS	na	ORGANIC	79-00-5	Trichloroethane[1,1,2		1.2		1.79	4.9		ug/m3	U	DUP	VOC	EPA:TO1	ATL	########	########
48453192	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	349.5000-	GAS	na	ORGANIC	100-41-4	Ethylbenzene		1.6		2.8	6.1		ug/m3	U	DUP	VOC	EPA:TO1	ATL	########	########
48453202	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	223.0000-	GAS	na	ORGANIC	79-00-5	Trichloroethane[1,1,2		1.2		1.83	5		ug/m3	U	DUP	VOC	EPA:TO1	ATL	########	########
48453212	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	223.0000-	GAS	na	ORGANIC	76-14-2	Dichloro-1,1,2,2-tetra		5.5		1.83	6.4		ug/m3	U	DUP	VOC	EPA:TO1	ATL	########	########
48453222	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	223.0000-	GAS	na	ORGANIC	75-15-0	Carbon Disulfide		0.24		1.83	0.92		ppbv	U	CS	VOC	EPA:TO1	ATL	########	########
48453232	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	150.5000-	GAS	na	ORGANIC	95-63-6	Trimethylbenzene[1,		1.7		1.71	4.2		ug/m3	U	DUP	VOC	EPA:TO1	ATL	########	########
48453242	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	150.5000-	GAS	na	ORGANIC	75-45-6	Chlorodifluorometha		3.4		1.71	3.4		ppbv	U	CS	VOC	EPA:TO1	ATL	########	########
48453252	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	223.0000-	GAS	na	ORGANIC	156-60-5	Dichloroethene[trans		1.7		1.83	3.6		ug/m3	U	DUP	VOC	EPA:TO1	ATL	########	########
48453262	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	150.5000-	GAS	na	ORGANIC	109-99-9	Tetrahydrofuran		1.3		1.71	2.5		ug/m3	U	DUP	VOC	EPA:TO1	ATL	########	########
48453272	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	150.5000-	GAS	na	ORGANIC	541-73-1	Dichlorobenzene[1,3		0.31		1.71	0.86		ppbv	U	CS	VOC	EPA:TO1	ATL	########	########
48453282	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	349.5000-	GAS	na	ORGANIC	75-71-8	Dichlorodifluorometh		1.4		2.8	6.9		ug/m3	U	DUP	VOC	EPA:TO1	ATL	########	########
48453292	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	223.0000-	GAS	na	ORGANIC	10061-02-	Dichloropropene[tran		1.5		1.83	4.2		ug/m3	U	DUP	VOC	EPA:TO1	ATL	########	########
48453302	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	150.5000-	GAS	na	ORGANIC	67-56-1	Methanol		110		1.71	110		ug/m3	U	DUP	VOC	EPA:TO1	ATL	########	########
48453312	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	67.5000-7	GAS	na	ORGANIC	10061-01-	Dichloropropene[cis-		0.23		1.79	0.9		ppbv	U	CS	VOC	EPA:TO1	ATL	########	########
48453322	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	67.5000-7	GAS	na	ORGANIC	95-50-1	Dichlorobenzene[1,2		0.23		1.79	0.9		ppbv	U	CS	VOC	EPA:TO1	ATL	########	########
48453332	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	150.5000-	GAS	na	ORGANIC	74-83-9	Bromomethane		0.44		1.71	0.86		ppbv	U	CS	VOC	EPA:TO1	ATL	########	########
48453342	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	222.5000-	GAS	na	ORGANIC	75-35-4	Dichloroethene[1,1-]		0.76		1.75	3.5		ug/m3	U	DUP	VOC	EPA:TO1	ATL	########	########
48453352	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	223.0000-	GAS	na	ORGANIC	100-41-4	Ethylbenzene		1		1.83	4		ug/m3	U	DUP	VOC	EPA:TO1	ATL	########	########
48453362	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	349.5000-	GAS	na	ORGANIC	110-82-7	Cyclohexane		1.7		2.8	4.8		ug/m3	U	DUP	VOC	EPA:TO1	ATL	########	########
48453372	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	223.0000-	GAS	na	ORGANIC	67-56-1	Methanol		92		1.83	92		ppbv	U	CS	VOC	EPA:TO1	ATL	########	########
48453382	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	349.5000-	GAS	na	ORGANIC	75-45-6	Chlorodifluorometha		5.6		2.8	5.6		ppbv	U	CS	VOC	EPA:TO1	ATL	########	########
48453392	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	67.5000-7	GAS	na	ORGANIC	75-34-3	Dichloroethane[1,1-]		0.18		1.79	0.9		ppbv	U	CS	VOC	EPA:TO1	ATL	########	########
48453402	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	222.5000-	GAS	na	ORGANIC	75-09-2	Methylene Chloride		0.73		1.75	420		ug/m3	NQ	DUP	VOC	EPA:TO1	ATL	########	########
48453412	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	222.5000-	GAS	na	ORGANIC	75-45-6	Chlorodifluorometha		12		1.75	12		ug/m3	U	DUP	VOC	EPA:TO1	ATL	########	########
48453422	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	223.0000-	GAS	na	ORGANIC	75-45-6	Chlorodifluorometha		3.7		1.83	3.7		ppbv	U	CS	VOC	EPA:TO1	ATL	########	########
48453432	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	150.5000-	GAS	na	ORGANIC	120-82-1	Trichlorobenzene[1,2		1.6		1.71	25		ug/m3	U	DUP	VOC	EPA:TO1	ATL	########	########
48453442	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	349.5000-	GAS	na	ORGANIC	541-73-1	Dichlorobenzene[1,3		0.5		2.8	1.4		ppbv	U	CS	VOC	EPA:TO1	ATL	########	########
48453452	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	67.5000-7	GAS	na	ORGANIC	74-83-9	Bromomethane		0.46		1.79	0.9		ppbv	U	CS	VOC	EPA:TO1	ATL	########	########
48453462	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	67.5000-7	GAS	na	ORGANIC	95-47-6	Xylene[1,2-]		1.3		1.79	3.9		ug/m3	U	DUP	VOC	EPA:TO1	ATL	########	########
48453472	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	223.0000-	GAS	na	ORGANIC	123-91-1	Dioxane[1,4-]		0.86		1.83	13		ug/m3	U	DUP	VOC	EPA:TO1	ATL	########	########
48453482	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	222.5000-	GAS	na	ORGANIC	67-66-3	Chloroform		0.6		1.75	300		ug/m3	NQ	DUP	VOC	EPA:TO1	ATL	########	########
48453492	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	223.0000-	GAS	na	ORGANIC	79-34-5	Tetrachloroethane[1		0.26		1.83	0.92		ppbv	U	CS	VOC	EPA:TO1	ATL	########	########
48453502	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	222.5000-	GAS	na	ORGANIC	127-18-4	Tetrachloroethene		0.18		1.75	23		ppbv	NQ	CS	VOC	EPA:TO1	ATL	########	########
48453512	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	150.5000-	GAS	na	ORGANIC	67-63-0	Propanol[2-]		0.22		1.71	3.4		ppbv	U	CS	VOC	EPA:TO1	ATL	########	########
48453522	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	150.5000-	GAS	na	ORGANIC	75-34-3	Dichloroethane[1,1-]		0.17		1.71	0.86		ppbv	U	CS	VOC	EPA:TO1	ATL	########	########
48453532	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	67.5000-7	GAS	na	ORGANIC	10061-02-	Dichloropropene[tran		0.32		1.79	0.9		ppbv	U	CS	VOC	EPA:TO1	ATL	########	########
48453542	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	67.5000-7	GAS	na	ORGANIC	79-00-5	Trichloroethane[1,1,2		0.21		1.79	0.9		ppbv	U	CS	VOC	EPA:TO1	ATL	########	########
48453552	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	349.5000-	GAS	na	ORGANIC	120-82-1	Trichlorobenzene[1,2		2.7		2.8	42		ug/m3	U	DUP	VOC	EPA:TO1	ATL	########	########
48453562	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	67.5000-7	GAS	na	ORGANIC	110-82-7	Cyclohexane		0.32		1.79	0.93		ppbv	NQ	CS	VOC	EPA:TO1	ATL	########	########
48453572	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	222.5000-	GAS	na	ORGANIC	1634-04-4	Methyl tert-Butyl Eth		0.21		1.75	0.88		ppbv	U	CS	VOC	EPA:TO1	ATL	########	########
48453582	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	349.5000-	GAS	na	ORGANIC	110-82-7	Cyclohexane		0.5		2.8	1.4		ppbv	U	CS	VOC	EPA:TO1	ATL	########	########
48453592	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	223.0000-	GAS	na	ORGANIC	110-82-7	Cyclohexane		1.1		1.83	3.1		ug/m3	U	DUP	VOC	EPA:TO1	ATL	########	########
48453602	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	150.5000-	GAS	na	ORGANIC	75-00-3	Chloroethane		0.86		1.71	2.2		ug/m3	U	DUP	VOC	EPA:TO1	ATL	########	########
48453612	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	150.5000-	GAS	na	ORGANIC	75-25-2	Bromoform		2.1		1.71	8.8		ug/m3	U	DUP	VOC	EPA:TO1	ATL	########	########
48453622	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	150.5000-	GAS	na	ORGANIC	110-54-3	Hexane		0.72		1.71	3		ug/m3	U	DUP	VOC	EPA:TO1	ATL	########	########
48453632	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	222.5000-	GAS	na	ORGANIC	56-23-5	Carbon Tetrachloride		0.88		1.75	180		ug/m3	NQ	DUP	VOC	EPA:TO1	ATL	########	########
48453642	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	222.5000-	GAS	na	ORGANIC	100-41-4	Ethylbenzene		0.23		1.75	0.88		ppbv	U	CS	VOC	EPA:TO1	ATL	########	########
48453652	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	150.5000-	GAS	na	ORGANIC	541-73-1	Dichlorobenzene[1,3		1.8		1.71	5.1		ug/m3	U	DUP	VOC	EPA:TO1	ATL	########	########
48453662	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	349.5000-	GAS	na	ORGANIC	75-34-3	Dichloroethane[1,1-]		0.28		2.8	1.4		ppbv	U	CS	VOC	EPA:TO1	ATL	########	########
48453672	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	67.5000-7	GAS	na	ORGANIC	106-93-4	Dibromoethane[1,2-]		0.16		1.79	0.9		ppbv	U	CS	VOC	EPA:TO1	ATL	########	########
48453682	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	222.5000-	GAS	na	ORGANIC	108-67-8	Trimethylbenzene[1,		4		1.75	4.3		ug/m3	U	DUP	VOC	EPA:TO1	ATL	########	########
48453692	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	67.5000-7	GAS	na	ORGANIC	74-87-3	Chloromethane		0.55		1.79	3.6		ppbv	U	CS	VOC	EPA:TO1	ATL	########	########
48453702	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	349.5000-	GAS	na	ORGANIC	95-63-6	Trimethylbenzene[1,		0.56		2.8	1.4		ppbv	U	CS	VOC	EPA:TO1	ATL	########	########
48453712	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	150.5000-	GAS	na	ORGANIC	106-93-4	Dibromoethane[1,2-]		1.2		1.71	6.6		ug/m3	U	DUP	VOC	EPA:TO1	ATL	########	########
48453722	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	223.0000-	GAS	na	ORGANIC	67-63-0	Propanol[2-]		0.58		1.83	9		ug/m3	U	DUP	VOC	EPA:TO1	ATL	########	########
48453732	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	349.5000-	GAS	na	ORGANIC	156-60-5	Dichloroethene[trans		0.67		2.8	1.4		ppbv	U	CS	VOC	EPA:TO1	ATL	########	########
48453742	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	223.0000-	GAS	na	ORGANIC	71-36-3	Butanol[1-]		11		1.83	11		ug/m3	U	DUP	VOC	EPA:TO1	ATL	########	########
48453752	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	150.5000-	GAS	na	ORGANIC	87-68-3	Hexachlorobutadiene		0.46		1.71	3.4		ppbv	UJ	CS	VOC	EPA:TO1	ATL	########	########
48453762	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	222.5000-	GAS	na	ORGANIC	1634-04-4	Methyl tert-Butyl Eth		0.76		1.75	3.2		ug/m3	U	DUP	VOC	EPA:TO1	ATL	########	########
48453772	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	222.5000-	GAS	na	ORGANIC	79-00-5	Trichloroethane[1,1,2		1.1		1.75	4.8		ug/m3	U	DUP	VOC	EPA:TO1	ATL	########	########
48453782	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	223.0000-	GAS	na	ORGANIC	87-68-3	Hexachlorobutadiene		0.49		1.83	3.7		ppbv	UJ	CS	VOC	EPA:TO1	ATL	########	########
48453792	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	222.5000-	GAS	na	ORGANIC	95-63-6	Trimethylbenzene[1,		1.7		1.75	4.3		ug/m3	U	DUP	VOC	EPA:TO1	ATL	########	########
48453802	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	223.0000-	GAS	na	ORGANIC	71-43-2	Benzene		0.7		1.83	2.9		ug/m3	U	DUP	VOC	EPA:TO1	ATL	########	########
48453812	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	150.5000-	GAS	na	ORGANIC	106-93-4	Dibromoethane[1,2-]		0.15		1.71	0.86		ppbv	U	CS	VOC	EPA:TO1	ATL	########	########
48453822	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	223.0000-	GAS	na	ORGANIC	110-54-3	Hexane		0.22		1.83	0.92		ppbv	U	CS	VOC	EPA:TO1	ATL	########	########
48453832	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	223.0000-	GAS	na	ORGANIC	74-87-3	Chloromethane		0.57		1.83	3.7		ppbv	U	CS	VOC	EPA:TO1	ATL	########	########
48453842	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	223.0000-	GAS	na	ORGANIC	110-54-3	Hexane		0.77		1.83	3.2		ug/m3	U	DUP	VOC	EPA:TO1	ATL	########	########
48453852	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	222.5000-	GAS	na	ORGANIC	74-83-9	Bromomethane		1.8		1.75	3.4		ug/m3	U	DUP	VOC	EPA:TO1	ATL	########	########
48453862	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	349.5000-	GAS	na	ORGANIC	56-23-5	Carbon Tetrachloride		1.4		2.8	230		ug/m3	NQ	DUP	VOC	EPA:TO1	ATL	########	########
48453872	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	150.5000-	GAS	na	ORGANIC	1634-04-4	Methyl tert-Butyl Eth		0.2		1.71	0.86		ppbv	U	CS	VOC	EPA:TO1	ATL	########	########
48453882	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	223.0000-	GAS	na	ORGANIC	110-82-7	Cyclohexane		0.23		1.83	0.92		ppbv	U	CS	VOC	EPA:TO1	ATL	########	########
48453892	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	67.5000-7	GAS	na	ORGANIC	123-91-1	Dioxane[1,4-]		0.84		1.79	13		ug/m3	U	DUP	VOC	EPA:TO1	ATL	########	########
48453902	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	349.5000-	GAS	na	ORGANIC	142-82-5	n-Heptane		1.4		2.8	5.7		ug/m3	U	DUP	VOC	EPA:TO1	ATL	########	########
48453912	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	222.5000-	GAS	na	ORGANIC	95-50-1	Dichlorobenzene[1,2		0.23		1.75	0.88		ppbv	U	CS	VOC	EPA:TO1	ATL	########	########
48453922	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	150.5000-	GAS	na	ORGANIC	79-34-5	Tetrachloroethane[1		1.6		1.71	5.9		ug/m3	U	DUP	VOC	EPA:TO1	ATL	########	########
48453932	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	67.5000-7	GAS	na	ORGANIC	10061-02-	Dichloropropene[tran		1.5		1.79	4.1		ug/m3	U	DUP	VOC	EPA:TO1	ATL	########	########
48453942	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	349.5000-	GAS	na	ORGANIC	106-46-7	Dichlorobenzene[1,4		3.2		2.8	8.4		ug/m3	U	DUP	VOC	EPA:TO1	ATL	########	########
48453952	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	223.0000-	GAS	na	ORGANIC	591-78-6	Hexanone[2-]		0.75		1.83	15		ug/m3	U	DUP	VOC	EPA:TO1	ATL	########	########
48453962	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	223.0000-	GAS	na	ORGANIC	106-93-4	Dibromoethane[1,2-]		0.16		1.83	0.92		ppbv	U	CS	VOC	EPA:TO1	ATL	########	########
48453972	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	349.5000-	GAS	na	ORGANIC	78-87-5	Dichloropropane[1,2		1.4		2.8	6.5		ug/m3	U	DUP	VOC	EPA:TO1	ATL	########	########
48453982	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	150.5000-	GAS	na	ORGANIC	64-17-5	Ethanol		0.7		1.71	3.4		ppbv	U	CS	VOC	EPA:TO1	ATL	########	########
48453992	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	150.5000-	GAS	na	ORGANIC	95-63-6	Trimethylbenzene[1,		0.34		1.71	0.86		ppbv	U	CS	VOC	EPA:TO1	ATL	########	########
48454002	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	67.5000-7	GAS	na	ORGANIC	110-54-3	Hexane		0.21		1.79	0.9		ppbv	U	CS	VOC	EPA:TO1	ATL	########	########
48454012	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	150.5000-	GAS	na	ORGANIC	108-88-3	Toluene		0.58		1.71	6.8		ug/m3	NQ	DUP	VOC	EPA:TO1	ATL	########	########
48454022	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	67.5000-7	GAS	na	ORGANIC	100-42-5	Styrene		0.76		1.79	3.8		ug/m3	U	DUP	VOC	EPA:TO1	ATL	########	########
48454032	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	349.5000-	GAS	na	ORGANIC	87-68-3	Hexachlorobutadiene		0.76		2.8	5.6		ppbv	UJ	CS	VOC	EPA:TO1	ATL	########	########
48454042	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	223.0000-	GAS	na	ORGANIC	1634-04-4	Methyl tert-Butyl Eth		0.22		1.83	0.92		ppbv	U	CS	VOC	EPA:TO1	ATL	########	########
48454052	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	349.5000-	GAS	na	ORGANIC	75-01-4	Vinyl Chloride		1.3		2.8	3.6		ug/m3	U	DUP	VOC	EPA:TO1	ATL	########	########
48454062	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	349.5000-	GAS	na	ORGANIC	75-09-2	Methylene Chloride		0.34		2.8	270		ppbv	NQ	CS	VOC	EPA:TO1	ATL	########	########
48454072	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	223.0000-	GAS	na	ORGANIC	115-07-1	Propylene		0.66		1.83	6.3		ug/m3	U	DUP	VOC	EPA:TO1	ATL	########	########
48454082	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	222.5000-	GAS	na	ORGANIC	75-35-4	Dichloroethene[1,1-]		0.19		1.75	0.88		ppbv	U	CS	VOC	EPA:TO1	ATL	########	########
48454092	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	349.5000-	GAS	na	ORGANIC	75-34-3	Dichloroethane[1,1-]		1.1		2.8	5.7		ug/m3	U	DUP	VOC	EPA:TO1	ATL	########	########
48454102	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	349.5000-	GAS	na	ORGANIC	95-50-1	Dichlorobenzene[1,2		2.2		2.8	8.4		ug/m3	U	DUP	VOC	EPA:TO1	ATL	########	########
48454112	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	150.5000-	GAS	na	ORGANIC	76-14-2	Dichloro-1,1,2,2-tetra		5.1		1.71	6		ug/m3	U	DUP	VOC	EPA:TO1	ATL	########	########
48454122	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	222.5000-	GAS	na	ORGANIC	110-54-3	Hexane		0.74		1.75	3.1		ug/m3	U	DUP	VOC	EPA:TO1	ATL	########	########
48454132	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	67.5000-7	GAS	na	ORGANIC	56-23-5	Carbon Tetrachloride		0.14		1.79	25		ppbv	NQ	CS	VOC	EPA:TO1	ATL	########	########
48454142	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	223.0000-	GAS	na	ORGANIC	76-13-1	Trichloro-1,2,2-trifluo		4.3		1.83	7		ug/m3	U	DUP	VOC	EPA:TO1	ATL	########	########
48454152	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	67.5000-7	GAS	na	ORGANIC	75-09-2	Methylene Chloride		0.21		1.79	72		ppbv	NQ	CS	VOC	EPA:TO1	ATL	########	########
48454162	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	67.5000-7	GAS	na	ORGANIC	120-82-1	Trichlorobenzene[1,2		0.23		1.79	3.6		ppbv	U	CS	VOC	EPA:TO1	ATL	########	########
48454172	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	349.5000-	GAS	na	ORGANIC	10061-02-	Dichloropropene[tran		0.5		2.8	1.4		ppbv	U	CS	VOC	EPA:TO1	ATL	########	########
48454182	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	223.0000-	GAS	na	ORGANIC	79-34-5	Tetrachloroethane[1		1.8		1.83	6.3		ug/m3	U	DUP	VOC	EPA:TO1	ATL	########	########
48454192	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	349.5000-	GAS	na	ORGANIC	74-83-9	Bromomethane		2.8		2.8	5.4		ug/m3	U	DUP	VOC	EPA:TO1	ATL	########	########
48454202	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	349.5000-	GAS	na	ORGANIC	76-14-2	Dichloro-1,1,2,2-tetra		8.4		2.8	9.8		ug/m3	U	DUP	VOC	EPA:TO1	ATL	########	########
48454212	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	222.5000-	GAS	na	ORGANIC	106-99-0	Butadiene[1,3-]		0.5		1.75	1.9		ug/m3	U	DUP	VOC	EPA:TO1	ATL	########	########
48454222	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	349.5000-	GAS	na	ORGANIC	75-27-4	Bromodichlorometha		0.28		2.8	1.4		ppbv	U	CS	VOC	EPA:TO1	ATL	########	########
48454232	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	150.5000-	GAS	na	ORGANIC	127-18-4	Tetrachloroethene		0.17		1.71	52		ppbv	NQ	CS	VOC	EPA:TO1	ATL	########	########
48454242	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	150.5000-	GAS	na	ORGANIC	75-25-2	Bromoform		0.2		1.71	0.86		ppbv	U	CS	VOC	EPA:TO1	ATL	########	########
48454252	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	222.5000-	GAS	na	ORGANIC	67-56-1	Methanol		110		1.75	110		ug/m3	U	DUP	VOC	EPA:TO1	ATL	########	########
48454262	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	150.5000-	GAS	na	ORGANIC	79-01-6	Trichloroethene		1		1.71	420		ug/m3	NQ	DUP	VOC	EPA:TO1	ATL	########	########
48454272	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	222.5000-	GAS	na	ORGANIC	87-68-3	Hexachlorobutadiene		5		1.75	37		ug/m3	UJ	DUP	VOC	EPA:TO1	ATL	########	########
48454282	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	67.5000-7	GAS	na	ORGANIC	75-45-6	Chlorodifluorometha		3.6		1.79	3.6		ppbv	U	CS	VOC	EPA:TO1	ATL	########	########
48454292	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	67.5000-7	GAS	na	ORGANIC	78-87-5	Dichloropropane[1,2		0.2		1.79	0.9		ppbv	U	CS	VOC	EPA:TO1	ATL	########	########
48454302	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	67.5000-7	GAS	na	ORGANIC	71-55-6	Trichloroethane[1,1,		0.98		1.79	18		ug/m3	NQ	DUP	VOC	EPA:TO1	ATL	########	########
48454312	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	67.5000-7	GAS	na	ORGANIC	108-67-8	Trimethylbenzene[1,		0.84		1.79	0.9		ppbv	U	CS	VOC	EPA:TO1	ATL	########	########
48454322	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	349.5000-	GAS	na	ORGANIC	123-91-1	Dioxane[1,4-]		1.3		2.8	20		ug/m3	U	DUP	VOC	EPA:TO1	ATL	########	########
48454332	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	150.5000-	GAS	na	ORGANIC	100-44-7	Benzyl Chloride		1.6		1.71	4.4		ug/m3	U	DUP	VOC	EPA:TO1	ATL	########	########
48454342	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	222.5000-	GAS	na	ORGANIC	120-82-1	Trichlorobenzene[1,2		1.7		1.75	26		ug/m3	U	DUP	VOC	EPA:TO1	ATL	########	########
48454352	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	67.5000-7	GAS	na	ORGANIC	142-82-5	n-Heptane		0.88		1.79	3.7		ug/m3	U	DUP	VOC	EPA:TO1	ATL	########	########
48454362	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	223.0000-	GAS	na	ORGANIC	142-82-5	n-Heptane		0.22		1.83	0.92		ppbv	U	CS	VOC	EPA:TO1	ATL	########	########
48454372	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	150.5000-	GAS	na	ORGANIC	64-17-5	Ethanol		1.3		1.71	6.4		ug/m3	U	DUP	VOC	EPA:TO1	ATL	########	########
48454382	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	349.5000-	GAS	na	ORGANIC	120-82-1	Trichlorobenzene[1,2		0.36		2.8	5.6		ppbv	U	CS	VOC	EPA:TO1	ATL	########	########
48454392	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	223.0000-	GAS	na	ORGANIC	622-96-8	Ethyltoluene[4-]		0.64		1.83	0.92		ppbv	U	CS	VOC	EPA:TO1	ATL	########	########
48454402	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	349.5000-	GAS	na	ORGANIC	109-99-9	Tetrahydrofuran		2.1		2.8	4.1		ug/m3	U	DUP	VOC	EPA:TO1	ATL	########	########
48454412	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	150.5000-	GAS	na	ORGANIC	622-96-8	Ethyltoluene[4-]		2.9		1.71	4.2		ug/m3	U	DUP	VOC	EPA:TO1	ATL	########	########
48454422	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	67.5000-7	GAS	na	ORGANIC	156-59-2	Dichloroethene[cis-1		0.14		1.79	0.9		ppbv	U	CS	VOC	EPA:TO1	ATL	########	########
48454432	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	349.5000-	GAS	na	ORGANIC	10061-02-	Dichloropropene[tran		2.3		2.8	6.4		ug/m3	U	DUP	VOC	EPA:TO1	ATL	########	########
48454442	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	349.5000-	GAS	na	ORGANIC	156-59-2	Dichloroethene[cis-1		0.89		2.8	5.6		ug/m3	U	DUP	VOC	EPA:TO1	ATL	########	########
48454452	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	349.5000-	GAS	na	ORGANIC	75-00-3	Chloroethane		1.4		2.8	3.7		ug/m3	U	DUP	VOC	EPA:TO1	ATL	########	########
48454462	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	222.5000-	GAS	na	ORGANIC	79-01-6	Trichloroethene		1		1.75	380		ug/m3	NQ	DUP	VOC	EPA:TO1	ATL	########	########
48454472	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	150.5000-	GAS	na	ORGANIC	67-66-3	Chloroform		0.12		1.71	64		ppbv	NQ	CS	VOC	EPA:TO1	ATL	########	########
48454482	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	222.5000-	GAS	na	ORGANIC	75-00-3	Chloroethane		0.88		1.75	2.3		ug/m3	U	DUP	VOC	EPA:TO1	ATL	########	########
48454492	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	349.5000-	GAS	na	ORGANIC	75-25-2	Bromoform		3.5		2.8	14		ug/m3	U	DUP	VOC	EPA:TO1	ATL	########	########
48454502	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	223.0000-	GAS	na	ORGANIC	107-06-2	Dichloroethane[1,2-]		0.74		1.83	5.9		ug/m3	NQ	DUP	VOC	EPA:TO1	ATL	########	########
48454512	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	67.5000-7	GAS	na	ORGANIC	67-63-0	Propanol[2-]		0.23		1.79	3.6		ppbv	U	CS	VOC	EPA:TO1	ATL	########	########
48454522	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	349.5000-	GAS	na	ORGANIC	1634-04-4	Methyl tert-Butyl Eth		0.34		2.8	1.4		ppbv	U	CS	VOC	EPA:TO1	ATL	########	########
48454532	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	222.5000-	GAS	na	ORGANIC	108-88-3	Toluene		0.16		1.75	0.88		ppbv	U	CS	VOC	EPA:TO1	ATL	########	########
48454542	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	223.0000-	GAS	na	ORGANIC	75-25-2	Bromoform		2.3		1.83	9.4		ug/m3	U	DUP	VOC	EPA:TO1	ATL	########	########
48454552	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	222.5000-	GAS	na	ORGANIC	78-87-5	Dichloropropane[1,2		0.89		1.75	4		ug/m3	U	DUP	VOC	EPA:TO1	ATL	########	########
48454562	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	67.5000-7	GAS	na	ORGANIC	76-13-1	Trichloro-1,2,2-trifluo		0.55		1.79	0.9		ppbv	U	CS	VOC	EPA:TO1	ATL	########	########
48454572	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	349.5000-	GAS	na	ORGANIC	100-41-4	Ethylbenzene		0.36		2.8	1.4		ppbv	U	CS	VOC	EPA:TO1	ATL	########	########
48454582	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	349.5000-	GAS	na	ORGANIC	76-13-1	Trichloro-1,2,2-trifluo		6.6		2.8	11		ug/m3	U	DUP	VOC	EPA:TO1	ATL	########	########
48454592	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	67.5000-7	GAS	na	ORGANIC	95-63-6	Trimethylbenzene[1,		1.8		1.79	4.4		ug/m3	U	DUP	VOC	EPA:TO1	ATL	########	########
48454602	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	222.5000-	GAS	na	ORGANIC	67-64-1	Acetone		0.52		1.75	7.5		ppbv	NQ	CS	VOC	EPA:TO1	ATL	########	########
48454612	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	222.5000-	GAS	na	ORGANIC	75-71-8	Dichlorodifluorometh		0.18		1.75	1.3		ppbv	NQ	CS	VOC	EPA:TO1	ATL	########	########
48454622	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	67.5000-7	GAS	na	ORGANIC	108-10-1	Methyl-2-pentanone[		0.41		1.79	0.9		ppbv	U	CS	VOC	EPA:TO1	ATL	########	########
48454632	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	222.5000-	GAS	na	ORGANIC	106-93-4	Dibromoethane[1,2-]		0.16		1.75	0.88		ppbv	U	CS	VOC	EPA:TO1	ATL	########	########
48454642	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	223.0000-	GAS	na	ORGANIC	71-55-6	Trichloroethane[1,1,		1		1.83	5.4		ug/m3	NQ	DUP	VOC	EPA:TO1	ATL	########	########
48454652	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	222.5000-	GAS	na	ORGANIC	108-10-1	Methyl-2-pentanone[		0.4		1.75	0.88		ppbv	U	CS	VOC	EPA:TO1	ATL	########	########
48454662	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	222.5000-	GAS	na	ORGANIC	75-34-3	Dichloroethane[1,1-]		0.71		1.75	3.5		ug/m3	U	DUP	VOC	EPA:TO1	ATL	########	########
48454672	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	349.5000-	GAS	na	ORGANIC	109-99-9	Tetrahydrofuran		0.7		2.8	1.4		ppbv	U	CS	VOC	EPA:TO1	ATL	########	########
48454682	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	349.5000-	GAS	na	ORGANIC	87-68-3	Hexachlorobutadiene		8.1		2.8	60		ug/m3	UJ	DUP	VOC	EPA:TO1	ATL	########	########
48454692	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	150.5000-	GAS	na	ORGANIC	75-35-4	Dichloroethene[1,1-]		0.74		1.71	3.4		ug/m3	U	DUP	VOC	EPA:TO1	ATL	########	########
48454702	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	150.5000-	GAS	na	ORGANIC	156-59-2	Dichloroethene[cis-1		0.54		1.71	3.4		ug/m3	U	DUP	VOC	EPA:TO1	ATL	########	########
48454712	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	223.0000-	GAS	na	ORGANIC	108-88-3	Toluene		0.16		1.83	1.6		ppbv	NQ	CS	VOC	EPA:TO1	ATL	########	########
48454722	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	223.0000-	GAS	na	ORGANIC	10061-02-	Dichloropropene[tran		0.33		1.83	0.92		ppbv	U	CS	VOC	EPA:TO1	ATL	########	########
48454732	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	349.5000-	GAS	na	ORGANIC	75-00-3	Chloroethane		0.53		2.8	1.4		ppbv	U	CS	VOC	EPA:TO1	ATL	########	########
48454742	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	67.5000-7	GAS	na	ORGANIC	75-25-2	Bromoform		2.2		1.79	12		ug/m3	NQ	DUP	VOC	EPA:TO1	ATL	########	########
48454752	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	150.5000-	GAS	na	ORGANIC	71-43-2	Benzene		0.66		1.71	2.9		ug/m3	NQ	DUP	VOC	EPA:TO1	ATL	########	########
48454762	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	67.5000-7	GAS	na	ORGANIC	76-14-2	Dichloro-1,1,2,2-tetra		0.77		1.79	0.9		ppbv	U	CS	VOC	EPA:TO1	ATL	########	########
48454772	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	223.0000-	GAS	na	ORGANIC	95-47-6	Xylene[1,2-]		1.4		1.83	4		ug/m3	U	DUP	VOC	EPA:TO1	ATL	########	########
48454782	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	150.5000-	GAS	na	ORGANIC	74-87-3	Chloromethane		1.1		1.71	7.1		ug/m3	U	DUP	VOC	EPA:TO1	ATL	########	########
48454792	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	349.5000-	GAS	na	ORGANIC	76-13-1	Trichloro-1,2,2-trifluo		0.87		2.8	1.4		ppbv	U	CS	VOC	EPA:TO1	ATL	########	########
48454802	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	150.5000-	GAS	na	ORGANIC	115-07-1	Propylene		0.62		1.71	5.9		ug/m3	U	DUP	VOC	EPA:TO1	ATL	########	########
48454812	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	223.0000-	GAS	na	ORGANIC	106-93-4	Dibromoethane[1,2-]		1.3		1.83	7		ug/m3	U	DUP	VOC	EPA:TO1	ATL	########	########
48454822	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	349.5000-	GAS	na	ORGANIC	622-96-8	Ethyltoluene[4-]		0.98		2.8	1.4		ppbv	U	CS	VOC	EPA:TO1	ATL	########	########
48454832	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	222.5000-	GAS	na	ORGANIC	71-55-6	Trichloroethane[1,1,		0.95		1.75	16		ug/m3	NQ	DUP	VOC	EPA:TO1	ATL	########	########
48454842	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	150.5000-	GAS	na	ORGANIC	75-09-2	Methylene Chloride		0.71		1.71	300		ug/m3	NQ	DUP	VOC	EPA:TO1	ATL	########	########
48454852	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	222.5000-	GAS	na	ORGANIC	71-36-3	Butanol[1-]		11		1.75	11		ug/m3	U	DUP	VOC	EPA:TO1	ATL	########	########
48454862	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	349.5000-	GAS	na	ORGANIC	124-48-1	Chlorodibromometha		2.4		2.8	12		ug/m3	U	DUP	VOC	EPA:TO1	ATL	########	########
48454872	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	223.0000-	GAS	na	ORGANIC	108-88-3	Toluene		0.62		1.83	5.8		ug/m3	NQ	DUP	VOC	EPA:TO1	ATL	########	########
48454882	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	150.5000-	GAS	na	ORGANIC	100-44-7	Benzyl Chloride		0.31		1.71	0.86		ppbv	U	CS	VOC	EPA:TO1	ATL	########	########
48454892	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	222.5000-	GAS	na	ORGANIC	64-17-5	Ethanol		1.4		1.75	6.6		ug/m3	U	DUP	VOC	EPA:TO1	ATL	########	########
48454902	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	67.5000-7	GAS	na	ORGANIC	95-63-6	Trimethylbenzene[1,		0.36		1.79	0.9		ppbv	U	CS	VOC	EPA:TO1	ATL	########	########
48454912	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	67.5000-7	GAS	na	ORGANIC	75-09-2	Methylene Chloride		0.75		1.79	250		ug/m3	NQ	DUP	VOC	EPA:TO1	ATL	########	########
48454922	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	223.0000-	GAS	na	ORGANIC	108-90-7	Chlorobenzene		0.16		1.83	0.92		ppbv	U	CS	VOC	EPA:TO1	ATL	########	########
48454932	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	67.5000-7	GAS	na	ORGANIC	67-64-1	Acetone		0.54		1.79	7		ppbv	NQ	CS	VOC	EPA:TO1	ATL	########	########
48454942	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	223.0000-	GAS	na	ORGANIC	108-67-8	Trimethylbenzene[1,		0.86		1.83	0.92		ppbv	U	CS	VOC	EPA:TO1	ATL	########	########
48454952	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	67.5000-7	GAS	na	ORGANIC	123-91-1	Dioxane[1,4-]		0.23		1.79	3.6		ppbv	U	CS	VOC	EPA:TO1	ATL	########	########
48454962	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	150.5000-	GAS	na	ORGANIC	622-96-8	Ethyltoluene[4-]		0.6		1.71	0.86		ppbv	U	CS	VOC	EPA:TO1	ATL	########	########
48454972	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	150.5000-	GAS	na	ORGANIC	95-50-1	Dichlorobenzene[1,2		0.22		1.71	0.86		ppbv	U	CS	VOC	EPA:TO1	ATL	########	########
48454982	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	223.0000-	GAS	na	ORGANIC	106-99-0	Butadiene[1,3-]		0.24		1.83	0.92		ppbv	U	CS	VOC	EPA:TO1	ATL	########	########
48454992	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	349.5000-	GAS	na	ORGANIC	75-15-0	Carbon Disulfide		0.36		2.8	1.4		ppbv	U	CS	VOC	EPA:TO1	ATL	########	########
48455002	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	223.0000-	GAS	na	ORGANIC	75-34-3	Dichloroethane[1,1-]		0.18		1.83	0.92		ppbv	U	CS	VOC	EPA:TO1	ATL	########	########
48455012	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	223.0000-	GAS	na	ORGANIC	106-46-7	Dichlorobenzene[1,4		0.35		1.83	0.92		ppbv	U	CS	VOC	EPA:TO1	ATL	########	########
48455022	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	349.5000-	GAS	na	ORGANIC	75-69-4	Trichlorofluorometha		1.4		2.8	7.9		ug/m3	U	DUP	VOC	EPA:TO1	ATL	########	########
48455032	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	150.5000-	GAS	na	ORGANIC	87-68-3	Hexachlorobutadiene		4.9		1.71	36		ug/m3	UJ	DUP	VOC	EPA:TO1	ATL	########	########
48455042	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	67.5000-7	GAS	na	ORGANIC	76-14-2	Dichloro-1,1,2,2-tetra		5.4		1.79	6.2		ug/m3	U	DUP	VOC	EPA:TO1	ATL	########	########
48455052	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	223.0000-	GAS	na	ORGANIC	75-01-4	Vinyl Chloride		0.33		1.83	0.92		ppbv	U	CS	VOC	EPA:TO1	ATL	########	########
48455062	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	222.5000-	GAS	na	ORGANIC	10061-02-	Dichloropropene[tran		0.32		1.75	0.88		ppbv	U	CS	VOC	EPA:TO1	ATL	########	########
48455072	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	349.5000-	GAS	na	ORGANIC	67-56-1	Methanol		180		2.8	180		ug/m3	U	DUP	VOC	EPA:TO1	ATL	########	########
48455082	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	222.5000-	GAS	na	ORGANIC	76-13-1	Trichloro-1,2,2-trifluo		4.2		1.75	6.7		ug/m3	J	DUP	VOC	EPA:TO1	ATL	########	########
48455092	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	349.5000-	GAS	na	ORGANIC	67-64-1	Acetone		2		2.8	44		ug/m3	NQ	DUP	VOC	EPA:TO1	ATL	########	########
48455102	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	67.5000-7	GAS	na	ORGANIC	591-78-6	Hexanone[2-]		0.73		1.79	15		ug/m3	U	DUP	VOC	EPA:TO1	ATL	########	########
48455112	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	67.5000-7	GAS	na	ORGANIC	115-07-1	Propylene		0.65		1.79	6.2		ug/m3	U	DUP	VOC	EPA:TO1	ATL	########	########
48455122	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	222.5000-	GAS	na	ORGANIC	76-14-2	Dichloro-1,1,2,2-tetra		5.3		1.75	6.1		ug/m3	U	DUP	VOC	EPA:TO1	ATL	########	########
48455132	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	222.5000-	GAS	na	ORGANIC	75-01-4	Vinyl Chloride		0.32		1.75	0.88		ppbv	U	CS	VOC	EPA:TO1	ATL	########	########
48455142	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	150.5000-	GAS	na	ORGANIC	108-67-8	Trimethylbenzene[1,		0.8		1.71	0.86		ppbv	U	CS	VOC	EPA:TO1	ATL	########	########
48455152	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	222.5000-	GAS	na	ORGANIC	156-60-5	Dichloroethene[trans		0.42		1.75	0.88		ppbv	U	CS	VOC	EPA:TO1	ATL	########	########
48455162	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	223.0000-	GAS	na	ORGANIC	87-68-3	Hexachlorobutadiene		5.3		1.83	39		ug/m3	UJ	DUP	VOC	EPA:TO1	ATL	########	########
48455172	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	349.5000-	GAS	na	ORGANIC	79-00-5	Trichloroethane[1,1,2		1.8		2.8	7.6		ug/m3	U	DUP	VOC	EPA:TO1	ATL	########	########
48455182	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	222.5000-	GAS	na	ORGANIC	115-07-1	Propylene		0.63		1.75	6		ug/m3	U	DUP	VOC	EPA:TO1	ATL	########	########
48455192	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	150.5000-	GAS	na	ORGANIC	78-93-3	Butanone[2-]		0.34		1.71	4.1		ppbv	NQ	CS	VOC	EPA:TO1	ATL	########	########
48455202	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	67.5000-7	GAS	na	ORGANIC	100-44-7	Benzyl Chloride		0.32		1.79	0.9		ppbv	U	CS	VOC	EPA:TO1	ATL	########	########
48455212	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	222.5000-	GAS	na	ORGANIC	67-63-0	Propanol[2-]		0.56		1.75	8.6		ug/m3	U	DUP	VOC	EPA:TO1	ATL	########	########
48455222	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	349.5000-	GAS	na	ORGANIC	67-66-3	Chloroform		0.2		2.8	110		ppbv	NQ	CS	VOC	EPA:TO1	ATL	########	########
48455232	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	222.5000-	GAS	na	ORGANIC	74-83-9	Bromomethane		0.45		1.75	0.88		ppbv	U	CS	VOC	EPA:TO1	ATL	########	########
48455242	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	349.5000-	GAS	na	ORGANIC	71-36-3	Butanol[1-]		5.6		2.8	5.6		ppbv	U	CS	VOC	EPA:TO1	ATL	########	########
48455252	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	349.5000-	GAS	na	ORGANIC	127-18-4	Tetrachloroethene		1.9		2.8	26		ug/m3	NQ	DUP	VOC	EPA:TO1	ATL	########	########
48455262	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	222.5000-	GAS	na	ORGANIC	75-09-2	Methylene Chloride		0.21		1.75	120		ppbv	NQ	CS	VOC	EPA:TO1	ATL	########	########
48455272	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	67.5000-7	GAS	na	ORGANIC	127-18-4	Tetrachloroethene		0.18		1.79	220		ppbv	NQ	CS	VOC	EPA:TO1	ATL	########	########
48455282	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	222.5000-	GAS	na	ORGANIC	78-87-5	Dichloropropane[1,2		0.19		1.75	0.88		ppbv	U	CS	VOC	EPA:TO1	ATL	########	########
48455292	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	223.0000-	GAS	na	ORGANIC	75-01-4	Vinyl Chloride		0.84		1.83	2.3		ug/m3	U	DUP	VOC	EPA:TO1	ATL	########	########
48455302	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	223.0000-	GAS	na	ORGANIC	75-35-4	Dichloroethene[1,1-]		0.2		1.83	1		ppbv	NQ	CS	VOC	EPA:TO1	ATL	########	########
48455312	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	223.0000-	GAS	na	ORGANIC	67-66-3	Chloroform		0.13		1.83	55		ppbv	NQ	CS	VOC	EPA:TO1	ATL	########	########
48455322	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	67.5000-7	GAS	na	ORGANIC	106-46-7	Dichlorobenzene[1,4		2		1.79	5.4		ug/m3	U	DUP	VOC	EPA:TO1	ATL	########	########
48455332	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	150.5000-	GAS	na	ORGANIC	10061-01-	Dichloropropene[cis-		0.22		1.71	0.86		ppbv	U	CS	VOC	EPA:TO1	ATL	########	########
48455342	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	349.5000-	GAS	na	ORGANIC	79-00-5	Trichloroethane[1,1,2		0.34		2.8	1.4		ppbv	U	CS	VOC	EPA:TO1	ATL	########	########
48455352	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	349.5000-	GAS	na	ORGANIC	110-54-3	Hexane		1.2		2.8	4.9		ug/m3	U	DUP	VOC	EPA:TO1	ATL	########	########
48455362	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	150.5000-	GAS	na	ORGANIC	100-42-5	Styrene		0.73		1.71	3.6		ug/m3	U	DUP	VOC	EPA:TO1	ATL	########	########
48455372	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	222.5000-	GAS	na	ORGANIC	622-96-8	Ethyltoluene[4-]		3		1.75	4.3		ug/m3	U	DUP	VOC	EPA:TO1	ATL	########	########
48455382	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	223.0000-	GAS	na	ORGANIC	56-23-5	Carbon Tetrachloride		0.15		1.83	30		ppbv	NQ	CS	VOC	EPA:TO1	ATL	########	########
48455392	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	222.5000-	GAS	na	ORGANIC	10061-01-	Dichloropropene[cis-		0.23		1.75	0.88		ppbv	U	CS	VOC	EPA:TO1	ATL	########	########
48455402	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	150.5000-	GAS	na	ORGANIC	71-36-3	Butanol[1-]		3.4		1.71	3.4		ppbv	U	CS	VOC	EPA:TO1	ATL	########	########
48455412	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	349.5000-	GAS	na	ORGANIC	156-59-2	Dichloroethene[cis-1		0.22		2.8	1.4		ppbv	U	CS	VOC	EPA:TO1	ATL	########	########
48455422	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	223.0000-	GAS	na	ORGANIC	95-63-6	Trimethylbenzene[1,		0.37		1.83	0.92		ppbv	U	CS	VOC	EPA:TO1	ATL	########	########
48455432	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	67.5000-7	GAS	na	ORGANIC	109-99-9	Tetrahydrofuran		0.45		1.79	0.9		ppbv	U	CS	VOC	EPA:TO1	ATL	########	########
48455442	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	223.0000-	GAS	na	ORGANIC	67-66-3	Chloroform		0.62		1.83	270		ug/m3	NQ	DUP	VOC	EPA:TO1	ATL	########	########
48455452	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	150.5000-	GAS	na	ORGANIC	75-09-2	Methylene Chloride		0.2		1.71	87		ppbv	NQ	CS	VOC	EPA:TO1	ATL	########	########
48455462	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	349.5000-	GAS	na	ORGANIC	75-35-4	Dichloroethene[1,1-]		0.31		2.8	1.7		ppbv	NQ	CS	VOC	EPA:TO1	ATL	########	########
48455472	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	222.5000-	GAS	na	ORGANIC	78-93-3	Butanone[2-]		0.35		1.75	1.1		ppbv	NQ	CS	VOC	EPA:TO1	ATL	########	########
48455482	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	222.5000-	GAS	na	ORGANIC	76-13-1	Trichloro-1,2,2-trifluo		0.54		1.75	0.87		ppbv	J	CS	VOC	EPA:TO1	ATL	########	########
48455492	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	349.5000-	GAS	na	ORGANIC	64-17-5	Ethanol		1.1		2.8	5.6		ppbv	U	CS	VOC	EPA:TO1	ATL	########	########
48455502	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	150.5000-	GAS	na	ORGANIC	76-13-1	Trichloro-1,2,2-trifluo		0.53		1.71	0.86		ppbv	U	CS	VOC	EPA:TO1	ATL	########	########
48455512	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	222.5000-	GAS	na	ORGANIC	106-99-0	Butadiene[1,3-]		0.23		1.75	0.88		ppbv	U	CS	VOC	EPA:TO1	ATL	########	########
48455522	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	150.5000-	GAS	na	ORGANIC	75-15-0	Carbon Disulfide		0.22		1.71	0.86		ppbv	U	CS	VOC	EPA:TO1	ATL	########	########
48455532	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	223.0000-	GAS	na	ORGANIC	74-83-9	Bromomethane		1.8		1.83	3.6		ug/m3	U	DUP	VOC	EPA:TO1	ATL	########	########
48455542	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	150.5000-	GAS	na	ORGANIC	75-01-4	Vinyl Chloride		0.31		1.71	0.86		ppbv	U	CS	VOC	EPA:TO1	ATL	########	########
48455552	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	222.5000-	GAS	na	ORGANIC	124-48-1	Chlorodibromometha		0.18		1.75	0.88		ppbv	U	CS	VOC	EPA:TO1	ATL	########	########
48455562	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	349.5000-	GAS	na	ORGANIC	56-23-5	Carbon Tetrachloride		0.22		2.8	37		ppbv	NQ	CS	VOC	EPA:TO1	ATL	########	########
48455572	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	222.5000-	GAS	na	ORGANIC	622-96-8	Ethyltoluene[4-]		0.61		1.75	0.88		ppbv	U	CS	VOC	EPA:TO1	ATL	########	########
48455582	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	349.5000-	GAS	na	ORGANIC	71-43-2	Benzene		0.34		2.8	1.4		ppbv	U	CS	VOC	EPA:TO1	ATL	########	########
48455592	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	223.0000-	GAS	na	ORGANIC	75-00-3	Chloroethane		0.92		1.83	2.4		ug/m3	U	DUP	VOC	EPA:TO1	ATL	########	########
48455602	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	223.0000-	GAS	na	ORGANIC	95-50-1	Dichlorobenzene[1,2		0.24		1.83	0.92		ppbv	U	CS	VOC	EPA:TO1	ATL	########	########
48455612	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	150.5000-	GAS	na	ORGANIC	591-78-6	Hexanone[2-]		0.7		1.71	14		ug/m3	U	DUP	VOC	EPA:TO1	ATL	########	########
48455622	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	67.5000-7	GAS	na	ORGANIC	75-27-4	Bromodichlorometha		0.18		1.79	0.9		ppbv	U	CS	VOC	EPA:TO1	ATL	########	########
48455632	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	222.5000-	GAS	na	ORGANIC	75-69-4	Trichlorofluorometha		0.88		1.75	4.9		ug/m3	U	DUP	VOC	EPA:TO1	ATL	########	########
48455642	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	67.5000-7	GAS	na	ORGANIC	71-36-3	Butanol[1-]		11		1.79	11		ug/m3	U	DUP	VOC	EPA:TO1	ATL	########	########
48455652	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	222.5000-	GAS	na	ORGANIC	67-63-0	Propanol[2-]		0.23		1.75	3.5		ppbv	U	CS	VOC	EPA:TO1	ATL	########	########
48455662	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	150.5000-	GAS	na	ORGANIC	108-88-3	Toluene		0.15		1.71	1.8		ppbv	NQ	CS	VOC	EPA:TO1	ATL	########	########
48455672	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	223.0000-	GAS	na	ORGANIC	74-83-9	Bromomethane		0.48		1.83	0.92		ppbv	U	CS	VOC	EPA:TO1	ATL	########	########
48455682	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	223.0000-	GAS	na	ORGANIC	75-00-3	Chloroethane		0.35		1.83	0.92		ppbv	U	CS	VOC	EPA:TO1	ATL	########	########
48455692	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	67.5000-7	GAS	na	ORGANIC	541-73-1	Dichlorobenzene[1,3		0.32		1.79	0.9		ppbv	U	CS	VOC	EPA:TO1	ATL	########	########
48455702	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	223.0000-	GAS	na	ORGANIC	67-64-1	Acetone		0.55		1.83	8.1		ppbv	NQ	CS	VOC	EPA:TO1	ATL	########	########
48455712	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	67.5000-7	GAS	na	ORGANIC	107-06-2	Dichloroethane[1,2-]		0.18		1.79	0.94		ppbv	NQ	CS	VOC	EPA:TO1	ATL	########	########
48455722	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	150.5000-	GAS	na	ORGANIC	74-83-9	Bromomethane		1.7		1.71	3.3		ug/m3	U	DUP	VOC	EPA:TO1	ATL	########	########
48455732	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	150.5000-	GAS	na	ORGANIC	71-55-6	Trichloroethane[1,1,		0.17		1.71	3.5		ppbv	NQ	CS	VOC	EPA:TO1	ATL	########	########
48455742	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	67.5000-7	GAS	na	ORGANIC	106-99-0	Butadiene[1,3-]		0.23		1.79	1.5		ppbv	U	CS	VOC	EPA:TO1	ATL	########	########
48455752	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	223.0000-	GAS	na	ORGANIC	67-56-1	Methanol		120		1.83	120		ug/m3	U	DUP	VOC	EPA:TO1	ATL	########	########
48455762	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	223.0000-	GAS	na	ORGANIC	10061-01-	Dichloropropene[cis-		0.24		1.83	0.92		ppbv	U	CS	VOC	EPA:TO1	ATL	########	########
48455772	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	222.5000-	GAS	na	ORGANIC	75-15-0	Carbon Disulfide		0.71		1.75	3.8		ug/m3	NQ	DUP	VOC	EPA:TO1	ATL	########	########
48455782	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	67.5000-7	GAS	na	ORGANIC	95-47-6	Xylene[1,2-]		0.3		1.79	0.9		ppbv	U	CS	VOC	EPA:TO1	ATL	########	########
48455792	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	150.5000-	GAS	na	ORGANIC	75-69-4	Trichlorofluorometha		0.86		1.71	4.8		ug/m3	U	DUP	VOC	EPA:TO1	ATL	########	########
48455802	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	349.5000-	GAS	na	ORGANIC	64-17-5	Ethanol		2.2		2.8	10		ug/m3	U	DUP	VOC	EPA:TO1	ATL	########	########
48455812	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	222.5000-	GAS	na	ORGANIC	79-34-5	Tetrachloroethane[1		0.24		1.75	0.88		ppbv	U	CS	VOC	EPA:TO1	ATL	########	########
48455822	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	67.5000-7	GAS	na	ORGANIC	75-34-3	Dichloroethane[1,1-]		0.72		1.79	3.6		ug/m3	U	DUP	VOC	EPA:TO1	ATL	########	########
48455832	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	349.5000-	GAS	na	ORGANIC	78-93-3	Butanone[2-]		0.56		2.8	1.9		ppbv	NQ	CS	VOC	EPA:TO1	ATL	########	########
48455842	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	67.5000-7	GAS	na	ORGANIC	79-01-6	Trichloroethene		1		1.79	660		ug/m3	NQ	DUP	VOC	EPA:TO1	ATL	########	########
48455852	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	223.0000-	GAS	na	ORGANIC	75-69-4	Trichlorofluorometha		0.92		1.83	5.1		ug/m3	U	DUP	VOC	EPA:TO1	ATL	########	########
48455862	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	67.5000-7	GAS	na	ORGANIC	108-67-8	Trimethylbenzene[1,		4.1		1.79	4.4		ug/m3	U	DUP	VOC	EPA:TO1	ATL	########	########
48455872	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	223.0000-	GAS	na	ORGANIC	120-82-1	Trichlorobenzene[1,2		1.8		1.83	27		ug/m3	U	DUP	VOC	EPA:TO1	ATL	########	########
48455882	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	67.5000-7	GAS	na	ORGANIC	67-66-3	Chloroform		0.12		1.79	71		ppbv	NQ	CS	VOC	EPA:TO1	ATL	########	########
48455892	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	67.5000-7	GAS	na	ORGANIC	79-34-5	Tetrachloroethane[1		1.7		1.79	6.1		ug/m3	U	DUP	VOC	EPA:TO1	ATL	########	########
48455902	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	150.5000-	GAS	na	ORGANIC	Xylene[1,3	Xylene[1,3-]+Xylene		0.59		1.71	3.7		ug/m3	U	DUP	VOC	EPA:TO1	ATL	########	########
48455912	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	223.0000-	GAS	na	ORGANIC	108-90-7	Chlorobenzene		0.76		1.83	4.2		ug/m3	U	DUP	VOC	EPA:TO1	ATL	########	########
48455922	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	349.5000-	GAS	na	ORGANIC	106-93-4	Dibromoethane[1,2-]		1.9		2.8	11		ug/m3	U	DUP	VOC	EPA:TO1	ATL	########	########
48455932	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	222.5000-	GAS	na	ORGANIC	123-91-1	Dioxane[1,4-]		0.82		1.75	13		ug/m3	U	DUP	VOC	EPA:TO1	ATL	########	########
48455942	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	223.0000-	GAS	na	ORGANIC	71-36-3	Butanol[1-]		3.7		1.83	3.7		ppbv	U	CS	VOC	EPA:TO1	ATL	########	########
48455952	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	223.0000-	GAS	na	ORGANIC	100-44-7	Benzyl Chloride		0.33		1.83	0.92		ppbv	U	CS	VOC	EPA:TO1	ATL	########	########
48455962	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	223.0000-	GAS	na	ORGANIC	108-10-1	Methyl-2-pentanone[		1.7		1.83	3.7		ug/m3	U	DUP	VOC	EPA:TO1	ATL	########	########
48455972	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	67.5000-7	GAS	na	ORGANIC	591-78-6	Hexanone[2-]		0.18		1.79	3.6		ppbv	U	CS	VOC	EPA:TO1	ATL	########	########
48455982	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	67.5000-7	GAS	na	ORGANIC	87-68-3	Hexachlorobutadiene		0.48		1.79	3.6		ppbv	UJ	CS	VOC	EPA:TO1	ATL	########	########
48455992	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	222.5000-	GAS	na	ORGANIC	106-46-7	Dichlorobenzene[1,4		0.33		1.75	0.88		ppbv	U	CS	VOC	EPA:TO1	ATL	########	########
48456002	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	150.5000-	GAS	na	ORGANIC	79-01-6	Trichloroethene		0.19		1.71	78		ppbv	NQ	CS	VOC	EPA:TO1	ATL	########	########
48456012	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	222.5000-	GAS	na	ORGANIC	75-45-6	Chlorodifluorometha		3.5		1.75	3.5		ppbv	U	CS	VOC	EPA:TO1	ATL	########	########
48456022	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	150.5000-	GAS	na	ORGANIC	95-47-6	Xylene[1,2-]		0.29		1.71	0.86		ppbv	U	CS	VOC	EPA:TO1	ATL	########	########
48456032	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	349.5000-	GAS	na	ORGANIC	75-27-4	Bromodichlorometha		1.9		2.8	9.4		ug/m3	U	DUP	VOC	EPA:TO1	ATL	########	########
48456042	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	150.5000-	GAS	na	ORGANIC	76-14-2	Dichloro-1,1,2,2-tetra		0.74		1.71	0.86		ppbv	U	CS	VOC	EPA:TO1	ATL	########	########
48456052	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	222.5000-	GAS	na	ORGANIC	541-73-1	Dichlorobenzene[1,3		0.32		1.75	0.88		ppbv	U	CS	VOC	EPA:TO1	ATL	########	########
48456062	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	349.5000-	GAS	na	ORGANIC	79-34-5	Tetrachloroethane[1		0.39		2.8	1.4		ppbv	U	CS	VOC	EPA:TO1	ATL	########	########
48456072	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	67.5000-7	GAS	na	ORGANIC	108-90-7	Chlorobenzene		0.16		1.79	0.9		ppbv	U	CS	VOC	EPA:TO1	ATL	########	########
48456082	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	150.5000-	GAS	na	ORGANIC	75-27-4	Bromodichlorometha		0.17		1.71	0.86		ppbv	U	CS	VOC	EPA:TO1	ATL	########	########
48456092	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	349.5000-	GAS	na	ORGANIC	10061-01-	Dichloropropene[cis-		0.36		2.8	1.4		ppbv	U	CS	VOC	EPA:TO1	ATL	########	########
48456102	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	223.0000-	GAS	na	ORGANIC	78-87-5	Dichloropropane[1,2		0.2		1.83	0.92		ppbv	U	CS	VOC	EPA:TO1	ATL	########	########
48456112	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	67.5000-7	GAS	na	ORGANIC	75-15-0	Carbon Disulfide		0.72		1.79	3		ug/m3	NQ	DUP	VOC	EPA:TO1	ATL	########	########
48456122	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	150.5000-	GAS	na	ORGANIC	79-00-5	Trichloroethane[1,1,2		0.2		1.71	0.86		ppbv	U	CS	VOC	EPA:TO1	ATL	########	########
48456132	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	150.5000-	GAS	na	ORGANIC	100-42-5	Styrene		0.17		1.71	0.86		ppbv	U	CS	VOC	EPA:TO1	ATL	########	########
48456142	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	67.5000-7	GAS	na	ORGANIC	71-55-6	Trichloroethane[1,1,		0.18		1.79	3.4		ppbv	NQ	CS	VOC	EPA:TO1	ATL	########	########
48456152	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	223.0000-	GAS	na	ORGANIC	Xylene[1,3	Xylene[1,3-]+Xylene		0.64		1.83	5.7		ug/m3	NQ	DUP	VOC	EPA:TO1	ATL	########	########
48456162	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	67.5000-7	GAS	na	ORGANIC	64-17-5	Ethanol		1.4		1.79	6.7		ug/m3	U	DUP	VOC	EPA:TO1	ATL	########	########
48456172	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	67.5000-7	GAS	na	ORGANIC	107-06-2	Dichloroethane[1,2-]		0.72		1.79	3.8		ug/m3	NQ	DUP	VOC	EPA:TO1	ATL	########	########
48456182	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	349.5000-	GAS	na	ORGANIC	67-56-1	Methanol		140		2.8	140		ppbv	U	CS	VOC	EPA:TO1	ATL	########	########
48456192	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	150.5000-	GAS	na	ORGANIC	67-66-3	Chloroform		0.58		1.71	310		ug/m3	NQ	DUP	VOC	EPA:TO1	ATL	########	########
48456202	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	150.5000-	GAS	na	ORGANIC	120-82-1	Trichlorobenzene[1,2		0.22		1.71	3.4		ppbv	U	CS	VOC	EPA:TO1	ATL	########	########
48456212	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	150.5000-	GAS	na	ORGANIC	108-90-7	Chlorobenzene		0.71		1.71	3.9		ug/m3	U	DUP	VOC	EPA:TO1	ATL	########	########
48456222	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	67.5000-7	GAS	na	ORGANIC	100-41-4	Ethylbenzene		1		1.79	3.9		ug/m3	U	DUP	VOC	EPA:TO1	ATL	########	########
48456232	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	223.0000-	GAS	na	ORGANIC	95-63-6	Trimethylbenzene[1,		1.8		1.83	4.5		ug/m3	U	DUP	VOC	EPA:TO1	ATL	########	########
48456242	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	222.5000-	GAS	na	ORGANIC	541-73-1	Dichlorobenzene[1,3		1.9		1.75	5.3		ug/m3	U	DUP	VOC	EPA:TO1	ATL	########	########
48456252	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	222.5000-	GAS	na	ORGANIC	87-68-3	Hexachlorobutadiene		0.47		1.75	3.5		ppbv	UJ	CS	VOC	EPA:TO1	ATL	########	########
48456262	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	150.5000-	GAS	na	ORGANIC	123-91-1	Dioxane[1,4-]		0.22		1.71	3.4		ppbv	U	CS	VOC	EPA:TO1	ATL	########	########
48456272	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	223.0000-	GAS	na	ORGANIC	156-59-2	Dichloroethene[cis-1		0.15		1.83	0.92		ppbv	U	CS	VOC	EPA:TO1	ATL	########	########
48456282	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	222.5000-	GAS	na	ORGANIC	76-14-2	Dichloro-1,1,2,2-tetra		0.75		1.75	0.88		ppbv	U	CS	VOC	EPA:TO1	ATL	########	########
48456292	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	150.5000-	GAS	na	ORGANIC	106-99-0	Butadiene[1,3-]		0.49		1.71	2.8		ug/m3	U	DUP	VOC	EPA:TO1	ATL	########	########
48456302	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	223.0000-	GAS	na	ORGANIC	78-87-5	Dichloropropane[1,2		0.93		1.83	4.2		ug/m3	U	DUP	VOC	EPA:TO1	ATL	########	########
48456312	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	150.5000-	GAS	na	ORGANIC	100-41-4	Ethylbenzene		0.96		1.71	3.7		ug/m3	U	DUP	VOC	EPA:TO1	ATL	########	########
48456322	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	349.5000-	GAS	na	ORGANIC	108-88-3	Toluene		0.95		2.8	9.4		ug/m3	NQ	DUP	VOC	EPA:TO1	ATL	########	########
48456332	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	67.5000-7	GAS	na	ORGANIC	79-01-6	Trichloroethene		0.2		1.79	120		ppbv	NQ	CS	VOC	EPA:TO1	ATL	########	########
48456342	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	349.5000-	GAS	na	ORGANIC	108-88-3	Toluene		0.25		2.8	2.5		ppbv	NQ	CS	VOC	EPA:TO1	ATL	########	########
48456352	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	150.5000-	GAS	na	ORGANIC	79-00-5	Trichloroethane[1,1,2		1.1		1.71	4.7		ug/m3	U	DUP	VOC	EPA:TO1	ATL	########	########
48456362	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	349.5000-	GAS	na	ORGANIC	74-87-3	Chloromethane		1.8		2.8	12		ug/m3	U	DUP	VOC	EPA:TO1	ATL	########	########
48456372	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	67.5000-7	GAS	na	ORGANIC	100-44-7	Benzyl Chloride		1.7		1.79	4.6		ug/m3	U	DUP	VOC	EPA:TO1	ATL	########	########
48456382	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	222.5000-	GAS	na	ORGANIC	79-01-6	Trichloroethene		0.19		1.75	72		ppbv	NQ	CS	VOC	EPA:TO1	ATL	########	########
48456392	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	150.5000-	GAS	na	ORGANIC	56-23-5	Carbon Tetrachloride		0.14		1.71	26		ppbv	NQ	CS	VOC	EPA:TO1	ATL	########	########
48456402	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	150.5000-	GAS	na	ORGANIC	67-56-1	Methanol		86		1.71	86		ppbv	U	CS	VOC	EPA:TO1	ATL	########	########
48456412	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	67.5000-7	GAS	na	ORGANIC	75-00-3	Chloroethane		0.9		1.79	2.4		ug/m3	U	DUP	VOC	EPA:TO1	ATL	########	########
48456422	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	349.5000-	GAS	na	ORGANIC	123-91-1	Dioxane[1,4-]		0.36		2.8	5.6		ppbv	U	CS	VOC	EPA:TO1	ATL	########	########
48456432	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	223.0000-	GAS	na	ORGANIC	75-25-2	Bromoform		0.22		1.83	0.92		ppbv	U	CS	VOC	EPA:TO1	ATL	########	########
48456442	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	223.0000-	GAS	na	ORGANIC	75-27-4	Bromodichlorometha		1.2		1.83	6.1		ug/m3	U	DUP	VOC	EPA:TO1	ATL	########	########
48456452	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	222.5000-	GAS	na	ORGANIC	95-47-6	Xylene[1,2-]		1.3		1.75	3.8		ug/m3	U	DUP	VOC	EPA:TO1	ATL	########	########
48456462	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	223.0000-	GAS	na	ORGANIC	56-23-5	Carbon Tetrachloride		0.92		1.83	190		ug/m3	NQ	DUP	VOC	EPA:TO1	ATL	########	########
48456472	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	222.5000-	GAS	na	ORGANIC	100-44-7	Benzyl Chloride		0.32		1.75	0.88		ppbv	U	CS	VOC	EPA:TO1	ATL	########	########
48456482	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	222.5000-	GAS	na	ORGANIC	10061-01-	Dichloropropene[cis-		1		1.75	4		ug/m3	U	DUP	VOC	EPA:TO1	ATL	########	########
48456492	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	67.5000-7	GAS	na	ORGANIC	156-59-2	Dichloroethene[cis-1		0.57		1.79	3.5		ug/m3	U	DUP	VOC	EPA:TO1	ATL	########	########
48456502	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	222.5000-	GAS	na	ORGANIC	67-64-1	Acetone		1.2		1.75	18		ug/m3	NQ	DUP	VOC	EPA:TO1	ATL	########	########
48456512	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	222.5000-	GAS	na	ORGANIC	100-42-5	Styrene		0.74		1.75	3.7		ug/m3	U	DUP	VOC	EPA:TO1	ATL	########	########
48456522	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	222.5000-	GAS	na	ORGANIC	95-50-1	Dichlorobenzene[1,2		1.4		1.75	5.3		ug/m3	U	DUP	VOC	EPA:TO1	ATL	########	########
48456532	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	222.5000-	GAS	na	ORGANIC	106-46-7	Dichlorobenzene[1,4		2		1.75	5.3		ug/m3	U	DUP	VOC	EPA:TO1	ATL	########	########
48456542	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	223.0000-	GAS	na	ORGANIC	124-48-1	Chlorodibromometha		0.18		1.83	0.92		ppbv	U	CS	VOC	EPA:TO1	ATL	########	########
48456552	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	223.0000-	GAS	na	ORGANIC	Xylene[1,3	Xylene[1,3-]+Xylene		0.15		1.83	1.3		ppbv	NQ	CS	VOC	EPA:TO1	ATL	########	########
48456562	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	150.5000-	GAS	na	ORGANIC	591-78-6	Hexanone[2-]		0.17		1.71	3.4		ppbv	U	CS	VOC	EPA:TO1	ATL	########	########
48456572	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	223.0000-	GAS	na	ORGANIC	127-18-4	Tetrachloroethene		0.18		1.83	12		ppbv	NQ	CS	VOC	EPA:TO1	ATL	########	########
48456582	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	67.5000-7	GAS	na	ORGANIC	1634-04-4	Methyl tert-Butyl Eth		0.77		1.79	3.2		ug/m3	U	DUP	VOC	EPA:TO1	ATL	########	########
48456592	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	67.5000-7	GAS	na	ORGANIC	79-34-5	Tetrachloroethane[1		0.25		1.79	0.9		ppbv	U	CS	VOC	EPA:TO1	ATL	########	########
48456602	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	222.5000-	GAS	na	ORGANIC	71-43-2	Benzene		0.21		1.75	0.88		ppbv	U	CS	VOC	EPA:TO1	ATL	########	########
48456612	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	67.5000-7	GAS	na	ORGANIC	75-27-4	Bromodichlorometha		1.2		1.79	6		ug/m3	U	DUP	VOC	EPA:TO1	ATL	########	########
48456622	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	223.0000-	GAS	na	ORGANIC	591-78-6	Hexanone[2-]		0.18		1.83	3.7		ppbv	U	CS	VOC	EPA:TO1	ATL	########	########
48456632	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	223.0000-	GAS	na	ORGANIC	75-69-4	Trichlorofluorometha		0.16		1.83	0.92		ppbv	U	CS	VOC	EPA:TO1	ATL	########	########
48456642	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	223.0000-	GAS	na	ORGANIC	95-50-1	Dichlorobenzene[1,2		1.4		1.83	5.5		ug/m3	U	DUP	VOC	EPA:TO1	ATL	########	########
48456652	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	222.5000-	GAS	na	ORGANIC	156-60-5	Dichloroethene[trans		1.7		1.75	3.5		ug/m3	U	DUP	VOC	EPA:TO1	ATL	########	########
48456662	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	67.5000-7	GAS	na	ORGANIC	124-48-1	Chlorodibromometha		1.5		1.79	7.6		ug/m3	U	DUP	VOC	EPA:TO1	ATL	########	########
48456672	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	67.5000-7	GAS	na	ORGANIC	110-54-3	Hexane		0.76		1.79	3.2		ug/m3	U	DUP	VOC	EPA:TO1	ATL	########	########
48456682	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	223.0000-	GAS	na	ORGANIC	108-10-1	Methyl-2-pentanone[		0.42		1.83	0.92		ppbv	U	CS	VOC	EPA:TO1	ATL	########	########
48456692	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	150.5000-	GAS	na	ORGANIC	123-91-1	Dioxane[1,4-]		0.8		1.71	12		ug/m3	U	DUP	VOC	EPA:TO1	ATL	########	########
48456702	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	223.0000-	GAS	na	ORGANIC	78-93-3	Butanone[2-]		1.1		1.83	2.7		ug/m3	U	DUP	VOC	EPA:TO1	ATL	########	########
48456712	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	67.5000-7	GAS	na	ORGANIC	87-68-3	Hexachlorobutadiene		5.2		1.79	38		ug/m3	UJ	DUP	VOC	EPA:TO1	ATL	########	########
48456722	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	67.5000-7	GAS	na	ORGANIC	120-82-1	Trichlorobenzene[1,2		1.7		1.79	26		ug/m3	U	DUP	VOC	EPA:TO1	ATL	########	########
48456732	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	150.5000-	GAS	na	ORGANIC	110-82-7	Cyclohexane		0.31		1.71	1.3		ppbv	NQ	CS	VOC	EPA:TO1	ATL	########	########
48456742	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	67.5000-7	GAS	na	ORGANIC	156-60-5	Dichloroethene[trans		1.7		1.79	3.5		ug/m3	U	DUP	VOC	EPA:TO1	ATL	########	########
48456752	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	150.5000-	GAS	na	ORGANIC	76-13-1	Trichloro-1,2,2-trifluo		4.1		1.71	6.6		ug/m3	U	DUP	VOC	EPA:TO1	ATL	########	########
48456762	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	150.5000-	GAS	na	ORGANIC	1634-04-4	Methyl tert-Butyl Eth		0.74		1.71	3.1		ug/m3	U	DUP	VOC	EPA:TO1	ATL	########	########
48456772	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	67.5000-7	GAS	na	ORGANIC	75-01-4	Vinyl Chloride		0.82		1.79	2.3		ug/m3	U	DUP	VOC	EPA:TO1	ATL	########	########
48456782	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	223.0000-	GAS	na	ORGANIC	64-17-5	Ethanol		0.75		1.83	3.7		ppbv	U	CS	VOC	EPA:TO1	ATL	########	########
48456792	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	150.5000-	GAS	na	ORGANIC	75-15-0	Carbon Disulfide		0.69		1.71	2.7		ug/m3	U	DUP	VOC	EPA:TO1	ATL	########	########
48456802	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	349.5000-	GAS	na	ORGANIC	156-60-5	Dichloroethene[trans		2.7		2.8	5.6		ug/m3	U	DUP	VOC	EPA:TO1	ATL	########	########
48456812	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	150.5000-	GAS	na	ORGANIC	78-93-3	Butanone[2-]		1		1.71	12		ug/m3	NQ	DUP	VOC	EPA:TO1	ATL	########	########
48456822	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	222.5000-	GAS	na	ORGANIC	115-07-1	Propylene		0.37		1.75	3.5		ppbv	U	CS	VOC	EPA:TO1	ATL	########	########
48456832	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	349.5000-	GAS	na	ORGANIC	106-99-0	Butadiene[1,3-]		0.36		2.8	1.4		ppbv	U	CS	VOC	EPA:TO1	ATL	########	########
48456842	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	223.0000-	GAS	na	ORGANIC	100-44-7	Benzyl Chloride		1.7		1.83	4.7		ug/m3	U	DUP	VOC	EPA:TO1	ATL	########	########
48456852	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	150.5000-	GAS	na	ORGANIC	75-71-8	Dichlorodifluorometh		0.84		1.71	8.6		ug/m3	NQ	DUP	VOC	EPA:TO1	ATL	########	########
48456862	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	67.5000-7	GAS	na	ORGANIC	78-87-5	Dichloropropane[1,2		0.91		1.79	4.1		ug/m3	U	DUP	VOC	EPA:TO1	ATL	########	########
48456872	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	223.0000-	GAS	na	ORGANIC	75-09-2	Methylene Chloride		0.22		1.83	170		ppbv	NQ	CS	VOC	EPA:TO1	ATL	########	########
48456882	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	222.5000-	GAS	na	ORGANIC	Xylene[1,3	Xylene[1,3-]+Xylene		0.14		1.75	0.88		ppbv	U	CS	VOC	EPA:TO1	ATL	########	########
48456892	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	222.5000-	GAS	na	ORGANIC	109-99-9	Tetrahydrofuran		1.3		1.75	2.6		ug/m3	U	DUP	VOC	EPA:TO1	ATL	########	########
48456902	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	223.0000-	GAS	na	ORGANIC	109-99-9	Tetrahydrofuran		0.46		1.83	0.92		ppbv	U	CS	VOC	EPA:TO1	ATL	########	########
48456912	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	150.5000-	GAS	na	ORGANIC	79-34-5	Tetrachloroethane[1		0.24		1.71	0.86		ppbv	U	CS	VOC	EPA:TO1	ATL	########	########
48456922	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	223.0000-	GAS	na	ORGANIC	74-87-3	Chloromethane		1.2		1.83	7.6		ug/m3	U	DUP	VOC	EPA:TO1	ATL	########	########
48456932	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	349.5000-	GAS	na	ORGANIC	67-63-0	Propanol[2-]		0.89		2.8	14		ug/m3	U	DUP	VOC	EPA:TO1	ATL	########	########
48456942	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	150.5000-	GAS	na	ORGANIC	67-64-1	Acetone		0.51		1.71	29		ppbv	NQ	CS	VOC	EPA:TO1	ATL	########	########
48456952	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	150.5000-	GAS	na	ORGANIC	107-06-2	Dichloroethane[1,2-]		0.17		1.71	0.99		ppbv	NQ	CS	VOC	EPA:TO1	ATL	########	########
48456962	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	67.5000-7	GAS	na	ORGANIC	100-41-4	Ethylbenzene		0.23		1.79	0.9		ppbv	U	CS	VOC	EPA:TO1	ATL	########	########
48456972	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	223.0000-	GAS	na	ORGANIC	79-01-6	Trichloroethene		0.2		1.83	59		ppbv	NQ	CS	VOC	EPA:TO1	ATL	########	########
48456982	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	150.5000-	GAS	na	ORGANIC	10061-01-	Dichloropropene[cis-		1		1.71	3.9		ug/m3	U	DUP	VOC	EPA:TO1	ATL	########	########
48456992	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	150.5000-	GAS	na	ORGANIC	95-47-6	Xylene[1,2-]		1.3		1.71	3.7		ug/m3	U	DUP	VOC	EPA:TO1	ATL	########	########
48457002	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	222.5000-	GAS	na	ORGANIC	71-55-6	Trichloroethane[1,1,		0.18		1.75	2.8		ppbv	NQ	CS	VOC	EPA:TO1	ATL	########	########
48457012	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	349.5000-	GAS	na	ORGANIC	95-47-6	Xylene[1,2-]		2.1		2.8	6.1		ug/m3	U	DUP	VOC	EPA:TO1	ATL	########	########
48457022	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	67.5000-7	GAS	na	ORGANIC	67-56-1	Methanol		120		1.79	120		ug/m3	U	DUP	VOC	EPA:TO1	ATL	########	########
48457032	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	67.5000-7	GAS	na	ORGANIC	124-48-1	Chlorodibromometha		0.18		1.79	0.9		ppbv	U	CS	VOC	EPA:TO1	ATL	########	########
48457042	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	222.5000-	GAS	na	ORGANIC	75-15-0	Carbon Disulfide		0.23		1.75	1.2		ppbv	NQ	CS	VOC	EPA:TO1	ATL	########	########
48457052	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	349.5000-	GAS	na	ORGANIC	100-44-7	Benzyl Chloride		0.5		2.8	1.4		ppbv	U	CS	VOC	EPA:TO1	ATL	########	########
48457062	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	150.5000-	GAS	na	ORGANIC	110-82-7	Cyclohexane		1		1.71	4.5		ug/m3	NQ	DUP	VOC	EPA:TO1	ATL	########	########
48457072	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	222.5000-	GAS	na	ORGANIC	156-59-2	Dichloroethene[cis-1		0.56		1.75	3.5		ug/m3	U	DUP	VOC	EPA:TO1	ATL	########	########
48457082	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	150.5000-	GAS	na	ORGANIC	56-23-5	Carbon Tetrachloride		0.86		1.71	160		ug/m3	NQ	DUP	VOC	EPA:TO1	ATL	########	########
48457092	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	222.5000-	GAS	na	ORGANIC	74-87-3	Chloromethane		1.1		1.75	7.2		ug/m3	U	DUP	VOC	EPA:TO1	ATL	########	########
48457102	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	67.5000-7	GAS	na	ORGANIC	64-17-5	Ethanol		0.73		1.79	3.6		ppbv	U	CS	VOC	EPA:TO1	ATL	########	########
48457112	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	222.5000-	GAS	na	ORGANIC	Xylene[1,3	Xylene[1,3-]+Xylene		0.61		1.75	3.8		ug/m3	U	DUP	VOC	EPA:TO1	ATL	########	########
48457122	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	222.5000-	GAS	na	ORGANIC	108-67-8	Trimethylbenzene[1,		0.82		1.75	0.88		ppbv	U	CS	VOC	EPA:TO1	ATL	########	########
48457132	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	349.5000-	GAS	na	ORGANIC	124-48-1	Chlorodibromometha		0.28		2.8	1.4		ppbv	U	CS	VOC	EPA:TO1	ATL	########	########
48457142	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	222.5000-	GAS	na	ORGANIC	75-71-8	Dichlorodifluorometh		0.86		1.75	6.6		ug/m3	NQ	DUP	VOC	EPA:TO1	ATL	########	########
48457152	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	222.5000-	GAS	na	ORGANIC	64-17-5	Ethanol		0.72		1.75	3.5		ppbv	U	CS	VOC	EPA:TO1	ATL	########	########
48457162	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	349.5000-	GAS	na	ORGANIC	75-71-8	Dichlorodifluorometh		0.28		2.8	1.4		ppbv	U	CS	VOC	EPA:TO1	ATL	########	########
48457172	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	349.5000-	GAS	na	ORGANIC	591-78-6	Hexanone[2-]		0.28		2.8	5.6		ppbv	U	CS	VOC	EPA:TO1	ATL	########	########
48457182	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	223.0000-	GAS	na	ORGANIC	123-91-1	Dioxane[1,4-]		0.24		1.83	3.7		ppbv	U	CS	VOC	EPA:TO1	ATL	########	########
48457192	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	67.5000-7	GAS	na	ORGANIC	71-43-2	Benzene		0.21		1.79	0.9		ppbv	U	CS	VOC	EPA:TO1	ATL	########	########
48457202	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	223.0000-	GAS	na	ORGANIC	76-13-1	Trichloro-1,2,2-trifluo		0.57		1.83	0.92		ppbv	U	CS	VOC	EPA:TO1	ATL	########	########
48457212	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	150.5000-	GAS	na	ORGANIC	107-06-2	Dichloroethane[1,2-]		0.69		1.71	4		ug/m3	NQ	DUP	VOC	EPA:TO1	ATL	########	########
48457222	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	222.5000-	GAS	na	ORGANIC	110-82-7	Cyclohexane		1.1		1.75	3.6		ug/m3	NQ	DUP	VOC	EPA:TO1	ATL	########	########
48457232	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	150.5000-	GAS	na	ORGANIC	115-07-1	Propylene		0.36		1.71	3.4		ppbv	U	CS	VOC	EPA:TO1	ATL	########	########
48457242	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	67.5000-7	GAS	na	ORGANIC	127-18-4	Tetrachloroethene		1.2		1.79	1500		ug/m3	NQ	DUP	VOC	EPA:TO1	ATL	########	########
48457252	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	222.5000-	GAS	na	ORGANIC	95-47-6	Xylene[1,2-]		0.3		1.75	0.88		ppbv	U	CS	VOC	EPA:TO1	ATL	########	########
48457262	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	349.5000-	GAS	na	ORGANIC	71-36-3	Butanol[1-]		17		2.8	17		ug/m3	U	DUP	VOC	EPA:TO1	ATL	########	########
48457272	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	223.0000-	GAS	na	ORGANIC	622-96-8	Ethyltoluene[4-]		3.1		1.83	4.5		ug/m3	U	DUP	VOC	EPA:TO1	ATL	########	########
48457282	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	223.0000-	GAS	na	ORGANIC	10061-01-	Dichloropropene[cis-		1.1		1.83	4.2		ug/m3	U	DUP	VOC	EPA:TO1	ATL	########	########
48457292	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	150.5000-	GAS	na	ORGANIC	108-10-1	Methyl-2-pentanone[		0.39		1.71	0.86		ppbv	U	CS	VOC	EPA:TO1	ATL	########	########
48457302	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	223.0000-	GAS	na	ORGANIC	142-82-5	n-Heptane		0.9		1.83	3.7		ug/m3	U	DUP	VOC	EPA:TO1	ATL	########	########
48457312	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	150.5000-	GAS	na	ORGANIC	108-90-7	Chlorobenzene		0.15		1.71	0.86		ppbv	U	CS	VOC	EPA:TO1	ATL	########	########
48457322	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	349.5000-	GAS	na	ORGANIC	79-34-5	Tetrachloroethane[1		2.7		2.8	9.6		ug/m3	U	DUP	VOC	EPA:TO1	ATL	########	########
48457332	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	67.5000-7	GAS	na	ORGANIC	100-42-5	Styrene		0.18		1.79	0.9		ppbv	U	CS	VOC	EPA:TO1	ATL	########	########
48457342	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	67.5000-7	GAS	na	ORGANIC	75-15-0	Carbon Disulfide		0.23		1.79	0.98		ppbv	NQ	CS	VOC	EPA:TO1	ATL	########	########
48457352	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	349.5000-	GAS	na	ORGANIC	74-87-3	Chloromethane		0.87		2.8	5.6		ppbv	U	CS	VOC	EPA:TO1	ATL	########	########
48457362	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	222.5000-	GAS	na	ORGANIC	79-34-5	Tetrachloroethane[1		1.7		1.75	6		ug/m3	U	DUP	VOC	EPA:TO1	ATL	########	########
48457372	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	67.5000-7	GAS	na	ORGANIC	95-50-1	Dichlorobenzene[1,2		1.4		1.79	5.4		ug/m3	U	DUP	VOC	EPA:TO1	ATL	########	########
48457382	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	150.5000-	GAS	na	ORGANIC	71-36-3	Butanol[1-]		10		1.71	10		ug/m3	U	DUP	VOC	EPA:TO1	ATL	########	########
48457392	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	223.0000-	GAS	na	ORGANIC	95-47-6	Xylene[1,2-]		0.31		1.83	0.92		ppbv	U	CS	VOC	EPA:TO1	ATL	########	########
48457402	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	222.5000-	GAS	na	ORGANIC	71-43-2	Benzene		0.67		1.75	2.8		ug/m3	U	DUP	VOC	EPA:TO1	ATL	########	########
48457412	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	150.5000-	GAS	na	ORGANIC	109-99-9	Tetrahydrofuran		0.43		1.71	0.86		ppbv	U	CS	VOC	EPA:TO1	ATL	########	########
48457422	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	67.5000-7	GAS	na	ORGANIC	142-82-5	n-Heptane		0.21		1.79	0.9		ppbv	U	CS	VOC	EPA:TO1	ATL	########	########
48457432	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	67.5000-7	GAS	na	ORGANIC	71-43-2	Benzene		0.69		1.79	2.8		ug/m3	U	DUP	VOC	EPA:TO1	ATL	########	########
48457442	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	150.5000-	GAS	na	ORGANIC	156-60-5	Dichloroethene[trans		0.41		1.71	0.86		ppbv	U	CS	VOC	EPA:TO1	ATL	########	########
48457452	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	150.5000-	GAS	na	ORGANIC	78-87-5	Dichloropropane[1,2		0.87		1.71	4		ug/m3	U	DUP	VOC	EPA:TO1	ATL	########	########
48457462	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	349.5000-	GAS	na	ORGANIC	127-18-4	Tetrachloroethene		0.28		2.8	3.8		ppbv	NQ	CS	VOC	EPA:TO1	ATL	########	########
48457472	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	349.5000-	GAS	na	ORGANIC	75-01-4	Vinyl Chloride		0.5		2.8	1.4		ppbv	U	CS	VOC	EPA:TO1	ATL	########	########
48457482	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	223.0000-	GAS	na	ORGANIC	100-41-4	Ethylbenzene		0.24		1.83	0.92		ppbv	U	CS	VOC	EPA:TO1	ATL	########	########
48457492	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	222.5000-	GAS	na	ORGANIC	71-36-3	Butanol[1-]		3.5		1.75	3.5		ppbv	U	CS	VOC	EPA:TO1	ATL	########	########
48457502	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	223.0000-	GAS	na	ORGANIC	75-71-8	Dichlorodifluorometh		0.9		1.83	4.9		ug/m3	NQ	DUP	VOC	EPA:TO1	ATL	########	########
48457512	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	223.0000-	GAS	na	ORGANIC	541-73-1	Dichlorobenzene[1,3		2		1.83	5.5		ug/m3	U	DUP	VOC	EPA:TO1	ATL	########	########
48457522	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	150.5000-	GAS	na	ORGANIC	156-60-5	Dichloroethene[trans		1.6		1.71	3.4		ug/m3	U	DUP	VOC	EPA:TO1	ATL	########	########
48457532	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	150.5000-	GAS	na	ORGANIC	78-87-5	Dichloropropane[1,2		0.19		1.71	0.86		ppbv	U	CS	VOC	EPA:TO1	ATL	########	########
48457542	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	222.5000-	GAS	na	ORGANIC	142-82-5	n-Heptane		0.21		1.75	0.88		ppbv	U	CS	VOC	EPA:TO1	ATL	########	########
48457552	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	349.5000-	GAS	na	ORGANIC	107-06-2	Dichloroethane[1,2-]		0.28		2.8	3.6		ppbv	NQ	CS	VOC	EPA:TO1	ATL	########	########
48457562	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	349.5000-	GAS	na	ORGANIC	79-01-6	Trichloroethene		0.31		2.8	85		ppbv	NQ	CS	VOC	EPA:TO1	ATL	########	########
48457572	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	150.5000-	GAS	na	ORGANIC	100-41-4	Ethylbenzene		0.22		1.71	0.86		ppbv	U	CS	VOC	EPA:TO1	ATL	########	########
48457582	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	67.5000-7	GAS	na	ORGANIC	67-66-3	Chloroform		0.61		1.79	350		ug/m3	NQ	DUP	VOC	EPA:TO1	ATL	########	########
48457592	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	150.5000-	GAS	na	ORGANIC	124-48-1	Chlorodibromometha		1.4		1.71	7.3		ug/m3	U	DUP	VOC	EPA:TO1	ATL	########	########
48457602	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	150.5000-	GAS	na	ORGANIC	108-10-1	Methyl-2-pentanone[		1.6		1.71	3.5		ug/m3	U	DUP	VOC	EPA:TO1	ATL	########	########
48457612	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	67.5000-7	GAS	na	ORGANIC	75-01-4	Vinyl Chloride		0.32		1.79	0.9		ppbv	U	CS	VOC	EPA:TO1	ATL	########	########
48457622	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	67.5000-7	GAS	na	ORGANIC	71-36-3	Butanol[1-]		3.6		1.79	3.6		ppbv	U	CS	VOC	EPA:TO1	ATL	########	########
48457632	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	349.5000-	GAS	na	ORGANIC	67-63-0	Propanol[2-]		0.36		2.8	5.6		ppbv	U	CS	VOC	EPA:TO1	ATL	########	########
48457642	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	67.5000-7	GAS	na	ORGANIC	106-46-7	Dichlorobenzene[1,4		0.34		1.79	0.9		ppbv	U	CS	VOC	EPA:TO1	ATL	########	########
48457652	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	222.5000-	GAS	na	ORGANIC	108-90-7	Chlorobenzene		0.72		1.75	4		ug/m3	U	DUP	VOC	EPA:TO1	ATL	########	########
48457662	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	349.5000-	GAS	na	ORGANIC	71-43-2	Benzene		1.1		2.8	4.5		ug/m3	U	DUP	VOC	EPA:TO1	ATL	########	########
48457672	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	222.5000-	GAS	na	ORGANIC	108-88-3	Toluene		0.59		1.75	3.3		ug/m3	U	DUP	VOC	EPA:TO1	ATL	########	########
48457682	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	67.5000-7	GAS	na	ORGANIC	75-45-6	Chlorodifluorometha		13		1.79	13		ug/m3	U	DUP	VOC	EPA:TO1	ATL	########	########
48457692	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	349.5000-	GAS	na	ORGANIC	1634-04-4	Methyl tert-Butyl Eth		1.2		2.8	5		ug/m3	U	DUP	VOC	EPA:TO1	ATL	########	########
48457702	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	150.5000-	GAS	na	ORGANIC	74-87-3	Chloromethane		0.53		1.71	3.4		ppbv	U	CS	VOC	EPA:TO1	ATL	########	########
48457712	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	349.5000-	GAS	na	ORGANIC	115-07-1	Propylene		0.59		2.8	5.6		ppbv	U	CS	VOC	EPA:TO1	ATL	########	########
48457722	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	349.5000-	GAS	na	ORGANIC	108-10-1	Methyl-2-pentanone[		0.64		2.8	1.4		ppbv	U	CS	VOC	EPA:TO1	ATL	########	########
48457732	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	67.5000-7	GAS	na	ORGANIC	75-71-8	Dichlorodifluorometh		0.88		1.79	10		ug/m3	NQ	DUP	VOC	EPA:TO1	ATL	########	########
48457742	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	349.5000-	GAS	na	ORGANIC	591-78-6	Hexanone[2-]		1.1		2.8	23		ug/m3	U	DUP	VOC	EPA:TO1	ATL	########	########
48457752	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	67.5000-7	GAS	na	ORGANIC	67-56-1	Methanol		90		1.79	90		ppbv	U	CS	VOC	EPA:TO1	ATL	########	########
48457762	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	67.5000-7	GAS	na	ORGANIC	108-90-7	Chlorobenzene		0.74		1.79	4.1		ug/m3	U	DUP	VOC	EPA:TO1	ATL	########	########
48457772	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	67.5000-7	GAS	na	ORGANIC	Xylene[1,3	Xylene[1,3-]+Xylene		0.62		1.79	3.9		ug/m3	U	DUP	VOC	EPA:TO1	ATL	########	########
48457782	08-79	MD21-07-N		VOST	INV	na	na	21-016(a)-99	21-25264	67.5000-7	GAS	na	ORGANIC	108-10-1	Methyl-2-pentanone[		1.7		1.79	3.7		ug/m3	U	DUP	VOC	EPA:TO1	ATL	########	########

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48709812	08-98	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058160.5000-GAS	na	ORGANIC	106-93-4	Dibromoethane[1,2-]	1.3		1.83	7		ug/m3	U	DUP	VOC	EPA:TO1!ATL	11/5/2007########
48709822	08-98	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058160.5000-GAS	na	ORGANIC	108-90-7	Chlorobenzene	0.76		1.83	4.2		ug/m3	U	DUP	VOC	EPA:TO1!ATL	11/5/2007########
48709832	08-98	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058160.5000-GAS	na	ORGANIC	100-41-4	Ethylbenzene	1		1.83	7.5		ug/m3	NQ	DUP	VOC	EPA:TO1!ATL	11/5/2007########
48709842	08-98	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058160.5000-GAS	na	ORGANIC	Xylene[1,3	Xylene[1,3-]+Xylene	0.64		1.83	21		ug/m3	NQ	DUP	VOC	EPA:TO1!ATL	11/5/2007########
48709852	08-98	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058160.5000-GAS	na	ORGANIC	95-47-6	Xylene[1,2-]	1.4		1.83	9.9		ug/m3	NQ	DUP	VOC	EPA:TO1!ATL	11/5/2007########
48709862	08-98	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058160.5000-GAS	na	ORGANIC	100-42-5	Styrene	0.78		1.83	3.9		ug/m3	U	DUP	VOC	EPA:TO1!ATL	11/5/2007########
48709872	08-98	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058160.5000-GAS	na	ORGANIC	75-25-2	Bromoform	2.3		1.83	15		ug/m3	U	DUP	VOC	EPA:TO1!ATL	11/5/2007########
48709882	08-98	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058160.5000-GAS	na	ORGANIC	79-34-5	Tetrachloroethane[1	1.8		1.83	6.3		ug/m3	U	DUP	VOC	EPA:TO1!ATL	11/5/2007########
48709892	08-98	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058160.5000-GAS	na	ORGANIC	622-96-8	Ethyltoluene[4-]	3.1		1.83	9.8		ug/m3	U	DUP	VOC	EPA:TO1!ATL	11/5/2007########
48709902	08-98	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058160.5000-GAS	na	ORGANIC	108-67-8	Trimethylbenzene[1,	4.2		1.83	4.5		ug/m3	U	DUP	VOC	EPA:TO1!ATL	11/5/2007########
48709912	08-98	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058160.5000-GAS	na	ORGANIC	95-63-6	Trimethylbenzene[1,	1.8		1.83	54		ug/m3	U	DUP	VOC	EPA:TO1!ATL	11/5/2007########
48709922	08-98	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058160.5000-GAS	na	ORGANIC	541-73-1	Dichlorobenzene[1,3	2		1.83	5.5		ug/m3	U	DUP	VOC	EPA:TO1!ATL	11/5/2007########
48709932	08-98	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058160.5000-GAS	na	ORGANIC	106-46-7	Dichlorobenzene[1,4	2.1		1.83	5.5		ug/m3	U	DUP	VOC	EPA:TO1!ATL	11/5/2007########
48709942	08-98	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058160.5000-GAS	na	ORGANIC	100-44-7	Benzyl Chloride	1.7		1.83	4.7		ug/m3	U	DUP	VOC	EPA:TO1!ATL	11/5/2007########
48709952	08-98	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058160.5000-GAS	na	ORGANIC	95-50-1	Dichlorobenzene[1,2	1.4		1.83	5.5		ug/m3	U	DUP	VOC	EPA:TO1!ATL	11/5/2007########
48709962	08-98	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058160.5000-GAS	na	ORGANIC	120-82-1	Trichlorobenzene[1,2	1.8		1.83	27		ug/m3	UJ	DUP	VOC	EPA:TO1!ATL	11/5/2007########
48709972	08-98	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058160.5000-GAS	na	ORGANIC	87-68-3	Hexachlorobutadiene	5.3		1.83	39		ug/m3	UJ	DUP	VOC	EPA:TO1!ATL	11/5/2007########
48709982	08-98	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058160.5000-GAS	na	ORGANIC	75-45-6	Chlorodifluorometha	13		1.83	13		ug/m3	U	DUP	VOC	EPA:TO1!ATL	11/5/2007########
48709992	08-98	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058160.5000-GAS	na	ORGANIC	67-56-1	Methanol	120		1.83	120		ug/m3	U	DUP	VOC	EPA:TO1!ATL	11/5/2007########
48710002	08-98	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058160.5000-GAS	na	ORGANIC	71-36-3	Butanol[1-]	11		1.83	42		ug/m3	NQ	DUP	VOC	EPA:TO1!ATL	11/5/2007########
48710012	08-98	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058160.5000-GAS	na	ORGANIC	115-07-1	Propylene	0.66		1.83	690		ug/m3	NQ	DUP	VOC	EPA:TO1!ATL	11/5/2007########
48710022	08-99	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058217.0000-GAS	na	RAD	H-3	Tritium	11.211	195.56	1	5.608	114.684	pCi/L	U	CS	H3	EPA:906.0ARSL	11/2/2007########
48710032	08-98	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058217.0000-GAS	na	ORGANIC	75-71-8	Dichlorodifluorometh	0.18		1.83	1.4		ppbv	NQ	CS	VOC	EPA:TO1!ATL	11/5/2007########
48710042	08-98	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058217.0000-GAS	na	ORGANIC	76-14-2	Dichloro-1,1,2,2-tetr	0.79		1.83	0.92		ppbv	U	CS	VOC	EPA:TO1!ATL	11/5/2007########
48710052	08-98	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058217.0000-GAS	na	ORGANIC	74-87-3	Chloromethane	0.57		1.83	3.7		ppbv	U	CS	VOC	EPA:TO1!ATL	11/5/2007########
48710062	08-98	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058217.0000-GAS	na	ORGANIC	75-01-4	Vinyl Chloride	0.33		1.83	0.92		ppbv	U	CS	VOC	EPA:TO1!ATL	11/5/2007########
48710072	08-98	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058217.0000-GAS	na	ORGANIC	106-99-0	Butadiene[1,3-]	0.24		1.83	4.7		ppbv	U	CS	VOC	EPA:TO1!ATL	11/5/2007########
48710082	08-98	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058217.0000-GAS	na	ORGANIC	74-83-9	Bromomethane	0.48		1.83	0.92		ppbv	U	CS	VOC	EPA:TO1!ATL	11/5/2007########
48710092	08-98	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058217.0000-GAS	na	ORGANIC	75-00-3	Chloroethane	0.35		1.83	0.92		ppbv	U	CS	VOC	EPA:TO1!ATL	11/5/2007########
48710102	08-98	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058217.0000-GAS	na	ORGANIC	75-69-4	Trichlorofluorometha	0.16		1.83	0.92		ppbv	U	CS	VOC	EPA:TO1!ATL	11/5/2007########
48710112	08-98	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058217.0000-GAS	na	ORGANIC	64-17-5	Ethanol	0.75		1.83	3.7		ppbv	U	CS	VOC	EPA:TO1!ATL	11/5/2007########
48710122	08-98	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058217.0000-GAS	na	ORGANIC	76-13-1	Trichloro-1,2,2-trifluo	0.57		1.83	3.4		ppbv	NQ	CS	VOC	EPA:TO1!ATL	11/5/2007########
48710132	08-98	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058217.0000-GAS	na	ORGANIC	75-35-4	Dichloroethene[1,1-]	0.2		1.83	2.4		ppbv	NQ	CS	VOC	EPA:TO1!ATL	11/5/2007########
48710142	08-98	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058217.0000-GAS	na	ORGANIC	67-64-1	Acetone	0.55		1.83	86		ppbv	NQ	CS	VOC	EPA:TO1!ATL	11/5/2007########
48710152	08-98	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058217.0000-GAS	na	ORGANIC	67-63-0	Propanol[2-]	0.24		1.83	3.7		ppbv	U	CS	VOC	EPA:TO1!ATL	11/5/2007########
48710162	08-98	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058217.0000-GAS	na	ORGANIC	75-15-0	Carbon Disulfide	0.24		1.83	1.8		ppbv	NQ	CS	VOC	EPA:TO1!ATL	11/5/2007########
48710172	08-98	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058217.0000-GAS	na	ORGANIC	75-09-2	Methylene Chloride	0.22		1.83	120		ppbv	NQ	CS	VOC	EPA:TO1!ATL	11/5/2007########
48710182	08-98	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058217.0000-GAS	na	ORGANIC	1634-04-4	Methyl tert-Butyl Eth	0.22		1.83	0.92		ppbv	U	CS	VOC	EPA:TO1!ATL	11/5/2007########
48710192	08-98	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058217.0000-GAS	na	ORGANIC	156-60-5	Dichloroethene[trans	0.44		1.83	0.92		ppbv	U	CS	VOC	EPA:TO1!ATL	11/5/2007########
48710202	08-98	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058217.0000-GAS	na	ORGANIC	110-54-3	Hexane	0.22		1.83	2.4		ppbv	NQ	CS	VOC	EPA:TO1!ATL	11/5/2007########
48710212	08-98	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058217.0000-GAS	na	ORGANIC	75-34-3	Dichloroethane[1,1-]	0.18		1.83	0.92		ppbv	U	CS	VOC	EPA:TO1!ATL	11/5/2007########
48710222	08-98	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058217.0000-GAS	na	ORGANIC	78-93-3	Butanone[2-]	0.37		1.83	23		ppbv	NQ	CS	VOC	EPA:TO1!ATL	11/5/2007########
48710232	08-98	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058217.0000-GAS	na	ORGANIC	156-59-2	Dichloroethene[cis-1	0.15		1.83	0.92		ppbv	U	CS	VOC	EPA:TO1!ATL	11/5/2007########
48710242	08-98	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058217.0000-GAS	na	ORGANIC	109-99-9	Tetrahydrofuran	0.46		1.83	0.92		ppbv	U	CS	VOC	EPA:TO1!ATL	11/5/2007########
48710252	08-98	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058217.0000-GAS	na	ORGANIC	67-66-3	Chloroform	0.13		1.83	140		ppbv	NQ	CS	VOC	EPA:TO1!ATL	11/5/2007########
48710262	08-98	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058217.0000-GAS	na	ORGANIC	71-55-6	Trichloroethane[1,1,	0.18		1.83	6.7		ppbv	NQ	CS	VOC	EPA:TO1!ATL	11/5/2007########
48710272	08-98	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058217.0000-GAS	na	ORGANIC	110-82-7	Cyclohexane	0.33		1.83	0.92		ppbv	U	CS	VOC	EPA:TO1!ATL	11/5/2007########
48710282	08-98	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058217.0000-GAS	na	ORGANIC	56-23-5	Carbon Tetrachloride	0.15		1.83	64		ppbv	NQ	CS	VOC	EPA:TO1!ATL	11/5/2007########
48710292	08-98	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058217.0000-GAS	na	ORGANIC	71-43-2	Benzene	0.22		1.83	1.5		ppbv	NQ	CS	VOC	EPA:TO1!ATL	11/5/2007########
48710302	08-98	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058217.0000-GAS	na	ORGANIC	107-06-2	Dichloroethane[1,2-]	0.18		1.83	1.2		ppbv	NQ	CS	VOC	EPA:TO1!ATL	11/5/2007########
48710312	08-98	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058217.0000-GAS	na	ORGANIC	142-82-5	n-Heptane	0.22		1.83	1.6		ppbv	NQ	CS	VOC	EPA:TO1!ATL	11/5/2007########
48710322	08-98	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058217.0000-GAS	na	ORGANIC	79-01-6	Trichloroethene	0.2		1.83	150		ppbv	NQ	CS	VOC	EPA:TO1!ATL	11/5/2007########
48710332	08-98	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058217.0000-GAS	na	ORGANIC	78-87-5	Dichloropropane[1,2	0.2		1.83	0.92		ppbv	U	CS	VOC	EPA:TO1!ATL	11/5/2007########
48710342	08-98	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058217.0000-GAS	na	ORGANIC	123-91-1	Dioxane[1,4-]	0.24		1.83	3.7		ppbv	U	CS	VOC	EPA:TO1!ATL	11/5/2007########
48710352	08-98	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058217.0000-GAS	na	ORGANIC	75-27-4	Bromodichlorometha	0.18		1.83	0.96		ppbv	NQ	CS	VOC	EPA:TO1!ATL	11/5/2007########
48710362	08-98	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058217.0000-GAS	na	ORGANIC	10061-01-	Dichloropropene[cis-	0.24		1.83	0.92		ppbv	U	CS	VOC	EPA:TO1!ATL	11/5/2007########
48710372	08-98	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058217.0000-GAS	na	ORGANIC	108-10-1	Methyl-2-pentanone[	0.42		1.83	2.2		ppbv	NQ	CS	VOC	EPA:TO1!ATL	11/5/2007########
48710382	08-98	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058217.0000-GAS	na	ORGANIC	108-88-3	Toluene	0.16		1.83	1.5		ppbv	NQ	CS	VOC	EPA:TO1!ATL	11/5/2007########
48710392	08-98	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058217.0000-GAS	na	ORGANIC	10061-02-	Dichloropropene[tran	0.33		1.83	0.92		ppbv	U	CS	VOC	EPA:TO1!ATL	11/5/2007########
48710402	08-98	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058217.0000-GAS	na	ORGANIC	79-00-5	Trichloroethane[1,1,2	0.22		1.83	2.4		ppbv	NQ	CS	VOC	EPA:TO1!ATL	11/5/2007########
48710412	08-98	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058217.0000-GAS	na	ORGANIC	127-18-4	Tetrachloroethene	0.18		1.83	40		ppbv	NQ	CS	VOC	EPA:TO1!ATL	11/5/2007########
48710422	08-98	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058217.0000-GAS	na	ORGANIC	591-78-6	Hexanone[2-]	0.18		1.83	9		ppbv	NQ	CS	VOC	EPA:TO1!ATL	11/5/2007########
48710432	08-98	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058217.0000-GAS	na	ORGANIC	124-48-1	Chlorodibromometha	0.18		1.83	0.92		ppbv	U	CS	VOC	EPA:TO1!ATL	11/5/2007########
48710442	08-98	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058217.0000-GAS	na	ORGANIC	106-93-4	Dibromoethane[1,2-]	0.16		1.83	0.92		ppbv	U	CS	VOC	EPA:TO1!ATL	11/5/2007########
48710452	08-98	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058217.0000-GAS	na	ORGANIC	108-90-7	Chlorobenzene	0.16		1.83	0.92		ppbv	U	CS	VOC	EPA:TO1!ATL	11/5/2007########
48710462	08-98	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058217.0000-GAS	na	ORGANIC	100-41-4	Ethylbenzene	0.24		1.83	0.92		ppbv	U	CS	VOC	EPA:TO1!ATL	11/5/2007########
48710472	08-98	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058217.0000-GAS	na	ORGANIC	Xylene[1,3	Xylene[1,3-]+Xylene	0.15		1.83	1.1		ppbv	NQ	CS	VOC	EPA:TO1!ATL	11/5/2007########
48710482	08-98	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058217.0000-GAS	na	ORGANIC	95-47-6	Xylene[1,2-]	0.31		1.83	0.92		ppbv	U	CS	VOC	EPA:TO1!ATL	11/5/2007########
48710492	08-98	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058217.0000-GAS	na	ORGANIC	100-42-5	Styrene	0.18		1.83	0.92		ppbv	U	CS	VOC	EPA:TO1!ATL	11/5/2007########
48710502	08-98	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058217.0000-GAS	na	ORGANIC	75-25-2	Bromoform	0.22		1.83	0.92		ppbv	U	CS	VOC	EPA:TO1!ATL	11/5/2007########
48710512	08-98	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058217.0000-GAS	na	ORGANIC	79-34-5	Tetrachloroethane[1	0.26		1.83	0.92		ppbv	U	CS	VOC	EPA:TO1!ATL	11/5/2007########
48710522	08-98	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058217.0000-GAS	na	ORGANIC	622-96-8	Ethyltoluene[4-]	0.64		1.83	0.92		ppbv	U	CS	VOC	EPA:TO1!ATL	11/5/2007########
48710532	08-98	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058217.0000-GAS	na	ORGANIC	108-67-8	Trimethylbenzene[1,	0.86		1.83	0.92		ppbv	U	CS	VOC	EPA:TO1!ATL	11/5/2007########
48710542	08-98	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058217.0000-GAS	na	ORGANIC	95-63-6	Trimethylbenzene[1,	0.37		1.83	0.97		ppbv	U	CS	VOC	EPA:TO1!ATL	11/5/2007########
48710552	08-98	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058217.0000-GAS	na	ORGANIC	541-73-1	Dichlorobenzene[1,3	0.33		1.83	0.92		ppbv	U	CS	VOC	EPA:TO1!ATL	11/5/2007########
48710562	08-98	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058217.0000-GAS	na	ORGANIC	106-46-7	Dichlorobenzene[1,4	0.35		1.83	1		ppbv	NQ	CS	VOC	EPA:TO1!ATL	11/5/2007########
48710572	08-98	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058217.0000-GAS	na	ORGANIC	100-44-7	Benzyl Chloride	0.33		1.83	0.92		ppbv	U	CS	VOC	EPA:TO1!ATL	11/5/2007########
48710582	08-98	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058217.0000-GAS	na	ORGANIC	95-50-1	Dichlorobenzene[1,2	0.24		1.83	0.92		ppbv	U	CS	VOC	EPA:TO1!ATL	11/5/2007########
48710592	08-98	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058217.0000-GAS	na	ORGANIC	120-82-1	Trichlorobenzene[1,2	0.24		1.83	3.7		ppbv	UJ	CS	VOC	EPA:TO1!ATL	11/5/2007########
48710602	08-98	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058217.0000-GAS	na	ORGANIC	87-68-3	Hexachlorobutadiene	0.49		1.83	3.7		ppbv	UJ	CS	VOC	EPA:TO1!ATL	11/5/2007########
48710612	08-98	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058217.0000-GAS	na	ORGANIC	75-45-6	Chlorodifluorometha	3.7		1.83	3.7		ppbv	U	CS	VOC	EPA:TO1!ATL	11/5/2007########
48710622	08-98	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058217.0000-GAS	na	ORGANIC	67-56-1	Methanol	92		1.83	92		ppbv	U	CS	VOC	EPA:TO1!ATL	11/5/2007########
48710632	08-98	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058217.0000-GAS	na	ORGANIC	71-36-3	Butanol[1-]	3.7		1.83	3.7		ppbv	U	CS	VOC	EPA:TO1!ATL	11/5/2007########
48710642	08-98	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058217.0000-GAS	na	ORGANIC	115-07-1	Propylene	0.38		1.83	88		ppbv	NQ	CS	VOC	EPA:TO1!ATL	11/5/2007########
48710652	08-98	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058217.0000-GAS	na	ORGANIC	75-71-8	Dichlorodifluorometh	0.9		1.83	6.8		ug/m3	NQ	DUP	VOC	EPA:TO1!ATL	11/5/2007########
48710662	08-98	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058217.0000-GAS	na	ORGANIC	76-14-2	Dichloro-1,1,2,2-tetr	5.5		1.83	6.4		ug/m3	U	DUP	VOC	EPA:TO1!ATL	11/5/2007########
48710672	08-98	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058217.0000-GAS	na	ORGANIC	74-87-3	Chloromethane	1.2		1.83	7.6		ug/m3	U	DUP	VOC	EPA:TO1!ATL	11/5/2007########
48710682	08-98	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058217.0000-GAS	na	ORGANIC	75-01-4	Vinyl Chloride	0.84		1.83	2.3		ug/m3	U	DUP	VOC	EPA:TO1!ATL	11/5/2007########
48710692	08-98	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058217.0000-GAS	na	ORGANIC	106-99-0	Butadiene[1,3-]	0.53		1.83	10		ug/m3	U	DUP	VOC	EPA:TO1!ATL	11/5/2007########
48710702	08-98	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058217.0000-GAS	na	ORGANIC	74-83-9	Bromomethane	1.8		1.83	3.6		ug/m3	U	DUP	VOC	EPA:TO1!ATL	11/5/2007########
48710712	08-98	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058217.0000-GAS	na	ORGANIC	75-00-3	Chloroethane	0.92		1.83	2.4		ug/m3	U	DUP	VOC	EPA:TO1!ATL	11/5/2007########
48710722	08-98	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058217.0000-GAS	na	ORGANIC	75-69-4	Trichlorofluorometha	0.92		1.83	5.1		ug/m3	U	DUP	VOC	EPA:TO1!ATL	11/5/2007########
48710732	08-98	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058217.0000-GAS	na	ORGANIC	64-17-5	Ethanol	1.4		1.83	6.9		ug/m3	U	DUP	VOC	EPA:TO1!ATL	11/5/2007########
48710742	08-98	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058217.0000-GAS	na	ORGANIC	76-13-1	Trichloro-1,2,2-trifluo	4.3		1.83	26		ug/m3	NQ	DUP	VOC	EPA:TO1!ATL	11/5/2007########
48710752	08-98	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058217.0000-GAS	na	ORGANIC	75-35-4	Dichloroethene[1,1-]	0.8		1.83	9.7		ug/m3	NQ	DUP	VOC	EPA:TO1!ATL	11/5/2007########
48710762	08-98	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058217.0000-GAS	na	ORGANIC	67-64-1	Acetone	1.3		1.83	200		ug/m3	NQ	DUP	VOC	EPA:TO1!ATL	11/5/2007########
48710772	08-98	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058217.0000-GAS	na	ORGANIC	67-63-0	Propanol[2-]	0.58		1.83	9		ug/m3	U	DUP	VOC	EPA:TO1!ATL	11/5/2007########
48710782	08-98	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058217.0000-GAS	na	ORGANIC	75-15-0	Carbon Disulfide	0.74		1.83	5.7		ug/m3	NQ	DUP	VOC	EPA:TO1!ATL	11/5/2007########
48710792	08-98	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058217.0000-GAS	na	ORGANIC	75-09-2	Methylene Chloride	0.76		1.83	420		ug/m3	NQ	DUP	VOC	EPA:TO1!ATL	11/5/2007########
48710802	08-98	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058217.0000-GAS	na	ORGANIC	1634-04-4	Methyl tert-Butyl Eth	0.79		1.83	3.3		ug/m3	U	DUP	VOC	EPA:TO1!ATL	11/5/2007########
48710812	08-98	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058217.0000-GAS	na	ORGANIC	156-60-5	Dichloroethene[trans	1.7		1.83	3.6		ug/m3	U	DUP	VOC	EPA:TO1!ATL	11/5/2007########
48710822	08-98	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058217.0000-GAS	na	ORGANIC	110-54-3	Hexane	0.77		1.83	8.3		ug/m3	NQ	DUP	VOC	EPA:TO1!ATL	11/5/2007########
48710832	08-98	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058217.0000-GAS	na	ORGANIC	75-34-3	Dichloroethane[1,1-]	0.74		1.83	3.7		ug/m3	U	DUP	VOC	EPA:TO1!ATL	11/5/2007########
48710842	08-98	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058217.0000-GAS	na	ORGANIC	78-93-3	Butanone[2-]	1.1		1.83	69		ug/m3	NQ	DUP	VOC	EPA:TO1!ATL	11/5/2007########
48710852	08-98	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058217.0000-GAS	na	ORGANIC	156-59-2	Dichloroethene[cis-1	0.58		1.83	3.6		ug/m3	U	DUP	VOC	EPA:TO1!ATL	11/5/2007########
48710862	08-98	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058217.0000-GAS	na	ORGANIC	109-99-9	Tetrahydrofuran	1.3		1.83	2.7		ug/m3	U	DUP	VOC	EPA:TO1!ATL	11/5/2007########
48710872	08-98	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058217.0000-GAS	na	ORGANIC	67-66-3	Chloroform	0.62		1.83	680		ug/m3	NQ	DUP	VOC	EPA:TO1!ATL	11/5/2007########
48710882	08-98	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058217.0000-GAS	na	ORGANIC	71-55-6	Trichloroethane[1,1,	1		1.83	36		ug/m3	NQ	DUP	VOC	EPA:TO1!ATL	11/5/2007########
48710892	08-98	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058217.0000-GAS	na	ORGANIC	110-82-7	Cyclohexane	1.1		1.83	3.1		ug/m3	U	DUP	VOC	EPA:TO1!ATL	11/5/2007########
48710902	08-98	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058217.0000-GAS	na	ORGANIC	56-23-5	Carbon Tetrachloride	0.92		1.83	400		ug/m3	NQ	DUP	VOC	EPA:TO1!ATL	11/5/2007########
48710912	08-98	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058217.0000-GAS	na	ORGANIC	71-43-2	Benzene	0.7		1.83	4.9		ug/m3	NQ	DUP	VOC	EPA:TO1!ATL	11/5/2007########
48710922	08-98	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058217.0000-GAS	na	ORGANIC	107-06-2	Dichloroethane[1,2-]	0.74		1.83	5		ug/m3	NQ	DUP	VOC	EPA:TO1!ATL	11/5/2007########
48710932	08-98	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058217.0000-GAS	na	ORGANIC	142-82-5	n-Heptane	0.9		1.83	6.4		ug/m3	NQ	DUP	VOC	EPA:TO1!ATL	11/5/2007########
48710942	08-98	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058217.0000-GAS	na	ORGANIC	79-01-6	Trichloroethene	1.1		1.83	790		ug/m3	NQ	DUP	VOC	EPA:TO1!ATL	11/5/2007########
48710952	08-98	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058217.0000-GAS	na	ORGANIC	78-87-5	Dichloropropane[1,2	0.93		1.83	4.2		ug/m3	U	DUP	VOC	EPA:TO1!ATL	11/5/2007########
48710962	08-98	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058217.0000-GAS	na	ORGANIC	123-91-1	Dioxane[1,4-]	0.86		1.83	13		ug/m3	U	DUP	VOC	EPA:TO1!ATL	11/5/2007########
48710972	08-98	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058217.0000-GAS	na	ORGANIC	75-27-4	Bromodichlorometha	1.2		1.83	6.4		ug/m3	NQ	DUP	VOC	EPA:TO1!ATL	11/5/2007########
48710982	08-98	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058217.0000-GAS	na	ORGANIC	10061-01-	Dichloropropene[cis-	1.1		1.83	4.2		ug/m3	U	DUP	VOC	EPA:TO1!ATL	11/5/2007########
48710992	08-98	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058217.0000-GAS	na	ORGANIC	108-10-1	Methyl-2-pentanone[	1.7		1.83	8.9		ug/m3	NQ	DUP	VOC	EPA:TO1!ATL	11/5/2007########
48711002	08-98	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058217.0000-GAS	na	ORGANIC	108-88-3	Toluene	0.62		1.83	5.8		ug/m3	NQ	DUP	VOC	EPA:TO1!ATL	11/5/2007########
48711012	08-98	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058217.0000-GAS	na	ORGANIC	10061-02-	Dichloropropene[tran	1.5		1.83	4.2		ug/m3	U	DUP	VOC	EPA:TO1!ATL	11/5/2007########
48711022	08-98	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058217.0000-GAS	na	ORGANIC	79-00-5	Trichloroethane[1,1,2	1.2		1.83	13		ug/m3	NQ	DUP	VOC	EPA:TO1!ATL	11/5/2007########
48711032	08-98	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058217.0000-GAS	na	ORGANIC	127-18-4	Tetrachloroethene	1.2		1.83	270		ug/m3	NQ	DUP	VOC	EPA:TO1!ATL	11/5/2007########
48711042	08-98	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058217.0000-GAS	na	ORGANIC	591-78-6	Hexanone[2-]	0.75		1.83	37		ug/m3	NQ	DUP	VOC	EPA:TO1!ATL	11/5/2007########
48711052	08-98	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058217.0000-GAS	na	ORGANIC	124-48-1	Chlorodibromometha	1.6		1.83	7.8		ug/m3	U	DUP	VOC	EPA:TO1!ATL	11/5/2007########
48711062	08-98	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058217.0000-GAS	na	ORGANIC	106-93-4	Dibromoethane[1,2-]	1.3		1.83	7		ug/m3	U	DUP	VOC	EPA:TO1!ATL	11/5/2007########
48711072	08-98	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058217.0000-GAS	na	ORGANIC	108-90-7	Chlorobenzene	0.76		1.83	4.2		ug/m3	U	DUP	VOC	EPA:TO1!ATL	11/5/2007########
48711082	08-98	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058217.0000-GAS	na	ORGANIC	100-41-4	Ethylbenzene	1		1.83	4		ug/m3	U	DUP	VOC	EPA:TO1!ATL	11/5/2007########
48711092	08-98	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058217.0000-GAS	na	ORGANIC	Xylene[1,3	Xylene[1,3-]+Xylene	0.64		1.83	4.8		ug/m3	NQ	DUP	VOC	EPA:TO1!ATL	11/5/2007########
48711102	08-98	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058217.0000-GAS	na	ORGANIC	95-47-6	Xylene[1,2-]	1.4		1.83	4		ug/m3	U	DUP	VOC	EPA:TO1!ATL	11/5/2007########
48711112	08-98	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058217.0000-GAS	na	ORGANIC	100-42-5	Styrene	0.78		1.83	3.9		ug/m3	U	DUP	VOC	EPA:TO1!ATL	11/5/2007########
48711122	08-98	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058217.0000-GAS	na	ORGANIC	75-25-2	Bromoform	2.3		1.83	9.4		ug/m3	U	DUP	VOC	EPA:TO1!ATL	11/5/2007########
48711132	08-98	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058217.0000-GAS	na	ORGANIC	79-34-5	Tetrachloroethane[1	1.8		1.83	6.3		ug/m3	U	DUP	VOC	EPA:TO1!ATL	11/5/2007########
48711142	08-98	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058217.0000-GAS	na	ORGANIC	622-96-8	Ethyltoluene[4-]	3.1		1.83	4.5		ug/m3	U	DUP	VOC	EPA:TO1!ATL	11/5/2007########
48711152	08-98	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058217.0000-GAS	na	ORGANIC	108-67-8	Trimethylbenzene[1,	4.2		1.83	4.5		ug/m3	U	DUP	VOC	EPA:TO1!ATL	11/5/2007########
48711162	08-98	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058217.0000-GAS	na	ORGANIC	95-63-6	Trimethylbenzene[1,	1.8		1.83	4.8		ug/m3	U	DUP	VOC	EPA:TO1!ATL	11/5/2007########
48711172	08-98	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058217.0000-GAS	na	ORGANIC	541-73-1	Dichlorobenzene[1,3	2		1.83	5.5		ug/m3	U	DUP	VOC	EPA:TO1!ATL	11/5/2007########
48711182	08-98	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058217.0000-GAS	na	ORGANIC	106-46-7	Dichlorobenzene[1,4	2.1		1.83	6		ug/m3	NQ	DUP	VOC	EPA:TO1!ATL	11/5/2007########
48711192	08-98	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058217.0000-GAS	na	ORGANIC	100-44-7	Benzyl Chloride	1.7		1.83	4.7		ug/m3	U	DUP	VOC	EPA:TO1!ATL	11/5/2007########
48711202	08-98	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058217.0000-GAS	na	ORGANIC	95-50-1	Dichlorobenzene[1,2	1.4		1.83	5.5		ug/m3	U	DUP	VOC	EPA:TO1!ATL	11/5/2007########
48711212	08-98	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058217.0000-GAS	na	ORGANIC	120-82-1	Trichlorobenzene[1,2	1.8		1.83	27		ug/m3	UJ	DUP	VOC	EPA:TO1!ATL	11/5/2007########
48711222	08-98	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058217.0000-GAS	na	ORGANIC	87-68-3	Hexachlorobutadiene	5.3		1.83	39		ug/m3	UJ	DUP	VOC	EPA:TO1!ATL	11/5/2007########
48711232	08-98	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058217.0000-GAS	na	ORGANIC	75-45-6	Chlorodifluorometha	13		1.83	13		ug/m3	U	DUP	VOC	EPA:TO1!ATL	11/5/2007########
48711242	08-98	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058217.0000-GAS	na	ORGANIC	67-56-1	Methanol	120		1.83	120		ug/m3	U	DUP	VOC	EPA:TO1!ATL	11/5/2007########
48711252	08-98	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058217.0000-GAS	na	ORGANIC	71-36-3	Butanol[1-]	11		1.83	11		ug/m3	U	DUP	VOC	EPA:TO1!ATL	11/5/2007########
48711262	08-98	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058217.0000-GAS	na	ORGANIC	115-07-1	Propylene	0.66		1.83	150		ug/m3	NQ	DUP	VOC	EPA:TO1!ATL	11/5/2007########
48711272	08-125	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058292.5000-GAS	na	RAD	H-3	Tritium	10.12	201.685	1	273.951	126.684	pCi/L	NQ	CS	H3	EPA:906.0ARS	11/7/2007 11/3/2007
48711282	08-124	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058292.5000-GAS	na	ORGANIC	75-71-8	Dichlorodifluorometh	0.17		1.68	1.8		ppbv	NQ	CS	VOC	EPA:TO1!ATL	11/7/2007 11/3/2007
48711292	08-124	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058292.5000-GAS	na	ORGANIC	76-14-2	Dichloro-1,1,2,2-tetr	0.72		1.68	0.84		ppbv	U	CS	VOC	EPA:TO1!ATL	11/7/2007 11/3/2007
48711302	08-124	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058292.5000-GAS	na	ORGANIC	74-87-3	Chloromethane	0.52		1.68	3.4		ppbv	U	CS	VOC	EPA:TO1!ATL	11/7/2007 11/3/2007
48711312	08-124	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058292.5000-GAS	na	ORGANIC	75-01-4	Vinyl Chloride	0.3		1.68	0.84		ppbv	U	CS	VOC	EPA:TO1!ATL	11/7/2007 11/3/2007
48711322	08-124	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058292.5000-GAS	na	ORGANIC	106-99-0	Butadiene[1,3-]	0.22		1.68	0.84		ppbv	U	CS	VOC	EPA:TO1!ATL	11/7/2007 11/3/2007
48711332	08-124	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058292.5000-GAS	na	ORGANIC	74-83-9	Bromomethane	0.44		1.68	0.84		ppbv	U	CS	VOC	EPA:TO1!ATL	11/7/2007 11/3/2007
48711342	08-124	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058292.5000-GAS	na	ORGANIC	75-00-3	Chloroethane	0.32		1.68	0.84		ppbv	U	CS	VOC	EPA:TO1!ATL	11/7/2007 11/3/2007
48711352	08-124	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058292.5000-GAS	na	ORGANIC	75-69-4	Trichlorofluorometha	0.15		1.68	0.84		ppbv	U	CS	VOC	EPA:TO1!ATL	11/7/2007 11/3/2007
48711362	08-124	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058292.5000-GAS	na	ORGANIC	64-17-5	Ethanol	0.69		1.68	3.4		ppbv	U	CS	VOC	EPA:TO1!ATL	11/7/2007 11/3/2007
48711372	08-124	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058292.5000-GAS	na	ORGANIC	76-13-1	Trichloro-1,2,2-trifluo	0.52		1.68	7.1		ppbv	NQ	CS	VOC	EPA:TO1!ATL	11/7/2007 11/3/2007
48711382	08-124	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058292.5000-GAS	na	ORGANIC	75-35-4	Dichloroethene[1,1-]	0.18		1.68	6.7		ppbv	NQ	CS	VOC	EPA:TO1!ATL	11/7/2007 11/3/2007
48711392	08-124	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058292.5000-GAS	na	ORGANIC	67-64-1	Acetone	0.5		1.68	62		ppbv	NQ	CS	VOC	EPA:TO1!ATL	11/7/2007 11/3/2007
48711402	08-124	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058292.5000-GAS	na	ORGANIC	67-63-0	Propanol[2-]	0.22		1.68	3.4		ppbv	U	CS	VOC	EPA:TO1!ATL	11/7/2007 11/3/2007
48711412	08-124	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058292.5000-GAS	na	ORGANIC	75-15-0	Carbon Disulfide	0.22		1.68	1.6		ppbv	NQ	CS	VOC	EPA:TO1!ATL	11/7/2007 11/3/2007
48711422	08-124	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058292.5000-GAS	na	ORGANIC	75-09-2	Methylene Chloride	0.2		1.68	110		ppbv	NQ	CS	VOC	EPA:TO1!ATL	11/7/2007 11/3/2007
48711432	08-124	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058292.5000-GAS	na	ORGANIC	1634-04-4	Methyl tert-Butyl Eth	0.2		1.68	0.84		ppbv	U	CS	VOC	EPA:TO1!ATL	11/7/2007 11/3/2007
48711442	08-124	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058292.5000-GAS	na	ORGANIC	156-60-5	Dichloroethene[trans	0.4		1.68	0.84		ppbv	U	CS	VOC	EPA:TO1!ATL	11/7/2007 11/3/2007
48711452	08-124	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058292.5000-GAS	na	ORGANIC	110-54-3	Hexane	0.2		1.68	0.84		ppbv	U	CS	VOC	EPA:TO1!ATL	11/7/2007 11/3/2007
48711462	08-124	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058292.5000-GAS	na	ORGANIC	75-34-3	Dichloroethane[1,1-]	0.17		1.68	0.84		ppbv	U	CS	VOC	EPA:TO1!ATL	11/7/2007 11/3/2007
48711472	08-124	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058292.5000-GAS	na	ORGANIC	78-93-3	Butanone[2-]	0.34		1.68	2.8		ppbv	NQ	CS	VOC	EPA:TO1!ATL	11/7/2007 11/3/2007
48711482	08-124	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058292.5000-GAS	na	ORGANIC	156-59-2	Dichloroethene[cis-1	0.13		1.68	1.3		ppbv	NQ	CS	VOC	EPA:TO1!ATL	11/7/2007 11/3/2007
48711492	08-124	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058292.5000-GAS	na	ORGANIC	109-99-9	Tetrahydrofuran	0.42		1.68	0.91		ppbv	NQ	CS	VOC	EPA:TO1!ATL	11/7/2007 11/3/2007
48711502	08-124	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058292.5000-GAS	na	ORGANIC	67-66-3	Chloroform	0.12		1.68	140		ppbv	NQ	CS	VOC	EPA:TO1!ATL	11/7/2007 11/3/2007
48711512	08-124	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058292.5000-GAS	na	ORGANIC	71-55-6	Trichloroethane[1,1,	0.17		1.68	4.7		ppbv	NQ	CS	VOC	EPA:TO1!ATL	11/7/2007 11/3/2007
48711522	08-124	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058292.5000-GAS	na	ORGANIC	110-82-7	Cyclohexane	0.3		1.68	0.84		ppbv	U	CS	VOC	EPA:TO1!ATL	11/7/2007 11/3/2007
48711532	08-124	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058292.5000-GAS	na	ORGANIC	56-23-5	Carbon Tetrachloride	0.13		1.68	99		ppbv	NQ	CS	VOC	EPA:TO1!ATL	11/7/2007 11/3/2007
48711542	08-124	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058292.5000-GAS	na	ORGANIC	71-43-2	Benzene	0.2		1.68	1		ppbv	NQ	CS	VOC	EPA:TO1!ATL	11/7/2007 11/3/2007
48711552	08-124	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058292.5000-GAS	na	ORGANIC	107-06-2	Dichloroethane[1,2-]	0.17		1.68	1.3		ppbv	NQ	CS	VOC	EPA:TO1!ATL	11/7/2007 11/3/2007
48711562	08-124	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058292.5000-GAS	na	ORGANIC	142-82-5	n-Heptane	0.2		1.68	0.84		ppbv	U	CS	VOC	EPA:TO1!ATL	11/7/2007 11/3/2007
48711572	08-124	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058292.5000-GAS	na	ORGANIC	79-01-6	Trichloroethene	0.18		1.68	200		ppbv	NQ	CS	VOC	EPA:TO1!ATL	11/7/2007 11/3/2007
48711582	08-124	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058292.5000-GAS	na	ORGANIC	78-87-5	Dichloropropane[1,2	0.18		1.68	0.84		ppbv	U	CS	VOC	EPA:TO1!ATL	11/7/2007 11/3/2007
48711592	08-124	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058292.5000-GAS	na	ORGANIC	123-91-1	Dioxane[1,4-]	0.22		1.68	3.4		ppbv	U	CS	VOC	EPA:TO1!ATL	11/7/2007 11/3/2007
48711602	08-124	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058292.5000-GAS	na	ORGANIC	75-27-4	Bromodichlorometha	0.17		1.68	1.4		ppbv	NQ	CS	VOC	EPA:TO1!ATL	11/7/2007 11/3/2007
48711612	08-124	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058292.5000-GAS	na	ORGANIC	10061-01-	Dichloropropene[cis-	0.22		1.68	0.84		ppbv	U	CS	VOC	EPA:TO1!ATL	11/7/2007 11/3/2007
48711622	08-124	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058292.5000-GAS	na	ORGANIC	108-10-1	Methyl-2-pentanone[	0.39		1.68	0.84		ppbv	U	CS	VOC	EPA:TO1!ATL	11/7/2007 11/3/2007
48711632	08-124	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058292.5000-GAS	na	ORGANIC	108-88-3	Toluene	0.15		1.68	1.6		ppbv	NQ	CS	VOC	EPA:TO1!ATL	11/7/2007 11/3/2007
48711642	08-124	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058292.5000-GAS	na	ORGANIC	10061-02-	Dichloropropene[tran	0.3		1.68	0.84		ppbv	U	CS	VOC	EPA:TO1!ATL	11/7/2007 11/3/2007
48711652	08-124	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058292.5000-GAS	na	ORGANIC	79-00-5	Trichloroethane[1,1,2	0.2		1.68	5		ppbv	NQ	CS	VOC	EPA:TO1!ATL	11/7/2007 11/3/2007
48711662	08-124	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058292.5000-GAS	na	ORGANIC	127-18-4	Tetrachloroethene	0.17		1.68	29		ppbv	NQ	CS	VOC	EPA:TO1!ATL	11/7/2007 11/3/2007
48711672	08-124	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058292.5000-GAS	na	ORGANIC	591-78-6	Hexanone[2-]	0.17		1.68	3.4		ppbv	U	CS	VOC	EPA:TO1!ATL	11/7/2007 11/3/2007
48711682	08-124	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058292.5000-GAS	na	ORGANIC	124-48-1	Chlorodibromometha	0.17		1.68	0.84		ppbv	U	CS	VOC	EPA:TO1!ATL	11/7/2007 11/3/2007
48711692	08-124	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058292.5000-GAS	na	ORGANIC	106-93-4	Dibromoethane[1,2-]	0.15		1.68	0.84		ppbv	U	CS	VOC	EPA:TO1!ATL	11/7/2007 11/3/2007
48711702	08-124	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058292.5000-GAS	na	ORGANIC	108-90-7	Chlorobenzene	0.15		1.68	0.84		ppbv	U	CS	VOC	EPA:TO1!ATL	11/7/2007 11/3/2007
48711712	08-124	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058292.5000-GAS	na	ORGANIC	100-41-4	Ethylbenzene	0.22		1.68	0.84		ppbv	U	CS	VOC	EPA:TO1!ATL	11/7/2007 11/3/2007
48711722	08-124	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058292.5000-GAS	na	ORGANIC	Xylene[1,3	Xylene[1,3-]+Xylene	0.13		1.68	0.84		ppbv	U	CS	VOC	EPA:TO1!ATL	11/7/2007 11/3/2007
48711732	08-124	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058292.5000-GAS	na	ORGANIC	95-47-6	Xylene[1,2-]	0.28		1.68	0.84		ppbv	U	CS	VOC	EPA:TO1!ATL	11/7/2007 11/3/2007
48711742	08-124	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058292.5000-GAS	na	ORGANIC	100-42-5	Styrene	0.17		1.68	0.84		ppbv	U	CS	VOC	EPA:TO1!ATL	11/7/2007 11/3/2007
48711752	08-124	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058292.5000-GAS	na	ORGANIC	75-25-2	Bromoform	0.2		1.68	0.84		ppbv	U	CS	VOC	EPA:TO1!ATL	11/7/2007 11/3/2007
48711762	08-124	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058292.5000-GAS	na	ORGANIC	79-34-5	Tetrachloroethane[1	0.24		1.68	0.84		ppbv	U	CS	VOC	EPA:TO1!ATL	11/7/2007 11/3/2007
48711772	08-124	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058292.5000-GAS	na	ORGANIC	622-96-8	Ethyltoluene[4-]	0.59		1.68	0.84		ppbv	U	CS	VOC	EPA:TO1!ATL	11/7/2007 11/3/2007
48711782	08-124	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058292.5000-GAS	na	ORGANIC	108-67-8	Trimethylbenzene[1,	0.79		1.68	0.84		ppbv	U	CS	VOC	EPA:TO1!ATL	11/7/2007 11/3/2007
48711792	08-124	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058292.5000-GAS	na	ORGANIC	95-63-6	Trimethylbenzene[1,	0.34		1.68	0.9		ppbv	U	CS	VOC	EPA:TO1!ATL	11/7/2007 11/3/2007
48711802	08-124	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058292.5000-GAS	na	ORGANIC	541-73-1	Dichlorobenzene[1,3	0.3		1.68	0.84		ppbv	U	CS	VOC	EPA:TO1!ATL	11/7/2007 11/3/2007
48711812	08-124	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058292.5000-GAS	na	ORGANIC	106-46-7	Dichlorobenzene[1,4	0.32		1.68	0.84		ppbv	U	CS	VOC	EPA:TO1!ATL	11/7/2007 11/3/2007
48711822	08-124	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058292.5000-GAS	na	ORGANIC	100-44-7	Benzyl Chloride	0.3		1.68	0.84		ppbv	U	CS	VOC	EPA:TO1!ATL	11/7/2007 11/3/2007
48711832	08-124	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058292.5000-GAS	na	ORGANIC	95-50-1	Dichlorobenzene[1,2	0.22		1.68	0.84		ppbv	U	CS	VOC	EPA:TO1!ATL	11/7/2007 11/3/2007
48711842	08-124	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058292.5000-GAS	na	ORGANIC	120-82-1	Trichlorobenzene[1,2	0.22		1.68	3.4		ppbv	U	CS	VOC	EPA:TO1!ATL	11/7/2007 11/3/2007
48711852	08-124	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058292.5000-GAS	na	ORGANIC	87-68-3	Hexachlorobutadiene	0.45		1.68	3.4		ppbv	UJ	CS	VOC	EPA:TO1!ATL	11/7/2007 11/3/2007
48711862	08-124	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058292.5000-GAS	na	ORGANIC	75-45-6	Chlorodifluorometha	3.4		1.68	3.4		ppbv	U	CS	VOC	EPA:TO1!ATL	11/7/2007 11/3/2007
48711872	08-124	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058292.5000-GAS	na	ORGANIC	67-56-1	Methanol	84		1.68	84		ppbv	U	CS	VOC	EPA:TO1!ATL	11/7/2007 11/3/2007
48711882	08-124	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058292.5000-GAS	na	ORGANIC	71-36-3	Butanol[1-]	3.4		1.68	3.4		ppbv	U	CS	VOC	EPA:TO1!ATL	11/7/2007 11/3/2007
48711892	08-124	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058292.5000-GAS	na	ORGANIC	115-07-1	Propylene	0.35		1.68	3.4		ppbv	U	CS	VOC	EPA:TO1!ATL	11/7/2007 11/3/2007
48711902	08-124	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058292.5000-GAS	na	ORGANIC	75-71-8	Dichlorodifluorometh	0.83		1.68	9.2		ug/m3	NQ	DUP	VOC	EPA:TO1!ATL	11/7/2007 11/3/2007
48711912	08-124	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058292.5000-GAS	na	ORGANIC	76-14-2	Dichloro-1,1,2,2-tetr	5		1.68	5.9		ug/m3	U	DUP	VOC	EPA:TO1!ATL	11/7/2007 11/3/2007
48711922	08-124	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058292.5000-GAS	na	ORGANIC	74-87-3	Chloromethane	1.1		1.68	6.9		ug/m3	U	DUP	VOC	EPA:TO1!ATL	11/7/2007 11/3/2007
48711932	08-124	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058292.5000-GAS	na	ORGANIC	75-01-4	Vinyl Chloride	0.77		1.68	2.1		ug/m3	U	DUP	VOC	EPA:TO1!ATL	11/7/2007 11/3/2007
48711942	08-124	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058292.5000-GAS	na	ORGANIC	106-99-0	Butadiene[1,3-]	0.48		1.68	1.8		ug/m3	U	DUP	VOC	EPA:TO1!ATL	11/7/2007 11/3/2007
48711952	08-124	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058292.5000-GAS	na	ORGANIC	74-83-9	Bromomethane	1.7		1.68	3.3		ug/m3	U	DUP	VOC	EPA:TO1!ATL	11/7/2007 11/3/2007
48711962	08-124	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058292.5000-GAS	na	ORGANIC	75-00-3	Chloroethane	0.84		1.68	2.2		ug/m3	U	DUP	VOC	EPA:TO1!ATL	11/7/2007 11/3/2007
48711972	08-124	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058292.5000-GAS	na	ORGANIC	75-69-4	Trichlorofluorometha	0.85		1.68	4.7		ug/m3	U	DUP	VOC	EPA:TO1!ATL	11/7/2007 11/3/2007
48711982	08-124	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058292.5000-GAS	na	ORGANIC	64-17-5	Ethanol	1.3		1.68	6.3		ug/m3	U	DUP	VOC	EPA:TO1!ATL	11/7/2007 11/3/2007
48711992	08-124	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058292.5000-GAS	na	ORGANIC	76-13-1	Trichloro-1,2,2-trifluo	4		1.68	55		ug/m3	NQ	DUP	VOC	EPA:TO1!ATL	11/7/2007 11/3/2007
48712002	08-124	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058292.5000-GAS	na	ORGANIC	75-35-4	Dichloroethene[1,1-]	0.73		1.68	27		ug/m3	NQ	DUP	VOC	EPA:TO1!ATL	11/7/2007 11/3/2007
48712012	08-124	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058292.5000-GAS	na	ORGANIC	67-64-1	Acetone	1.2		1.68	150		ug/m3	NQ	DUP	VOC	EPA:TO1!ATL	11/7/2007 11/3/2007
48712022	08-124	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058292.5000-GAS	na	ORGANIC	67-63-0	Propanol[2-]	0.54		1.68	8.2		ug/m3	U	DUP	VOC	EPA:TO1!ATL	11/7/2007 11/3/2007
48712032	08-124	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058292.5000-GAS	na	ORGANIC	75-15-0	Carbon Disulfide	0.68		1.68	5.1		ug/m3	NQ	DUP	VOC	EPA:TO1!ATL	11/7/2007 11/3/2007
48712042	08-124	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058292.5000-GAS	na	ORGANIC	75-09-2	Methylene Chloride	0.7		1.68	380		ug/m3	NQ	DUP	VOC	EPA:TO1!ATL	11/7/2007 11/3/2007
48712052	08-124	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058292.5000-GAS	na	ORGANIC	1634-04-4	Methyl tert-Butyl Eth	0.73		1.68	3		ug/m3	U	DUP	VOC	EPA:TO1!ATL	11/7/2007 11/3/2007
48712062	08-124	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058292.5000-GAS	na	ORGANIC	156-60-5	Dichloroethene[trans	1.6		1.68	3.3		ug/m3	U	DUP	VOC	EPA:TO1!ATL	11/7/2007 11/3/2007
48712072	08-124	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058292.5000-GAS	na	ORGANIC	110-54-3	Hexane	0.71		1.68	3		ug/m3	U	DUP	VOC	EPA:TO1!ATL	11/7/2007 11/3/2007
48712082	08-124	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058292.5000-GAS	na	ORGANIC	75-34-3	Dichloroethane[1,1-]	0.68		1.68	3.4		ug/m3	U	DUP	VOC	EPA:TO1!ATL	11/7/2007 11/3/2007
48712092	08-124	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058292.5000-GAS	na	ORGANIC	78-93-3	Butanone[2-]	0.99		1.68	8.4		ug/m3	NQ	DUP	VOC	EPA:TO1!ATL	11/7/2007 11/3/2007
48712102	08-124	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058292.5000-GAS	na	ORGANIC	156-59-2	Dichloroethene[cis-1	0.53		1.68	5		ug/m3	NQ	DUP	VOC	EPA:TO1!ATL	11/7/2007 11/3/2007
48712112	08-124	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058292.5000-GAS	na	ORGANIC	109-99-9	Tetrahydrofuran	1.2		1.68	2.7		ug/m3	NQ	DUP	VOC	EPA:TO1!ATL	11/7/2007 11/3/2007
48712122	08-124	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058292.5000-GAS	na	ORGANIC	67-66-3	Chloroform	0.57		1.68	680		ug/m3	NQ	DUP	VOC	EPA:TO1!ATL	11/7/2007 11/3/2007
48712132	08-124	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058292.5000-GAS	na	ORGANIC	71-55-6	Trichloroethane[1,1,	0.92		1.68	26		ug/m3	NQ	DUP	VOC	EPA:TO1!ATL	11/7/2007 11/3/2007
48712142	08-124	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058292.5000-GAS	na	ORGANIC	110-82-7	Cyclohexane	1		1.68	2.9		ug/m3	U	DUP	VOC	EPA:TO1!ATL	11/7/2007 11/3/2007
48712152	08-124	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058292.5000-GAS	na	ORGANIC	56-23-5	Carbon Tetrachloride	0.84		1.68	620		ug/m3	NQ	DUP	VOC	EPA:TO1!ATL	11/7/2007 11/3/2007
48712162	08-124	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058292.5000-GAS	na	ORGANIC	71-43-2	Benzene	0.64		1.68	3.2		ug/m3	NQ	DUP	VOC	EPA:TO1!ATL	11/7/2007 11/3/2007
48712172	08-124	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058292.5000-GAS	na	ORGANIC	107-06-2	Dichloroethane[1,2-]	0.68		1.68	5.2		ug/m3	NQ	DUP	VOC	EPA:TO1!ATL	11/7/2007 11/3/2007
48712182	08-124	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058292.5000-GAS	na	ORGANIC	142-82-5	n-Heptane	0.83		1.68	3.4		ug/m3	U	DUP	VOC	EPA:TO1!ATL	11/7/2007 11/3/2007
48712192	08-124	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058292.5000-GAS	na	ORGANIC	79-01-6	Trichloroethene	0.99		1.68	1100		ug/m3	NQ	DUP	VOC	EPA:TO1!ATL	11/7/2007 11/3/2007
48712202	08-124	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058292.5000-GAS	na	ORGANIC	78-87-5	Dichloropropane[1,2	0.85		1.68	3.9		ug/m3	U	DUP	VOC	EPA:TO1!ATL	11/7/2007 11/3/2007
48712212	08-124	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058292.5000-GAS	na	ORGANIC	123-91-1	Dioxane[1,4-]	0.79		1.68	12		ug/m3	U	DUP	VOC	EPA:TO1!ATL	11/7/2007 11/3/2007
48712222	08-124	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058292.5000-GAS	na	ORGANIC	75-27-4	Bromodichlorometha	1.1		1.68	9.2		ug/m3	NQ	DUP	VOC	EPA:TO1!ATL	11/7/2007 11/3/2007
48712232	08-124	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058292.5000-GAS	na	ORGANIC	10061-01-	Dichloropropene[cis-	0.99		1.68	3.8		ug/m3	U	DUP	VOC	EPA:TO1!ATL	11/7/2007 11/3/2007
48712242	08-124	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058292.5000-GAS	na	ORGANIC	108-10-1	Methyl-2-pentanone[	1.6		1.68	3.4		ug/m3	U	DUP	VOC	EPA:TO1!ATL	11/7/2007 11/3/2007
48712252	08-124	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058292.5000-GAS	na	ORGANIC	108-88-3	Toluene	0.57		1.68	6		ug/m3	NQ	DUP	VOC	EPA:TO1!ATL	11/7/2007 11/3/2007
48712262	08-124	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058292.5000-GAS	na	ORGANIC	10061-02-	Dichloropropene[tran	1.4		1.68	3.8		ug/m3	U	DUP	VOC	EPA:TO1!ATL	11/7/2007 11/3/2007
48712272	08-124	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058292.5000-GAS	na	ORGANIC	79-00-5	Trichloroethane[1,1,2	1.1		1.68	27		ug/m3	NQ	DUP	VOC	EPA:TO1!ATL	11/7/2007 11/3/2007
[illegible]																							

48714712	08-98	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058239.5000-	GAS	na	ORGANIC	123-91-1	Dioxane[1,4-]	0.89			1.91	14		ug/m3	U	DUP	VOC	EPA:TO1	ATL	11/5/2007	########
48714722	08-98	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058239.5000-	GAS	na	ORGANIC	75-27-4	Bromodichlorometha	1.3			1.91	6.4		ug/m3	U	DUP	VOC	EPA:TO1	ATL	11/5/2007	########
48714732	08-98	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058239.5000-	GAS	na	ORGANIC	10061-01-	Dichloropropene[cis-	1.1			1.91	4.3		ug/m3	U	DUP	VOC	EPA:TO1	ATL	11/5/2007	########
48714742	08-98	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058239.5000-	GAS	na	ORGANIC	108-10-1	Methyl-2-pentanone[	1.8			1.91	3.9		ug/m3	U	DUP	VOC	EPA:TO1	ATL	11/5/2007	########
48714752	08-98	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058239.5000-	GAS	na	ORGANIC	108-88-3	Toluene	0.65			1.91	3.6		ug/m3	U	DUP	VOC	EPA:TO1	ATL	11/5/2007	########
48714762	08-98	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058239.5000-	GAS	na	ORGANIC	10061-02-	Dichloropropene[trar	1.6			1.91	4.3		ug/m3	U	DUP	VOC	EPA:TO1	ATL	11/5/2007	########
48714772	08-98	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058239.5000-	GAS	na	ORGANIC	79-00-5	Trichloroethane[1,1,2	1.2			1.91	6.3		ug/m3	NQ	DUP	VOC	EPA:TO1	ATL	11/5/2007	########
48714782	08-98	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058239.5000-	GAS	na	ORGANIC	127-18-4	Tetrachloroethene	1.3			1.91	6.5		ug/m3	U	DUP	VOC	EPA:TO1	ATL	11/5/2007	########
48714792	08-98	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058239.5000-	GAS	na	ORGANIC	591-78-6	Hexanone[2-]	0.78			1.91	16		ug/m3	U	DUP	VOC	EPA:TO1	ATL	11/5/2007	########
48714802	08-98	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058239.5000-	GAS	na	ORGANIC	124-48-1	Chlorodibrometha	1.6			1.91	8.1		ug/m3	U	DUP	VOC	EPA:TO1	ATL	11/5/2007	########
48714812	08-98	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058239.5000-	GAS	na	ORGANIC	106-93-4	Dibromoethane[1,2-]	1.3			1.91	7.3		ug/m3	U	DUP	VOC	EPA:TO1	ATL	11/5/2007	########
48714822	08-98	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058239.5000-	GAS	na	ORGANIC	108-90-7	Chlorobenzene	0.79			1.91	4.4		ug/m3	U	DUP	VOC	EPA:TO1	ATL	11/5/2007	########
48714832	08-98	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058239.5000-	GAS	na	ORGANIC	100-41-4	Ethylbenzene	1.1			1.91	4.1		ug/m3	U	DUP	VOC	EPA:TO1	ATL	11/5/2007	########
48714842	08-98	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058239.5000-	GAS	na	ORGANIC	Xylene[1,3	Xylene[1,3-]+Xylene	0.66			1.91	4.1		ug/m3	U	DUP	VOC	EPA:TO1	ATL	11/5/2007	########
48714852	08-98	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058239.5000-	GAS	na	ORGANIC	95-47-6	Xylene[1,2-]	1.4			1.91	4.1		ug/m3	U	DUP	VOC	EPA:TO1	ATL	11/5/2007	########
48714862	08-98	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058239.5000-	GAS	na	ORGANIC	100-42-5	Styrene	0.81			1.91	4.1		ug/m3	U	DUP	VOC	EPA:TO1	ATL	11/5/2007	########
48714872	08-98	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058239.5000-	GAS	na	ORGANIC	75-25-2	Bromoform	2.4			1.91	9.9		ug/m3	U	DUP	VOC	EPA:TO1	ATL	11/5/2007	########
48714882	08-98	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058239.5000-	GAS	na	ORGANIC	79-34-5	Tetrachloroethane[1	1.8			1.91	6.6		ug/m3	U	DUP	VOC	EPA:TO1	ATL	11/5/2007	########
48714892	08-98	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058239.5000-	GAS	na	ORGANIC	622-96-8	Ethyltoluene[4-]	3.3			1.91	4.7		ug/m3	U	DUP	VOC	EPA:TO1	ATL	11/5/2007	########
48714902	08-98	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058239.5000-	GAS	na	ORGANIC	108-67-8	Trimethylbenzene[1,	4.4			1.91	4.7		ug/m3	U	DUP	VOC	EPA:TO1	ATL	11/5/2007	########
48714912	08-98	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058239.5000-	GAS	na	ORGANIC	95-63-6	Trimethylbenzene[1,	1.9			1.91	4.7		ug/m3	U	DUP	VOC	EPA:TO1	ATL	11/5/2007	########
48714922	08-98	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058239.5000-	GAS	na	ORGANIC	541-73-1	Dichlorobenzene[1,3	2.1			1.91	5.7		ug/m3	U	DUP	VOC	EPA:TO1	ATL	11/5/2007	########
48714932	08-98	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058239.5000-	GAS	na	ORGANIC	106-46-7	Dichlorobenzene[1,4	2.2			1.91	5.7		ug/m3	U	DUP	VOC	EPA:TO1	ATL	11/5/2007	########
48714942	08-98	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058239.5000-	GAS	na	ORGANIC	100-44-7	Benzyl Chloride	1.8			1.91	4.9		ug/m3	U	DUP	VOC	EPA:TO1	ATL	11/5/2007	########
48714952	08-98	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058239.5000-	GAS	na	ORGANIC	95-50-1	Dichlorobenzene[1,2	1.5			1.91	5.7		ug/m3	U	DUP	VOC	EPA:TO1	ATL	11/5/2007	########
48714962	08-98	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058239.5000-	GAS	na	ORGANIC	120-82-1	Trichlorobenzene[1,2	1.8			1.91	28		ug/m3	UJ	DUP	VOC	EPA:TO1	ATL	11/5/2007	########
48714972	08-98	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058239.5000-	GAS	na	ORGANIC	87-68-3	Hexachlorobutadiene	5.5			1.91	41		ug/m3	UJ	DUP	VOC	EPA:TO1	ATL	11/5/2007	########
48714982	08-98	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058239.5000-	GAS	na	ORGANIC	75-45-6	Chlorodifluorometha	14			1.91	14		ug/m3	U	DUP	VOC	EPA:TO1	ATL	11/5/2007	########
48714992	08-98	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058239.5000-	GAS	na	ORGANIC	67-56-1	Methanol	120			1.91	120		ug/m3	U	DUP	VOC	EPA:TO1	ATL	11/5/2007	########
48715002	08-98	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058239.5000-	GAS	na	ORGANIC	71-36-3	Butanol[1-]	12			1.91	12		ug/m3	U	DUP	VOC	EPA:TO1	ATL	11/5/2007	########
48715012	08-98	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603058239.5000-	GAS	na	ORGANIC	115-07-1	Propylene	0.69			1.91	12		ug/m3	NQ	DUP	VOC	EPA:TO1	ATL	11/5/2007	########
48715022	08-125	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603059187.5000-	GAS	na	RAD	H-3	Tritium		13.5	199.227	1	279.253	130.039	pCi/L	NQ	CS	H3	EPA:906.0	ARS	11/7/2007	11/3/2007
48715032	08-124	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603059187.5000-	GAS	na	ORGANIC	75-71-8	Dichlorodifluorometh	0.18			1.79	1.5		ppbv	NQ	CS	VOC	EPA:TO1	ATL	11/6/2007	11/3/2007
48715042	08-124	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603059187.5000-	GAS	na	ORGANIC	76-14-2	Dichloro-1,1,2,2-tetra	0.77			1.79	0.9		ppbv	U	CS	VOC	EPA:TO1	ATL	11/6/2007	11/3/2007
48715052	08-124	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603059187.5000-	GAS	na	ORGANIC	74-87-3	Chloromethane	0.55			1.79	3.6		ppbv	U	CS	VOC	EPA:TO1	ATL	11/6/2007	11/3/2007
48715062	08-124	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603059187.5000-	GAS	na	ORGANIC	75-01-4	Vinyl Chloride	0.32			1.79	0.9		ppbv	U	CS	VOC	EPA:TO1	ATL	11/6/2007	11/3/2007
48715072	08-124	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603059187.5000-	GAS	na	ORGANIC	106-99-0	Butadiene[1,3-]	0.23			1.79	5.1		ppbv	U	CS	VOC	EPA:TO1	ATL	11/6/2007	11/3/2007
48715082	08-124	MD21-07-N	VOST	INV	na	na	21-016(a)-99	21-603059187.5000-	GAS	na	ORGANIC	74-83-9	Bromomethane	0.46			1.79	0.9		ppbv	U	CS	VOC	EPA:TO1	ATL	11/6/2007	11/3/2007
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

URI	Request N	Sample ID	Excavated	Sample Te	Sample Us	Field Prep	Field QC T	PRS	Location ID	Depth Ran	Field Matri	Media	RFI Class	Analyte Co	Analyte	Percent Mo	Standard N	Standard N	Dilution Fa	Standard R	Standard U	Standard U	Qualifier	Lab Sampl	Analytical S	Analytical I	Lab Code	Analysis Da	Collection D
47800552	08-69	MD21-07-6	N	HSA	INV	na	na	21-016(a)-99	21-25266	5.0000-5.7	S	SOIL	RAD	Pu-239/240	Plutonium-239/240			0.237	1	0.002	0.1	pCi/g	R	CS	ISO_PU	HASL-300	ARSL	########	########
47800582	08-69	MD21-07-6	N	HSA	INV	na	na	21-016(a)-99	21-25266	5.0000-5.7	S	SOIL	RAD	Pu-238	Plutonium-238			0.188	1	0.053	0.101	pCi/g	R	CS	ISO_PU	HASL-300	ARSL	########	########

Date

URI	Request N	Sample ID	Excavated	Sample Te	Sample Us	Field Prep	Field QC T	PRS	Location ID	Depth Ran	Field Matri	Media	RFI Class	Analyte Co	Analyte	Percent Mo	Standard N	Standard N	Dilution Fa	Standard R	Standard U	Standard U	Qualifier	Lab Sampl	Analytical S	Analytical I	Lab Code	Analysis Da	Collection D
47696902	08-68	MD21-07-6	N	HA	QC	na	FD	21-016(a)-99	21-01642	0.0000-0.5	S	SOIL	INORGANI	NO3	Nitrate	4.2	0.09		1	0.21		mg/kg	U	CS	ANION	EPA:300.0	STSL	########	########
47697092	08-68	MD21-07-7	N	HSA	QC	na	FD	21-016(a)-99	21-603000	0.0000-2.0	S	SOIL	INORGANI	NO3	Nitrate	5.8	0.091		1	0.18		mg/kg	J	CS	ANION	EPA:300.0	STSL	########	########
47697102	08-68	MD21-07-7	N	HSA	QC	na	FD	21-016(a)-99	21-603000	0.0000-2.0	S	SOIL	INORGANI	CLO4	Perchlorate	5.8	0.0021		1	0.0053		mg/kg	U	CS	PERCHLO	SW-846:68	STSL	########	########
47697132	08-68	MD21-07-6	N	HSA	QC	na	FD	21-016(a)-99	21-01862	4.5000-6.5	S	SOIL	INORGANI	CLO4	Perchlorate	9.6	0.0022		1	0.0055		mg/kg	U	CS	PERCHLO	SW-846:68	STSL	########	########
47697272	08-68	MD21-07-6	N	HA	QC	na	FD	21-016(a)-99	21-01860	7.0000-8.5	S	SOIL	INORGANI	NO3	Nitrate	15	0.1		1	0.24		mg/kg	U	CS	ANION	EPA:300.0	STSL	########	########
47697432	08-68	MD21-07-6	N	HA	QC	na	FD	21-016(a)-99	21-01860	7.0000-8.5	S	SOIL	INORGANI	CLO4	Perchlorate	15	0.0024		1	0.0059		mg/kg	U	CS	PERCHLO	SW-846:68	STSL	########	########
47697452	08-68	MD21-07-6	N	HA	QC	na	FD	21-016(a)-99	21-01642	0.0000-0.5	S	SOIL	INORGANI	CLO4	Perchlorate	4.2	0.0021		1	0.0052		mg/kg	U	CS	PERCHLO	SW-846:68	STSL	########	########
47697502	08-68	MD21-07-6	N	HSA	QC	na	FD	21-016(a)-99	21-01862	4.5000-6.5	S	SOIL	INORGANI	NO3	Nitrate	9.6	0.095		1	0.22		mg/kg	U	CS	ANION	EPA:300.0	STSL	########	########
47800292	08-69	MD21-07-7	N	HSA	QC	na	FD	21-016(a)-99	21-603000	0.0000-2.0	S	SOIL	RAD	Am-241	Americium-241			0.064	1	-0.045	0.02	pCi/g	UJ	CS	AM_241	HASL-300	ARSL	########	########
47800332	08-69	MD21-07-6	N	HSA	QC	na	FD	21-016(a)-99	21-01862	4.5000-6.5	S	SOIL	RAD	Pu-239/240	Plutonium-239/240			0.033	1	0.097	0.038	pCi/g	J	CS	ISO_PU	HASL-300	ARSL	########	########
47800502	08-69	MD21-07-6	N	HSA	QC	na	FD	21-016(a)-99	21-01862	4.5000-6.5	S	SOIL	RAD	Am-241	Americium-241			0.028	1	0.019	0.02	pCi/g	UJ	CS	AM_241	HASL-300	ARSL	########	########
47800592	08-69	MD21-07-6	N	HA	QC	na	FD	21-016(a)-99	21-01860	7.0000-8.5	S	SOIL	RAD	Am-241	Americium-241			0.027	1	0.023	0.021	pCi/g	UJ	CS	AM_241	HASL-300	ARSL	########	########
47800622	08-69	MD21-07-6	N	HSA	QC	na	FD	21-016(a)-99	21-01862	4.5000-6.5	S	SOIL	RAD	Pu-238	Plutonium-238			0.026	1	0.012	0.016	pCi/g	UJ	CS	ISO_PU	HASL-300	ARSL	########	########
47800722	08-69	MD21-07-7	N	HSA	QC	na	FD	21-016(a)-99	21-603000	0.0000-2.0	S	SOIL	RAD	Pu-238	Plutonium-238			0.903	1	-0.32	0.334	pCi/g	R	CS	ISO_PU	HASL-300	ARSL	########	########
47800772	08-69	MD21-07-6	N	HA	QC	na	FD	21-016(a)-99	21-01860	7.0000-8.5	S	SOIL	RAD	Pu-239/240	Plutonium-239/240			0.035	1	0.128	0.043	pCi/g	J	CS	ISO_PU	HASL-300	ARSL	########	########
47800802	08-69	MD21-07-6	N	HA	QC	na	FD	21-016(a)-99	21-01642	0.0000-0.5	S	SOIL	RAD	Pu-239/240	Plutonium-239/240			0.052	1	2.906	0.4	pCi/g	J	CS	ISO_PU	HASL-300	ARSL	########	########
47800932	08-69	MD21-07-6	N	HA	QC	na	FD	21-016(a)-99	21-01642	0.0000-0.5	S	SOIL	RAD	Am-241	Americium-241			0.035	1	0.058	0.036	pCi/g	J	CS	AM_241	HASL-300	ARSL	########	########
47801012	08-69	MD21-07-6	N	HA	QC	na	FD	21-016(a)-99	21-01860	7.0000-8.5	S	SOIL	RAD	Pu-238	Plutonium-238			0.02	1	0.03	0.019	pCi/g	J	CS	ISO_PU	HASL-300	ARSL	########	########
47801082	08-69	MD21-07-6	N	HA	QC	na	FD	21-016(a)-99	21-01642	0.0000-0.5	S	SOIL	RAD	Pu-238	Plutonium-238			0.023	1	0.032	0.022	pCi/g	UJ	CS	ISO_PU	HASL-300	ARSL	########	########
47801192	08-69	MD21-07-7	N	HSA	QC	na	FD	21-016(a)-99	21-603000	0.0000-2.0	S	SOIL	RAD	Pu-239/240	Plutonium-239/240			1.057	1	11.205	2.206	pCi/g	R	CS	ISO_PU	HASL-300	ARSL	########	########
47923832	08-69	MD21-07-7	N	HSA	QC	na	FD	21-016(a)-99	21-603000	0.0000-2.0	S	SOIL	RAD	Pu-239/240	Plutonium-239/240			0.032	1	3.505	0.476	pCi/g	J	RE	ISO_PU	HASL-300	ARSL	########	########
47923842	08-69	MD21-07-7	N	HSA	QC	na	FD	21-016(a)-99	21-603000	0.0000-2.0	S	SOIL	RAD	Pu-238	Plutonium-238			0.025	1	0.435	0.093	pCi/g	J	RE	ISO_PU	HASL-300	ARSL	########	########

Date

URI	Request Nu	Sample ID	Excavated	Sample Tec	Sample Us	Field Prep	Field QC Ty	PRS	Location ID	Depth Rang	Field Matrix	Media	RFI Class	Analyte Co	Analyte	Percent Mo	Standard M	Standard M	Dilution Fac	Standard R	Standard U	Standard U	Qualifier	Lab Sample	Analytical S	Analytical M	Lab Code	Analysis Date	Collection Date
47696872	08-68	MD21-07-6761	N	HSA	INV	na	na	21-016(a)-99	21-01860	0.0000-0.8	S	SOIL	INORGANI	CLO4	Perchlorate	9.5	0.0022		1	0.0055		mg/kg	U	CS	PERCHLO	SW-846:68	STSL	10/17/2007	10/13/2007
47696882	08-68	MD21-07-6754	N	HSA	INV	na	na	21-016(a)-99	21-01861	0.0000-0.8	S	SOIL	INORGANI	CLO4	Perchlorate	9.9	0.0022		1	0.0056		mg/kg	U	CS	PERCHLO	SW-846:68	STSL	10/17/2007	10/13/2007
47696892	08-68	MD21-07-6725	N	HSA	INV	na	na	21-016(a)-99	21-603000	0.0000-2.0	S	SOIL	INORGANI	CLO4	Perchlorate	5.9	0.0021		1	0.0053		mg/kg	U	CS	PERCHLO	SW-846:68	STSL	10/17/2007	10/14/2007
47696912	08-68	MD21-07-6771	N	HSA	INV	na	na	21-016(a)-99	21-02568	0.0000-0.8	S	SOIL	INORGANI	CLO4	Perchlorate	4.4	0.0021		1	0.0052		mg/kg	U	CS	PERCHLO	SW-846:68	STSL	10/17/2007	10/14/2007
47696932	08-68	MD21-07-6742	N	HSA	INV	na	na	21-016(a)-99	21-01862	7.0000-8.0	R	QBT2	INORGANI	NO3	Nitrate	6.8	0.092		1	0.21		mg/kg	U	CS	ANION	EPA:300.0	STSL	10/18/2007	10/14/2007
47696942	08-68	MD21-07-6770	N	HSA	INV	na	na	21-016(a)-99	21-25266	12.5000-13	R	QBT2	INORGANI	CLO4	Perchlorate	2.7	0.0021		1	0.0051		mg/kg	U	CS	PERCHLO	SW-846:68	STSL	10/17/2007	10/14/2007
47696952	08-68	MD21-07-6769	N	HSA	INV	na	na	21-016(a)-99	21-25266	5.0000-5.7	S	SOIL	INORGANI	NO3	Nitrate	8.4	0.094		1	0.22		mg/kg	U	CS	ANION	EPA:300.0	STSL	10/18/2007	10/14/2007
47696962	08-68	MD21-07-6785	N	HA	INV	na	na	21-016(a)-99	21-25272	0.0000-0.8	S	SOIL	INORGANI	NO3	Nitrate	10	0.096		1	0.18		mg/kg	J	CS	ANION	EPA:300.0	STSL	10/18/2007	10/14/2007
47696972	08-68	MD21-07-6740	N	HSA	INV	na	na	21-016(a)-99	21-01862	0.0000-0.8	S	SOIL	INORGANI	CLO4	Perchlorate	4.6	0.0021		1	0.0052		mg/kg	U	CS	PERCHLO	SW-846:68	STSL	10/17/2007	10/14/2007
47696982	08-68	MD21-07-6727	N	HSA	INV	na	na	21-016(a)-99	21-603000	12.5000-13	R	QBT2	INORGANI	NO3	Nitrate	6.9	0.092		1	0.21		mg/kg	U	CS	ANION	EPA:300.0	STSL	10/18/2007	10/14/2007
47696992	08-68	MD21-07-6784	N	HSA	INV	na	na	21-016(a)-99	21-25274	2.5000-3.0	R	QBT3	INORGANI	NO3	Nitrate	3.2	0.089		1	0.21		mg/kg	U	CS	ANION	EPA:300.0	STSL	10/18/2007	10/14/2007
47697002	08-68	MD21-07-6762	N	HSA	INV	na	na	21-016(a)-99	21-01860	7.0000-8.5	S	SOIL	INORGANI	NO3	Nitrate	15	0.1		1	0.24		mg/kg	U	CS	ANION	EPA:300.0	STSL	10/18/2007	10/13/2007
47697012	08-68	MD21-07-6763	N	HSA	INV	na	na	21-016(a)-99	21-01860	11.0000-12	R	QBT2	INORGANI	CLO4	Perchlorate	9.3	0.0022		1	0.0055		mg/kg	U	CS	PERCHLO	SW-846:68	STSL	10/17/2007	10/13/2007
47697022	08-68	MD21-07-6733	N	HSA	INV	na	na	21-016(a)-99	21-603001	2.5000-3.0	R	QBT3	INORGANI	CLO4	Perchlorate	2.5	0.0021		1	0.0051		mg/kg	U	CS	PERCHLO	SW-846:68	STSL	10/17/2007	10/14/2007
47697042	08-68	MD21-07-6793	N	HSA	INV	na	na	21-016(a)-99	21-01642	1.5000-2.0	R	QBT3	INORGANI	NO3	Nitrate	1.2	0.087		1	0.2		mg/kg	U	CS	ANION	EPA:300.0	STSL	10/18/2007	10/14/2007
47697052	08-68	MD21-07-6785	N	HA	INV	na	na	21-016(a)-99	21-25272	0.0000-0.8	S	SOIL	INORGANI	CLO4	Perchlorate	10	0.0022		1	0.0056		mg/kg	U	CS	PERCHLO	SW-846:68	STSL	10/17/2007	10/14/2007
47697062	08-68	MD21-07-6787	N	HSA	INV	na	na	21-016(a)-99	21-25272	3.5000-4.0	R	QBT2	INORGANI	CLO4	Perchlorate	1.6	0.002		1	0.0051		mg/kg	U	CS	PERCHLO	SW-846:68	STSL	10/17/2007	10/14/2007
47697072	08-68	MD21-07-6775	N	HSA	INV	na	na	21-016(a)-99	21-02569	0.0000-0.8	S	SOIL	INORGANI	NO3	Nitrate	15	0.1		1	0.64		mg/kg	NQ	CS	ANION	EPA:300.0	STSL	10/18/2007	10/13/2007
47697082	08-68	MD21-07-6768	N	HSA	INV	na	na	21-016(a)-99	21-25266	0.0000-0.8	S	SOIL	INORGANI	CLO4	Perchlorate	6.1	0.0021		1	0.0053		mg/kg	U	CS	PERCHLO	SW-846:68	STSL	10/17/2007	10/14/2007
47697112	08-68	MD21-07-6726	N	HSA	INV	na	na	21-016(a)-99	21-603000	8.3000-9.3	S	SOIL	INORGANI	NO3	Nitrate	12	0.098		1	0.23		mg/kg	U	CS	ANION	EPA:300.0	STSL	10/18/2007	10/14/2007
47697122	08-68	MD21-07-6757	N	HSA	INV	na	na	21-016(a)-99	21-01861	11.0000-12	R	QBT2	INORGANI	NO3	Nitrate	6.2	0.092		1	0.21		mg/kg	U	CS	ANION	EPA:300.0	STSL	10/18/2007	10/13/2007
47697142	08-68	MD21-07-6776	N	HSA	INV	na	na	21-016(a)-99	21-02569	7.5000-8.5	S	SOIL	INORGANI	NO3	Nitrate	15	0.1		1	0.2		mg/kg	J	CS	ANION	EPA:300.0	STSL	10/18/2007	10/13/2007
47697152	08-68	MD21-07-6725	N	HSA	INV	na	na	21-016(a)-99	21-603000	0.0000-2.0	S	SOIL	INORGANI	NO3	Nitrate	5.9	0.091		1	0.21		mg/kg	U	CS	ANION	EPA:300.0	STSL	10/18/2007	10/14/2007
47697162	08-68	MD21-07-6793	N	HSA	INV	na	na	21-016(a)-99	21-01642	1.5000-2.0	R	QBT3	INORGANI	CLO4	Perchlorate	1.2	0.002		1	0.0051		mg/kg	U	CS	PERCHLO	SW-846:68	STSL	10/17/2007	10/14/2007
47697182	08-68	MD21-07-6742	N	HSA	INV	na	na	21-016(a)-99	21-01862	7.0000-8.0	R	QBT2	INORGANI	CLO4	Perchlorate	6.8	0.0021		1	0.0054		mg/kg	U	CS	PERCHLO	SW-846:68	STSL	10/17/2007	10/14/2007
47697192	08-68	MD21-07-6756	N	HSA	INV	na	na	21-016(a)-99	21-01861	7.5000-8.5	S	SOIL	INORGANI	CLO4	Perchlorate	14	0.0023		1	0.0058		mg/kg	U	CS	PERCHLO	SW-846:68	STSL	10/17/2007	10/13/2007
47697202	08-68	MD21-07-6763	N	HSA	INV	na	na	21-016(a)-99	21-01860	11.0000-12	R	QBT2	INORGANI	NO3	Nitrate	9.3	0.095		1	0.22		mg/kg	U	CS	ANION	EPA:300.0	STSL	10/18/2007	10/13/2007
47697212	08-68	MD21-07-6732	N	HSA	INV	na	na	21-016(a)-99	21-603001	0.0000-0.5	R	QBT2	INORGANI	NO3	Nitrate	3	0.089		1	0.21		mg/kg	U	CS	ANION	EPA:300.0	STSL	10/18/2007	10/14/2007
47697222	08-68	MD21-07-6771	N	HSA	INV	na	na	21-016(a)-99	21-02568	0.0000-0.8	S	SOIL	INORGANI	NO3	Nitrate	4.4	0.09		1	0.21		mg/kg	U	CS	ANION	EPA:300.0	STSL	10/18/2007	10/14/2007
47697232	08-68	MD21-07-6772	N	HSA	INV	na	na	21-016(a)-99	21-02568	5.3000-6.1	S	SOIL	INORGANI	NO3	Nitrate	6.4	0.092		1	0.21		mg/kg	U	CS	ANION	EPA:300.0	STSL	10/18/2007	10/14/2007
47697242	08-68	MD21-07-6755	N	HSA	INV	na	na	21-016(a)-99	21-01861	6.0000-7.0	S	SOIL	INORGANI	CLO4	Perchlorate	14	0.0023		1	0.0058		mg/kg	U	CS	PERCHLO	SW-846:68	STSL	10/17/2007	10/13/2007
47697252	08-68	MD21-07-6733	N	HSA	INV	na	na	21-016(a)-99	21-603001	2.5000-3.0	R	QBT3	INORGANI	NO3	Nitrate	2.5	0.088		1	0.22		mg/kg	NQ	CS	ANION	EPA:300.0	STSL	10/18/2007	10/14/2007
47697262	08-68	MD21-07-6777	N	HSA	INV	na	na	21-016(a)-99	21-02569	12.0000-13	R	QBT2	INORGANI	NO3	Nitrate	6.5	0.092		1	0.21		mg/kg	U	CS	ANION	EPA:300.0	STSL	10/18/2007	10/13/2007
47697282	08-68	MD21-07-6757	N	HSA	INV	na	na	21-016(a)-99	21-01861	11.0000-12	R	QBT2	INORGANI	CLO4	Perchlorate	6.2	0.0021		1	0.0053		mg/kg	U	CS	PERCHLO	SW-846:68	STSL	10/17/2007	10/13/2007
47697292	08-68	MD21-07-6775	N	HSA	INV	na	na	21-016(a)-99	21-02569	0.0000-0.8	S	SOIL	INORGANI	CLO4	Perchlorate	15	0.0024		1	0.0059		mg/kg	U	CS	PERCHLO	SW-846:68	STSL	10/17/2007	10/13/2007
47697302	08-68	MD21-07-6761	N	HSA	INV	na	na	21-016(a)-99	21-01860	0.0000-0.8	S	SOIL	INORGANI	NO3	Nitrate	9.5	0.095		1	0.22		mg/kg	U	CS	ANION	EPA:300.0	STSL	10/18/2007	10/13/2007
47697312	08-68	MD21-07-6754	N	HSA	INV	na	na	21-016(a)-99	21-01861	0.0000-0.8	S	SOIL	INORGANI	NO3	Nitrate	9.9	0.095		1	1.2		mg/kg	NQ	CS	ANION	EPA:300.0	STSL	10/18/2007	10/13/2007
47697322	08-68	MD21-07-6772	N	HSA	INV	na	na	21-016(a)-99	21-02568	5.3000-6.1	S	SOIL	INORGANI	CLO4	Perchlorate	6.4	0.0021		1	0.0053		mg/kg	U	CS	PERCHLO	SW-846:68	STSL	10/17/2007	10/14/2007
47697332	08-68	MD21-07-6732	N	HSA	INV	na	na	21-016(a)-99	21-603001	0.0000-0.5	R	QBT2	INORGANI	CLO4	Perchlorate	3	0.0021		1	0.0052		mg/kg	U	CS	PERCHLO	SW-846:68	STSL	10/17/2007	10/14/2007
47697342	08-68	MD21-07-6792	N	HA	INV	na	na	21-016(a)-99	21-01642	0.0000-0.5	S	SOIL	INORGANI	NO3	Nitrate	4.1	0.09		1	0.21		mg/kg	U	CS	ANION	EPA:300.0	STSL	10/18/2007	10/14/2007
47697352	08-68	MD21-07-6727	N	HSA	INV	na	na	21-016(a)-99	21-603000	12.5000-13	R	QBT2	INORGANI	CLO4	Perchlorate	6.9	0.0021		1	0.0054		mg/kg	U	CS	PERCHLO	SW-846:68	STSL	10/17/2007	10/14/2007
47697372	08-68	MD21-07-6768	N	HSA	INV	na	na	21-016(a)-99	21-25266	0.0000-0.8	S	SOIL	INORGANI	NO3	Nitrate	6.1	0.092		1	0.21		mg/kg	U	CS	ANION	EPA:300.0	STSL	10/18/2007	10/14/2007
47697382	08-68	MD21-07-6783	N	HA	INV	na	na	21-016(a)-99	21-25274	0.0000-0.5	S	SOIL	INORGANI	NO3	Nitrate	5.4	0.091		1	0.21		mg/kg	U	CS	ANION	EPA:300.0	STSL	10/18/2007	10/14/2007
47697392	08-68	MD21-07-6787	N	HSA	INV	na	na	21-016(a)-99	21-25272	3.5000-4.0	R	QBT2	INORGANI	NO3	Nitrate	1.6	0.087		1	0.2		mg/kg	U	CS	ANION	EPA:300.0	STSL	10/18/2007	10/14/2007
47697402	08-68	MD21-07-6741	N	HSA	INV	na	na	21-016(a)-99	21-01862	4.5000-6.5	S	SOIL	INORGANI	CLO4	Perchlorate	9.6	0.0022		1	0.0055		mg/kg	U	CS	PERCHLO	SW-846:68	STSL	10/17/2007	10/14/2007
47697412	08-68	MD21-07-6755	N	HSA	INV	na	na	21-016(a)-99	21-01861	6.0000-7.0	S	SOIL	INORGANI	NO3	Nitrate	14	0.1		1	0.23		mg/kg	U	CS	ANION	EPA:300.0	STSL	10/18/2007	10/13/2007
47697422	08-68	MD21-07-6777	N	HSA	INV	na	na	21-016(a)-99	21-02569	12.0000-13	R	QBT2	INORGANI	CLO4	Perchlorate	6.5	0.0021		1	0.0053		mg/kg	U	CS	PERCHLO	SW-846:68	STSL	10/17/2007	10/13/2007
47697442	08-68	MD21-07-6740	N	HSA	INV	na	na	21-016(a)-99	21-01862	0.0000-0.8	S	SOIL	INORGANI	NO3	Nitrate	4.6	0.09		1	0.21		mg/kg	U	CS	ANION	EPA:300.0	STSL	10/18/2007	10/14/2007
47697462	08-68	MD21-07-6762	N	HSA	INV	na	na	21-016(a)-99	21-01860	7.0000-8.5	S	SOIL	INORGANI	CLO4	Perchlorate	15	0.0024		1	0.0059		mg/kg	U	CS	PERCHLO	SW-846:68	STSL	10/17/2007	10/13/2007
47697472	08-68	MD21-07-6776	N	HSA	INV	na	na	21-016(a)-99	21-02569	7.5000-8.5	S	SOIL	INORGANI	CLO4	Perchlorate	15	0.0024		1	0.0059		mg/kg	U	CS	PERCHLO	SW-846:68	STSL	10/17/2007	10/13/2007
47697482	08-68	MD21-07-6783	N	HA	INV	na	na	21-016(a)-99	21-25274	0.0000-0.5	S	SOIL	INORGANI	CLO4	Perchlorate	5.4	0.0021		1	0.0053		mg/kg	U	CS	PERCHLO	SW-846:68	STSL	10/17/2007	10/14/2007
47697492	08-68	MD21-07-6726	N	HSA	INV	na	na	21-016(a)-99	21-603000	8.3000-9.3	S	SOIL	INORGANI	CLO4	Perchlorate	12	0.0023		1	0.0057		mg/kg	U	CS	PERCHLO	SW-846:68	STSL	10/17/2007	10/14/2007
47697512	08-68	MD21-07-6773	N	HSA	INV	na	na	21-016(a)-99	21-02568	9.0000-10.0	R	QBT2	INORGANI	CLO4	Perchlorate	2.9	0.0021		1	0.0052		mg/kg	U	CS	PERCHLO	SW-846:68	STSL	10/17/2007	10/14/2007
47697522	08-68	MD21-07-6770	N	HSA	INV	na	na	21-016(a)-99	21-25266	12.5000-13	R	QBT2	INORGANI	NO3	Nitrate	2.7	0.088		1	0.21		mg/kg	U	CS	ANION	EPA:300.0	STSL	10/18/2007	10/14/2007
47697532	08-68	MD21-07-6792	N	HA	INV	na	na	21-016(a)-99	21-01642	0.0000-0.5	S	SOIL	INORGANI	CLO4	Perchlorate	4.1	0.0021		1	0.0052		mg/kg	U	CS	PERCHLO	SW-846:68	STSL	10/17/2007	10/14/2007
47697542	08-68	MD21-07-6741	N	HSA	INV	na	na	21-016(a)-99	21-01862	4.5000-6.5	S	SOIL	INORGANI	NO3	Nitrate	9.6	0.095		1	0.22		mg/kg	U	CS	ANION	EPA:300.0	STSL	10/18/2007	10/14/2007
47697552	08-68	MD21-07-6784	N	HSA	INV	na	na	21-016(a)-99	21-25274	2.5000-3.0	R	QBT3	INORGANI	CLO4	Perchlorate	3.2	0.0021		1	0.0052		mg/kg	U	CS	PERCHLO	SW-846:68	STSL	10/17/2007	10/14/2007
47697562	08-68	MD21-07-6786	N	HA	INV	na	na	21-016(a)-99	21-25272	2.5000-3.0	S	SOIL	INORGANI	CLO4	Perchlorate	2.3	0.002		1	0.0051		mg/kg	U	CS	PERCHLO	SW-846:68	STSL	10/17/2007	10/14/2007
47697582	08-68	MD21-07-6756	N	HSA	INV	na	na	21-016(a)-99	21-01861	7.5000-8.5	S	SOIL	INORGANI	NO3	Nitrate	14	0.1		1	0.23		mg/kg	U	CS	ANION	EPA:300.0	STSL	10/18/2007	10/13/2007
47697592	08-68	MD21-07-6769	N	HSA	INV	na	na	21-016(a)-99	21-25266	5.0000-5.7	S	SOIL	INORGANI	CLO4	Perchlorate	8.4	0.0022		1	0.0055		mg/kg	U	CS	PERCHLO	SW-846:68	STSL	10/17/2007	10/14/2007
47697612	08-68	MD21-07-6773	N	HSA	INV	na	na	21-016(a)-99	21-02568	9.0000-10.0	R	QBT2	INORGANI	NO3	Nitrate	2.9	0.089		1	0.21		mg/kg	U	CS	ANION	EPA:300.0	STSL	10/18/2007	10/14/2007
47697622	08-68	MD21-07-6786	N	HA	INV	na	na	21-016(a)-99	21-25272	2.5000-3.0	S	SOIL	INORGANI	NO3	Nitrate	2.3	0.088		1	0.2		mg/kg	U	CS	ANION	EPA:300.0	STSL	10/18/2007	10/14/2007
47800272	08-69	MD21-07-6757	N	HSA	INV	na	na	21-016(a)-99	21-01861	11.0000-12	R	QBT2	RAD	Pu-238	Plutonium-238			0.046	1	-0.023	0.016	pCi/g	UJ	CS	ISO_PU	HASL-300:	ARSL	10/20/2007	10/13/2007
47800282	08-69	MD21-07-6773	N	HSA	INV	na	na	21-016(a)-99	21-02568	9.0000-10.0	R	QBT2	RAD	Am-241	Americium-241			0.009	1	0.034	0.021	pCi/g	J	CS	AM_241	HASL-300:	ARSL	10/19/2007	10/14/2007
47800302	08-69	MD21-07-6755	N	HSA	INV	na	na	21-016(a)-99	21-01861	6.0000-7.0	S	SOIL	RAD	Pu-239/240	Plutonium-239/240			0.046	1	0.1	0.043	pCi/g	J	CS	ISO_PU	HASL-300:	ARSL	10/20/2007	10/13/2007
47800312	08-69	MD21-07-6755	N	HSA	INV	na	na	21-016(a)-99	21-01861	6.0000-7.0	S	SOIL	RAD	Pu-238	Plutonium-238			0.008	1	0.087	0.033	pCi/g	J	CS	ISO_PU	HASL-300:	ARSL	10/20/2007	10/13/2007
47800322	08-69	MD21-07-6787	N	HSA	INV	na	na	21-016(a)-99	21-25272	3.5000-4.0	R	QBT2	RAD	Pu-239/240	Plutonium-239/240			0.043	1	8.934	1.129	pCi/g	J	CS	ISO_PU	HASL-300:	ARSL	10/20/2007	10/14/2007
47800342	08-69	MD21-07-6784	N	HSA	INV	na	na	21-016(a)-99	21-25274	2.5000-3.0	R	QBT3	RAD	Pu-238	Plutonium-238			0.026	1	0.003	0.013	pCi/g	UJ	CS	ISO_PU	HASL-300:	ARSL	10/20/2007	10/14/2007
47800352	08-69	MD21-07-6768	N	HSA	INV	na	na	21-016(a)-99	21-25266	0.0000-0.8	S	SOIL	RAD	Pu-238	Plutonium-238			0.008	1	1.169	0.183	pCi/g	J	CS	ISO_PU	HASL-300:	ARSL	10/20/2007	10/14/2007
47800362	08-69	MD21-07-6792	N	HA	INV	na	na	21-016(a)-99	21-01642	0.0000-0.5	S	SOIL	RAD	Pu-239/240	Plutonium-239/240			0.023	1	5.293	0.689	pCi/g	J	CS	ISO_PU	HASL-300:	ARSL	10/20/2007	10/14/2007
47800372	08-69	MD21-07-6757	N	HSA	INV	na	na	21-016(a)-99	21-01861	11.0000-12	R	QBT2	RAD	Am-241	Americium-241			0.06	1	-0.05	0.02	pCi/g	UJ	CS	AM_241	HASL-300:	ARSL	10/19/2007	10/13/2007
47800382	08-69	MD21-07-6740	N	HSA	INV	na	na	21-016(a)-99	21-01862	0.0000-0.8	S	SOIL	RAD	Pu-239/240	Plutonium-239/240			0.023	1	0.578	0.1	pCi/g	J	CS	ISO_PU	HASL-300:	ARSL	10/20/2007	10/14/2007
47800392	08-69	MD21-07-6771	N	HSA	INV	na	na	21-016(a)-99	21-02568	0.0000-0.8	S	SOIL	RAD	Pu-238	Plutonium-238			0.009	1	1.426	0.218	pCi/g	J	CS	ISO_PU	HASL-300:	ARSL	10/20/2007	10/14/2007
47800402	08-69	MD21-07-6754	N	HSA	INV	na	na	21-016(a)-99	21-01861	0.0000-0.8	S	SOIL	RAD	Pu-238	Plutonium-238			0.008	1	0.05	0.025	pCi/g	J	CS	ISO_PU	HASL-300:	ARSL	10/20/2007	10/13/2007
47800412	08-69	MD21-07-6755	N	HSA	INV	na	na	21-016(a)-99	21-01861	6.0000-7.0	S	SOIL	RAD	Am-241	Americium-241			0.014	1	0.021	0.021	pCi/g	UJ	CS	AM_241	HASL-300:	ARSL	10/19/2007	10/13/2007
47800422	08-69	MD21-07-6793	N	HSA	INV	na	na	21-016(a)-99	21-01642	1.5000-2.0	R	QBT3	RAD	Pu-238	Plutonium-238			0.008	1	0.009	0.01	pCi/g	UJ	CS	ISO_PU	HASL-300:	ARSL	10/20/2007	10/14/2007
47800432	08-69	MD21-07-6733	N	HSA	INV	na	na	21-016(a)-99	21-603001	2.5000-3.0	R	QBT3	RAD	Pu-239/240	Plutonium-239/240			0.027	1	0.116	0.041	pCi/g	J	CS	ISO_PU	HASL-300:	ARSL	10/20/2007	10/14/2007
47800442	08-69	MD21-07-6771	N	HSA	INV	na	na	21-016(a)-99	21-02568	0.0000-0.8	S	SOIL	RAD	Pu-239/240	Plutonium-239/240			0.038	1	4.897	0.642	pCi/g	J	CS	ISO_PU	HASL-300:	ARSL	10/20/2007	10/14/2007
47800452	08-69	MD21-07-6761	N	HSA	INV	na	na	21-016(a)-99	21-01860	0.0000-0.8	S	SOIL	RAD	Pu-239/240	Plutonium-239/240			0.042	1	1.829	0.278	pCi/g	J	CS	ISO_PU	HASL-300:	ARSL	10/20/2007	10/13/2007
47800462	08-69	MD21-07-6793	N	HSA	INV	na	na	21-016(a)-99	21-01642	1.5000-2.0	R	QBT3	RAD	Pu-239/240	Plutonium-239/240			0.008	1	0.104	0.037	pCi/g	J	CS	ISO_PU	HASL-300:	ARSL	10/20/2007	10/14/2007
47800472	08-69	MD21-07-6725	N	HSA	INV	na	na	21-016(a)-99	21-603000	0.0000-2.0	S	SOIL	RAD	Am-241	Americium-241			0.064	1	-0.062	0.022	pCi/g	UJ	CS	AM_241	HASL-300:	ARSL	10/19/2007	10/14/2007
47800482	08-69	MD21-07-6727	N	HSA	INV	na	na	21-016(a)-99	21-603000	12.5000-13	R	QBT2	RAD	Pu-239/240	Plutonium-239/240			0.05	1	0.097	0.042	pCi/g	J	CS	ISO_PU	HASL-300:	ARSL	10/20/2007	10/14/2007
47800492	08-69	MD21-07-6726	N	HSA	INV	na	na	21-016(a)-99	21-603000	8.3000-9.3	S	SOIL	RAD	Pu-238	Plutonium-238			0.027	1	2.246	0.326	pCi/g	J	CS	ISO_PU	HASL-300:	ARSL	10/20/2007	10/14/2007
47800512	08-69	MD21-07-6768	N	HSA	INV	na	na	21-016(a)-99	21-25266	0.0000-0.8	S	SOIL	RAD	Am-241	Americium-241			0.01	1	0.053	0.028	pCi/g	J	CS	AM_241	HASL-300:	ARSL	10/19/2007	10/14/2007
47800522	08-69	MD21-07-6762	N	HSA	INV	na	na	21-016(a)-99	21-01860	7.0000-8.5	S	SOIL	RAD	Pu-239/240	Plutonium-239/240			0.039	1	0.326	0.074	pCi/g	J	CS	ISO_PU	HASL-300:	ARSL	10/20/2007	10/13/2007
47800532	08-69	MD21-07-6725	N	HSA	INV	na	na	21-016(a)-99	21-603000	0.0000-2.0	S	SOIL	RAD	Pu-238	Plutonium-238			0.054	1	0.791	0.135	pCi/g	J	CS	ISO_PU	HASL-300:	ARSL	10/20/2007	10/14/2007
47800542	08-69	MD21-07-6740	N	HSA	INV	na	na	21-016(a)-99	21-01862	0.0000-0.8	S	SOIL	RAD	Pu-238	Plutonium-238			0.049	1	0.407	0.081	pCi/g	J	CS	ISO_PU	HASL-300:	ARSL	10/20/2007	10/14/2007
47800562	08-69	MD21-07-6785	N	HA	INV	na	na	21-016(a)-99	21-25272	0.0000-0.8	S	SOIL	RAD	Am-241	Americium-241			0.011	1	0.036	0.024	pCi/g	UJ	CS	AM_241	HASL-300:	ARSL	10/19/2007	10/14/2007
47800572	08-69	MD21-07-6763	N	HSA	INV	na	na	21-016(a)-99	21-01860	11.0000-12	R	QBT2	RAD	Am-241	Americium-241			0.06	1	0.025	0.036	pCi/g	UJ	CS	AM_241	HASL-300:	ARSL	10/19/2007	10/13/2007
47800602	08-69	MD21-07-6771	N	HSA	INV	na	na	21-016(a)-99	21-02568	0.0000-0.8	S	SOIL	RAD	Am-241	Americium-241			0.052	1	0.046	0.039	pCi/g	UJ	CS	AM_241	HASL-300:	ARSL	10/19/2007	10/14/2007
47800612	08-69	MD21-07-6732	N	HSA	INV	na	na	21-016(a)-99	21-603001	0.0000-0.5	R	QBT2	RAD	Am-241	Americium-241			0.036	1	0.072	0.038	pCi/g	J	CS	AM_241	HASL-300:	ARSL	10/19/2007	10/14/2007
47800632	08-69	MD21-07-6775	N	HSA	INV	na	na	21-016(a)-99	21-02569	0.0000-0.8	S	SOIL	RAD	Pu-238	Plutonium-238			0.037	1	2.062	0.287	pCi/g	J	CS	ISO_PU	HASL-300:	ARSL	10/20/2007	10/13/2007
47800642	08-69	MD21-07-6770	N	HSA	INV	na	na	21-016(a)-99	21-25266	12.5000-13	R	QBT2	RAD	Pu-238	Plutonium-238			0.032	1	0	0.015	pCi/g	UJ	CS	ISO_PU	HASL-300:	ARSL	10/20/2007	10/14/2007
47800652	08-69	MD21-07-6787	N	HSA	INV	na	na	21-016(a)-99	21-25272	3.5000-4.0	R	QBT2	RAD	Pu-238	Plutonium-238			0.037	1	1.274	0.198	pCi/g	J	CS	ISO_PU	HASL-300:	ARSL	10/20/2007	10/14/2007
47800662	08-69	MD21-07-6783	N	HA	INV	na	na	21-016(a)-99	21-25274	0.0000-0.5	S	SOIL	RAD	Pu-239/240	Plutonium-239/240			0.032	1	6.38	0.825	pCi/g	J	CS	ISO_PU	HASL-300:	ARSL	10/20/2007	10/14/2007
47800672	08-69	MD21-07-6727	N	HSA	INV	na	na	21-016(a)-99	21-603000	12.5000-13	R	QBT2	RAD	Pu-238	Plutonium-238			0.064	1	-0.06	0.025	pCi/g	UJ	CS	ISO_PU	HASL-300:	ARSL	10/20/2007	10/14/2007
47800682	08-69	MD21-07-6769	N	HSA	INV	na	na	21-016(a)-99	21-25266	5.0000-5.7	S	SOIL	RAD	Am-241	Americium-241			0.026	1	0.015	0.017	pCi/g	UJ	CS	AM_241	HASL-300:	ARSL	10/19/2007	10/14/2007
47800692	08-69	MD21-07-6725	N	HSA	INV	na	na	21-016(a)-99	21-603000	0.0000-2.0	S	SOIL	RAD	Pu-239/240	Plutonium-239/240			0.031	1	10.826	1.352	pCi/g	J	CS	ISO_PU	HASL-300:	ARSL	10/20/2007	10/14/2007
47800702	08-69	MD21-07-6785	N	HA	INV	na	na	21-016(a)-99	21-25272	0.0000-0.8	S	SOIL	RAD	Pu-238	Plutonium-238			0.011	1	0.008	0.011	pCi/g	UJ	CS	ISO_PU	HASL-300:	ARSL	10/20/2007	10/14/2007
47800712	08-69	MD21-07-6740	N	HSA	INV	na	na	21-016(a)-99	21-01862	0.0000-0.8	S	SOIL	RAD	Am-241	Americium-241			0.061	1	-0.055	0.02	pCi/g	UJ	CS	AM_241	HASL-300:	ARSL	10/19/2007	10/14/2007
47800732	08-69	MD21-07-6754	N	HSA	INV	na	na	21-016(a)-99	21-01861	0.0000-0.8	S	SOIL	RAD	Pu-239/240	Plutonium-239/240			0.027	1	0.16	0.048	pCi/g	J	CS	ISO_PU	HASL-300:	ARSL	10/20/2007	10/13/2007
47800742	08-69	MD21-07-6726	N	HSA	INV	na	na	21-016(a)-99	21-603000	8.3000-9.3	S	SOIL	RAD	Pu-239/240	Plutonium-239/240			0.044	1	7.952	1.02	pCi/g	J	CS	ISO_PU	HASL-300:	ARSL	10/20/2007	10/14/2007
47800752	08-69	MD21-07-6777	N	HSA	INV	na	na	21-016(a)-99	21-02569	12.0000-13	R	QBT2	RAD	Am-241	Americium-241			0.032	1	0.023	0.021	pCi/g	UJ	CS	AM_241	HASL-300:	ARSL	10/19/2007	10/13/2007
47800762	08-69	MD21-07-6770	N	HSA	INV	na	na	21-016(a)-99	21-25266	12.5000-13	R	QBT2	RAD	Am-241	Americium-241			0.039	1	0.026	0.026	pCi/g	UJ	CS	AM_241	HASL-300:	ARSL	10/19/2007	10/14/2007
47800782	08-69	MD21-07-6733	N	HSA	INV	na	na	21-016(a)-99	21-603001	2.5000-3.0	R	QBT3	RAD	Pu-238	Plutonium-238			0.008	1	0.024	0.017	pCi/g	UJ	CS	ISO_PU	HASL-300:	ARSL	10/20/2007	10/14/2007
47800792	08-69	MD21-07-6733	N	HSA	INV	na	na	21-016(a)-99	21-603001	2.5000-3.0	R	QBT3	RAD	Am-241	Americium-241			0.01	1	0.145	0.048	pCi/g	J	CS	AM_241	HASL-300:	ARSL	10/19/2007	10/14/2007
47800812	08-69	MD21-07-6742	N	HSA	INV	na	na	21-016(a)-99	21-01862	7.0000-8.0	R	QBT2	RAD	Pu-239/240	Plutonium-239/240			0.026	1	0.032	0.022	pCi/g	UJ	CS	ISO_PU	HASL-300:	ARSL	10/20/2007	10/14/2007
47800822	08-69	MD21-07-6761	N	HSA	INV	na	na	21-016(a)-99	21-01860	0.0000-0.8	S	SOIL	RAD	Am-241	Americium-241			0.011	1	0.225	0.064	pCi/g	J	CS	AM_241	HASL-300:	ARSL	10/19/2007	10/13/2007
47800832	08-69	MD21-07-6726	N	HSA	INV	na	na	21-016(a)-99	21-603000	8.3000-9.3	S	SOIL	RAD	Am-241	Americium-241			0.027	1	0.06	0.032	pCi/g	J	CS	AM_241	HASL-300:	ARSL	10/19/2007	10/14/2007
47800842	08-69	MD21-07-6742	N	HSA	INV	na	na	21-016(a)-99	21-01862	7.0000-8.0	R	QBT2	RAD	Am-241	Americium-241			0.033	1	0.05	0.033	pCi/g	J	CS	AM_241	HASL-300:	ARSL	10/19/2007	10/14/2007
47800852	08-69	MD21-07-6770	N	HSA	INV	na	na	21-016(a)-99	21-25266	12.5000-13	R	QBT2	RAD	Pu-239/240	Plutonium-239/240			0.036	1	0.01	0.02	pCi/g	UJ	CS	ISO_PU	HASL-300:	ARSL	10/20/2007	10/14/2007
47800862	08-69	MD21-07-6792	N	HA	INV	na	na	21-016(a)-99	21-01642	0.0000-0.5	S	SOIL	RAD	Pu-238	Plutonium-238			0.029	1	0.535	0.104	pCi/g	J	CS	ISO_PU	HASL-300:	ARSL	10/20/2007	10/14/2007
47800872	08-69	MD21-07-6777	N	HSA	INV	na	na	21-016(a)-99	21-02569	12.0000-13	R	QBT2	RAD	Pu-239/240	Plutonium-239/240			0.025	1	0.011	0.015	pCi/g	UJ	CS	ISO_PU	HASL-300:	ARSL	10/20/2007	10/13/2007
47800882	08-69	MD21-07-6773	N	HSA	INV	na	na	21-016(a)-99	21-02568	9.0000-10.0	R	QBT2	RAD	Pu-238	Plutonium-238			0.009	1	0.026	0.018	pCi/g	UJ	CS	ISO_PU	HASL-300:	ARSL	10/20/2007	10/14/2007
47800892	08-69	MD21-07-6786	N	HA	INV	na	na	21-016(a)-99	21-25272	2.5000-3.0	S	SOIL	RAD	Am-241	Americium-241			0.035	1	0.027	0.025	pCi/g	UJ	CS	AM_241	HASL-300:	ARSL	10/19/2007	10/14/2007
47800902	08-69	MD21-07-6756	N	HSA	INV	na	na	21-016(a)-99	21-01861	7.5000-8.5	S	SOIL	RAD	Pu-238	Plutonium-238			0.192	1	-0.019	0.07	pCi/g	UJ	CS	ISO_PU	HASL-300:	ARSL	10/20/2007	10/13/2007
47800912	08-69	MD21-07-6773	N	HSA	INV	na	na	21-016(a)-99	21-02568	9.0000-10.0	R	QBT2	RAD	Pu-239/240	Plutonium-239/240			0.045	1	0.117	0.046	pCi/g	J	CS	ISO_PU	HASL-300:	ARSL	10/20/2007	10/14/2007
47800922	08-69	MD21-07-6775	N	HSA	INV	na	na	21-016(a)-99	21-02569	0.0000-0.8	S	SOIL	RAD	Pu-239/240	Plutonium-239/240			0.026	1	5.828	0.743	pCi/g	J	CS	ISO_PU	HASL-300:	ARSL	10/20/2007	10/13/2007
47800942	08-69	MD21-07-6776	N	HSA	INV	na	na	21-016(a)-99	21-02569	7.5000-8.5	S	SOIL	RAD	Pu-239/240	Plutonium-239/240			0.036	1	-0.014	0.014	pCi/g	UJ	CS	ISO_PU	HASL-300:	ARSL	10/20/2007	10/13/2007
47800952	08-69	MD21-07-6763	N	HSA	INV	na	na	21-016(a)-99	21-01860	11.0000-12	R	QBT2	RAD	Pu-239/240	Plutonium-239/240			0.01	1	0.068	0.032	pCi/g	J	CS	ISO_PU	HASL-300:	ARSL	10/20/2007	10/13/2007
47800962	08-69	MD21-07-6768	N	HSA	INV	na	na	21-016(a)-99	21-25266	0.0000-0.8	S	SOIL	RAD	Pu-239/240	Plutonium-239/240			0.027	1	14.375	1.785	pCi/g	J	CS	ISO_PU	HASL-300:	ARSL	10/20/2007	10/14/2007
47800972	08-69	MD21-07-6772	N	HSA	INV	na	na	21-016(a)-99	21-02568	5.3000-6.1	S	SOIL	RAD	Am-241	Americium-241			0.026	1	0.011	0.016	pCi/g	UJ	CS	AM_241	HASL-300:	ARSL	10/19/2007	10/14/2007
47800982	08-69	MD21-07-6757	N	HSA	INV	na	na	21-016(a)-99	21-01861	11.0000-12	R	QBT2	RAD	Pu-239/240	Plutonium-239/240			0.042	1	-0.023	0.013	pCi/g	UJ	CS	ISO_PU	HASL-300:	ARSL	10/20/2007	10/13/2007
47800992	08-69	MD21-07-6784	N	HSA	INV	na	na	21-016(a)-99	21-25274	2.5000-3.0	R	QBT3	RAD	Pu-239/240	Plutonium-239/240			0.043	1	0.012	0.024	pCi/g	UJ	CS	ISO_PU	HASL-300:	ARSL	10/20/2007	10/14/2007
47801002	08-69	MD21-07-6756	N	HSA	INV	na	na	21-016(a)-99	21-01861	7.5000-8.5	S	SOIL	RAD	Pu-239/240	Plutonium-239/240			0.291	1	-0.058	0.121	pCi/g	UJ	CS	ISO_PU	HASL-300:	ARSL	10/20/2007	10/13/2007
47801022	08-69	MD21-07-6732	N	HSA	INV	na	na	21-016(a)-99	21-603001	0.0000-0.5	R	QBT2	RAD	Pu-238	Plutonium-238			0.04	1	0.528	0.11	pCi/g	J	CS	ISO_PU	HASL-300:	ARSL	10/20/2007	10/14/2007
47801032	08-69	MD21-07-6786	N	HA	INV	na	na	21-016(a)-99	21-25272	2.5000-3.0	S	SOIL	RAD	Pu-239/240	Plutonium-239/240			0.059	1	0.607	0.13	pCi/g	J	CS	ISO_PU	HASL-300:	ARSL	10/20/2007	10/14/2007
47801042	08-69	MD21-07-6776	N	HSA	INV	na	na	21-016(a)-99	21-02569	7.5000-8.5	S	SOIL	RAD	Pu-238	Plutonium-238			0.046	1	-0.031	0.017	pCi/g	UJ	CS	ISO_PU	HASL-300:	ARSL	10/20/2007	10/13/2007
47801052	08-69	MD21-07-6777	N	HSA	INV	na	na	21-016(a)-99	21-02569	12.0000-13	R	QBT2	RAD	Pu-238	Plutonium-238			0.032	1	0.014	0.019	pCi/g	UJ	CS	ISO_PU	HASL-300:	ARSL	10/20/2007	10/13/2007
47801062	08-69	MD21-07-6793	N	HSA	INV	na	na	21-016(a)-99	21-01642	1.5000-2.0	R	QBT3	RAD	Am-241	Americium-241			0.009	1	0.02	0.017	pCi/g	UJ	CS	AM_241	HASL-300:	ARSL	10/19/2007	10/14/2007
47801072	08-69	MD21-07-6762	N	HSA	INV	na	na	21-016(a)-99	21-01860	7.0000-8.5	S	SOIL	RAD	Pu-238	Plutonium-238			0.04	1	0.014	0.023	pCi/g	UJ	CS	ISO_PU	HASL-300:	ARSL	10/20/2007	10/13/2007
47801092	08-69	MD21-07-6742	N	HSA	INV	na	na	21-016(a)-99	21-01862	7.0000-8.0	R	QBT2	RAD	Pu-238	Plutonium-238			0.021	1	0.009	0.013	pCi/g	UJ	CS	ISO_PU	HASL-300:	ARSL	10/20/2007	10/14/2007
47801102	08-69	MD21-07-6772	N	HSA	INV	na	na	21-016(a)-99	21-02568	5.3000-6.1	S	SOIL	RAD	Pu-238	Plutonium-238			0.023	1	0.016	0.016	pCi/g	UJ	CS	ISO_PU	HASL-300:	ARSL	10/20/2007	10/14/2007
47801112	08-69	MD21-07-6741	N	HSA	INV	na	na	21-016(a)-99	21-01862	4.5000-6.5	S	SOIL	RAD	Am-241	Americium-241			0.073	1	-0.003	0.035	pCi/g	UJ	CS	AM_241	HASL-300:	ARSL	10/19/2007	10/14/2007
47801122	08-69	MD21-07-6727	N	HSA	INV	na	na	21-016(a)-99	21-603000	12.5000-13	R	QBT2	RAD	Am-241	Americium-241			0.084	1	-0.109	0.031	pCi/g	UJ	CS	AM_241	HASL-300:	ARSL	10/19/2007	10/14/2007
47801132	08-69	MD21-07-6784	N	HSA	INV	na	na	21-016(a)-99	21-25274	2.5000-3.0	R	QBT3	RAD	Am-241	Americium-241			0.023	1	0.016	0.017	pCi/g	UJ	CS	AM_241	HASL-300:	ARSL	10/19/2007	10/14/2007
47801142	08-69	MD21-07-6761	N	HSA	INV	na	na	21-016(a)-99	21-01860	0.0000-0.8	S	SOIL	RAD	Pu-238	Plutonium-238			0.011	1	0.314	0.079	pCi/g	J	CS	ISO_PU	HASL-300:	ARSL	10/20/2007	10/13/2007
47801152	08-69	MD21-07-6762	N	HSA	INV	na	na	21-016(a)-99	21-01860	7.0000-8.5	S	SOIL	RAD	Am-241	Americium-241			0.054	1	-0.036	0.017	pCi/g	UJ	CS	AM_241	HASL-300:	ARSL	10/19/2007	10/13/2007
47801162	08-69	MD21-07-6786	N	HA	INV	na	na	21-016(a)-99	21-25272	2.5000-3.0	S	SOIL	RAD	Pu-238	Plutonium-238			0.042	1	0.262	0.077	pCi/g	J	CS	ISO_PU	HASL-300:	ARSL	10/20/2007	10/14/2007
47801172	08-69	MD21-07-6785	N	HA	INV	na	na	21-016(a)-99	21-25272	0.0000-0.8	S	SOIL	RAD	Pu-239/240	Plutonium-239/240			0.05	1	0.016	0.028	pCi/g	UJ	CS	ISO_PU	HASL-300:	ARSL	10/20/2007	10/14/2007
47801182	08-69	MD21-07-6732	N	HSA	INV	na	na	21-016(a)-99	21-603001	0.0000-0.5	R	QBT2	RAD	Pu-239/240	Plutonium-239/240			0.048	1	4.79	0.636	pCi/g	J	CS	ISO_PU	HASL-300:	ARSL	10/20/2007	10/14/2007
47801202	08-69	MD21-07-6775	N	HSA	INV	na	na	21-016(a)-99	21-02569	0.0000-0.8	S	SOIL	RAD	Am-241	Americium-241			0.013	1	0.177	0.062	pCi/g	J	CS	AM_241	HASL-300:	ARSL	10/19/2007	10/13/2007
47801212	08-69	MD21-07-6756	N	HSA	INV	na	na	21-016(a)-99	21-01861	7.5000-8.5	S	SOIL	RAD	Am-241	Americium-241			0.033	1	1.503	0.232	pCi/g	J	CS	AM_241	HASL-300:	ARSL	10/19/2007	10/13/2007
47801222	08-69	MD21-07-6741	N	HSA	INV	na	na	21-016(a)-99	21-01862	4.5000-6.5	S	SOIL	RAD	Pu-239/240	Plutonium-239/240			0.038	1	0.036	0.028	pCi/g	UJ	CS	ISO_PU	HASL-300:	ARSL	10/20/2007	10/14/2007
47801232	08-69	MD21-07-6787	N	HSA	INV	na	na	21-016(a)-99	21-25272	3.5000-4.0	R	QBT2	RAD	Am-241	Americium-241			0.041	1	0.02	0.025	pCi/g	UJ	CS	AM_241	HASL-300:	ARSL	10/19/2007	10/14/2007
47801242	08-69	MD21-07-6763	N	HSA	INV	na	na	21-016(a)-99	21-01860	11.0000-12	R	QBT2	RAD	Pu-238	Plutonium-238			0.026	1	0.004	0.012	pCi/g	UJ	CS	ISO_PU	HASL-300:	ARSL	10/20/2007	10/13/2007
47801252	08-69	MD21-07-6754	N	HSA	INV	na	na	21-016(a)-99	21-01861	0.0000-0.8	S	SOIL	RAD	Am-241	Americium-241			0.033	1	0.033	0.027	pCi/g	UJ	CS	AM_241	HASL-300:	ARSL	10/19/2007	10/13/2007
47801262	08-69	MD21-07-6783	N	HA	INV	na	na	21-016(a)-99	21-25274	0.0000-0.5	S	SOIL	RAD	Am-241	Americium-241			0.038	1	0.308	0.081	pCi/g	J	CS	AM_241	HASL-300:	ARSL	10/19/2007	10/14/2007
47801272	08-69	MD21-07-6792	N	HA	INV	na	na	21-016(a)-99	21-01642	0.0000-0.5	S	SOIL	RAD	Am-241	Americium-241			0.032	1	0.035	0.028	pCi/g	UJ	CS	AM_241	HASL-300:	ARSL	10/19/2007	10/14/2007
47801282	08-69	MD21-07-6783	N	HA	INV	na	na	21-016(a)-99	21-25274	0.0000-0.5	S	SOIL	RAD	Pu-238	Plutonium-238			0.032	1	0.07	0.035	pCi/g	J	CS	ISO_PU	HASL-300:	ARSL	10/20/2007	10/14/2007
47801292	08-69	MD21-07-6776	N	HSA	INV	na	na	21-016(a)-99	21-02569	7.5000-8.5	S	SOIL	RAD	Am-241	Americium-241			0.068	1	-0.06	0.023	pCi/g	UJ	CS	AM_241	HASL-300:	ARSL	10/19/2007	10/13/2007
47801302	08-69	MD21-07-6772	N	HSA	INV	na	na	21-016(a)-99	21-02568	5.3000-6.1	S	SOIL	RAD	Pu-239/240	Plutonium-239/240			0.033	1	0.057	0.031	pCi/g	J	CS	ISO_PU	HASL-300:	ARSL	10/20/2007	10/14/2007
47801312	08-69	MD21-07-6741	N	HSA	INV	na	na	21-016(a)-99	21-01862	4.5000-6.5	S	SOIL	RAD	Pu-238	Plutonium-238			0.056	1	-0.01	0.025	pCi/g	UJ	CS	ISO_PU	HASL-300:	ARSL	10/20/2007	10/14/2007

URI	Request N	Sample ID	Excavated	Sample Te	Sample Us	Field Prep	Field QC T	PRS	Location I	Depth Ran	Field Matri	Media	RFI Class	Analyte Cc	Analyte	Percent M	Standard M	Standard M	Dilution Fa	Standard F	Standard U	Standard U	Qualifier	Lab Samp	Analytical	Analytical	Lab Code	Analysis D	Collection Date
48716272	08-125	MD21-07-(	N	VOST	QC	na	FD	21-016(a)-99	21-603059372.5000-		GAS	na	RAD	H-3	Tritium	13.56		198.405	1	156.714	120.417	pCi/L	U	CS	H3	EPA:906.(	ARS	11/7/2007	11/3/2007
48716282	08-124	MD21-07-(	N	VOST	QC	na	FD	21-016(a)-99	21-603059372.5000-		GAS	na	ORGANIC	75-71-8	Dichlorodifluorometha		0.16		1.61	0.89		ppbv	NQ	CS	VOC	EPA:TO15	ATL	11/8/2007	11/3/2007
48716292	08-124	MD21-07-(	N	VOST	QC	na	FD	21-016(a)-99	21-603059372.5000-		GAS	na	ORGANIC	76-14-2	Dichloro-1,1,2,2-tetra		0.69		1.61	0.8		ppbv	U	CS	VOC	EPA:TO15	ATL	11/8/2007	11/3/2007
48716302	08-124	MD21-07-(	N	VOST	QC	na	FD	21-016(a)-99	21-603059372.5000-		GAS	na	ORGANIC	74-87-3	Chloromethane		0.5		1.61	3.2		ppbv	U	CS	VOC	EPA:TO15	ATL	11/8/2007	11/3/2007
48716312	08-124	MD21-07-(	N	VOST	QC	na	FD	21-016(a)-99	21-603059372.5000-		GAS	na	ORGANIC	75-01-4	Vinyl Chloride		0.29		1.61	0.8		ppbv	U	CS	VOC	EPA:TO15	ATL	11/8/2007	11/3/2007
48716322	08-124	MD21-07-(	N	VOST	QC	na	FD	21-016(a)-99	21-603059372.5000-		GAS	na	ORGANIC	106-99-0	Butadiene[1,3-]		0.21		1.61	0.8		ppbv	U	CS	VOC	EPA:TO15	ATL	11/8/2007	11/3/2007
48716332	08-124	MD21-07-(	N	VOST	QC	na	FD	21-016(a)-99	21-603059372.5000-		GAS	na	ORGANIC	74-83-9	Bromomethane		0.42		1.61	0.8		ppbv	U	CS	VOC	EPA:TO15	ATL	11/8/2007	11/3/2007
48716342	08-124	MD21-07-(	N	VOST	QC	na	FD	21-016(a)-99	21-603059372.5000-		GAS	na	ORGANIC	75-00-3	Chloroethane		0.3		1.61	0.8		ppbv	U	CS	VOC	EPA:TO15	ATL	11/8/2007	11/3/2007
48716352	08-124	MD21-07-(	N	VOST	QC	na	FD	21-016(a)-99	21-603059372.5000-		GAS	na	ORGANIC	75-69-4	Trichlorofluoromethar		0.14		1.61	0.8		ppbv	U	CS	VOC	EPA:TO15	ATL	11/8/2007	11/3/2007
48716362	08-124	MD21-07-(	N	VOST	QC	na	FD	21-016(a)-99	21-603059372.5000-		GAS	na	ORGANIC	64-17-5	Ethanol		0.66		1.61	3.2		ppbv	U	CS	VOC	EPA:TO15	ATL	11/8/2007	11/3/2007
48716372	08-124	MD21-07-(	N	VOST	QC	na	FD	21-016(a)-99	21-603059372.5000-		GAS	na	ORGANIC	76-13-1	Trichloro-1,2,2-trifluor		0.5		1.61	3.6		ppbv	NQ	CS	VOC	EPA:TO15	ATL	11/8/2007	11/3/2007
48716382	08-124	MD21-07-(	N	VOST	QC	na	FD	21-016(a)-99	21-603059372.5000-		GAS	na	ORGANIC	75-35-4	Dichloroethene[1,1-]		0.18		1.61	14		ppbv	NQ	CS	VOC	EPA:TO15	ATL	11/8/2007	11/3/2007
48716392	08-124	MD21-07-(	N	VOST	QC	na	FD	21-016(a)-99	21-603059372.5000-		GAS	na	ORGANIC	67-64-1	Acetone		0.48		1.61	60		ppbv	NQ	CS	VOC	EPA:TO15	ATL	11/8/2007	11/3/2007
48716402	08-124	MD21-07-(	N	VOST	QC	na	FD	21-016(a)-99	21-603059372.5000-		GAS	na	ORGANIC	67-63-0	Propanol[2-]		0.21		1.61	3.2		ppbv	U	CS	VOC	EPA:TO15	ATL	11/8/2007	11/3/2007
48716412	08-124	MD21-07-(	N	VOST	QC	na	FD	21-016(a)-99	21-603059372.5000-		GAS	na	ORGANIC	75-15-0	Carbon Disulfide		0.21		1.61	1.1		ppbv	NQ	CS	VOC	EPA:TO15	ATL	11/8/2007	11/3/2007
48716422	08-124	MD21-07-(	N	VOST	QC	na	FD	21-016(a)-99	21-603059372.5000-		GAS	na	ORGANIC	75-09-2	Methylene Chloride		0.19		1.61	300		ppbv	NQ	CS	VOC	EPA:TO15	ATL	11/8/2007	11/3/2007
48716432	08-124	MD21-07-(	N	VOST	QC	na	FD	21-016(a)-99	21-603059372.5000-		GAS	na	ORGANIC	1634-04-4	Methyl tert-Butyl Ethe		0.19		1.61	0.8		ppbv	U	CS	VOC	EPA:TO15	ATL	11/8/2007	11/3/2007
48716442	08-124	MD21-07-(	N	VOST	QC	na	FD	21-016(a)-99	21-603059372.5000-		GAS	na	ORGANIC	156-60-5	Dichloroethene[trans-		0.39		1.61	0.8		ppbv	U	CS	VOC	EPA:TO15	ATL	11/8/2007	11/3/2007
48716452	08-124	MD21-07-(	N	VOST	QC	na	FD	21-016(a)-99	21-603059372.5000-		GAS	na	ORGANIC	110-54-3	Hexane		0.19		1.61	0.83		ppbv	NQ	CS	VOC	EPA:TO15	ATL	11/8/2007	11/3/2007
48716462	08-124	MD21-07-(	N	VOST	QC	na	FD	21-016(a)-99	21-603059372.5000-		GAS	na	ORGANIC	75-34-3	Dichloroethane[1,1-]		0.16		1.61	0.8		ppbv	U	CS	VOC	EPA:TO15	ATL	11/8/2007	11/3/2007
48716472	08-124	MD21-07-(	N	VOST	QC	na	FD	21-016(a)-99	21-603059372.5000-		GAS	na	ORGANIC	78-93-3	Butanone[2-]		0.32		1.61	0.83		ppbv	NQ	CS	VOC	EPA:TO15	ATL	11/8/2007	11/3/2007
48716482	08-124	MD21-07-(	N	VOST	QC	na	FD	21-016(a)-99	21-603059372.5000-		GAS	na	ORGANIC	156-59-2	Dichloroethene[cis-1,		0.13		1.61	1.2		ppbv	NQ	CS	VOC	EPA:TO15	ATL	11/8/2007	11/3/2007
48716492	08-124	MD21-07-(	N	VOST	QC	na	FD	21-016(a)-99	21-603059372.5000-		GAS	na	ORGANIC	109-99-9	Tetrahydrofuran		0.4		1.61	0.8		ppbv	U	CS	VOC	EPA:TO15	ATL	11/8/2007	11/3/2007
48716502	08-124	MD21-07-(	N	VOST	QC	na	FD	21-016(a)-99	21-603059372.5000-		GAS	na	ORGANIC	67-66-3	Chloroform		0.11		1.61	160		ppbv	NQ	CS	VOC	EPA:TO15	ATL	11/8/2007	11/3/2007
48716512	08-124	MD21-07-(	N	VOST	QC	na	FD	21-016(a)-99	21-603059372.5000-		GAS	na	ORGANIC	71-55-6	Trichloroethane[1,1,1		0.16		1.61	2.4		ppbv	NQ	CS	VOC	EPA:TO15	ATL	11/8/2007	11/3/2007
48716522	08-124	MD21-07-(	N	VOST	QC	na	FD	21-016(a)-99	21-603059372.5000-		GAS	na	ORGANIC	110-82-7	Cyclohexane		0.29		1.61	0.8		ppbv	U	CS	VOC	EPA:TO15	ATL	11/8/2007	11/3/2007
48716532	08-124	MD21-07-(	N	VOST	QC	na	FD	21-016(a)-99	21-603059372.5000-		GAS	na	ORGANIC	56-23-5	Carbon Tetrachloride		0.13		1.61	87		ppbv	NQ	CS	VOC	EPA:TO15	ATL	11/8/2007	11/3/2007
48716542	08-124	MD21-07-(	N	VOST	QC	na	FD	21-016(a)-99	21-603059372.5000-		GAS	na	ORGANIC	71-43-2	Benzene		0.19		1.61	1.5		ppbv	NQ	CS	VOC	EPA:TO15	ATL	11/8/2007	11/3/2007
48716552	08-124	MD21-07-(	N	VOST	QC	na	FD	21-016(a)-99	21-603059372.5000-		GAS	na	ORGANIC	107-06-2	Dichloroethane[1,2-]		0.16		1.61	3.5		ppbv	NQ	CS	VOC	EPA:TO15	ATL	11/8/2007	11/3/2007
48716562	08-124	MD21-07-(	N	VOST	QC	na	FD	21-016(a)-99	21-603059372.5000-		GAS	na	ORGANIC	142-82-5	n-Heptane		0.19		1.61	0.8		ppbv	U	CS	VOC	EPA:TO15	ATL	11/8/2007	11/3/2007
48716572	08-124	MD21-07-(	N	VOST	QC	na	FD	21-016(a)-99	21-603059372.5000-		GAS	na	ORGANIC	79-01-6	Trichloroethene		0.18		1.61	220		ppbv	NQ	CS	VOC	EPA:TO15	ATL	11/8/2007	11/3/2007
48716582	08-124	MD21-07-(	N	VOST	QC	na	FD	21-016(a)-99	21-603059372.5000-		GAS	na	ORGANIC	78-87-5	Dichloropropane[1,2-]		0.18		1.61	0.8		ppbv	U	CS	VOC	EPA:TO15	ATL	11/8/2007	11/3/2007
48716592	08-124	MD21-07-(	N	VOST	QC	na	FD	21-016(a)-99	21-603059372.5000-		GAS	na	ORGANIC	123-91-1	Dioxane[1,4-]		0.21		1.61	3.2		ppbv	U	CS	VOC	EPA:TO15	ATL	11/8/2007	11/3/2007
48716602	08-124	MD21-07-(	N	VOST	QC	na	FD	21-016(a)-99	21-603059372.5000-		GAS	na	ORGANIC	75-27-4	Bromodichloromethar		0.16		1.61	1.6		ppbv	NQ	CS	VOC	EPA:TO15	ATL	11/8/2007	11/3/2007
48716612	08-124	MD21-07-(	N	VOST	QC	na	FD	21-016(a)-99	21-603059372.5000-		GAS	na	ORGANIC	10061-01-	Dichloropropene[cis-1		0.21		1.61	0.8		ppbv	U	CS	VOC	EPA:TO15	ATL	11/8/2007	11/3/2007
48716622	08-124	MD21-07-(	N	VOST	QC	na	FD	21-016(a)-99	21-603059372.5000-		GAS	na	ORGANIC	108-10-1	Methyl-2-pentanone[4		0.37		1.61	0.8		ppbv	U	CS	VOC	EPA:TO15	ATL	11/8/2007	11/3/2007
48716632	08-124	MD21-07-(	N	VOST	QC	na	FD	21-016(a)-99	21-603059372.5000-		GAS	na	ORGANIC	108-88-3	Toluene		0.14		1.61	2		ppbv	NQ	CS	VOC	EPA:TO15	ATL	11/8/2007	11/3/2007
48716642	08-124	MD21-07-(	N	VOST	QC	na	FD	21-016(a)-99	21-603059372.5000-		GAS	na	ORGANIC	10061-02-	Dichloropropene[trans		0.29		1.61	0.8		ppbv	U	CS	VOC	EPA:TO15	ATL	11/8/2007	11/3/2007
48716652	08-124	MD21-07-(	N	VOST	QC	na	FD	21-016(a)-99	21-603059372.5000-		GAS	na	ORGANIC	79-00-5	Trichloroethane[1,1,2		0.19		1.61	21		ppbv	NQ	CS	VOC	EPA:TO15	ATL	11/8/2007	11/3/2007
48716662	08-124	MD21-07-(	N	VOST	QC	na	FD	21-016(a)-99	21-603059372.5000-		GAS	na	ORGANIC	127-18-4	Tetrachloroethene		0.16		1.61	17		ppbv	NQ	CS	VOC	EPA:TO15	ATL	11/8/2007	11/3/2007
48716672	08-124	MD21-07-(	N	VOST	QC	na	FD	21-016(a)-99	21-603059372.5000-		GAS	na	ORGANIC	591-78-6	Hexanone[2-]		0.16		1.61	3.2		ppbv	U	CS	VOC	EPA:TO15	ATL	11/8/2007	11/3/2007
48716682	08-124	MD21-07-(	N	VOST	QC	na	FD	21-016(a)-99	21-603059372.5000-		GAS	na	ORGANIC	124-48-1	Chlorodibromomethar		0.16		1.61	0.8		ppbv	U	CS	VOC	EPA:TO15	ATL	11/8/2007	11/3/2007
48716692	08-124	MD21-07-(	N	VOST	QC	na	FD	21-016(a)-99	21-603059372.5000-		GAS	na	ORGANIC	106-93-4	Dibromoethane[1,2-]		0.14		1.61	0.8		ppbv	U	CS	VOC	EPA:TO15	ATL	11/8/2007	11/3/2007
48716702	08-124	MD21-07-(	N	VOST	QC	na	FD	21-016(a)-99	21-603059372.5000-		GAS	na	ORGANIC	108-90-7	Chlorobenzene		0.14		1.61	0.8		ppbv	U	CS	VOC	EPA:TO15	ATL	11/8/2007	11/3/2007
48716712	08-124	MD21-07-(	N	VOST	QC	na	FD	21-016(a)-99	21-603059372.5000-		GAS	na	ORGANIC	100-41-4	Ethylbenzene		0.21		1.61	0.8		ppbv	U	CS	VOC	EPA:TO15	ATL	11/8/2007	11/3/2007
48716722	08-124	MD21-07-(	N	VOST	QC	na	FD	21-016(a)-99	21-603059372.5000-		GAS	na	ORGANIC	Xylene[1,3	Xylene[1,3-]+Xylene[		0.13		1.61	0.8		ppbv	U	CS	VOC	EPA:TO15	ATL	11/8/2007	11/3/2007
48716732	08-124	MD21-07-(	N	VOST	QC	na	FD	21-016(a)-99	21-603059372.5000-		GAS	na	ORGANIC	95-47-6	Xylene[1,2-]		0.27		1.61	0.8		ppbv	U	CS	VOC	EPA:TO15	ATL	11/8/2007	11/3/2007
48716742	08-124	MD21-07-(	N	VOST	QC	na	FD	21-016(a)-99	21-603059372.5000-		GAS	na	ORGANIC	100-42-5	Styrene		0.16		1.61	0.8		ppbv	U	CS	VOC	EPA:TO15	ATL	11/8/2007	11/3/2007
48716752	08-124	MD21-07-(	N	VOST	QC	na	FD	21-016(a)-99	21-603059372.5000-		GAS	na	ORGANIC	75-25-2	Bromoform		0.19		1.61	0.8		ppbv	U	CS	VOC	EPA:TO15	ATL	11/8/2007	11/3/2007
48716762	08-124	MD21-07-(	N	VOST	QC	na	FD	21-016(a)-99	21-603059372.5000-		GAS	na	ORGANIC	79-34-5	Tetrachloroethane[1,1		0.22		1.61	0.8		ppbv	U	CS	VOC	EPA:TO15	ATL	11/8/2007	11/3/2007
48716772	08-124	MD21-07-(	N	VOST	QC	na	FD	21-016(a)-99	21-603059372.5000-		GAS	na	ORGANIC	622-96-8	Ethyltoluene[4-]		0.56		1.61	0.8		ppbv	U	CS	VOC	EPA:TO15	ATL	11/8/2007	11/3/2007
48716782	08-124	MD21-07-(	N	VOST	QC	na	FD	21-016(a)-99	21-603059372.5000-		GAS	na	ORGANIC	108-67-8	Trimethylbenzene[1,3		0.76		1.61	0.8		ppbv	U	CS	VOC	EPA:TO15	ATL	11/8/2007	11/3/2007
48716792	08-124	MD21-07-(	N	VOST	QC	na	FD	21-016(a)-99	21-603059372.5000-		GAS	na	ORGANIC	95-63-6	Trimethylbenzene[1,2		0.32		1.61	0.8		ppbv	U	CS	VOC	EPA:TO15	ATL	11/8/2007	11/3/2007
48716802	08-124	MD21-07-(	N	VOST	QC	na	FD	21-016(a)-99	21-603059372.5000-		GAS	na	ORGANIC	541-73-1	Dichlorobenzene[1,3-		0.29		1.61	0.8		ppbv	U	CS	VOC	EPA:TO15	ATL	11/8/2007	11/3/2007
48716812	08-124	MD21-07-(	N	VOST	QC	na	FD	21-016(a)-99	21-603059372.5000-		GAS	na	ORGANIC	106-46-7	Dichlorobenzene[1,4-		0.3		1.61	0.81		ppbv	NQ	CS	VOC	EPA:TO15	ATL	11/8/2007	11/3/2007
48716822	08-124	MD21-07-(	N	VOST	QC	na	FD	21-016(a)-99	21-603059372.5000-		GAS	na	ORGANIC	100-44-7	Benzyl Chloride		0.29		1.61	0.8		ppbv	U	CS	VOC	EPA:TO15	ATL	11/8/2007	11/3/2007
48716832	08-124	MD21-07-(	N	VOST	QC	na	FD	21-016(a)-99	21-603059372.5000-		GAS	na	ORGANIC	95-50-1	Dichlorobenzene[1,2-		0.21		1.61	0.8		ppbv	U	CS	VOC	EPA:TO15	ATL	11/8/2007	11/3/2007
48716842	08-124	MD21-07-(	N	VOST	QC	na	FD	21-016(a)-99	21-603059372.5000-		GAS	na	ORGANIC	120-82-1	Trichlorobenzene[1,2		0.21		1.61	3.2		ppbv	U	CS	VOC	EPA:TO15	ATL	11/8/2007	11/3/2007
48716852	08-124	MD21-07-(	N	VOST	QC	na	FD	21-016(a)-99	21-603059372.5000-		GAS	na	ORGANIC	87-68-3	Hexachlorobutadiene		0.43		1.61	3.2		ppbv	UJ	CS	VOC	EPA:TO15	ATL	11/8/2007	11/3/2007
48716862	08-124	MD21-07-(	N	VOST	QC	na	FD	21-016(a)-99	21-603059372.5000-		GAS	na	ORGANIC	75-45-6	Chlorodifluoromethan		3.2		1.61	3.2		ppbv	U	CS	VOC	EPA:TO15	ATL	11/8/2007	11/3/2007
48716872	08-124	MD21-07-(	N	VOST	QC	na	FD	21-016(a)-99	21-603059372.5000-		GAS	na	ORGANIC	67-56-1	Methanol		80		1.61	80		ppbv	U	CS	VOC	EPA:TO15	ATL	11/8/2007	11/3/2007
48716882	08-124	MD21-07-(	N	VOST	QC	na	FD	21-016(a)-99	21-603059372.5000-		GAS	na	ORGANIC	71-36-3	Butanol[1-]		3.2		1.61	3.2		ppbv	U	CS	VOC	EPA:TO15	ATL	11/8/2007	11/3/2007
48716892	08-124	MD21-07-(	N	VOST	QC	na	FD	21-016(a)-99	21-603059372.5000-		GAS	na	ORGANIC	115-07-1	Propylene		0.34		1.61	33		ppbv	NQ	CS	VOC	EPA:TO15	ATL	11/8/2007	11/3/2007
48716902	08-124	MD21-07-(	N	VOST	QC	na	FD	21-016(a)-99	21-603059372.5000-		GAS	na	ORGANIC	75-71-8	Dichlorodifluorometha		0.8		1.61	4.4		ug/m3	NQ	DUP	VOC	EPA:TO15	ATL	11/8/2007	11/3/2007
48716912	08-124	MD21-07-(	N	VOST	QC	na	FD	21-016(a)-99	21-603059372.5000-		GAS	na	ORGANIC	76-14-2	Dichloro-1,1,2,2-tetra		4.8		1.61	5.6		ug/m3	U	DUP	VOC	EPA:TO15	ATL	11/8/2007	11/3/2007
48716922	08-124	MD21-07-(	N	VOST	QC	na	FD	21-016(a)-99	21-603059372.5000-		GAS	na	ORGANIC	74-87-3	Chloromethane		1		1.61	6.6		ug/m3	U	DUP	VOC	EPA:TO15	ATL	11/8/2007	11/3/2007
48716932	08-124	MD21-07-(	N	VOST	QC	na	FD	21-016(a)-99	21-603059372.5000-		GAS	na	ORGANIC	75-01-4	Vinyl Chloride		0.74		1.61	2		ug/m3	U	DUP	VOC	EPA:TO15	ATL	11/8/2007	11/3/2007
48716942	08-124	MD21-07-(	N	VOST	QC	na	FD	21-016(a)-99	21-603059372.5000-		GAS	na	ORGANIC	106-99-0	Butadiene[1,3-]		0.46		1.61	1.8		ug/m3	U	DUP	VOC	EPA:TO15	ATL	11/8/2007	11/3/2007
48716952	08-124	MD21-07-(	N	VOST	QC	na	FD	21-016(a)-99	21-603059372.5000-		GAS	na	ORGANIC	74-83-9	Bromomethane		1.6		1.61	3.1		ug/m3	U	DUP	VOC	EPA:TO15	ATL	11/8/2007	11/3/2007
48716962	08-124	MD21-07-(	N	VOST	QC	na	FD	21-016(a)-99	21-603059372.5000-		GAS	na	ORGANIC	75-00-3	Chloroethane		0.81		1.61	2.1		ug/m3	U	DUP	VOC	EPA:TO15	ATL	11/8/2007	11/3/2007
48716972	08-124	MD21-07-(	N	VOST	QC	na	FD	21-016(a)-99	21-603059372.5000-		GAS	na	ORGANIC	75-69-4	Trichlorofluoromethar		0.81		1.61	4.5		ug/m3	U	DUP	VOC	EPA:TO15	ATL	11/8/2007	11/3/2007
48716982	08-124	MD21-07-(	N	VOST	QC	na	FD	21-016(a)-99	21-603059372.5000-		GAS	na	ORGANIC	64-17-5	Ethanol		1.2		1.61	6.1		ug/m3	U	DUP	VOC	EPA:TO15	ATL	11/8/2007	11/3/2007
48716992	08-124	MD21-07-(	N	VOST	QC	na	FD	21-016(a)-99	21-603059372.5000-		GAS	na	ORGANIC	76-13-1	Trichloro-1,2,2-trifluor		3.8		1.61	28		ug/m3	NQ	DUP	VOC	EPA:TO15	ATL	11/8/2007	11/3/2007
48717002	08-124	MD21-07-(	N	VOST	QC	na	FD	21-016(a)-99	21-603059372.5000-		GAS	na	ORGANIC	75-35-4	Dichloroethene[1,1-]		0.7		1.61	55		ug/m3	NQ	DUP	VOC	EPA:TO15	ATL	11/8/2007	11/3/2007
48717012	08-124	MD21-07-(	N	VOST	QC	na	FD	21-016(a)-99	21-603059372.5000-		GAS	na	ORGANIC	67-64-1	Acetone		1.1		1.61	140		ug/m3	NQ	DUP	VOC	EPA:TO15	ATL	11/8/2007	11/3/2007
48717022	08-124	MD21-07-(	N	VOST	QC	na	FD	21-016(a)-99	21-603059372.5000-		GAS	na	ORGANIC	67-63-0	Propanol[2-]		0.51		1.61	7.9		ug/m3	U	DUP	VOC	EPA:TO15	ATL	11/8/2007	11/3/2007
48717032	08-124	MD21-07-(	N	VOST	QC	na	FD	21-016(a)-99	21-603059372.5000-		GAS	na	ORGANIC	75-15-0	Carbon Disulfide		0.65		1.61	3.3		ug/m3	NQ	DUP	VOC	EPA:TO15	ATL	11/8/2007	11/3/2007
48717042	08-124	MD21-07-(	N	VOST	QC	na	FD	21-016(a)-99	21-603059372.5000-		GAS	na	ORGANIC	75-09-2	Methylene Chloride		0.67		1.61	1000		ug/m3	NQ	DUP	VOC	EPA:TO15	ATL	11/8/2007	11/3/2007
48717052	08-124	MD21-07-(	N	VOST	QC	na	FD	21-016(a)-99	21-603059372.5000-		GAS	na	ORGANIC	1634-04-4	Methyl tert-Butyl Ethe		0.7		1.61	2.9		ug/m3	U	DUP	VOC	EPA:TO15	ATL	11/8/2007	11/3/2007
48717062	08-124	MD21-07-(	N	VOST	QC	na	FD	21-016(a)-99	21-603059372.5000-		GAS	na	ORGANIC	156-60-5	Dichloroethene[trans-		1.5		1.61	3.2		ug/m3	U	DUP	VOC	EPA:TO15	ATL	11/8/2007	11/3/2007
48717072	08-124	MD21-07-(	N	VOST	QC	na	FD	21-016(a)-99	21-603059372.5000-		GAS	na	ORGANIC	110-54-3	Hexane		0.68		1.61	2.9		ug/m3	NQ	DUP	VOC	EPA:TO15	ATL	11/8/2007	11/3/2007
48717082	08-124	MD21-07-(	N	VOST	QC	na	FD	21-016(a)-99	21-603059372.5000-		GAS	na	ORGANIC	75-34-3	Dichloroethane[1,1-]		0.65		1.61	3.2		ug/m3	U	DUP	VOC	EPA:TO15	ATL	11/8/2007	11/3/2007
48717092	08-124	MD21-07-(	N	VOST	QC	na	FD	21-016(a)-99	21-603059372.5000-		GAS	na	ORGANIC	78-93-3	Butanone[2-]		0.95		1.61	2.4		ug/m3	NQ	DUP	VOC	EPA:TO15	ATL	11/8/2007	11/3/2007
48717102	08-124	MD21-07-(	N	VOST	QC	na	FD	21-016(a)-99	21-603059372.5000-		GAS	na	ORGANIC	156-59-2	Dichloroethene[cis-1,		0.51		1.61	4.6		ug/m3	NQ	DUP	VOC	EPA:TO15	ATL	11/8/2007	11/3/2007
48717112	08-124	MD21-07-(	N	VOST	QC	na	FD	21-016(a)-99	21-603059372.5000-		GAS	na	ORGANIC	109-99-9	Tetrahydrofuran		1.2		1.61	2.4		ug/m3	U	DUP	VOC	EPA:TO15	ATL	11/8/2007	11/3/2007
48717122	08-124	MD21-07-(	N	VOST	QC	na	FD	21-016(a)-99	21-603059372.5000-		GAS	na	ORGANIC	67-66-3	Chloroform		0.55		1.61	780		ug/m3	NQ	DUP	VOC	EPA:TO15	ATL	11/8/2007	11/3/2007
48717132	08-124	MD21-07-(	N	VOST	QC	na	FD	21-016(a)-99	21-603059372.5000-		GAS	na	ORGANIC	71-55-6	Trichloroethane[1,1,1		0.88		1.61	13		ug/m3	NQ	DUP	VOC	EPA:TO15	ATL	11/8/2007	11/3/2007
48717142	08-124	MD21-07-(	N	VOST	QC	na	FD	21-016(a)-99	21-603059372.5000-		GAS	na	ORGANIC	110-82-7	Cyclohexane		1		1.61	2.8		ug/m3	U	DUP	VOC	EPA:TO15	ATL	11/8/2007	11/3/2007
48717152	08-124	MD21-07-(	N	VOST	QC	na	FD	21-016(a)-99	21-603059372.5000-		GAS	na	ORGANIC	56-23-5	Carbon Tetrachloride		0.81		1.61	550		ug/m3	NQ	DUP	VOC	EPA:TO15	ATL	11/8/2007	11/3/2007
48717162	08-124	MD21-07-(	N	VOST	QC	na	FD	21-016(a)-99	21-603059372.5000-		GAS	na	ORGANIC	71-43-2	Benzene		0.62		1.61	4.7		ug/m3	NQ	DUP	VOC	EPA:TO15	ATL	11/8/2007	11/3/2007
48717172	08-124	MD21-07-(	N	VOST	QC	na	FD	21-016(a)-99	21-603059372.5000-		GAS	na	ORGANIC	107-06-2	Dichloroethane[1,2-]		0.65		1.61	14		ug/m3	NQ	DUP	VOC	EPA:TO15	ATL	11/8/2007	11/3/2007
48717182	08-124	MD21-07-(	N	VOST	QC	na	FD	21-016(a)-99	21-603059372.5000-		GAS	na	ORGANIC	142-82-5	n-Heptane		0.79		1.61	3.3		ug/m3	U	DUP	VOC	EPA:TO15	ATL	11/8/2007	11/3/2007
48717192	08-124	MD21-07-(	N	VOST	QC	na	FD	21-016(a)-99	21-603059372.5000-		GAS	na	ORGANIC	79-01-6	Trichloroethene		0.95		1.61	1200		ug/m3	NQ	DUP	VOC	EPA:TO15	ATL	11/8/2007	11/3/2007
48717202	08-124	MD21-07-(	N	VOST	QC	na	FD	21-016(a)-99	21-603059372.5000-		GAS	na	ORGANIC	78-87-5	Dichloropropane[1,2-]		0.82		1.61	3.7		ug/m3	U	DUP	VOC	EPA:TO15	ATL	11/8/2007	11/3/2007
48717212	08-124	MD21-07-(	N	VOST	QC	na	FD	21-016(a)-99	21-603059372.5000-		GAS	na	ORGANIC	123-91-1	Dioxane[1,4-]		0.75		1.61	12		ug/m3	U	DUP	VOC	EPA:TO15	ATL	11/8/2007	11/3/2007
48717222	08-124	MD21-07-(	N	VOST	QC	na	FD	21-016(a)-99	21-603059372.5000-		GAS	na	ORGANIC	75-27-4	Bromodichloromethar		1.1		1.61	10		ug/m3	NQ	DUP	VOC	EPA:TO15	ATL	11/8/2007	11/3/2007
48717232	08-124	MD21-07-(	N	VOST	QC	na	FD	21-016(a)-99	21-603059372.5000-		GAS	na	ORGANIC	10061-01-	Dichloropropene[cis-1		0.95		1.61	3.6		ug/m3	U	DUP	VOC	EPA:TO15	ATL	11/8/2007	11/3/2007
48717242	08-124	MD21-07-(	N	VOST	QC	na	FD	21-016(a)-99	21-603059372.5000-		GAS	na	ORGANIC	108-10-1	Methyl-2-pentanone[4		1.5		1.61	3.3		ug/m3	U	DUP	VOC	EPA:TO15	ATL	11/8/2007	11/3/2007
48717252	08-124	MD21-07-(	N	VOST	QC	na	FD	21-016(a)-99	21-603059372.5000-		GAS	na	ORGANIC	108-88-3	Toluene		0.54		1.61	7.5		ug/m3	NQ	DUP	VOC	EPA:TO15	ATL	11/8/2007	11/3/2007
48717262	08-124	MD21-07-(	N	VOST	QC	na	FD	21-016(a)-99	21-603059372.5000-		GAS	na	ORGANIC	10061-02-	Dichloropropene[trans		1.3		1.61	3.6		ug/m3	U	DUP	VOC	EPA:TO15	ATL	11/8/2007	11/3/2007
48717272	08-124	MD21-07-(	N	VOST	QC	na	FD	21-016(a)-99	21-603059372.5000-		GAS	na	ORGANIC	79-00-5	Trichloroethane[1,1,2		1		1.61	110		ug/m3	NQ	DUP	VOC	EPA:TO15	ATL	11/8/2007	11/3/2007
48717282	08-124	MD21-07-(	N	VOST	QC	na	FD	21-016(a)-99	21-603059372.5000-		GAS	na	ORGANIC	127-18-4	Tetrachloroethene		1.1		1.61	120		ug/m3	NQ	DUP	VOC	EPA:TO15	ATL	11/8/2007	11/3/2007
48717292	08-124	MD21-07-(	N	VOST	QC	na	FD	21-016(a)-99	21-603059372.5000-		GAS	na	ORGANIC	591-78-6	Hexanone[2-]		0.66		1.61	13		ug/m3	U	DUP	VOC	EPA:TO15	ATL	11/8/2007	11/3/2007
48717302	08-124	MD21-07-(	N	VOST	QC	na	FD	21-016(a)-99	21-603059372.5000-		GAS	na	ORGANIC	124-48-1	Chlorodibromomethar		1.4		1.61	6.8		ug/m3	U	DUP	VOC	EPA:TO15	ATL	11/8/2007	11/3/2007
48717312	08-124	MD21-07-(	N	VOST	QC	na	FD	21-016(a)-99	21-603059372.5000-		GAS	na	ORGANIC	106-93-4	Dibromoethane[1,2-]		1.1		1.61	6.2		ug/m3	U	DUP	VOC	EPA:TO15	ATL	11/8/2007	11/3/2007
48717322	08-124	MD21-07-(	N	VOST	QC	na	FD	21-016(a)-99	21-603059372.5000-		GAS	na	ORGANIC	108-90-7	Chlorobenzene		0.67		1.61	3.7		ug/m3	U	DUP	VOC	EPA:TO15	ATL	11/8/2007	11/3/2007
48717332	08-124	MD21-07-(	N	VOST	QC	na	FD	21-016(a)-99	21-603059372.5000-		GAS	na	ORGANIC	100-41-4	Ethylbenzene		0.91		1.61	3.5		ug/m3	U	DUP	VOC	EPA:TO15	ATL	11/8/2007	11/3/2007
48717342	08-124	MD21-07-(	N	VOST	QC	na	FD	21-016(a)-99	21-603059372.5000-		GAS	na	ORGANIC	Xylene[1,3	Xylene[1,3-]+Xylene[		0.56		1.61	3.5		ug/m3	U	DUP	VOC	EPA:TO15	ATL	11/8/2007	11/3/2007
48717352	08-124	MD21-07-(	N	VOST	QC	na	FD	21-016(a)-99	21-603059372.5000-		GAS	na	ORGANIC	95-47-6	Xylene[1,2-]		1.2		1.61	3.5		ug/m3	U	DUP	VOC	EPA:TO15	ATL	11/8/2007	11/3/2007
48717362	08-124	MD21-07-(	N	VOST	QC	na	FD	21-016(a)-99	21-603059372.5000-		GAS	na	ORGANIC	100-42-5	Styrene		0.68		1.61	3.4		ug/m3	U	DUP	VOC	EPA:TO15	ATL	11/8/2007	11/3/2007
48717372	08-124	MD21-07-(	N	VOST	QC	na	FD	21-016(a)-99	21-603059372.5000-		GAS	na	ORGANIC	75-25-2	Bromoform		2		1.61	8.3		ug/m3	U	DUP	VOC	EPA:TO15	ATL	11/8/2007	11/3/2007
48717382	08-124	MD21-07-(	N	VOST	QC	na	FD	21-016(a)-99	21-603059372.5000-		GAS	na	ORGANIC	79-34-5	Tetrachloroethane[1,1		1.5		1.61	5.5		ug/m3	U	DUP	VOC	EPA:TO15	ATL	11/8/2007	11/3/2007
48717392	08-124	MD21-07-(	N	VOST	QC	na	FD	21-016(a)-99	21-603059372.5000-		GAS	na	ORGANIC	622-96-8	Ethyltoluene[4-]		2.8		1.61	4		ug/m3	U	DUP	VOC	EPA:TO15	ATL	11/8/2007	11/3/2007
48717402	08-124	MD21-07-(	N	VOST	QC	na	FD	21-016(a)-99	21-603059372.5000-		GAS	na	ORGANIC	108-67-8	Trimethylbenzene[1,3		3.7		1.61	4		ug/m3	U	DUP	VOC	EPA:TO15	ATL	11/8/2007	11/3/2007
48717412	08-124	MD21-07-(	N	VOST	QC	na	FD	21-016(a)-99	21-603059372.5000-		GAS	na	ORGANIC	95-63-6	Trimethylbenzene[1,2		1.6		1.61	4		ug/m3	U	DUP	VOC	EPA:TO15	ATL	11/8/2007	11/3/2007
48717422	08-124	MD21-07-(	N	VOST	QC	na	FD	21-016(a)-99	21-603059372.5000-		GAS	na	ORGANIC	541-73-1	Dichlorobenzene[1,3-		1.7		1.61	4.8		ug/m3	U	DUP	VOC	EPA:TO15	ATL	11/8/2007	11/3/2007
48717432	08-124	MD21-07-(	N	VOST	QC	na	FD	21-016(a)-99	21-603059372.5000-		GAS	na	ORGANIC	106-46-7	Dichlorobenzene[1,4-		1.8		1.61	4.9		ug/m3	NQ	DUP	VOC	EPA:TO15	ATL	11/8/2007	11/3/2007
48717442	08-124	MD21-07-(	N	VOST	QC	na	FD	21-016(a)-99	21-603059372.5000-		GAS	na	ORGANIC	100-44-7	Benzyl Chloride		1.5		1.61	4.2		ug/m3	U	DUP	VOC	EPA:TO15	ATL	11/8/2007	11/3/2007
48717452	08-124	MD21-07-(	N	VOST	QC	na	FD	21-016(a)-99	21-603059372.5000-		GAS	na	ORGANIC	95-50-1	Dichlorobenzene[1,2-		1.2		1.61	4.8		ug/m3	U	DUP	VOC	EPA:TO15	ATL	11/8/2007	11/3/2007
48717462	08-124	MD21-07-(	N	VOST	QC	na	FD	21-016(a)-99	21-603059372.5000-		GAS	na	ORGANIC	120-82-1	Trichlorobenzene[1,2		1.6		1.61	24		ug/m3	U	DUP	VOC	EPA:TO15	ATL	11/8/2007	11/3/2007
48717472	08-124	MD21-07-(	N	VOST	QC	na	FD	21-016(a)-99	21-603059372.5000-		GAS	na	ORGANIC	87-68-3	Hexachlorobutadiene		4.6		1.61	34		ug/m3	UJ	DUP	VOC	EPA:TO15	ATL	11/8/2007	11/3/2007
48717482	08-124	MD21-07-(	N	VOST	QC	na	FD	21-016(a)-99	21-603059372.5000-		GAS	na	ORGANIC	75-45-6	Chlorodifluoromethan		11		1.61	11		ug/m3	U	DUP	VOC	EPA:TO15	ATL	11/8/2007	11/3/2007
48717492	08-124	MD21-07-(	N	VOST	QC	na	FD	21-016(a)-99	21-603059372.5000-		GAS	na	ORGANIC	67-56-1	Methanol		100		1.61	100		ug/m3	U	DUP	VOC	EPA:TO15	ATL	11/8/2007	11/3/2007
48717502	08-124	MD21-07-(	N	VOST	QC	na	FD	21-016(a)-99	21-603059372.5000-		GAS	na	ORGANIC	71-36-3	Butanol[1-]		9.8		1.61	9.8		ug/m3	U	DUP	VOC	EPA:TO15	ATL	11/8/2007	11/3/2007
48717512	08-124	MD21-07-(	N	VOST	QC	na	FD	21-016(a)-99	21-603059372.5000-		GAS	na	ORGANIC	115-07-1	Propylene		0.58		1.61	57		ug/m3	NQ	DUP	VOC	EPA:TO15	ATL	11/8/2007	11/3/2007
48721272	08-99	MD21-07-(	N	VOST	QC	na	FD	21-016(a)-99	21-603058339.5000-		GAS	na	RAD	H-3	Tritium	6.969		197.083	1	121.936	118.546	pCi/L	U	CS	H3	EPA:906.(	ARSL	11/2/2007	########
48721282	08-98	MD21-07-(	N	VOST	QC	na	FD	21-016(a)-99	21-603058339.5000-		GAS	na	ORGANIC	75-71-8	Dichlorodifluorometha		0.18		1.79	0.9		ppbv	U	CS	VOC	EPA:TO15	ATL	11/5/2007	########
48721292	08-98	MD21-07-(	N	VOST	QC	na	FD	21-016(a)-99	21-603058339.5000-		GAS	na	ORGANIC	76-14-2	Dichloro-1,1,2,2-tetra		0.77		1.79	0.9		ppbv	U	CS	VOC	EPA:TO15	ATL	11/5/2007	########
48721302	08-98	MD21-07-(	N	VOST	QC	na	FD	21-016(a)-99	21-603058339.5000-		GAS	na	ORGANIC	74-87-3	Chloromethane		0.55		1.79	3.6		ppbv	U	CS	VOC	EPA:TO15	ATL	11/5/2007	########
48721312	08-98	MD21-07-(	N	VOST	QC	na	FD	21-016(a)-99	21-603058339.5000-		GAS	na	ORGANIC	75-01-4	Vinyl Chloride		0.32		1.79	0.9		ppbv	U	CS	VOC	EPA:TO15	ATL	11/5/2007	########
48721322	08-98	MD21-07-(	N	VOST	QC	na	FD	21-016(a)-99	21-603058339.5000-		GAS	na	ORGANIC	106-99-0	Butadiene[1,3-]		0.23		1.79	0.9		ppbv	U	CS	VOC	EPA:TO15	ATL	11/5/2007	########
48721332	08-98	MD21-07-(	N	VOST	QC	na	FD	21-016(a)-99	21-603058339.5000-		GAS	na	ORGANIC	74-83-9	Bromomethane		0.46		1.79	0.9		ppbv	U	CS	VOC	EPA:TO15	ATL	11/5/2007	########
48721342	08-98	MD21-07-(	N	VOST	QC	na	FD	21-016(a)-99	21-603058339.5000-		GAS	na	ORGANIC	75-00-3	Chloroethane		0.34		1.79	0.9		ppbv	U	CS	VOC	EPA:TO15	ATL	11/5/2007	########
48721352	08-98	MD21-07-(	N	VOST	QC	na	FD	21-016(a)-99	21-603058339.5000-		GAS	na	ORGANIC	75-69-4	Trichlorofluoromethar		0.16		1.79	0.9		ppbv	U	CS	VOC	EPA:TO15	ATL	11/5/2007	########
48721362	08-98	MD21-07-(	N	VOST	QC	na	FD	21-016(a)-99	21-603058339.5000-		GAS	na	ORGANIC	64-17-5	Ethanol		0.73		1.79	3.6		ppbv	U	CS	VOC	EPA:TO15	ATL	11/5/2007	########
48721372	08-98	MD21-07-(	N	VOST	QC	na	FD	21-016(a)-99	21-603058339.5000-		GAS	na	ORGANIC	76-13-1	Trichloro-1,2,2-trifluor		0.55		1.79	0.9		ppbv	U	CS	VOC	EPA:TO15	ATL	11/5/2007	########
48721382	08-98	MD21-07-(	N	VOST	QC	na	FD	21-016(a)-99	21-603058339.5000-		GAS	na	ORGANIC	75-35-4	Dichloroethene[1,1-]		0.2		1.79	0.9		ppbv	U	CS	VOC	EPA:TO15	ATL	11/5/2007	########
48721392	08-98	MD21-07-(	N	VOST	QC	na	FD	21-016(a)-99	21-603058339.5000-		GAS	na	ORGANIC	67-64-1	Acetone		0.54		1.79	71		ppbv	NQ	CS	VOC	EPA:TO15	ATL	11/5/2007	########
48721402	08-98	MD21-07-(	N	VOST	QC	na	FD	21-016(a)-99	21-603058339.5000-		GAS	na	ORGANIC	67-63-0	Propanol[2-]		0.23		1.79	3.6		ppbv	U	CS	VOC	EPA:TO15	ATL	11/5/2007	########
48721412	08-98	MD21-07-(	N	VOST	QC	na	FD	21-016(a)-99	21-603058339.5000-		GAS	na	ORGANIC	75-15-0	Carbon Disulfide		0.23		1.79	0.9		ppbv	U	CS	VOC	EPA:TO15	ATL	11/5/2007	########
48721422	08-98	MD21-07-(	N	VOST	QC	na	FD	21-016(a)-99	21-603058339.5000-		GAS	na	ORGANIC	75-09-2	Methylene Chloride		0.21		1.79	80		ppbv	NQ	CS	VOC	EPA:TO15	ATL	11/5/2007	########
48721432	08-98	MD21-07-(	N	VOST	QC	na	FD	21-016(a)-99	21-603058339.5000-		GAS	na	ORGANIC	1634-04-4	Methyl tert-Butyl Ethe		0.21		1.79	0.9		ppbv	U	CS	VOC	EPA:TO15	ATL	11/5/2007	########
48721442	08-98	MD21-07-(	N	VOST	QC	na	FD	21-016(a)-99	21-603058339.5000-		GAS	na	ORGANIC	156-60-5	Dichloroethene[trans-		0.43		1.79	0.9		ppbv	U	CS	VOC	EPA:TO15	ATL	11/5/2007	########
48721452	08-98	MD21-07-(	N	VOST	QC	na	FD	21-016(a)-99	21-603058339.5000-		GAS	na	ORGANIC	110-54-3	Hexane		0.21		1.79	0.9		ppbv	U	CS	VOC	EPA:TO15	ATL	11/5/2007	########
48721462	08-98	MD21-07-(	N	VOST	QC	na	FD	21-016(a)-99	21-603058339.5000-		GAS	na	ORGANIC	75-34-3	Dichloroethane[1,1-]		0.18		1.79	0.9		ppbv	U	CS	VOC	EPA:TO15	ATL	11/5/2007	########
48721472	08-98	MD21-07-(	N	VOST	QC	na	FD	21-016(a)-99	21-603058339.5000-		GAS	na	ORGANIC	78-93-3	Butanone[2-]		0.36		1.79	7.9		ppbv	NQ	CS	VOC	EPA:TO15	ATL	11/5/2007	########
48721482	08-98	MD21-07-(	N	VOST	QC	na	FD	21-016(a)-99	21-603058339.5000-		GAS	na	ORGANIC	156-59-2	Dichloroethene[cis-1,		0.14		1.79	0.9		ppbv	U	CS	VOC	EPA:TO15	ATL	11/5/2007	########
48721492	08-98	MD21-07-(	N	VOST	QC	na	FD	21-016(a)-99	21-603058339.5000-		GAS	na	ORGANIC	109-99-9	Tetrahydrofuran		0.45		1.79	0.9		ppbv	U	CS	VOC	EPA:TO15	ATL	11/5/2007	########
48721502	08-98	MD21-07-(	N	VOST	QC	na	FD	21-016(a)-99	21-603058339.5000-		GAS	na	ORGANIC	67-66-3	Chloroform		0.12		1.79	22		ppbv	NQ	CS	VOC	EPA:TO15	ATL	11/5/2007	########
48721512	08-98	MD21-07-(	N	VOST	QC	na	FD	21-016(a)-99	21-603058339.5000-		GAS	na	ORGANIC	71-55-6	Trichloroethane[1,1,1		0.18		1.79	0.9		ppbv	U	CS	VOC	EPA:TO15	ATL	11/5/2007	########
48721522	08-98	MD21-07-(	N	VOST	QC	na	FD	21-016(a)-99	21-603058339.5000-		GAS	na	ORGANIC	110-82-7	Cyclohexane		0.32		1.79	0.9		ppbv	U	CS	VOC	EPA:TO15	ATL	11/5/2007	########
48721532	08-98	MD21-07-(	N	VOST	QC	na	FD	21-016(a)-99	21-603058339.5000-		GAS	na	ORGANIC	56-23-5	Carbon Tetrachloride		0.14		1.79	0.97		ppbv	NQ	CS	VOC	EPA:TO15	ATL	11/5/2007	########
48721542	08-98	MD21-07-(	N	VOST	QC	na	FD	21-016(a)-99	21-603058339.5000-		GAS	na	ORGANIC	71-43-2	Benzene		0.21		1.79	0.9		ppbv	NQ	CS	VOC	EPA:TO15	ATL	11/5/2007	########
48721552	08-98	MD21-07-(	N	VOST	QC	na	FD	21-016(a)-99	21-603058339.5000-		GAS	na	ORGANIC	107-06-2	Dichloroethane[1,2-]		0.18		1.79	1		ppbv	NQ	CS	VOC	EPA:TO15	ATL	11/5/2007	########
48721562	08-98	MD21-07-(	N	VOST	QC	na	FD	21-016(a)-99	21-603058339.5000-		GAS	na	ORGANIC	142-82-5	n-Heptane		0.21		1.79	0.9		ppbv	U	CS	VOC	EPA:TO15	ATL	11/5/2007	########
48721572	08-98	MD21-07-(	N	VOST	QC	na	FD	21-016(a)-99	21-603058339.5000-		GAS	na	ORGANIC	79-01-6	Trichloroethene		0.2		1.79	8.2		ppbv	NQ	CS	VOC	EPA:TO15	ATL	11/5/2007	########
48721582	08-98	MD21-07-(	N	VOST	QC	na	FD	21-016(a)-99	21-603058339.5000-		GAS	na	ORGANIC	78-87-5	Dichloropropane[1,2-]		0.2		1.79	0.9		ppbv	U	CS	VOC	EPA:TO15	ATL	11/5/2007	########
48721592	08-98	MD21-07-(	N	VOST	QC	na	FD	21-016(a)-99	21-603058339.5000-		GAS	na	ORGANIC	123-91-1	Dioxane[1,4-]		0.23		1.79	3.6		ppbv	U	CS	VOC	EPA:TO15	ATL	11/5/2007	########
48721602	08-98	MD21-07-(	N	VOST	QC	na	FD	21-016(a)-99	21-603058339.5000-		GAS	na	ORGANIC	75-27-4	Bromodichloromethar		0.18		1.79	0.9		ppbv	U	CS	VOC	EPA:TO15	ATL	11/5/2007	########
48721612	08-98	MD21-07-(	N	VOST	QC	na	FD	21-016(a)-99	21-603058339.5000-		GAS	na	ORGANIC	10061-01-	Dichloropropene[cis-1		0.23		1.79	0.9		ppbv	U	CS	VOC	EPA:TO15	ATL	11/5/2007	########
48721622	08-98	MD21-07-(	N	VOST	QC	na	FD	21-016(a)-99	21-603058339.5000-		GAS	na	ORGANIC	108-10-1	Methyl-2-pentanone[4		0.41		1.79	0.9		ppbv	U	CS	VOC	EPA:TO15	ATL	11/5/2007	########
48721632	08-98	MD21-07-(	N	VOST	QC	na	FD	21-016(a)-99	21-603058339.5000-		GAS	na	ORGANIC	108-88-3	Toluene		0.16		1.79	0.92		ppbv	NQ	CS	VOC	EPA:TO15	ATL	11/5/2007	########
48721642	08-98	MD21-07-(	N	VOST	QC	na	FD	21-016(a)-99	21-603058339.5000-		GAS	na	ORGANIC	10061-02-	Dichloropropene[trans		0.32		1.79	0.9		ppbv	U	CS	VOC	EPA:TO15	ATL	11/5/2007	########
48721652	08-98	MD21-07-(	N	VOST	QC	na	FD	21-016(a)-99	21-603058339.5000-		GAS	na	ORGANIC	79-00-5	Trichloroethane[1,1,2		0.21		1.79	0.9		ppbv	U	CS	VOC	EPA:TO15	ATL	11/5/2007	########
48721662	08-98	MD21-07-(	N	VOST	QC	na	FD	21-016(a)-99	21-603058339.5000-		GAS	na	ORGANIC	127-18-4	Tetrachloroethene		0.18		1.79	0.9		ppbv	U	CS	VOC	EPA:TO15	ATL	11/5/2007	########
48721672	08-98	MD21-07-(	N	VOST	QC	na	FD	21-016(a)-99	21-603058339.5000-		GAS	na	ORGANIC	591-78-6	Hexanone[2-]		0.18		1.79	3.6		ppbv	U	CS	VOC	EPA:TO15	ATL	11/5/2007	########
48721682	08-98	MD21-07-(	N	VOST	QC	na	FD	21-016(a)-99	21-603058339.5000-		GAS	na	ORGANIC	124-48-1	Chlorodibromomethar		0.18		1.79	0.9		ppbv	U	CS	VOC	EPA:TO15	ATL	11/5/2007	########
48721692	08-98	MD21-07-(	N	VOST	QC	na	FD	21-016(a)-99	21-603058339.5000-		GAS	na	ORGANIC	106-93-4	Dibromoethane[1,2-]		0.16		1.79	0.9		ppbv	U	CS	VOC	EPA:TO15	ATL	11/5/2007	########
48721702	08-98	MD21-07-(	N	VOST	QC	na	FD	21-016(a)-99	21-603058339.5000-		GAS	na	ORGANIC	108-90-7	Chlorobenzene		0.16		1.79	0.9		ppbv	U	CS	VOC	EPA:TO15	ATL	11/5/2007	########
48721712	08-98	MD21-07-(	N	VOST	QC	na	FD	21-016(a)-99	21-603058339.5000-		GAS	na	ORGANIC	100-41-4	Ethylbenzene		0.23		1.79	0.9		ppbv	U	CS	VOC	EPA:TO15	ATL	11/5/2007	########
48721722	08-98	MD21-07-(	N	VOST	QC	na	FD	21-016(a)-99	21-603058339.5000-		GAS	na	ORGANIC	Xylene[1,3	Xylene[1,3-]+Xylene[		0.14		1.79	0.9		ppbv	U	CS	VOC	EPA:TO15	ATL	11/5/2007	########
48721732	08-98	MD21-07-(	N	VOST	QC	na	FD	21-016(a)-99	21-603058339.5000-		GAS	na	ORGANIC	95-47-6	Xylene[1,2-]		0.3		1.79	0.9		ppbv	U	CS	VOC	EPA:TO15	ATL	11/5/2007	########
48721742	08-98	MD21-07-(	N	VOST	QC	na	FD	21-016(a)-99	21-603058339.5000-		GAS	na	ORGANIC	100-42-5	Styrene		0.18		1.79	0.9		ppbv	U	CS	VOC	EPA:TO15	ATL	11/5/2007	########
48721752	08-98	MD21-07-(	N	VOST	QC	na	FD	21-016(a)-99	21-603058339.5000-		GAS	na	ORGANIC	75-25-2	Bromoform		0.21		1.79	0.9		ppbv	U	CS	VOC	EPA:TO15	ATL	11/5/2007	########
48721762	08-98	MD21-07-(	N	VOST	QC	na	FD	21-016(a)-99	21-603058339.5000-		GAS	na	ORGANIC	79-34-5	Tetrachloroethane[1,1		0.25		1.79	0.9		ppbv	U	CS	VOC	EPA:TO15	ATL	11/5/2007	########
48721772	08-98	MD21-07-(	N	VOST	QC	na	FD	21-016(a)-99	21-603058339.5000-		GAS	na	ORGANIC	622-96-8	Ethyltoluene[4-]		0.63		1.79	0.9		ppbv	U	CS	VOC	EPA:TO15	ATL	11/5/2007	########
48721782	08-98	MD21-07-(	N	VOST	QC	na	FD	21-016(a)-99	21-603058339.5000-		GAS	na	ORGANIC	108-67-8	Trimethylbenzene[1,3		0.84		1.79	0.9		ppbv	U	CS	VOC	EPA:TO15	ATL	11/5/2007	########
48721792	08-98	MD21-07-(	N	VOST	QC	na	FD	21-016(a)-99	21-603058339.5000-		GAS	na	ORGANIC	95-63-6	Trimethylbenzene[1,2		0.36		1.79	0.9		ppbv	U	CS	VOC	EPA:TO15	ATL	11/5/2007	########
48721802	08-98	MD21-07-(	N	VOST	QC	na	FD	21-016(a)-99	21-603058339.5000-		GAS	na	ORGANIC	541-73-1	Dichlorobenzene[1,3-		0.32		1.79	0.9		ppbv	U	CS	VOC	EPA:TO15	ATL	11/5/2007	########
48721812	08-98	MD21-07-(	N	VOST	QC	na	FD	21-016(a)-99	21-603058339.5000-		GAS	na	ORGANIC	106-46-7	Dichlorobenzene[1,4-		0.34		1.79	0.9		ppbv	U	CS	VOC	EPA:TO15	ATL	11/5/2007	########
48721822	08-98	MD21-07-(	N	VOST	QC	na	FD	21-016(a)-99	21-603058339.5000-		GAS	na	ORGANIC	100-44-7	Benzyl Chloride		0.32		1.79	0.9		ppbv	U	CS	VOC	EPA:TO15	ATL	11/5/2007	########
48721832	08-98	MD21-07-(	N	VOST	QC	na	FD	21-016(a)-99	21-603058339.5000-		GAS	na	ORGANIC	95-50-1	Dichlorobenzene[1,2-		0.23		1.79	0.9		ppbv	U	CS	VOC	EPA:TO15	ATL	11/5/2007	########
48721842	08-98	MD21-07-(	N	VOST	QC	na	FD	21-016(a)-99	21-603058339.5000-		GAS	na	ORGANIC	120-82-1	Trichlorobenzene[1,2		0.23		1.79	3.6		ppbv	UJ	CS	VOC	EPA:TO15	ATL	11/5/2007	########
48721852	08-98	MD21-07-(	N	VOST	QC	na	FD	21-016(a)-99	21-603058339.5000-		GAS	na	ORGANIC	87-68-3	Hexachlorobutadiene		0.48		1.79	3.6		ppbv	UJ	CS	VOC	EPA:TO15	ATL	11/5/2007	########
48721862	08-98	MD21-07-(	N	VOST	QC	na	FD	21-016(a)-99	21-603058339.5000-		GAS	na	ORGANIC	75-45-6	Chlorodifluoromethan		3.6		1.79	3.6		ppbv	U	CS	VOC	EPA:TO15	ATL	11/5/2007	########
48721872	08-98	MD21-07-(	N	VOST	QC	na	FD	21-016(a)-99	21-603058339.5000-		GAS	na	ORGANIC	67-56-1	Methanol		90		1.79	90		ppbv	U	CS	VOC	EPA:TO15	ATL	11/5/2007	########
48721882	08-98	MD21-07-(	N	VOST	QC	na	FD	21-016(a)-99	21-603058339.5000-		GAS	na	ORGANIC	71-36-3	Butanol[1-]		3.6		1.79	3.6		ppbv	U	CS	VOC	EPA:TO15	ATL	11/5/2007	########
48721892	08-98	MD21-07-(	N	VOST	QC	na	FD	21-016(a)-99	21-603058339.5000-		GAS	na	ORGANIC	115-07-1	Propylene		0.38		1.79	6.9		ppbv	NQ	CS	VOC	EPA:TO15	ATL	11/5/2007	########
48721902	08-98	MD21-07-(	N	VOST	QC	na	FD	21-016(a)-99	21-603058339.5000-		GAS	na	ORGANIC	75-71-8	Dichlorodifluorometha		0.88		1.79	4.4		ug/m3	U	DUP	VOC	EPA:TO15	ATL	11/5/2007	########
48721912	08-98	MD21-07-(	N	VOST	QC	na	FD	21-016(a)-99	21-603058339.5000-		GAS	na	ORGANIC	76-14-2	Dichloro-1,1,2,2-tetra		5.4		1.79	6.2		ug/m3	U	DUP	VOC	EPA:TO15	ATL	11/5/2007	########
48721922	08-98	MD21-07-(	N	VOST	QC	na	FD	21-016(a)-99	21-603058339.5000-		GAS	na	ORGANIC	74-87-3	Chloromethane		1.1		1.79	7.4		ug/m3	U	DUP	VOC	EPA:TO15	ATL	11/5/2007	########
48721932	08-98	MD21-07-(	N	VOST	QC	na	FD	21-016(a)-99	21-603058339.5000-		GAS	na	ORGANIC	75-01-4	Vinyl Chloride		0.82		1.79	2.3		ug/m3	U	DUP	VOC	EPA:TO15	ATL	11/5/2007	########
48721942	08-98	MD21-07-(	N	VOST	QC	na	FD	21-016(a)-99	21-603058339.5000-		GAS	na	ORGANIC	106-99-0	Butadiene[1,3-]		0.51		1.79	2		ug/m3	U	DUP	VOC	EPA:TO15	ATL	11/5/2007	########
48721952	08-98	MD21-07-(	N	VOST	QC	na	FD	21-016(a)-99	21-603058339.5000-		GAS	na	ORGANIC	74-83-9	Bromomethane		1.8		1.79	3.5		ug/m3	U	DUP	VOC	EPA:TO15	ATL	11/5/2007	########
48721962	08-98	MD21-07-(	N	VOST	QC	na	FD	21-016(a)-99	21-603058339.5000-		GAS	na	ORGANIC	75-00-3	Chloroethane		0.9		1.79	2.4		ug/m3	U	DUP	VOC	EPA:TO15	ATL	11/5/2007	########
48721972	08-98	MD21-07-(	N	VOST	QC	na	FD	21-016(a)-99	21-603058339.5000-		GAS	na	ORGANIC	75-69-4	Trichlorofluoromethar		0.9		1.79	5		ug/m3	U	DUP	VOC	EPA:TO15	ATL	11/5/2007	########
48721982	08-98	MD21-07-(	N	VOST	QC	na	FD	21-016(a)-99	21-603058339.5000-		GAS	na	ORGANIC	64-17-5	Ethanol		1.4		1.79	6.7		ug/m3	U	DUP	VOC	EPA:TO15	ATL	11/5/2007	########
48721992	08-98	MD21-07-(	N	VOST	QC	na	FD	21-016(a)-99	21-603058339.5000-		GAS	na	ORGANIC	76-13-1	Trichloro-1,2,2-trifluor		4.2		1.79	6.8		ug/m3	U	DUP	VOC	EPA:TO15	ATL	11/5/2007	########
48722002	08-98	MD21-07-(	N	VOST	QC	na	FD	21-016(a)-99	21-603058339.5000-		GAS	na	ORGANIC	75-35-4	Dichloroethene[1,1-]		0.78		1.79	3.5		ug/m3	U	DUP	VOC	EPA:TO15	ATL	11/5/2007	########
48722012	08-98	MD21-07-(	N	VOST	QC	na	FD	21-016(a)-99	21-603058339.5000-		GAS	na	ORGANIC	67-64-1	Acetone		1.3		1.79	170		ug/m3	NQ	DUP	VOC	EPA:TO15	ATL	11/5/2007	########
48722022	08-98	MD21-07-(	N	VOST	QC	na	FD	21-016(a)-99	21-603058339.5000-		GAS	na	ORGANIC	67-63-0	Propanol[2-]		0.57		1.79	8.8		ug/m3	U	DUP	VOC	EPA:TO15	ATL	11/5/2007	########
48722032	08-98	MD21-07-(	N	VOST	QC	na	FD	21-016(a)-99	21-603058339.5000-		GAS	na	ORGANIC	75-15-0	Carbon Disulfide		0.72		1.79	2.8		ug/m3	U	DUP	VOC	EPA:TO15	ATL	11/5/2007	########
48722042	08-98	MD21-07-(	N	VOST	QC	na	FD	21-016(a)-99	21-603058339.5000-		GAS	na	ORGANIC	75-09-2	Methylene Chloride		0.75		1.79	280		ug/m3	NQ	DUP	VOC	EPA:TO15	ATL	11/5/2007	########
48722052	08-98	MD21-07-(	N	VOST	QC	na	FD	21-016(a)-99	21-603058339.5000-		GAS	na	ORGANIC	1634-04-4	Methyl tert-Butyl Ethe		0.77		1.79	3.2		ug/m3	U	DUP	VOC	EPA:TO15	ATL	11/5/2007	########
48722062	08-98	MD21-07-(	N	VOST	QC	na	FD	21-016(a)-99	21-603058339.5000-		GAS	na	ORGANIC	156-60-5	Dichloroethene[trans-		1.7		1.79	3.5		ug/m3	U	DUP	VOC	EPA:TO15	ATL	11/5/2007	########
48722072	08-98	MD21-07-(	N	VOST	QC	na	FD	21-016(a)-99	21-603058339.5000-		GAS	na	ORGANIC	110-54-3	Hexane		0.76		1.79	3.2		ug/m3	U	DUP	VOC	EPA:TO15	ATL	11/5/2007	########
48722082	08-98	MD21-07-(	N	VOST	QC	na	FD	21-016(a)-99	21-603058339.5000-		GAS	na	ORGANIC	75-34-3	Dichloroethane[1,1-]		0.72		1.79	3.6		ug/m3	U	DUP	VOC	EPA:TO15	ATL	11/5/2007	########
48722092	08-98	MD21-07-(	N	VOST	QC	na	FD	21-016(a)-99	21-603058339.5000-		GAS	na	ORGANIC	78-93-3	Butanone[2-]		1		1.79	23		ug/m3	NQ	DUP	VOC	EPA:TO15	ATL	11/5/2007	########
48722102	08-98	MD21-07-(	N	VOST	QC	na	FD	21-016(a)-99	21-603058339.5000-		GAS	na	ORGANIC	156-59-2	Dichloroethene[cis-1,		0.57		1.79	3.5		ug/m3	U	DUP	VOC	EPA:TO15	ATL	11/5/2007	########
48722112	08-98	MD21-07-(	N	VOST	QC	na	FD	21-016(a)-99	21-603058339.5000-		GAS	na	ORGANIC	109-99-9	Tetrahydrofuran		1.3		1.79	2.6		ug/m3	U	DUP	VOC	EPA:TO15	ATL	11/5/2007	########
48722122	08-98	MD21-07-(	N	VOST	QC	na	FD	21-016(a)-99	21-603058339.5000-		GAS	na	ORGANIC	67-66-3	Chloroform		0.61		1.79	110		ug/m3	NQ	DUP	VOC	EPA:TO15	ATL	11/5/2007	########
48722132	08-98	MD21-07-(	N	VOST	QC	na	FD	21-016(a)-99	21-603058339.5000-		GAS	na	ORGANIC	71-55-6	Trichloroethane[1,1,1		0.98		1.79	4.9		ug/m3	U	DUP	VOC	EPA:TO15	ATL	11/5/2007	########
48722142	08-98	MD21-07-(	N	VOST	QC	na	FD	21-016(a)-99	21-603058339.5000-		GAS	na	ORGANIC	110-82-7	Cyclohexane		1.1		1.79	3.1		ug/m3	U	DUP	VOC	EPA:TO15	ATL	11/5/2007	########
48722152	08-98	MD21-07-(	N	VOST	QC	na	FD	21-016(a)-99	21-603058339.5000-		GAS	na	ORGANIC	56-23-5	Carbon Tetrachloride		0.9		1.79	6.1		ug/m3	NQ	DUP	VOC	EPA:TO15	ATL	11/5/2007	########
48722162	08-98	MD21-07-(	N	VOST	QC	na	FD	21-016(a)-99	21-603058339.5000-		GAS	na	ORGANIC	71-43-2	Benzene		0.69		1.79	2.9		ug/m3	NQ	DUP	VOC	EPA:TO15	ATL	11/5/2007	########
48722172	08-98	MD21-07-(	N	VOST	QC	na	FD	21-016(a)-99	21-603058339.5000-		GAS	na	ORGANIC	107-06-2	Dichloroethane[1,2-]		0.72		1.79	4.2		ug/m3	NQ	DUP	VOC	EPA:TO15	ATL	11/5/2007	########
48722182	08-98	MD21-07-(	N	VOST	QC	na	FD	21-016(a)-99	21-603058339.5000-		GAS	na	ORGANIC	142-82-5	n-Heptane		0.88		1.79	3.7		ug/m3	U	DUP	VOC	EPA:TO15	ATL	11/5/2007	########
48722192	08-98	MD21-07-(	N	VOST	QC	na	FD	21-016(a)-99	21-603058339.5000-		GAS	na	ORGANIC	79-01-6	Trichloroethene		1		1.79	44		ug/m3	NQ	DUP	VOC	EPA:TO15	ATL	11/5/2007	########
48722202	08-98	MD21-07-(	N	VOST	QC	na	FD	21-016(a)-99	21-603058339.5000-		GAS	na	ORGANIC	78-87-5	Dichloropropane[1,2-]		0.91		1.79	4.1		ug/m3	U	DUP	VOC	EPA:TO15	ATL	11/5/2007	########
48722212	08-98	MD21-07-(	N	VOST	QC	na	FD	21-016(a)-99	21-603058339.5000-		GAS	na	ORGANIC	123-91-1	Dioxane[1,4-]		0.84		1.79	13		ug/m3	U	DUP	VOC	EPA:TO15	ATL	11/5/2007	########
48722222	08-98	MD21-07-(	N	VOST	QC	na	FD	21-016(a)-99	21-603058339.5000-		GAS	na	ORGANIC	75-27-4	Bromodichloromethar		1.2		1.79	6		ug/m3	U	DUP	VOC	EPA:TO15	ATL	11/5/2007	########
48722232	08-98	MD21-07-(	N	VOST	QC	na	FD	21-016(a)-99	21-603058339.5000-		GAS	na	ORGANIC	10061-01-	Dichloropropene[cis-1		1		1.79	4.1		ug/m3	U	DUP	VOC	EPA:TO15	ATL	11/5/2007	########
48722242	08-98	MD21-07-(	N	VOST	QC	na	FD	21-016(a)-99	21-603058339.5000-		GAS	na	ORGANIC	108-10-1	Methyl-2-pentanone[4		1.7		1.79	3.7		ug/m3	U	DUP	VOC	EPA:TO15	ATL	11/5/2007	########
48722252	08-98	MD21-07-(	N	VOST	QC	na	FD	21-016(a)-99	21-603058339.5000-		GAS	na	ORGANIC	108-88-3	Toluene		0.61		1.79	3.4		ug/m3	NQ	DUP	VOC	EPA:TO15	ATL	11/5/2007	########
48722262	08-98	MD21-07-(	N	VOST	QC	na	FD	21-016(a)-99	21-603058339.5000-		GAS	na	ORGANIC	10061-02-	Dichloropropene[trans		1.5		1.79	4.1		ug/m3	U	DUP	VOC	EPA:TO15	ATL	11/5/2007	########
48722272	08-98	MD21-07-(	N	VOST	QC	na	FD	21-016(a)-99	21-603058339.5000-		GAS	na	ORGANIC	79-00-5	Trichloroethane[1,1,2		1.2		1.79	4.9		ug/m3	U	DUP	VOC	EPA:TO15	ATL	11/5/2007	########
48722282	08-98	MD21-07-(	N	VOST	QC	na	FD	21-016(a)-99	21-603058339.5000-		GAS	na	ORGANIC	127-18-4	Tetrachloroethene		1.2		1.79	6.1		ug/m3	U	DUP	VOC	EPA:TO15	ATL	11/5/2007	########
48722292	08-98	MD21-07-(	N	VOST	QC	na	FD	21-016(a)-99	21-603058339.5000-		GAS	na	ORGANIC	591-78-6	Hexanone[2-]		0.73		1.79	15		ug/m3	U	DUP	VOC	EPA:TO15	ATL	11/5/2007	########
48722302	08-98	MD21-07-(	N	VOST	QC	na	FD	21-016(a)-99	21-603058339.5000-		GAS	na	ORGANIC	124-48-1	Chlorodibromomethar		1.5		1.79	7.6		ug/m3	U	DUP	VOC	EPA:TO15	ATL	11/5/2007	########
48722312	08-98	MD21-07-(	N	VOST	QC	na	FD	21-016(a)-99	21-603058339.5000-		GAS	na	ORGANIC	106-93-4	Dibromoethane[1,2-]		1.2		1.79	6.9		ug/m3	U	DUP	VOC	EPA:TO15	ATL	11/5/2007	########
48722322	08-98	MD21-07-(	N	VOST	QC	na	FD	21-016(a)-99	21-603058339.5000-		GAS	na	ORGANIC	108-90-7	Chlorobenzene		0.74		1.79	4.1		ug/m3	U	DUP	VOC	EPA:TO15	ATL	11/5/2007	########
48722332	08-98	MD21-07-(	N	VOST	QC	na	FD	21-016(a)-99	21-603058339.5000-		GAS	na	ORGANIC	100-41-4	Ethylbenzene		1		1.79	3.9		ug/m3	U	DUP	VOC	EPA:TO15	ATL	11/5/2007	########
48722342	08-98	MD21-07-(	N	VOST	QC	na	FD	21-016(a)-99	21-603058339.5000-		GAS	na	ORGANIC	Xylene[1,3	Xylene[1,3-]+Xylene[		0.62		1.79	3.9		ug/m3	U	DUP	VOC	EPA:TO15	ATL	11/5/2007	########
48722352	08-98	MD21-07-(	N	VOST	QC	na	FD	21-016(a)-99	21-603058339.5000-		GAS	na	ORGANIC	95-47-6	Xylene[1,2-]		1.3		1.79	3.9		ug/m3	U	DUP	VOC	EPA:TO15	ATL	11/5/2007	########
48722362	08-98	MD21-07-(	N	VOST	QC	na	FD	21-016(a)-99	21-603058339.5000-		GAS	na	ORGANIC	100-42-5	Styrene		0.76		1.79	3.8		ug/m3	U	DUP	VOC	EPA:TO15	ATL	11/5/2007	########
48722372	08-98	MD21-07-(	N	VOST	QC	na	FD	21-016(a)-99	21-603058339.5000-		GAS	na	ORGANIC	75-25-2	Bromoform		2.2		1.79	9.2		ug/m3	U	DUP	VOC	EPA:TO15	ATL	11/5/2007	########
48722382	08-98	MD21-07-(	N	VOST	QC	na	FD	21-016(a)-99	21-603058339.5000-		GAS	na	ORGANIC	79-34-5	Tetrachloroethane[1,1		1.7		1.79	6.1		ug/m3	U	DUP	VOC	EPA:TO15	ATL	11/5/2007	########
48722392	08-98	MD21-07-(	N	VOST	QC	na	FD	21-016(a)-99	21-603058339.5000-		GAS	na	ORGANIC	622-96-8	Ethyltoluene[4-]		3.1		1.79	4.4		ug/m3	U	DUP	VOC	EPA:TO15	ATL	11/5/2007	########
48722402	08-98	MD21-07-(	N	VOST	QC	na	FD	21-016(a)-99	21-603058339.5000-		GAS	na	ORGANIC	108-67-8	Trimethylbenzene[1,3		4.1		1.79	4.4		ug/m3	U	DUP	VOC	EPA:TO15	ATL	11/5/2007	########
48722412	08-98	MD21-07-(	N	VOST	QC	na	FD	21-016(a)-99	21-603058339.5000-		GAS	na	ORGANIC	95-63-6	Trimethylbenzene[1,2		1.8		1.79	4.4		ug/m3	U	DUP	VOC	EPA:TO15	ATL	11/5/2007	########
48722422	08-98	MD21-07-(	N	VOST	QC	na	FD	21-016(a)-99	21-603058339.5000-		GAS	na	ORGANIC	541-73-1	Dichlorobenzene[1,3-		1.9		1.79	5.4		ug/m3	U	DUP	VOC	EPA:TO15	ATL	11/5/2007	########
48722432	08-98	MD21-07-(	N	VOST	QC	na	FD	21-016(a)-99	21-603058339.5000-		GAS	na	ORGANIC	106-46-7	Dichlorobenzene[1,4-		2		1.79	5.4		ug/m3	U	DUP	VOC	EPA:TO15	ATL	11/5/2007	########
48722442	08-98	MD21-07-(	N	VOST	QC	na	FD	21-016(a)-99	21-603058339.5000-		GAS	na	ORGANIC	100-44-7	Benzyl Chloride		1.7		1.79	4.6		ug/m3	U	DUP	VOC	EPA:TO15	ATL	11/5/2007	########
48722452	08-98	MD21-07-(	N	VOST	QC	na	FD	21-016(a)-99	21-603058339.5000-		GAS	na	ORGANIC	95-50-1	Dichlorobenzene[1,2-		1.4		1.79	5.4		ug/m3	U	DUP	VOC	EPA:TO15	ATL	11/5/2007	########
48722462	08-98	MD21-07-(	N	VOST	QC	na	FD	21-016(a)-99	21-603058339.5000-		GAS	na	ORGANIC	120-82-1	Trichlorobenzene[1,2		1.7		1.79	26		ug/m3	UJ	DUP	VOC	EPA:TO15	ATL	11/5/2007	########
48722472	08-98	MD21-07-(	N	VOST	QC	na	FD	21-016(a)-99	21-603058339.5000-		GAS	na	ORGANIC	87-68-3	Hexachlorobutadiene		5.2		1.79	38		ug/m3	UJ	DUP	VOC	EPA:TO15	ATL	11/5/2007	########
48722482	08-98	MD21-07-(	N	VOST	QC	na	FD	21-016(a)-99	21-603058339.5000-		GAS	na	ORGANIC	75-45-6	Chlorodifluoromethan		13		1.79	13		ug/m3	U	DUP	VOC	EPA:TO15	ATL	11/5/2007	########
48722492	08-98	MD21-07-(	N	VOST	QC	na	FD	21-016(a)-99	21-603058339.5000-		GAS	na	ORGANIC	67-56-1	Methanol		120		1.79	120		ug/m3	U	DUP	VOC	EPA:TO15	ATL	11/5/2007	########
48722502	08-98	MD21-07-(	N	VOST	QC	na	FD	21-016(a)-99	21-603058339.5000-		GAS	na	ORGANIC	71-36-3	Butanol[1-]		11		1.79	11		ug/m3	U	DUP	VOC	EPA:TO15	ATL	11/5/2007	########
48722512	08-98	MD21-07-(	N	VOST	QC	na	FD	21-016(a)-99	21-603058339.5000-		GAS	na	ORGANIC	115-07-1	Propylene		0.65		1.79	12		ug/m3	NQ	DUP	VOC	EPA:TO15	ATL	11/5/2007	########

Appendix C

Waste Management

C-1.0 INDRODUCTION

This appendix contains the waste management and disposal records for waste streams generated during the 2007 Phase II investigation of Material Disposal Area T, also known as Consolidated Unit 21-016(a)-99, at Technical Area 21. The Waste Characterization Strategy Form (WCSF) and amendment was prepared to address characterization approaches, on-site waste management, and final disposition options. The Waste Profile Forms (WPFs) and Chemical Waste Disposal Request forms are still in process as of the date of this submittal and are not included in this appendix.

C-2.0 SUMMARY

The waste stream generated at the Consolidated Unit 21-016(a)-99 during the 27 investigation activities is outlined below.

Barcode Identification Number	Waste Storage Container	Waste Type	Approximate Volumes (yd^3)	Waste Deposal Status
10012820	1 yd^3 King Bag	Drill cuttings	1	pending
10012821	1 yd^3 King Bag		1	pending
10012822	1 yd^3 King Bag		1	pending
10012823	1 yd^3 King Bag		1	pending
10012824	1 yd^3 King Bag		1	pending
10012825	1 yd^3 King Bag		1	pending
10012826	1 yd^3 King Bag		1	pending
10012827	1 yd^3 King Bag		1	pending
10012828	1 yd^3 King Bag		1	pending
10012829	1 yd^3 King Bag		1	pending
10012830	1 yd^3 King Bag		1	pending
10012831	1 yd^3 King Bag		1	pending
10012832	15 gal Plastic Drum	Contact waste (plastic sheeting, personal protective equipment, and sample equipment waste)	0.5	pending
		Total volume of waste produced	12.5	

The drill cuttings are stored in 1-yd^3 king bags and staged on site along with the 15-gal. drum of contact waste. This waste is being handled as non-hazardous low-level radioactive waste and is staged pending disposal.

The designated waste management coordinator prepared the investigation-derived waste (IWD) documents, including the WCSF, WPFs, and all waste disposal requests.

C-3.0 WASTE CHARACTERIZATION STRATEGY FORM (WCSF)

The WCSF and the 10/5/07 Amendment were prepared before IDW generation. Both are included in the appendix.

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February 2008
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Phase II Investigation Report for Material Disposal Area T at Technical Area 21, Revision 1

Los Alamos
NATIONAL LABORATORY
EST. 1943

Prepared by the Environmental Programs Directorate

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February 2008

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EXECUTIVE SUMMARY

This Phase II investigation report presents results from the 2007 environmental investigation of Consolidated Unit 21-016(a)-99, also known as Material Disposal Area (MDA) T, within Technical Area (TA) 21 at Los Alamos National Laboratory. The 2007 investigation of MDA T was conducted as a follow-on to the 2005–2006 implementation of the approved investigation work plan. Specific requirements for the investigation were defined in the approved Phase II investigation work plan and subsequent modifications.

The four objectives of the 2007 investigation were to: (1) continue characterization of tritium and volatile organic compound (VOC) vapors beneath MDA T; (2) define the vertical extent of americium-241, plutonium-238, and plutonium-239 at locations on the Delta Prime (DP) Canyon slope; (3) assess if americium-241, plutonium-238, and plutonium-239 activities in surface soils have been impacted by recent storm runoff and the December 2006 water main leaks at TA-21; and (4) acquire nitrate and supplemental perchlorate data on the DP Canyon slope.

The 2007 field activities included borehole abandonment, installation and sampling of three permanent vapor-monitoring wells, and collection of soil samples from 11 locations on the DP Canyon slope. Results from the DP Canyon slope were used to update the calculated radiological dose for the DP Canyon slope under the recreational user scenario.

Pore-gas results from the first round of quarterly sampling confirm low concentrations of VOCs and low activities of tritium. Three additional quarters of pore-gas monitoring data will be collected in accordance with the approved vapor-monitoring plan. Nature and extent of pore gas will be comprehensively evaluated and presented in a report following completion of planned vapor-monitoring activities.

The DP Canyon slope data indicate the nature and extent of americium-241, plutonium-238, and plutonium-239 have been defined. The 2007 surface-soil activities are less than the surface-soil samples collected from 1992 to 2006, which indicates there has been some redistribution of americium-241, plutonium-238, and plutonium-239 on the DP Canyon slope. Because of the lower activities detected during the 2007 investigation, the exposure point concentrations and associated dose for each radionuclide under the recreational scenario are lower than previously presented in the 2006 investigation report for MDA T. The nature and extent of nitrate and perchlorate have been fully investigated and defined.

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Appendix A Field Information

Appendix B Analytical Data Results (on CD included with this document)

Appendix C Waste Management

Acronyms and Abbreviations

AOC	area of concern
COPC	contaminant of potential concern
DOE	Department of Energy [U.S.]
DP	Delta Prime
EPC	exposure point concentration
IDW	investigation-derived waste
LANL	Los Alamos National Laboratory
MDA	material disposal area
NES	nuclear environmental site
NMED	New Mexico Environment Department
QC	quality assurance
RCRA	Resource Conservation and Recovery Act
RFI	RCRA facility investigation
RPF	Records Processing Facility
RWSA	retrievable waste storage area
SWMU	solid waste management unit
TA	technical area
UCL	upper confidence limit
VOC	volatile organic compound
WCSF	waste characterization strategy form
WPF	waste profile form

1.0 INTRODUCTION

This Phase II investigation report presents results from the 2007 environmental investigation of Consolidated Unit 21-016(a)-99, also known as Material Disposal Area (MDA) T, within Technical Area (TA) 21 at Los Alamos National Laboratory (LANL or the Laboratory).

As a result of its operational history, Consolidated Unit 21-016(a)-99 contains both radioactive and hazardous components. The site includes four absorption beds that received treated radioactive liquid waste, 64 buried shafts used for the disposal of cement-treated radioactive mixtures, and the Retrievable waste storage area (RWSA) used for the storage of cement-treated radioactive mixtures. The site also includes two industrial wastewater treatment plants and associated subsurface piping and structures. Information on radioactive materials and radionuclides, including the results of sampling and analysis of radioactive constituents, is voluntarily provided to the New Mexico Environment Department (NMED) in accordance with U. S. Department of Energy (DOE) policy.

The 2007 investigation of Consolidated Unit 21-016(a)-99 was conducted as a follow-on to the 2005–2006 implementation of the approved investigation work plan (LANL 2004, 085641; LANL 2004, 088721), in accordance with the specific requirements for the investigation defined in the approved Phase II investigation work plan (LANL 2007, 095131; NMED 2007, 095725) and subsequent modifications (LANL 2007, 098944; NMED 2007, 098946).

The four objectives of the 2007 investigation were to (1) continue characterization of tritium and volatile organic compound (VOC) vapors beneath MDA T; (2) define the vertical extent of americium-241, plutonium-238, and plutonium-239 at locations on the Delta Prime (DP) Canyon slope where activities increased with depth as identified during previous investigation; (3) assess whether americium-241, plutonium-238, and plutonium-239 activities in surface soil have been impacted by recent storm runoff and the December 2006 water main leaks at TA-21; and (4) acquire nitrate and supplemental perchlorate data on the DP Canyon slope. The 2007 field activities included borehole abandonment, installation and sampling of three permanent vapor-monitoring wells, and collection of soil and tuff samples on the DP Canyon slope.

This report is presented in five sections with three supporting appendixes. Section 1 is the introduction. Section 2 summarizes MDA T operational history. Section 3 describes in detail the field activities conducted during the 2007 investigation; provides an overview of the latest round of vapor data for MDA T; presents a review of the 2007 DP Canyon slope data and an updated evaluation of the nature and extent of radionuclides on the DP Canyon slope; and updates the calculated radiological dose for the DP Canyon slope. Conclusions based on previous and new data are presented in section 4. Section 5 cites all references supporting this report. Appendix A includes field documentation, Appendix B analytical results, and Appendix C waste management.

2.0 SITE HISTORY

Consolidated Unit 21-016(a)-99 is a fenced area located within TA-21 on DP Mesa, east of buildings 21-286 and 21-228; west of MDA A; north of buildings 21-005, 21-150, and 21-361; and south of North Perimeter Road (Figure 2.0-1). The site is slightly larger than 2 acres and is vegetated with grasses, chamisa bushes, and two young ponderosa pines. The following subsections provide a condensed review of Consolidated Unit 21-016(a)-99, its historical operations, and investigation activities conducted at the site. A comprehensive review of the site history and facility investigations are presented in the MDA T investigation report (LANL 2006, 094151).

2.1 Operational History

Consolidated Unit 21-016(a)-99 includes the following 25 solid waste management units (SWMUs) and areas of concern (AOCs): SWMUs 21-007; 21-010(a-h); 21-011(a, c, d, e, f, g, i, j); 21-016(a, b, c); and AOCs 21-001, 21-011(h), 21-028(a), C-21-009, and C-21-012. All of the sites were associated with decommissioned radioactive liquid waste treatment facilities and various storage areas. Detailed descriptions of the SWMUs and AOCs that comprise 21-016(a)-99 are presented in the MDA T investigation report (LANL 2006, 094151).

The operational history of Consolidated Unit 21-016(a)-99 is complex, beginning with waste disposal in 1945 and continuing through the backfilling and grading of the site in 1986. Operational discharges of industrial wastewater from the plutonium processing facility to the absorption beds [SWMU 21-016(a)] began in 1945 and stopped in 1950. An industrial wastewater treatment plant (building 21-035) was constructed in 1952 to remove plutonium and other radionuclides from the liquid waste and to improve the absorption characteristics of the wastewater. The industrial liquid waste treatment facility operated from 1952 to 1967, when it was decontaminated and decommissioned. From 1964 to 1967 and again from 1970 to 1972, high-efficiency particulate air filter-equipped mobile incinerators (the salamanders) were in operation. The incinerators burned contaminated tricresyl phosphate or tributyl phosphate mixed with kerosene waste oil. In 1967, the new wastewater treatment plant (building 21-257) [SWMU 21-011(a)] was completed, replacing building 21-035.

The disposal shafts [SWMU 21-016(c)] were installed between 1968 and 1974. The shafts received treated liquid wastes, some contaminated with americium-241, mixed with cement. Five of the shafts have bathyspheres that contain plutonium-239/240 and other mixed fission products. In addition, some shafts received unspecified volumes of wash water. Once the shafts were filled with the waste cement mixture, they were capped.

In 1974, the RWSA was constructed to store cement-treated transuranic waste temporarily in corrugated metal pipes. Treated wastes from building 21-257 containing plutonium-239/240 and americium-241 were mixed with cement and pumped into the pipes. The pipes were stored on end in the RWSA and were subsequently removed and taken to TA-54 from 1984 to 1986.

The area of the absorption beds, disposal shafts, and RWSA was backfilled with clean fill and the site was graded to drain toward the north. No waste disposal activities took place at Consolidated Unit 21-016(a)-99 after 1986.

Land use at MDA T is anticipated to remain industrial. Building 21-257 is still active on a minimal basis.

2.2 Historical Releases and Discharges

Approximately 18.3 million gallons of wastewater were discharged to the Consolidated Unit 21-016(a)-99 absorption beds between 1945 and 1967.

The tanks and other liquid-holding facilities at building 21-035 had no secondary containment, and the floor sumps and drains were unlined concrete. Leaks may have occurred at joints in buried cast iron and stainless-steel pipes. Although the external tanks at building 21-257 have secondary containment, some of the containment structures include floor drains that extend to the surrounding site grade. No data is available to indicate whether the sludge produced by these two treatment facilities was radioactive. Spills of unknown quantity were reported to have occurred during tanker-truck transfer operations in the americium unloading area (Sagez 2003, 076090).

The RWSA also had operational spills and leaks of unknown quantity. Spills, leaks, and releases were reportedly cleaned up at the time(LANL 1996, 070348, p. 1). Undetected leaks may also have occurred.

Airborne releases from the mobile incinerators were less than releases from stacks at the DP West plutonium processing facility. Building 21-012 released several curies annually of airborne particulate into the atmosphere, and Consolidated Unit 21-016(a)-99 is within the projected deposition area.

2.3 Historical Investigations

The MDA T investigation report provides a comprehensive review of the previous investigations conducted at MDA T (LANL 2006, 094151).

2.3.1 Pre–Resource Conservation and Recovery Act (RCRA) Facility Investigations (RFIs)

Field sampling investigations to characterize the extent and sources of contamination at Consolidated Unit 21-016(a)-99 began in 1946. These investigations included field instrument surveys for alpha and gamma emitters; radioassay for uranium, plutonium, and polonium; and analysis for fluorine.

The first characterization effort for the absorption beds was conducted in 1953 by the U.S. Geological Survey. The results of the study indicated that no appreciable horizontal migration of contamination had occurred and that plutonium had moved vertically to a depth of 20 ft (Rogers 1977, 005707, p. T-19).

From 1959 to 1961, the U.S. Army Corps of Engineers conducted a detailed study of contaminant migration at the absorption beds. A test pit (caisson) was excavated adjacent to absorption bed 1, sidewalls were logged, soil and rock samples were obtained, and instrumentation was installed to sample matrix saturation. Six angled boreholes were drilled under absorption bed 1 (Rogers 1977, 005707, p. T-19).

In 1967, additional borings were drilled at the absorption beds to collect samples for radioassay. Water samples were obtained from the caisson installed in 1959 and from two DP Canyon test holes. The study compared moisture migration with that reported in the previous study. Maximum concentrations of moisture had moved from a depth of 12 ft in 1961 to 40 ft in 1967. Most of the plutonium in the tuff was retained in the upper 20 ft (Purtymun 1967, 001009).

In 1974, additional boreholes were drilled before the excavation of the RWSA. These boreholes encountered paleochannel deposits at depths of 15 ft to 25 ft. Radioassay results from core samples indicated the presence of tritium, plutonium, americium, and cesium (Rogers 1977, 005707, p. T-28).

In 1978, moisture migration was studied in two borings. An inventory of plutonium and americium-241 was obtained during volumetric analysis of core from the boreholes. The distribution of plutonium and moisture was compared with values obtained in 1953 and 1960. Plutonium was detected at a maximum depth of 99.5 ft and americium-241 was detected at 101 ft (Nyhan et al. 1984, 058906).

Shallow soil was sampled and analyzed for radionuclides in 1984 and 1986. The results indicated that low levels of tritium, plutonium-238, plutonium-239, and americium-241 were present across the entire site area and into DP Canyon (Nyhan and Drennon 1993, 023248, p. 3-51).

2.3.2 RFI Investigations

1992 to 1994

The first RFI activity at Consolidated Unit 21-016(a)-99 was a field investigation conducted in 1992 (LANL 1995, 052350, p. 2-1). The investigation included near-surface sampling to evaluate site wide airborne

stack emissions. Surface and shallow-subsurface samples were collected and analyzed for organic chemicals, inorganic chemicals, and radionuclides, including tritium, plutonium-238, plutonium-239, and americium-241. The results indicated widespread presence of radionuclides at low specific activities.

Surface sampling was performed in 1993 and 1994 at areas requiring additional contaminant characterization, including the small drainage into DP Canyon (LANL 1996, 070348). The results of this campaign were presented in an RFI report (LANL 1996, 070348).

1996 to 1997

An investigation was conducted in 1996–1997 to further define the nature and extent of subsurface contamination resulting from past waste disposal practices at Consolidated Unit 21-016(a)-99. The investigation sought to define both the lateral extent of absorption bed contamination and the physical limit of the paleochannel. The 1996–1997 borehole samples were analyzed for target analyte list metals and radionuclides. Organic chemical analyses were also performed to detect the presence of VOCs and semivolatile organic compounds (SVOCs) in tuff. Inorganic chemicals were detected above background. Radionuclides including plutonium-238, plutonium-239, americium-241, strontium-90, cesium-137, uranium-234, uranium-235, and uranium-238 were detected or detected above background in and around the absorption beds (LANL 2004, 085641, p. 12).

2005 to 2006

An investigation was conducted in 2005 and 2006 to complete the characterization of the nature and extent of contamination from Consolidated Unit 21-016(a)-99 (MDA T) and to support the future corrective measures evaluations for the site. The investigation was conducted in accordance with the approved investigation work plan (LANL 2004, 085641; LANL 2004, 088721). The results of the 2005–2006 investigation were presented in the investigation report (LANL 2006, 094151).

3.0 CURRENT ACTIVITIES AT MDA T

This section describes the field activities conducted during the 2007 investigation including borehole abandonment, the installation and sampling of permanent vapor-monitoring wells surrounding MDA T, and drilling and sample collection on the DP Canyon slope. These activities are prescribed in the MDA T Phase II Work Plan (LANL 2007, 095131; NMED 2007, 095725) and subsequent modifications (LANL 2007, 098944; NMED 2007, 098946).

This section presents the 2007 investigation solid media and pore gas data, and discusses updated site dose and associated calculations for radionuclides on the DP Canyon slope. Deviations from planned implementation requirements are also presented in this section.

3.1 Borehole Abandonment

Four boreholes [locations 21-25372 (279 ft), 21-25373 (279 ft), 21-25375 (280 ft), and 21-25376 (283 ft)] from the 2005–2006 investigation were to be abandoned. Location 21-25373 was abandoned. The borehole was redrilled to the original total depth to clear all slough from the borehole and a portland-bentonite grout was tremmied from the total depth to the top of the borehole in accordance with the approved work plan (LANL 2007, 095131; NMED 2007, 095725). The other three boreholes have not been abandoned as of November 15~~th~~, 2007. Site access issues and operational protocols associated with the designation of Consolidated Unit 21-016(a)-99's as a nuclear ~~environmental site (NES)~~facility regulated under 10 CFR 830 prevented the abandonment. These boreholes will be abandoned as soon as operational protocols permit access to the borehole locations.

3.2 Installation and Sampling of Permanent Vapor-monitoring Wells

Permanent vapor-monitoring wells were installed at locations 21-603058 (in place of location 21-25263), 21-603059 (in place of location 21-25262), and 21-25264 (Figure 3.2-1)(Goering 2007, 098861). Because of access issues associated with the site's designation as a ~~an NES~~nuclear facility, two previously drilled boreholes (locations 21-25262 and 21-25263) could not be reoccupied for completion as vapor wells. Two new locations were selected as replacements and have been assigned new location ID numbers. These boreholes were drilled to the planned total depth without sampling. The third location was recompleted to the original total depth to remove slough from the borehole. A multiport sample system was installed and sampled from October 15 to November 5, 2007. Each well was equipped with multiple sampling ports for pore-~~-~~gas monitoring. The number of sample ports and sample port elevations above mean sea level were identical to those previously sampled in 2006, i.e., six ports at 21-603059 (in place of location 21-25262), ~~5~~five ports at 21-603058 (in place of location 21-25263), and ~~five~~ five ports at 21-25264 (Table 3.2-1). The sample tubing is ¼-in. stainless-~~-~~steel tubing connected with Swagelok fittings. The 5-ft sampling intervals were filled with 10/20 silica sand. Bentonite chips were tremied into the borehole and hydrated to isolate the sampling intervals. A flush-~~-~~mount surface completion was installed to protect the well and sample ports. The top tubing of each sample port is capped with an end cap to protect the sample tubing when not in use. As-built diagrams for each vapor-monitoring well are shown in Figures 3.2-2, 3.2-3, and 3.2-4.

One round of pore-gas sampling was collected from all ports in each well, except Port #2 at location 21-603059. Several attempts were made to collect a sample from Port #2 (115 ft bgs). The port was surged with nitrogen and suction was applied. In each attempt, the interval did not allow infiltration or extraction of air. ~~-~~The formation at the new replacement location is not permeable enough for transmission of pore gas. ~~-~~The interval from the original borehole during Phase I may have yielded pore gas because of the presence of a joint or fracture within or nearby the sample interval. This depth corresponds to the cooling unit contact between Bandelier Tuff unit 3 and unit 2. Unit 2 is very densely welded and the intent was to place the port above the densely welded contact. However, it is possible the sample interval of the port is within a welded portion of the tuff, ~~and~~ thus making it difficult to yield pore gas. ~~Port 2 did not produce pore-gas vapor, possibly because the welded formation does not allow the extraction of subsurface vapor.~~

Vapor was sampled at boreholes 21-603059, 21-603058, and 21-25264 in accordance with LANL-ER-SOP 5074. ~~-~~Samples were analyzed for VOCs and tritium. LANL-ER-SOP 5074 describes the process of sampling subatmospheric air from monitoring wells and boreholes. The procedure covers~~:~~ pre-sampling activities, SUMMA sampling (a passive collection and containment system of laboratory-quality air samples), adsorbent column sampling, packer system sampling, direct port sampling, and post sampling activities.

Samples were collected through permanent sample ports installed in accordance with the approved vapor-monitoring plan for MDA T (LANL 2007, 098944; NMED 2007, 098946)~~(LANL 2007, 098944 and NMED 2007, 098946)~~. Tritium samples were obtained by pulling subsurface air through a desiccant column filled with degassed silica gel. Moisture in the subsurface air absorbs to the desiccant as it passes through the column. Each desiccant column is connected to an individual pump powered by a 12-volt solar panel trailer with deep cycle battery ~~back-up.~~backup. Columns were arranged in a manifold constructed to allow for up to 10 simultaneous tritium samples. In this manner, multiple ports can be sampled over the same time interval. ~~-~~Columns were allowed to collect soil moisture over a 12–24 h period to obtain the minimum 5 g~~rams~~ needed for analysis. The desiccant columns are analyzed for tritium according to EPA Method 906.0.

Samples for volatiles were collected using evacuated SUMMA canisters. Before sampling, each depth interval was purged until measurements of carbon dioxide and oxygen were stable and representative of subsurface conditions. Carbon dioxide and oxygen concentrations are measured using a Landtec gas extraction monitor. Before the SUMMA canister is opened to the subsurface air, a vacuum gauge is used to verify the canister is under negative pressure. The valve is opened and subsurface air is pulled into the SUMMA canister. The vacuum gauge is monitored to determine when the canister has been completely filled with subsurface air. Subsurface pore--gas samples collected in SUMMA canisters are then submitted for VOC analysis according to EPA Method TO--15.

~~Before sampling, pore gas was purged from each sampling port by pumping; once proper purge of the sampling system was verified, vapor sampling proceeded in accordance with standard operating procedure EP-ERSS-SOP-5074, Sampling for Sub-atmospheric Air. Subsurface pore-gas samples were collected in SUMMA canisters for VOC analysis and in silica gel samplers for tritium analysis.~~ Sample locations and depths are tabulated in Table 3.2-1.

3.3 DP Canyon Slope Sampling Activities

A total of 11 locations on DP Canyon slope were sampled on October 13 and 14, 2007. Four locations were sampled using a hand auger and seven locations were sampled using a hollow-stem auger-drilling rig (Figure 3.3-1). All samples were analyzed for americium-241, plutonium-238, plutonium-239/240, nitrate, and perchlorate.

Six locations (21-25266, 21-02568, 21-01861, 21-01860, 21-01862, and 21-02569) where americium or plutonium activities increased with sampling depth during previous investigations were resampled during the 2007 investigation. The three locations (21-25274, 21-25272, 21-01642) previously exhibiting the highest surface concentrations of plutonium-239 were also resampled. Finally, two new locations (21-603000 and 21-603001) were selected based on field geomorphic evidence of recent sediment deposition and sampled.

At a minimum, two depths were sampled at each location, one at the surface (generally 0.0 to 0.5 ft) and the second at a minimum of 1 ft into bedrock. In addition, samples were collected from the soil/tuff interface at most locations; however, tuff was exposed at the ground surface at some locations and only surface and 1-ft-into-bedrock samples were collected. Where the soil horizon was much thicker (typically near the toe of the DP Canyon slope) samples were collected at 5-ft intervals through the soil horizon until bedrock was encountered. Sample locations and depths are tabulated in Table 3.2-1.

Locations on the lower section of the DP Canyon slope were sampled using a hollow-stem auger drilling rig. Locations 21-02568 (0.0 to 15.0 ft), 21-02569 (0.0 to 13.0 ft), 21-01860 (0.0 to15.0ft), and 21-01861 (0.0 to 15 ft) were drilled and sampled as planned on October 13, 2007. Locations 21-25266 (0.0 to 14.0 ft), 21-01862 (0.0 to 8.5 ft), and 21-603000 (0.0 to10.0) were drilled and sampled as planned on October 14, 2007.

Continuous core was recovered at each borehole location to collect subsurface environmental screening samples and for off-site analyses. The recovered cores were inspected visually for fractures, staining/discoloration, moisture content, and lithologically logged; borehole logs are presented in Appendix A. Where fracturing was encountered in the recovered core, a detailed physical description of the fracture-fill material and rock matrix was included in the lithologic logs.

Hand auger sampling was completed on October 14, 2007, on the upper portion of the DP Canyon slope at locations 21-6030001 (0.0 to 3.0 ft), 21-25274 (0.0 to 3.0 ft), 21-01642 (0.0 to 2.0 ft), and 21-25272

(0.0 to 4.0 ft). Sampling material was recovered at each hand auger location for subsurface environmental screening samples and off-site analyses.

Rinsate blanks on all drilling and hand auger sampling equipment and field duplicates were collected at a frequency of 10%.

All samples collected were field screened for VOCs and radioactivity for health and safety purposes before collection. VOC screening was performed using a photoionization detector (PID) equipped with an 11.7-eV bulb. Radiological field screening was conducted using an Eberline E600 with a 380AB probe by LANL radiation protection personnel. VOCs were not detected in any of the head-space field-screening samples; all radiological measurements were less than background. The field-screening results were recorded on the borehole logs and sample collection logs; sample collection logs are also presented in Appendix A.

3.4 Data Review for Solid Media and Vapor

The following sections present the 2007 investigation data for the DP Canyon slope and Consolidated Unit 21-016(a)-99. The sections include updated discussions of the nature and extent of inorganic chemicals and radionuclides in solid media on the DP Canyon slope and a general comparison of the 2007 tritium and VOC vapor data with previous data for the subsurface beneath MDA T. Data are presented in Appendix B, which is on the CD included with this document.

3.4.1 DP Canyon Slope Solid Media Data

Inorganic Chemicals

Table 3.4-1 summarizes the perchlorate and nitrate analytical results for all samples collected during the 2007 investigation. Figure 3.4-1 depicts the spatial distribution of detected inorganic chemicals on the DP Canyon slope.

Perchlorate was not detected in any of the DP Canyon slope samples. The nature and extent of perchlorate is defined.

The highest concentration of nitrate (1.2 mg/kg) occurred in a surface soil sample (collected from a depth of 0.0 to 0.8 ft) at location 21-01861. Nitrate was not detected in deeper samples at this location. Nitrate was detected at lower concentrations in two other samples and was not detected in any of the other DP Canyon slope samples. The nature and extent of nitrate are defined.

Radionuclides

Samples were collected from multiple depths at all locations to define the vertical extent of americium-241, plutonium-238, and plutonium-239/240. Table 3.4-1 summarizes the solid media analytical results in samples collected during the 2007 investigation. Figure 3.4-1 depicts the spatial distribution of americium-241, plutonium-238, and plutonium-239/240 on the DP Canyon slope. In addition, Figures 3.4-2, 3.4-3, 3.4-4, and 3.4-5 depict radionuclide activity-with-depth profiles and comparisons between previous and 2007 data for all 2007 sampling locations.

The data show decreasing activities with depth for all three radionuclides at all locations, with a single exception. At location 21-25272 the 2007 plutonium-238 and plutonium-239 activities increase with depth. Plutonium-239 activities increase from 0.06 pCi/g in the surface to 8.9 pCi/g in the 3.5 to 4.0-ft interval; plutonium-238 activities increase from 0.26 to 1.27 pCi/g. This sample location is located at the base of the DP Canyon slope and could not be accessed with the drill rig. The samples were collected using a

hand auger. The hand auger could only advance ~4 ft into unweathered tuff. The surface soil data collected at this location (16-25272) during earlier investigations are greater than the 2007 results. The plutonium-239 activity was 17.6 pCi/g in the surface soil and 13.1 pCi/g in the 0.5- to 1.0-ft interval; the plutonium-238 activity was 9.1 pCi/g in the surface soil and 3.8 pCi/g in the 0.5- to 1.0-ft interval (LANL 2006, 094151). Considering the earlier data and the 2007 data collectively, plutonium-238 and plutonium-239 activities decrease with depth. Adjacent locations 21-02568 and 21-603000 were sampled to 10 ft and 13.5 ft below ground surface (bgs) and reported decreasing trends approaching zero at the total depth. The nature and extent of americium-241, plutonium-238, and plutonium-239 on the DP Canyon slope are defined.

Locations 21-01642, 21-25274, and 21-25272 (previous investigation locations with the three highest plutonium-239 activities in surface soil) were re-sampled during the 2007 investigation to assess the impact of storm runoff and the water main leak on the distribution of americium-241, plutonium-238, and plutonium-239 on the DP Canyon slope. Two new locations (21-603000 and 21-603001) were also sampled to support the assessment.

Activities at nearly all locations are lower in the 2007 data than in the earlier data (see Figures 3.4-2, 3.4-3, 3.4-4, and 3.4-5). For example, at location 21-25272, the 2005–2006 plutonium-239 activity was 17.6 pCi/g compared with 0.60 pCi/g in 2007; americium-241 and plutonium-238 activities are similarly lower in the 2007 data. At location 21-01642, the plutonium-239 activity was 28.5 pCi/g; the 2007 plutonium-239 activity is 5.39 pCi/g.

At two locations (21-02569 and 21-603001), 2007 investigation results for all three radionuclides did not vary significantly from the earlier results. Location 21-01636 (sampled only in an earlier investigation) is very close to new location 21-603001. The plutonium-239 activity at this location was 4.45 pCi/g and the plutonium-239 activity at 21-603001 in the 2007 data is 4.79 pCi/g; activities for the other two radionuclides in the earlier data are similarly close to the 2007 results (LANL 2006, 094151).

Plutonium-239 activities were higher in the 2007 data than in the earlier data for samples collected from two locations. At new sampling location 21-603000, the 2007 plutonium-239 activity is 10.83 pCi/g. Three locations (21-02568, 21-25271, and 21-25270) sampled previously are located near 21-603000 in the middle section of the DP Canyon slope. The plutonium-239 activities at these locations were all approximately 5 pCi/g. Finally, at the toe of the DP Canyon slope, the plutonium-239 activity increased from 6.26 pCi/g at location 21-25266 to 14.38 pCi/g in 2007.

The data indicate there have been some redistribution of americium-241, plutonium-238, and plutonium-239 on the DP Canyon slope, with the possibility that plutonium-239 in particular is being translocated to the toe of the slope. Most of the 2007 sample locations were collected from the incised drainage channel running down the middle of the slope originating directly below the stormwater culverts that discharge onto the slope. This area receives the majority of runoff on the site and soil and sediment in the drainage channel would be expected to migrate during runoff events. In addition, sediment would be expected to accumulate at the toe of the slope because of the change in topographic gradient. This is also indicated by the thicker soil profile observed in the field at the toe of the slope. Locations on the DP Canyon slope outside the drainage channel are more stable; however, activities of americium-241, plutonium-238, and plutonium-239 in these areas are also lower in the 2007 data than in the earlier data. The data further indicate that MDA T is not acting as an ongoing source of americium-241, plutonium-238, and plutonium-239; the 2007 activities at most locations are lower than previously observed, including those locations (21-603000 and 21-603001) specifically targeting recent deposition of sediment on the slope. This is expected based on the results of the radiation walkover surveys and surface soil sampling previously conducted at MDA T and because clean fill was used to backfill the site after operations ended (LANL 2006, 094151).

3.4.2 MDA T Subsurface Vapor Data

One of the planned four quarterly rounds of subsurface vapor sampling has been completed for the Phase II investigation. A summary of general observations for the first quarter VOC and tritium results is presented in the following sections.

VOCs

The analytical results for select VOCs in pore gas for the 2007 investigation of MDA T are presented in Table 3.4-2. The spatial distribution of VOCs in subsurface vapor at MDA T is depicted in Figure 3.4-6 and vertical profiles for each borehole are presented in Figures 3.4-7, 3.4-8, and 3.4-9. More than 20 VOCs have been detected in the 2007 MDA T pore-gas samples. Most results were less than 200 µg/m3, the higher results are discussed in detail.

Vapor concentrations of methylene chloride, tetrachloroethene, and trichloroethene exceeded 1000 µg/m^3; none of the other detected VOCs were at concentrations exceeding this value. The highest concentrations of methylene chloride (1300 µg/m^3 and 1000 µg/m^3) occurred in samples collected from the deepest intervals in borehole locations 21-25264 and 21-603059. The concentrations of methylene chloride detected in the deepest intervals at 21-25264 and 21-603059 exceed the screening level based on groundwater cleanup standards (450 ug/m^3). Methylene chloride was not detected at equivalent concentrations in samples from these boreholes (location 21-25262 is equivalent to location 21-603059) during previous vapor-sampling rounds; however, the maximum concentration of methylene chloride (>2000 µg/m^3) detected previously also occurred at the bottom of a borehole (location 21-25263) (LANL 2006, 094151). The three additional rounds of quarterly monitoring will be used to determine whether these results reflect a one-time occurrence or will continue over time.

The highest concentrations of tetrachloroethene (1500 µg/m^3 and 1300 µg/m^3) occurred in samples collected from shallow intervals in borehole locations 21-25264 and 21-603059. Equivalent concentrations (approximately 800 µg/m^3 and 1500 µg/m^3) were also detected in shallow intervals in these same boreholes during previous rounds of vapor sampling at MDA T (LANL 2006, 094151).

The highest concentrations of trichlorethene (1100 µg/m^3 and 1200 µg/m^3) occurred in samples collected from the deepest two intervals in borehole location 21-603059. Concentrations of trichloroethene were lower (slightly more than 500 µg/m^3) at the equivalent borehole (location 21-25262) during previous rounds; however, the maximum concentration of trichloroethene detected previously was approximately 2000 µg/m^3, which was in a sample from the deepest interval in borehole location 21-25263 (LANL 2006, 094151).

Toluene was detected at a concentration greater than 1900 µg/m^3 in a single previous sample; toluene concentrations did not exceed 25 µg/m^3 in the 2007 samples.

Tritium

Tritium activities are substantially lower in the first round of samples collected during the 2007 investigation than in samples collected during 2005–2006 sampling rounds. The maximum tritium activity (9385.24 pCi/l) in the 2007 vapor samples was detected in a sample collected from borehole location 21-25264 at a depth of 150.5 ft (Figure 3.4-10; Table 3.4-3). The highest tritium activity detected in 2005–2006 was 73,400 pCi/L at a depth of approximately 150 ft in borehole location 21-25264 (LANL 2006, 094151). The change of tritium activities between 2005 to 2006 and 2007 will be evaluated after all four rounds of tritium data ~~will be~~have been collected.

3.5 Revised Potential Dose for the DP Canyon Slope

In the investigation report for MDA T (LANL 2006, 094151) human health risk screening assessments were conducted to determine if chemicals of potential concern (COPCs) in soil and tuff on the DP Canyon slope pose a potential unacceptable risk or dose to human receptors. Based on the reasonably foreseeable land use, the recreational scenario was designated as the decision scenario for the DP Canyon slope. Site risk and dose were also assessed under a residential scenario as required by the Consent Order for comparison purposes. Because further characterization of radionuclides on the DP Canyon slope was required, revised calculations of the radiological dose have been made; inorganic and organic COPCs in solid media on the DP Canyon slope were not part of the 2007 investigation and are not considered further.

The 2007 data were used to calculate 95% upper confidence limits (UCLs) for americium-241, plutonium-238, and plutonium-239. The 95% UCLs are used as the exposure point concentration (EPC) for all scenarios. The radiological dose from americium-241, plutonium-238, and plutonium-239 was calculated using the EPCs following methodologies used in the investigation report (LANL 2006, 094151). In addition, these calculations were performed using the previous data combined with the 2007 data for the DP Canyon slope. Table 3.5-1 presents the results of these calculations for the previous data as presented in the investigation report for MDA T, the new data, and for the combined data set. The table also presents the radionuclide-specific screening action level for each exposure scenario.

For the recreational scenario, the calculated EPCs for american-241, plutonium-238 and plutonium 239/240 for the combined data set are lower than the EPCs calculated using the previous data alone. As a result, the dose for each radionuclide calculated using the combined data set is lower. This result is expected based on the generally lower overall and average activities for all three radionuclides detected in the 2007 DP Canyon slope samples. The plutonium-239 EPCs and dose calculated using only the 2007 data are slightly higher than the EPCs and dose presented in the investigation report; this is a result of the low number of samples used to calculate the 95% UCL, even though the mean activity for plutonium-239 is lower. Because of the lower activities detected during the 2007 investigation, the EPCs and associated dose for each radionuclide under the residential scenario are also lower than presented in the investigation report (LANL 2006, 094151). In addition, the equivalent risk for the recreational and residential scenarios does not change from that presented in the investigation report (LANL 2006, 094151).

3.6 Deviations

~~Three~~ The deviations from the planned activities specified in the MDA T Phase II investigation work plan (LANL 2007, 095131) are noted in this section. ~~First, t~~ Three of the four open boreholes could not be abandoned during this field effort; they will be abandoned during a future field effort. Two of the vapor-~~-~~monitoring wells were moved outside of the nuclear facility boundary.

- L~~l~~ocation 21-603058 (formerly 21-25263) was moved 40 ft to the northeast where the surface elevation of the new location was approximately 10 ft lower; sample ports were installed at the same elevations as the original sample intervals collected from 21-25263.
- Location 21-603059 (formerly 21-25262) was moved 35 ft to the southwest where the surface elevation is the same for both locations.

~~Second, t~~Two of the vapor-monitoring wells were moved outside of the NES nuclear facility boundary. The location 21-603058 (formerly 21-25263) was moved 40 ft to the northeast where the surface elevation was approximately 10 ft lower; however the sample ports were installed at the same elevations as the original sample intervals collected from 21-25263. and l~~L~~ocation 21-603059 (formerly 21-25262)

~~was moved 35 ft to the southwest (the surface elevation is the same for both locations).~~ The relocation of the wells was approved by the NMED (Goering 2007, 098861). Continuous core was not retrieved from the replacement boreholes because of their ~~close~~ proximity to the original boreholes~~,~~; however, the drill cuttings were visually inspected and screened for radiation and organic vapors. No radiation measurements above background were detected. No elevated organic vapor measurements were detected. The drill cutting showed no elevated moisture, cobbles, or evidence of a paleochannel. Boreholes 21-25262 and 21-25263 will be abandoned.~~Third,~~ T~~t~~he tubing for sampling Port 4 in borehole location 21-603058 became entangled in the augers during emplacement and could not be installed at the planned depth of 302 ft bgs. However, a replacement port was installed within the same geologic unit at a depth of 245 ft bgs.

4.0 CONCLUSIONS

The 2007 data indicate that the vertical extent of americium-241, plutonium-238, and plutonium-239 on the DP Canyon slope is defined. In addition, the nature and extent of nitrate and perchlorate are fully investigated and the nature and extent of these inorganic chemicals are defined.

The data also indicate that there has been some redistribution of americium-241, plutonium-238, and plutonium-239 on the DP Canyon slope. There is some potential for the radionuclides to migrate further into DP Canyon. However, as presented in the investigation report for MDA T, the extent of contamination beyond the toe of the slope into DP Canyon has been defined and presented in the Los Alamos and Pueblo Canyons investigation report (LANL 2004, 087390, pp. 7-5, 7-6, 7-44, 7-45, 7-91). Any migration of radionuclides into DP Canyon is being monitored as part of LANL's site wide stormwater and sediment monitoring programs.

Radiological ~~D~~dose (mrem/yr) and mean activities (pCi/g) for americium-241, plutonium-238, and plutonium-239/240 under the recreational and residential scenarios are slightly lower or equivalent to the radiological dose and mean activities~~s~~ presented in the 2006 investigation report. In addition, the total equivalent inorganic and organic chemical risk~~s~~ for each scenario ~~also~~ do not change substantially from what were presented in the investigation report.

First round quarterly pore-gas sampling confirms low concentrations of VOCs (i.e., less than 2000 µg/m^3) and low activities of tritium (i.e., less than 10,000 pCi/L). Three additional quarters of pore-gas monitoring data will be collected in accordance with the current vapor-monitoring plan (LANL 2007, 098944; NMED 2007, 098946). Nature and extent of pore gas will be comprehensively evaluated and presented in a report following completion of planned vapor-monitoring activities.

5.0 REFERENCES

The following list includes all documents cited in this report. Parenthetical information following each reference provides the author(s), publication date, and ER ID number. This information is also included in text citations. ER ID numbers are assigned by the Environmental Programs Directorate's Records Processing Facility (RPF) and are used to locate the document at the RPF and, where applicable, in the master reference set.

Copies of the master reference set are maintained at the NMED Hazardous Waste Bureau; the U.S. Department of Energy–Los Alamos Site Office; the U.S. Environmental Protection Agency, Region 6; and the Directorate. The set was developed to ensure that the administrative authority has all material needed to review this document, and it is updated with every document submitted to the administrative authority. Documents previously submitted to the administrative authority are not included.

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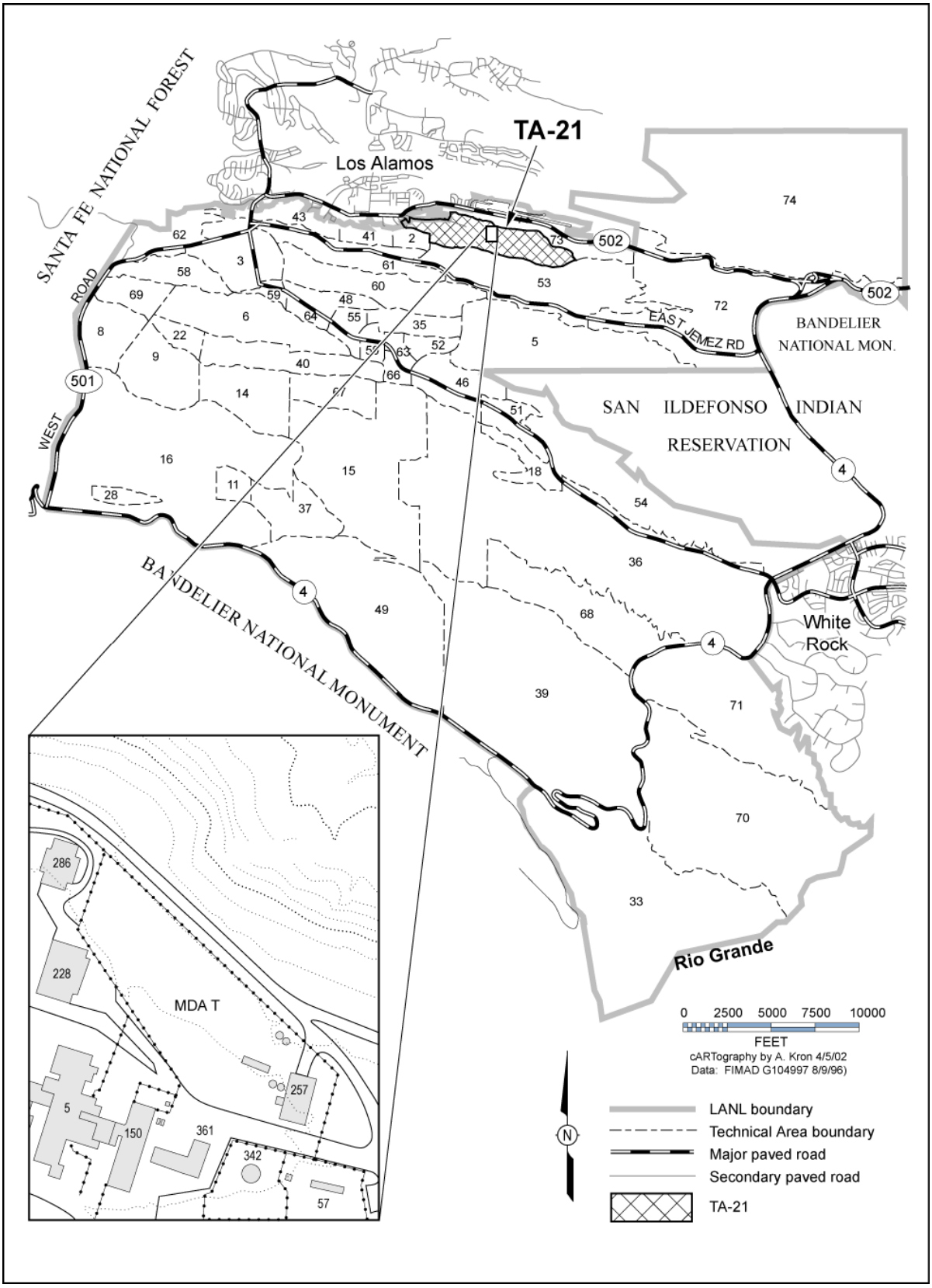
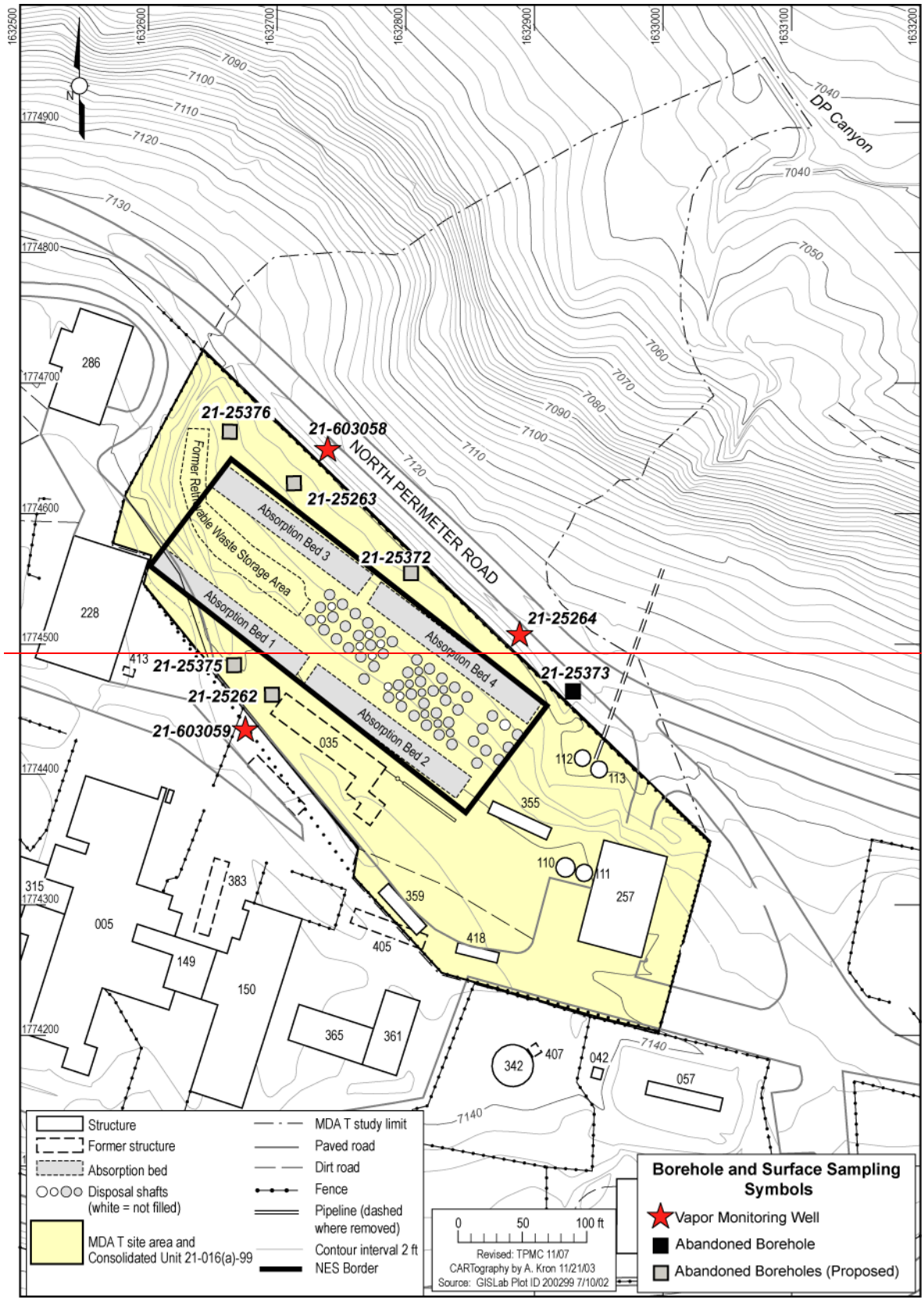


Figure 2.0-1 Location of MDA T at TA-21


21-25376
21-603058
21-25263
21-25372
21-25264
21-25373
21-25375
21-25262
21-603059
NORTH PERIMETER ROAD
DP Canyon
Former Retrievable Waste Storage Area
Absorption Bed 1
Absorption Bed 2
Absorption Bed 3
Absorption Bed 4
286
228
413
035
355
112
113
110
111
257
359
418
405
383
315
005
149
150
365
361
342
407
042
057
7040
7050
7060
7070
7080
7090
7100
7110
7120
7130
7140
1632500
1632600
1632700
1632800
1632900
1633000
1633100
1633200
1774900
1774800
1774700
1774600
1774500
1774400
1774300
1774200
Structure
Former structure
Absorption bed
Disposal shafts (white = not filled)
MDA T site area and Consolidated Unit 21-016(a)-99
MDA T study limit
Paved road
Dirt road
Fence
Pipeline (dashed where removed)
Contour interval 2 ft
NES Border
0 50 100 ft
Revised: TPMC 11/07
CARTography by A. Kron 11/21/03
Source: GISLab Plot ID 200299 7/10/02
Borehole and Surface Sampling Symbols
Vapor Monitoring Well
Abandoned Borehole
Abandoned Boreholes (Proposed)

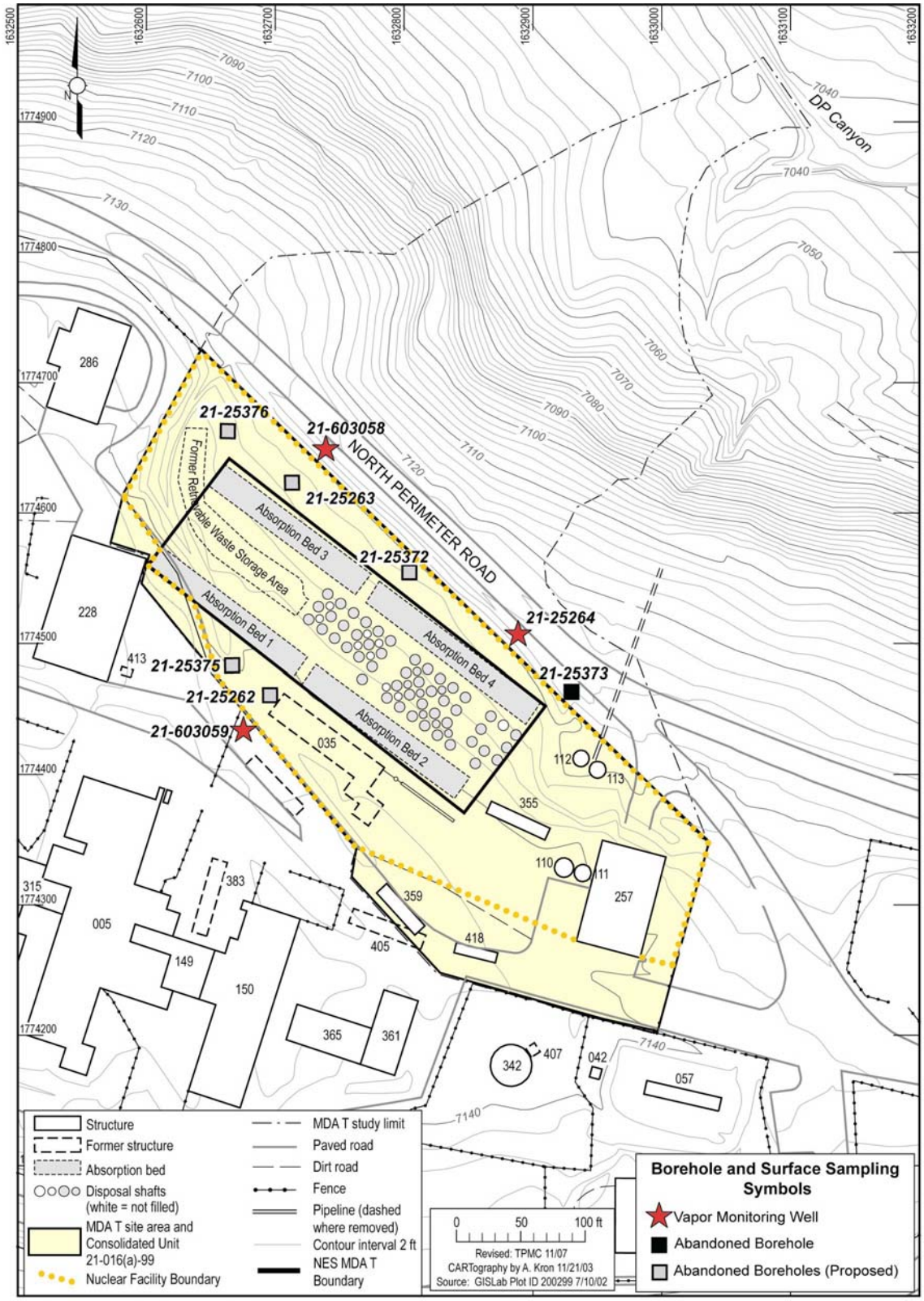
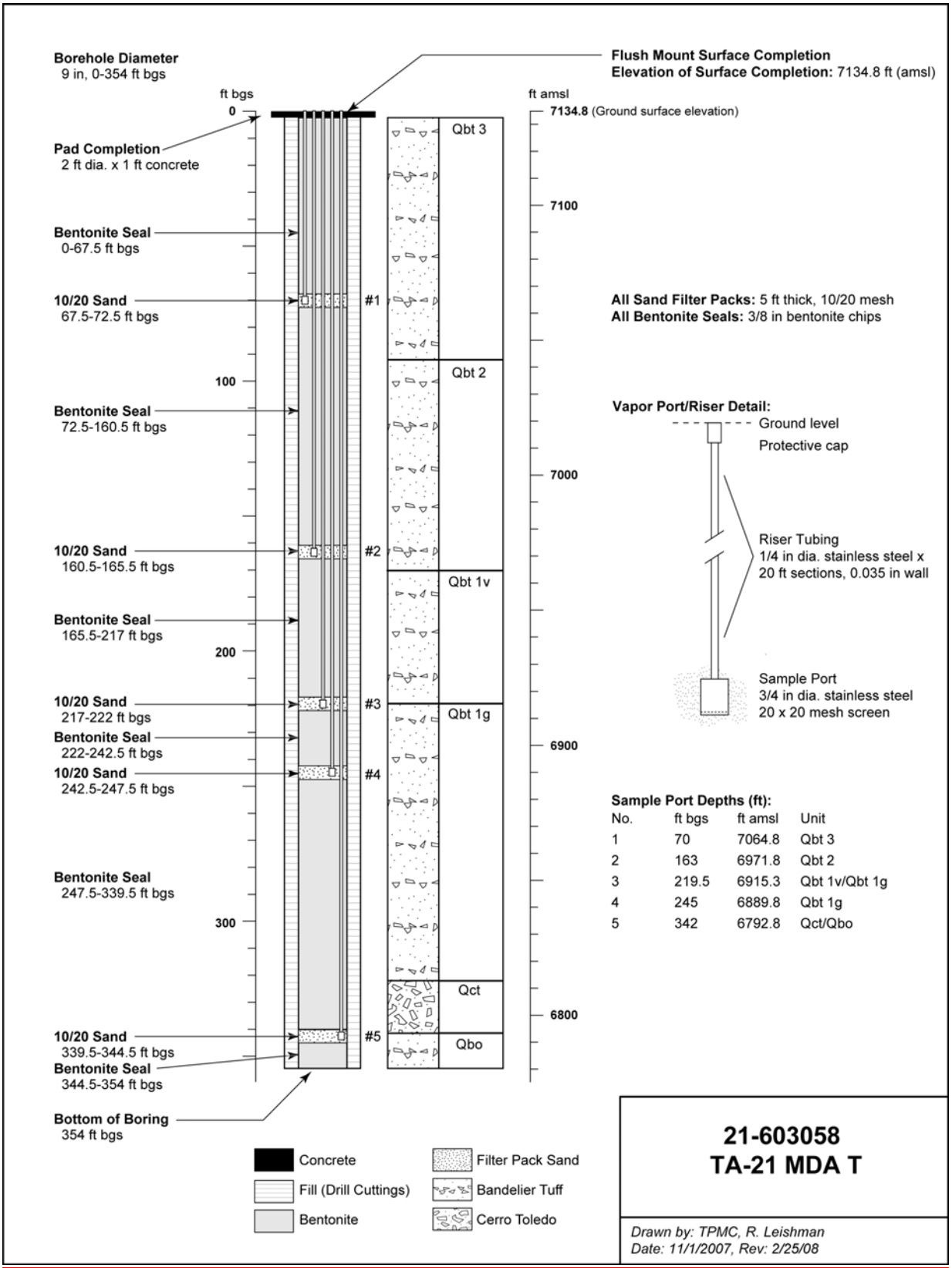


Figure 3.2-1 Location of vapor-monitoring wells and abandoned boreholes at MDA T


Borehole Diameter
9 in, 0-354 ft bgs
Flush Mount Surface Completion
Elevation of Surface Completion: 7134.8 ft (amsl)
ft bgs
ft amsl
0
7134.8 (Ground surface elevation)
Pad Completion
2 ft dia. x 1 ft concrete
Qbt 3
7100
Bentonite Seal
0-67.5 ft bgs
10/20 Sand
67.5-72.5 ft bgs
#1
All Sand Filter Packs: 5 ft thick, 10/20 mesh
All Bentonite Seals: 3/8 in bentonite chips
100
Qbt 2
Bentonite Seal
72.5-160.5 ft bgs
Vapor Port/Riser Detail:
Ground level
Protective cap
7000
10/20 Sand
160.5-165.5 ft bgs
#2
Riser Tubing
1/4 in dia. stainless steel x
20 ft sections, 0.035 in wall
Qbt 1v
Bentonite Seal
165.5-217 ft bgs
200
Sample Port
3/4 in dia. stainless steel
20 x 20 mesh screen
10/20 Sand
217-222 ft bgs
#3
Qbt 1g
Bentonite Seal
222-242.5 ft bgs
6900
10/20 Sand
242.5-247.5 ft bgs
#4
Sample Port Depths (ft):
No. ft bgs ft amsl Unit
1 70 7064.8 Qbt 3
2 163 6971.8 Qbt 2
3 219.5 6915.3 Qbt 1v/Qbt 1g
4 245 6889.8 Qbt 1g
5 342 6792.8 Qct/Qbo
Bentonite Seal
247.5-339.5 ft bgs
300
Qct
6800
10/20 Sand
339.5-344.5 ft bgs
#5
Qbo
Bentonite Seal
344.5-354 ft bgs
Bottom of Boring
354 ft bgs
Concrete
Fill (Drill Cuttings)
Bentonite
Filter Pack Sand
Bandelier Tuff
Cerro Toledo
21-603058
TA-21 MDA T
Drawn by: TPMC, R. Leishman
Date: 11/1/2007, Rev: 2/25/08

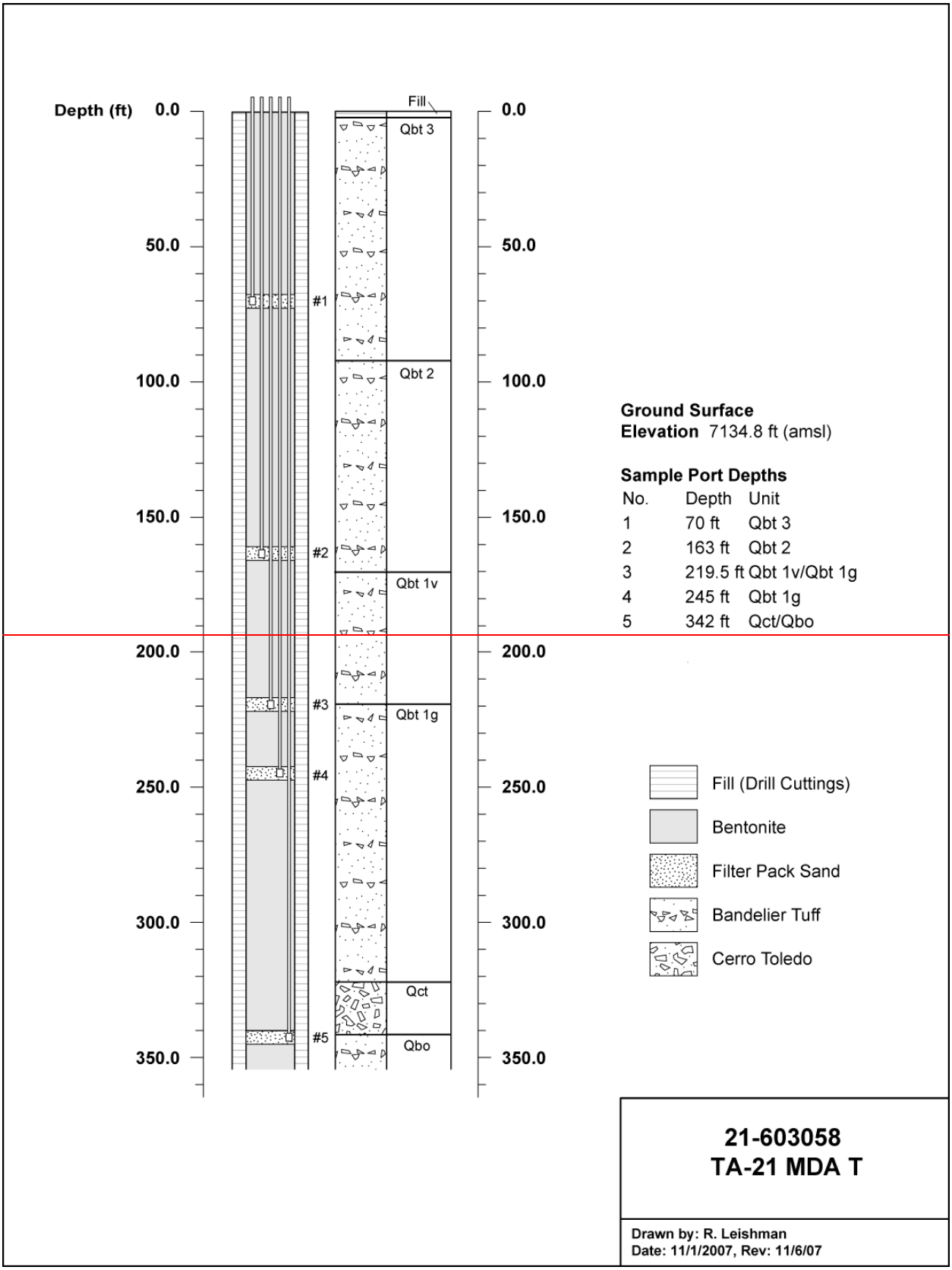
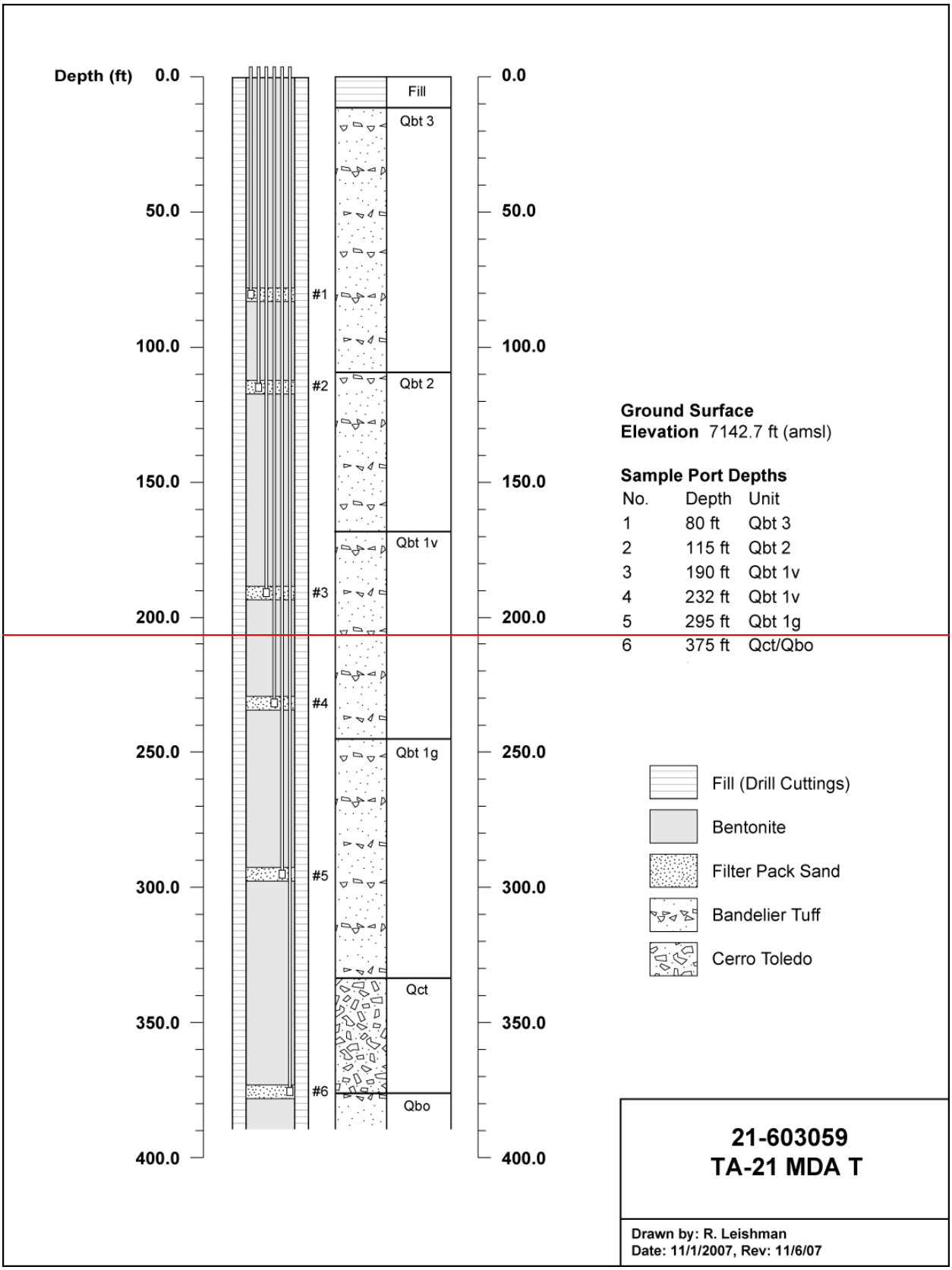


Figure 3.2-2 As-built diagram for vapor-monitoring well location 21-603058


Depth (ft)
0.0
50.0
100.0
150.0
200.0
250.0
300.0
350.0
400.0
#1
#2
#3
#4
#5
#6
Fill
Qbt 3
Qbt 2
Qbt 1v
Qbt 1g
Qct
Qbo
Ground Surface
Elevation 7142.7 ft (amsl)
Sample Port Depths
No. Depth Unit
1 80 ft Qbt 3
2 115 ft Qbt 2
3 190 ft Qbt 1v
4 232 ft Qbt 1v
5 295 ft Qbt 1g
6 375 ft Qct/Qbo
Fill (Drill Cuttings)
Bentonite
Filter Pack Sand
Bandelier Tuff
Cerro Toledo
21-603059
TA-21 MDA T
Drawn by: R. Leishman
Date: 11/1/2007, Rev: 11/6/07

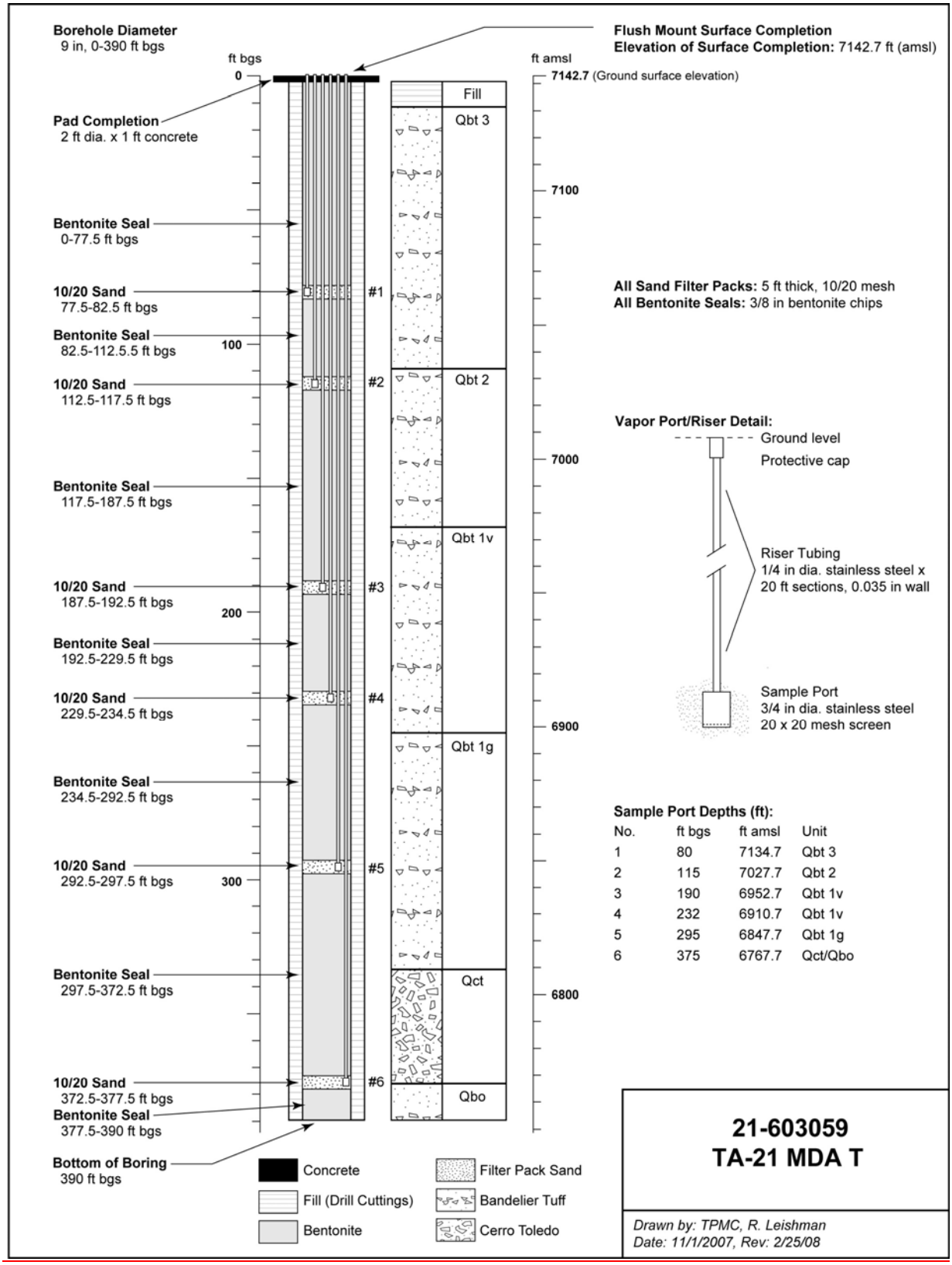
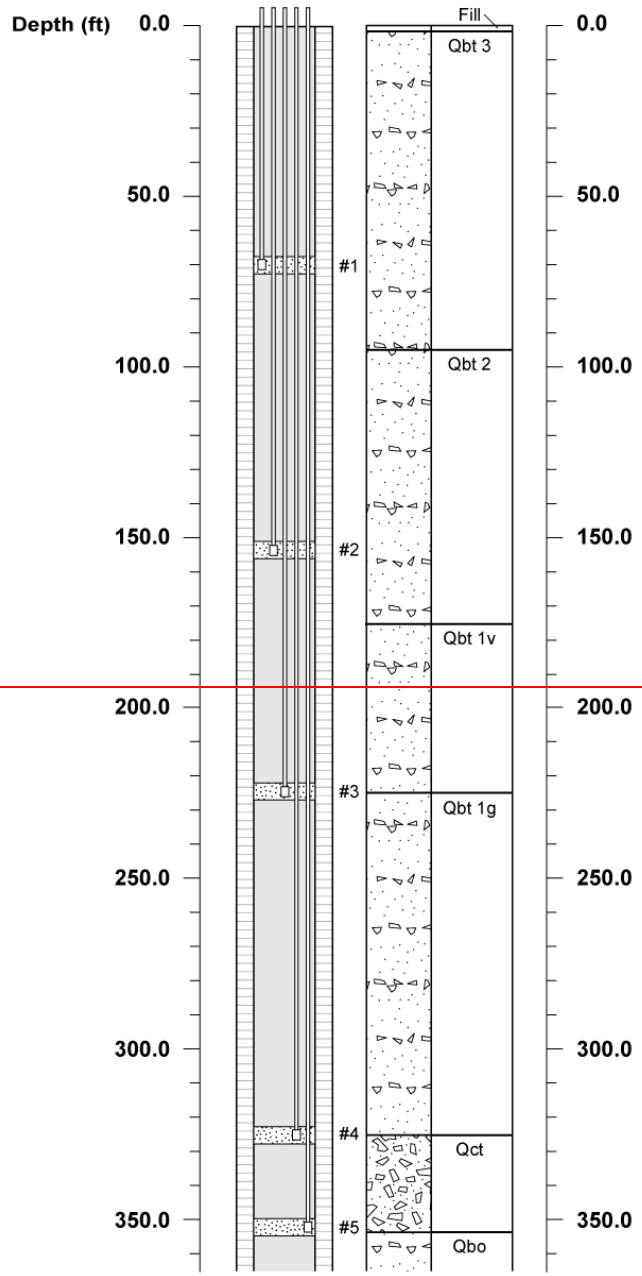


Figure 3.2-3 As-built diagram for vapor-monitoring well location 21-603059



Ground Surface Elevation 7125.8 ft (amsl)

Sample Port Depths

No.	Depth	Unit
1	70 ft	Qbt 3
2	153 ft	Qbt 2
3	225 ft	Qbt 1v/Qbt 1g
4	326 ft	Qbt 1g/Qct
5	352 ft	Qct/Qbo

Fill (Drill Cuttings)

Bentonite

Filter Pack Sand

Bandelier Tuff

Cerro Toledo

21-25264
TA-21 MDA T

Drawn by: R. Leishman
Date: 11/1/2007, Rev: 11/6/07

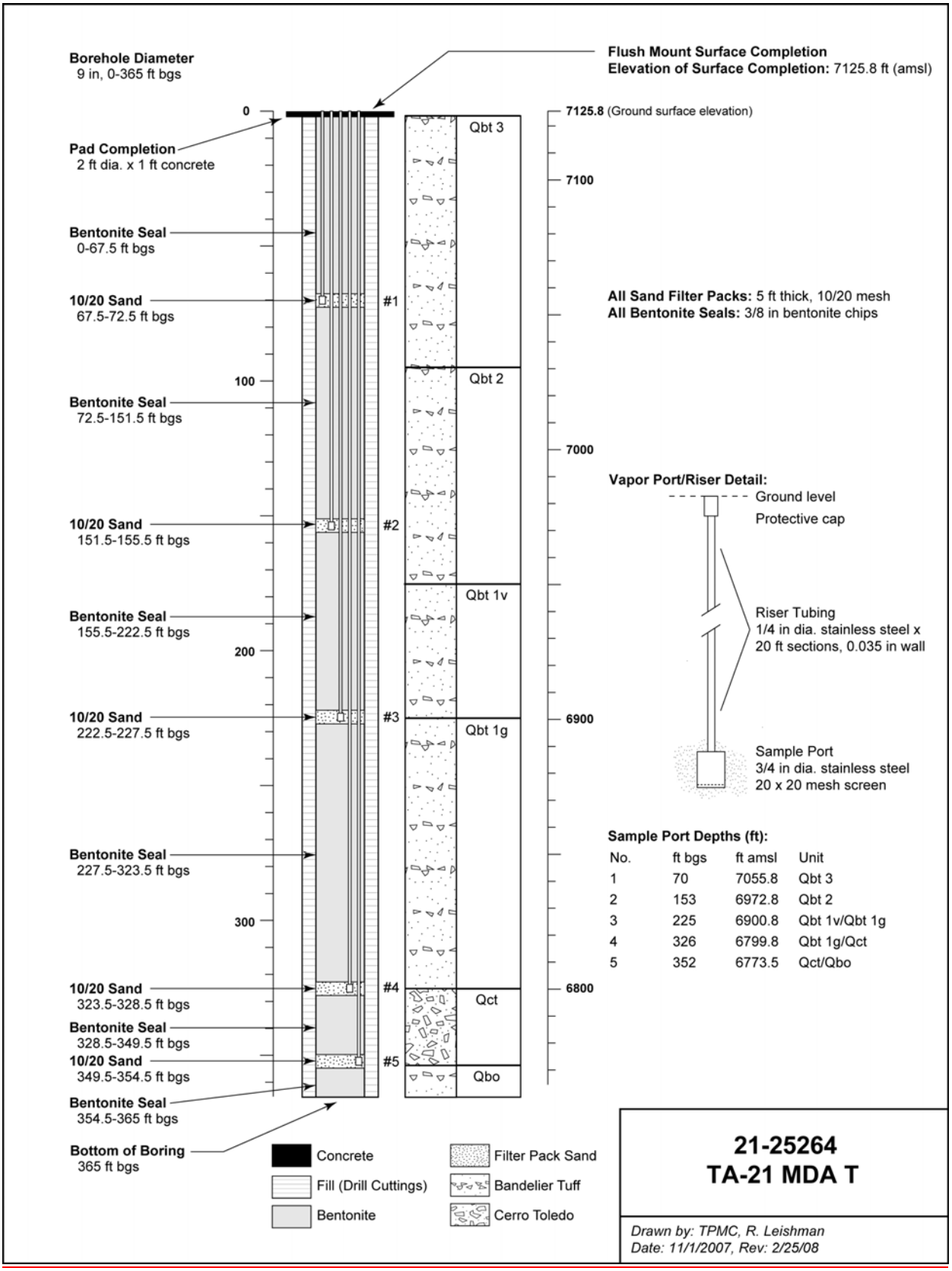


Figure 3.2-4 As-built diagram for vapor-monitoring well location 21-25264

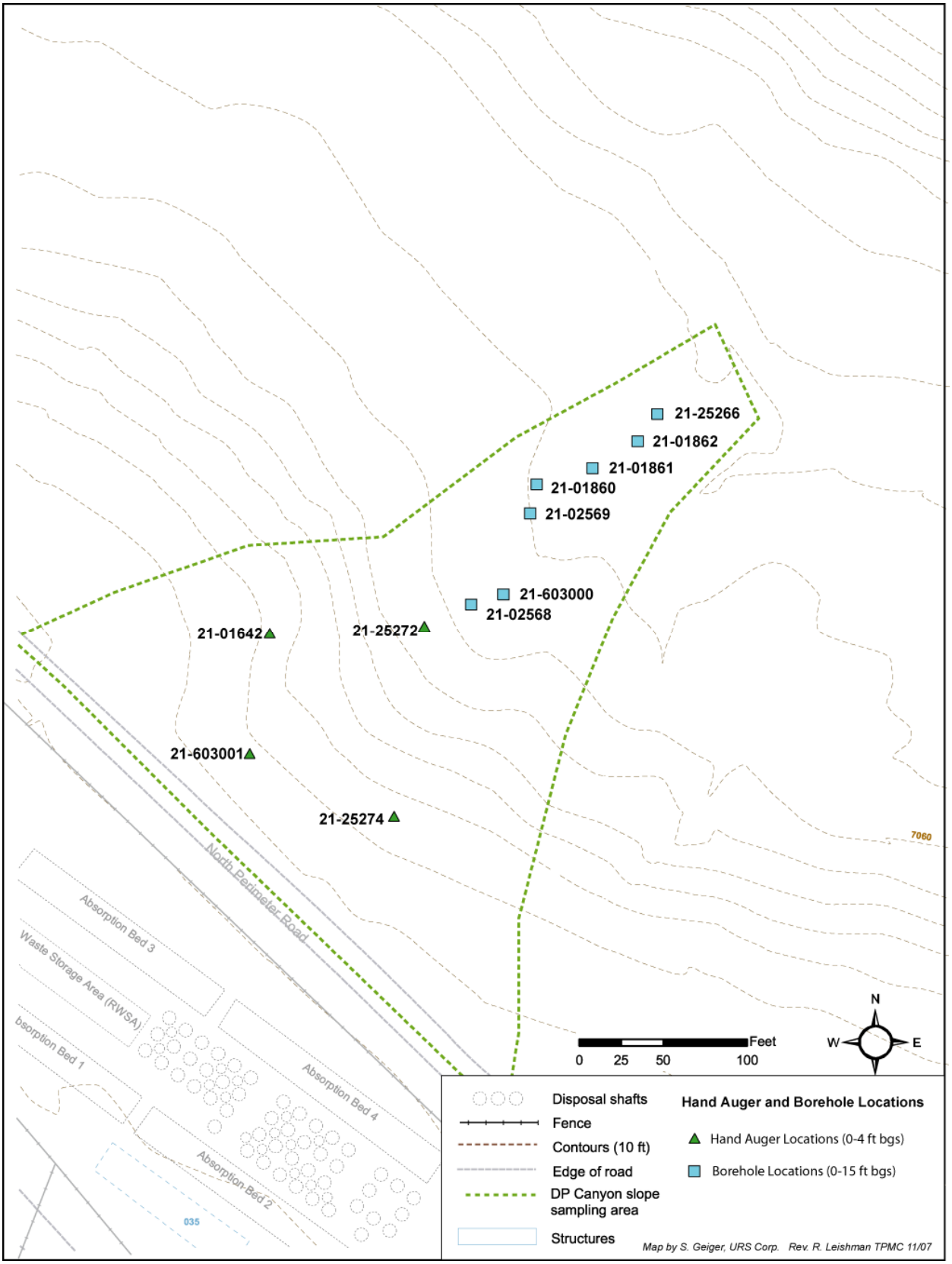


Figure 3.3-1 DP Canyon slope sample locations

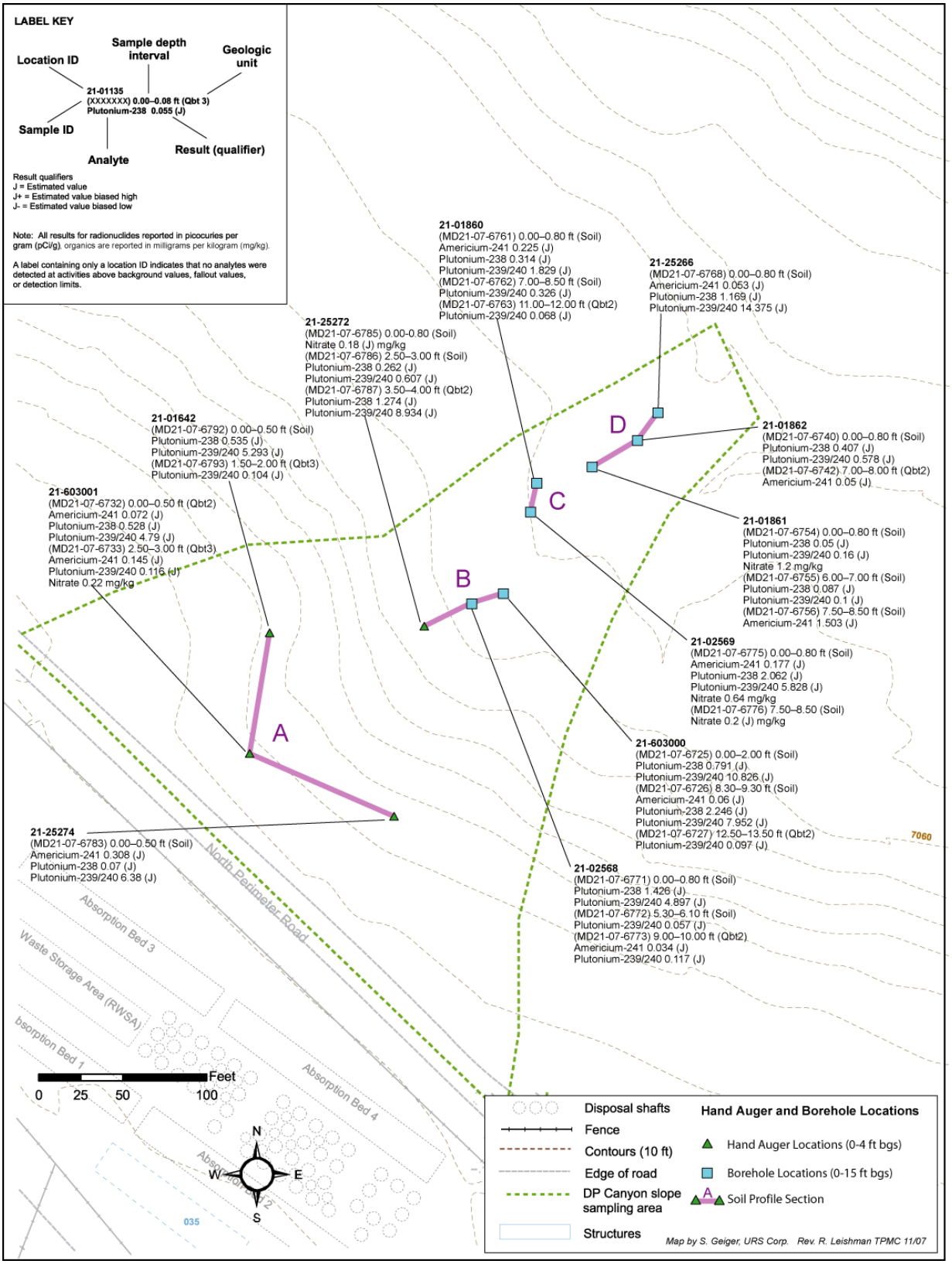


Figure 3.4-1 DP Canyon slope soil and tuff sample results detected or detected above background values and fallout values

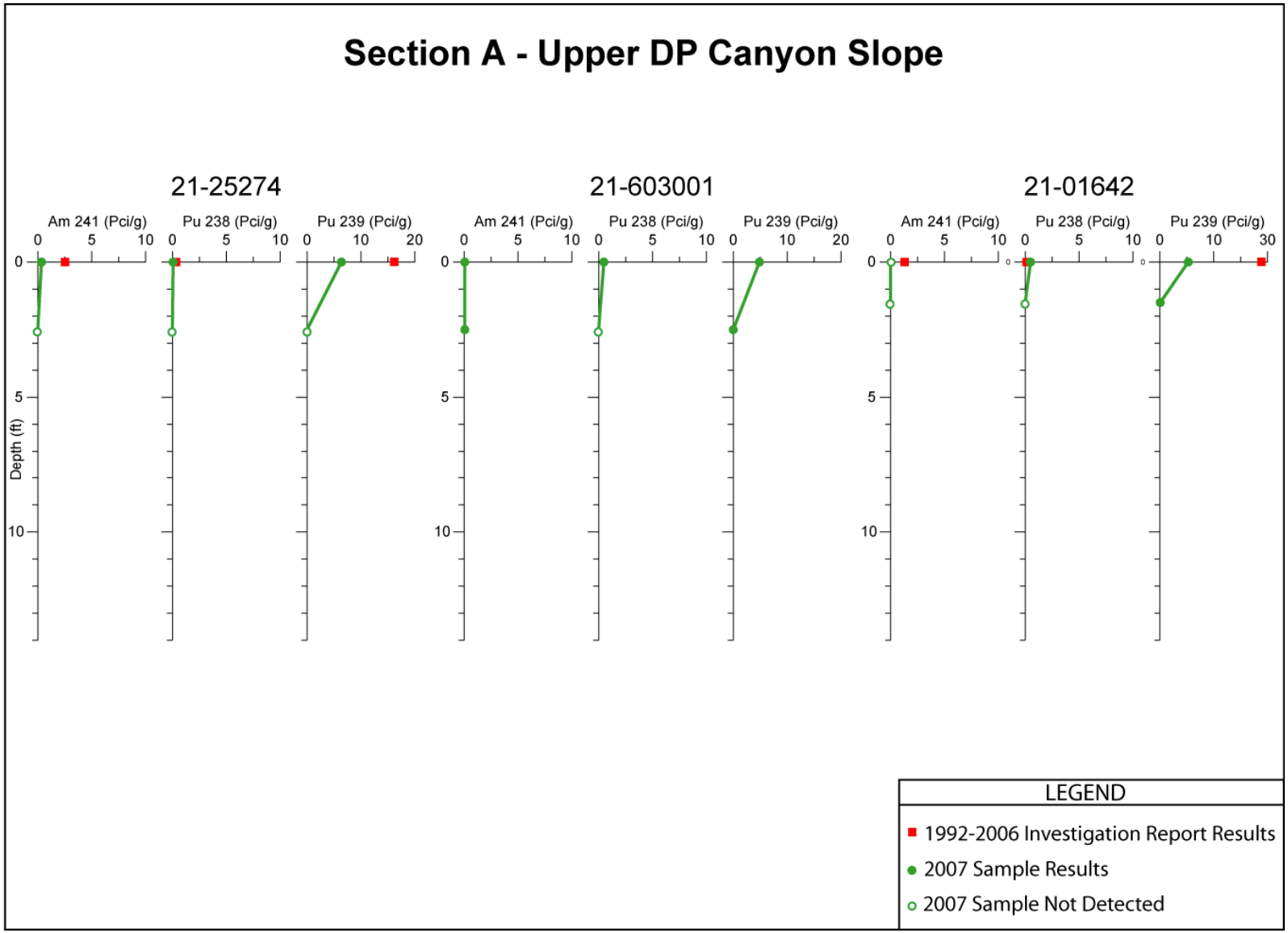


Figure 3.4-2 Upper DP Canyon slope data profile

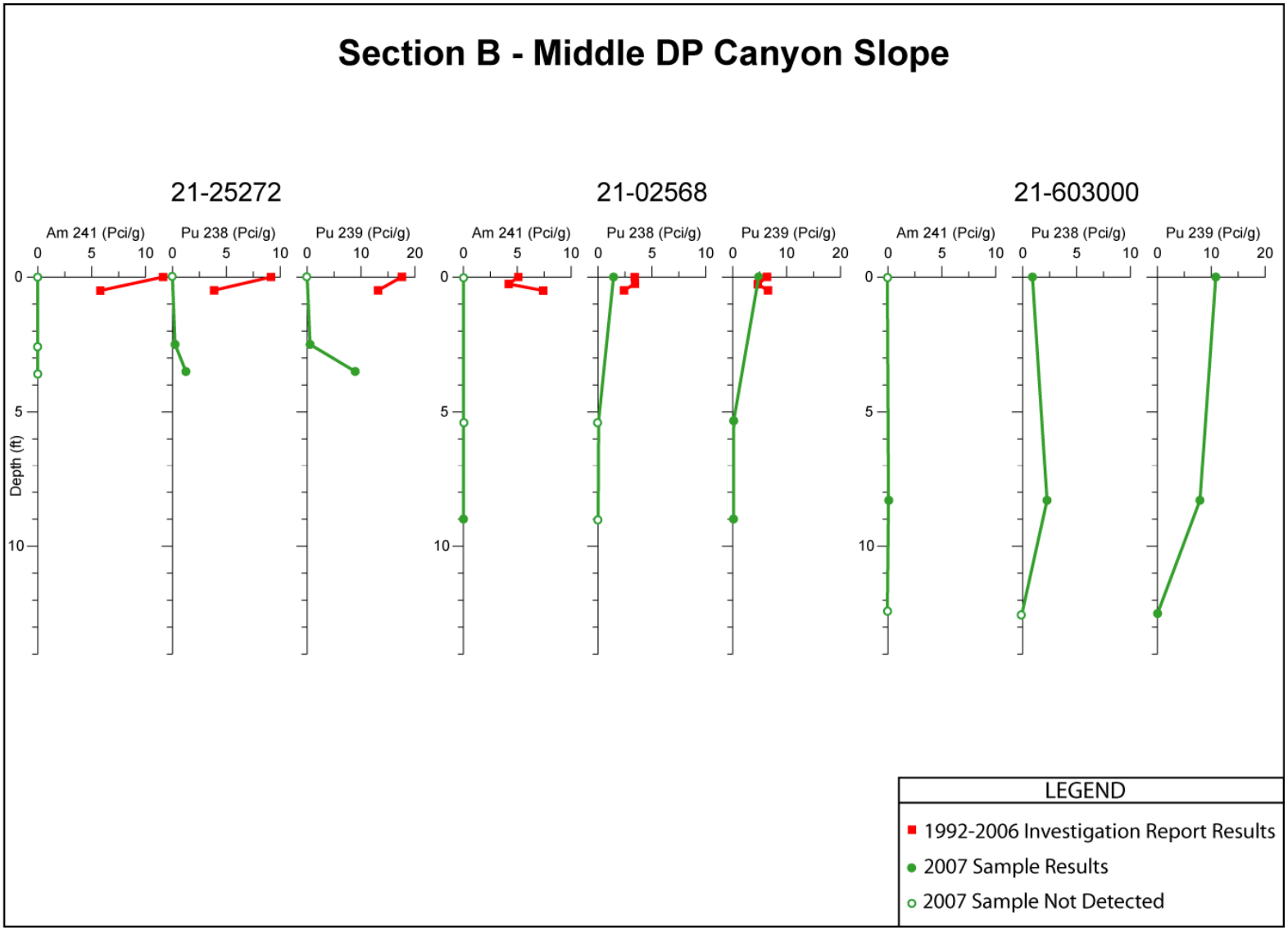


Figure 3.4-3 Middle DP Canyon slope data profile

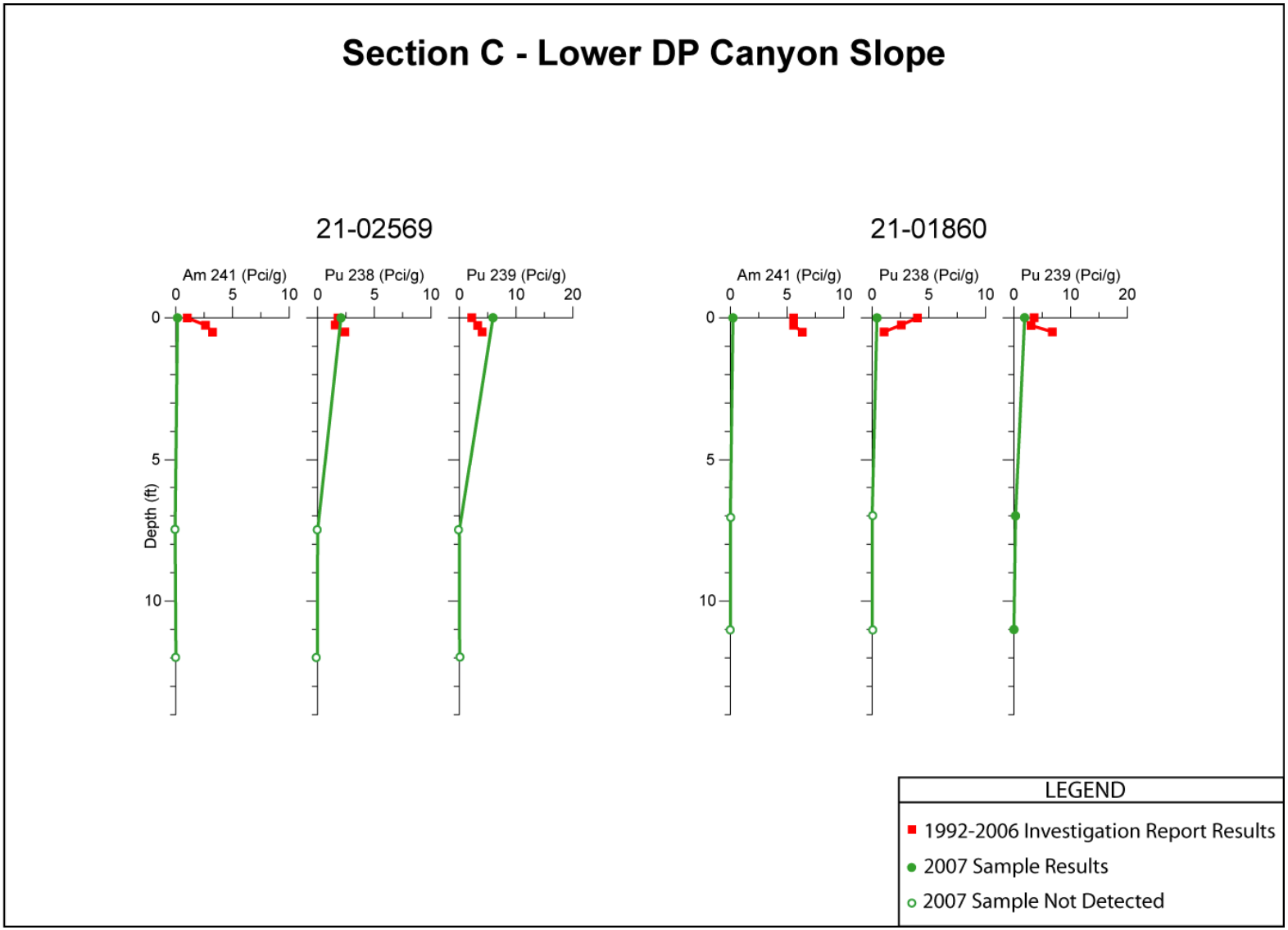


Figure 3.4-4 Lower DP Canyon slope data profile

11x17

Figure 3.4-5 Bottom DP Canyon slope data profile

(11 X 17, p 26)

Figure 3.4-6 Tritium and VOCs detected in pore gas

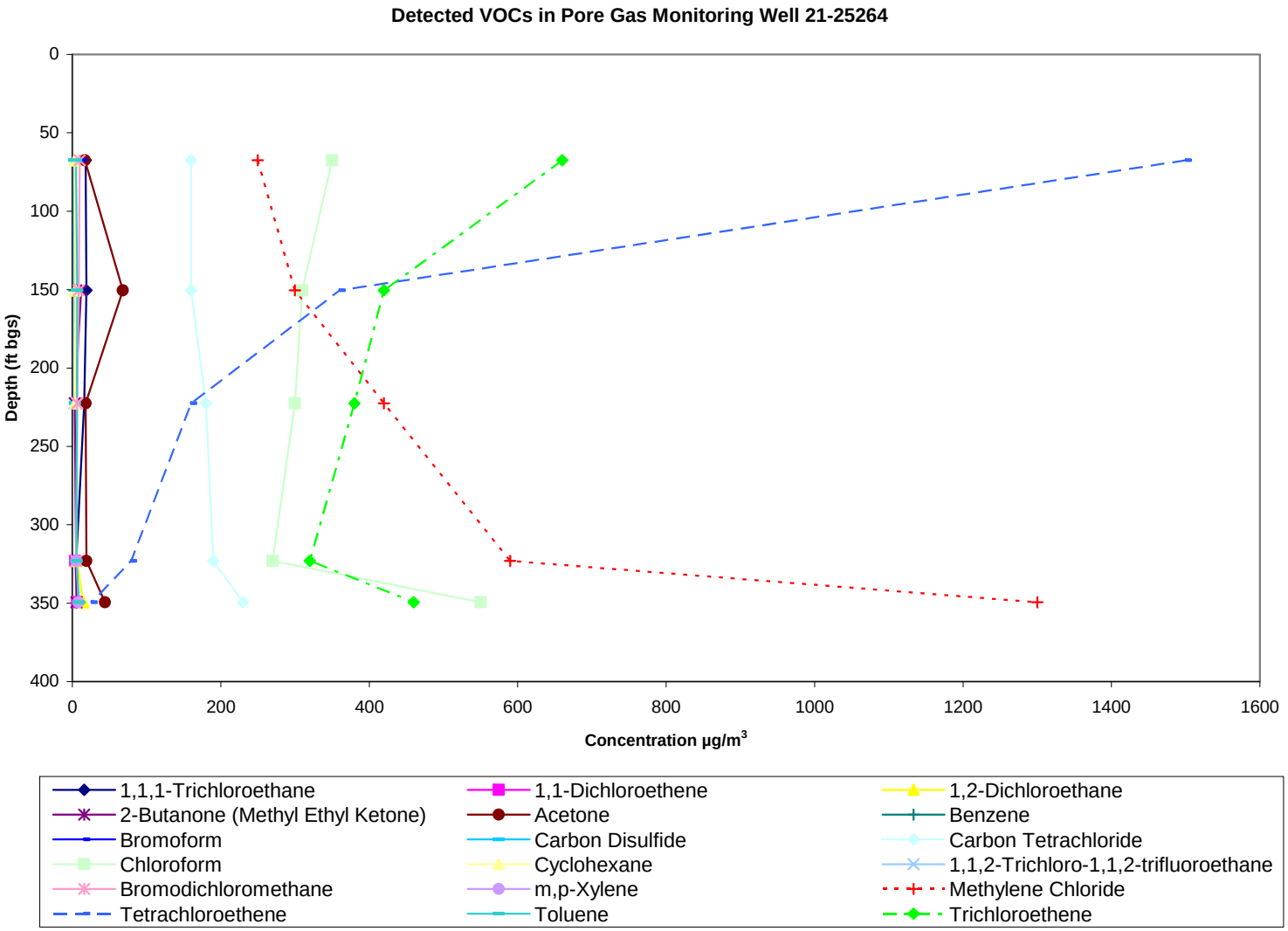


Figure 3.4-7 Vertical profile of detected VOCs in pore gas at well location 21-25264

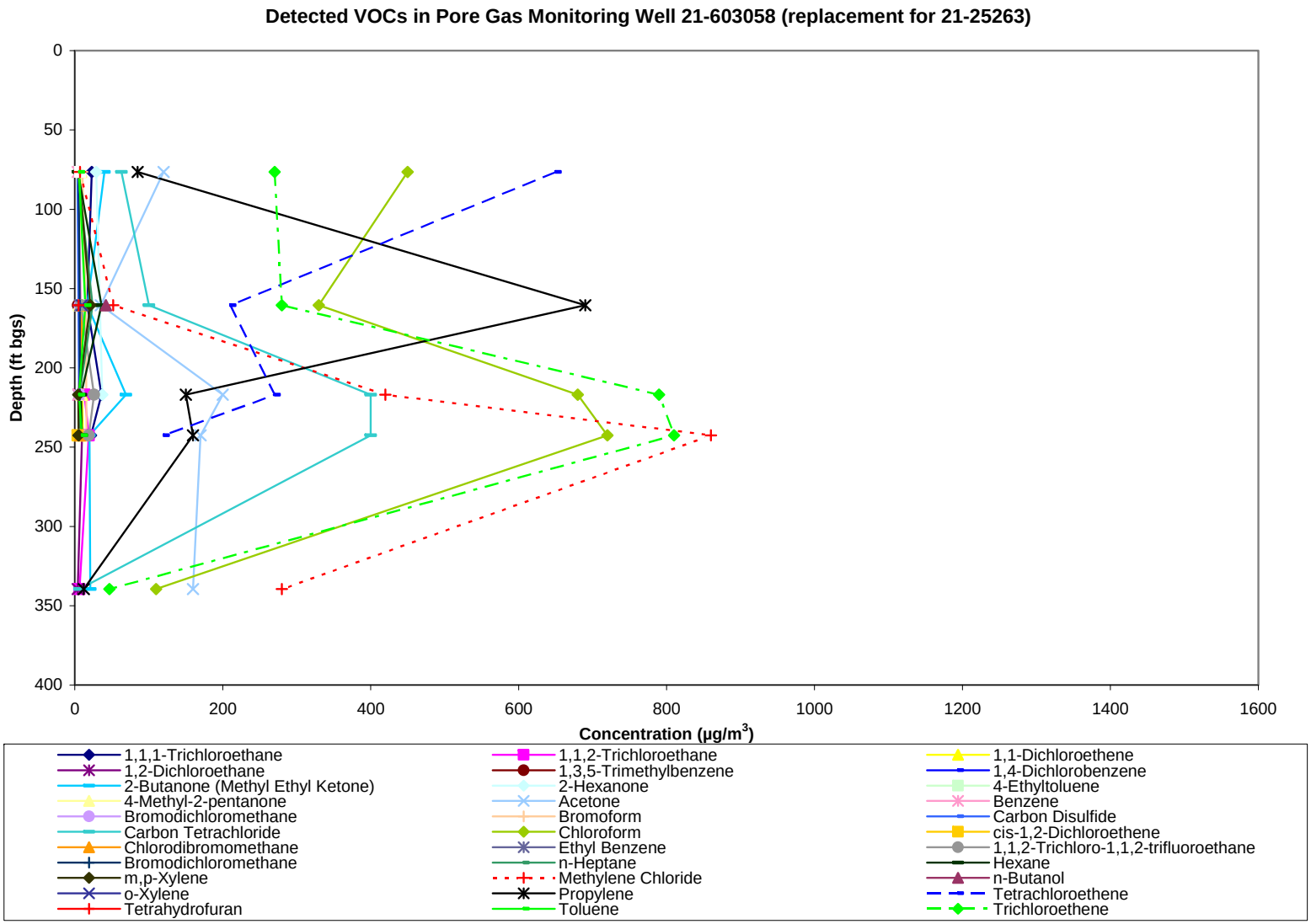


Figure 3.4-8 Vertical profile of detected VOCs in pore gas at well location 21-603058

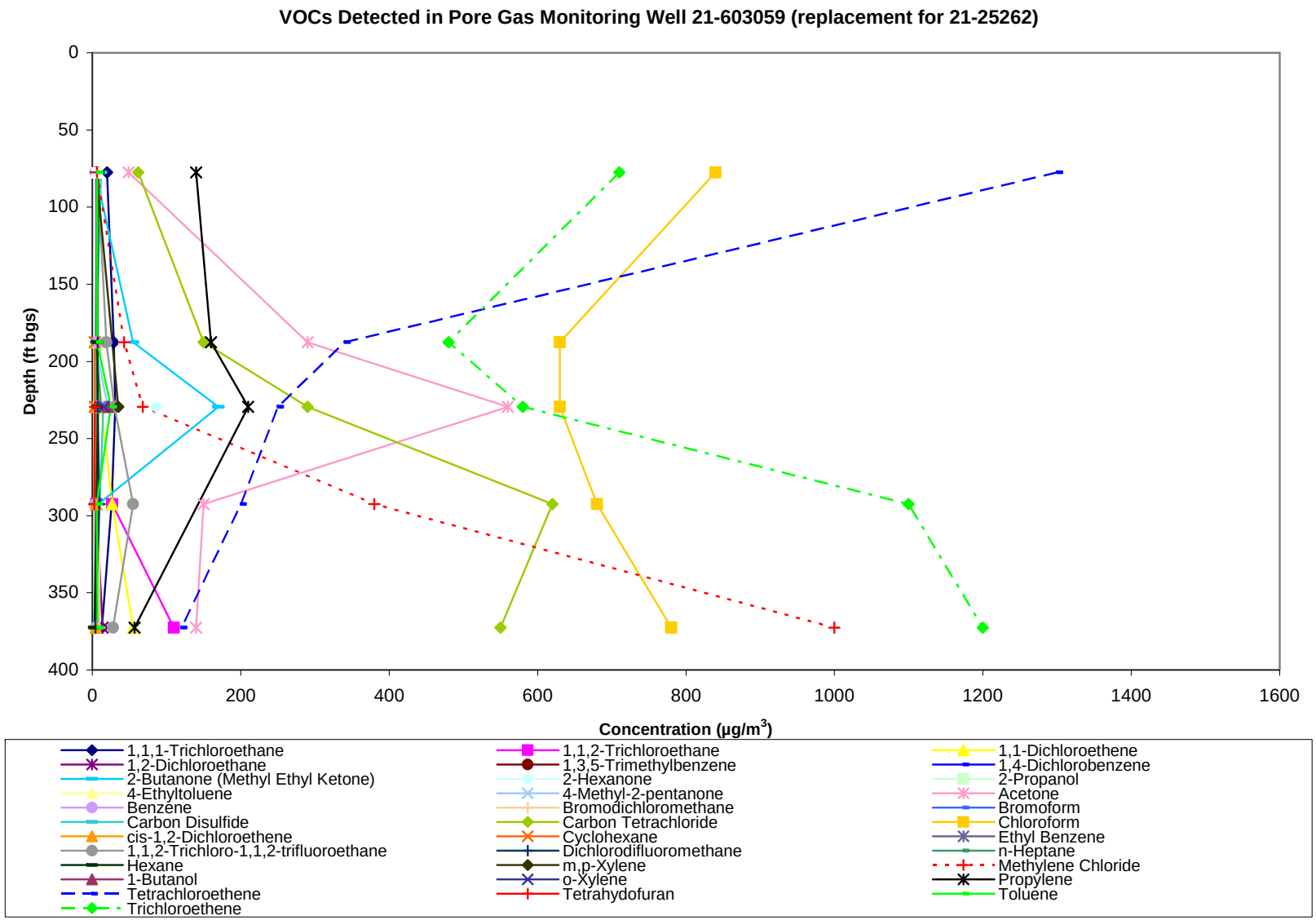


Figure 3.4-9 Vertical profile of detected VOCs in pore gas at well location 21-603059

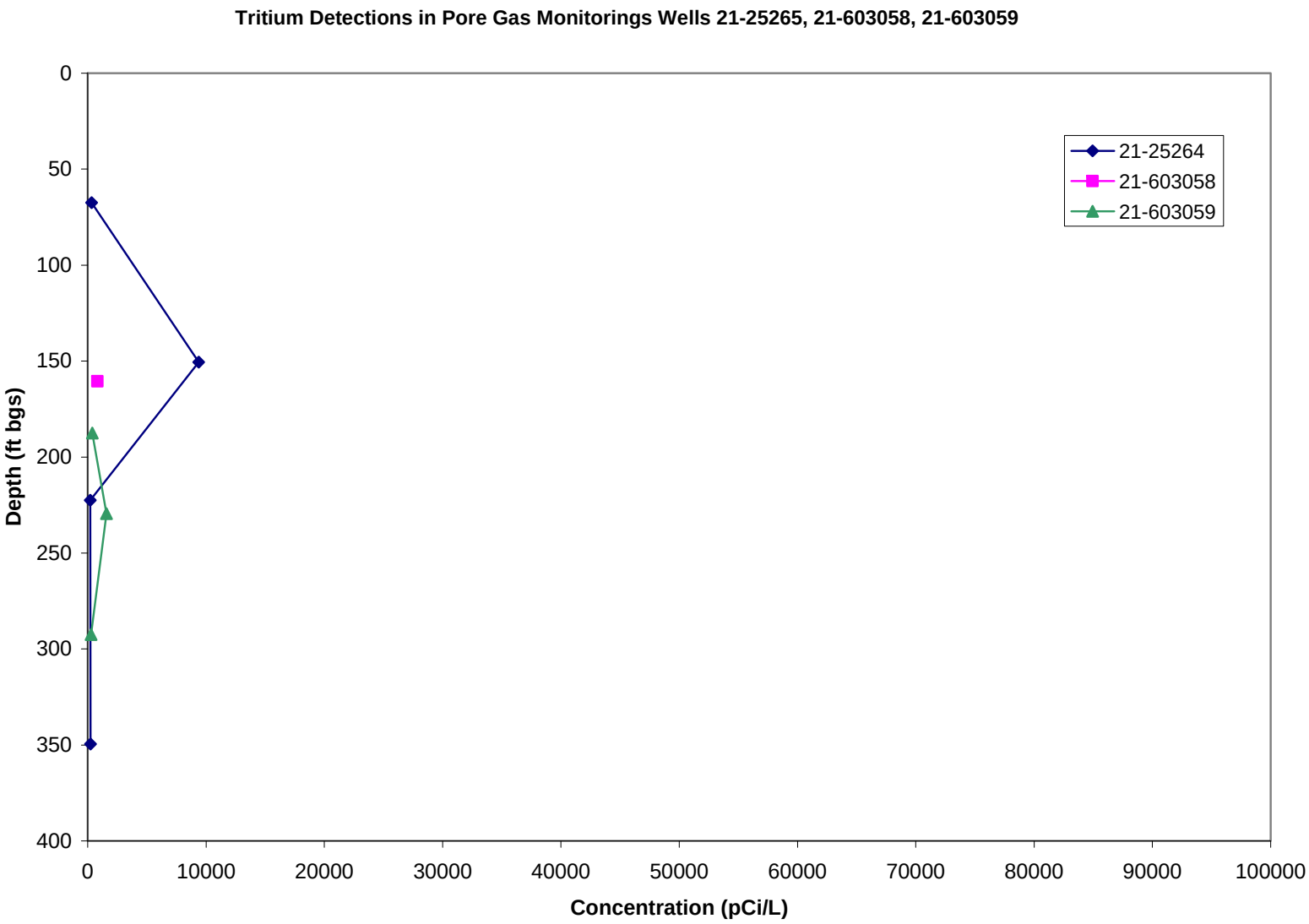


Figure 3.4-10 Vertical profile of tritium in pore gas at well locations 21-25264, 21-603058, and 21-603059

Table 3.2-1
Summary of Samples Collected and Analyses Requested of Soil and Tuff at Consolidated Unit 21-016(a)-99, MDA T

Sample Id	Location Id	Depth (ft)	Media	Collection Date	Field QC Type	Americium 241	Isotopic Plutonium	Perchlorate	Nitrate	NO3NO2	Tritium	VOC
Soil Samples												
MD21-07-6725	21-603000	0.0-2.0	ALLH	10/14/ 07	na	Y	Y	Y	Y	N	N	N
MD21-07-7022	21-603000	0.0-2.0	ALLH	10/14/ 07	FD	Y	Y	Y	Y	N	N	N
MD21-07-6726	21-603000	8.3-9.3	ALLH	10/14/ 07	na	Y	Y	Y	Y	N	N	N
MD21-07-6727	21-603000	12.5-13.5	QBT	10/14/ 07	na	Y	Y	Y	Y	N	N	N
MD21-07-6732	21-603001	0.0-0.5	ALLH	10/14/ 07	na	Y	Y	Y	Y	N	N	N
MD21-07-6733	21-603001	2.5-3.0	QBT	10/14/ 07	na	Y	Y	Y	Y	N	N	N
MD21-07-6740	21-01862	0.0-0.8	ALLH	10/14/ 07	na	Y	Y	Y	Y	N	N	N
MD21-07-6741	21-01862	4.5-6.5	ALLH	10/14/ 07	na	Y	Y	Y	Y	N	N	N
MD21-07-6742	21-01862	7.0-8.0	QBT	10/14/ 07	na	Y	Y	Y	Y	N	N	N
MD21-07-6754	21-01861	0.0-0.8	ALLH	10/13/ 07	na	Y	Y	Y	Y	N	N	N
MD21-07-6755	21-01861	6.0-7.0	ALLH	10/13/ 07	na	Y	Y	Y	Y	N	N	N
MD21-07-6756	21-01861	7.5-8.5	ALLH	10/13/ 07	na	Y	Y	Y	Y	N	N	N
MD21-07-6757	21-01861	11.0-12.0	QBT	10/13/ 07	na	Y	Y	Y	Y	N	N	N
MD21-07-6761	21-01860	0.0-0.8	ALLH	10/13/ 07	na	Y	Y	Y	Y	N	N	N
MD21-07-6762	21-01860	7.0-8.5	ALLH	10/13/ 07	na	Y	Y	Y	Y	N	N	N
MD21-07-6763	21-01860	11.0-12.0	QBT	10/13/ 07	na	Y	Y	Y	Y	N	N	N
MD21-07-6768	21-25266	0.0-0.8	ALLH	10/14/ 07	na	Y	Y	Y	Y	N	N	N
MD21-07-6769	21-25266	5.0-5.7	ALLH	10/14/ 07	na	Y	Y	Y	Y	N	N	N
MD21-07-6770	21-25266	12.5-13.3	QBT	10/14/ 07	na	Y	Y	Y	Y	N	N	N
MD21-07-6771	21-02568	0.0-0.8	ALLH	10/14/ 07	na	Y	Y	Y	Y	N	N	N
MD21-07-6772	21-02568	5.3-6.1	ALLH	10/14/ 07	na	Y	Y	Y	Y	N	N	N

Table 3.2-1 (continued)

Sample Id	Location Id	Depth (ft)	Media	Collection Date	Field QC Type	Americium 241	I Isotopic Plutonium	Perchlorate	Nitrate	NO3NO2	Tritium	VOC
MD21-07-6773	21-02568	9.0-10.0	QBT	10/14/07	na	Y	Y	Y	Y	N	N	N
MD21-07-6775	21-02569	0.0-0.8	ALLH	10/13/07	na	Y	Y	Y	Y	N	N	N
MD21-07-6776	21-02569	7.5-8.5	ALLH	10/13/07	na	Y	Y	Y	Y	N	N	N
MD21-07-6777	21-02569	12.0-13.0	QBT	10/13/07	na	Y	Y	Y	Y	N	N	N
MD21-07-6783	21-25274	0.0-0.5	ALLH	10/14/07	na	Y	Y	Y	Y	N	N	N
MD21-07-6784	21-25274	2.5-3.0	QBT	10/14/07	na	Y	Y	Y	Y	N	N	N
MD21-07-6785	21-25272	0.0-0.8	ALLH	10/14/07	na	Y	Y	Y	Y	N	N	N
MD21-07-6786	21-25272	2.5-3.0	ALLH	10/14/07	na	Y	Y	Y	Y	N	N	N
MD21-07-6787	21-25272	3.5-4.5	QBT	10/14/07	na	Y	Y	Y	Y	N	N	N
MD21-07-6792	21-01642	0.0-0.5	ALLH	10/14/07	na	Y	Y	Y	Y	N	N	N
MD21-07-6797	21-01642	0.0-0.5	ALLH	10/14/07	FD	Y	Y	Y	Y	N	N	N
MD21-07-6793	21-01642	1.5-2.0	QBT	10/14/07	na	Y	Y	Y	Y	N	N	N
MD21-07-6795	21-01862	4.5-6.5	ALLH	10/14/07	FD	Y	Y	Y	Y	N	N	N
MD21-07-6796	21-01642	na	na	10/14/27	FR	N	N	Y	N	Y	N	N
MD21-07-6798	21-01860	7.0-8.5	ALLH	10/13/27	FD	Y	Y	Y	Y	N	N	N
MD21-07-6799	21-603000	na	na	10/14/07	FR	N	N	Y	N	Y	N	N
MD21-07-7053	21-01642	na	na	10/14/07	FR	N	N	Y	N	Y	N	N
Pore-Gas Vapor Samples												
MD21-07-6800	21-603059	372.5-377.5	na	11/3/2007	na	N	N	N	N	N	Y	Y
MD21-07-6801	21-603059	229.5-234.5	na	11/3/2007	na	N	N	N	N	N	Y	Y
MD21-07-6802	21-603059	292.5-297.5	na	11/3/2007	na	N	N	N	N	N	Y	Y
MD21-07-6803	21-603059	187.5-192.5	na	11/3/2007	na	N	N	N	N	N	Y	Y
MD21-07-6804	21-603059	77.5-82.5	na	11/4/2007	na	N	N	N	N	N	Y	Y
MD21-07-6806	21-603059	372.5-377.5	na	11/3/2007	FD	N	N	N	N	N	Y	Y

Table 3.2-1 (Continued)

Sample Id	Location Id	Depth (ft)	Media	Collection Date	Field QC Type	Americium 241	Isotopic Uranium	Perchlorate	Nitrate	NO3NO2	Tritium	VOC
MD21-07-6807	21-603058	67.5-72.5	na	10/30/07	na	N	N	N	N	N	Y	Y
MD21-07-6808	21-603058	160.5-165.5	na	10/30/07	na	N	N	N	N	N	Y	Y
MD21-07-6809	21-603058	217-222	na	10/30/07	na	N	N	N	N	N	Y	Y
MD21-07-6810	21-603058	242.5-247.5	na	10/30/07	na	N	N	N	N	N	Y	Y
MD21-07-6811	21-603058	339.5-344.5	na	10/30/07	na	N	N	N	N	N	Y	Y
MD21-07-6812	21-603058	339.5-344.5	na	10/30/07	FD	N	N	N	N	N	Y	Y
MD21-07-6813	21-25264	67.5-72.5	na	10/19/07	na	N	N	N	N	N	Y	Y
MD21-07-6814	21-25264	150.5-155.5	na	10/19/07	na	N	N	N	N	N	Y	Y
MD21-07-6815	21-25264	222.5-227.5	na	10/19/07	na	N	N	N	N	N	Y	Y
MD21-07-6816	21-25264	323-328	na	10/19/07	na	N	N	N	N	N	Y	Y
MD21-07-6817	21-25264	349.5-354.5	na	10/19/07	na	N	N	N	N	N	Y	Y
MD21-07-6818	21-603058	na	na	10/30/07	FB	N	N	N	N	N	Y	Y
MD21-08-8445	21-603059	na	na	11/3/07	FB	N	N	N	N	N	Y	Y

Notes:
ALLH = Soil all horizons
FD = Field Duplicate
FR = Field Rinsate
na = not applicable
Nitrate= EPA 300.0
NO3NO2 = EPA:353.1 (for rinsate)
Perchlorate = SW-846:6850
QBT = tuff

Table 3.4-1
Summary of Radionuclides and Inorganic Chemicals Dectected or Detected above Background Values/Fallout Values in Soil and Tuff at Consolidated Unit 21-016(a)-99, MDA T

Sample Id	Location Id	Depth (ft)	Media	Americium-241 (pCi/g)	Plutonium-238 (pCi/g)	Plutonium-239/240 (pCi/g)	Nitrate (mg/kg)	Perchlorate (mg/kg)
QBT2, QBT3 Background Value				na	na	na	na	na
Soil Background Value				0.013	0.023	0.054	na	na
MD21-07-6725	21-603000	0.0-2.0	SOIL	–*	0.791 (J)	10.826 (J)	–	–
MD21-07-6726	21-603000	8.3-9.3	SOIL	0.06 (J)	2.246 (J)	7.952 (J)	–	–
MD21-07-6727	21-603000	12.5-13.5	QBT2	–	-	0.097 (J)	–	–
MD21-07-6732	21-603001	0.0-0.5	QBT2	0.072 (J)	0.528 (J)	4.79 (J)	–	–
MD21-07-6733	21-603001	2.5-3.0	QBT3	0.145 (J)	-	0.116 (J)	0.22	–
MD21-07-6740	21-01862	0.0-0.8	SOIL	–	0.407 (J)	0.578 (J)	–	–
MD21-07-6742	21-01862	7.0-8.0	QBT2	0.05 (J)	–	–	–	–
MD21-07-6754	21-01861	0.0-0.8	SOIL	–	0.05 (J)	0.16 (J)	1.2	–
MD21-07-6755	21-01861	6.0-7.0	SOIL	–	0.087 (J)	0.1 (J)	–	–
MD21-07-6756	21-01861	7.5-8.5	SOIL	1.503 (J)	–	–	–	–
MD21-07-6761	21-01860	0.0-0.8	SOIL	0.225 (J)	0.314 (J)	1.829 (J)	–	–
MD21-07-6762	21-01860	7.0-8.5	SOIL	–	–	0.326 (J)	–	–
MD21-07-6763	21-01860	11.0-12.0	QBT2	–	–	0.068 (J)	–	–
MD21-07-6768	21-25266	0.0-0.8	SOIL	0.053 (J)	1.169 (J)	14.375 (J)	–	–
MD21-07-6771	21-02568	0.0-0.8	SOIL	–	1.426 (J)	4.897 (J)	–	–
MD21-07-6772	21-02568	5.3-6.1	SOIL	–	–	0.057 (J)	–	–
MD21-07-6773	21-02568	9.0-10.0	QBT2	0.034 (J)	–	0.117 (J)	–	–
MD21-07-6775	21-02569	0.0-0.8	SOIL	0.177 (J)	2.062 (J)	5.828 (J)	0.64	–
MD21-07-6776	21-02569	7.5-8.5	SOIL	–	–	–	0.2 (J)	–
MD21-07-6783	21-25274	0.0-0.5	SOIL	0.308 (J)	0.07 (J)	6.38 (J)	–	–
MD21-07-6785	21-25272	0.0-0.8	SOIL	–	–	–	0.18 (J)	–

Table 3.4-1 (continued)

Sample Id	Location Id	Depth (ft)	Media	Americium-241 (pCi/g)	Plutonium-238 (pCi/g)	Plutonium-239/240 (pCi/g)	Nitrate (mg/kg)	Perchlorate (mg/kg)
MD21-07-6786	21-25272	2.5-3.0	SOIL	–	0.262 (J)	0.607 (J)	–	–
MD21-07-6787	21-25272	3.5-4.0	QBT2	–	1.274 (J)	8.934 (J)	–	–
MD21-07-6792	21-01642	0.0-0.5	SOIL	–	0.535 (J)	5.293 (J)	–	–
MD21-07-6793	21-01642	1.5-2.0	QBT3	–	–	0.104 (J)	–	–

Notes:
Background values are from LANL (1998, 059730).
na = Not available.
*– = Not detected or not detected above background values or fallout values.
pCi/g = Picocurries per gram.
mg/kg = Milligrams per kilogram.
QBT 2 = Quaternary Bandelier Tuff Unit 2.
QBT 3 = Quaternary Bandelier Tuff Unit 3.

Table 3.4-2
Summary of VOCs Detected in Pore Gas at Consolidated Unit 21-016(a)-99, MDA T

(11x17 table)

Table 3.4-3
Summary of Tritium Detected in Pore Gas
at Consolidated Unit 21-016(a)-99, MDA T

Sample Id	Location Id	Depth (ft)	Tritium
MD21-07-6807	21-603058	67.5-72.5	—*
MD21-07-6808	21-603058	160.5-165.5	816.721
MD21-07-6809	21-603058	217-222	—
MD21-07-6810	21-603058	242.5-247.5	—
MD21-07-6811	21-603058	339.5-344.5	—
MD21-07-6813	21-25264	67.5-72.5	318.847
MD21-07-6814	21-25264	150.5-155.5	9385.24
MD21-07-6815	21-25264	222.5-227.5	206.76
MD21-07-6816	21-25264	323-328	—
MD21-07-6817	21-25264	349.5-354.5	243.472
MD21-07-6804	21-603059	77.5-82.5	—
MD21-07-6803	21-603059	187.5-192.5	379.253
MD21-07-6801	21-603059	229.5-234.5	1585.58
MD21-07-6802	21-603059	292.5-297.5	273.951
MD21-07-6800	21-603059	372.5-377.5	197.9

Note: Results are in pCi/L.
"* — " = Not detected.

Table 3.5-1
Summary Statistics, Exposure Point Concentrations, and Calculated Doses for Residential and Recreational Scenarios for the DP Canyon Slope, at Consolidated Unit 21-016(a)-99, MDA T

COPC~~(pCi/g)~~	Sampling Event	Number of Analyses	Distribution Type	Minimum ~~Concentration~~ Activity (~~mg/kg~~pCi/g)	Maximum Activity~~Concentration~~ (pCi/g~~mg/kg~~)	Mean Activity~~Concentration~~ (pCi/g)	Standard Deviation (pCi/g~~mg/kg~~)	95% UCL[a] (pCi/g~~mg/kg~~)	95% UCL Method	Screening Level[b] (pCi/g)	Calculated Dose (mrem/yr)
Residential Statistics											
Americium-241	IR report	58	Gamma	0.00494	11.7	2.315	2.317	3.015	Approx. Gamma	30	1.51
Americium-241	New	10	Gamma	0.034	1.503	0.263	0.445	0.587	Approx. Gamma	30	0.29
Americium-241	Combined	68	Gamma	0.00494	11.7	2.013	2.265	2.631	Approx. Gamma	30	1.32
Plutonium-238	IR Report	58	Nonparametric	0.0	9.13	1.433	2.13	2.652	Chebyshev	37	1.04
Plutonium-238	New	14	Normal	0.05	2.246	0.802	0.727	1.145	Student's-t	37	0.46
Plutonium-238	Combined	72	Nonparametric	0.0	9.13	1.311	1.95	2.312	Chebyshev	37	0.94
Plutonium-239/240	IR Report	56	Gamma	0.0127	28.51	5.784	5.097	7.253	Approx. Gamma	33	3.3
Plutonium-239/240	New	20	Nonparametric	0.057	14.38	3.37	4.201	7.465	Chebyshev	33	3.4
Plutonium-239/240	Combined	76	Nonparametric	0.0127	28.51	5.149	4.967	7.632	Chebyshev	33	3.5

Table 3.5-1 (Continued)

COPC	Sampling Event	Number of Analyses	Distribution Type	Minimum Activity (pCi/g)	Maximum Activity (pCi/g)	Mean Activity (pCi/g)	Standard Deviation (pCi/g)	95% UCL[a] (pCi/g)	95% UCL Method	Screening Level[b] (pCi/g)	Calculated Dose (mrem/yr)
Recreational Statistics											
Americium-241	IR Report	51	Gamma	0.035	11.7	2.601	2.328	3.332	Approx. Gamma	280	0.18
Americium-241	New	5	Normal	0.053	0.308	0.167	0.106	0.269	Student's-t	282	0.01
Americium-241	Combined	56	Gamma	0.035	11.7	2.384	2.328	3.089	Approx. Gamma	283	0.16
Plutonium-238	IR Report	51	Nonparametric	0.009	9.13	1.614	2.212	2.964	Chebyshev	330	0.13
Plutonium-238	New	10	Normal	0.05	2.062	0.735	0.642	1.107	Student's-t	332	0.05
Plutonium-238	Combined	61	Gamma	0.009	9.13	1.47	2.061	2.037	Approx. Gamma	333	0.09
Plutonium-239/240	IR Report	49	Gamma	0.324	28.51	6.317	5.058	7.667	Approx. Gamma	300	0.38
Plutonium-239/240	New	10	Normal	0.16	14.38	5.496	4.411	8.053	Student's-t	302	0.40
Plutonium-239/240	Combined	59	Gamma	0.16	28.51	6.178	4.928	7.431	Approx. Gamma	303	0.37

[a] 95% UCL from PROUCL 4.0 (EPA 2007, 096530) or max detection if one detection or ½ the maximum reporting limit, if no detections.

[b] Screening levels from LANL (2005, ~~(~~088493).

Appendix A

Field Information

BOREHOLE LOG
Material Disposal Area T Phase II Investigation

BH ID: 21-01860	TA-21	Drill Depth: 0-14 ft bgs	Total Pages: 1
Driller: Dave Starnes/Spectrum		Start Date: 10/13/2007	End Date: 10/13/2007
Drilling Equipment/Method: CME 85 Hollow-Stem Auger		Logged By: M.Sandoval, K.Reid	
Sampling Equipment/Method: 3" ID 5' Length Split-Barrel Sampler			

DEPTH (ft bgs)	RECOVERY (ft/ft)	FIELD SCREENING RESULTS: PID (ppm)/RAD	SAMPLE ID	LITHOLOGICAL DESCRIPTION	LITHOLOGY	NOTES
0 1 2 3 4	4/4	PID=0.0 RAD=<MDA	0-0.8 ft bgs MD21-07-6761	0-4' Soil: well developed, dark brown-black 7.5yr4/2; clayey; very moist fades to pale tan at base (3.5-4ft) 7.5yr5/4. Large pumice and tuff clasts in soil	SOIL	1520 1 ft stick-up
5 6 7 8 9	5/5	PID=0.0 RAD=<MDA	7-8.5 ft bgs MD21-07-6762 MD21-07-6798 (FD)	4-8' Soil: well sorted, clay-silt, 7.5yr5.4, some quartz crystals (1-2mm), intermixed with weathered tuff. 8-9' Tuff, weathered, large quartz, sanidine (2-4mm), gray matrix 7.5yr6/1; soil/clay veins	SOIL QBT 2	1525 **Tuff at 8.0 ft bgs**
10 11 12 13 14	5/5	PID=0.0 RAD=<MDA	11-12 ft bgs MD21-07-6763	9-14' Tuff; sugary texture; pinkish gray matrix 5yr7/2; quartz 15-20%; rare sanidine; plagioclase 15%, oxidation on small minerals; some clayey veins (roots?) into tuff.	QBT 2	1530 TD = 14 ft bgs

BOREHOLE LOG
Material Disposal Area T Phase II Investigation

BH ID: 21-01861	TA-21	Drill Depth: 0-14 ft bgs	Total Pages: 1
Driller: Dave Starnes/Spectrum		Start Date: 10/13/2007	End Date: 10/13/2007
Drilling Equipment/Method: CME 85 Hollow-Stem Auger		Logged By: M.Sandoval, K.Reid	
Sampling Equipment/Method: 3" ID 5' Length Split-Barrel Sampler			

DEPTH (ft bgs)	RECOVERY (ft/ft)	FIELD SCREENING RESULTS: PID (ppm)/RAD	SAMPLE ID	LITHOLOGICAL DESCRIPTION	LITHOLOGY	NOTES
0 1 2 3 4	3/4	PID=0.0 RAD=<MDA	0-0.8 ft bgs MD21-07-6754	0-3' Soil: well-developed silty clay, tuff lithics (2-3cm), reddish soil 7.5yr2.5/2, damp. Lower section 7.5yr6/3, drier, well sorted, silty mud, damp 3-4' No Recovery	SOIL	1600 1 ft stick-up
5 6 7 8 9	5/5	PID=0.0 RAD=<MDA	6-7 ft bgs MD21-07-6755 7.5-8.5 ft bgs MD21-07-6756	4-8' very clayey soil, moist, well-sorted, a few roots, no lithics, reddish 5yr4/6. small vertical fracture <2mm aperture, slight (0-1mm) clay in fracture 8-9' Tuff, striped horizontally, gray and red	SOIL QBT 2	1605 **Tuff at 8.0 ft bgs**
10 11 12 13 14	5/5	PID=0.0 RAD=<MDA	11-12 ft bgs MD21-07-6757	9-14' Tuff, 25% quartz; 3% iron-stained plagioclase; rare sanidine; rare semi-flattened, fibrous pumice; grayish 7.5yr7/1	QBT 2	1615 TD = 14 ft bgs

BOREHOLE LOG
Material Disposal Area T Phase II Investigation

BH ID: 21-01862	TA-21	Drill Depth: 0-8.5 ft bgs	Total Pages: 1
Driller: Dave Starnes/Spectrum		Start Date: 10/14/2007	End Date: 10/14/2007
Drilling Equipment/Method: CME 85 Hollow-Stem Auger		Logged By: M.Sandoval, K.Reid	
Sampling Equipment/Method: 3" ID 5' Length Split-Barrel Sampler			

DEPTH (ft bgs)	RECOVERY (ft/ft)	FIELD SCREENING RESULTS: PID (ppm)/RAD	SAMPLE ID	LITHOLOGICAL DESCRIPTION	LITHOLOGY	NOTES
0 1 2 3 4	3.5/3.5	PID=0.0 RAD=<MDA	0-0.8 ft bgs MD21-07-6740	0-1.5' silty loam, 7.5yr5/4 1.5-3.5' silty clay loam, 5yr5/4	SOIL	1010 1 ft stick-up
5 6 7 8 9	5/5	PID=0.0 RAD=<MDA	4.5-6.5 ft bgs MD21-07-6741 MD21-07-6795 (FD) 7-8 ft bgs MD21-07-6742	3.5-4.5' Same as above 4.5-6.5' Tuff, weathered 6.5-8.5' Tuff, unweathered	QBT 2	**Tuff at 4.5 ft bgs** 1015 TD = 8.5 ft bgs

BOREHOLE LOG
Material Disposal Area T Phase II Investigation

BH ID: 21-02568	TA-21	Drill Depth: 0-10ft bgs	Total Pages: 1
Driller: Dave Starnes/Spectrum		Start Date: 10/14/2007	End Date: 10/14/2007
Drilling Equipment/Method: CME 85 Hollow-Stem Auger		Logged By: M.Sandoval, K.Reid	
Sampling Equipment/Method: 3" ID 5' Length Split-Barrel Sampler			

DEPTH (ft bgs)	RECOVERY (ft/ft)	FIELD SCREENING RESULTS: PID (ppm)/RAD	SAMPLE ID	LITHOLOGICAL DESCRIPTION	LITHOLOGY	NOTES
0 1 2 3 4 5	3/5	PID=0.0 RAD=<MDA	0-0.8 ft bgs MD21-07-6771	0-3' sandy clay loam 3-5' No Recovery	SOIL	1110 1 ft stick-up **Tuff at 5.7 ft bgs**
6 7 8 9 10	5/5	PID=0.0 RAD=<MDA	5.3-6.1 ft bgs MD21-07-6772 9-10 ft bgs MD21-07-6773	5-7.5' Tuff, weathered 7.5-10' Tuff, unweathered	QBT 2	1120 TD = 10 ft bgs

BOREHOLE LOG
Material Disposal Area T Phase II Investigation

BH ID: 21-02569	TA-21	Drill Depth: 0-14 ft bgs	Total Pages: 1
Driller: Dave Starnes/Spectrum		Start Date: 10/13/2007	End Date: 10/13/2007
Drilling Equipment/Method: CME 85 Hollow-Stem Auger		Logged By: M.Sandoval, K.Reid	
Sampling Equipment/Method: 3" ID 5' Length Split-Barrel Sampler			

DEPTH (ft bgs)	RECOVERY (ft/ft)	FIELD SCREENING RESULTS: PID (ppm)/RAD	SAMPLE ID	LITHOLOGICAL DESCRIPTION	LITHOLOGY	NOTES
0 1 2 3 4	4/4	PID=0.0 RAD=<MDA	0-0.8 ft bgs MD21-07-6775	0-4' Soil: well-developed , dark 7.5yr3/2; a few rounded quartz/pumice/tuff/pebbles at very base; pebbly horizon at 2.5ft; blackish clay layer just below pebbles. Very damp.	SOIL	1450 1 ft stick-up
5 6 7 8 9	4.5/5	PID=0.0 RAD=<MDA	7.5-8.5 ft bgs MD21-07-6776	4-8' Same as above with organic rooty layer at 4.5-5 ft bgs 8-9' Tuff, weathered, mixed with soil, damp 7.5YR 4/4	SOIL QBT 2	1453 **Tuff at 8.0 ft bgs**
10 11 12 13 14	3/5	PID=0.0 RAD=<MDA	12-13 ft bgs MD21-07-6777	9-12' Tuff; grayish matrix, 7.5yr7/2, disced; 20% quartz, 5% iron oxidized mafics or pyroxene; 5-10% plagioclase; rare sanidine; poorly welded 12-14' No Recovery	QBT 2	1500 TD = 14 ft bgs

BOREHOLE LOG
Material Disposal Area T Phase II Investigation

BH ID: 21-25266	TA-21	Drill Depth: 0-14 ft bgs	Total Pages: 1
Driller: Dave Starnes/Spectrum		Start Date: 10/19/2007	End Date: 10/19/2007
Drilling Equipment/Method: CME 85 Hollow-Stem Auger		Logged By: M.Sandoval, K.Reid	
Sampling Equipment/Method: 3" ID 5' Length Split-Barrel Sampler			

DEPTH (ft bgs)	RECOVERY (ft/ft)	FIELD SCREENING RESULTS: PID (ppm)/RAD	SAMPLE ID	LITHOLOGICAL DESCRIPTION	LITHOLOGY	NOTES
0 1 2 3 4	4/4	PID=0.0 RAD=<MDA	0-0.8 ft bgs MD21-07-6768	0-2' silty loam 5yr4/4, dry 2-4' silty clay 7.5yr4/4, dry	SOIL	915 1 ft stick-up
5 6 7 8 9	4/5	PID=0.0 RAD=<MDA	5-5.7 ft bgs MD21-07-6769	4-5.3' Same as above 5.3-9' Tuff, weathered, 7.5yr6.2, dry. Quartz 15%, sanidine 10%.	SOIL QBT 2	**Tuff at 5.3 ft bgs** 920
10 11 12 13 14	5/5	PID=0.0 RAD=<MDA	12.5-13.3 ft bgs MD21-07-6770	9-11' Same as above 11-14' Unweathered tuff, 10yr8/1,dry, quartz 10%, sanidine 10%, mafic 1%, Iron staining at grain boundaries.	QBT 2	930 TD = 14 ft bgs

BOREHOLE LOG
SWMU 21-016(a)-99 RFI Characterization

BOREHOLE ID: 21-25262 (BH-01)	Technical Area (TA): 21-016(a)-99 (MDA-T)		Page 1 of 19
DRILLING COMPANY: Spectrum Exploration	START DATE/TIME: 12/09/2005:1255	FINISH DATE/TIME: 1/05/2006:1010	
DRILLING EQUIPMENT/METHOD: CME-85 HSA, 4.25" ID, 9" Diameter Bit			
SAMPLING EQUIPMENT/METHOD: 3" Split-Barrel Sampler (5.0' length)			
GROUND ELEVATION: 7142.7'	α/β DAILY BACKGROUND READINGS:	12/09/2005: 42 dpm and 2160 dpm (α and β) 12/12/2005: 28 dpm and 2140 dpm (α and β) 12/13/2005: 57.2 dpm and 1606 dpm (α and β) 12/14/2005: 38 dpm and 2180 dpm (α and β) 12/15/2005: 17.8 dpm and 2130 dpm (α and β) 12/16/2005: 36.8 dpm and 1382 dpm (α and β) 12/19/2005: 32.2 dpm and 1347 dpm (α and β) 12/20/2005: 11.9 dpm and 1800 dpm (α and β) 12/21/2005: 29.4 dpm and 1711 dpm (α and β) 12/22/2005: 35.6 dpm and 1847 dpm (α and β) 01/03/2006: 41.1 dpm and 1788 dpm (α and β) 01/04/2006: 29.6 dpm and 1721 dpm (α and β) 01/05/2006: 29.6 dpm and 1956 dpm (α and β)	TOTAL DEPTH: 380.0'
DRILLER: Steven Tanuz			GEOLOGIST: S. White

Depth (ft bgs)	Recovery (ft)	Field Analytical Sample: Sample ID/Type	Field Screening Results	LITHOLOGY - DESCRIPTION	Graphic Log	Lithologic Symbol	ADDITIONAL COMMENTS
0.0	2.9/5		PID= 0.0 α/β=<MDA	CLAY, SILT, AND GRAVEL FILL: *(0.0-0.6 ft)* Brown (7.5YR, 4/2) mixed fill with roughly equal parts of silt clay and gravel with little fine to medium-grained sand and trace organics (roots and grasses). Slightly damp. CLAY and REWORKED TUFF FILL: *(0.6-2.9 ft)* Variable in color: grey, pink, brown. Dominantly clay and reworked tuff material with trace amounts of fine to medium-grained sand and silt. Slightly damp.		FILL	
	NR						
5.0	5/5		PID= 0.1 α/β=<MDA	SILT AND CLAY FILL: *(5.0-7.8 ft)* Red brown (5YR, 4/4) fill composed primarily of fines (silts and clays), with little fine to medium-grained sand and trace reworked tuff. Slightly damp and soft. REWORKED TUFF: *(7.8-10.9 ft)* (5YR, 6/2) weathered tuff with 15-20% qtz and plagioclase phenocrysts and ~10% pumice clasts (2-4 mm in diameter).			
10.0	5/5		PID= 0.6 α/β=<MDA	UNIT 3 TSHIERGE MEMBER, BANDELIER TUFF: *Poorly-welded crystalline ash flow tuff.* *(10.9-20.0 ft)* Light grey (5YR 6/1) with ~15% of qtz and ~10% plagioclase in a grey ash matrix. Pumice clasts also present (10-15%) and range in size from 6-10 mm, dry.		Qbt3	Fill/tuff contact at 10.9' bgs. Set 12" diameter surface casing 0-12"
15.0	5/5	MD21-06-64011 (15.0 to 16.0' bgs) Moisture	PID= 0.3 α/β=<MDA				
20.0							

BOREHOLE LOG
SWMU 21-016(a)-99 RFI Characterization

BOREHOLE ID: 21-25262 (BH-01)	Technical Area (TA): 21-016(a)-99 (MDA-T)		Page 2 of 19
DRILLING COMPANY: Spectrum Exploration	START DATE/TIME: 12/12/2005:1235	FINISH DATE/TIME: 1/05/2006:1010	
DRILLING EQUIPMENT/METHOD: CME-85 HSA, 4.25" ID, 9" Diameter Bit			
SAMPLING EQUIPMENT/METHOD: 3" Split-Barrel Sampler (5.0' length)			
GROUND ELEVATION: 7142.7'	α/β DAILY BACKGROUND READINGS:	12/09/2005: 42 dpm and 2160 dpm (α and β) 12/12/2005: 28 dpm and 2140 dpm (α and β) 12/13/2005: 57.2 dpm and 1606 dpm (α and β) 12/14/2005: 38 dpm and 2180 dpm (α and β) 12/15/2005: 17.8 dpm and 2130 dpm (α and β) 12/16/2005: 36.8 dpm and 1382 dpm (α and β) 12/19/2005: 32.2 dpm and 1347 dpm (α and β) 12/20/2005: 11.9 dpm and 1800 dpm (α and β) 12/21/2005: 29.4 dpm and 1711 dpm (α and β) 12/22/2005: 35.6 dpm and 1847 dpm (α and β) 01/03/2006: 41.1 dpm and 1788 dpm (α and β) 01/04/2006: 29.6 dpm and 1721 dpm (α and β) 01/05/2006: 29.6 dpm and 1956 dpm (α and β)	TOTAL DEPTH: 380.0'
DRILLER: Steven Tanuz			GEOLOGIST: S. White

Depth (ft bgs)	Recovery (ft)	Field Analytical Sample: Sample ID/Type	Field Screening Results	LITHOLOGY - DESCRIPTION	Graphic Log	Lithologic Symbol	ADDITIONAL COMMENTS
20.0							
		MD21-06-64012 (20.0 to 21.0' bgs) Moisture	PID= 0.4 α/β=<MDA	UNIT 3 TSHIERGE MEMBER, BANDELIER TUFF: *Same As Above (SAA)* *(20.0-40.0 ft)* *Poorly-welded crystalline ash flow tuff.* Minor variations noted below.		Qbt3	
	5/5	MD21-06-63897 (22.0 to 23.5' bgs) Fracture		*Downsection:* *22.7' bgs*: Clay-filled fracture (aperture 6-8 mm) 35-40 degrees relative to ground surface.			
25.0		MD21-06-64013 (25.0 to 26.0' bgs) Moisture	PID= 0.3 α/β=<MDA				
	5/5	MD21-06-64143 (26.0 to 27.0' bgs) Geotechnical					
30.0		MD21-06-64014 (30.0 to 31.0' bgs) Moisture	PID= na α/β=<MDA				
	5/5						
35.0		MD21-06-64015 (35.0 to 36.0' bgs) Moisture	PID= 1.6 α/β=<MDA	35.0-40.0' *bgs*: Degree of welding is increasingly variable, poorly welded to nonwelded.			Degree of welding decreasing.
	5/5						
40.0							

BOREHOLE LOG
SWMU 21-016(a)-99 RFI Characterization

BOREHOLE ID: 21-25262 (BH-01)	Technical Area (TA): 21-016(a)-99 (MDA-T)		Page 3 of 19
DRILLING COMPANY: Spectrum Exploration	START DATE/TIME: 12/12/2005:1545	FINISH DATE/TIME: 1/5/2006:1010	
DRILLING EQUIPMENT/METHOD: CME-85 HSA, 4.25" ID, 9" Diameter Bit			
SAMPLING EQUIPMENT/METHOD: 3" Split-Barrel Sampler (5.0' length)			
GROUND ELEVATION: 7142.7'	α/β DAILY BACKGROUND READINGS:	12/09/2005: 42 dpm and 2160 dpm (α and β) 12/12/2005: 28 dpm and 2140 dpm (α and β) 12/13/2005: 57.2 dpm and 1606 dpm (α and β) 12/14/2005: 38 dpm and 2180 dpm (α and β) 12/15/2005: 17.8 dpm and 2130 dpm (α and β) 12/16/2005: 36.8 dpm and 1382 dpm (α and β) 12/19/2005: 32.2 dpm and 1347 dpm (α and β) 12/20/2005: 11.9 dpm and 1800 dpm (α and β) 12/21/2005: 29.4 dpm and 1711 dpm (α and β) 12/22/2005: 35.6 dpm and 1847 dpm (α and β) 01/03/2006: 41.1 dpm and 1788 dpm (α and β) 01/04/2006: 29.6 dpm and 1721 dpm (α and β) 01/05/2006: 29.6 dpm and 1956 dpm (α and β)	TOTAL DEPTH: 380.0'
DRILLER: Steven Tanuz			GEOLOGIST: S. White

Depth (ft bgs)	Recovery (ft)	Field Analytical Sample: Sample ID/Type	Field Screening Results	LITHOLOGY - DESCRIPTION	Graphic Log	Lithologic Symbol	ADDITIONAL COMMENTS
40.0	4.5/5	MD21-06-64016 (40.0 to 41.0' bgs) Moisture	PID= 2.6 α/β=<MDA	UNIT 3 TSHIERGE MEMBER, BANDELIER TUFF: *Poorly welded to non-welded ash flow tuff.* *(40.0-60.0 ft)* Slightly less welded and more crystalline than above. Tuff is grey (5YR, 6/1) and contains primarily qtz (10-15%) and plagioclase (10-15%) phenocrysts in a grey ash matrix. Pumice clasts also present and range in size 2-6 mm.		Qbt3	
45.0	NR 4.5/5	MD21-06-64017 (45.0 to 46.0' bgs) Moisture	PID= 0.3 α/β=<MDA				
50.0	NR 5/5	MD21-06-64018 (50.0 to 51.0' bgs) Moisture	PID= 0.3 α/β=<MDA				
55.0	5/5	MD21-06-64019 (55.0 to 56.0' bgs) Moisture	PID= 0.3 α/β=<MDA	*55.0-60.0' bgs*: Slight variability in tuff color. At 57.3-57.6' bgs, tuff is a light brown (7.5YR, 6/2) but color is not pervasive and does not continue through the core diameter.			
60.0							

BOREHOLE LOG
SWMU 21-016(a)-99 RFI Characterization

BOREHOLE ID: 21-25262 (BH-01)	Technical Area (TA): 21-016(a)-99 (MDA-T)		Page 4 of 19
DRILLING COMPANY: Spectrum Exploration	START DATE/TIME: 12/13/2005:1100	FINISH DATE/TIME: 1/05/2006:1010	
DRILLING EQUIPMENT/METHOD: CME-85 HSA, 4.25" ID, 9" Diameter Bit			
SAMPLING EQUIPMENT/METHOD: 3" Split-Barrel Sampler (5.0' length)			
GROUND ELEVATION: 7142.7'	α/β DAILY BACKGROUND READINGS:	TOTAL DEPTH: 380.0'	
DRILLER: Steven Tanuz		GEOLOGIST: S. White	

α/β DAILY BACKGROUND READINGS:
12/09/2005: 42 dpm and 2160 dpm (α and β)
12/12/2005: 28 dpm and 2140 dpm (α and β)
12/13/2005: 57.2 dpm and 1606 dpm (α and β)
12/14/2005: 38 dpm and 2180 dpm (α and β)
12/15/2005: 17.8 dpm and 2130 dpm (α and β)
12/16/2005: 36.8 dpm and 1382 dpm (α and β)
12/19/2005: 32.2 dpm and 1347 dpm (α and β)
12/20/2005: 11.9 dpm and 1800 dpm (α and β)
12/21/2005: 29.4 dpm and 1711 dpm (α and β)
12/22/2005: 35.6 dpm and 1847 dpm (α and β)
01/03/2006: 41.1 dpm and 1788 dpm (α and β)
01/04/2006: 29.6 dpm and 1721 dpm (α and β)
01/05/2006: 29.6 dpm and 1956 dpm (α and β)

Depth (ft bgs)	Recovery (ft)	Field Analytical Sample: Sample ID/Type	Field Screening Results	LITHOLOGY - DESCRIPTION	Graphic Log	Lithologic Symbol	ADDITIONAL COMMENTS
60.0	5/5	MD21-06-64020 (60.0 to 61.0' bgs) Moisture	PID= 0.3 α/β=<MDA	UNIT 3 TSHIERGE MEMBER, BANDELIER TUFF: SAA (60.0-75.0 ft) Poorly welded to non-welded crystalline ash flow tuff.		Qbt3	
65.0	5/5	MD21-06-64021 (65.0 to 66.0' bgs) Moisture	PID= 0.1 α/β=<MDA				
70.0	5/5	MD21-06-64022 (70.0 to 71.0' bgs) Moisture	PID= 0.2 α/β=<MDA				
75.0	2/5	MD21-06-64023 (75.0 to 76.0' bgs) Moisture AND MD21-06-63898 (75.0 to 77.0' bgs) Gen. Investigation	PID= 0.2 α/β=<MDA	Non-welded crystalline ash flow tuff. (75.0-80.0 ft) Tuff is non-welded throughout this section. Qtz phenocrysts slightly larger and more abundant (~20%) in unwelded portions.			Sample collected at the inferred base of disposal shaft(s) (75-77' bgs).
	NR	MD21-06-64204 (79.0 to 81.0' bgs) Pore Gas					
80.0							

BOREHOLE LOG
SWMU 21-016(a)-99 RFI Characterization

BOREHOLE ID: 21-25262 (BH-01)	Technical Area (TA): 21-016(a)-99 (MDA-T)		Page 5 of 19
DRILLING COMPANY: Spectrum Exploration	START DATE/TIME: 12/13/2005:1350	FINISH DATE/TIME: 1/5/2006:1010	
DRILLING EQUIPMENT/METHOD: CME-85 HSA, 4.25" ID, 9" Diameter Bit			
SAMPLING EQUIPMENT/METHOD: 3" Split-Barrel Sampler (5.0' length)			
GROUND ELEVATION: 7142.7'	α/β DAILY BACKGROUND READINGS:	TOTAL DEPTH: 380.0'	
DRILLER: Steven Tanuz		GEOLOGIST: S. White	

α/β DAILY BACKGROUND READINGS:
12/09/2005: 42 dpm and 2160 dpm (α and β)
12/12/2005: 28 dpm and 2140 dpm (α and β)
12/13/2005: 57.2 dpm and 1606 dpm (α and β)
12/14/2005: 38 dpm and 2180 dpm (α and β)
12/15/2005: 17.8 dpm and 2130 dpm (α and β)
12/16/2005: 36.8 dpm and 1382 dpm (α and β)
12/19/2005: 32.2 dpm and 1347 dpm (α and β)
12/20/2005: 11.9 dpm and 1800 dpm (α and β)
12/21/2005: 29.4 dpm and 1711 dpm (α and β)
12/22/2005: 35.6 dpm and 1847 dpm (α and β)
01/03/2006: 41.1 dpm and 1788 dpm (α and β)
01/04/2006: 29.6 dpm and 1721 dpm (α and β)
01/05/2006: 29.6 dpm and 1956 dpm (α and β)

Depth (ft bgs)	Recovery (ft)	Field Analytical Sample: Sample ID/Type	Field Screening Results	LITHOLOGY - DESCRIPTION	Graphic Log	Lithologic Symbol	ADDITIONAL COMMENTS
80.0	5/5	MD21-06-64204 (79.0 to 81.0' bgs) Pore Gas AND MD21-06-64024 (80.0 to 81.0' bgs) Moisture	PID= 0.2 α/β=<MDA	UNIT 3 TSHIERGE MEMBER, BANDELIER TUFF: *SAA* *(80.0-100.0 ft)* *Non-welded crystalline ash flow tuff.* Minor variations noted below.		Qbt3	
85.0	5/5	MD21-06-64025 (85.0 to 86.0' bgs) Moisture	PID= 0.1 α/β=<MDA				
90.0	5/5	MD21-06-64026 (90.0 to 91.0' bgs) Moisture	PID= 0.1 α/β=<MDA	*Downsection:* *90.0-99.5' bgs*: Grain size of matrix coarser than sections above and below. Overall non-welded tuff texture granular and sugary. Texture of sections above and below powdery and fine.			
95.0	5/5	MD21-06-64027 (95.0 to 96.0' bgs) Moisture	PID= 0.2 α/β=<MDA				
100.0							

BOREHOLE LOG
SWMU 21-016(a)-99 RFI Characterization

BOREHOLE ID: 21-25262 (BH-01)	Technical Area (TA): 21-016(a)-99 (MDA-T)		Page 6 of 19
DRILLING COMPANY: Spectrum Exploration	START DATE/TIME: 12/13/2005:1525	FINISH DATE/TIME: 1/5/2006:1010	
DRILLING EQUIPMENT/METHOD: CME-85 HSA, 4.25" ID, 9" Diameter Bit			
SAMPLING EQUIPMENT/METHOD: 3" Split-Barrel Sampler (5.0' length)			
GROUND ELEVATION: 7142.7'	α/β DAILY BACKGROUND READINGS:	TOTAL DEPTH: 380.0'	
DRILLER: Steven Tanuz		GEOLOGIST: S. White	

α/β DAILY BACKGROUND READINGS:
12/09/2005: 42 dpm and 2160 dpm (α and β)
12/12/2005: 28 dpm and 2140 dpm (α and β)
12/13/2005: 57.2 dpm and 1606 dpm (α and β)
12/14/2005: 38 dpm and 2180 dpm (α and β)
12/15/2005: 17.8 dpm and 2130 dpm (α and β)
12/16/2005: 36.8 dpm and 1382 dpm (α and β)
12/19/2005: 32.2 dpm and 1347 dpm (α and β)
12/20/2005: 11.9 dpm and 1800 dpm (α and β)
12/21/2005: 29.4 dpm and 1711 dpm (α and β)
12/22/2005: 35.6 dpm and 1847 dpm (α and β)
01/03/2006: 41.1 dpm and 1788 dpm (α and β)
01/04/2006: 29.6 dpm and 1721 dpm (α and β)
01/05/2006: 29.6 dpm and 1956 dpm (α and β)

Depth (ft bgs)	Recovery (ft)	Field Analytical Sample: Sample ID/Type	Field Screening Results	LITHOLOGY - DESCRIPTION	Graphic Log	Lithologic Symbol	ADDITIONAL COMMENTS
100.0	5/5		PID= 0.2 α/β=<MDA	UNIT 3 TSHIERGE MEMBER, BANDELIER TUFF: *SAA* *(100.0-105.0 ft)* *Non-welded crystalline ash flow tuff.* Poorly-welded section occurs at 103.3-104.1' bgs.		Qbt3	
105.0	5/5		PID= 0.2 α/β=<MDA	*Poorly-welded crystalline ash flow tuff.* *(105.0-109.0 ft)* Tuff grades from a grey (5YR, 6/1) to (5YR, 6/2). Qtz and plagioclase phenocrysts and pumice less abundant than above (10-15% and <10%, respectively). Pumice clasts range from 2 to 5 mm in diameter. Several small (20-40 mm) white ash pockets.			
110.0	5/5	MD21-06-63899 (110.0 to 113.0' bgs) Gen. Investigation AND MD21-06-63915 (110.0 to 113.0' bgs) Field Duplicate	PID= 0.2 α/β=<MDA	UNIT 2 TSHIERGE MEMBER, BANDELIER TUFF: *(109.0-117.2 ft)* *Poorly to moderately-welded crystalline ash flow tuff.* (5YR, 5/2) with qtz and plagioclase phenocrysts (15-20%) and pumice clasts (<10%) in a reddish grey ash matrix. Pumice clasts range from 2 to 5 mm in diameter. Tuff is dry and several sections are moderately welded.		Qbt2	Qbt3 / Qbt2 tuff contact at 109.0' bgs. Degree of welding: increasing
115.0	5/5	MD21-06-64206 (114.0 to 116.0' bgs) Pore Gas AND MD21-06-64028 (115.0 to 116.0' bgs) Moisture	PID= 0.5 α/β=<MDA				
120.0	5/5	MD21-06-63900 (116.0 to 118.0' bgs) Gen. Investigation		*Densly-welded crystalline ash flow tuff.* *(117.2-120.0 ft)* All other attributes SAA.			Drilling very slow, 2+ hours per 5 ft.

BOREHOLE LOG
SWMU 21-016(a)-99 RFI Characterization

BOREHOLE ID: 21-25262 (BH-01)	Technical Area (TA): 21-016(a)-99 (MDA-T)		Page 7 of 19
DRILLING COMPANY: Spectrum Exploration	START DATE/TIME: 12/14/2005:1620	FINISH DATE/TIME: 1/05/2006:1010	
DRILLING EQUIPMENT/METHOD: CME-85 HSA, 4.25" ID, 9" Diameter Bit			
SAMPLING EQUIPMENT/METHOD: 3" Split-Barrel Sampler (5.0' length)			
GROUND ELEVATION: 7142.7'	α/β DAILY BACKGROUND READINGS:	12/09/2005: 42 dpm and 2160 dpm (α and β) 12/12/2005: 28 dpm and 2140 dpm (α and β) 12/13/2005: 57.2 dpm and 1606 dpm (α and β) 12/14/2005: 38 dpm and 2180 dpm (α and β) 12/15/2005: 17.8 dpm and 2130 dpm (α and β) 12/16/2005: 36.8 dpm and 1382 dpm (α and β) 12/19/2005: 32.2 dpm and 1347 dpm (α and β) 12/20/2005: 11.9 dpm and 1800 dpm (α and β) 12/21/2005: 29.4 dpm and 1711 dpm (α and β) 12/22/2005: 35.6 dpm and 1847 dpm (α and β) 01/03/2006: 41.1 dpm and 1788 dpm (α and β) 01/04/2006: 29.6 dpm and 1721 dpm (α and β) 01/05/2006: 29.6 dpm and 1956 dpm (α and β)	TOTAL DEPTH: 380.0'
DRILLER: Steven Tanuz			GEOLOGIST: S. White

Depth (ft bgs)	Recovery (ft)	Field Analytical Sample: Sample ID/Type	Field Screening Results	LITHOLOGY - DESCRIPTION	Graphic Log	Lithologic Symbol	ADDITIONAL COMMENTS
120.0	5/5	MD21-06-64144 (124.6 to 125.0' bgs) Geotechnical	PID= 0.4 α/β=<MDA	UNIT 2 TSHIERGE MEMBER, BANDELIER TUFF: *SAA* *Densly-welded crystalline ash flow tuff.*		Qbt2	
125.0	5/5		PID= 0.1 α/β=<MDA	*Moderately-welded crystalline ash flow tuff. (125.0-140.0 ft)* Reddish grey (5YR 5/2) with qtz (15-20%), plagioclase (10-15%), and trace sanidine phenocrysts in a red grey ash matrix. Small (2-4 mm) pumice clasts also present but rare. Tuff is dry and hard. Phenocrysts size decreases with depth.			
130.0	5/5		PID= 0.1 α/β=<MDA				
135.0	5/5		PID= 0.2 α/β=<MDA				
140.0							

BOREHOLE LOG
SWMU 21-016(a)-99 RFI Characterization

BOREHOLE ID: 21-25262 (BH-01)	Technical Area (TA): 21-016(a)-99 (MDA-T)		Page 8 of 19
DRILLING COMPANY: Spectrum Exploration	START DATE/TIME: 12/15/2005:1135	FINISH DATE/TIME: 1/5/2006:1010	
DRILLING EQUIPMENT/METHOD: CME-85 HSA, 4.25" ID, 9" Diameter Bit			
SAMPLING EQUIPMENT/METHOD: 3" Split-Barrel Sampler (5.0' length)			
GROUND ELEVATION: 7142.7'	α/β DAILY BACKGROUND READINGS:	12/09/2005: 42 dpm and 2160 dpm (α and β) 12/12/2005: 28 dpm and 2140 dpm (α and β) 12/13/2005: 57.2 dpm and 1606 dpm (α and β) 12/14/2005: 38 dpm and 2180 dpm (α and β) 12/15/2005: 17.8 dpm and 2130 dpm (α and β) 12/16/2005: 36.8 dpm and 1382 dpm (α and β) 12/19/2005: 32.2 dpm and 1347 dpm (α and β) 12/20/2005: 11.9 dpm and 1800 dpm (α and β) 12/21/2005: 29.4 dpm and 1711 dpm (α and β) 12/22/2005: 35.6 dpm and 1847 dpm (α and β) 01/03/2006: 41.1 dpm and 1788 dpm (α and β) 01/04/2006: 29.6 dpm and 1721 dpm (α and β) 01/05/2006: 29.6 dpm and 1956 dpm (α and β)	TOTAL DEPTH: 380.0'
DRILLER: Steven Tanuz			GEOLOGIST: S. White

Depth (ft bgs)	Recovery (ft)	Field Analytical Sample: Sample ID/Type	Field Screening Results	LITHOLOGY - DESCRIPTION	Graphic Log	Lithologic Symbol	ADDITIONAL COMMENTS
140.0		MD21-06-64029 (140.0 to 141.0' bgs) Moisture	PID= 0.2 α/β=<MDA	UNIT 2 TSHIERGE MEMBER, BANDELIER TUFF: (140.0-155.0 ft) *Moderately-welded crystalline ash flow tuff, SAA.*		Qbt2	
	5/5	MD21-06-63901 (141.9 to 143.4' bgs) Fracture		*141.9-143.4' bgs*: Clay-filled fracture (aperture 8-10 mm) 70-75 degrees relative to the horizontal plane of reference (ground surface).			
145.0			PID= 0.1 α/β=<MDA				
	5/5			*148.1-148.2' bgs*: Thin (0.1' thick) grey (5YR 6/1) ash layer present.			
150.0			PID= 0.5 α/β=<MDA	Tuff becomes progressively less welded towards the base of this section (~150' bgs).			
	5/5						
155.0			PID= 0.1 α/β=<MDA	*Poorly-welded crystalline ash flow tuff.* (155.0-160.0 ft) Otherwise SAA.			
	5/5						
160.0							

BOREHOLE LOG
SWMU 21-016(a)-99 RFI Characterization

BOREHOLE ID: 21-25262 (BH-01)	Technical Area (TA): 21-016(a)-99 (MDA-T)		Page 9 of 19
DRILLING COMPANY: Spectrum Exploration	START DATE/TIME: 12/15/2005:1630	FINISH DATE/TIME: 1/05/2006:1010	
DRILLING EQUIPMENT/METHOD: CME-85 HSA, 4.25" ID, 9" Diameter Bit			
SAMPLING EQUIPMENT/METHOD: 3" Split-Barrel Sampler (5.0' length)			
GROUND ELEVATION: 7142.7'	α/β DAILY BACKGROUND READINGS:	TOTAL DEPTH: 380.0'	
DRILLER: Steven Tanuz		GEOLOGIST: S. White	

α/β DAILY BACKGROUND READINGS:
12/09/2005: 42 dpm and 2160 dpm (α and β)
12/12/2005: 28 dpm and 2140 dpm (α and β)
12/13/2005: 57.2 dpm and 1606 dpm (α and β)
12/14/2005: 38 dpm and 2180 dpm (α and β)
12/15/2005: 17.8 dpm and 2130 dpm (α and β)
12/16/2005: 36.8 dpm and 1382 dpm (α and β)
12/19/2005: 32.2 dpm and 1347 dpm (α and β)
12/20/2005: 11.9 dpm and 1800 dpm (α and β)
12/21/2005: 29.4 dpm and 1711 dpm (α and β)
12/22/2005: 35.6 dpm and 1847 dpm (α and β)
01/03/2006: 41.1 dpm and 1788 dpm (α and β)
01/04/2006: 29.6 dpm and 1721 dpm (α and β)
01/05/2006: 29.6 dpm and 1956 dpm (α and β)

Depth (ft bgs)	Recovery (ft)	Field Analytical Sample: Sample ID/Type	Field Screening Results	LITHOLOGY - DESCRIPTION	Graphic Log	Lithologic Symbol	ADDITIONAL COMMENTS
160.0	5/5	MD21-06-64030 (160.0 to 161.0' bgs) Moisture	PID= 0.1 α/β=<MDA	UNIT 2 TSHIERGE MEMBER, BANDELIER TUFF: *SAA* *(160.0-166.0 ft)* *Poorly-welded crystalline ash flow tuff.* Degree of welding continues to decrease with depth. In addition, tuff matrix grades more reddish in color towards the base of the section.		Qbt2	Degree of welding: decreasing
165.0	5/5		PID= 0.1 α/β=<MDA	UNIT Qbt 1v/Qbt2 TSHIERGE MEMBER *(164.0-168.0 ft)*		Qbt 1v/Qbt2	Qbt1v / Qbt2 Contact gradational.
170.0	5/5	MD21-06-63902 (170.0 to 172.0' bgs) Gen. Investigation; MD21-06-64145 (172.0 to 172.8' bgs) Geotechnical	PID= 0.1 α/β=<MDA	UNIT 1v TSHIERGE MEMBER, BANDELIER TUFF: *Poorly-welded crystalline ash flow tuff.* *(168.0- 170.0 ft)* Reddish brown (2.5YR, 5/3) tuff with ~15% of qtz and plagioclase phenocrysts, small (6-10 mm) trace vitrified pumice clasts (<10%) in a reddish brown ash matrix. Tuff is dry, soft, and contains a few pockets of grey ash and several unwelded sections.		Qbt1v	
175.0	5/5		PID= 0.1 α/β=<MDA	*Non-welded crystalline ash flow tuff.* *(170.0-180.0 ft)* SAA except tuff is non-welded. Pumice up to 20 mm.			
180.0							

BOREHOLE LOG
SWMU 21-016(a)-99 RFI Characterization

BOREHOLE ID: 21-25262 (BH-01)	Technical Area (TA): 21-016(a)-99 (MDA-T)		Page 10 of 19
DRILLING COMPANY: Spectrum Exploration	START DATE/TIME: 12/16/2005:1225	FINISH DATE/TIME: 1/5/2006:1010	
DRILLING EQUIPMENT/METHOD: CME-85 HSA, 4.25" ID, 9" Diameter Bit			
SAMPLING EQUIPMENT/METHOD: 3" Split-Barrel Sampler (5.0' length)			
GROUND ELEVATION: 7142.7'	α/β DAILY BACKGROUND READINGS:	TOTAL DEPTH: 380.0'	
DRILLER: Steven Tanuz		GEOLOGIST: S. White	

α/β DAILY BACKGROUND READINGS:
12/09/2005: 42 dpm and 2160 dpm (α and β)
12/12/2005: 28 dpm and 2140 dpm (α and β)
12/13/2005: 57.2 dpm and 1606 dpm (α and β)
12/14/2005: 38 dpm and 2180 dpm (α and β)
12/15/2005: 17.8 dpm and 2130 dpm (α and β)
12/16/2005: 36.8 dpm and 1382 dpm (α and β)
12/19/2005: 32.2 dpm and 1347 dpm (α and β)
12/20/2005: 11.9 dpm and 1800 dpm (α and β)
12/21/2005: 29.4 dpm and 1711 dpm (α and β)
12/22/2005: 35.6 dpm and 1847 dpm (α and β)
01/03/2006: 41.1 dpm and 1788 dpm (α and β)
01/04/2006: 29.6 dpm and 1721 dpm (α and β)
01/05/2006: 29.6 dpm and 1956 dpm (α and β)

Depth (ft)	Recovery (ft)	Field Analytical Sample: Sample ID/Type	Field Screening Results	LITHOLOGY - DESCRIPTION	Graphic Log	Lithologic Symbol	ADDITIONAL COMMENTS
180.0	5/5	MD21-06-64031 (180.0 to 181.0' bgs) Moisture	PID= 0.1 α/β=<MDA	UNIT 1V TSHIERGE MEMBER, BANDELIER TUFF: *SAA* *(180.0- 200.0 ft)* *Non-welded crystalline ash flow tuff.* Tuff matrix color continues to lighten with depth; grading to light red/grey (5YR 6/3) @ 185-190' bgs to pink/grey (5YR, 6/2) @ 195-200' bgs. Phenocrysts also coarsen with depth. Pumice fragments variable in size throughout section, ranging from 2 to 25 mm in size.		Qbt 1v	Phenocrysts: coarsening
185.0	5/5		PID= 0.1 α/β=<MDA				
190.0	5/5	MD21-06-64202 (189.0 to 191.0' bgs) Pore Gas	PID= 0.3 α/β=<MDA				
195.0	5/5		PID= 0.1 α/β=<MDA				
200.0							

BOREHOLE LOG
SWMU 21-016(a)-99 RFI Characterization

BOREHOLE ID: 21-25262 (BH-01)	Technical Area (TA): 21-016(a)-99 (MDA-T)		Page 11 of 19
DRILLING COMPANY: Spectrum Exploration	START DATE/TIME: 12/16/2005:1505	FINISH DATE/TIME: 1/5/2006:1010	
DRILLING EQUIPMENT/METHOD: CME-85 HSA, 4.25" ID, 9" Diameter Bit			
SAMPLING EQUIPMENT/METHOD: 3" Split-Barrel Sampler (5.0' length)			
GROUND ELEVATION: 7142.7'	α/β DAILY BACKGROUND READINGS:	TOTAL DEPTH: 380.0'	
DRILLER: Steven Tanuz		GEOLOGIST: S. White	

α/β DAILY BACKGROUND READINGS:
12/09/2005: 42 dpm and 2160 dpm (α and β)
12/12/2005: 28 dpm and 2140 dpm (α and β)
12/13/2005: 57.2 dpm and 1606 dpm (α and β)
12/14/2005: 38 dpm and 2180 dpm (α and β)
12/15/2005: 17.8 dpm and 2130 dpm (α and β)
12/16/2005: 36.8 dpm and 1382 dpm (α and β)
12/19/2005: 32.2 dpm and 1347 dpm (α and β)
12/20/2005: 11.9 dpm and 1800 dpm (α and β)
12/21/2005: 29.4 dpm and 1711 dpm (α and β)
12/22/2005: 35.6 dpm and 1847 dpm (α and β)
01/03/2006: 41.1 dpm and 1788 dpm (α and β)
01/04/2006: 29.6 dpm and 1721 dpm (α and β)
01/05/2006: 29.6 dpm and 1956 dpm (α and β)

Depth (ft bgs)	Recovery (ft)	Field Analytical Sample: Sample ID/Type	Field Screening Results	LITHOLOGY - DESCRIPTION	Graphic Log	Lithologic Symbol	ADDITIONAL COMMENTS
200.0	5/5	MD21-06-64032 (200.0 to 201.0' bgs) Moisture	PID= 0.2 α/β=<MDA	UNIT 1V TSHIERGE MEMBER, BANDELIER TUFF: *SAA* *(200.0-220.0 ft)* *Non-welded crystalline ash flow tuff.* Pink/grey (5YR, 6/2). Amount of pumice clasts increase with depth to 205' bgs (20%) and become variable below this depth (5-25%). Pumice size is variable, ranging from 5 to 40 mm.		Qbt1v	Pumice content increases with depth:
205.0	5/5		PID= 0.2 α/β=<MDA				
210.0	5/5		PID= 0.0 α/β=<MDA				
215.0	5/5		PID= 0.0 α/β=<MDA				
220.0							

BOREHOLE LOG
SWMU 21-016(a)-99 RFI Characterization

BOREHOLE ID: 21-25262 (BH-01)	Technical Area (TA): 21-016(a)-99 (MDA-T)		Page 12 of 19
DRILLING COMPANY: Spectrum Exploration	START DATE/TIME: 12/19/2005:1210	FINISH DATE/TIME: 1/05/2006:1010	
DRILLING EQUIPMENT/METHOD: CME-85 HSA, 4.25" ID, 9" Diameter Bit			
SAMPLING EQUIPMENT/METHOD: 3" Split-Barrel Sampler (5.0' length)			
GROUND ELEVATION: 7142.7'	α/β DAILY BACKGROUND READINGS:	TOTAL DEPTH: 380.0'	
DRILLER: Steven Tanuz		GEOLOGIST: S. White	

12/09/2005: 42 dpm and 2160 dpm (α and β)
12/12/2005: 28 dpm and 2140 dpm (α and β)
12/13/2005: 57.2 dpm and 1606 dpm (α and β)
12/14/2005: 38 dpm and 2180 dpm (α and β)
12/15/2005: 17.8 dpm and 2130 dpm (α and β)
12/16/2005: 36.8 dpm and 1382 dpm (α and β)
12/19/2005: 32.2 dpm and 1347 dpm (α and β)
12/20/2005: 11.9 dpm and 1800 dpm (α and β)
12/21/2005: 29.4 dpm and 1711 dpm (α and β)
12/22/2005: 35.6 dpm and 1847 dpm (α and β)
01/03/2006: 41.1 dpm and 1788 dpm (α and β)
01/04/2006: 29.6 dpm and 1721 dpm (α and β)
01/05/2006: 29.6 dpm and 1956 dpm (α and β)

Depth (ft bgs)	Recovery (ft)	Field Analytical Sample: Sample ID/Type	Field Screening Results	LITHOLOGY - DESCRIPTION	Graphic Log	Lithologic Symbol	ADDITIONAL COMMENTS
220.0	5/5		PID= 0.1 α/β=<MDA	UNIT 1V TSHIERGE MEMBER, BANDELIER TUFF: *SAA* *(220.0-235.0 ft)* *Non-welded crystalline ash flow tuff.* Color grades to reddish brown (5YR, 6/4). Pumice content is variable (5-25%). Phenocrysts slightly coarser in lower sections. Other minor variations detailed below.		Qbt 1v	
225.0	5/5		PID= 0.0 α/β=<MDA				
230.0	4.6/5	MD21-06-64033 (230.0 to 231.0' bgs) Moisture	PID= 0.0 α/β=<MDA				
235.0	NR / 5/5	MD21-06-64205 (234.0 to 236.0' bgs) Pore Gas AND MD21-06-64034 (235.0 to 236.0' bgs) Moisture AND MD21-06-63903 (235.0 to 238.0' bgs) Gen. Investigation AND MD21-06-63916 (235.0 to 238.0' bgs) Field Duplicate MD21-06-64146 (238.0 to 238.9' bgs) Geotechnical	PID= 0.3 α/β=<MDA	*232-234.6' bgs*: Degree of welding increasing slightly with depth. Tuff is damp in shoe extracted from the 230-235' run. *Poorly-welded crystalline ash flow tuff.* *(235.0-240.0 ft)* Red yellow (5YR, 6/6). Qtz and plagioclase phenocrysts coarse and 10-15% in a soft damp to dry matrix. Pumice (4-30 mm) remain soft and vary from 5-25%. Trace dacite/rhyolite clasts also present.			Insufficient material for sampling; Base of Qbt1v / Top of Qbt1g
240.0							

BOREHOLE LOG
SWMU 21-016(a)-99 RFI Characterization

BOREHOLE ID: 21-25262 (BH-01)	Technical Area (TA): 21-016(a)-99 (MDA-T)		Page 13 of 19
DRILLING COMPANY: Spectrum Exploration	START DATE/TIME: 12/20/2005:0955	FINISH DATE/TIME: 1/05/2006:1010	
DRILLING EQUIPMENT/METHOD: CME-85 HSA, 4.25" ID, 9" Diameter Bit			
SAMPLING EQUIPMENT/METHOD: 3" Split-Barrel Sampler (5.0' length)			
GROUND ELEVATION: 7142.7'	α/β DAILY BACKGROUND READINGS:	TOTAL DEPTH: 380.0'	
DRILLER: Steven Tanuz		GEOLOGIST: S. White	

α/β DAILY BACKGROUND READINGS:
12/09/2005: 42 dpm and 2160 dpm (α and β)
12/12/2005: 28 dpm and 2140 dpm (α and β)
12/13/2005: 57.2 dpm and 1606 dpm (α and β)
12/14/2005: 38 dpm and 2180 dpm (α and β)
12/15/2005: 17.8 dpm and 2130 dpm (α and β)
12/16/2005: 36.8 dpm and 1382 dpm (α and β)
12/19/2005: 32.2 dpm and 1347 dpm (α and β)
12/20/2005: 11.9 dpm and 1800 dpm (α and β)
12/21/2005: 29.4 dpm and 1711 dpm (α and β)
12/22/2005: 35.6 dpm and 1847 dpm (α and β)
01/03/2006: 41.1 dpm and 1788 dpm (α and β)
01/04/2006: 29.6 dpm and 1721 dpm (α and β)
01/05/2006: 29.6 dpm and 1956 dpm (α and β)

Depth (ft bgs)	Recovery (ft)	Field Analytical Sample: Sample ID/Type	Field Screening Results	LITHOLOGY - DESCRIPTION	Graphic Log	Lithologic Symbol	ADDITIONAL COMMENTS
240.0	3/5		PID= 0.3 α/β=<MDA	UNIT 1V/1G TSHIERGE MEMBER, BANDELIER TUFF: *SAA* *(240.0-243 ft)* *Poorly-welded crystalline ash flow tuff.*		Qbt 1v	
	NR						
245.0	5/5	MD21-06-64035 (245.0 to 246.0' bgs) Moisture	PID= 0.4 α/β=<MDA	UNIT 1G TSHIERGE MEMBER, BANDELIER TUFF: *Non-welded pumaceous ash flow tuff.* *(245-260.0 ft)* Yellow red (5YR, 4/6) with ~10% of coarse qtz and plagioclase phenocrysts and pumice in an ash matrix. Pumice (5-25 mm, 15-20%) are hard and glassy. Black glass shards and dacite pebbles (5-15 mm) present in trace amounts.		Qbt 1g	
250.0	3.3/5	MD21-06-63904 (251.0 to 253.0' bgs) Gen. Investigation AND MD21-06-63917 (251.0 to 253.0' bgs) Field Duplicate	PID= 0.4 α/β=<MDA				
	NR						
255.0	5/5		PID= 0.0 α/β=<MDA				
260.0							

BOREHOLE LOG
SWMU 21-016(a)-99 RFI Characterization

BOREHOLE ID: 21-25262 (BH-01)	Technical Area (TA): 21-016(a)-99 (MDA-T)		Page 14 of 19
DRILLING COMPANY: Spectrum Exploration	START DATE/TIME: 12/20/2005:1215	FINISH DATE/TIME: 1/5/2006:1010	
DRILLING EQUIPMENT/METHOD: CME-85 HSA, 4.25" ID, 9" Diameter Bit			
SAMPLING EQUIPMENT/METHOD: 3" Split-Barrel Sampler (5.0' length)			
GROUND ELEVATION: 7142.7'	α/β DAILY BACKGROUND READINGS:	12/09/2005: 42 dpm and 2160 dpm (α and β) 12/12/2005: 28 dpm and 2140 dpm (α and β) 12/13/2005: 57.2 dpm and 1606 dpm (α and β) 12/14/2005: 38 dpm and 2180 dpm (α and β) 12/15/2005: 17.8 dpm and 2130 dpm (α and β) 12/16/2005: 36.8 dpm and 1382 dpm (α and β) 12/19/2005: 32.2 dpm and 1347 dpm (α and β) 12/20/2005: 11.9 dpm and 1800 dpm (α and β) 12/21/2005: 29.4 dpm and 1711 dpm (α and β) 12/22/2005: 35.6 dpm and 1847 dpm (α and β) 01/03/2006: 41.1 dpm and 1788 dpm (α and β) 01/04/2006: 29.6 dpm and 1721 dpm (α and β) 01/05/2006: 29.6 dpm and 1956 dpm (α and β)	TOTAL DEPTH: 380.0'
DRILLER: Steven Tanuz			GEOLOGIST: S. White

Depth (ft bgs)	Recovery (ft)	Field Analytical Sample: Sample ID/Type	Field Screening Results	LITHOLOGY - DESCRIPTION	Graphic Log	Lithologic Symbol	ADDITIONAL COMMENTS
260.0			PID= 0.2 α/β=<MDA	UNIT 1G TSHIERGE MEMBER, BANDELIER TUFF: *SAA* *(260.0-280.0 ft)* *Non-welded pumaceous ash flow tuff.* Pumice clast size can exceed 50 mm in this interval (greater than width of spilt-barrel sampler) and are hard and glassy. Tuff begins to transition in color to a light reddish brown (5YR, 6/4) below 265' bgs.		Qbt 1g	
	5/5	MD21-06-64036 (265.0 to 266.0' bgs) Moisture AND MD21-06-64051 (265.0 to 266.0' bgs) Moisture FD					
265.0			PID= 0.0 α/β=<MDA				
	5/5						
270.0			PID= 0.1 α/β=<MDA				
	4/5						
	NR						
275.0			PID= 0.1 α/β=<MDA				
	5/5						
280.0							

BOREHOLE LOG
SWMU 21-016(a)-99 RFI Characterization

BOREHOLE ID: 21-25262 (BH-01)	Technical Area (TA): 21-016(a)-99 (MDA-T)		Page 15 of 19
DRILLING COMPANY: Spectrum Exploration	START DATE/TIME: 12/20/2005:1600	FINISH DATE/TIME: 1/05/2006:1010	
DRILLING EQUIPMENT/METHOD: CME-85 HSA 4.25" ID, 9" Diameter Bit			
SAMPLING EQUIPMENT/METHOD: 3" Split-Barrel Sampler (5.0' length)			
GROUND ELEVATION: 7142.7'	α/β DAILY BACKGROUND READINGS:	12/09/2005: 42 dpm and 2160 dpm (α and β) 12/12/2005: 28 dpm and 2140 dpm (α and β) 12/13/2005: 57.2 dpm and 1606 dpm (α and β) 12/14/2005: 38 dpm and 2180 dpm (α and β) 12/15/2005: 17.8 dpm and 2130 dpm (α and β) 12/16/2005: 36.8 dpm and 1382 dpm (α and β) 12/19/2005: 32.2 dpm and 1347 dpm (α and β) 12/20/2005: 11.9 dpm and 1800 dpm (α and β) 12/21/2005: 29.4 dpm and 1711 dpm (α and β) 12/22/2005: 35.6 dpm and 1847 dpm (α and β) 01/03/2006: 41.1 dpm and 1788 dpm (α and β) 01/04/2006: 29.6 dpm and 1721 dpm (α and β) 01/05/2006: 29.6 dpm and 1956 dpm (α and β)	TOTAL DEPTH: 380.0'
DRILLER: Steven Tanuz			GEOLOGIST: S. White

Depth (ft bgs)	Recovery (ft)	Field Analytical Sample: Sample ID/Type	Field Screening Results	LITHOLOGY - DESCRIPTION	Graphic Log	Lithologic Symbol	ADDITIONAL COMMENTS
280.0	5/5		PID= 0.0 α/β=<MDA	UNIT 1g TSHIERGE MEMBER, BANDELIER TUFF: *SAA* *(280.0-300.0 ft)* *Non-welded ash flow tuff.* Color continues to grade lighter with increasing depth. Other minor variations noted below.		Qbt 1g	
285.0	2/5	**MD21-06-64037** *(285.0 to 286.0' bgs)* ***Moisture***	PID= 0.1 α/β=<MDA				
	NR						
290.0	5/5		PID= 0.0 α/β=<MDA	*290.4' bgs:* Sharp color change from 5YR, 6/3 to a pink grey (5YR, 7/2). Other constituents remain the same. *292.8-293.0' bgs:* Color band of 5YR, 6/3 tuff.			
295.0	5/5	**MD21-06-64203** *(294.0 to 296.0' bgs)* ***Pore Gas***	PID= 0.0 α/β=<MDA				
300.0							

BOREHOLE LOG
SWMU 21-016(a)-99 RFI Characterization

BOREHOLE ID: 21-25262 (BH-01)	Technical Area (TA): 21-016(a)-99 (MDA-T)		Page 16 of 19
DRILLING COMPANY: Spectrum Exploration	START DATE/TIME: 12/21/2005:1115	FINISH DATE/TIME: 01/05/2006:1010	
DRILLING EQUIPMENT/METHOD: CME-85 HSA, 4.25" ID, 9" Diameter Bit			
SAMPLING EQUIPMENT/METHOD: 3" Split-Barrel Sampler (5.0' length)			
GROUND ELEVATION: 7142.7'	α/β DAILY BACKGROUND READINGS:	TOTAL DEPTH: 380.0'	
DRILLER: Steven Tanuz		GEOLOGIST: S. White	

12/09/2005: 42 dpm and 2160 dpm (α and β)
12/12/2005: 28 dpm and 2140 dpm (α and β)
12/13/2005: 57.2 dpm and 1606 dpm (α and β)
12/14/2005: 38 dpm and 2180 dpm (α and β)
12/15/2005: 17.8 dpm and 2130 dpm (α and β)
12/16/2005: 36.8 dpm and 1382 dpm (α and β)
12/19/2005: 32.2 dpm and 1347 dpm (α and β)
12/20/2005: 11.9 dpm and 1800 dpm (α and β)
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12/22/2005: 35.6 dpm and 1847 dpm (α and β)
01/03/2006: 41.1 dpm and 1788 dpm (α and β)
01/04/2006: 29.6 dpm and 1721 dpm (α and β)
01/05/2006: 29.6 dpm and 1956 dpm (α and β)

Depth (ft bgs)	Recovery (ft)	Field Analytical Sample: Sample ID/Type	Field Screening Results	LITHOLOGY - DESCRIPTION	Graphic Log	Lithologic Symbol	ADDITIONAL COMMENTS
300.0	5/5		PID= 0.0 α/β=<MDA	UNIT 1g TSHIERGE MEMBER, BANDELIER TUFF: *SAA* *(300.0-320.0 ft)* *Non-welded ash flow tuff.* Other minor variations noted below.		Qbt 1g	
305.0	5/5	MD21-06-64038 (305.0 to 306.0' bgs) Moisture	PID= 0.0 α/β=<MDA				
310.0	5/5		PID= 0.3 α/β=<MDA	*310.0-320.0' bgs*: Tuff slightly moist, tan beige (7.5YR, 8/2), with 15% qtz, 10% sanidine, and 5% pumice clasts.			
315.0	5/5		α/β=<MDA				
320.0							

BOREHOLE LOG
SWMU 21-016(a)-99 RFI Characterization

BOREHOLE ID: 21-25262 (BH-01)	Technical Area (TA): 21-016(a)-99 (MDA-T)		Page 17 of 19
DRILLING COMPANY: Spectrum Exploration	START DATE/TIME: 01/03/2006:1215	FINISH DATE/TIME: 01/05/2006:1010	
DRILLING EQUIPMENT/METHOD: CME-85 HSA, 4.25" ID, 9" Diameter Bit			
SAMPLING EQUIPMENT/METHOD: 3" Split-Barrel Sampler (5.0' length)			
GROUND ELEVATION: 7142.7'	α/β DAILY BACKGROUND READINGS:	TOTAL DEPTH: 380.0'	
DRILLER: Steven Tanuz		GEOLOGIST: S. White	

α/β DAILY BACKGROUND READINGS:
12/09/2005: 42 dpm and 2160 dpm (α and β)
12/12/2005: 28 dpm and 2140 dpm (α and β)
12/13/2005: 57.2 dpm and 1606 dpm (α and β)
12/14/2005: 38 dpm and 2180 dpm (α and β)
12/15/2005: 17.8 dpm and 2130 dpm (α and β)
12/16/2005: 36.8 dpm and 1382 dpm (α and β)
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01/03/2006: 41.1 dpm and 1788 dpm (α and β)
01/04/2006: 29.6 dpm and 1721 dpm (α and β)
01/05/2006: 29.6 dpm and 1956 dpm (α and β)

Depth (ft bgs)	Recovery (ft)	Field Analytical Sample: Sample ID/Type	Field Screening Results	LITHOLOGY - DESCRIPTION	Graphic Log	Lithologic Symbol	ADDITIONAL COMMENTS
320.0	5/5		α/β=<MDA	UNIT 1g TSHIERGE MEMBER, BANDELIER TUFF: *SAA* *(320.0-330.3 ft)* *Non-welded ash flow tuff.* Minor variations noted below.		Qbt 1g	
325.0	5/5	MD21-06-64039 (325.0 to 326.0' bgs) Moisture	α/β=<MDA	*Downsection:* *325.0' bgs:* Tuff grades to a light grey (5YR, 7/1). *329.2-329.5' bgs*: A thin pumice-rich horizon present.			
330.0	5/5	MD21-06-64040 (331.0 to 332.0' bgs) Moisture	α/β=<MDA	TSANKAWI PUMICE BED, TSHIERGE MEMBER, BANDELIER TUFF: *Pumice deposit.* *(330.3-333.2 ft)* Grey (5YR, 6/1) granular pumice, fine to coarse-grained.		Qbtt	Qbt1g / Qbtt contact: 330.3' bgs.
335.0	2.5/5	MD21-06-63905 (333.0 to 335.0' bgs) Gen. Investigation MD21-06-64147 (335.0 to 336.0' bgs) Geotechnical	PID= 0.1 α/β=<MDA	CERRO TOLEDO: *Sand.* *(333.2-340.0 ft)* Loose, slightly damp, multi-colored (predominantly [5YR, 5/4]) fine to coarse-grained sand with some silt and pumice gravel. Color dominantly (5YR 6/2) and (5YR 6/1) below 335.0' bgs. A 0.2' thick horizon of non-welded tuff occurs at 337.3 ft.		Qct	Qbtt / Qct contact: 333.2' bgs.
340.0	NR						

BOREHOLE LOG
SWMU 21-016(a)-99 RFI Characterization

BOREHOLE ID: 21-25262 (BH-01)	Technical Area (TA): 21-016(a)-99 (MDA-T)		Page 18 of 19
DRILLING COMPANY: Spectrum Exploration	START DATE/TIME: 01/03/2006:1615	FINISH DATE/TIME: 01/05/2006:1010	
DRILLING EQUIPMENT/METHOD: CME-85 HSA, 4.25" ID, 9" Diameter Bit			
SAMPLING EQUIPMENT/METHOD: 3" Split-Barrel Sampler (5.0' length)			
GROUND ELEVATION: 7142.7'	α/β DAILY BACKGROUND READINGS:	TOTAL DEPTH: 380.0'	
DRILLER: Steven Tanuz		GEOLOGIST: S. White	

12/09/2005: 42 dpm and 2160 dpm (α and β)
12/12/2005: 28 dpm and 2140 dpm (α and β)
12/13/2005: 57.2 dpm and 1606 dpm (α and β)
12/14/2005: 38 dpm and 2180 dpm (α and β)
12/15/2005: 17.8 dpm and 2130 dpm (α and β)
12/16/2005: 36.8 dpm and 1382 dpm (α and β)
12/19/2005: 32.2 dpm and 1347 dpm (α and β)
12/20/2005: 11.9 dpm and 1800 dpm (α and β)
12/21/2005: 29.4 dpm and 1711 dpm (α and β)
12/22/2005: 35.6 dpm and 1847 dpm (α and β)
01/03/2006: 41.1 dpm and 1788 dpm (α and β)
01/04/2006: 29.6 dpm and 1721 dpm (α and β)
01/05/2006: 29.6 dpm and 1956 dpm (α and β)

Depth (ft bgs)	Recovery (ft)	Field Analytical Sample: Sample ID/Type	Field Screening Results	LITHOLOGY - DESCRIPTION	Graphic Log	Lithologic Symbol	ADDITIONAL COMMENTS
340.0	5/5		PID= 0.0 α/β=<MDA	CERRO TOLEDO: *SAA* *(340.0-360.0 ft)* *Sand.* Still slightly damp. Sub-rounded fine to medium-grained dacite gravel present in subordinate amounts. Bedding visible below 343' bgs. Sand appears finer with increasing depth but is heterogeneous.		Qct	
345.0	5/5	MD21-06-64041 (345.0 to 346.0' bgs) Moisture	PID= 0.3 α/β=<MDA	*Downsection:* *347.0' bgs:* Sand color grades from (7.5YR, 5/4) to (7.5YR, 6/3).			
350.0	3.2/5	MD21-06-64148 (352.0 to 353.0' bgs) Geotechnical	PID= 0.0 α/β=<MDA				
	NR						
355.0	5/5	MD21-06-64042 (355.0 to 356.0' bgs) Moisture AND MD21-06-64052 (355.0 to 356.0' bgs) Moisture FD	PID= 0.1 α/β=<MDA				
360.0							

BOREHOLE LOG
SWMU 21-016(a)-99 RFI Characterization

BOREHOLE ID: 21-25262 (BH-01)	Technical Area (TA): 21-016(a)-99 (MDA-T)		Page 19 of 19
DRILLING COMPANY: Spectrum Exploration	START DATE/TIME: 01/04/2006:1245	FINISH DATE/TIME: 01/05/2006:1010	
DRILLING EQUIPMENT/METHOD: CME-85 HSA, 4.25" ID, 9" Diameter Bit			
SAMPLING EQUIPMENT/METHOD: 3" Split-Barrel Sampler (5.0' length)			
GROUND ELEVATION: 7142.7'	α/β DAILY BACKGROUND READINGS:	TOTAL DEPTH: 380.0'	
DRILLER: Steven Tanuz		GEOLOGIST: S. White	

α/β DAILY BACKGROUND READINGS:
12/09/2005: 42 dpm and 2160 dpm (α and β)
12/12/2005: 28 dpm and 2140 dpm (α and β)
12/13/2005: 57.2 dpm and 1606 dpm (α and β)
12/14/2005: 38 dpm and 2180 dpm (α and β)
12/15/2005: 17.8 dpm and 2130 dpm (α and β)
12/16/2005: 36.8 dpm and 1382 dpm (α and β)
12/19/2005: 32.2 dpm and 1347 dpm (α and β)
12/20/2005: 11.9 dpm and 1800 dpm (α and β)
12/21/2005: 29.4 dpm and 1711 dpm (α and β)
12/22/2005: 35.6 dpm and 1847 dpm (α and β)
01/03/2006: 41.1 dpm and 1788 dpm (α and β)
01/04/2006: 29.6 dpm and 1721 dpm (α and β)
01/05/2006: 29.6 dpm and 1956 dpm (α and β)

Depth (ft bgs)	Recovery (ft)	Field Analytical Sample: Sample ID/Type	Field Screening Results	LITHOLOGY - DESCRIPTION	Graphic Log	Lithologic Symbol	ADDITIONAL COMMENTS
360.0			PID= 0.2 α/β=<MDA	CERRO TOLEDO: *SAA* *(360.0-375.8 ft)* *Sand* Slightly damp. Pumice, dacite, and volcanic gravel clasts present in trace amounts below 370.0'.		Qct	
	5/5						
365.0		MD21-06-64043 (365.0 to 366.0' bgs) Moisture	PID= 0.1 α/β=<MDA				
	5/5						
370.0			PID= 0.2 α/β=<MDA				
	5/5	MD21-06-64201 (370.0 to 380.0' bgs) Pore Gas AND MD21-06-64231 (370.0 to 380.0' bgs) Pore Gas FD					
		MD21-06-63906 (373.0 to 375.0' bgs) Gen. Investigation AND MD21-06-63918 (373.0 to 375.0' bgs) Field Duplicate					
375.0			PID= 0.1 α/β=<MDA	OTOWI MEMBER, BANDELIER TUFF: *Non-welded tuff* *(375.8-380.0 ft)* Reddish yellow (5YR 6/6) with 10% qtz and sanidine phenocrysts and trace (~5%) soft pumice clasts (2-20 mm). Tuff is slightly damp.		Qbo	Qct / Qbo contact: 375.8' bgs.
	5/5						
		MD21-06-63907 (378.0 to 380.0' bgs) Gen. Investigation					
380.0							Borehole TD

BOREHOLE LOG
SWMU 21-016(a)-99 RFI Characterization

BOREHOLE ID: 21-25263 (BH-02)	Technical Area (TA): 21-016(a)-99 (MDA-T)		Page 1 of 18
DRILLING COMPANY: Spectrum Exploration	START DATE/TIME: 03/14/2006:1150	FINISH DATE/TIME: 04/06/2006:1735	
DRILLING EQUIPMENT/METHOD: CME-85 Hollow Stem Auger, 4.25" ID, 9" Diameter Bit			
SAMPLING EQUIPMENT/METHOD: 3" Split-Barrel Sampler (5.0' length)			
GROUND ELEVATION: 7134.8'	α/β DAILY BACKGROUND READINGS:	TOTAL DEPTH: 354.0'	
DRILLER: Steven Tanuz		GEOLOGIST: S. White	

03/14/2006: 11 dpm and 1521 dpm (α and β)
03/15/2006: 10 dpm and 1438 dpm (α and β)
03/16/2006: 10 dpm and 1448 dpm (α and β)
03/17/2006: ?? dpm and ?? dpm (α and β)
03/21/2006: 29 dpm and 1974 dpm (α and β)
03/23/2006: 10 dpm and 1331 dpm (α and β)
03/24/2006: 23 dpm and 1877 dpm (α and β)
03/27/2006: 31 dpm and 1154 dpm (α and β)
03/28/2006: 5 dpm and 1407 dpm (α and β)
03/29/2006: 21 dpm and 1378 dpm (α and β)
04/04/2006: 10 dpm and 1489 dpm (α and β)
04/05/2006: 15 dpm and 1401 dpm (α and β)
04/06/2006: 15 dpm and 1331 dpm (α and β)

Depth (ft bgs)	Recovery (ft)	Field Analytical Sample: Sample ID/Type	Field Screening Results	LITHOLOGY - DESCRIPTION	Graphic Log	Lithologic Symbol	ADDITIONAL COMMENTS
0.0	0.9/5	MD21-06-64151 (0.3 to 0.9' bgs) Geotechnical Plus Chloride	PID = 0.1 α/β=<MDA	SILT FILL: (0.0-0.9 ft) Brown (7.5YR 4/4) with some clay, subordinate fine to medium sand and trace organics (grass and roots). Fill is dry and moderatly hard.		FILL	First run (0-5 ft) drilled with lexan tubing on 03/14/2006
	NR			NOT RECOVERED			
5.0	5/5	MD21-06-64055 (5.0 to 6.0' bgs) Moisture	PID = 0.2 α/β=<MDA	CRUSHED TUFF FILL: (5.0-9.1 ft) Brown (7.5YR 4/4) with trace silt and trace fine to medium sand. Fill is damp and stiff.			
				UNIT 3 TSHIERGE MEMBER, BANDELIER TUFF: *Poorly welded crystalline ash flow tuff.* (9.1-10.0 ft) Reddish Grey (10R, 6/1) with 10-15% qtz and 5-10% plagioclase phenocrysts and 10% pumice clasts of variable size. Tuff is slightly damp.		Qbt3	Fill/tuff contact at 9.1' bgs. 10-14 ft - First run of 03/15/2006 Set 12" diameter surface casing to 10 ft bgs
10.0	4/4		PID = 0.2 α/β=<MDA	*10.0-20.0' bgs*: Phenocrysts very crystalline and fine to coarse-grained. Pumice fragments range from 2-20 mm and are maroon and fibrous. Phenocryst size lessens slightly towards the base of section (19-22.2 ft bgs).			
		MD21-06-64056 (14.0 to 15.0' bgs) Moisture	PID = 0.1 α/β=<MDA				
15.0	3.1/5						
	NR						
20.0	3.2/5	MD21-06-64057 (19.0 to 20.0' bgs) Moisture	PID = 0.3 α/β=<MDA				

BOREHOLE LOG
SWMU 21-016(a)-99 RFI Characterization

BOREHOLE ID: 21-25263 (BH-02)	Technical Area (TA): 21-016(a)-99 (MDA-T)		Page 2 of 18
DRILLING COMPANY: Spectrum Exploration	START DATE/TIME: 03/14/2006:1150	FINISH DATE/TIME: 04/06/2006:1735	
DRILLING EQUIPMENT/METHOD: CME-85 Hollow Stem Auger, 4.25" ID, 9" Diameter Bit			
SAMPLING EQUIPMENT/METHOD: 3" Split Barrel Sampler (5.0' length)			
GROUND ELEVATION: 7134.8'	α/β DAILY BACKGROUND READINGS:	TOTAL DEPTH: 354.0'	
DRILLER: Steven Tanuz		GEOLOGIST: S. White	

03/14/2006: 11 dpm and 1521 dpm (α and β)
03/15/2006: 10 dpm and 1438 dpm (α and β)
03/16/2006: 10 dpm and 1448 dpm (α and β)
03/17/2006: ?? dpm and ?? dpm (α and β)
03/21/2006: 29 dpm and 1974 dpm (α and β)
03/23/2006: 10 dpm and 1331 dpm (α and β)
03/24/2006: 23 dpm and 1877 dpm (α and β)
03/27/2006: 31 dpm and 1154 dpm (α and β)
03/28/2006: 5 dpm and 1407 dpm (α and β)
03/29/2006: 21 dpm and 1378 dpm (α and β)
04/04/2006: 10 dpm and 1489 dpm (α and β)
04/05/2006: 15 dpm and 1401 dpm (α and β)
04/06/2006: 15 dpm and 1331 dpm (α and β)

Depth (ft bgs)	Recovery (ft)	Field Analytical Sample: Sample ID/Type	Field Screening Results	LITHOLOGY - DESCRIPTION	Graphic Log	Lithologic Symbol	ADDITIONAL COMMENTS
20.0	3.2/5		PID = 0.3 α/β=<MDA	UNIT 3 TSHIERGE MEMBER, BANDELIER TUFF: *Same As Above (SAA)* *(20.0-40.0 ft)* *Poorly welded crystalline ash flow tuff.* Tuff SAA with traces of thin, light brown (7.5YR6/3) bands in ash matrix.		Qbt3	
	NR						
25.0	4/5	MD21-06-64058 (24.0 to 25.0' bgs) Moisture	PID = 0.0 α/β=<MDA				
	NR						
30.0	3.6/5	MD21-06-64059 (29.0 to 30.0' bgs) Moisture	PID = 0.0 α/β=<MDA				
	NR						
35.0	3.2/5	MD21-06-64060 (34.0 to 35.0' bgs) Moisture	PID = 0.2 α/β=<MDA				
	NR						
40.0	4/5	MD21-06-64061 (39.0 to 40.0' bgs) Moisture	PID = 0.1 α/β=<MDA				

BOREHOLE LOG
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BOREHOLE ID: 21-25263 (BH-02)	Technical Area (TA): 21-016(a)-99 (MDA-T)		Page 3 of 18
DRILLING COMPANY: Spectrum Exploration	START DATE/TIME: 03/14/2006:1150	FINISH DATE/TIME: 04/06/2006:1735	
DRILLING EQUIPMENT/METHOD: CME-85 Hollow Stem Auger, 4.25" ID, 9" diameter bit			
SAMPLING EQUIPMENT/METHOD: 3" Split Barrel Sampler (5.0' length)			
GROUND ELEVATION: 7134.8'	α/β DAILY BACKGROUND READINGS:	TOTAL DEPTH: 354.0'	
DRILLER: Steven Tanuz		GEOLOGIST: S. White	

03/14/2006: 11 dpm and 1521 dpm (α and β)
03/15/2006: 10 dpm and 1438 dpm (α and β)
03/16/2006: 10 dpm and 1448 dpm (α and β)
03/17/2006: ?? dpm and ?? dpm (α and β)
03/21/2006: 29 dpm and 1974 dpm (α and β)
03/23/2006: 10 dpm and 1331 dpm (α and β)
03/24/2006: 23 dpm and 1877 dpm (α and β)
03/27/2006: 31 dpm and 1154 dpm (α and β)
03/28/2006: 5 dpm and 1407 dpm (α and β)
03/29/2006: 21 dpm and 1378 dpm (α and β)
04/04/2006: 10 dpm and 1489 dpm (α and β)
04/05/2006: 15 dpm and 1401 dpm (α and β)
04/06/2006: 15 dpm and 1331 dpm (α and β)

Depth (ft bgs)	Recovery (ft)	Field Analytical Sample: Sample ID/Type	Field Screening Results	LITHOLOGY - DESCRIPTION	Graphic Log	Lithologic Symbol	ADDITIONAL COMMENTS
40.0	5/5	MD21-06-63935 (40.0 to 42.0' bgs) Gen. Investigation	PID = 0.1 α/β=<MDA	UNIT 3 TSHIERGE MEMBER, BANDELIER TUFF: *SAA* *(40.0-60.0 ft)* *Poorly welded crystalline tuff.* *40.0-42.0' bgs*: Abundant (25%) sand-sized quartz phenocrysts Ash matrix gray to brown (7.5YR4/4).		Qbt3	
45.0	5/5	MD21-06-64062 (44.0 to 45.0' bgs) Moisture	PID = 0.1 α/β=<MDA				
50.0	2.8/5	MD21-06-64063 (49.0 to 50.0' bgs) Moisture; MD21-06-64152 (50.0 to 51.0' bgs) Geotechnical Plus Chloride	PID = 0.1 α/β=<MDA				49-54 ft - First run of 03/16/2006 Drilled with lexan tubing.
	NR						
55.0	5/5	MD21-06-64064 (54.0 to 55.0' bgs) Moisture	PID = 0.3 α/β=<MDA	*54.0-59.0' bgs*: Traces of iron staining (< 0.5 mm). Tuff is very poorly welded to non welded.			
60.0	5/5	MD21-06-64065 (59.0 to 60.0' bgs) Moisture	PID = 0.2 α/β=<MDA	*Below 59.0' bgs*: Large (> 50 mm) white pumice clasts evident.			

BOREHOLE LOG
SWMU 21-016(a)-99 RFI Characterization

BOREHOLE ID: 21-25263 (BH-02)	Technical Area (TA): 21-016(a)-99 (MDA-T)		Page 4 of 18
DRILLING COMPANY: Spectrum Exploration	START DATE/TIME: 03/14/2006:1150	FINISH DATE/TIME: 04/06/2006:1735	
DRILLING EQUIPMENT/METHOD: CME-85 Hollow Stem Auger, 4.25" ID, 9" Diameter Bit			
SAMPLING EQUIPMENT/METHOD: 3" Split Barrel Sampler (5.0' length)			
GROUND ELEVATION: 7134.8'	α/β DAILY BACKGROUND READINGS:	TOTAL DEPTH: 354.0'	
DRILLER: Steven Tanuz		GEOLOGIST: S. White	

03/14/2006: 11 dpm and 1521 dpm (α and β)
03/15/2006: 10 dpm and 1438 dpm (α and β)
03/16/2006: 10 dpm and 1448 dpm (α and β)
03/17/2006: ?? dpm and ?? dpm (α and β)
03/21/2006: 29 dpm and 1974 dpm (α and β)
03/23/2006: 10 dpm and 1331 dpm (α and β)
03/24/2006: 23 dpm and 1877 dpm (α and β)
03/27/2006: 31 dpm and 1154 dpm (α and β)
03/28/2006: 5 dpm and 1407 dpm (α and β)
03/29/2006: 21 dpm and 1378 dpm (α and β)
04/04/2006: 10 dpm and 1489 dpm (α and β)
04/05/2006: 15 dpm and 1401 dpm (α and β)
04/06/2006: 15 dpm and 1331 dpm (α and β)

Depth (ft bgs)	Recovery (ft)	Field Analytical Sample: Sample ID/Type	Field Screening Results	LITHOLOGY - DESCRIPTION	Graphic Log	Lithologic Symbol	ADDITIONAL COMMENTS
60.0			PID HS= 0.3 α/β=<MDA	UNIT 3 TSHIERGE MEMBER, BANDELIER TUFF: *SAA* *(60.0-74.0 ft)* *Poor to very poorly welded crystalline ash flow tuff.*		Qbt3	
	5/5						
		MD21-06-64066 (64.0 to 65.0' bgs) Moisture	PID HS= 0.2 α/β=<MDA				
65.0							
	5/5						
		MD21-06-64067 (69.0 to 70.0' bgs) Moisture	PID HS= 0.2 α/β=<MDA				
70.0							
	5/5	MD21-06-63936 (70.0 to 73.0' bgs) Gen. Investigation AND MD21-06-63953 (70.0 to 73.0' bgs) Field Duplicate					Sampled inferred base of shafts
		MD21-06-64068 (74.0 to 75.0' bgs) Moisture	PID HS= 0.1 α/β=<MDA	*Non welded crystalline ash flow tuff.* *(74.0-80.0 ft)* Ash matrix slightly coarser and darker (10R5/1) than above. All other attributes SAA.			
75.0							
	5/5						
	5/5	MD21-06-64069 (79.0 to 80.0' bgs) Moisture AND MD21-06-64216 (79.0 to 81.0' bgs) Pore Gas	PID HS= 0.0 α/β=<MDA	*At 79.0' bgs*: Appearance of trace amounts of sanidine.			
80.0							

BOREHOLE LOG
SWMU 21-016(a)-99 RFI Characterization

BOREHOLE ID: 21-25263 (BH-02)	Technical Area (TA): 21-016(a)-99 (MDA-T)		Page 5 of 18
DRILLING COMPANY: Spectrum Exploration	START DATE/TIME: 03/14/2006:1150	FINISH DATE/TIME: 04/06/2006:1735	
DRILLING EQUIPMENT/METHOD: CME-85 Hollow Stem Auger, 4.25" ID, 9" Diameter Bit			
SAMPLING EQUIPMENT/METHOD: 3" Split Barrel Sampler (5.0' length)			
GROUND ELEVATION: 7134.8'	α/β DAILY BACKGROUND READINGS:	TOTAL DEPTH: 354.0'	
DRILLER: Steven Tanuz		GEOLOGIST: S. White	

03/14/2006: 11 dpm and 1521 dpm (α and β)
03/15/2006: 10 dpm and 1438 dpm (α and β)
03/16/2006: 10 dpm and 1448 dpm (α and β)
03/17/2006: ?? dpm and ?? dpm (α and β)
03/21/2006: 29 dpm and 1974 dpm (α and β)
03/23/2006: 10 dpm and 1331 dpm (α and β)
03/24/2006: 23 dpm and 1877 dpm (α and β)
03/27/2006: 31 dpm and 1154 dpm (α and β)
03/28/2006: 5 dpm and 1407 dpm (α and β)
03/29/2006: 21 dpm and 1378 dpm (α and β)
04/04/2006: 10 dpm and 1489 dpm (α and β)
04/05/2006: 15 dpm and 1401 dpm (α and β)
04/06/2006: 15 dpm and 1331 dpm (α and β)

Depth (ft bgs)	Recovery (ft)	Field Analytical Sample: Sample ID/Type	Field Screening Results	LITHOLOGY - DESCRIPTION	Graphic Log	Lithologic Symbol	NOTES
80.0		MD21-06-64216 (79.0 to 81.0' bgs) Pore Gas AND MD21-06-63937 (80.0 to 82.0' bgs) Gen. Investigation	PID = 0.0 α/β=<MDA	UNIT 3 TSHIERGE MEMBER, BANDELIER TUFF: *SAA* *(80.0-100.0 ft)* *Non welded crystalline tuff; trace sanidine.*		Qbt3	
	5/5						
85.0		MD21-06-64070 (84.0 to 85.0' bgs) Moisture	PID = 0.1 α/β=<MDA	*Below 84.0' bgs*: iron staining present in ash matrix			
	5/5						
90.0		MD21-06-64071 (89.0 to 90.0' bgs) Moisture	PID = 0.9 α/β=<MDA				
	5/5						
95.0		MD21-06-64072 (94.0 to 95.0' bgs) Moisture	PID = 0.2 α/β=<MDA	*94.0-99.0' bgs*: Non-welded tuff with layers of poorly welded tuff (0.2 to 0.4').			
	5/5						
100.0	5/5	MD21-06-64073 (99.0 to 100.0' bgs) Moisture	PID = 0.8 α/β=<MDA				

BOREHOLE LOG
SWMU 21-016(a)-99 RFI Characterization

BOREHOLE ID: 21-25263 (BH-02)	Technical Area (TA): 21-016(a)-99 (MDA-T)		Page 6 of 18
DRILLING COMPANY: Spectrum Exploration	START DATE/TIME: 03/14/2006:1150	FINISH DATE/TIME: 04/06/2006:1735	
DRILLING EQUIPMENT/METHOD: CME-85 Hollow Stem Auger, 4.25" ID, 9" Diameter Bit			
SAMPLING EQUIPMENT/METHOD: 3" Split Barrel Sampler (5.0' length)			
GROUND ELEVATION: 7134.8'	α/β DAILY BACKGROUND READINGS:	TOTAL DEPTH: 354.0'	
DRILLER: Steven Tanuz		GEOLOGIST: S. White	

03/14/2006: 11 dpm and 1521 dpm (α and β)
03/15/2006: 10 dpm and 1438 dpm (α and β)
03/16/2006: 10 dpm and 1448 dpm (α and β)
03/17/2006: ?? dpm and ?? dpm (α and β)
03/21/2006: 29 dpm and 1974 dpm (α and β)
03/23/2006: 10 dpm and 1331 dpm (α and β)
03/24/2006: 23 dpm and 1877 dpm (α and β)
03/27/2006: 31 dpm and 1154 dpm (α and β)
03/28/2006: 5 dpm and 1407 dpm (α and β)
03/29/2006: 21 dpm and 1378 dpm (α and β)
04/04/2006: 10 dpm and 1489 dpm (α and β)
04/05/2006: 15 dpm and 1401 dpm (α and β)
04/06/2006: 15 dpm and 1331 dpm (α and β)

Depth (ft bgs)	Recovery (ft)	Field Analytical Sample: Sample ID/Type	Field Screening Results	LITHOLOGY - DESCRIPTION	Graphic Log	Lithologic Symbol	ADDITIONAL COMMENTS
100.0			PID = 0.8 α/β=<MDA	UNIT 3 TSHIERGE MEMBER, BANDELIER TUFF: *SAA* *(100.0-101.5 ft)* *Non welded to poorly welded crystalline ash flow tuff.*		Qbt3	
	5/5			UNIT 2 TSHIERGE MEMBER, BANDELIER TUFF: *Densly welded crystalline tuff.* *(101.5-114.0 ft)* Weak red (2.5YR 5/2) with 10% qtz and 5-10% plagioclase phenocrysts, 5-10% pumice, and trace sanidine. Quartz phenocrysts are medium-grained and crystalline; plagioclase phenocrysts finer. Pumice clasts are 5-10 mm, light gray and non fibrous. Tuff is slightly damp.		Qbt2	Qbt3 / Qbt2 contact at 101.5' bgs.
			PID = 0.0 α/β=<MDA				104-109 ft - First run of 03/17/2006 Slow drilling
105.0	2/5						
	NR						
			PID = 0.0 α/β=<MDA				109-114 ft - First run of 03/21/2006
110.0	2.2/5						
	NR						
			PID = 0.0 α/β=<MDA	*Below 114.0' bgs:* Quartz phenocrysts and pumice clasts slightly more abundant (~ 5%). Phenocrysts range from fine to coarse grained sand size . Pumice clasts range in size from 10-20 mm. Traces of iron staining (< 1 mm) present throughout.			
115.0	4.4/5						
	NR						
	3.4/5		PID = 0.0 α/β=<MDA				
120.0							

BOREHOLE LOG
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BOREHOLE ID: 21-25263 (BH-02)	Technical Area (TA): 21-016(a)-99 (MDA-T)		Page 7 of 18
DRILLING COMPANY: Spectrum Exploration	START DATE/TIME: 03/14/2006:1150	FINISH DATE/TIME: 04/06/2006:1735	
DRILLING EQUIPMENT/METHOD: CME-85 Hollow Stem Auger, 4.25" ID, 9" Diameter Bit			
SAMPLING EQUIPMENT/METHOD: 3" Split Barrel Sampler (5.0' length)			
GROUND ELEVATION: 7134.8'	α/β DAILY BACKGROUND READINGS:	TOTAL DEPTH: 354.0'	
DRILLER: Steven Tanuz		GEOLOGIST: S. White	

03/14/2006: 11 dpm and 1521 dpm (α and β)
03/15/2006: 10 dpm and 1438 dpm (α and β)
03/16/2006: 10 dpm and 1448 dpm (α and β)
03/17/2006: ?? dpm and ?? dpm (α and β)
03/21/2006: 29 dpm and 1974 dpm (α and β)
03/23/2006: 10 dpm and 1331 dpm (α and β)
03/24/2006: 23 dpm and 1877 dpm (α and β)
03/27/2006: 31 dpm and 1154 dpm (α and β)
03/28/2006: 5 dpm and 1407 dpm (α and β)
03/29/2006: 21 dpm and 1378 dpm (α and β)
04/04/2006: 10 dpm and 1489 dpm (α and β)
04/05/2006: 15 dpm and 1401 dpm (α and β)
04/06/2006: 15 dpm and 1331 dpm (α and β)

Depth (ft bgs)	Recovery (ft)	Field Analytical Sample: Sample ID/Type	Field Screening Results	LITHOLOGY - DESCRIPTION	Graphic Log	Lithologic Symbol	ADDITIONAL COMMENTS
120.0	3.4/5		PID = 0.0 α/β=<MDA	UNIT 2 TSHIERGE MEMBER, BANDELIER TUFF: *SAA* *(119.0-134.0 ft)* *Nonwelded to poorly welded crystalline ash flow tuff.*		Qbt2	
	NR						
125.0	4/5	MD21-06-64074 (124.0 to 125.0' bgs) Moisture; MD21-06-63938 (125.0 to 127.0' bgs) Gen. Investigation	PID = 1.6 α/β=<MDA				
	NR						
130.0	4.4/5		PID = 1.8 α/β=<MDA				
	NR						
135.0	3.8/5		PID = 0.0 α/β=<MDA	UNIT 2 TSHIERGE MEMBER, BANDELIER TUFF: *SAA* *(134.0-137.8 ft)* *Nonwelded to poorly welded crystalline ash flow tuff* Trace light gray to white pumice fragments, some iron staining at grain boundaries.			
	NR						
140.0	3.4/5		PID = 0.1 α/β=<MDA				

BOREHOLE LOG
SWMU 21-016(a)-99 RFI Characterization

BOREHOLE ID: 21-25263 (BH-02)	Technical Area (TA): 21-016(a)-99 (MDA-T)		Page 8 of 18
DRILLING COMPANY: Spectrum Exploration	START DATE/TIME: 03/14/2006:1150	FINISH DATE/TIME: 04/06/2006:1735	
DRILLING EQUIPMENT/METHOD: CME-85 Hollow Stem Auger, 4.25" ID, 9" Diameter Bit			
SAMPLING EQUIPMENT/METHOD: 3" Split Barrel Sampler (5.0' length)			
GROUND ELEVATION: 7134.8'	α/β DAILY BACKGROUND READINGS:	TOTAL DEPTH: 354.0'	
DRILLER: Steven Tanuz		GEOLOGIST: S. White	

03/14/2006: 11 dpm and 1521 dpm (α and β)
03/15/2006: 10 dpm and 1438 dpm (α and β)
03/16/2006: 10 dpm and 1448 dpm (α and β)
03/17/2006: ?? dpm and ?? dpm (α and β)
03/21/2006: 29 dpm and 1974 dpm (α and β)
03/23/2006: 10 dpm and 1331 dpm (α and β)
03/24/2006: 23 dpm and 1877 dpm (α and β)
03/27/2006: 31 dpm and 1154 dpm (α and β)
03/28/2006: 5 dpm and 1407 dpm (α and β)
03/29/2006: 21 dpm and 1378 dpm (α and β)
04/04/2006: 10 dpm and 1489 dpm (α and β)
04/05/2006: 15 dpm and 1401 dpm (α and β)
04/06/2006: 15 dpm and 1331 dpm (α and β)

Depth (ft bgs)	Recovery (ft)	Field Analytical Sample: Sample ID/Type	Field Screening Results	LITHOLOGY - DESCRIPTION	Graphic Log	Lithologic Symbol	ADDITIONAL COMMENTS
140.0	3.4/5		PID = 0.1 α/β=<MDA	UNIT 2 TSHIERGE MEMBER, BANDELIER TUFF: *SAA* *(140.0-154.0 ft)* *Nonwelded to poorly welded crystalline ash flow tuff.*		Qbt2	
	NR						
			PID = 0.4 α/β=<MDA				
145.0	3.6/5	MD21-06-64075 *(144.0 to 149.0' bgs)* ***Moisture***					
	NR						
			PID = 0.3 α/β=<MDA				
150.0	1.2/5						
	NR						
			PID = 0.3 α/β=<MDA	UNIT 2 TSHIERGE MEMBER, BANDELIER TUFF: *SAA* *(154.0-160.0 ft)* Welding decreases with depth and iron staining is more prominent with depth.			
155.0	5/5						
			PID = 0.1 α/β=<MDA				
160.0							

BOREHOLE LOG
SWMU 21-016(a)-99 RFI Characterization

BOREHOLE ID: 21-25263 (BH-02)	Technical Area (TA): 21-016(a)-99 (MDA-T)		Page 9 of 18
DRILLING COMPANY: Spectrum Exploration	START DATE/TIME: 03/15/2006:1010	FINISH DATE/TIME: 04/06/2006:1735	
DRILLING EQUIPMENT/METHOD: CME-85 Hollow Stem Auger, 4.25" ID, 9" Diameter Bit			
SAMPLING EQUIPMENT/METHOD: 3" Split Barrel Sampler (5.0' length)			
GROUND ELEVATION: 7134.8'	α/β DAILY BACKGROUND READINGS:	TOTAL DEPTH: 354.0'	
DRILLER: Steven Tanuz		GEOLOGIST: S. White	

03/14/2006: 11 dpm and 1521 dpm (α and β)
03/15/2006: 10 dpm and 1438 dpm (α and β)
03/16/2006: 10 dpm and 1448 dpm (α and β)
03/17/2006: ?? dpm and ?? dpm (α and β)
03/21/2006: 29 dpm and 1974 dpm (α and β)
03/23/2006: 10 dpm and 1331 dpm (α and β)
03/24/2006: 23 dpm and 1877 dpm (α and β)
03/27/2006: 31 dpm and 1154 dpm (α and β)
03/28/2006: 5 dpm and 1407 dpm (α and β)
03/29/2006: 21 dpm and 1378 dpm (α and β)
04/04/2006: 10 dpm and 1489 dpm (α and β)
04/05/2006: 15 dpm and 1401 dpm (α and β)
04/06/2006: 15 dpm and 1331 dpm (α and β)

Depth (ft bgs)	Recovery (ft)	Field Analytical Sample: Sample ID/Type	Field Screening Results	LITHOLOGY - DESCRIPTION	Graphic Log	Lithologic Symbol	ADDITIONAL COMMENTS
160.0	4.3/5		PID = 0.1 α/β=<MDA	UNIT 2 TSHIERGE MEMBER, BANDELIER TUFF: *SAA* *(160.0-174.0 ft)* *Nonwelded to poorly welded crystalline ash flow tuff.* Pumice are more variable in size and range from 1-50 mm. Pumice are fibrous to nonfibrous and light grey to maroon. Trace iron staining observed along grain boundaries.		Qbt2	
165.0	NR	MD21-06-64076 (164.0 to 165.0' bgs) Moisture	PID = 1.6 α/β=<MDA				
	4.6/5	MD21-06-63939 (165.0 to 167.0' bgs) Gen. Investigation					
170.0	NR		PID = 0.4 α/β=<MDA				
	4.5/5						
175.0	NR		PID = 0.6 α/β=<MDA	*Nonwelded crystalline tuff.* Tuff color grading to reddish gray (5YR 5/2), very poorly welded to nonwelded, 10-15% quartz, 5-10% plagioclase, 10-20% pumice. Phenocrysts are very fine-grained. Tuff is slightly damp to dry. Gradational Contact		Qbt 1v/Qbt 2	Qbt1v / Qbt2 175.0-180.0' bgs'.
	5/5						
180.0			PID = 0.4 α/β=<MDA				

BOREHOLE LOG
SWMU 21-016(a)-99 RFI Characterization

BOREHOLE ID: 21-25263 (BH-02)	Technical Area (TA): 21-016(a)-99 (MDA-T)		Page 10 of 18
DRILLING COMPANY: Spectrum Exploration	START DATE/TIME: 03/15/2006:1010	FINISH DATE/TIME: 04/06/2006:1735	
DRILLING EQUIPMENT/METHOD: CME-85 Hollow Stem Auger, 4.25" ID, 9" Diameter Bit			
SAMPLING EQUIPMENT/METHOD: 3" Split Barrel Sampler (5.0' length)			
GROUND ELEVATION: 7134.8'	α/β DAILY BACKGROUND READINGS:	TOTAL DEPTH: 354.0'	
DRILLER: Steven Tanuz		GEOLOGIST: S. White	

03/14/2006: 11 dpm and 1521 dpm (α and β)
03/15/2006: 10 dpm and 1438 dpm (α and β)
03/16/2006: 10 dpm and 1448 dpm (α and β)
03/17/2006: ?? dpm and ?? dpm (α and β)
03/21/2006: 29 dpm and 1974 dpm (α and β)
03/23/2006: 10 dpm and 1331 dpm (α and β)
03/24/2006: 23 dpm and 1877 dpm (α and β)
03/27/2006: 31 dpm and 1154 dpm (α and β)
03/28/2006: 5 dpm and 1407 dpm (α and β)
03/29/2006: 21 dpm and 1378 dpm (α and β)
04/04/2006: 10 dpm and 1489 dpm (α and β)
04/05/2006: 15 dpm and 1401 dpm (α and β)
04/06/2006: 15 dpm and 1331 dpm (α and β)

Depth (ft bgs)	Recovery (ft)	Field Analytical Sample: Sample ID/Type	Field Screening Results	LITHOLOGY - DESCRIPTION	Graphic Log	Lithologic Symbol	ADDITIONAL COMMENTS
180.0	4.5/5		PID = 0.4 α/β=<MDA	UNIT 1v TSHIERGE MEMBER, BANDELIER TUFF: *(180.0-200.0 ft)* *Poorly to nonwelded crystalline tuff.* Weak Red (2.5YR 6/2) with 10-15% qtz and 5-10% plagioclase phenocrysts and 10-20% pumice. Pumice clasts are grey to purple grey, soft, 5-25 mm, and fibrous. Tuff is predominantly nonwelded and is slightly damp to dry.		Qbt 1v	Top of Qbt1v at 180.0' bgs.
	NR						
		MD21-06-64077 (184 to 185' bgs) Moisture	PID = 0.0 α/β=<MDA				
185.0	3.0/5	MD21-06-64153 (186 to 187 bgs) Geotechnical Plus Chloride					
	NR						
			PID = 0.1 α/β=<MDA				
190.0	5/5						
			PID = 0.1 α/β=<MDA				
195.0	5/5			Tuff, SAA, matrix color is lighter than above (2.5YR 7/2). Pumice content is up to 30% locally.			
			PID = 0.0 α/β=<MDA				
200.0							

BOREHOLE LOG
SWMU 21-016(a)-99 RFI Characterization

BOREHOLE ID: 21-25263 (BH-02)	Technical Area (TA): 21-016(a)-99 (MDA-T)		Page 11 of 18
DRILLING COMPANY: Spectrum Exploration	START DATE/TIME: 03/23/2006:1650	FINISH DATE/TIME: 04/06/2006:1735	
DRILLING EQUIPMENT/METHOD: CME-85 Hollow Stem Auger, 4.25" ID, 9" Diameter Bit			
SAMPLING EQUIPMENT/METHOD: 3" Split Barrel Sampler (5.0' length)			
GROUND ELEVATION:	α/β DAILY BACKGROUND READINGS:	TOTAL DEPTH: 354.0'	
DRILLER: Steven Tanuz		GEOLOGIST: S. White	

α/β DAILY BACKGROUND READINGS:
03/14/2006: 11 dpm and 1521 dpm (α and β)
03/15/2006: 10 dpm and 1438 dpm (α and β)
03/16/2006: 10 dpm and 1448 dpm (α and β)
03/17/2006: ?? dpm and ?? dpm (α and β)
03/21/2006: 29 dpm and 1974 dpm (α and β)
03/23/2006: 10 dpm and 1331 dpm (α and β)
03/24/2006: 23 dpm and 1877 dpm (α and β)
03/27/2006: 31 dpm and 1154 dpm (α and β)
03/28/2006: 5 dpm and 1407 dpm (α and β)
03/29/2006: 21 dpm and 1378 dpm (α and β)
04/04/2006: 10 dpm and 1489 dpm (α and β)
04/05/2006: 15 dpm and 1401 dpm (α and β)
04/06/2006: 15 dpm and 1331 dpm (α and β)

Depth (ft bgs)	Recovery (ft)	Field Analytical Sample: Sample ID/Type	Field Screening Results	LITHOLOGY - DESCRIPTION	Graphic Log	Lithologic Symbol	ADDITIONAL COMMENTS
200.0	5/5		PID = 0.0 α/β=<MDA	UNIT 1v TSHIERGE MEMBER, BANDELIER TUFF: *(200.0-220.0 ft)* *Poorly to nonwelded crystalline tuff.* Weak Red (2.5YR 6/2) with 10-15% qtz and 5-10% plagioclase phenocrysts and 10-20% pumice. Pumice clasts are grey to purple grey, soft, 5-25 mm, and fibrous. Tuff is predominantly nonwelded and is slightly damp to dry. Phenocrysts coarsen with depth and are medium to fine-grained.		Qbt 1v	
205.0	5/5	MD21-06-64078 (204 to 205' bgs) Moisture	PID = 0.0 α/β=<MDA				
210.0	5/5		PID = 0.0 α/β=<MDA				
215.0	5/5	MD21-06-63940 (215 to 217' bgs) Gen. Investigation	PID = 0.2 α/β=<MDA				
220.0			PID = 0.1 α/β=<MDA				

BOREHOLE LOG
SWMU 21-016(a)-99 RFI Characterization

BOREHOLE ID: 21-25263 (BH-02)	Technical Area (TA): 21-016(a)-99 (MDA-T)		Page 12 of 18
DRILLING COMPANY: Spectrum Exploration	START DATE/TIME: 03/24/2006:920	FINISH DATE/TIME: 04/06/2006:1735	
DRILLING EQUIPMENT/METHOD: CME-85 Hollow Stem Auger, 4.25" ID, 9" Diameter Bit			
SAMPLING EQUIPMENT/METHOD: 3" Split Barrel Sampler (5.0' length)			
GROUND ELEVATION: 7134.8'	α/β DAILY BACKGROUND READINGS:	TOTAL DEPTH: 354.0'	
DRILLER: Steven Tanuz		GEOLOGIST: S. White	

03/14/2006: 11 dpm and 1521 dpm (α and β)
03/15/2006: 10 dpm and 1438 dpm (α and β)
03/16/2006: 10 dpm and 1448 dpm (α and β)
03/17/2006: ?? dpm and ?? dpm (α and β)
03/21/2006: 29 dpm and 1974 dpm (α and β)
03/23/2006: 10 dpm and 1331 dpm (α and β)
03/24/2006: 23 dpm and 1877 dpm (α and β)
03/27/2006: 31 dpm and 1154 dpm (α and β)
03/28/2006: 5 dpm and 1407 dpm (α and β)
03/29/2006: 21 dpm and 1378 dpm (α and β)
04/04/2006: 10 dpm and 1489 dpm (α and β)
04/05/2006: 15 dpm and 1401 dpm (α and β)
04/06/2006: 15 dpm and 1331 dpm (α and β)

Depth (ft bgs)	Recovery (ft)	Field Analytical Sample: Sample ID/Type	Field Screening Results	LITHOLOGY - DESCRIPTION	Graphic Log	Lithologic Symbol	ADDITIONAL COMMENTS
220.0	5/5		PID = 0.1 α/β=<MDA	UNIT 1v TSHIERGE MEMBER, BANDELIER TUFF: *(220.0-229.0 ft)* *Poorly to nonwelded crystalline tuff.* SAA, color grades to light red (2.5YR 6/6). Pumice size is variable (2-40 mm). Trace of subrounded dacite lithics present. Some iron staining at grain boundaries.		Qbt 1v	
225.0	5/5	MD21-06-64079 (224 to 225' bgs) Moisture	PID = 0.2 α/β=<MDA				
230.0	5/5		PID = 0.2 α/β=<MDA	*(229.0-240.0 ft)* UNIT 1g TSHIERGE MEMBER, BANDELIER TUFF: *Poorly welded to nonwelded crystalline ash flow tuff.* Light red (2.5YR 6/6) with 10-15% qtz and 5-10% plagioclase phenocrysts, trace sanidine, < 5% lithics, and 15-20% pumice clasts in an orange ash matrix. Pheocrysts are fine to medium grained. Pumice are light to dark grey, 2-25 mm, fibrous and non fibrous, and soft. Black to dark grey glass shards and dacite clasts are also present in trace amounts. Slightly damp to dry.		Qbt 1g	Qbt1v / Qbt1g contact at 229.0' bgs.
235.0	5/5		PID = 0.2 α/β=<MDA				
240.0			PID = 0.5 α/β=<MDA				

BOREHOLE LOG
SWMU 21-016(a)-99 RFI Characterization

BOREHOLE ID: 21-25263 (BH-02)	Technical Area (TA): 21-016(a)-99 (MDA-T)		Page 13 of 18
DRILLING COMPANY: Spectrum Exploration	START DATE/TIME: 03/27/2006:1540	FINISH DATE/TIME: 04/06/2006:1735	
DRILLING EQUIPMENT/METHOD: CME-85 Hollow Stem Auger, 4.25" ID, 9" Diameter Bit			
SAMPLING EQUIPMENT/METHOD: 3" Split Barrel Sampler (5.0' length)			
GROUND ELEVATION: 7134.8'	α/β DAILY BACKGROUND READINGS:	TOTAL DEPTH: 354.0'	
DRILLER: Steven Tanuz		GEOLOGIST: S. White	

03/14/2006: 11 dpm and 1521 dpm (α and β)
03/15/2006: 10 dpm and 1438 dpm (α and β)
03/16/2006: 10 dpm and 1448 dpm (α and β)
03/17/2006: ?? dpm and ?? dpm (α and β)
03/21/2006: 29 dpm and 1974 dpm (α and β)
03/23/2006: 10 dpm and 1331 dpm (α and β)
03/24/2006: 23 dpm and 1877 dpm (α and β)
03/27/2006: 31 dpm and 1154 dpm (α and β)
03/28/2006: 5 dpm and 1407 dpm (α and β)
03/29/2006: 21 dpm and 1378 dpm (α and β)
04/04/2006: 10 dpm and 1489 dpm (α and β)
04/05/2006: 15 dpm and 1401 dpm (α and β)
04/06/2006: 15 dpm and 1331 dpm (α and β)

Depth (ft bgs)	Recovery (ft)	Field Analytical Sample: Sample ID/Type	Field Screening Results	LITHOLOGY - DESCRIPTION	Graphic Log	Lithologic Symbol	ADDITIONAL COMMENTS
240.0	5/5		PID = 0.5 α/β=<MDA	*(240.0-260.0 ft)* UNIT 1g TSHIERGE MEMBER, BANDELIER TUFF: *SAA. Poorly welded to nonwelded crystalline ash flow tuff.* Light red (2.5YR 6/6) to light reddish brown (5YR 6/3) with 10-15% qtz and 5-10% plagioclase phenocrysts, trace sanidine, < 5% lithics, and 15-20% pumice clasts in an orange ash matrix. Pheocrysts are fine to medium grained. Pumice are light to dark grey, 5-20 mm, fibrous and hard. Black to dark grey glass shards and dacite clasts are also present in trace amounts. Slightly damp to dry.		Qbt 1g	
245.0	3.2/5	MD21-06-64080 (244 to 245' bgs) Moisture	PID = 0.4 α/β=<MDA				
250.0	NR		PID = 0.1 α/β=<MDA				
	3.0/5	MD21-06-64154 (251.5 to 252.5' bgs) Geotechnical Plus Chloride					
255.0	NR		PID = 1.4 α/β=<MDA				
	5/5						
260.0			PID = 0.3 α/β=<MDA				

BOREHOLE LOG
SWMU 21-016(a)-99 RFI Characterization

BOREHOLE ID: 21-25263 (BH-02)	Technical Area (TA): 21-016(a)-99 (MDA-T)		Page 14 of 18
DRILLING COMPANY: Spectrum Exploration	START DATE/TIME: 04/04/2006:1045	FINISH DATE/TIME: 04/06/2006:1735	
DRILLING EQUIPMENT/METHOD: CME-85 Hollow Stem Auger, 4.25" ID, 9" Diameter Bit			
SAMPLING EQUIPMENT/METHOD: 3" Split Barrel Sampler (5.0' length)			
GROUND ELEVATION: 7134.8'	α/β DAILY BACKGROUND READINGS:	TOTAL DEPTH: 354.0'	
DRILLER: Steven Tanuz		GEOLOGIST: S. White	

03/14/2006: 11 dpm and 1521 dpm (α and β)
03/15/2006: 10 dpm and 1438 dpm (α and β)
03/16/2006: 10 dpm and 1448 dpm (α and β)
03/17/2006: ?? dpm and ?? dpm (α and β)
03/21/2006: 29 dpm and 1974 dpm (α and β)
03/23/2006: 10 dpm and 1331 dpm (α and β)
03/24/2006: 23 dpm and 1877 dpm (α and β)
03/27/2006: 31 dpm and 1154 dpm (α and β)
03/28/2006: 5 dpm and 1407 dpm (α and β)
03/29/2006: 21 dpm and 1378 dpm (α and β)
04/04/2006: 10 dpm and 1489 dpm (α and β)
04/05/2006: 15 dpm and 1401 dpm (α and β)
04/06/2006: 15 dpm and 1331 dpm (α and β)

Depth (ft bgs)	Recovery (ft)	Field Analytical Sample: Sample ID/Type	Field Screening Results	LITHOLOGY - DESCRIPTION	Graphic Log	Lithologic Symbol	ADDITIONAL COMMENTS
260.0	3.2/5		PID = 0.3 α/β=<MDA	*(260.0-280.0 ft)* UNIT 1g TSHIERGE MEMBER, BANDELIER TUFF: SAA. Tuff welding decreases and matrix is more ashy and lighter in color with depth; Pinkish grey (5YR 6/2).		Qbt 1g	
	NR	MD21-06-64081 (264 to 265' bgs) Moisture	PID = 1.4 α/β=<MDA				
265.0	3.2/5						
		MD21-06-63941 (269 to 270' bgs) Gen. Investigation	PID = 1.0 α/β=<MDA				
270.0	3.0/5						
			PID = 2.0 α/β=<MDA				
275.0	5/5						
			PID = 0.0 α/β=<MDA				
280.0							

BOREHOLE LOG
SWMU 21-016(a)-99 RFI Characterization

BOREHOLE ID: 21-25263 (BH-02)	Technical Area (TA): 21-016(a)-99 (MDA-T)		Page 15 of 18
DRILLING COMPANY: Spectrum Exploration	START DATE/TIME: 04/05/2006:0840	FINISH DATE/TIME: 04/06/2006:1735	
DRILLING EQUIPMENT/METHOD: CME-85 Hollow Stem Auger, 4.25" ID, 9" Diameter Bit			
SAMPLING EQUIPMENT/METHOD: 3" Split Barrel Sampler (5.0' length)			
GROUND ELEVATION: 7134.8'	α/β DAILY BACKGROUND READINGS:	TOTAL DEPTH: 354.0'	
DRILLER: Steven Tanuz		GEOLOGIST: S. White	

03/14/2006: 11 dpm and 1521 dpm (α and β)
03/15/2006: 10 dpm and 1438 dpm (α and β)
03/16/2006: 10 dpm and 1448 dpm (α and β)
03/17/2006: ?? dpm and ?? dpm (α and β)
03/21/2006: 29 dpm and 1974 dpm (α and β)
03/23/2006: 10 dpm and 1331 dpm (α and β)
03/24/2006: 23 dpm and 1877 dpm (α and β)
03/27/2006: 31 dpm and 1154 dpm (α and β)
03/28/2006: 5 dpm and 1407 dpm (α and β)
03/29/2006: 21 dpm and 1378 dpm (α and β)
04/04/2006: 10 dpm and 1489 dpm (α and β)
04/05/2006: 15 dpm and 1401 dpm (α and β)
04/06/2006: 15 dpm and 1331 dpm (α and β)

Depth (ft bgs)	Recovery (ft)	Field Analytical Sample: Sample ID/Type	Field Screening Results	LITHOLOGY - DESCRIPTION	Graphic Log	Lithologic Symbol	ADDITIONAL COMMENTS
280.0	5/5		PID = 0.0 α/β=<MDA	*(280.0-300.0 ft)* UNIT 1g TSHIERGE MEMBER, BANDELIER TUFF: SAA. Tuff welding decreases and matrix is more ashy and lighter in color with depth; Pinkish grey (5YR 7/2).		Qbt 1g	
285.0	5/5	MD21-06-64082 (284 to 285' bgs) Moisture	PID = 0.3 α/β=<MDA				
290.0	5/5		PID = 0.1 α/β=<MDA				
295.0	5/5		PID = 0.2 α/β=<MDA				
300.0			PID = 0.3 α/β=<MDA				

BOREHOLE LOG
SWMU 21-016(a)-99 RFI Characterization

BOREHOLE ID: 21-25263 (BH-02)	Technical Area (TA): 21-016(a)-99 (MDA-T)		Page 16 of 18
DRILLING COMPANY: Spectrum Exploration	START DATE/TIME: 04/05/2006:1250	FINISH DATE/TIME: 04/06/2006:1735	
DRILLING EQUIPMENT/METHOD: CME-85 Hollow Stem Auger, 4.25" ID, 9" Diameter Bit			
SAMPLING EQUIPMENT/METHOD: 3" Split Barrel Sampler (5.0' length)			
GROUND ELEVATION: 7134.8'	α/β DAILY BACKGROUND READINGS:	TOTAL DEPTH: 354.0'	
DRILLER: Steven Tanuz		GEOLOGIST: S. White	

03/14/2006: 11 dpm and 1521 dpm (α and β)
03/15/2006: 10 dpm and 1438 dpm (α and β)
03/16/2006: 10 dpm and 1448 dpm (α and β)
03/17/2006: ?? dpm and ?? dpm (α and β)
03/21/2006: 29 dpm and 1974 dpm (α and β)
03/23/2006: 10 dpm and 1331 dpm (α and β)
03/24/2006: 23 dpm and 1877 dpm (α and β)
03/27/2006: 31 dpm and 1154 dpm (α and β)
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03/29/2006: 21 dpm and 1378 dpm (α and β)
04/04/2006: 10 dpm and 1489 dpm (α and β)
04/05/2006: 15 dpm and 1401 dpm (α and β)
04/06/2006: 15 dpm and 1331 dpm (α and β)

Depth (ft bgs)	Recovery (ft)	Field Analytical Sample: Sample ID/Type	Field Screening Results	LITHOLOGY - DESCRIPTION	Graphic Log	Lithologic Symbol	ADDITIONAL COMMENTS
300.0	5/5		PID = 0.3 α/β=<MDA	*(300.0-320.0 ft)* UNIT 1g TSHIERGE MEMBER, BANDELIER TUFF: SAA. Tuff welding decreases and matrix is more ashy and lighter in color with depth; Pinkish grey (5YR 7/2). Pumice content increases with depth. Pumice are softer than above, less fibrous, and light grey to white.		Qbt 1g	
305.0	5/5	MD21-06-64083 (304 to 305' bgs) Moisture	PID = 0.5 α/β=<MDA				
310.0	5/5		PID = 0.2 α/β=<MDA				
315.0	5/5		PID = 0.6 α/β=<MDA				
320.0	5/5		PID = 0.0 α/β=<MDA				

BOREHOLE LOG
SWMU 21-016(a)-99 RFI Characterization

BOREHOLE ID: 21-25263 (BH-02)	Technical Area (TA): 21-016(a)-99 (MDA-T)		Page 17 of 18
DRILLING COMPANY: Spectrum Exploration	START DATE/TIME: 04/06/2006:1105	FINISH DATE/TIME: 04/06/2006:1735	
DRILLING EQUIPMENT/METHOD: CME-85 Hollow Stem Auger, 4.25" ID, 9" Diameter Bit			
SAMPLING EQUIPMENT/METHOD: 3" Split Barrel Sampler (5.0' length)			
GROUND ELEVATION: 7134.8'	α/β DAILY BACKGROUND READINGS:	TOTAL DEPTH: 354.0'	
DRILLER: Steven Tanuz		GEOLOGIST: S. White	

03/14/2006: 11 dpm and 1521 dpm (α and β)
03/15/2006: 10 dpm and 1438 dpm (α and β)
03/16/2006: 10 dpm and 1448 dpm (α and β)
03/17/2006: ?? dpm and ?? dpm (α and β)
03/21/2006: 29 dpm and 1974 dpm (α and β)
03/23/2006: 10 dpm and 1331 dpm (α and β)
03/24/2006: 23 dpm and 1877 dpm (α and β)
03/27/2006: 31 dpm and 1154 dpm (α and β)
03/28/2006: 5 dpm and 1407 dpm (α and β)
03/29/2006: 21 dpm and 1378 dpm (α and β)
04/04/2006: 10 dpm and 1489 dpm (α and β)
04/05/2006: 15 dpm and 1401 dpm (α and β)
04/06/2006: 15 dpm and 1331 dpm (α and β)

Depth (ft bgs)	Recovery (ft)	Field Analytical Sample: Sample ID/Type	Field Screening Results	LITHOLOGY - DESCRIPTION	Graphic Log	Lithologic Symbol	ADDITIONAL COMMENTS
320.0	5/5		PID = 0.0 α/β=<MDA	UNIT 1g TSHIERGE MEMBER, BANDELIER TUFF: *(320.0-330.0 ft)* SAA. Tuff welding decreases and matrix is more ashy and lighter in color with depth; Pinkish grey (5YR 7/2 to 5YR 7/1). Pumice content increases with depth. Pumice are softer than above, less fibrous, and light grey to white.		Qbt 1g	
325.0	5/5	MD21-06-64084 *(324 to 325' bgs)* ***Moisture***	PID = 0.2 α/β=<MDA				
			PID = 0.1 α/β=<MDA				Qbt1g / Qbtt contact: 330.0' bgs.
330.0	5/5	MD21-06-63942 *(330 to 332' bgs)* ***Gen. Investigation***		TSANKAWI PUMICE BED, TSHIERGE MEMBER, BANDELIER TUFF: *(330.0-332.3 ft)* *Pumice fall.* Light grey (5YR, 7/1) granular unconsolidated pumice deposit. Pumice are variable in size up to 20 mm and hard. Trace sand.		Qbtt	Qct contact: 332.3' bgs.
				CERRO TOLEDO: *(332.3-340.0 ft)* *Sand.* Loose, slightly damp to dry, multi-colored brown to grey (5YR 4/4, 5YR 6/4, 5YR 6/1) fine to coarse grained sand with trace silt and fine gravel. Trace angular pumice gravel (2-10 mm).		Qct	
335.0	5/5	MD21-06-64155 *(336 to 337' bgs)* ***Geotechnical*** *Plus* ***Chloride***	PID = 0.0 α/β=<MDA				
340.0			PID = 0.0 α/β=<MDA				

BOREHOLE LOG
SWMU 21-016(a)-99 RFI Characterization

BOREHOLE ID: 21-25263 (BH-02)	Technical Area (TA): 21-016(a)-99 (MDA-T)		Page 18 of 18
DRILLING COMPANY: Spectrum Exploration	START DATE/TIME: 04/06/2006:1540	FINISH DATE/TIME: 04/06/2006:1735	
DRILLING EQUIPMENT/METHOD: CME-85 Hollow Stem Auger, 4.25" ID, 9" Diameter Bit			
SAMPLING EQUIPMENT/METHOD: 3" Split Barrel Sampler (5.0' length)			
GROUND ELEVATION: 7134.8'	α/β DAILY BACKGROUND READINGS:	TOTAL DEPTH: 354.0'	
DRILLER: Steven Tanuz		GEOLOGIST: S. White	

03/14/2006: 11 dpm and 1521 dpm (α and β)
03/15/2006: 10 dpm and 1438 dpm (α and β)
03/16/2006: 10 dpm and 1448 dpm (α and β)
03/17/2006: ?? dpm and ?? dpm (α and β)
03/21/2006: 29 dpm and 1974 dpm (α and β)
03/23/2006: 10 dpm and 1331 dpm (α and β)
03/24/2006: 23 dpm and 1877 dpm (α and β)
03/27/2006: 31 dpm and 1154 dpm (α and β)
03/28/2006: 5 dpm and 1407 dpm (α and β)
03/29/2006: 21 dpm and 1378 dpm (α and β)
04/04/2006: 10 dpm and 1489 dpm (α and β)
04/05/2006: 15 dpm and 1401 dpm (α and β)
04/06/2006: 15 dpm and 1331 dpm (α and β)

Depth (ft bgs)	Recovery (ft)	Field Analytical Sample: Sample ID/Type	Field Screening Results	LITHOLOGY - DESCRIPTION	Graphic Log	Lithologic Symbol	ADDITIONAL COMMENTS
340.0	5/5	MD21-06-63943 (340 to 342' bgs) Gen. Investigation	PID = 0.0 α/β=<MDA	CERRO TOLEDO: (340.0-350.7 ft) *SAA* *Sand.* Grey (7.5YR 6/1), fine to medium grained with trace coarse sand, silt, and gravel. Slightly damp and compact. Sedimentary bedding evident throughout.		Qct	
345.0	5/5	MD21-06-64085 (344 to 345' bgs) Moisture	PID = 0.02 α/β=<MDA				
350.0	5/5	MD21-06-63944 (351 to 354' bgs) Gen. Investigation AND MD21-06-63944 (351 to 354' bgs) Field Duplicate	PID = 0.0 α/β=<MDA	OTOWI MEMBER, BANDELIER TUFF: (350.7-354.0 ft) *Nonwelded Pumaceous Tuff* Light reddish orange (2.5YR 6/6). 5-10% quartz, 5% plagioclase, 10-15% phenocrysts. Pumice are fibrous. Slightly damp.		Qbo	Qct / Qbo contact: 350.7' bgs. Borehole TD
355.0							
360.0							

BOREHOLE LOG
SWMU 21-016(a)-99 RFI Characterization

BOREHOLE ID: 21-25264 (BH-03)	Technical Area (TA): 21-016(a)-99 (MDA-T)		Page 1 of 18
DRILLING COMPANY: Spectrum Exploration	START DATE/TIME: 01/20/2006:1300	FINISH DATE/TIME: 02/2/2006:1450	
DRILLING EQUIPMENT/METHOD: CME-85 HSA, 4.25" ID, 9" Diameter Bit			
SAMPLING EQUIPMENT/METHOD: 3" Split-Barrel Sampler (5.0' length)			
GROUND ELEVATION: 7125.8'	α/β DAILY BACKGROUND READINGS:	01/20/2006: 46.5 dpm and 2700 dpm (α and β) 01/24/2006: 41.6 dpm and 1699 dpm (α and β) 01/26/2006: 53.4 dpm and 1774 dpm (α and β) 01/27/2006: 23.7 dpm and 1654 dpm (α and β) 01/30/2006: 41.3 dpm and 1634 dpm (α and β) 01/31/2006: 23.0 dpm and 1541 dpm (α and β) 02/01/2006: 23.0 dpm and 1621 dpm (α and β) 02/02/2006: 15.8 dpm and 1454 dpm (α and β)	TOTAL DEPTH: 354.0'
DRILLER: Steven Tanuz			GEOLOGIST: S. White

Depth (ft bgs)	Recovery (ft)	Field Analytical Sample: Sample ID/Type	Field Screening Results	LITHOLOGY - DESCRIPTION	Graphic Log	Lithologic Symbol	ADDITIONAL COMMENTS
0.0	3/4	MD21-06-64159 (0.0 to 1.0' bgs) Geotechnical	PID = 0.0 α/β=<MDA	SILT FILL: (0.0-1.1 ft) Dark brown (7.5YR 3/4) with trace fine to coarse sand, clay, subrounded gravel, and organics (grass and roots). Fill is damp and soft.		FILL	(First run (0-4 ft) drilled with lexan tubing.) Fill/tuff contact at 1.1' bgs.
		MD21-06-64099 (3.0 to 4.0' bgs) Moisture		UNIT 3 TSHIERGE MEMBER, BANDELIER TUFF: *Poorly welded crystalline tuff.* (1.1-9.0 ft) Pinkish grey (5YR, 6/2) with 10% qtz and 5% plagioclase phenocrysts and 15% pumice clasts, 5-15 mm. Pumices are soft. Tuff is slightly damp to dry.		Qbt3	
	NR		PID = 0.0 α/β=<MDA				
5.0	5/5						Set 12 in diameter surface casing 0-6 ft
		MD21-06-64100 (8.0 to 9.0' bgs) Moisture					
		MD21-06-64101 (9.0 to 10.0' bgs) Moisture	PID = 1.0 α/β=<MDA	*9.0-20.0' bgs*: 15-20% qtz and 5-10% plagioclase phenocrysts and 10-15% pumice clasts. Phenocrysts are fine to coarse-grained. Pumice are soft and light grey.			
10.0	2.7/5						
	NR						
		MD21-06-64102 (14.0 to 15.0' bgs) Moisture	PID = 0.2 α/β=<MDA				
15.0	3.7/5			*15.5-17.7' bgs*: Tuff is not welded.			
	NR						
20.0	3.8/5	MD21-06-64103 (19.0 to 20.0' bgs) Moisture	PID = 0.9 α/β=<MDA				

BOREHOLE LOG
SWMU 21-016(a)-99 RFI Characterization

BOREHOLE ID: 21-25264 (BH-03)	Technical Area (TA): 21-016(a)-99 (MDA-T)		Page 2 of 18
DRILLING COMPANY: Spectrum Exploration	START DATE/TIME: 01/24/2006:1040	FINISH DATE/TIME: 02/02/2006:1450	
DRILLING EQUIPMENT/METHOD: CME-85 HSA, 4.25" ID, 9" Diameter Bit			
SAMPLING EQUIPMENT/METHOD: 3" Split-Barrel Sampler (5.0' length)			
GROUND ELEVATION: 7125.8'	α/β DAILY BACKGROUND READINGS:	01/20/2006: 46.5 dpm and 2700 dpm (α and β) 01/24/2006: 41.6 dpm and 1699 dpm (α and β) 01/26/2006: 53.4 dpm and 1774 dpm (α and β) 01/27/2006: 23.7 dpm and 1654 dpm (α and β) 01/30/2006: 41.3 dpm and 1634 dpm (α and β) 01/31/2006: 23.0 dpm and 1541 dpm (α and β) 02/01/2006: 23.0 dpm and 1621 dpm (α and β) 02/02/2006: 15.8 dpm and 1454 dpm (α and β)	TOTAL DEPTH: 354.0'
DRILLER: Steven Tanuz			GEOLOGIST: S. White

Depth (ft bgs)	Recovery (ft)	Field Analytical Sample: Sample ID/Type	Field Screening Results	LITHOLOGY - DESCRIPTION	Graphic Log	Lithologic Symbol	ADDITIONAL COMMENTS
20.0	3.8/5		PID = 0.9 α/β=<MDA	UNIT 3 TSHIERGE MEMBER, BANDELIER TUFF: *Same As Above (SAA)* *(20.0-29.0 ft)* *Poorly welded crystalline tuff.* *Downsection:* *22.0-22.8' bgs*: Thin, light brown (7.5YR6/3) layers in ash matrix		Qbt3	
	NR						
25.0	4/5	MD21-06-64104 (24.0 to 25.0' bgs) Moisture	PID = 0.4 α/β=<MDA	*24.0-38.5' bgs*: Light brown ash layers throughout section.			
	NR						
30.0	5/5	MD21-06-64105 (29.0 to 30.0' bgs) Moisture MD21-06-63973 (30.0 to 31.5' bgs) Fracture	PID = 0.3 α/β=<MDA	*30.4-31.0 bgs*: Presence of a small fracture area, ~ 75-80 degrees, aperture 1-3 mm with trace clay fill.			Paired fracture not collected because of poor recovery.
35.0	4.5/5	MD21-06-64106 (34.0 to 35.0' bgs) Moisture	PID = 0.9 α/β=<MDA				
	NR						
40.0	5/5	MD21-06-64107 (39.0 to 40.0' bgs) Moisture	PID = 0.4 α/β=<MDA	*39.0-40.0' bgs*: Tuff is less welded than above.			

BOREHOLE LOG
SWMU 21-016(a)-99 RFI Characterization

BOREHOLE ID: 21-25264 (BH-03)	Technical Area (TA): 21-016(a)-99 (MDA-T)		Page 3 of 18
DRILLING COMPANY: Spectrum Exploration	START DATE/TIME: 01/24/2006:1215	FINISH DATE/TIME: 2/2/2006:1450	
DRILLING EQUIPMENT/METHOD: CME-85 HSA, 4.25" ID, 9" Diameter Bit			
SAMPLING EQUIPMENT/METHOD: 3" Split-Barrel Sampler (5.0' length)			
GROUND ELEVATION: 7125.8'	α/β DAILY BACKGROUND READINGS:	01/20/2006: 46.5 dpm and 2700 dpm (α and β) 01/24/2006: 41.6 dpm and 1699 dpm (α and β) 01/26/2006: 53.4 dpm and 1774 dpm (α and β) 01/27/2006: 23.7 dpm and 1654 dpm (α and β) 01/30/2006: 41.3 dpm and 1634 dpm (α and β) 01/31/2006: 23.0 dpm and 1541 dpm (α and β) 02/01/2006: 23.0 dpm and 1621 dpm (α and β) 02/02/2006: 15.8 dpm and 1454 dpm (α and β)	TOTAL DEPTH: 354.0'
DRILLER: Steven Tanuz			GEOLOGIST: S. White

Depth (ft bgs)	Recovery (ft)	Field Analytical Sample: Sample ID/Type	Field Screening Results	LITHOLOGY - DESCRIPTION	Graphic Log	Lithologic Symbol	ADDITIONAL COMMENTS
40.0	5/5		PID = 0.4 α/β=<MDA	UNIT 3 TSHIERGE MEMBER, BANDELIER TUFF: *SAA* *(40.0-49.0 ft)* *Poorly to non welded crystalline tuff.*		Qbt3	
		MD21-06-64108 (44.0 to 45.0' bgs) Moisture	α/β=<MDA				
45.0	3.2/5						
	NR						
		MD21-06-64109 (49.0 to 50.0' bgs) Moisture	PID = 0.1 α/β=<MDA	*49.0-60.0' bgs*: Tuff light grey (5YR 7/1) with 10-15% qtz and 5% plagioclase phenocrysts. Phenocrysts finer than above sections. Light to dark grey soft pumice (10-20%, 2-20 mm). Pumice are fibrous. Light brown ash bands still present but only trace amounts in matrix. Degree of welding continues to decrease with depth.			
50.0	5/5						
		MD21-06-64110 (54.0 to 55.0' bgs) Moisture	PID = 0.7 α/β=<MDA				
55.0	3.9/5						
	NR						
	4.5/5	MD21-06-64111 (59.0 to 60.0' bgs) Moisture	PID = 0.4 α/β=<MDA				
60.0							

BOREHOLE LOG
SWMU 21-016(a)-99 RFI Characterization

BOREHOLE ID: 21-25264 (BH-03)	Technical Area (TA): 21-016(a)-99 (MDA-T)		Page 4 of 18
DRILLING COMPANY: Spectrum Exploration	START DATE/TIME: 01/24/2006:1500	FINISH DATE/TIME: 02/2/2006:1450	
DRILLING EQUIPMENT/METHOD: CME-85 HSA, 4.25" ID, 9" Diameter Bit			
SAMPLING EQUIPMENT/METHOD: 3" Split-Barrel Sampler (5.0' length)			
GROUND ELEVATION: 7125.8'	α/β DAILY BACKGROUND READINGS:	01/20/2006: 46.5 dpm and 2700 dpm (α and β) 01/24/2006: 41.6 dpm and 1699 dpm (α and β) 01/26/2006: 53.4 dpm and 1774 dpm (α and β) 01/27/2006: 23.7 dpm and 1654 dpm (α and β) 01/30/2006: 41.3 dpm and 1634 dpm (α and β) 01/31/2006: 23.0 dpm and 1541 dpm (α and β) 02/01/2006: 23.0 dpm and 1621 dpm (α and β) 02/02/2006: 15.8 dpm and 1454 dpm (α and β)	TOTAL DEPTH: 354.0'
DRILLER: Steven Tanuz			GEOLOGIST: S. White

Depth (ft bgs)	Recovery (ft)	Field Analytical Sample: Sample ID/Type	Field Screening Results	LITHOLOGY - DESCRIPTION	Graphic Log	Lithologic Symbol	ADDITIONAL COMMENTS
60.0	4.5/5	**MD21-06-63974** (60.0 to 63.0' bgs) *Gen. Investigation* AND **MD21-06-63991** (60.0 to 63.0' bgs) *Field Duplicate*	PID= 0.4 α/β=<MDA	UNIT 3 TSHIERGE MEMBER, BANDELIER TUFF: *SAA* *(60.0-64.0 ft)* *Poorly to nonwelded crystalline tuff.*		Qbt3	Sampled inferred base of shafts
	NR	**MD21-06-64112** (64.0 to 65.0' bgs) *Moisture*	PID= 0.2 α/β=<MDA	*Non welded crystalline tuff.* *(64.0-80.0 ft)*			
65.0	5/5						
70.0	5/5	**MD21-06-64113** (69.0 to 70.0' bgs) *Moisture* AND **MD21-06-63991** (69.0 to 71.0' bgs) *Pore Gas*	PID= 0.1 α/β=<MDA				
75.0	2.5/5	**MD21-06-64114** (74.0 to 75.0' bgs) *Moisture*	PID=0.0 α/β=<MDA				Run #16 (74-79') drilled with lexan tubing for geotechnical sample
	NR	**MD21-06-64160** (75.5 to 76.5' bgs) *Geotechnical Plus Chloride*					
80.0	5/5	**MD21-06-64115** (79.0 to 80.0' bgs) *Moisture*	PID= 0.1 α/β=<MDA				

BOREHOLE LOG
SWMU 21-016(a)-99 RFI Characterization

BOREHOLE ID: 21-25264 (BH-03)	Technical Area (TA): 21-016(a)-99 (MDA-T)		Page 5 of 18
DRILLING COMPANY: Spectrum Exploration	START DATE/TIME: 01/24/2006:1615	FINISH DATE/TIME: 02/2/2006:1450	
DRILLING EQUIPMENT/METHOD: CME-85 HSA, 4.25" ID, 9" Diameter Bit			
SAMPLING EQUIPMENT/METHOD: 3" Split-Barrel Sampler (5.0' length)			
GROUND ELEVATION: 7125.8'	α/β DAILY BACKGROUND READINGS:	TOTAL DEPTH: 354.0'	
DRILLER: Steven Tanuz		GEOLOGIST: S. White	

α/β DAILY BACKGROUND READINGS:
01/20/2006: 46.5 dpm and 2700 dpm (α and β)
01/24/2006: 41.6 dpm and 1699 dpm (α and β)
01/26/2006: 53.4 dpm and 1774 dpm (α and β)
01/27/2006: 23.7 dpm and 1654 dpm (α and β)
01/30/2006: 41.3 dpm and 1634 dpm (α and β)
01/31/2006: 23.0 dpm and 1541 dpm (α and β)
02/01/2006: 23.0 dpm and 1621 dpm (α and β)
02/02/2006: 15.8 dpm and 1454 dpm (α and β)

Depth (ft bgs)	Recovery (ft)	Field Analytical Sample: Sample ID/Type	Field Screening Results	LITHOLOGY - DESCRIPTION	Graphic Log	Lithologic Symbol	ADDITIONAL COMMENTS
80.0	5/5		PID=0.1 α/β=<MDA	UNIT 3 TSHIERGE MEMBER, BANDELIER TUFF: *Non welded crystalline ash flow tuff.* *(80.0-89.0 ft)* Degree of welding increasees with depth and is poorly welded at 89.0'.		Qbt3	
85.0	5/5	MD21-06-64116 (84.0 to 85.0' bgs) Moisture	PID=0.0 α/β=<MDA				
90.0	5/5	MD21-06-64117 (89.0 to 90.0' bgs) Moisture	PID=0.0 α/β=<MDA	*Partly welded crystalline ash flow tuff.* *(89.0-95.0 ft)* Phenocrysts are slightly coarser and pumice slightly darker grey. All other attributes SAA.			
95.0	4.2/5		PID= 0.0 α/β=<MDA	UNIT 2 TSHIERGE MEMBER, BANDELIER TUFF: *Densly welded crystalline ash flow tuff.* *(95.0-100.0 ft)* Pale red (2.5YR 6/2) with 10-15% qtz and 5-10% plagioclase phenocrysts and 10% pumice. Phenocrysts are coarse and granular; pumice clasts are moderately hard and grey (5YR 6/1). Tuff is slightly damp to dry and mostly pulverized due to drilling.		Qbt2	Qbt3 / Qbt2 contact at 95.0' bgs. Drilled Run #20 (94-99') on 01/25/06 but logged core on 01/26/06 due to snow. No sample was collected due to the 24-hr layover.
100.0	NR 1.7/5		PID=0.0 α/β=<MDA				

BOREHOLE LOG
SWMU 21-016(a)-99 RFI Characterization

BOREHOLE ID: 21-25264 (BH-03)	Technical Area (TA): 21-016(a)-99 (MDA-T)		Page 6 of 18
DRILLING COMPANY: Spectrum Exploration	START DATE/TIME: 01/26/2006:1210	FINISH DATE/TIME: 02/02/2006:1450	
DRILLING EQUIPMENT/METHOD: CME-85 HSA 4.25" ID, 9" Diameter Bit			
SAMPLING EQUIPMENT/METHOD: 3" Split-Barrel Sampler (5.0' length)			
GROUND ELEVATION: 7125.8'	α/β DAILY BACKGROUND READINGS:	01/20/2006: 46.5 dpm and 2700 dpm (α and β) 01/24/2006: 41.6 dpm and 1699 dpm (α and β) 01/26/2006: 53.4 dpm and 1774 dpm (α and β) 01/27/2006: 23.7 dpm and 1654 dpm (α and β) 01/30/2006: 41.3 dpm and 1634 dpm (α and β) 01/31/2006: 23.0 dpm and 1541 dpm (α and β) 02/01/2006: 23.0 dpm and 1621 dpm (α and β) 02/02/2006: 15.8 dpm and 1454 dpm (α and β)	TOTAL DEPTH: 354.0'
DRILLER: Steven Tanuz			GEOLOGIST: S. White

Depth (ft bgs)	Recovery (ft)	Field Analytical Sample: Sample ID/Type	Field Screening Results	LITHOLOGY - DESCRIPTION	Graphic Log	Lithologic Symbol	ADDITIONAL COMMENTS
100.0	1.7/5		PID=0.1 α/β=<MDA	UNIT 2 TSHIERGE MEMBER, BANDELIER TUFF: *SAA* *(100.0-120.0 ft)* *Densly welded crystalline ash flow tuff.* Tuff mostly rock flour due to drilling pulverization. Core recovery very poor.		Qbt2	
	NR						
	2.6/5	**MD21-06-64118** *(104.0 to 105.0' bgs)* ***Moisture***	PID=0.2 α/β=<MDA	*104.0-114.0' bgs:* Phenocrysts are very coarse sand size. Pumice clasts are crystalline and hard.			
105.0	NR						
	0.8/5		PID=1.3 α/β=<MDA				
110.0	NR						
	3.3/5	**MD21-06-63975** *(114.0 to 117.0' bgs)* ***Gen. Investigation*** *AND* **MD21-06-63992** *(114.0 to 117.0' bgs)* ***Field Duplicate***	PID= 0.7 α/β=<MDA	*114.0-117.3' bgs:* Phenocrysts smaller than above.			Sampled top of Qbt2.
115.0	NR						
	2.6/5		PID=0.3 α/β=<MDA				
120.0							

BOREHOLE LOG
SWMU 21-016(a)-99 RFI Characterization

BOREHOLE ID: 21-25264 (BH-03)	Technical Area (TA): 21-016(a)-99 (MDA-T)		Page 7 of 18
DRILLING COMPANY: Spectrum Exploration	START DATE/TIME: 01/26/2006:1605	FINISH DATE/TIME: 02/02/2006:1450	
DRILLING EQUIPMENT/METHOD: CME-85 HSA, 4.25" ID, 9" Diameter Bit			
SAMPLING EQUIPMENT/METHOD: 3" Split-Barrel Sampler (5.0' length)			
GROUND ELEVATION: 7125.8'	α/β DAILY BACKGROUND READINGS:	01/20/2006: 46.5 dpm and 2700 dpm (α and β) 01/24/2006: 41.6 dpm and 1699 dpm (α and β) 01/26/2006: 53.4 dpm and 1774 dpm (α and β) 01/27/2006: 23.7 dpm and 1654 dpm (α and β) 01/30/2006: 41.3 dpm and 1634 dpm (α and β) 01/31/2006: 23.0 dpm and 1541 dpm (α and β) 02/01/2006: 23.0 dpm and 1621 dpm (α and β) 02/02/2006: 15.8 dpm and 1454 dpm (α and β)	TOTAL DEPTH: 354.0'
DRILLER: Steven Tanuz			GEOLOGIST: S. White

Depth (ft bgs)	Recovery (ft)	Field Analytical Sample: Sample ID/Type	Field Screening Results	LITHOLOGY - DESCRIPTION	Graphic Log	Lithologic Symbol	ADDITIONAL COMMENTS
120.0	2.6/5		PID=0.3 α/β=<MDA	UNIT 2 TSHIERGE MEMBER, BANDELIER TUFF: *SAA* *(120.0-140.0 ft)* *Densly welded crystalline ash flow tuff.* Red grey (2.5YR 5/1) with 10-15% qtz and 5-10% plagioclase crystalline phenocrysts and 15% hard grey pumice, 5-15 mm. Tuff remains slightly damp to dry and densly welded.		Qbt2	
	NR						
		MD21-06-64119 (124.0 to 125.0' bgs) Moisture	PID=0.3 α/β=<MDA	*124.0-128.5' bgs*: Ash matrix slightly less red than intervals above.			
125.0	4.5/5						
	NR		PID= 0.0 α/β=<MDA	*129.0-139.0' bgs*: Ash matrix red (weak red, 2.5YR 5/2). Traces of iron staining (<1 mm spots). Overall pumice size increases to >40 mm.			
130.0	5/5						
			PID=0.1 α/β=<MDA				
135.0	5/5						
	5/5		PID= 0.1 α/β=<MDA				
140.0							

BOREHOLE LOG
SWMU 21-016(a)-99 RFI Characterization

BOREHOLE ID: 21-25264 (BH-03)	Technical Area (TA): 21-016(a)-99 (MDA-T)		Page 8 of 18
DRILLING COMPANY: Spectrum Exploration	START DATE/TIME: 01/27/2006:1030	FINISH DATE/TIME: 02/02/2006:1450	
DRILLING EQUIPMENT/METHOD: CME-85 HSA, 4.25" ID, 9" Diameter Bit			
SAMPLING EQUIPMENT/METHOD: 3" Split-Barrel Sampler (5.0' length)			
GROUND ELEVATION: 7125.8'	α/β DAILY BACKGROUND READINGS:	01/20/2006: 46.5 dpm and 2700 dpm (α and β) 01/24/2006: 41.6 dpm and 1699 dpm (α and β) 01/26/2006: 53.4 dpm and 1774 dpm (α and β) 01/27/2006: 23.7 dpm and 1654 dpm (α and β) 01/30/2006: 41.3 dpm and 1634 dpm (α and β) 01/31/2006: 23.0 dpm and 1541 dpm (α and β) 02/01/2006: 23.0 dpm and 1621 dpm (α and β) 02/02/2006: 15.8 dpm and 1454 dpm (α and β)	TOTAL DEPTH: 354.0'
DRILLER: Steven Tanuz			GEOLOGIST: S. White

Depth (ft bgs)	Recovery (ft)	Field Analytical Sample: Sample ID/Type	Field Screening Results	LITHOLOGY - DESCRIPTION	Graphic Log	Lithologic Symbol	ADDITIONAL COMMENTS
140.0	5/5		PID=0.1 α/β=<MDA	UNIT 2 TSHIERGE MEMBER, BANDELIER TUFF: *SAA* *(140.0-154.0 ft)* *Densly to moderately welded crystalline tuff.* Average pumice clast size range is 5-20 mm. Degree of welding decreases with depth.		Qbt2	Degree of welding: decreasing
		MD21-06-64120 (144.0 to 145.0' bgs) Moisture	PID=0.0 α/β=<MDA	*144.0-149.0' bgs*: Ash matrix increasingly more red (Pale red:10R 6/2).			
145.0	5/5						
		MD21-06-63976 (149.0 to 150.5' bgs) Paired Fracture	PID=0.0 α/β=<MDA				
150.0	5/5	MD21-06-63977 (152.5 to 154.0 bgs) Fracture AND MD21-06-64225 (152.0 to 154.0 bgs) Pore Gas		*153.1-153.8 bgs*: Small, mostly open fracture, ~ 70-75 degrees, aperture 2-4 mm, trace clay fill.			
			PID=0.1 α/β=<MDA	*Partly welded crystalline ash flow tuff.* *(154.0-160.0 ft)* Weak red (10R 5/3) with 10-15% qtz and 5-10% plagioclase phenocrysts and 15-20% pumice. Phenocrysts are coarse and granular; pumice clasts are soft, 2-20 mm. Slightly damp to dry.			
155.0	5/5						
	1.3/5	MD21-06-64161 (159.0 to 160.0' bgs) Geotechnical	PID=0.2 α/β=<MDA				Run #33 (159-164') drilled with lexan tubing for geotechnical sample.
160.0							

BOREHOLE LOG
SWMU 21-016(a)-99 RFI Characterization

BOREHOLE ID: 21-25264 (BH-03)	Technical Area (TA): 21-016(a)-99 (MDA-T)		Page 9 of 18
DRILLING COMPANY: Spectrum Exploration	START DATE/TIME: 01/27/2006:1345	FINISH DATE/TIME: 02/02/2006:1450	
DRILLING EQUIPMENT/METHOD: CME-85 HSA, 4.25" ID, 9" Diameter Bit			
SAMPLING EQUIPMENT/METHOD: 3" Split-Barrel Sampler (5.0' length)			
GROUND ELEVATION: 7125.8'	α/β DAILY BACKGROUND READINGS:	01/20/2006: 46.5 dpm and 2700 dpm (α and β) 01/24/2006: 41.6 dpm and 1699 dpm (α and β) 01/26/2006: 53.4 dpm and 1774 dpm (α and β) 01/27/2006: 23.7 dpm and 1654 dpm (α and β) 01/30/2006: 41.3 dpm and 1634 dpm (α and β) 01/31/2006: 23.0 dpm and 1541 dpm (α and β) 02/01/2006: 23.0 dpm and 1621 dpm (α and β) 02/02/2006: 15.8 dpm and 1454 dpm (α and β)	TOTAL DEPTH: 354.0'
DRILLER: Steven Tanuz			GEOLOGIST: S. White

Depth (ft bgs)	Recovery (ft)	Field Analytical Sample: Sample ID/Type	Field Screening Results	LITHOLOGY - DESCRIPTION	Graphic Log	Lithologic Symbol	ADDITIONAL COMMENTS
160.0	1.3/5		PID=0.2 α/β=<MDA	UNIT 2 TSHIERGE MEMBER, BANDELIER TUFF: *SAA* *(160.0-175.5 ft)* *Partly welded crystalline tuff.*		Qbt2	Degree of welding: decreasing
	NR						
		MD21-06-64121 (164.0 to 165.0' bgs) Moisture	PID=0.3 α/β=<MDA				
165.0	5/5						
			PID=0.1 α/β=<MDA	*169.0-174.0' bgs*: Ash matrix color increasingly lighter (weak red:2.5YR 5/2).			
170.0	5/5			*173.0'-175.5 bgs*: Tuff starts gradational transition to Qbt1v (inferred base of Qbt2, top of Qbt1v)			Qbt2 / Qbt1v transition: 173.0 -175.5'.
			PID=0.1 α/β=<MDA				
175.0	5/5			UNIT 1v TSHIERGE MEMBER, BANDELIER TUFF: *Non welded crystalline ash flow tuff.* *(175.5-180.0 ft)* Pale red (2.5R 6/2) with 10-15% qtz and 5-10% plagioclase phenocrysts and 15-20% pumice. Phenocrysts are crystalline and fine grained; pumice clasts are light to dark grey, soft, 2-20 mm, fibrous to non fibrous. Trace iron-staining is evident. Tuff is slightly damp to dry.		Qbt 1v	Top of Qbt1v at 175.5' bgs.
	5/5		PID=0.0 α/β=<MDA				
180.0							

BOREHOLE LOG
SWMU 21-016(a)-99 RFI Characterization

BOREHOLE ID: 21-25264 (BH-03)	Technical Area (TA): 21-016(a)-99 (MDA-T)		Page 10 of 18
DRILLING COMPANY: Spectrum Exploration	START DATE/TIME: 01/30/2006:0925	FINISH DATE/TIME: 02/022006:1450	
DRILLING EQUIPMENT/METHOD: CME-85 HSA, 4.25" ID, 9" Diameter Bit			
SAMPLING EQUIPMENT/METHOD: 3" Split-Barrel Sampler (5.0' length)			
GROUND ELEVATION: 7125.8'	α/β DAILY BACKGROUND READINGS:	01/20/2006: 46.5 dpm and 2700 dpm (α and β) 01/24/2006: 41.6 dpm and 1699 dpm (α and β) 01/26/2006: 53.4 dpm and 1774 dpm (α and β) 01/27/2006: 23.7 dpm and 1654 dpm (α and β) 01/30/2006: 41.3 dpm and 1634 dpm (α and β) 01/31/2006: 23.0 dpm and 1541 dpm (α and β) 02/01/2006: 23.0 dpm and 1621 dpm (α and β) 02/02/2006: 15.8 dpm and 1454 dpm (α and β)	TOTAL DEPTH: 354.0'
DRILLER: Steven Tanuz			GEOLOGIST: S. White

Depth (ft bgs)	Recovery (ft)	Field Analytical Sample: Sample ID/Type	Field Screening Results	LITHOLOGY - DESCRIPTION	Graphic Log	Lithologic Symbol	ADDITIONAL COMMENTS
180.0	5/5		PID= 0.0 α/β=<MDA	UNIT 1v TSHIERGE MEMBER, BANDELIER TUFF: *SAA* *(180.0-200.0 ft)* *Non welded crystalline ash flow tuff.* Pumice content has increased to 20-25% and tuff color change to a pink grey (5YR 7/2).		Qbt 1v	
185.0	5/5	**MD21-06-64122** *(184.0 to 185.0' bgs)* ***Moisture***	PID= 0.0 α/β=<MDA				
190.0	5/5		PID= 0.0 α/β=<MDA				
195.0	5/5	**MD21-06-63978** *(196.0 to 199.0' bgs)* ***Gen. Investigation*** *AND* **MD21-06-63993** *(196.0 to 199.0' bgs)* ***Field Duplicate***	PID= 0.0 α/β=<MDA	*194.0-199.0' bgs*: Pumice content is 20-25% and clast size is variable (2-80+mm). Pumice are grey to purple grey and fibrous.			
200.0	5/5		PID= 0.0 α/β=<MDA				

BOREHOLE LOG
SWMU 21-016(a)-99 RFI Characterization

BOREHOLE ID: 21-25264 (BH-03)	Technical Area (TA): 21-016(a)-99 (MDA-T)		Page 11 of 18
DRILLING COMPANY: Spectrum Exploration	START DATE/TIME: 01/30/2006:1145	FINISH DATE/TIME: 02/02/2006:1450	
DRILLING EQUIPMENT/METHOD: CME-85 HSA, 4.25" ID, 9" Diameter Bit			
SAMPLING EQUIPMENT/METHOD: 3" Split-Barrel Sampler (5.0' length)			
GROUND ELEVATION: 7125.8'	α/β DAILY BACKGROUND READINGS:	01/20/2006: 46.5 dpm and 2700 dpm (α and β) 01/24/2006: 41.6 dpm and 1699 dpm (α and β) 01/26/2006: 53.4 dpm and 1774 dpm (α and β) 01/27/2006: 23.7 dpm and 1654 dpm (α and β) 01/30/2006: 41.3 dpm and 1634 dpm (α and β) 01/31/2006: 23.0 dpm and 1541 dpm (α and β) 02/01/2006: 23.0 dpm and 1621 dpm (α and β) 02/02/2006: 15.8 dpm and 1454 dpm (α and β)	TOTAL DEPTH: 354.0'
DRILLER: Steven Tanuz			GEOLOGIST: S. White

Depth (ft bgs)	Recovery (ft)	Field Analytical Sample: Sample ID/Type	Field Screening Results	LITHOLOGY - DESCRIPTION	Graphic Log	Lithologic Symbol	ADDITIONAL COMMENTS
200.0	5/5		PID= 0.0 α/β=<MDA	UNIT 1v TSHIERGE MEMBER, BANDELIER TUFF: *SAA* *(200.0-204.0 ft)* *Non welded crystalline tuff.* Color continues to grade lighter to an orange, red-brown (2.5YR 6/3). Degree of welding also increasing slightly with depth to poorly welded.		Qbt 1v	
205.0	5/5	MD21-06-64123 (204.0 to 205.0' bgs) Moisture	PID=0.0 α/β=<MDA	*Poorly welded crystalline tuff.* *(204.0-220.0 ft)* Light reddish brown (2.5R 6/4) with 10-15% qtz and plagioclase phenocrysts, trace sanidine, and 20-25% brown to purple grey pumice clasts. Pumice, 2-40 mm, are soft and fibrous. Tuff remains slightly damp to dry.			
210.0	5/5		PID=0.0 α/β=<MDA	*209.0-219.0' bgs*: Trace subrounded small (dominantly < 2mm, up to 15-20 mm) dacite clasts. Phenocrysts size increases with depth.			
215.0	5/5		PID=0.0 α/β=<MDA				
220.0	5/5		PID=0.0 α/β=<MDA	*219.0-220.0' bgs*: Tuff light red orange (2.5YR 6/6). Pumice are hard.			

BOREHOLE LOG
SWMU 21-016(a)-99 RFI Characterization

BOREHOLE ID: 21-25264 (BH-03)	Technical Area (TA): 21-016(a)-99 (MDA-T)		Page 12 of 18
DRILLING COMPANY: Spectrum Exploration	START DATE/TIME: 01/30/2006:1510	FINISH DATE/TIME: 00/02/2006:1450	
DRILLING EQUIPMENT/METHOD: CME-85 HSA, 4.25" ID, 9" Diameter Bit			
SAMPLING EQUIPMENT/METHOD: 3" Split-Barrel Sampler (5.0' length)			
GROUND ELEVATION: 7125.8'	α/β DAILY BACKGROUND READINGS:	01/20/2006: 46.5 dpm and 2700 dpm (α and β) 01/24/2006: 41.6 dpm and 1699 dpm (α and β) 01/26/2006: 53.4 dpm and 1774 dpm (α and β) 01/27/2006: 23.7 dpm and 1654 dpm (α and β) 01/30/2006: 41.3 dpm and 1634 dpm (α and β) 01/31/2006: 23.0 dpm and 1541 dpm (α and β) 02/01/2006: 23.0 dpm and 1621 dpm (α and β) 02/02/2006: 15.8 dpm and 1454 dpm (α and β)	TOTAL DEPTH: 354.0'
DRILLER: Steven Tanuz			GEOLOGIST: S. White

Depth (ft bgs)	Recovery (ft)	Field Analytical Sample: Sample ID/Type	Field Screening Results	LITHOLOGY - DESCRIPTION	Graphic Log	Lithologic Symbol	ADDITIONAL COMMENTS
220.0	5/5	MD21-06-64124 (224.0 to 225.0' bgs) Moisture AND MD21-06-64139 (224.0 to 225.0' bgs) Moisture FD AND MD21-06-64223 (224.0 to 226.0' bgs) Pore Gas	PID=0.0 α/β=<MDA	UNIT 1v TSHIERGE MEMBER, BANDELIER TUFF: *SAA* *(220.0-225.3 ft)* *Poorly welded crystalline tuff.*		Qbt 1v	
			PID=0.0 α/β=<MDA				
225.0	5/5			UNIT 1g TSHIERGE MEMBER, BANDELIER TUFF: *Pooly to nonwelded crystalline ash flow tuff.* *(225.3-229.0 ft)* Light reddish brown (2.5R 6/4) with 10-15% qtz and 5-10% plagioclase phenocrysts, trace sanidine, and 15-20% pumice clasts. Light grey pumice are 5-20 mm and moderately hard. Black glass shards also present. Tuff is slightly damp to dry.		Qbt 1g	Qbt1v / Qbt1g contact at 225.3' bgs. Degree of welding: decreasing
			PID=0.0 α/β=<MDA				
230.0	5/5			*232.0-234.0' bgs*: Tuff is nonwelded.			
			PID=0.2 α/β=<MDA				
235.0	5/5						
	3/5		PID=0.0 α/β=<MDA				
240.0							

BOREHOLE LOG
SWMU 21-016(a)-99 RFI Characterization

BOREHOLE ID: 21-25264 (BH-03)	Technical Area (TA): 21-016(a)-99 (MDA-T)		Page 13 of 18
DRILLING COMPANY: Spectrum Exploration	START DATE/TIME: 01/31/2006:0955	FINISH DATE/TIME: 00/02/2006:1450	
DRILLING EQUIPMENT/METHOD: CME-85 HSA, 4.25" ID, 9" Diameter Bit			
SAMPLING EQUIPMENT/METHOD: 3" Split-Barrel Sampler (5.0' length)			
GROUND ELEVATION: 7125.8'	α/β DAILY BACKGROUND READINGS:	01/20/2006: 46.5 dpm and 2700 dpm (α and β) 01/24/2006: 41.6 dpm and 1699 dpm (α and β) 01/26/2006: 53.4 dpm and 1774 dpm (α and β) 01/27/2006: 23.7 dpm and 1654 dpm (α and β) 01/30/2006: 41.3 dpm and 1634 dpm (α and β) 01/31/2006: 23.0 dpm and 1541 dpm (α and β) 02/01/2006: 23.0 dpm and 1621 dpm (α and β) 02/02/2006: 15.8 dpm and 1454 dpm (α and β)	TOTAL DEPTH: 354.0'
DRILLER: Steven Tanuz			GEOLOGIST: S. White

Depth (ft bgs)	Recovery (ft)	Field Analytical Sample: Sample ID/Type	Field Screening Results	LITHOLOGY - DESCRIPTION	Graphic Log	Lithologic Symbol	ADDITIONAL COMMENTS
240.0	3/5	MD21-06-64162 (241.0 to 242.0' bgs) Geotechnical	PID=0.0 α/β=<MDA	UNIT 1g TSHIERGE MEMBER, BANDELIER TUFF: *SAA* *(240.0-260.0 ft)* *Non welded crystalline ash flow tuff.* Pumice size and distribution variable (10-25%, 2-50 mm) throughout interval.		Qbt 1g	Run #49 (239-244') drilled with lexan tubing for geotechnical sample.
	NR						
		MD21-06-64125 (244.0 to 245.0' bgs) Moisture	PID=0.1 α/β=<MDA				
245.0	5/5						
			PID=0.1 α/β=<MDA				
250.0	3/5						
	NR						
			PID=0.3 α/β=<MDA				
255.0	5/5						
		MD21-06-63979 (257.0 to 259.0' bgs) Gen. Investigation					
	5/5		PID=0.4 α/β=<MDA				
260.0							

BOREHOLE LOG
SWMU 21-016(a)-99 RFI Characterization

BOREHOLE ID: 21-25264 (BH-03)	Technical Area (TA): 21-016(a)-99 (MDA-T)		Page 14 of 18
DRILLING COMPANY: Spectrum Exploration	START DATE/TIME: 01/31/2006:1405	FINISH DATE/TIME: 02/02/2006:1450	
DRILLING EQUIPMENT/METHOD: CME-85 HSA, 4.25" ID, 9" Diameter Bit			
SAMPLING EQUIPMENT/METHOD: 3" Split-Barrel Sampler (5.0' length)			
GROUND ELEVATION: 7125.8'	α/β DAILY BACKGROUND READINGS:	01/20/2006: 46.5 dpm and 2700 dpm (α and β) 01/24/2006: 41.6 dpm and 1699 dpm (α and β) 01/26/2006: 53.4 dpm and 1774 dpm (α and β) 01/27/2006: 23.7 dpm and 1654 dpm (α and β) 01/30/2006: 41.3 dpm and 1634 dpm (α and β) 01/31/2006: 23.0 dpm and 1541 dpm (α and β) 02/01/2006: 23.0 dpm and 1621 dpm (α and β) 02/02/2006: 15.8 dpm and 1454 dpm (α and β)	TOTAL DEPTH: 354.0'
DRILLER: Steven Tanuz			GEOLOGIST: S. White

Depth (ft)	Recovery (ft)	Field Analytical Sample: Sample ID/Type	Field Screening Results	LITHOLOGY - DESCRIPTION	Graphic Log	Lithologic Symbol	ADDITIONAL COMMENTS
260.0	5/5		PID= 0.4 α/β=<MDA	UNIT 1g TSHIERGE MEMBER, BANDELIER TUFF: *SAA* *(260.0-274.0 ft)* *Nonwelded crystalline tuff.*		Qbt 1g	
265.0	5/5	MD21-06-64126 (264.0 to 265.0' bgs) Moisture	PID= 0.4 α/β=<MDA				
270.0	5/5		PID= 0.2 α/β=<MDA				
				272.5-273.0' bgs: Presence of a small light red (2.5YR 7/6) layer in the ash matrix. Matrix is slightly lighter (2.5YR 7/4) below this layer.			
275.0	5/5		PID= 0.1 α/β=<MDA	*274.0-304.0' bgs*: Tuff; nonwelded. Pale red (2.5YR 7/2) with 10-15% qtz and 5-10% plagioclase phenocrysts and 10-15% light grey pumice. Phenocrysts are fine grained; pumice are 5-30 mm, fibrous, and softer than in above sections. Tuff is slightly damp to dry.			
280.0	5/5		PID= 0.1 α/β=<MDA				

BOREHOLE LOG
SWMU 21-016(a)-99 RFI Characterization

BOREHOLE ID: 21-25264 (BH-03)	Technical Area (TA): 21-016(a)-99 (MDA-T)		Page 15 of 18
DRILLING COMPANY: Spectrum Exploration	START DATE/TIME: 01/31/2006:1710	FINISH DATE/TIME: 02/02/2006:1450	
DRILLING EQUIPMENT/METHOD: CME-85 HSA, 4.25" ID, 9" Diameter Bit			
SAMPLING EQUIPMENT/METHOD: 3" Split-Barrel Sampler (5.0' length)			
GROUND ELEVATION: 7125.8'	α/β DAILY BACKGROUND READINGS:	01/20/2006: 46.5 dpm and 2700 dpm (α and β) 01/24/2006: 41.6 dpm and 1699 dpm (α and β) 01/26/2006: 53.4 dpm and 1774 dpm (α and β) 01/27/2006: 23.7 dpm and 1654 dpm (α and β) 01/30/2006: 41.3 dpm and 1634 dpm (α and β) 01/31/2006: 23.0 dpm and 1541 dpm (α and β) 02/01/2006: 23.0 dpm and 1621 dpm (α and β) 02/02/2006: 15.8 dpm and 1454 dpm (α and β)	TOTAL DEPTH: 354.0'
DRILLER: Steven Tanuz			GEOLOGIST: S. White

Depth (ft bgs)	Recovery (ft)	Field Analytical Sample: Sample ID/Type	Field Screening Results	LITHOLOGY - DESCRIPTION	Graphic Log	Lithologic Symbol	ADDITIONAL COMMENTS
280.0	5/5		PID=0.0 α/β=<MDA	UNIT 1g TSHIERGE MEMBER, BANDELIER TUFF: *SAA* *(280.0-304.0 ft)* *Non welded crystalline ash flow tuff.* Pumice are moderately hard to soft.		Qbt 1g	
285.0	5/5	**MD21-06-64127** *(284.0 to 285.0' bgs)* ***Moisture***	PID=0.2 α/β=<MDA				
290.0	5/5		PID=0.1 α/β=<MDA				
295.0	5/5		PID=0.1 α/β=<MDA				
300.0	5/5		PID=0.4 α/β=<MDA				

BOREHOLE LOG
SWMU 21-016(a)-99 RFI Characterization

BOREHOLE ID: 21-25264 (BH-03)	Technical Area (TA): 21-016(a)-99 (MDA-T)		Page 16 of 18
DRILLING COMPANY: Spectrum Exploration	START DATE/TIME: 02/01/2006:1245	FINISH DATE/TIME: 02/01/2006:1600	
DRILLING EQUIPMENT/METHOD: CME-85 HSA, 4.25" ID, 9" Diameter Bit			
SAMPLING EQUIPMENT/METHOD: 3" Split-Barrel Sampler (5.0' length)			
GROUND ELEVATION: 7125.8'	α/β DAILY BACKGROUND READINGS:	01/20/2006: 46.5 dpm and 2700 dpm (α and β) 01/24/2006: 41.6 dpm and 1699 dpm (α and β) 01/26/2006: 53.4 dpm and 1774 dpm (α and β) 01/27/2006: 23.7 dpm and 1654 dpm (α and β) 01/30/2006: 41.3 dpm and 1634 dpm (α and β) 01/31/2006: 23.0 dpm and 1541 dpm (α and β) 02/01/2006: 23.0 dpm and 1621 dpm (α and β) 02/02/2006: 15.8 dpm and 1454 dpm (α and β)	TOTAL DEPTH: 354.0'
DRILLER: Steven Tanuz			GEOLOGIST: S. White

Depth (ft bgs)	Recovery (ft)	Field Analytical Sample: Sample ID/Type	Field Screening Results	LITHOLOGY - DESCRIPTION	Graphic Log	Lithologic Symbol	ADDITIONAL COMMENTS
300.0			PID=0.4 α/β=<MDA			Qbt 1g	
	5/5	MD21-06-63980 (301.0 to 304.0' bgs) Gen. Investigation AND MD21-06-63994 (301.0 to 304.0' bgs) Field Duplicate		UNIT 1G TSHIERGE MEMBER, BANDELIER TUFF: *SAA* *(304.0-320.0 ft)* *Non welded crystalline tuff.* Tuff matrix color grading to a light red grey (2.5YR 7/1). Pumice are light grey to white.			
		MD21-06-64128 (304.0 to 305.0' bgs) Moisture	PID=0.3 α/β=<MDA				
305.0	5/5						
			PID=0.4 α/β=<MDA				
310.0	5/5						
			PID=0.1 α/β=<MDA				
315.0	5/5						
	5/5		PID=0.0 α/β=<MDA				
320.0							

BOREHOLE LOG
SWMU 21-016(a)-99 RFI Characterization

BOREHOLE ID: 21-25264 (BH-03)	Technical Area (TA): 21-016(a)-99 (MDA-T)		Page 17 of 18
DRILLING COMPANY: Spectrum Exploration	START DATE/TIME: 02/01/2006:1600	FINISH DATE/TIME: 02/02/2006:1450	
DRILLING EQUIPMENT/METHOD: CME-85 HSA, 4.25" ID, 9" Diameter Bit			
SAMPLING EQUIPMENT/METHOD: 3" Split-Barrel Sampler (5.0' length)			
GROUND ELEVATION: 7125.8'	α/β DAILY BACKGROUND READINGS:	01/20/2006: 46.5 dpm and 2700 dpm (α and β) 01/24/2006: 41.6 dpm and 1699 dpm (α and β) 01/26/2006: 53.4 dpm and 1774 dpm (α and β) 01/27/2006: 23.7 dpm and 1654 dpm (α and β) 01/30/2006: 41.3 dpm and 1634 dpm (α and β) 01/31/2006: 23.0 dpm and 1541 dpm (α and β) 02/01/2006: 23.0 dpm and 1621 dpm (α and β) 02/02/2006: 15.8 dpm and 1454 dpm (α and β)	TOTAL DEPTH: 354.0'
DRILLER: Steven Tanuz			GEOLOGIST: S. White

Depth (ft)	Recovery (ft)	Field Analytical Sample: Sample ID/Type	Field Screening Results	LITHOLOGY - DESCRIPTION	Graphic Log	Lithologic Symbol	ADDITIONAL COMMENTS
320.0	5/5		PID=0.0 α/β=<MDA	UNIT 1g TSHIERGE MEMBER, BANDELIER TUFF: *SAA* *(320.0-324.6 ft)* *Non welded crystalline ash flow tuff.*		Qbt 1g	
		MD21-06-64129 (324.0 to 325.0' bgs) Moisture MD21-06-64222 (325.0 to 327.0' bgs) Pore Gas AND MD21-06-63981 (325.8 to 327.0' bgs) Gen. Investigation	PID=0.1 α/β=<MDA	*324.0-324.6' bgs*: Tuff damp.			Qbt1g / Qbtt contact: 324.6' bgs.
325.0	5/5			TSANKAWI PUMICE BED, TSHIERGE MEMBER, BANDELIER TUFF: *Pumice Deposit* *(324.6-325.8 ft)* Light grey (5YR, 7/1) granular unconsolidated pumice bed. Pumice are variable in size up to 20 mm and hard.		Qbtt Qct	Qct contact: 325.8' bgs.
				CERRO TOLEDO: *Sand.* *(325.8-340.0 ft)* Loose, slightly damp to dry, multi-colored brown to grey (5YR 4/4, 5YR 6/4, 5YR 6/1) fine to coarse grained sand with trace silt and fine gravel.			
		MD21-06-64163 (329.0 to 330.0' bgs) Geotechnical	PID=0.2 α/β=<MDA				Run #67 (329-334') drilled with lexan tubing for geotechnical sample
330.0	3/5						
	NR						
		MD21-06-64130 (334.0 to 335.0' bgs) Moisture AND MD21-06-64140 (334.0 to 335.0' bgs) Moisture FD	PID= 0.4 α/β=<MDA	*334.0-340.0' bgs*: Color predominantly brown (7.5YR 5/2, 5/3).			
335.0	5/5						
340.0	5/5		PID=0.1 α/β=<MDA	*339.6-340.1' bgs*: Thin gravel layer.			

BOREHOLE LOG
SWMU 21-016(a)-99 RFI Characterization

BOREHOLE ID: 21-25264 (BH-03)	Technical Area (TA): 21-016(a)-99 (MDA-T)		Page 18 of 18
DRILLING COMPANY: Spectrum Exploration	START DATE/TIME: 02/02/2006:1200	FINISH DATE/TIME: 02/02/2006:1450	
DRILLING EQUIPMENT/METHOD: CME-85 HSA, 4.25" ID, 9" Diameter Bit			
SAMPLING EQUIPMENT/METHOD: 3" Split-Barrel Sampler (5.0' length)			
GROUND ELEVATION: 7125.8'	α/β DAILY BACKGROUND READINGS:	01/20/2006: 46.5 dpm and 2700 dpm (α and β) 01/24/2006: 41.6 dpm and 1699 dpm (α and β) 01/26/2006: 53.4 dpm and 1774 dpm (α and β) 01/27/2006: 23.7 dpm and 1654 dpm (α and β) 01/30/2006: 41.3 dpm and 1634 dpm (α and β) 01/31/2006: 23.0 dpm and 1541 dpm (α and β) 02/01/2006: 23.0 dpm and 1621 dpm (α and β) 02/02/2006: 15.8 dpm and 1454 dpm (α and β)	TOTAL DEPTH: 354.0'
DRILLER: Steven Tanuz			GEOLOGIST: S. White

Depth (ft bgs)	Recovery (ft)	Field Analytical Sample: Sample ID/Type	Field Screening Results	LITHOLOGY - DESCRIPTION	Graphic Log	Lithologic Symbol	ADDITIONAL COMMENTS
340.0	5/5		PID=0.1 α/β=<MDA	CERRO TOLEDO: *SAA* (340.1-353.2 ft) *Sand.* Grey (7.5YR 6/1), fine to medium grained with trace coarse sand and silt. Thin sedimentary bedding visible (brown and grey in color).		Qct	
345.0	5/5	**MD21-06-64131** *(344.0 to 345.0' bgs)* ***Moisture***	PID=0.1 α/β=<MDA	*347.0-349.0' bgs*: Several thin beds of fine subrounded gravel.			
350.0	5/5	**MD21-06-64221** *(350.0 to 354.0' bgs)* ***Pore Gas*** *AND* **MD21-06-64233** *(350.0 to 354.0' bgs)* ***Pore Gas FD*** *AND* **MD21-06-63982** *(351.0 to 354.0' bgs)* ***Gen. Investigation*** *AND* **MD21-06-63995** *(351.0 to 354.0' bgs)* ***Field Duplicate***	PID=0.1 α/β=<MDA	*349.0-350.6' bgs*: Grey white pumice bed present. OTOWI MEMBER, BANDELIER TUFF: *Pumaceous Tuff* (353.2-354.0 ft) Light reddish orange (2.5YR 6/8).		Qbo	Qct / Qbo contact: 353.2' bgs. *Borehole TD*
355.0							
360.0							

Table 3.4-2
Summary of VOCs Detected in Pore Gas at Consolidated Unit 21-016(a)-99

Sample Id	Location Id	Depth (ft)	Acetone	Benzene	Bromodichloromethane	Bromoform	Butanol[1-]	Butanone[2-]	Carbon Disulfide	Carbon Tetrachloride	Chlorodibromomethane	Chloroform	Cyclohexane	Dichlorobenzene[1,4-]	Dichlorodifluoromethane	Dichloroethane[1,2-]	Dichloroethene[1,1-]	Dichloroethene[cis-1,2-]	Ethylbenzene	Ethyltoluene[4-]	Hexane	Hexanone[2-]	Methyl-2-pentanone[4-]	Methylene Chloride	n-Heptane	Propanol[2-]	Propylene	Tetrachloroethene	Tetrahydrofuran	Toluene	Trichloro-1,2,2-trifluoroethane[1,1,2-]	Trichloroethane[1,1,1-]	Trichloroethane[1,1,2-]	Trichloroethene	Trimethylbenzene[1,3,5-]	Xylene[1,2-]	Xylene[1,3-]+Xylene[1,4-]
MD21-07-6804	21-603059	77.5–82.5	49	4.8	—*	10	—	4.3	12	62	—	840	—	—	6	—	—	—	—	—	8.5	—	—	6.4	6.2	—	140	1300	—	6.6	7.2	20	—	710	—	—	5.6
MD21-07-6803	21-603059	187.5–192.5	290	5.5	6.4	—	—	55	5.1	150	—	630	3.4	—	7.4	—	7.4	—	—	—	6.8	—	3.6 (J)	43	4.7	11	160	340	—	6.6	19	29	—	480	—	—	—
MD21-07-6802	21-603059	292.5–297.5	150	3.2	9.2	—	—	8.4	5.1	620	—	680	—	—	9.2	5.2	27	5	—	—	—	—	—	380	—	—	—	200	2.7	6	55	26	27	1100	—	—	—
MD21-07-6801	21-603059	229.5–234.5	560	8.2	7.8	—	21	170	15	290	—	630	3.4	—	7.4	—	12	3.6	11	24	7.7	86	21	68	12	9	210	250	3.7	25	30	31	—	580	11	16	35
MD21-07-6800	21-603059	372.5–377.5	130	3.3	7.3	—	—	3.7	2.8	350	—	540	—	—	—	11	33	—	—	—	—	—	—	720	—	—	40	78	—	5.1	16	8.2	81	800	—	—	—
MD21-07-6807	21-603058	67.5–72.5	120	3.9	—	10	—	40	3.8	63	—	450	—	—	5.1	—	—	—	—	—	4.3	29	8.7	7.2	3.9	—	85	650	—	5.7	—	23	—	270	—	—	4.9
MD21-07-6808	21-603058	160.5–165.5	35	8.4	—	—	42	17	12	100	9.7	330	—	—	6.9	—	—	—	7.5	—	36	—	5.5	52	24	—	690	210	4.9	14	8.5	17	—	280	—	9.9	21
MD21-07-6809	21-603058	217.0–222.0	200	4.9	6.4	—	—	69	5.7	400	—	680	—	6	6.8	5	9.7	—	—	—	8.3	37	8.9	420	6.4	—	150	270	—	5.8	26	36	13	790	—	—	4.8
MD21-07-6810	21-603058	242.5–247.5	170	6.4	—	16	—	20	6.2	400	7.3	720	—	10	5.5	9.8	11	4.1	—	—	9.4	—	4.5	860	6.3	—	160	120	—	9.6	19	22	19	810	—	—	5
MD21-07-6811	21-603058	339.5–344.5	160	—	—	—	—	21	—	6.4	—	110	—	—	—	3.9	—	—	—	—	—	—	—	280	—	—	12	—	—	—	—	—	6.3	47	—	—	—
MD21-07-6813	21-25264	67.5–72.5	17	—	—	12	—	—	3	160	—	350	3.2	—	10	3.8	—	—	—	—	—	—	—	250	—	—	—	1500	—	5.1	—	18	—	660	—	—	—
MD21-07-6814	21-25264	150.5–155.5	68	2.9	—	—	—	12	—	160	—	310	4.5	—	8.6	4	—	—	—	—	—	—	—	300	—	—	—	360	—	6.8	—	19	—	420	—	—	—
MD21-07-6815	21-25264	222.5–227.5	18	—	—	—	—	3.4	3.8	180	—	300	3.6	—	6.6	6.3	—	—	—	—	—	—	—	420	—	—	—	160	—	—	6.7 (J)	16	—	380	—	—	—
MD21-07-6816	21-25264	323.0–328.0	19	—	—	—	—	—	—	190	—	270	—	—	4.9	5.9	4	—	—	—	—	—	—	590	—	—	—	79	—	5.8	—	5.4	—	320	—	—	5.7
MD21-07-6817	21-25264	349.5–354.5	44	—	—	—	—	5.6	—	230	—	550	—	—	—	15	6.8	—	—	—	—	—	—	1300	—	—	—	26	—	9.4	—	—	—	460	—	—	8.4

Note: Results are in µg/m^3.

"* —" = Not detected.