RTI LABORATORIES, INC.

# Analytical Report

# Level III Data Package

## Work Order #: 1212373

Project: Kirtland AFB
Contract #: W912DY-10-D0014
CO#: 501
Tracking #: 140705-036A
Project # 140705
Task Order: 02

Shaw Environmental & Infrastructure, Inc
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Reviewed & Approved By: Date: 1/10/2013

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Shaw Environmental & Infrastructure, Inc

Project: Kirtland AFB

Contract #: W912D4-10-D0014

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# RTI Laboratories, Inc.

**Date:** *9-Jan.-13*

**CLIENT:** Shaw Environmental & Infrastructure, Inc.

**Project:** Kirtland AFB
**CO#:** 501
**Tracking #:** 140705-036A
**Project No.:** 140705
**Prime Contract:** W912DY-10-D0014
**Task Order:** 02
**Work Order:** 1212373

## CASE NARRATIVE

SAMPLE RECEIPT:
Samples were received at the RTI Laboratory, Livonia, MI via commercial delivery on 12/10/2012 in good condition. The sample set consisted of 49 air samples.

SAMPLE ANALYSIS:
Samples were analyzed at the RTI Livonia Laboratory for:
Volatile Organic Compounds – EPA Method TO15
Air-Phase Petroleum Hydrocarbons – MA_APH (Massachusetts DEP APH Method)
Fixed Gases (Noncondensable Gases/Light Hydrocarbons) – ASTM D2504

Sample IDs 1212373-023 and 024 (VA2134 and VA2135) are listed as duplicates. The EPA TO-15 data is consistent, however the MA-APH results do not show similar results. The same dilution for both samples are reported. The MA-APH Analysis for samples #023 and 024 were performed originally with in the hold time. However they were not analyzed at the same dilution. The samples were reanalyzed at the same dilution, however the analysis was performed one day past the recommended hold time.

QUALITY CONTROL:

**Volatile Organic Compounds Analyses:**

All sample analyses included a Method Blank, CCV, RLVS (CRQL) and Duplicate. All QC parameters were within established control limits except where noted on the QC forms or below. Initial and continuing calibration results were within method specifications. MS tuning parameters were within the acceptable ranges for the method.

Surrogate recoveries were within established control limits except as noted below:

| Sample ID | 4-Bromofluorobenzene |
|---|---|
| 1212373-012 | 174% |
| 1212373-036 | 157% |
| 1212373-037 | 143% |
| 1212373-038 | 149% |
| 1212373-039 | 155% |
| 1212373-040 | 135% |
| 1212373-036ADUP | 154% |

Analytical Sequence ID 54613:

- Analytical Comments for METHOD EPA_TO15 , SAMPLE 1212373-012A: Surrogate failure due to high level of contamination present. Co-elution with non-target analytes occurring.

**Volatile Organic Compounds Analyses (cont'd):**

Analytical Sequence ID 54782:

- Analytical Comments for METHOD EPA_TO15 , Samples 1212373-036A, 036A DUP, 037A, 038A, 039A, and 040A: Surrogate failures due to extreme level of contamination. Co-elution with non-target analytes is occurring.

**Air-Phase Petroleum Hydrocarbons Analyses:**

All sample analyses included a Method Blank, LCS, LCSD and Duplicate, where applicable. All QC parameters were within established control limits except where noted on the QC summary forms or below. Initial and continuing calibration results were within method specifications.

Surrogate recoveries were within established control limits.

Analytical Sequence ID 54855:

- Sample ID 1212373-036ADUP: The % RPD for C9-C12 Aliphatic Hydrocarbons (57.2%) is above the acceptance criteria.

**Fixed Gases (Noncondensable Gases/Light Hydrocarbons) Analyses:**

All sample analyses included a Method Blank, LCS, LCSD and Duplicate, where applicable. All QC parameters were within established control limits except where noted on the QC summary forms or below. Initial and continuing calibration results were within method specifications.

Samples collected in Tedlar bags have a limited holding time as specified by the manufacturer for the collection of volatile organic compounds. There is no known stability data for the analytes of interest for this project collected in Tedlar bags. The standard holding time is 48 hours for Tedlar bags. Due to the nature of the project sample analysis within 48 hours was not feasible

**RTI Laboratories, Inc.** **Date:** *9-Jan.-13*

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# CASE NARRATIVE

No other problems were noted during the analytical events associated with this project.

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package and in the computer-readable data submitted has been authorized by the Laboratory Director or his designee, as verified by the following signature.

Signed:_____for_____ Date:__January 9, 2013____
Charles O'Bryan, Director, Quality Management

# RTI Laboratories - Definitions and Acronyms

**WO#: 1212373**

**Date Reported: 1/7/2013**
**Revision v2**

DEFINITIONS:

DF: Dilution factor; the dilution factor applied to the prepared sample.

DL: Detection Limit; The lowest concentration of analyte that can be detected by the method in the applicable matrix.

DUP: Duplicate; aliquots of a sample taken from the same container under laboratory conditions and processed and analyzed independently, used to calculate Precision (%RPD).

LCS: Laboratory Control Sample; prepared by adding a known amount of target analytes to a specified amount of clean matrix and prepared with the batch of samples, used to calculate Accuracy (%REC).

LCSD: A duplicate LCS sample, used to calculate both Accuracy (%REC) and Precision (%RPD)

LOD: Limit of Detection; a laboratory verified concentration that can be detected at three times greater than the noise level. This concentration is equal to or greater than the DL.

LOQ: Limit of Quantitation; The lowest verified limit to which data is quantified without qualifications. Analyte concentrations below the LOQ are reported with a "J" qualifier.

MBLK: Method Blank; a sample of similar matrix that does not contain target analytes or interference that may impact the analytical results and is processed simultaneously with and under the same conditions as samples through all steps of the analytical procedure, used to assess and verify that the analytical process is free of contamination.

Mg/Kg or mg/L: Units of part per million (PPM) – milligram per Kilogram (W/W) or milligram per Liter (W/V).

MS: Matrix Spike; prepared by adding a known amount of target analytes to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available, used to calculate Accuracy (%REC)

MSD: A duplicate MS sample, used to calculate both Accuracy (%REC) and Precision (%RPD)

% REC: Percent Recovery of a known spike (SPK); a measure of accuracy expressed as a percentage of a measured (recovered) concentration compared to the known concentration (SPK) added to the sample. This is compared to the Low Limit and High Limit.

% RPD: Relative Percent Difference; a measure of precision expressed as a percentage of the difference between two duplicates relative to the average concentration. This is compared to the RPD Limit.

Qual: Qualifier that applies to the analyte reported

SPK: Spike; used in the QC section for both SPK Value and SPK Ref Val

Ug/Kg or ug/L: Units of part per billion (PPB) – microgram per Kilogram (W/W) or microgram per Liter (W/V).

QUALIFIERS:

*/X: Reported value exceeds the maximum allowed concentration by regulation or permit.

B: Analyte detected in the associated Method Blank at a concentration greater than 1/2 the LOQ

E: Analyte concentration reported that exceeds the upper calibration standard. Greater uncertainty is associated with this result and data should be considered estimated.

G: CCB result is greater than the MDL

H: Holding time for preparation or analysis has been exceeded

J: Analyte concentrations are equal to or greater than the DL and less than the LOQ. Greater uncertainty is associated with this result and data reported is estimated. These analytes are not routinely reviewed nor narrated as to their potential for being laboratory artifacts.

M: Manual Integration used to determine area response

P: Second column RPD exceeds 40%

Q/S: % REC exceeds control limits

R: % RPD exceeds control limits

T: MBLK result is greater than 1/2 of the LOQ

U: The analyte concentration is less than the DL. The result is reported as less than the LOD

1212373

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# ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

Reference Document No: 140705-SV107



Project Number: 140705
Project Name: Kirtland AFB
Sample Coordinator: Mark Lyon
Turnaround Time:

Samples Shipment Date: 04 DEC 2012
Lab Destination: RTI Laboratories
Lab Contact: Mike Truchan
Project Contact: Pamela Moss
Carrier/Waybill No.: UPS/2323121522

Bill To: Shaw Environmental, Inc. - Accounts P
PO Box 98519
Baton Rouge LA 70884

Report To: Pamela Moss
7604 Technology Way, Suite 300
Denver CO 80237

Special Instructions:

Possible Hazard Indentification: Non-hazard ☐ Flammable ☑ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological ☐

Sample Disposal: Return to Client ☐ Disposal by Lab ☑ Archive (mos.)

1. Relinquished By (Signature/Affiliation) [signature] Date: 12/4/12 Time: 1430
2. Relinquished By (Signature/Affiliation) nia vmd 10dec12 Date: Time:
3. Relinquished By (Signature/Affiliation) Date: Time:

1. Received By (Signature/Affiliation) nia vmd 10DEC12 Date: Time:
2. Received By (Signature/Affiliation) Date: Time:
3. Received By (Signature/Affiliation) Rachel Dear Date: 10 dec 12 Time: 1123

Comments:

| | Sample No | Sample Name | Sample Date | Sample Time | Container | Ctr Qty | Preservative | Requested Testing Program | Sample Vol (" Hg) | Units | Fil | CID | Condition On Receipt |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | VA1978 | SVMW-09-050-GS-VA1978-REG | 04 DEC 2012 | 09:47 | 1 L BOTTLEVAC | 1 | None Required | Air Phase Petroleum Hydrocarbons by MA DEP, VOCs / TPH by TO-15 | -5 | | N | 833 | |
| | VA1978 | SVMW-09-050-GS-VA1978-REG | 04 DEC 2012 | 09:47 | 1 L Tedlar Bag | 1 | None Required | Fixed Gases by ASTM D2504 | | | N | | good |
| 2 | VA1979 | SVMW-09-100-GS-VA1979-REG | 04 DEC 2012 | 10:10 | 1 L BOTTLEVAC | 1 | None Required | Air Phase Petroleum Hydrocarbons by MA DEP, VOCs / TPH by TO-15 | -5 | | N | 535 | |
| | VA1979 | SVMW-09-100-GS-VA1979-REG | 04 DEC 2012 | 10:10 | 1 L Tedlar Bag | 1 | None Required | Fixed Gases by ASTM D2504 | | | N | | good |
| -dup- 3 | VA1980 | SVMW-09-100-GS-VA1980-FD | 04 DEC 2012 | 10:10 | 1 L BOTTLEVAC | 1 | None Required | Air Phase Petroleum Hydrocarbons by MA DEP, VOCs / TPH by TO-15 | -5 | | N | 766 | |
| | VA1980 | SVMW-09-100-GS-VA1980-FD | 04 DEC 2012 | 10:10 | 1 L Tedlar Bag | 1 | None Required | Fixed Gases by ASTM D2504 | | | N | | good |
| 4 | VA1981 | SVMW-09-250-GS-VA1981-REG | 04 DEC 2012 | 10:51 | 1 L BOTTLEVAC | 1 | None Required | Air Phase Petroleum Hydrocarbons by | -5 | | N | 1189 | |

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# ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

Reference Document No: 140705-SV107



| | Sample No | Sample Name | Sample Date | Sample Time | Container | | Preservative | Requested Testing Program | Sample Vol (" Hg) | Units | Fil | CID | Condition On Receipt |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | MA DEP, VOCs / TPH by TO-15 | | | | | |
| 4 | VA1981 | SVMW-09-250-GS-VA1981-REG | 04 DEC 2012 | 10:51 | 1 L Tedlar Bag | 1 | None Required | Fixed Gases by ASTM D2504 | | | N | | good |
| 5 | VA1982 | SVMW-09-266-GS-VA1982-REG | 04 DEC 2012 | 11:14 | 1 L BOTTLEVAC | 1 | None Required | Air Phase Petroleum Hydrocarbons by MA DEP, VOCs / TPH by TO-15 | -5 | | N | 1142 | |
| | VA1982 | SVMW-09-266-GS-VA1982-REG | 04 DEC 2012 | 11:14 | 1 L Tedlar Bag | 1 | None Required | Fixed Gases by ASTM D2504 | | | N | | good |
| 6 | VA2074 | KAFB-106115-025-GS-VA2074-REG | 04 DEC 2012 | 08:50 | 1 L BOTTLEVAC | 1 | None Required | Air Phase Petroleum Hydrocarbons by MA DEP, VOCs / TPH by TO-15 | -5 | | N | 610 | |
| | VA2074 | KAFB-106115-025-GS-VA2074-REG | 04 DEC 2012 | 08:50 | 1 L Tedlar Bag | 1 | None Required | Fixed Gases by ASTM D2504 | | | N | | good |
| 7 | VA2075 | KAFB-106115-050-GS-VA2075-REG | 04 DEC 2012 | 09:19 | 1 L BOTTLEVAC | 1 | None Required | Air Phase Petroleum Hydrocarbons by MA DEP, VOCs / TPH by TO-15 | -4.5 | | N | 550 | |
| | VA2075 | KAFB-106115-050-GS-VA2075-REG | 04 DEC 2012 | 09:19 | 1 L Tedlar Bag | 1 | None Required | Fixed Gases by ASTM D2504 | | | N | | good |
| 8 | VA2076 | KAFB-106115-150-GS-VA2076-REG | 04 DEC 2012 | 09:50 | 1 L BOTTLEVAC | 1 | None Required | Air Phase Petroleum Hydrocarbons by MA DEP, VOCs / TPH by TO-15 | -5 | | N | 778 | |
| | VA2076 | KAFB-106115-150-GS-VA2076-REG | 04 DEC 2012 | 09:50 | 1 L Tedlar Bag | 1 | None Required | Fixed Gases by ASTM D2504 | | | N | | good |
| 9 | VA2077 | KAFB-106115-250-GS-VA2077-REG | 04 DEC 2012 | 10:25 | 1 L BOTTLEVAC | 1 | None Required | Air Phase Petroleum Hydrocarbons by MA DEP, VOCs / TPH by TO-15 | -5 | | N | 1103 | |
| | VA2077 | KAFB-106115-250-GS-VA2077-REG | 04 DEC 2012 | 10:25 | 1 L Tedlar Bag | 1 | None Required | Fixed Gases by ASTM D2504 | | | N | | good |
| 10 | VA2078 | KAFB-106115-350-GS-VA2078-REG | 04 DEC 2012 | 11:01 | 1 L BOTTLEVAC | 1 | None Required | Air Phase Petroleum Hydrocarbons by MA DEP, VOCs / TPH by TO-15 | -5 | | N | 611 | |
| | VA2078 | KAFB-106115-350-GS-VA2078-REG | 04 DEC 2012 | 11:01 | 1 L Tedlar Bag | 1 | None Required | Fixed Gases by ASTM D2504 | | | N | | good |
| 11 | VA2079 | KAFB-106115-450-GS-VA2079-REG | 04 DEC 2012 | 11:41 | 1 L BOTTLEVAC | 1 | None Required | Air Phase Petroleum Hydrocarbons by MA DEP, VOCs / TPH by TO-15 | -5.5 | | N | 1136 | |
| | VA2079 | KAFB-106115-450-GS-VA2079-REG | 04 DEC 2012 | 11:41 | 1 L Tedlar Bag | 1 | None Required | Fixed Gases by ASTM D2504 | | | N | | good |
| 12 | VA2090 | KAFB-106117-250-GS-VA2090-REG | 29 NOV 2012 | 14:30 | 1 L BOTTLEVAC | 1 | None Required | Air Phase Petroleum Hydrocarbons by MA DEP, VOCs / TPH by TO-15 | -6 | | N | 763 | |
| | VA2090 | KAFB-106117-250-GS-VA2090-REG | 29 NOV 2012 | 14:30 | 1 L Tedlar Bag | 1 | None Required | Fixed Gases by ASTM D2504 | | | N | | good |
| 13 | VA2091 | KAFB-106117-350-GS-VA2091-REG | 29 NOV 2012 | 15:05 | 1 L BOTTLEVAC | 1 | None Required | Air Phase Petroleum Hydrocarbons by MA DEP, VOCs / TPH by TO-15 | -6 | | N | 1187 | |
| | VA2091 | KAFB-106117-350-GS-VA2091-REG | 29 NOV 2012 | 15:05 | 1 L Tedlar Bag | 1 | None Required | Fixed Gases by ASTM D2504 | | | N | | good |
| -dup- 14 | VA2092 | KAFB-106117-350-GS-VA2092-FD | 29 NOV 2012 | 15:05 | 1 L BOTTLEVAC | 1 | None Required | Air Phase Petroleum Hydrocarbons by MA DEP, VOCs / TPH by TO-15 | -5 | | N | 739 | |
| | VA2092 | KAFB-106117-350-GS-VA2092-FD | 29 NOV 2012 | 15:05 | 1 L Tedlar Bag | 1 | None Required | Fixed Gases by ASTM D2504 | | | N | | good |
| 15 | VA2093 | KAFB-106117-450-GS-VA2093-REG | 29 NOV 2012 | 16:00 | 1 L BOTTLEVAC | 1 | None Required | Air Phase Petroleum Hydrocarbons by MA DEP, VOCs / TPH by TO-15 | -5.5 | | N | 699 | |
| | VA2093 | KAFB-106117-450-GS-VA2093-REG | 29 NOV 2012 | 16:00 | 1 L Tedlar Bag | 1 | None Required | Fixed Gases by ASTM D2504 | | | N | | good |
| 16 | VA2127 | KAFB-106123-025-GS-VA2127-REG | 29 NOV 2012 | 14:10 | 1 L BOTTLEVAC | 1 | None Required | Air Phase Petroleum Hydrocarbons by MA DEP, VOCs / TPH by TO-15 | -5.5 | | N | 1127 | |
| | VA2127 | KAFB-106123-025-GS-VA2127-REG | 29 NOV 2012 | 14:10 | 1 L Tedlar Bag | 1 | None Required | Fixed Gases by ASTM D2504 | | | N | | good |
| 17 | VA2128 | KAFB-106123-050-GS-VA2128-REG | 29 NOV 2012 | 14:38 | 1 L BOTTLEVAC | 1 | None Required | Air Phase Petroleum Hydrocarbons by MA DEP, VOCs / TPH by TO-15 | -5.5 | | N | 1227 | |
| | VA2128 | KAFB-106123-050-GS-VA2128-REG | 29 NOV 2012 | 14:38 | 1 L Tedlar Bag | 1 | None Required | Fixed Gases by ASTM D2504 | | | N | | good |

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# ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

Reference Document No: 140705-SV107



| | Sample No | Sample Name | Sample Date | Sample Time | Container | | Preservative | Requested Testing Program | Sample Vol (" Hg) | Units | Fil | CID | Condition On Receipt |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 18 | VA2129 | KAFB-106123-150-GS-VA2129-REG | 29 NOV 2012 | 15:09 | 1 L BOTTLEVAC | 1 | None Required | Air Phase Petroleum Hydrocarbons by MA DEP, VOCs / TPH by TO-15 | -5.5 | | N | 563 | |
| | VA2129 | KAFB-106123-150-GS-VA2129-REG | 29 NOV 2012 | 15:09 | 1 L Tedlar Bag | 1 | None Required | Fixed Gases by ASTM D2504 | | | N | | good |
| 19 | VA2130 | KAFB-106123-250-GS-VA2130-REG | 29 NOV 2012 | 15:42 | 1 L BOTTLEVAC | 1 | None Required | Air Phase Petroleum Hydrocarbons by MA DEP, VOCs / TPH by TO-15 | -5.5 | | N | 1094 | |
| | VA2130 | KAFB-106123-250-GS-VA2130-REG | 29 NOV 2012 | 15:42 | 1 L Tedlar Bag | 1 | None Required | Fixed Gases by ASTM D2504 | | | N | | good |
| 20 | VA2131 | KAFB-106123-350-GS-VA2131-REG | 29 NOV 2012 | 16:16 | 1 L BOTTLEVAC | 1 | None Required | Air Phase Petroleum Hydrocarbons by MA DEP, VOCs / TPH by TO-15 | -5 | | N | 803 | |
| | VA2131 | KAFB-106123-350-GS-VA2131-REG | 29 NOV 2012 | 16:16 | 1 L Tedlar Bag | 1 | None Required | Fixed Gases by ASTM D2504 | | | N | | good |
| 21 | VA2132 | KAFB-106123-450-GS-VA2132-REG | 03 DEC 2012 | 08:32 | 1 L BOTTLEVAC | 1 | None Required | Air Phase Petroleum Hydrocarbons by MA DEP, VOCs / TPH by TO-15 | -5.5 | | N | 779 | |
| | VA2132 | KAFB-106123-450-GS-VA2132-REG | 03 DEC 2012 | 08:32 | 1 L Tedlar Bag | 1 | None Required | Fixed Gases by ASTM D2504 | | | N | | good |
| 22 | VA2133 | KAFB-106124-025-GS-VA2133-REG | 03 DEC 2012 | 09:20 | 1 L BOTTLEVAC | 1 | None Required | Air Phase Petroleum Hydrocarbons by MA DEP, VOCs / TPH by TO-15 | -6 | | N | 677 | |
| | VA2133 | KAFB-106124-025-GS-VA2133-REG | 03 DEC 2012 | 09:20 | 1 L Tedlar Bag | 1 | None Required | Fixed Gases by ASTM D2504 | | | N | | good |
| 23 | VA2134 | KAFB-106124-050-GS-VA2134-REG | 03 DEC 2012 | 09:50 | 1 L BOTTLEVAC | 1 | None Required | Air Phase Petroleum Hydrocarbons by MA DEP, VOCs / TPH by TO-15 | -5 | | N | 659 | |
| | VA2134 | KAFB-106124-050-GS-VA2134-REG | 03 DEC 2012 | 09:50 | 1 L Tedlar Bag | 1 | None Required | Fixed Gases by ASTM D2504 | | | N | | good |
| -dup- 24 | VA2135 | KAFB-106124-050-GS-VA2135-FD | 03 DEC 2012 | 09:50 | 1 L BOTTLEVAC | 1 | None Required | Air Phase Petroleum Hydrocarbons by MA DEP, VOCs / TPH by TO-15 | -6 | | N | 605 | |
| | VA2135 | KAFB-106124-050-GS-VA2135-FD | 03 DEC 2012 | 09:50 | 1 L Tedlar Bag | 1 | None Required | Fixed Gases by ASTM D2504 | | | N | | good |
| 25 | VA2136 | KAFB-106124-150-GS-VA2136-REG | 03 DEC 2012 | 10:35 | 1 L BOTTLEVAC | 1 | None Required | Air Phase Petroleum Hydrocarbons by MA DEP, VOCs / TPH by TO-15 | -5.5 | | N | 1186 | |
| | VA2136 | KAFB-106124-150-GS-VA2136-REG | 03 DEC 2012 | 10:35 | 1 L Tedlar Bag | 1 | None Required | Fixed Gases by ASTM D2504 | | | N | | good |
| 26 | VA2137 | KAFB-106124-250-GS-VA2137-REG | 03 DEC 2012 | 11:10 | 1 L BOTTLEVAC | 1 | None Required | Air Phase Petroleum Hydrocarbons by MA DEP, VOCs / TPH by TO-15 | -6 | | N | 683 | |
| | VA2137 | KAFB-106124-250-GS-VA2137-REG | 03 DEC 2012 | 11:10 | 1 L Tedlar Bag | 1 | None Required | Fixed Gases by ASTM D2504 | | | N | | good |
| 27 | VA2138 | KAFB-106124-350-GS-VA2138-REG | 03 DEC 2012 | 11:44 | 1 L BOTTLEVAC | 1 | None Required | Air Phase Petroleum Hydrocarbons by MA DEP, VOCs / TPH by TO-15 | -6 | | N | 782 | |
| | VA2138 | KAFB-106124-350-GS-VA2138-REG | 03 DEC 2012 | 11:44 | 1 L Tedlar Bag | 1 | None Required | Fixed Gases by ASTM D2504 | | | N | | good |
| 28 | VA2139 | KAFB-106124-450-GS-VA2139-REG | 03 DEC 2012 | 12:22 | 1 L BOTTLEVAC | 1 | None Required | Air Phase Petroleum Hydrocarbons by MA DEP, VOCs / TPH by TO-15 | -5.5 | | N | 790 | |
| | VA2139 | KAFB-106124-450-GS-VA2139-REG | 03 DEC 2012 | 12:22 | 1 L Tedlar Bag | 1 | None Required | Fixed Gases by ASTM D2504 | | | N | | good |
| 29 | VA2153 | KAFB-106127-025-GS-VA2153-REG | 03 DEC 2012 | 13:22 | 1 L BOTTLEVAC | 1 | None Required | Air Phase Petroleum Hydrocarbons by MA DEP, VOCs / TPH by TO-15 | -5.5 | | N | 556 | |
| | VA2153 | KAFB-106127-025-GS-VA2153-REG | 03 DEC 2012 | 13:22 | 1 L Tedlar Bag | 1 | None Required | Fixed Gases by ASTM D2504 | | | N | | good |
| 30 | VA2154 | KAFB-106127-050-GS-VA2154-REG | 03 DEC 2012 | 13:54 | 1 L BOTTLEVAC | 1 | None Required | Air Phase Petroleum Hydrocarbons by MA DEP, VOCs / TPH by TO-15 | -5.5 | | N | 822 | |
| | VA2154 | KAFB-106127-050-GS-VA2154-REG | 03 DEC 2012 | 13:54 | 1 L Tedlar Bag | 1 | None Required | Fixed Gases by ASTM D2504 | | | N | | good |
| 31 | VA2155 | KAFB-106127-150-GS-VA2155-REG | 03 DEC 2012 | 14:27 | 1 L BOTTLEVAC | 1 | None Required | Air Phase Petroleum Hydrocarbons by MA DEP, VOCs / TPH by TO-15 | -5.5 | | N | 590 | |
| | VA2155 | KAFB-106127-150-GS-VA2155-REG | 03 DEC 2012 | 14:27 | 1 L Tedlar Bag | 1 | None Required | Fixed Gases by ASTM D2504 | | | N | | good |

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# ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

Reference Document No: 140705-SV107



| | Sample No | Sample Name | Sample Date | Sample Time | Container | | Preservative | Requested Testing Program | Sample Vol (" Hg) | Units | Fil | CID | Condition On Receipt |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 32 | VA2156 | KAFB-106127-250-GS-VA2156-REG | 03 DEC 2012 | 15:02 | 1 L BOTTLEVAC | 1 | None Required | Air Phase Petroleum Hydrocarbons by MA DEP, VOCs / TPH by TO-15 | -5 | | N | 837 | |
| | VA2156 | KAFB-106127-250-GS-VA2156-REG | 03 DEC 2012 | 15:02 | 1 L Tedlar Bag | 1 | None Required | Fixed Gases by ASTM D2504 | | | N | | good |
| 33 | VA2157 | KAFB-106127-350-GS-VA2157-REG | 03 DEC 2012 | 15:40 | 1 L BOTTLEVAC | 1 | None Required | Air Phase Petroleum Hydrocarbons by MA DEP, VOCs / TPH by TO-15 | -4.5 | | N | 637 | |
| | VA2157 | KAFB-106127-350-GS-VA2157-REG | 03 DEC 2012 | 15:40 | 1 L Tedlar Bag | 1 | None Required | Fixed Gases by ASTM D2504 | | | N | | good |
| 34 | VA2158 | KAFB-106127-450-GS-VA2158-REG | 03 DEC 2012 | 16:18 | 1 L BOTTLEVAC | 1 | None Required | Air Phase Petroleum Hydrocarbons by MA DEP, VOCs / TPH by TO-15 | -5 | | N | 820 | |
| | VA2158 | KAFB-106127-450-GS-VA2158-REG | 03 DEC 2012 | 16:18 | 1 L Tedlar Bag | 1 | None Required | Fixed Gases by ASTM D2504 | | | N | | good |
| 35 | VA2205 | KAFB-106135-025-GS-VA2205-REG | 03 DEC 2012 | 14:04 | 1 L BOTTLEVAC | 1 | None Required | Air Phase Petroleum Hydrocarbons by MA DEP, VOCs / TPH by TO-15 | -6.5 | | N | 620 | |
| | VA2205 | KAFB-106135-025-GS-VA2205-REG | 03 DEC 2012 | 14:04 | 1 L Tedlar Bag | 1 | None Required | Fixed Gases by ASTM D2504 | | | N | | good |
| 36 | VA2206 | KAFB-106135-050-GS-VA2206-REG | 03 DEC 2012 | 14:30 | 1 L BOTTLEVAC | 1 | None Required | Air Phase Petroleum Hydrocarbons by MA DEP, VOCs / TPH by TO-15 | -6.5 | | N | 821 | |
| | VA2206 | KAFB-106135-050-GS-VA2206-REG | 03 DEC 2012 | 14:30 | 1 L Tedlar Bag | 1 | None Required | Fixed Gases by ASTM D2504 | | | N | | good |
| 37 | VA2207 | KAFB-106135-150-GS-VA2207-REG | 03 DEC 2012 | 14:58 | 1 L BOTTLEVAC | 1 | None Required | Air Phase Petroleum Hydrocarbons by MA DEP, VOCs / TPH by TO-15 | -5.5 | | N | 1138 | |
| | VA2207 | KAFB-106135-150-GS-VA2207-REG | 03 DEC 2012 | 14:58 | 1 L Tedlar Bag | 1 | None Required | Fixed Gases by ASTM D2504 | | | N | | good |
| 38 | VA2208 | KAFB-106135-250-GS-VA2208-REG | 03 DEC 2012 | 15:30 | 1 L BOTTLEVAC | 1 | None Required | Air Phase Petroleum Hydrocarbons by MA DEP, VOCs / TPH by TO-15 | -6 | | N | 749 | |
| | VA2208 | KAFB-106135-250-GS-VA2208-REG | 03 DEC 2012 | 15:30 | 1 L Tedlar Bag | 1 | None Required | Fixed Gases by ASTM D2504 | | | N | | good |
| -dup- 39 | VA2209 | KAFB-106135-250-GS-VA2209-FD | 03 DEC 2012 | 15:30 | 1 L BOTTLEVAC | 1 | None Required | Air Phase Petroleum Hydrocarbons by MA DEP, VOCs / TPH by TO-15 | -6 | | N | 593 | |
| | VA2209 | KAFB-106135-250-GS-VA2209-FD | 03 DEC 2012 | 15:30 | 1 L Tedlar Bag | 1 | None Required | Fixed Gases by ASTM D2504 | | | N | | good |
| 40 | VA2210 | KAFB-106135-350-GS-VA2210-REG | 03 DEC 2012 | 16:13 | 1 L BOTTLEVAC | 1 | None Required | Air Phase Petroleum Hydrocarbons by MA DEP, VOCs / TPH by TO-15 | -5.5 | | N | 1128 | |
| | VA2210 | KAFB-106135-350-GS-VA2210-REG | 03 DEC 2012 | 16:13 | 1 L Tedlar Bag | 1 | None Required | Fixed Gases by ASTM D2504 | | | N | | good |
| 41 | VA2211 | KAFB-106135-450-GS-VA2211-REG | 04 DEC 2012 | 08:45 | 1 L BOTTLEVAC | 1 | None Required | Air Phase Petroleum Hydrocarbons by MA DEP, VOCs / TPH by TO-15 | -4.5 | | N | 587 | |
| | VA2211 | KAFB-106135-450-GS-VA2211-REG | 04 DEC 2012 | 08:45 | 1 L Tedlar Bag | 1 | None Required | Fixed Gases by ASTM D2504 | | | N | | good |
| 42 | VA2245 | KAFB-106141-025-GS-VA2245-REG | 03 DEC 2012 | 08:37 | 1 L BOTTLEVAC | 1 | None Required | Air Phase Petroleum Hydrocarbons by MA DEP, VOCs / TPH by TO-15 | -5.5 | | N | 772 | |
| | VA2245 | KAFB-106141-025-GS-VA2245-REG | 03 DEC 2012 | 08:37 | 1 L Tedlar Bag | 1 | None Required | Fixed Gases by ASTM D2504 | | | N | | good |
| 43 | VA2246 | KAFB-106141-050-GS-VA2246-REG | 03 DEC 2012 | 09:04 | 1 L BOTTLEVAC | 1 | None Required | Air Phase Petroleum Hydrocarbons by MA DEP, VOCs / TPH by TO-15 | -5 | | N | 553 | |
| | VA2246 | KAFB-106141-050-GS-VA2246-REG | 03 DEC 2012 | 09:04 | 1 L Tedlar Bag | 1 | None Required | Fixed Gases by ASTM D2504 | | | N | | good |
| 44 | VA2247 | KAFB-106141-170-GS-VA2247-REG | 03 DEC 2012 | 11:11 | 1 L BOTTLEVAC | 1 | None Required | Air Phase Petroleum Hydrocarbons by MA DEP, VOCs / TPH by TO-15 | -6 | | N | 608 | |
| | VA2247 | KAFB-106141-170-GS-VA2247-REG | 03 DEC 2012 | 11:11 | 1 L Tedlar Bag | 1 | None Required | Fixed Gases by ASTM D2504 | | | N | | good |
| -dup- 45 | VA2248 | KAFB-106141-170-GS-VA2248-FD | 03 DEC 2012 | 11:11 | 1 L BOTTLEVAC | 1 | None Required | Air Phase Petroleum Hydrocarbons by MA DEP, VOCs / TPH by TO-15 | -6.5 | | N | 840 | |
| | VA2248 | KAFB-106141-170-GS-VA2248-FD | 03 DEC 2012 | 11:11 | 1 L Tedlar Bag | 1 | None Required | Fixed Gases by ASTM D2504 | | | N | | good |

Shaw™
Shaw E & I, Inc.

# ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

Reference Document No: 140705-SV107



| | Sample No | Sample Name | Sample Date | Sample Time | Container | | Preservative | Requested Testing Program | Sample Vol (" Hg) | Units | Fil | CID | Condition On Receipt |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 46 | VA2249 | KAFB-106141-250-GS-VA2249-REG | 03 DEC 2012 | 11:56 | 1 L BOTTLEVAC | 1 | None Required | Air Phase Petroleum Hydrocarbons by MA DEP, VOCs / TPH by TO-15 | -6 | | N | 578 | |
| | VA2249 | KAFB-106141-250-GS-VA2249-REG | 03 DEC 2012 | 11:56 | 1 L Tedlar Bag | 1 | None Required | Fixed Gases by ASTM D2504 | | | N | | good |
| 47 | VA2250 | KAFB-106141-350-GS-VA2250-REG | 03 DEC 2012 | 12:30 | 1 L BOTTLEVAC | 1 | None Required | Air Phase Petroleum Hydrocarbons by MA DEP, VOCs / TPH by TO-15 | -7 | | N | 1188 | |
| | VA2250 | KAFB-106141-350-GS-VA2250-REG | 03 DEC 2012 | 12:30 | 1 L Tedlar Bag | 1 | None Required | Fixed Gases by ASTM D2504 | | | N | | good |
| 48 | VA2251 | KAFB-106141-450-GS-VA2251-REG | 03 DEC 2012 | 13:06 | 1 L BOTTLEVAC | 1 | None Required | Air Phase Petroleum Hydrocarbons by MA DEP, VOCs / TPH by TO-15 | -6.5 | | N | 537 | |
| | VA2251 | KAFB-106141-450-GS-VA2251-REG | 03 DEC 2012 | 13:06 | 1 L Tedlar Bag | 1 | None Required | Fixed Gases by ASTM D2504 | | | N | | good |
| 49 | VA8107-TB | FIELDQC-AQ-VA8107-TB-TB | 29 NOV 2012 | 08:00 | 1 L BOTTLEVAC | 1 | None Required | VOCs / TPH by TO-15 | -29 | | N | 1228 | |

**FROM:**
DIANE OSHLO
(505) 259-5669
KAFB BFF/SHAW E & I, INC.
5202 RANDOLPH AVE SE
KIRTLAND AFB NM 87117

**20 LBS** **1 OF 8**
DWT: 20,14,12

**MI 482 9-02**

**UPS GROUND**
TRACKING #: 1Z 103 35E 03 4028 0229

SHIP TO:
RACHEL DEAR
(734) 422-8000
RTI LABORATORIES
31628 GLENDALE ST.
**LIVONIA MI 48150**

REF 1:140705
REF 2:BB010030

RTI LABORATORIES
31628 GLENDALE ST

LIVONIA MI 48150

P: RED2 S: MPUR I: 3
**DAG — 4036**
1Z10335E034028 0229
HBT7WST MIL1V179 DEC 10 01:08:55 2012
US 4821 HIP 12.1.6 ZEBRAZ4MP

BILLING: P/P
HAZARDOUS MATERIALS - GROUND ONLY
HAZ#: 176

12 amber vacs - RD2
10 dec 12

WS 15.0.16 HP LaserJet 4 33.0A 10/2012

CUSTODY SEAL
DATE 12/4/12
SIGNATURE T Nash

QEC
Quality Environmental Containers
800-255-3950 • 304-255-3900

| Account Number | Emergency Contact Number | For Air Service Only |
|---|---|---|
| 10335E | (800) 424-9300 | This shipment is within the limitations prescribed for: (Delete Non-Applicable Mode) |
| Reference Number | ER Registrant | ~~Passenger Aircraft~~ XXXX / ~~Cargo Aircraft Only~~ XXXX |
| 1Z10335E0340280229 | Chemtrec CCN20044 | |

Hazardous Materials Description and Quantity
UN3167, Gas sample, non-pressurized, flammable, n.o.s., 2.1, ERG 115, 1 Fiberboard Box x 5 L

For Air Shipments, "I declare that all of the applicable air transport requirements have been met".
I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name and are classified, packaged, marked and labeled/ placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations.
If this shipment contains radioactive material acceptable for passenger aircraft, such material is intended ~~for use in, accident to~~, research, medical diagnosis or treatment.

T Nash — Signature
12/4/12 — Date

Carrier Use Only
Initials DCO
SLIC 8710
Date 12/4/12
1 Package

Page 1 of 1

**T - 10** Door: 1251
MI 48150
**UPST 624640** MI 482 9-02

UPS GROUND

1Z10335E0340280229

P34D049 1686416 Dec 06 23:48:41 2012 US
SS1033 HIP 11.1.3 BTLP2844L
6059 N

**FROM:**
DIANE OSHLO
(505) 259-5669
KAFB BFF/SHAW E & I, INC.
5202 RANDOLPH AVE SE
KIRTLAND AFB NM 87117

**20 LBS** **2 OF 8**
DWT: 20,14,12

**MI 482 9-02**

**UPS GROUND**
TRACKING #: 1Z 103 35E 03 4034 5034

SHIP TO:

RACHEL DEAR
(734) 422-8000
RTI LABORATORIES
31628 GLENDALE ST.
**LIVONIA MI 48150**

REF 1:140705
REF 2:BB010030

RTI LABORATORIES
31628 GLENDALE ST

LIVONIA MI 48150

P:RED2 S:MPUR I:3
**DAG-4036**
1Z10336E034034 5034
HBT7WST MIL1V179 DEC 10 01:08:02 2012
US 4821 HIP 12.1.6 ZEBRAZ4MP

BILLING: P/P
HAZARDOUS MATERIALS - GROUND ONLY
HAZ#: 176

12 amber vacs - RD2
10 dec 12

WS 15.0.16 HP LaserJet 4 33.0A 10/2012

**CUSTODY SEAL**
DATE 12/4/12
SIGNATURE T Nagy

QEC
Quality Environmental Containers
800-255-3950 • 304-255-3900

| Account Number | Emergency Contact Number | For Air Services Only (This shipment is within the limitations prescribed for: (Delete Non-Applicable Mode)) |
|---|---|---|
| 10335E | (800) 424-9300 | |
| Reference Number: 1Z10335E0340345034 | ER Registrant: Chemtrec CCN20044 | ~~Passenger Aircraft~~ XXXX / ~~Cargo Aircraft Only~~ XXXX |

Hazardous Materials Description and Quantity
UN3167, Gas sample, non-pressurized, flammable, n.o.s., 2.1, ERG 115, 1 Fiberboard Box x 5 L

For Air Shipments, "I declare that all of the applicable air transport requirements have been met".
I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name and are classified, packaged, marked and labeled/ placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations.
If this shipment contains radioactive material acceptable for passenger aircraft, such material is intended for use in, or incident to, research, medical diagnosis or treatment.

T Nagy — Signature
12/4/12 — Date

Carrier Use Only
Initials: DM
SLIC: 370
Date: 12/4/12

Page 1 of 1 | 1 Package

**T - 10** Door: 1251
MI 48150
**UPST 624640** MI 482 9-02

UPS GROUND

1Z10335E0340345034

P34D049 1686416 Dec 06 23:51:57 2012 US
SS1033 HIP 11.1.3 BTLP2844L
6059 N

**FROM:**
DIANE OSHLO
(505) 259-5669
KAFB BFF/SHAW E & I, INC.
5202 RANDOLPH AVE SE
KIRTLAND AFB NM 87117

**3 LBS** **3 OF 8**
DWT: 20,14,12

**MI 482 9-02**

**UPS GROUND**
TRACKING #: 1Z 103 35E 03 4027 2443

SHIP TO:
RACHEL DEAR
(734) 422-8000
RTI LABORATORIES
31628 GLENDALE ST.
**LIVONIA MI 48150**

REF 1:140705
REF 2:BB010030

BILLING: P/P
HAZARDOUS MATERIALS - GROUND ONLY
HAZ#: 176

24 tedlar bags - RD2
10dec12

WS 15.0.16 HP LaserJet 4 33.0A 10/2012

**CUSTODY SEAL**
DATE 12/4/12
SIGNATURE T Nagh

QEC
Quality Environmental Contai
800-255-3950 • 304-255-

| Account Number | Emergency Contact Number | For Air Services Only (This shipment is within the limitations prescribed for: (Delete Non-Applicable Mode)) | |
|---|---|---|---|
| 10335E | (800) 424-9300 | ~~Passenger Aircraft~~ XXXX | ~~Cargo Aircraft Only~~ XXXX |
| Reference Number | ER Registrant | | |
| 1Z10335E0340272443 | Chemtrec CCN20044 | | |

Hazardous Materials Description and Quantity
UN3167, Gas sample, non-pressurized, flammable, n.o.s., 2.1, ERG 115, 1 Fiberboard Box x 5 L

For Air Shipments, "I declare that all of the applicable air transport requirements have been met".
I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name and are classified, packaged, marked and labeled/ placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations.
If this shipment contains radioactive material acceptable for passenger aircraft, such material is intended for use in accordance with research, medical diagnosis or treatment.

T Nagh — Signature
12/4/12 — Date

Carrier Use Only
Initials DCO
SLIC 8710
Date 12/4/12

Page 1 of 1
1 Package

**T - 10** Door: 1251
MI 48150
**UPST 624640** MI 482 9-02

UPS GROUND

1Z10335E0340272443

P34D049 1686416 Dec 06 23:52:04 2012 US
SS1033 HIP 11.1.3 BTLP2844L 6059 N

**FROM:**
DIANE OSHLO
(505) 259-5669
KAFB BFF/SHAW E & I, INC.
5202 RANDOLPH AVE SE
KIRTLAND AFB NM 87117

**3 LBS** **4 OF 8**
DWT: 20,14,12

**MI 482 9-02**

**UPS GROUND**
TRACKING #: 1Z 103 35E 03 4285 8450

SHIP TO:
RACHEL DEAR
(734) 422-8000
RTI LABORATORIES
31628 GLENDALE ST.
**LIVONIA MI 48150**

REF 1:140705
REF 2:BB010030

RTI LABORATORIES
31628 GLENDALE ST

LIVONIA MI 48150

P:RED2 S:MPUR I:3
DAG-4036
1Z10336E034286 8450
HBT7WST MILIV179 DEC 10 01:08:52 2012
US 4821 HIP 12.1.6 ZEBRAZ4MP

BILLING: P/P
HAZARDOUS MATERIALS - GROUND ONLY
HAZ#: 176

23 tedlar bags - RD2
10dec12

WS 15.0.16 HP LaserJet 4 33.0A 10/2012

CUSTODY SEAL
DATE 12/4/12
SIGNATURE T Nagh

QEC
Quality Environmental Containers
800-255-3950 • 304-255-3900

| Account Number | Emergency Contact Number | For Air Services Only |
|---|---|---|
| 10335E | (800) 424-9300 | This shipment is within the limitations prescribed for: (Delete Non-Applicable Mode) |
| Reference Number | ER Registrant | Passenger Aircraft: XXXX / Cargo Aircraft Only: XXXX |
| 1Z10335E0342858450 | Chemtrec CCN20044 | |

Hazardous Materials Description and Quantity
UN3167, Gas sample, non-pressurized, flammable, n.o.s., 2.1, ERG 115, 1 Fiberboard Box x 5 L

For Air Shipments, "I declare that all of the applicable air transport requirements have been met".
I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name and are classified, packaged, marked and labeled/ placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations.
If this shipment contains radioactive material acceptable for passenger aircraft, such material is intended for use in, or incident to, research, medical diagnosis or treatment.

T Nagh — Signature
12/4/12 — Date

Carrier Use Only
Initials: DKD
SLIC: 8710
Date: 12/4/12

Page 1 of 1
1 Package

**T - 10** Door: 1251
**UPST 624640** MI 48150 MI 482 9-02

UPS GROUND

1Z10335E0342858450

P34D049 1686416 Dec 06 23:44:51 2012 US
SS1033 HIP 11.1.3 BTLP2844L 6059 N

**FROM:**
DIANE OSHLO
(505) 259-5669
KAFB BFF/SHAW E & I, INC.
5202 RANDOLPH AVE SE
KIRTLAND AFB NM 87117

**4 LBS** **5 OF 8**
DWT: 12,9,12

SHIP TO:
RACHEL DEAR
(734) 422-8000
RTI LABORATORIES
31628 GLENDALE ST.
**LIVONIA MI 48150**

RTI LABORATORIES
31628 GLENDALE ST
LIVONIA MI 48150

P: RED2 S: MPUR I: 3
DAG-4036
1Z10335E034105 9066
TG8BXBX MILIV149 DEC 10 01:13:40 2012
US 4821 HIP 12.1.6 ZP450S

**MI 482 9-02**

**UPS GROUND**
TRACKING #: 1Z 103 35E 03 4105 9066

BILLING: P/P
HAZARDOUS MATERIALS - GROUND ONLY
HAZ#: 176

1 tedlar bag
1 amber vac - RD2
10dec12

WS 15.0.16 HP Laserjet 1.33.0A 10/2012

REF 1:140705
REF 2:BB010030

RTI LABORATORIES
31628 GLENDALE ST

LIVONIA MI 48150

P: RED2 S: MPUR I: 3
DAG-4036
1Z10335E034106 9066
HB17WST MILIV149 DEC 10 01:08:00 2012
US 4821 HIP 12.1.6 ZEBRAZ4MP

CUSTODY SEAL
DATE 12/4/12
SIGNATURE

QEC
Quality Environmental Containers
800-255-3950 • 304-255-3900

| Account Number | Emergency Contact Number | For Air Services Only (This shipment is within the limitations prescribed for: (Delete Non-Applicable Mode) |
|---|---|---|
| 10335E | (800) 424-9300 | ~~Passenger Aircraft~~ XXXX / ~~Cargo Aircraft Only~~ XXXX |
| Reference Number: 1Z10335E0341059066 | ER Registrant: Chemtrec CCN20044 | |

Hazardous Materials Description and Quantity
UN3167, Gas sample, non-pressurized, flammable, n.o.s., 2.1, ERG 115, 1 Fiberboard Box x 2 L

For Air Shipments, "I declare that all of the applicable air transport requirements have been met".
I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name and are classified, packaged, marked and labeled/ placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations.
If this shipment contains radioactive material acceptable for passenger aircraft, such material is intended for use in or incident to, research, medical diagnosis or treatment.

Signature: 12/4/12 Date

Carrier Use Only
Initials: DUD
SLIC: 8rr
Date: 12/4/12

Page 1 of 1 — 1 Package

**T - 10** Door: 1251
MI 48150
**UPST 624640** MI 482 9-02

UPS GROUND

1Z10335E0341059066

P34D049 1686416 Dec 06 23:48:38 2012 US
SS1033 HIP 11.1.3 BTLP2844L 6059 N

**FROM:**
DIANE OSHLO
(505) 259-5669
KAFB BFF/SHAW E & I, INC.
5202 RANDOLPH AVE SE
KIRTLAND AFB NM 87117

**20 LBS** **6 OF 8**
DWT: 20,14,12

# MI 482 9-02

## UPS GROUND
TRACKING #: 1Z 103 35E 03 4259 0275

SHIP TO:
RACHEL DEAR
(734) 422-8000
RTI LABORATORIES
31628 GLENDALE ST.
**LIVONIA MI 48150**

REF 1:140705
REF 2:BB010030

RTI LABORATORIES
31628 GLENDALE ST

LIVONIA MI 48150

P: RED2 S: MPUR I: 3
**DAG – 4036**
1Z10336E034269 0275
HBT7WST MILIV179 DEC 10 01:32:36 2012
US 4821 HIP 12.1.6 ZEBRAZ4MP

BILLING: P/P

12 amber Vacs - RD2
10dec12

WS 15.0.16 HP LaserJet 4 33.0A 10/2012

Fold here and place in label pouch

**CUSTODY SEAL**
DATE 12/4/12
SIGNATURE TNoah

QEC
Quality Environmental Containers
800-255-3950 • 304-255-3900

**FROM:**
DIANE OSHLO
(505) 259-5669
KAFB BFF/SHAW E & I, INC.
5202 RANDOLPH AVE SE
KIRTLAND AFB NM 87117

**20 LBS** **7 OF 8**
DWT: 20,14,12

**MI 482 9-02**

**UPS GROUND**
TRACKING #: 1Z 103 35E 03 4052 8088

SHIP TO:
RACHEL DEAR
(734) 422-8000
RTI LABORATORIES
31628 GLENDALE ST.
**LIVONIA MI 48150**

REF 1:140705
REF 2:BB010030

RTI LABORATORIES
31628 GLENDALE ST

LIVONIA MI 48150

P:RED2 S:MPUR I:3
**DAG-4036**
1Z10336E034062 8088
HBT7HST MIL IV179 DEC 10 01:31:50 2012
US 4821 HIP 12.1.6 ZEBRAZ4MP

BILLING: P/P

12 amber vacs -RD2
10dec12

WS 15.0.16 HP LaserJet 4 33.0A 10/2012

Fold here and place in label pouch

CUSTODY SEAL
DATE 12/4/12
SIGNATURE T Nagy

QEC
Quality Environmental Containers
800-255-3950 • 304-255-3900

**FROM:**
DIANE OSHLO
(505) 259-5669
KAFB BFF/SHAW E & I, INC.
5202 RANDOLPH AVE SE
KIRTLAND AFB NM 87117

**11 LBS** **8 OF 8**
DWT: 16,8,4

**MI 482 9-02**

**UPS GROUND**
TRACKING #: 1Z 103 35E 03 4090 8499

SHIP TO:
RACHEL DEAR
(734) 422-8000
RTI LABORATORIES
31628 GLENDALE ST.
**LIVONIA MI 48150**

REF 1:140705
REF 2:BB010030

RTI LABORATORIES
31628 GLENDALE ST

LIVONIA MI 48150

P: RED2 S: MPUR I:3
DAG-4036
1Z10336E034090 8499
HBT7WST MIL 48179 DEC 10 01:31:52 2012
US 4821 MIP 12.1.6 ZEBRAZ4MP

BILLING: P/P

1 pressure gauge
43 regulators -RD2
10dec12

WS 15.0.16 HP LaserJet 4 33.0A 10/2012

Fold here and place in label pouch

CUSTODY SEAL
DATE 12/4/12
SIGNATURE T Vogel

QEC
Quality Environmental Containers
800-255-3950 • 304-255-3900

RTI LABORATORIES, INC.

RTI Laboratories
31628 Glendale St.
Livonia, MI 48150
TEL: (734) 422-8000
Website: www.rtilab.com

# Sample Receipt Checklist

| | | | |
|---|---|---|---|
| Client Name: | **SHA04** | Work Order Number: | **1212373** |
| RCPNo: **1** | Date and Time Received: **12/10/2012 11:23:00 AM** | Received by: | **Matt Tuynman** |
| Completed By: | Rachel Dean | Reviewed By: | Kathryn Griffin |
| Completed Date: | **12/10/2012 2:56:40 PM** | Reviewed Date: | **12/11/2012 8:55 AM** |

**Carrier Name: UPS**

| | | | | |
|---|---|---|---|---|
| 1. | Chain of custody present? | Yes [x] | No [ ] | |
| 2. | Chain of custody signed when relinquished and received? | Yes [x] | No [ ] | |
| 3. | Chain of custody agrees with sample labels? | Yes [x] | No [ ] | Not Present [ ] |
| 4. | Are matrices correctly identified on Chain of custody? | Yes [x] | No [ ] | |
| 5. | Is it clear what analyses were requested? | Yes [x] | No [ ] | |
| 6. | Custody seals intact on sample bottles? | Yes [ ] | No [ ] | Not Present [x] |
| 7. | Samples in proper container/bottle? | Yes [x] | No [ ] | |
| 8. | Were correct preservatives used and noted? | Yes [ ] | No [ ] | NA [x] |
| 9. | Sample containers intact? | Yes [x] | No [ ] | |
| 10. | Sufficient sample volume for indicated test? | Yes [x] | No [ ] | |
| 11. | Were container lables complete (ID, Pres, Date)? | Yes [x] | No [ ] | |
| 12. | All samples received within holding time? | Yes [x] | No [ ] | |
| 13. | Was an attempt made to cool the samples? | Yes [ ] | No [ ] | NA [x] |
| 14. | All samples received at a temp. of > 0° C to 6.0° C? | Yes [ ] | No [ ] | NA [x] |
| 15. | Sample Temp. taken and recorded upon receipt? | Yes [ ] | No [x] | To ºC |
| 16. | Water - Were bubbles absent in VOC vials? | Yes [ ] | No [ ] | No Vials [x] |
| 17. | Water - Was there Chlorine Present? | Yes [ ] | No [ ] | NA [x] |
| 18. | Water - pH acceptable upon receipt? | Yes [ ] | No [ ] | No Water [x] |
| 19. | Are Samples considered acceptable? | Yes [x] | No [ ] | |
| 20. | Custody Seals present? | Yes [x] | No [ ] | |
| 21. | Traffic Report or Packing Lists present? | Yes [ ] | No [x] | |
| 22. | Airbill or Sticker? | Air Bill [x] | Sticker [ ] | Not Present [ ] |
| 23. | Airbill No: | See Comments | | |
| 24. | Sample Tags Present? | Yes [ ] | No [x] | |
| 25. | Sample Tags Listed on COC? | Yes [ ] | No [x] | |
| 26. | Tag Numbers: | | | |
| 27. | Sample Condition? | Intact [x] | Broken [ ] | Leaking [ ] |
| 28. | Response when temperature is outside of range: | | | |
| 29. | Preservative added to bottles: | | | |

Case Number: SDG: SAS:

Adjusted? _____ Checked by _____

Any No and/or NA (not applicable) response must be detailed in the comments section below.

Client Name: **SHA04** Work Order Number: **1212373**

Comment:
1 of 8: 1Z 103 35E 03 4028 0229
2 of 8: 1Z 103 35E 03 4034 5034
3 of 8: 1Z 103 35E 03 4027 2443
4 of 8: 1Z 103 35E 03 4285 8450
5 of 8: 1Z 103 35E 03 4105 9066
6 of 8: 1Z 103 35E 03 4259 0275
7 of 8: 1Z 103 35E 03 4052 8088
8 of 8: 1Z 103 35E 03 4090 8499

Client Contacted: Yes ☐ No ☒ NA ☐ Person Contacted:

Contact Mode: Phone ☐ Fax: ☐ Email: ☐ In Person: ☐

Date Contacted: Contacted By:

Regarding:

Client Instructions:

CorrectiveAction:

| Cooler No | Temp ºC | Condition | Seal Intact | Seal No | Seal Date | Signed By |
|---|---|---|---|---|---|---|
| | | Good | No | | | |

| SampleID | ContainerID | Type | Vacuum Read (inch Hg) | Orig pH | Adj pH | Req Min pH | Req Max pH |
|---|---|---|---|---|---|---|---|
| 1212373-001A | 833 | Bottle | -5" Hg | | | | |
| 1212373-001B | Container-01 of 01 | | | | | | |
| 1212373-002A | 535 | Bottle | -5" Hg | | | | |
| 1212373-002B | Container-01 of 01 | | | | | | |
| 1212373-003A | 766 | Bottle | -5" Hg | | | | |
| 1212373-003B | Container-01 of 01 | | | | | | |
| 1212373-004A | 1189 | Bottle | -5" Hg | | | | |
| 1212373-004B | Container-01 of 01 | | | | | | |
| 1212373-005A | 1142 | Bottle | -5" Hg | | | | |
| 1212373-005B | Container-01 of 01 | | | | | | |
| 1212373-006A | 610 | Bottle | -5" Hg | | | | |
| 1212373-006B | Container-01 of 01 | | | | | | |
| 1212373-007A | 550 | Bottle | -4.5" Hg | | | | |
| 1212373-007B | Container-01 of 01 | | | | | | |
| 1212373-008A | 778 | Bottle | -5" Hg | | | | |
| 1212373-008B | Container-01 of 01 | | | | | | |
| 1212373-009A | 1103 | Bottle | -5" Hg | | | | |
| 1212373-009B | Container-01 of 01 | | | | | | |
| 1212373-010A | 611 | Bottle | -5" Hg | | | | |
| 1212373-010B | Container-01 of 01 | | | | | | |
| 1212373-011A | 1136 | Bottle | -5.5" Hg | | | | |
| 1212373-011B | Container-01 of 01 | | | | | | |
| 1212373-012A | 763 | Bottle | -6" Hg | | | | |
| 1212373-012B | Container-01 of 01 | | | | | | |
| 1212373-013A | 1187 | Bottle | -6" Hg | | | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 1212373-013B | Container-01 of 01 | | | | | | |
| 1212373-014A | 739 | Bottle | -5" Hg | | | | |
| 1212373-014B | Container-01 of 01 | | | | | | |
| 1212373-015A | 699 | Bottle | -5.5" Hg | | | | |
| 1212373-015B | Container-01 of 01 | | | | | | |
| 1212373-016A | 1127 | Bottle | -5.5" Hg | | | | |
| 1212373-016B | Container-01 of 01 | | | | | | |
| 1212373-017A | 1227 | Bottle | -5.5" Hg | | | | |
| 1212373-017B | Container-01 of 01 | | | | | | |
| 1212373-018A | 563 | Bottle | -5.5" Hg | | | | |
| 1212373-018B | Container-01 of 01 | | | | | | |
| 1212373-019A | 1094 | Bottle | -5.5" Hg | | | | |
| 1212373-019B | Container-01 of 01 | | | | | | |
| 1212373-020A | 803 | Bottle | -5" Hg | | | | |
| 1212373-020B | Container-01 of 01 | | | | | | |
| 1212373-021A | 779 | Bottle | -5.5" Hg | | | | |
| 1212373-021B | Container-01 of 01 | | | | | | |
| 1212373-022A | 677 | Bottle | -6" Hg | | | | |
| 1212373-022B | Container-01 of 01 | | | | | | |
| 1212373-023A | 659 | Bottle | -5" Hg | | | | |
| 1212373-023B | Container-01 of 01 | | | | | | |
| 1212373-024A | 605 | Bottle | -6" Hg | | | | |
| 1212373-024B | Container-01 of 01 | | | | | | |
| 1212373-025A | 1186 | Bottle | -5.5" Hg | | | | |
| 1212373-025B | Container-01 of 01 | | | | | | |
| 1212373-026A | 683 | Bottle | -6" Hg | | | | |
| 1212373-026B | Container-01 of 01 | | | | | | |
| 1212373-027A | 782 | Bottle | -6" Hg | | | | |
| 1212373-027B | Container-01 of 01 | | | | | | |
| 1212373-028A | 790 | Bottle | -5.5" Hg | | | | |
| 1212373-028B | Container-01 of 01 | | | | | | |
| 1212373-029A | 556 | Bottle | -5.5" Hg | | | | |
| 1212373-029B | Container-01 of 01 | | | | | | |
| 1212373-030A | 822 | Bottle | -5.5" Hg | | | | |
| 1212373-030B | Container-01 of 01 | | | | | | |
| 1212373-031A | 590 | Bottle | -5.5" Hg | | | | |
| 1212373-031B | Container-01 of 01 | | | | | | |
| 1212373-032A | 837 | Bottle | -5" Hg | | | | |
| 1212373-032B | Container-01 of 01 | | | | | | |
| 1212373-033A | 637 | Bottle | -4.5" Hg | | | | |
| 1212373-033B | Container-01 of 01 | | | | | | |
| 1212373-034A | 820 | Bottle | -5" Hg | | | | |
| 1212373-034B | Container-01 of 01 | | | | | | |
| 1212373-035A | 620 | Bottle | -6.5" Hg | | | | |
| 1212373-035B | Container-01 of 01 | | | | | | |
| 1212373-036A | 821 | Bottle | -6.5" Hg | | | | |
| 1212373-036B | Container-01 of 01 | | | | | | |
| 1212373-037A | 1138 | Bottle | -5.5" Hg | | | | |
| 1212373-037B | Container-01 of 01 | | | | | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 1212373-038A | 749 | Bottle | -6" Hg | | | | |
| 1212373-038B | Container-01 of 01 | | | | | | |
| 1212373-039A | 593 | Bottle | -6" Hg | | | | |
| 1212373-039B | Container-01 of 01 | | | | | | |
| 1212373-040A | 1128 | Bottle | -5.5" Hg | | | | |
| 1212373-040B | Container-01 of 01 | | | | | | |
| 1212373-041A | 587 | Bottle | -4.5" Hg | | | | |
| 1212373-041B | Container-01 of 01 | | | | | | |
| 1212373-042A | 772 | Bottle | -5.5" Hg | | | | |
| 1212373-042B | Container-01 of 01 | | | | | | |
| 1212373-043A | 553 | Bottle | -5" Hg | | | | |
| 1212373-043B | Container-01 of 01 | | | | | | |
| 1212373-044A | 608 | Bottle | -6" Hg | | | | |
| 1212373-044B | Container-01 of 01 | | | | | | |
| 1212373-045A | 840 | Bottle | -6.5" Hg | | | | |
| 1212373-045B | Container-01 of 01 | | | | | | |
| 1212373-046A | 578 | Bottle | -6" Hg | | | | |
| 1212373-046B | Container-01 of 01 | | | | | | |
| 1212373-047A | 1188 | Bottle | -7" Hg | | | | |
| 1212373-047B | Container-01 of 01 | | | | | | |
| 1212373-048A | 537 | Bottle | -6.5" Hg | | | | |
| 1212373-048B | Container-01 of 01 | | | | | | |
| 1212373-049A | 1228 | Bottle | -29" Hg | | | | |

# RTI Laboratories - Workorder Sample Summary

**WO#: 1212373**

**Date Reported: 1/7/2013**
**Revision v2**

**Client:** Shaw Environmental & Infrastructure, Inc

**Project:** Kirtland AFB

| Lab Sample ID | Client Sample ID | Tag No | Date Collected | Date Received | Matrix |
|---|---|---|---|---|---|
| 1212373-001A | VA1978 | | 12/4/2012 9:47 AM | 12/10/2012 11:23 AM | Air |
| 1212373-001B | VA1978 | | 12/4/2012 9:47 AM | 12/10/2012 11:23 AM | Air |
| 1212373-002A | VA1979 | | 12/4/2012 10:10 AM | 12/10/2012 11:23 AM | Air |
| 1212373-002B | VA1979 | | 12/4/2012 10:10 AM | 12/10/2012 11:23 AM | Air |
| 1212373-003A | VA1980 | | 12/4/2012 10:10 AM | 12/10/2012 11:23 AM | Air |
| 1212373-003B | VA1980 | | 12/4/2012 10:10 AM | 12/10/2012 11:23 AM | Air |
| 1212373-004A | VA1981 | | 12/4/2012 10:51 AM | 12/10/2012 11:23 AM | Air |
| 1212373-004B | VA1981 | | 12/4/2012 10:51 AM | 12/10/2012 11:23 AM | Air |
| 1212373-005A | VA1982 | | 12/4/2012 11:14 AM | 12/10/2012 11:23 AM | Air |
| 1212373-005B | VA1982 | | 12/4/2012 11:14 AM | 12/10/2012 11:23 AM | Air |
| 1212373-006A | VA2074 | | 12/4/2012 8:50 AM | 12/10/2012 11:23 AM | Air |
| 1212373-006B | VA2074 | | 12/4/2012 8:50 AM | 12/10/2012 11:23 AM | Air |
| 1212373-007A | VA2075 | | 12/4/2012 9:19 AM | 12/10/2012 11:23 AM | Air |
| 1212373-007B | VA2075 | | 12/4/2012 9:19 AM | 12/10/2012 11:23 AM | Air |
| 1212373-008A | VA2076 | | 12/4/2012 9:50 AM | 12/10/2012 11:23 AM | Air |
| 1212373-008B | VA2076 | | 12/4/2012 9:50 AM | 12/10/2012 11:23 AM | Air |
| 1212373-009A | VA2077 | | 12/4/2012 10:25 AM | 12/10/2012 11:23 AM | Air |
| 1212373-009B | VA2077 | | 12/4/2012 10:25 AM | 12/10/2012 11:23 AM | Air |
| 1212373-010A | VA2078 | | 12/4/2012 11:01 AM | 12/10/2012 11:23 AM | Air |
| 1212373-010B | VA2078 | | 12/4/2012 11:01 AM | 12/10/2012 11:23 AM | Air |
| 1212373-011A | VA2079 | | 12/4/2012 11:41 AM | 12/10/2012 11:23 AM | Air |
| 1212373-011B | VA2079 | | 12/4/2012 11:41 AM | 12/10/2012 11:23 AM | Air |
| 1212373-012A | VA2090 | | 11/29/2012 2:30 PM | 12/10/2012 11:23 AM | Air |
| 1212373-012B | VA2090 | | 11/29/2012 2:30 PM | 12/10/2012 11:23 AM | Air |
| 1212373-013A | VA2091 | | 11/29/2012 3:05 PM | 12/10/2012 11:23 AM | Air |
| 1212373-013B | VA2091 | | 11/29/2012 3:05 PM | 12/10/2012 11:23 AM | Air |
| 1212373-014A | VA2092 | | 11/29/2012 3:05 PM | 12/10/2012 11:23 AM | Air |
| 1212373-014B | VA2092 | | 11/29/2012 3:05 PM | 12/10/2012 11:23 AM | Air |
| 1212373-015A | VA2093 | | 11/29/2012 4:00 PM | 12/10/2012 11:23 AM | Air |
| 1212373-015B | VA2093 | | 11/29/2012 4:00 PM | 12/10/2012 11:23 AM | Air |
| 1212373-016A | VA2127 | | 11/29/2012 2:10 PM | 12/10/2012 11:23 AM | Air |
| 1212373-016B | VA2127 | | 11/29/2012 2:10 PM | 12/10/2012 11:23 AM | Air |
| 1212373-017A | VA2128 | | 11/29/2012 2:38 PM | 12/10/2012 11:23 AM | Air |
| 1212373-017B | VA2128 | | 11/29/2012 2:38 PM | 12/10/2012 11:23 AM | Air |
| 1212373-018A | VA2129 | | 11/29/2012 3:09 PM | 12/10/2012 11:23 AM | Air |
| 1212373-018B | VA2129 | | 11/29/2012 3:09 PM | 12/10/2012 11:23 AM | Air |
| 1212373-019A | VA2130 | | 11/29/2012 3:42 PM | 12/10/2012 11:23 AM | Air |
| 1212373-019B | VA2130 | | 11/29/2012 3:42 PM | 12/10/2012 11:23 AM | Air |
| 1212373-020A | VA2131 | | 11/29/2012 4:16 PM | 12/10/2012 11:23 AM | Air |
| 1212373-020B | VA2131 | | 11/29/2012 4:16 PM | 12/10/2012 11:23 AM | Air |
| 1212373-021A | VA2132 | | 12/3/2012 8:32 AM | 12/10/2012 11:23 AM | Air |
| 1212373-021B | VA2132 | | 12/3/2012 8:32 AM | 12/10/2012 11:23 AM | Air |
| 1212373-022A | VA2133 | | 12/3/2012 9:20 AM | 12/10/2012 11:23 AM | Air |
| 1212373-022B | VA2133 | | 12/3/2012 9:20 AM | 12/10/2012 11:23 AM | Air |
| 1212373-023A | VA2134 | | 12/3/2012 9:50 AM | 12/10/2012 11:23 AM | Air |

# RTI Laboratories - Workorder Sample Summary

**WO#: 1212373**

**Date Reported: 1/7/2013**
**Revision v2**

**Client:** Shaw Environmental & Infrastructure, Inc

**Project:** Kirtland AFB

| Lab Sample ID | Client Sample ID | Tag No | Date Collected | Date Received | Matrix |
|---|---|---|---|---|---|
| 1212373-023B | VA2134 | | 12/3/2012 9:50 AM | 12/10/2012 11:23 AM | Air |
| 1212373-024A | VA2135 | | 12/3/2012 9:50 AM | 12/10/2012 11:23 AM | Air |
| 1212373-024B | VA2135 | | 12/3/2012 9:50 AM | 12/10/2012 11:23 AM | Air |
| 1212373-025A | VA2136 | | 12/3/2012 10:35 AM | 12/10/2012 11:23 AM | Air |
| 1212373-025B | VA2136 | | 12/3/2012 10:35 AM | 12/10/2012 11:23 AM | Air |
| 1212373-026A | VA2137 | | 12/3/2012 11:10 AM | 12/10/2012 11:23 AM | Air |
| 1212373-026B | VA2137 | | 12/3/2012 11:10 AM | 12/10/2012 11:23 AM | Air |
| 1212373-027A | VA2138 | | 12/3/2012 11:44 AM | 12/10/2012 11:23 AM | Air |
| 1212373-027B | VA2138 | | 12/3/2012 11:44 AM | 12/10/2012 11:23 AM | Air |
| 1212373-028A | VA2139 | | 12/3/2012 12:22 PM | 12/10/2012 11:23 AM | Air |
| 1212373-028B | VA2139 | | 12/3/2012 12:22 PM | 12/10/2012 11:23 AM | Air |
| 1212373-029A | VA2153 | | 12/3/2012 1:22 PM | 12/10/2012 11:23 AM | Air |
| 1212373-029B | VA2153 | | 12/3/2012 1:22 PM | 12/10/2012 11:23 AM | Air |
| 1212373-030A | VA2154 | | 12/3/2012 1:54 PM | 12/10/2012 11:23 AM | Air |
| 1212373-030B | VA2154 | | 12/3/2012 1:54 PM | 12/10/2012 11:23 AM | Air |
| 1212373-031A | VA2155 | | 12/3/2012 2:27 PM | 12/10/2012 11:23 AM | Air |
| 1212373-031B | VA2155 | | 12/3/2012 2:27 PM | 12/10/2012 11:23 AM | Air |
| 1212373-032A | VA2156 | | 12/3/2012 3:02 PM | 12/10/2012 11:23 AM | Air |
| 1212373-032B | VA2156 | | 12/3/2012 3:02 PM | 12/10/2012 11:23 AM | Air |
| 1212373-033A | VA2157 | | 12/3/2012 3:40 PM | 12/10/2012 11:23 AM | Air |
| 1212373-033B | VA2157 | | 12/3/2012 3:40 PM | 12/10/2012 11:23 AM | Air |
| 1212373-034A | VA2158 | | 12/3/2012 4:18 PM | 12/10/2012 11:23 AM | Air |
| 1212373-034B | VA2158 | | 12/3/2012 4:18 PM | 12/10/2012 11:23 AM | Air |
| 1212373-035A | VA2205 | | 12/3/2012 2:04 PM | 12/10/2012 11:23 AM | Air |
| 1212373-035B | VA2205 | | 12/3/2012 2:04 PM | 12/10/2012 11:23 AM | Air |
| 1212373-036A | VA2206 | | 12/3/2012 2:30 PM | 12/10/2012 11:23 AM | Air |
| 1212373-036B | VA2206 | | 12/3/2012 2:30 PM | 12/10/2012 11:23 AM | Air |
| 1212373-037A | VA2207 | | 12/3/2012 2:58 PM | 12/10/2012 11:23 AM | Air |
| 1212373-037B | VA2207 | | 12/3/2012 2:58 PM | 12/10/2012 11:23 AM | Air |
| 1212373-038A | VA2208 | | 12/3/2012 3:30 PM | 12/10/2012 11:23 AM | Air |
| 1212373-038B | VA2208 | | 12/3/2012 3:30 PM | 12/10/2012 11:23 AM | Air |
| 1212373-039A | VA2209 | | 12/3/2012 3:30 PM | 12/10/2012 11:23 AM | Air |
| 1212373-039B | VA2209 | | 12/3/2012 3:30 PM | 12/10/2012 11:23 AM | Air |
| 1212373-040A | VA2210 | | 12/3/2012 4:13 PM | 12/10/2012 11:23 AM | Air |
| 1212373-040B | VA2210 | | 12/3/2012 4:13 PM | 12/10/2012 11:23 AM | Air |
| 1212373-041A | VA2211 | | 12/4/2012 8:45 AM | 12/10/2012 11:23 AM | Air |
| 1212373-041B | VA2211 | | 12/4/2012 8:45 AM | 12/10/2012 11:23 AM | Air |
| 1212373-042A | VA2245 | | 12/3/2012 8:37 AM | 12/10/2012 11:23 AM | Air |
| 1212373-042B | VA2245 | | 12/3/2012 8:37 AM | 12/10/2012 11:23 AM | Air |
| 1212373-043A | VA2246 | | 12/3/2012 9:04 AM | 12/10/2012 11:23 AM | Air |
| 1212373-043B | VA2246 | | 12/3/2012 9:04 AM | 12/10/2012 11:23 AM | Air |
| 1212373-044A | VA2247 | | 12/3/2012 11:11 AM | 12/10/2012 11:23 AM | Air |
| 1212373-044B | VA2247 | | 12/3/2012 11:11 AM | 12/10/2012 11:23 AM | Air |
| 1212373-045A | VA2248 | | 12/3/2012 11:11 AM | 12/10/2012 11:23 AM | Air |
| 1212373-045B | VA2248 | | 12/3/2012 11:11 AM | 12/10/2012 11:23 AM | Air |

# RTI Laboratories - Workorder Sample Summary

**WO#: 1212373**

**Date Reported: 1/7/2013**
**Revision v2**

**Client:** Shaw Environmental & Infrastructure, Inc

**Project:** Kirtland AFB

| Lab Sample ID | Client Sample ID | Tag No | Date Collected | Date Received | Matrix |
|---|---|---|---|---|---|
| 1212373-046A | VA2249 | | 12/3/2012 11:56 AM | 12/10/2012 11:23 AM | Air |
| 1212373-046B | VA2249 | | 12/3/2012 11:56 AM | 12/10/2012 11:23 AM | Air |
| 1212373-047A | VA2250 | | 12/3/2012 12:30 PM | 12/10/2012 11:23 AM | Air |
| 1212373-047B | VA2250 | | 12/3/2012 12:30 PM | 12/10/2012 11:23 AM | Air |
| 1212373-048A | VA2251 | | 12/3/2012 1:06 PM | 12/10/2012 11:23 AM | Air |
| 1212373-048B | VA2251 | | 12/3/2012 1:06 PM | 12/10/2012 11:23 AM | Air |
| 1212373-049A | VA8107-TB | | 11/29/2012 8:00 AM | 12/10/2012 11:23 AM | Air |

# RTI Laboratories - DATES REPORT

**WO#: 1212373**

**Date Reported: 1/7/2013**
**Revision v2**

**Client:** Shaw Environmental & Infrastructure, Inc

**Project:** Kirtland AFB

| Sample ID | Client Sample ID | Collection Date | Matrix | Test Name | Leachate Date | Prep Date | Analysis Date |
|---|---|---|---|---|---|---|---|
| 1212373-001A | VA1978 | 12/4/2012 9:47 AM | Air | | | | |
| | | | | MA_APH-Air-Phase Petroleum Hydrocarbons | | | 12/29/2012 1:22 AM |
| | | | | EPA_TO15-Volatile Organic Compounds | | | 12/21/2012 12:30 PM |
| 1212373-001B | VA1978 | 12/4/2012 9:47 AM | Air | | | | |
| | | | | ASTM-D2504-Noncondensable Gases and Light Hydrocarbons | | | 12/26/2012 12:01 PM |
| 1212373-002A | VA1979 | 12/4/2012 10:10 AM | Air | | | | |
| | | | | MA_APH-Air-Phase Petroleum Hydrocarbons | | | 12/29/2012 2:59 AM |
| | | | | EPA_TO15-Volatile Organic Compounds | | | 12/21/2012 8:55 PM |
| 1212373-002B | VA1979 | 12/4/2012 10:10 AM | Air | | | | |
| | | | | ASTM-D2504-Noncondensable Gases and Light Hydrocarbons | | | 12/26/2012 12:17 PM |
| 1212373-003A | VA1980 | 12/4/2012 10:10 AM | Air | | | | |
| | | | | MA_APH-Air-Phase Petroleum Hydrocarbons | | | 12/29/2012 3:47 AM |
| | | | | EPA_TO15-Volatile Organic Compounds | | | 12/21/2012 8:13 PM |
| 1212373-003B | VA1980 | 12/4/2012 10:10 AM | Air | | | | |
| | | | | ASTM-D2504-Noncondensable Gases and Light Hydrocarbons | | | 12/26/2012 12:32 PM |
| 1212373-004A | VA1981 | 12/4/2012 10:51 AM | Air | | | | |
| | | | | MA_APH-Air-Phase Petroleum Hydrocarbons | | | 12/29/2012 4:36 AM |
| | | | | EPA_TO15-Volatile Organic Compounds | | | 1/1/2013 9:30 PM |
| | | | | EPA_TO15-Volatile Organic Compounds | | | 1/1/2013 10:12 PM |
| 1212373-004B | VA1981 | 12/4/2012 10:51 AM | Air | | | | |
| | | | | ASTM-D2504-Noncondensable Gases and Light Hydrocarbons | | | 12/26/2012 12:47 PM |
| 1212373-005A | VA1982 | 12/4/2012 11:14 AM | Air | | | | |
| | | | | MA_APH-Air-Phase Petroleum Hydrocarbons | | | 12/29/2012 7:01 AM |
| | | | | EPA_TO15-Volatile Organic Compounds | | | 12/21/2012 11:52 PM |
| 1212373-005B | VA1982 | 12/4/2012 11:14 AM | Air | | | | |
| | | | | ASTM-D2504-Noncondensable Gases and Light Hydrocarbons | | | 12/26/2012 1:01 PM |
| 1212373-006A | VA2074 | 12/4/2012 8:50 AM | Air | | | | |
| | | | | MA_APH-Air-Phase Petroleum Hydrocarbons | | | 12/21/2012 10:28 PM |
| | | | | EPA_TO15-Volatile Organic Compounds | | | 12/20/2012 5:41 AM |

# RTI Laboratories - DATES REPORT

**WO#: 1212373**

**Date Reported: 1/7/2013**
**Revision v2**

**Client:** Shaw Environmental & Infrastructure, Inc

**Project:** Kirtland AFB

| Sample ID | Client Sample ID | Collection Date | Matrix | Test Name | Leachate Date | Prep Date | Analysis Date |
|---|---|---|---|---|---|---|---|
| 1212373-006B | VA2074 | 12/4/2012 8:50 AM | Air | | | | |
| | | | | ASTM-D2504-Noncondensable Gases and Light Hydrocarbons | | | 12/26/2012 1:23 PM |
| 1212373-007A | VA2075 | 12/4/2012 9:19 AM | Air | | | | |
| | | | | MA_APH-Air-Phase Petroleum Hydrocarbons | | | 12/21/2012 11:17 PM |
| | | | | EPA_TO15-Volatile Organic Compounds | | | 12/20/2012 6:22 AM |
| 1212373-007B | VA2075 | 12/4/2012 9:19 AM | Air | | | | |
| | | | | ASTM-D2504-Noncondensable Gases and Light Hydrocarbons | | | 12/26/2012 2:15 PM |
| 1212373-008A | VA2076 | 12/4/2012 9:50 AM | Air | | | | |
| | | | | MA_APH-Air-Phase Petroleum Hydrocarbons | | | 12/29/2012 2:11 AM |
| | | | | EPA_TO15-Volatile Organic Compounds | | | 12/21/2012 11:41 AM |
| 1212373-008B | VA2076 | 12/4/2012 9:50 AM | Air | | | | |
| | | | | ASTM-D2504-Noncondensable Gases and Light Hydrocarbons | | | 12/26/2012 2:30 PM |
| 1212373-009A | VA2077 | 12/4/2012 10:25 AM | Air | | | | |
| | | | | MA_APH-Air-Phase Petroleum Hydrocarbons | | | 12/29/2012 5:25 AM |
| | | | | EPA_TO15-Volatile Organic Compounds | | | 12/21/2012 9:37 PM |
| 1212373-009B | VA2077 | 12/4/2012 10:25 AM | Air | | | | |
| | | | | ASTM-D2504-Noncondensable Gases and Light Hydrocarbons | | | 12/26/2012 2:45 PM |
| 1212373-010A | VA2078 | 12/4/2012 11:01 AM | Air | | | | |
| | | | | MA_APH-Air-Phase Petroleum Hydrocarbons | | | 12/29/2012 6:13 AM |
| | | | | EPA_TO15-Volatile Organic Compounds | | | 12/21/2012 11:04 PM |
| 1212373-010B | VA2078 | 12/4/2012 11:01 AM | Air | | | | |
| | | | | ASTM-D2504-Noncondensable Gases and Light Hydrocarbons | | | 12/26/2012 3:01 PM |
| 1212373-011A | VA2079 | 12/4/2012 11:41 AM | Air | | | | |
| | | | | MA_APH-Air-Phase Petroleum Hydrocarbons | | | 12/29/2012 8:38 AM |
| | | | | EPA_TO15-Volatile Organic Compounds | | | 12/22/2012 12:41 AM |
| | | | | EPA_TO15-Volatile Organic Compounds | | | 12/26/2012 4:27 PM |
| 1212373-011B | VA2079 | 12/4/2012 11:41 AM | Air | | | | |
| | | | | ASTM-D2504-Noncondensable Gases and Light Hydrocarbons | | | 12/26/2012 3:46 PM |

# RTI Laboratories - DATES REPORT

**WO#: 1212373**

**Date Reported: 1/7/2013**
**Revision v2**

**Client:** Shaw Environmental & Infrastructure, Inc

**Project:** Kirtland AFB

| Sample ID | Client Sample ID | Collection Date | Matrix | Test Name | Leachate Date | Prep Date | Analysis Date |
|---|---|---|---|---|---|---|---|
| 1212373-012A | VA2090 | 11/29/2012 2:30 PM | Air | | | | |
| | | | | MA_APH-Air-Phase Petroleum Hydrocarbons | | | 12/19/2012 12:14 AM |
| | | | | EPA_TO15-Volatile Organic Compounds | | | 12/14/2012 3:39 AM |
| | | | | EPA_TO15-Volatile Organic Compounds | | | 12/17/2012 8:44 PM |
| | | | | EPA_TO15-Volatile Organic Compounds | | | 12/18/2012 6:09 PM |
| 1212373-012B | VA2090 | 11/29/2012 2:30 PM | Air | | | | |
| | | | | ASTM-D2504-Noncondensable Gases and Light Hydrocarbons | | | 12/26/2012 4:01 PM |
| 1212373-013A | VA2091 | 11/29/2012 3:05 PM | Air | | | | |
| | | | | MA_APH-Air-Phase Petroleum Hydrocarbons | | | 12/20/2012 1:44 PM |
| | | | | EPA_TO15-Volatile Organic Compounds | | | 12/14/2012 4:25 AM |
| 1212373-013B | VA2091 | 11/29/2012 3:05 PM | Air | | | | |
| | | | | ASTM-D2504-Noncondensable Gases and Light Hydrocarbons | | | 12/26/2012 4:24 PM |
| 1212373-014A | VA2092 | 11/29/2012 3:05 PM | Air | | | | |
| | | | | MA_APH-Air-Phase Petroleum Hydrocarbons | | | 12/20/2012 2:32 PM |
| | | | | EPA_TO15-Volatile Organic Compounds | | | 12/14/2012 5:11 AM |
| 1212373-014B | VA2092 | 11/29/2012 3:05 PM | Air | | | | |
| | | | | ASTM-D2504-Noncondensable Gases and Light Hydrocarbons | | | 12/26/2012 4:39 PM |
| 1212373-015A | VA2093 | 11/29/2012 4:00 PM | Air | | | | |
| | | | | MA_APH-Air-Phase Petroleum Hydrocarbons | | | 12/19/2012 3:14 AM |
| | | | | EPA_TO15-Volatile Organic Compounds | | | 12/17/2012 7:15 PM |
| 1212373-015B | VA2093 | 11/29/2012 4:00 PM | Air | | | | |
| | | | | ASTM-D2504-Noncondensable Gases and Light Hydrocarbons | | | 12/26/2012 4:57 PM |
| 1212373-016A | VA2127 | 11/29/2012 2:10 PM | Air | | | | |
| | | | | MA_APH-Air-Phase Petroleum Hydrocarbons | | | 12/20/2012 12:57 PM |
| | | | | EPA_TO15-Volatile Organic Compounds | | | 12/17/2012 8:03 PM |
| 1212373-016B | VA2127 | 11/29/2012 2:10 PM | Air | | | | |
| | | | | ASTM-D2504-Noncondensable Gases and Light Hydrocarbons | | | 12/26/2012 5:12 PM |
| 1212373-017A | VA2128 | 11/29/2012 2:38 PM | Air | | | | |
| | | | | MA_APH-Air-Phase Petroleum Hydrocarbons | | | 12/21/2012 3:13 PM |

# RTI Laboratories - DATES REPORT

**WO#: 1212373**

**Date Reported: 1/7/2013**
**Revision v2**

**Client:** Shaw Environmental & Infrastructure, Inc

**Project:** Kirtland AFB

| Sample ID | Client Sample ID | Collection Date | Matrix | Test Name | Leachate Date | Prep Date | Analysis Date |
|---|---|---|---|---|---|---|---|
| 1212373-017A | VA2128 | 11/29/2012 2:38 PM | Air | | | | |
| | | | | EPA_TO15-Volatile Organic Compounds | | | 12/18/2012 6:51 PM |
| 1212373-017B | VA2128 | 11/29/2012 2:38 PM | Air | | | | |
| | | | | ASTM-D2504-Noncondensable Gases and Light Hydrocarbons | | | 12/26/2012 5:28 PM |
| 1212373-018A | VA2129 | 11/29/2012 3:09 PM | Air | | | | |
| | | | | MA_APH-Air-Phase Petroleum Hydrocarbons | | | 12/21/2012 4:01 PM |
| | | | | EPA_TO15-Volatile Organic Compounds | | | 12/18/2012 7:34 PM |
| 1212373-018B | VA2129 | 11/29/2012 3:09 PM | Air | | | | |
| | | | | ASTM-D2504-Noncondensable Gases and Light Hydrocarbons | | | 12/26/2012 5:43 PM |
| 1212373-019A | VA2130 | 11/29/2012 3:42 PM | Air | | | | |
| | | | | MA_APH-Air-Phase Petroleum Hydrocarbons | | | 12/19/2012 2:29 AM |
| | | | | EPA_TO15-Volatile Organic Compounds | | | 12/18/2012 4:39 AM |
| 1212373-019B | VA2130 | 11/29/2012 3:42 PM | Air | | | | |
| | | | | ASTM-D2504-Noncondensable Gases and Light Hydrocarbons | | | 12/28/2012 12:10 PM |
| 1212373-020A | VA2131 | 11/29/2012 4:16 PM | Air | | | | |
| | | | | MA_APH-Air-Phase Petroleum Hydrocarbons | | | 12/19/2012 3:58 AM |
| | | | | EPA_TO15-Volatile Organic Compounds | | | 12/18/2012 5:21 AM |
| 1212373-020B | VA2131 | 11/29/2012 4:16 PM | Air | | | | |
| | | | | ASTM-D2504-Noncondensable Gases and Light Hydrocarbons | | | 12/28/2012 12:28 PM |
| 1212373-021A | VA2132 | 12/3/2012 8:32 AM | Air | | | | |
| | | | | MA_APH-Air-Phase Petroleum Hydrocarbons | | | 12/19/2012 4:42 AM |
| | | | | EPA_TO15-Volatile Organic Compounds | | | 12/17/2012 10:12 PM |
| 1212373-021B | VA2132 | 12/3/2012 8:32 AM | Air | | | | |
| | | | | ASTM-D2504-Noncondensable Gases and Light Hydrocarbons | | | 12/28/2012 3:51 PM |
| 1212373-022A | VA2133 | 12/3/2012 9:20 AM | Air | | | | |
| | | | | MA_APH-Air-Phase Petroleum Hydrocarbons | | | 12/19/2012 7:46 AM |
| | | | | EPA_TO15-Volatile Organic Compounds | | | 12/18/2012 3:58 AM |
| | | | | EPA_TO15-Volatile Organic Compounds | | | 12/18/2012 8:23 PM |

# RTI Laboratories - DATES REPORT

**WO#: 1212373**

**Date Reported: 1/7/2013**
**Revision v2**

**Client:** Shaw Environmental & Infrastructure, Inc

**Project:** Kirtland AFB

| Sample ID | Client Sample ID | Collection Date | Matrix | Test Name | Leachate Date | Prep Date | Analysis Date |
|---|---|---|---|---|---|---|---|
| 1212373-022B | VA2133 | 12/3/2012 9:20 AM | Air | | | | |
| | | | | ASTM-D2504-Noncondensable Gases and Light Hydrocarbons | | | 12/28/2012 4:05 PM |
| 1212373-023A | VA2134 | 12/3/2012 9:50 AM | Air | | | | |
| | | | | MA_APH-Air-Phase Petroleum Hydrocarbons | | | 12/19/2012 8:35 AM |
| | | | | MA_APH-Air-Phase Petroleum Hydrocarbons | | | 1/4/2013 9:31 AM |
| | | | | EPA_TO15-Volatile Organic Compounds | | | 12/18/2012 2:34 AM |
| 1212373-023B | VA2134 | 12/3/2012 9:50 AM | Air | | | | |
| | | | | ASTM-D2504-Noncondensable Gases and Light Hydrocarbons | | | 12/28/2012 4:19 PM |
| 1212373-024A | VA2135 | 12/3/2012 9:50 AM | Air | | | | |
| | | | | MA_APH-Air-Phase Petroleum Hydrocarbons | | | 12/21/2012 4:51 PM |
| | | | | MA_APH-Air-Phase Petroleum Hydrocarbons | | | 1/4/2013 10:16 AM |
| | | | | EPA_TO15-Volatile Organic Compounds | | | 12/18/2012 9:05 PM |
| 1212373-024B | VA2135 | 12/3/2012 9:50 AM | Air | | | | |
| | | | | ASTM-D2504-Noncondensable Gases and Light Hydrocarbons | | | 12/28/2012 4:33 PM |
| 1212373-025A | VA2136 | 12/3/2012 10:35 AM | Air | | | | |
| | | | | MA_APH-Air-Phase Petroleum Hydrocarbons | | | 12/20/2012 4:55 PM |
| | | | | EPA_TO15-Volatile Organic Compounds | | | 12/18/2012 9:48 PM |
| 1212373-025B | VA2136 | 12/3/2012 10:35 AM | Air | | | | |
| | | | | ASTM-D2504-Noncondensable Gases and Light Hydrocarbons | | | 12/28/2012 4:48 PM |
| 1212373-026A | VA2137 | 12/3/2012 11:10 AM | Air | | | | |
| | | | | MA_APH-Air-Phase Petroleum Hydrocarbons | | | 12/20/2012 6:30 PM |
| | | | | EPA_TO15-Volatile Organic Compounds | | | 12/18/2012 10:31 PM |
| 1212373-026B | VA2137 | 12/3/2012 11:10 AM | Air | | | | |
| | | | | ASTM-D2504-Noncondensable Gases and Light Hydrocarbons | | | 12/28/2012 5:17 PM |
| 1212373-027A | VA2138 | 12/3/2012 11:44 AM | Air | | | | |
| | | | | MA_APH-Air-Phase Petroleum Hydrocarbons | | | 12/20/2012 8:53 PM |
| | | | | EPA_TO15-Volatile Organic Compounds | | | 12/18/2012 11:17 PM |

# RTI Laboratories - DATES REPORT

**WO#: 1212373**

**Date Reported: 1/7/2013**
**Revision v2**

**Client:** Shaw Environmental & Infrastructure, Inc

**Project:** Kirtland AFB

| Sample ID | Client Sample ID | Collection Date | Matrix | Test Name | Leachate Date | Prep Date | Analysis Date |
|---|---|---|---|---|---|---|---|
| 1212373-027B | VA2138 | 12/3/2012 11:44 AM | Air | | | | |
| | | | | ASTM-D2504-Noncondensable Gases and Light Hydrocarbons | | | 12/28/2012 5:31 PM |
| 1212373-028A | VA2139 | 12/3/2012 12:22 PM | Air | | | | |
| | | | | MA_APH-Air-Phase Petroleum Hydrocarbons | | | 12/21/2012 12:00 AM |
| | | | | EPA_TO15-Volatile Organic Compounds | | | 12/19/2012 12:48 AM |
| 1212373-028B | VA2139 | 12/3/2012 12:22 PM | Air | | | | |
| | | | | ASTM-D2504-Noncondensable Gases and Light Hydrocarbons | | | 12/28/2012 5:47 PM |
| 1212373-029A | VA2153 | 12/3/2012 1:22 PM | Air | | | | |
| | | | | MA_APH-Air-Phase Petroleum Hydrocarbons | | | 12/21/2012 2:21 AM |
| | | | | EPA_TO15-Volatile Organic Compounds | | | 12/19/2012 1:31 AM |
| 1212373-029B | VA2153 | 12/3/2012 1:22 PM | Air | | | | |
| | | | | ASTM-D2504-Noncondensable Gases and Light Hydrocarbons | | | 12/28/2012 6:02 PM |
| 1212373-030A | VA2154 | 12/3/2012 1:54 PM | Air | | | | |
| | | | | MA_APH-Air-Phase Petroleum Hydrocarbons | | | 12/21/2012 3:10 AM |
| | | | | EPA_TO15-Volatile Organic Compounds | | | 12/19/2012 2:14 AM |
| 1212373-030B | VA2154 | 12/3/2012 1:54 PM | Air | | | | |
| | | | | ASTM-D2504-Noncondensable Gases and Light Hydrocarbons | | | 12/28/2012 6:17 PM |
| 1212373-031A | VA2155 | 12/3/2012 2:27 PM | Air | | | | |
| | | | | MA_APH-Air-Phase Petroleum Hydrocarbons | | | 12/21/2012 3:58 AM |
| | | | | EPA_TO15-Volatile Organic Compounds | | | 12/19/2012 2:56 AM |
| 1212373-031B | VA2155 | 12/3/2012 2:27 PM | Air | | | | |
| | | | | ASTM-D2504-Noncondensable Gases and Light Hydrocarbons | | | 12/31/2012 12:05 PM |
| 1212373-032A | VA2156 | 12/3/2012 3:02 PM | Air | | | | |
| | | | | MA_APH-Air-Phase Petroleum Hydrocarbons | | | 12/22/2012 12:06 AM |
| | | | | EPA_TO15-Volatile Organic Compounds | | | 12/19/2012 3:39 AM |
| 1212373-032B | VA2156 | 12/3/2012 3:02 PM | Air | | | | |
| | | | | ASTM-D2504-Noncondensable Gases and Light Hydrocarbons | | | 12/31/2012 12:20 PM |

# RTI Laboratories - DATES REPORT

**WO#: 1212373**

**Date Reported: 1/7/2013**
**Revision v2**

**Client:** Shaw Environmental & Infrastructure, Inc

**Project:** Kirtland AFB

| Sample ID | Client Sample ID | Collection Date | Matrix | Test Name | Leachate Date | Prep Date | Analysis Date |
|---|---|---|---|---|---|---|---|
| 1212373-033A | VA2157 | 12/3/2012 3:40 PM | Air | | | | |
| | | | | MA_APH-Air-Phase Petroleum Hydrocarbons | | | 12/28/2012 10:57 PM |
| | | | | EPA_TO15-Volatile Organic Compounds | | | 12/19/2012 4:24 AM |
| 1212373-033B | VA2157 | 12/3/2012 3:40 PM | Air | | | | |
| | | | | ASTM-D2504-Noncondensable Gases and Light Hydrocarbons | | | 12/31/2012 12:36 PM |
| 1212373-034A | VA2158 | 12/3/2012 4:18 PM | Air | | | | |
| | | | | MA_APH-Air-Phase Petroleum Hydrocarbons | | | 12/29/2012 12:34 AM |
| | | | | EPA_TO15-Volatile Organic Compounds | | | 12/20/2012 3:26 AM |
| 1212373-034B | VA2158 | 12/3/2012 4:18 PM | Air | | | | |
| | | | | ASTM-D2504-Noncondensable Gases and Light Hydrocarbons | | | 12/31/2012 12:56 PM |
| 1212373-035A | VA2205 | 12/3/2012 2:04 PM | Air | | | | |
| | | | | MA_APH-Air-Phase Petroleum Hydrocarbons | | | 12/21/2012 12:06 PM |
| | | | | EPA_TO15-Volatile Organic Compounds | | | 12/19/2012 10:30 PM |
| 1212373-035B | VA2205 | 12/3/2012 2:04 PM | Air | | | | |
| | | | | ASTM-D2504-Noncondensable Gases and Light Hydrocarbons | | | 12/31/2012 1:31 PM |
| 1212373-036A | VA2206 | 12/3/2012 2:30 PM | Air | | | | |
| | | | | MA_APH-Air-Phase Petroleum Hydrocarbons | | | 12/21/2012 12:53 PM |
| | | | | EPA_TO15-Volatile Organic Compounds | | | 12/19/2012 11:12 PM |
| | | | | EPA_TO15-Volatile Organic Compounds | | | 12/21/2012 3:29 PM |
| 1212373-036B | VA2206 | 12/3/2012 2:30 PM | Air | | | | |
| | | | | ASTM-D2504-Noncondensable Gases and Light Hydrocarbons | | | 12/31/2012 1:52 PM |
| 1212373-037A | VA2207 | 12/3/2012 2:58 PM | Air | | | | |
| | | | | MA_APH-Air-Phase Petroleum Hydrocarbons | | | 12/21/2012 2:27 PM |
| | | | | EPA_TO15-Volatile Organic Compounds | | | 12/20/2012 12:35 AM |
| | | | | EPA_TO15-Volatile Organic Compounds | | | 12/21/2012 4:18 PM |
| 1212373-037B | VA2207 | 12/3/2012 2:58 PM | Air | | | | |
| | | | | ASTM-D2504-Noncondensable Gases and Light Hydrocarbons | | | 12/31/2012 2:08 PM |
| 1212373-038A | VA2208 | 12/3/2012 3:30 PM | Air | | | | |
| | | | | MA_APH-Air-Phase Petroleum Hydrocarbons | | | 12/21/2012 5:38 PM |

# RTI Laboratories - DATES REPORT

**WO#: 1212373**

**Date Reported: 1/7/2013**
**Revision v2**

**Client:** Shaw Environmental & Infrastructure, Inc

**Project:** Kirtland AFB

| Sample ID | Client Sample ID | Collection Date | Matrix | Test Name | Leachate Date | Prep Date | Analysis Date |
|---|---|---|---|---|---|---|---|
| 1212373-038A | VA2208 | 12/3/2012 3:30 PM | Air | | | | |
| | | | | EPA_TO15-Volatile Organic Compounds | | | 12/20/2012 1:17 AM |
| | | | | EPA_TO15-Volatile Organic Compounds | | | 12/21/2012 5:07 PM |
| 1212373-038B | VA2208 | 12/3/2012 3:30 PM | Air | | | | |
| | | | | ASTM-D2504-Noncondensable Gases and Light Hydrocarbons | | | 12/31/2012 2:29 PM |
| 1212373-039A | VA2209 | 12/3/2012 3:30 PM | Air | | | | |
| | | | | MA_APH-Air-Phase Petroleum Hydrocarbons | | | 12/21/2012 6:27 PM |
| | | | | EPA_TO15-Volatile Organic Compounds | | | 12/20/2012 1:59 AM |
| | | | | EPA_TO15-Volatile Organic Compounds | | | 12/21/2012 5:55 PM |
| 1212373-039B | VA2209 | 12/3/2012 3:30 PM | Air | | | | |
| | | | | ASTM-D2504-Noncondensable Gases and Light Hydrocarbons | | | 12/31/2012 2:43 PM |
| 1212373-040A | VA2210 | 12/3/2012 4:13 PM | Air | | | | |
| | | | | MA_APH-Air-Phase Petroleum Hydrocarbons | | | 12/21/2012 8:50 PM |
| | | | | EPA_TO15-Volatile Organic Compounds | | | 12/20/2012 2:41 AM |
| | | | | EPA_TO15-Volatile Organic Compounds | | | 12/21/2012 6:43 PM |
| 1212373-040B | VA2210 | 12/3/2012 4:13 PM | Air | | | | |
| | | | | ASTM-D2504-Noncondensable Gases and Light Hydrocarbons | | | 12/31/2012 3:05 PM |
| 1212373-041A | VA2211 | 12/4/2012 8:45 AM | Air | | | | |
| | | | | MA_APH-Air-Phase Petroleum Hydrocarbons | | | 12/21/2012 9:39 PM |
| | | | | EPA_TO15-Volatile Organic Compounds | | | 12/21/2012 7:32 PM |
| 1212373-041B | VA2211 | 12/4/2012 8:45 AM | Air | | | | |
| | | | | ASTM-D2504-Noncondensable Gases and Light Hydrocarbons | | | 12/28/2012 12:46 PM |
| 1212373-042A | VA2245 | 12/3/2012 8:37 AM | Air | | | | |
| | | | | MA_APH-Air-Phase Petroleum Hydrocarbons | | | 12/19/2012 5:27 AM |
| | | | | EPA_TO15-Volatile Organic Compounds | | | 12/17/2012 10:57 PM |
| 1212373-042B | VA2245 | 12/3/2012 8:37 AM | Air | | | | |
| | | | | ASTM-D2504-Noncondensable Gases and Light Hydrocarbons | | | 12/28/2012 1:06 PM |
| 1212373-043A | VA2246 | 12/3/2012 9:04 AM | Air | | | | |
| | | | | MA_APH-Air-Phase Petroleum Hydrocarbons | | | 12/19/2012 6:12 AM |

# RTI Laboratories - DATES REPORT

**WO#: 1212373**

**Date Reported: 1/7/2013**
**Revision v2**

**Client:** Shaw Environmental & Infrastructure, Inc

**Project:** Kirtland AFB

| Sample ID | Client Sample ID | Collection Date | Matrix | Test Name | Leachate Date | Prep Date | Analysis Date |
|---|---|---|---|---|---|---|---|
| 1212373-043A | VA2246 | 12/3/2012 9:04 AM | Air | | | | |
| | | | | EPA_TO15-Volatile Organic Compounds | | | 12/18/2012 1:08 AM |
| 1212373-043B | VA2246 | 12/3/2012 9:04 AM | Air | | | | |
| | | | | ASTM-D2504-Noncondensable Gases and Light Hydrocarbons | | | 12/28/2012 1:30 PM |
| 1212373-044A | VA2247 | 12/3/2012 11:11 AM | Air | | | | |
| | | | | MA_APH-Air-Phase Petroleum Hydrocarbons | | | 12/20/2012 7:19 PM |
| | | | | EPA_TO15-Volatile Organic Compounds | | | 12/19/2012 5:42 PM |
| | | | | EPA_TO15-Volatile Organic Compounds | | | 12/21/2012 1:13 PM |
| 1212373-044B | VA2247 | 12/3/2012 11:11 AM | Air | | | | |
| | | | | ASTM-D2504-Noncondensable Gases and Light Hydrocarbons | | | 12/28/2012 1:54 PM |
| 1212373-045A | VA2248 | 12/3/2012 11:11 AM | Air | | | | |
| | | | | MA_APH-Air-Phase Petroleum Hydrocarbons | | | 12/20/2012 8:07 PM |
| | | | | EPA_TO15-Volatile Organic Compounds | | | 12/19/2012 7:16 PM |
| | | | | EPA_TO15-Volatile Organic Compounds | | | 12/26/2012 2:59 PM |
| 1212373-045B | VA2248 | 12/3/2012 11:11 AM | Air | | | | |
| | | | | ASTM-D2504-Noncondensable Gases and Light Hydrocarbons | | | 12/28/2012 2:10 PM |
| 1212373-046A | VA2249 | 12/3/2012 11:56 AM | Air | | | | |
| | | | | MA_APH-Air-Phase Petroleum Hydrocarbons | | | 12/20/2012 9:40 PM |
| | | | | EPA_TO15-Volatile Organic Compounds | | | 12/19/2012 8:05 PM |
| | | | | EPA_TO15-Volatile Organic Compounds | | | 12/20/2012 7:49 AM |
| 1212373-046B | VA2249 | 12/3/2012 11:56 AM | Air | | | | |
| | | | | ASTM-D2504-Noncondensable Gases and Light Hydrocarbons | | | 12/28/2012 2:28 PM |
| 1212373-047A | VA2250 | 12/3/2012 12:30 PM | Air | | | | |
| | | | | MA_APH-Air-Phase Petroleum Hydrocarbons | | | 12/20/2012 11:12 PM |
| | | | | EPA_TO15-Volatile Organic Compounds | | | 12/19/2012 8:54 PM |
| 1212373-047B | VA2250 | 12/3/2012 12:30 PM | Air | | | | |
| | | | | ASTM-D2504-Noncondensable Gases and Light Hydrocarbons | | | 12/28/2012 2:45 PM |
| 1212373-048A | VA2251 | 12/3/2012 1:06 PM | Air | | | | |
| | | | | MA_APH-Air-Phase Petroleum Hydrocarbons | | | 12/21/2012 12:48 AM |

# RTI Laboratories - DATES REPORT

**WO#: 1212373**

**Date Reported: 1/7/2013**
**Revision v2**

**Client:** Shaw Environmental & Infrastructure, Inc

**Project:** Kirtland AFB

| Sample ID | Client Sample ID | Collection Date | Matrix | Test Name | Leachate Date | Prep Date | Analysis Date |
|---|---|---|---|---|---|---|---|
| 1212373-048A | VA2251 | 12/3/2012 1:06 PM | Air | | | | |
| | | | | EPA_TO15-Volatile Organic Compounds | | | 12/19/2012 9:44 PM |
| 1212373-048B | VA2251 | 12/3/2012 1:06 PM | Air | | | | |
| | | | | ASTM-D2504-Noncondensable Gases and Light Hydrocarbons | | | 12/28/2012 2:59 PM |
| 1212373-049A | VA8107-TB | 11/29/2012 8:00 AM | Air | | | | |
| | | | | EPA_TO15-Volatile Organic Compounds | | | 12/19/2012 4:53 PM |

# RTI Laboratories - Analytical Report

**WO#: 1212373**

**Date Reported: 1/7/2013**
**Revision v2**

| | | | |
|---|---|---|---|
| **Client:** | Shaw Environmental & Infrastructure, Inc | **Collection Date:** | 12/4/2012 9:47:00 AM |
| **Project:** | Kirtland AFB | | |
| **Lab ID:** | 1212373-001 | **Matrix:** | Air |
| **Client Sample ID:** | VA1978 | | |

| Analysis | Result | RL | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **Noncondensable Gases and Light Hydrocarbons** | | **Method: ASTM-D2504** | | | | **Analyst: cr** |
| Carbon dioxide | 7.8 | 0.10 | | % v/v | 1 | 12/26/2012 12:01 PM |
| Carbon Monoxide | ND | 0.10 | U | % v/v | 1 | 12/26/2012 12:01 PM |
| Methane | ND | 0.50 | U | % v/v | 1 | 12/26/2012 12:01 PM |
| Nitrogen | 81 | 0.10 | | % v/v | 1 | 12/26/2012 12:01 PM |
| Oxygen | 11 | 0.10 | | % v/v | 1 | 12/26/2012 12:01 PM |
| **Volatile Organic Compounds** | | **Method: TO-15** | | | | **Analyst: RH3** |
| 1,1,1-Trichloroethane | ND | 400 | U | ppbv | 400 | 12/21/2012 12:30 PM |
| 1,1,2,2-Tetrachloroethane | ND | 400 | U | ppbv | 400 | 12/21/2012 12:30 PM |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ND | 400 | U | ppbv | 400 | 12/21/2012 12:30 PM |
| 1,1,2-Trichloroethane | ND | 400 | U | ppbv | 400 | 12/21/2012 12:30 PM |
| 1,1-Dichloroethane | ND | 400 | U | ppbv | 400 | 12/21/2012 12:30 PM |
| 1,1-Dichloroethene | ND | 400 | U | ppbv | 400 | 12/21/2012 12:30 PM |
| 1,2,4-Trichlorobenzene | ND | 400 | U | ppbv | 400 | 12/21/2012 12:30 PM |
| 1,2,4-Trimethylbenzene | ND | 400 | U | ppbv | 400 | 12/21/2012 12:30 PM |
| 1,2-Dibromoethane | ND | 400 | U | ppbv | 400 | 12/21/2012 12:30 PM |
| 1,2-Dichlorobenzene | ND | 400 | U | ppbv | 400 | 12/21/2012 12:30 PM |
| 1,2-Dichloroethane | ND | 400 | U | ppbv | 400 | 12/21/2012 12:30 PM |
| 1,2-Dichloropropane | ND | 400 | U | ppbv | 400 | 12/21/2012 12:30 PM |
| 1,3,5-Trimethylbenzene | ND | 400 | U | ppbv | 400 | 12/21/2012 12:30 PM |
| 1,3-Butadiene | ND | 400 | U | ppbv | 400 | 12/21/2012 12:30 PM |
| 1,3-Dichlorobenzene | ND | 400 | U | ppbv | 400 | 12/21/2012 12:30 PM |
| 1,4-Dichlorobenzene | ND | 400 | U | ppbv | 400 | 12/21/2012 12:30 PM |
| 2-Butanone | ND | 400 | U | ppbv | 400 | 12/21/2012 12:30 PM |
| 2-Hexanone | ND | 400 | U | ppbv | 400 | 12/21/2012 12:30 PM |
| 4-Methyl-2-pentanone | ND | 400 | U | ppbv | 400 | 12/21/2012 12:30 PM |
| Acetone | 1,700 | 400 | | ppbv | 400 | 12/21/2012 12:30 PM |
| Benzene | 7,100 | 400 | | ppbv | 400 | 12/21/2012 12:30 PM |
| Benzyl chloride | ND | 400 | U | ppbv | 400 | 12/21/2012 12:30 PM |
| Bromodichloromethane | ND | 400 | U | ppbv | 400 | 12/21/2012 12:30 PM |
| Bromoform | ND | 400 | U | ppbv | 400 | 12/21/2012 12:30 PM |
| Bromomethane | ND | 400 | U | ppbv | 400 | 12/21/2012 12:30 PM |
| Carbon disulfide | ND | 400 | U | ppbv | 400 | 12/21/2012 12:30 PM |
| Carbon tetrachloride | ND | 400 | U | ppbv | 400 | 12/21/2012 12:30 PM |
| Chlorobenzene | ND | 400 | U | ppbv | 400 | 12/21/2012 12:30 PM |
| Chlorodibromomethane | ND | 400 | U | ppbv | 400 | 12/21/2012 12:30 PM |
| Chloroethane | ND | 400 | U | ppbv | 400 | 12/21/2012 12:30 PM |
| Chloroform | ND | 400 | U | ppbv | 400 | 12/21/2012 12:30 PM |
| Chloromethane | ND | 400 | U | ppbv | 400 | 12/21/2012 12:30 PM |
| cis-1,2-Dichloroethene | ND | 400 | U | ppbv | 400 | 12/21/2012 12:30 PM |
| cis-1,3-dichloropropene | ND | 400 | U | ppbv | 400 | 12/21/2012 12:30 PM |

# RTI Laboratories - Analytical Report

**WO#: 1212373**

**Date Reported: 1/7/2013**
**Revision v2**

| | | | |
|---|---|---|---|
| **Client:** | Shaw Environmental & Infrastructure, Inc | **Collection Date:** | 12/4/2012 9:47:00 AM |
| **Project:** | Kirtland AFB | | |
| **Lab ID:** | 1212373-001 | **Matrix:** | Air |
| **Client Sample ID:** | VA1978 | | |

| Analysis | Result | RL | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| Cyclohexane | 8,400 | 800 | | ppbv | 400 | 12/21/2012 12:30 PM |
| Dichlorodifluoromethane | ND | 400 | U | ppbv | 400 | 12/21/2012 12:30 PM |
| Ethyl acetate | ND | 400 | U | ppbv | 400 | 12/21/2012 12:30 PM |
| Ethylbenzene | ND | 800 | U | ppbv | 400 | 12/21/2012 12:30 PM |
| Heptane | 4,700 | 400 | | ppbv | 400 | 12/21/2012 12:30 PM |
| Hexachlorobutadiene | ND | 800 | U | ppbv | 400 | 12/21/2012 12:30 PM |
| m,p-Xylene | 840 | 800 | | ppbv | 400 | 12/21/2012 12:30 PM |
| Methylene chloride | 4,100 | 2,000 | | ppbv | 400 | 12/21/2012 12:30 PM |
| n-Hexane | 4,000 | 800 | | ppbv | 400 | 12/21/2012 12:30 PM |
| Naphthalene | ND | 400 | U | ppbv | 400 | 12/21/2012 12:30 PM |
| o-Xylene | ND | 400 | U | ppbv | 400 | 12/21/2012 12:30 PM |
| Propylene | ND | 400 | U | ppbv | 400 | 12/21/2012 12:30 PM |
| Styrene | ND | 400 | U | ppbv | 400 | 12/21/2012 12:30 PM |
| tert-Butyl Methyl Ether | ND | 400 | U | ppbv | 400 | 12/21/2012 12:30 PM |
| Tetrachloroethene | ND | 400 | U | ppbv | 400 | 12/21/2012 12:30 PM |
| Tetrahydrofuran | ND | 400 | U | ppbv | 400 | 12/21/2012 12:30 PM |
| Toluene | 4,600 | 400 | | ppbv | 400 | 12/21/2012 12:30 PM |
| trans-1,2-Dichloroethene | ND | 400 | U | ppbv | 400 | 12/21/2012 12:30 PM |
| trans-1,3-dichloropropene | ND | 400 | U | ppbv | 400 | 12/21/2012 12:30 PM |
| Trichloroethene | ND | 400 | U | ppbv | 400 | 12/21/2012 12:30 PM |
| Trichlorofluoromethane | ND | 400 | U | ppbv | 400 | 12/21/2012 12:30 PM |
| Vinyl acetate | ND | 400 | U | ppbv | 400 | 12/21/2012 12:30 PM |
| Vinyl chloride | ND | 400 | U | ppbv | 400 | 12/21/2012 12:30 PM |
| Xylenes, Total | 840 | 1,200 | J | ppbv | 400 | 12/21/2012 12:30 PM |
| Surr: 4-Bromofluorobenzene | 97.0 | 70-130 | | %REC | 400 | 12/21/2012 12:30 PM |
| **Mass APH Air** | **Method:** | | | | | **Analyst: RH3** |
| **Air-Phase Petroleum Hydrocarbons** | | | | | | |
| C5-C8 Aliphatic Hydrocarbons | 1,300,000 | 190,000 | | µg/m³ | 1600 | 12/29/2012 1:22 AM |
| C9-C10 Aromatic Hydrocarbons | ND | 210,000 | U | µg/m³ | 1600 | 12/29/2012 1:22 AM |
| C9-C12 Aliphatic Hydrocarbons | 48,000 | 300,000 | J | µg/m³ | 1600 | 12/29/2012 1:22 AM |
| Surr: 4-Bromofluorobenzene | 95.1 | 70-130 | | %REC | 1600 | 12/29/2012 1:22 AM |

# RTI Laboratories - Analytical Report

**WO#: 1212373**

**Date Reported: 1/7/2013**
**Revision v2**

| | | | |
|---|---|---|---|
| **Client:** | Shaw Environmental & Infrastructure, Inc | **Collection Date:** | 12/4/2012 10:10:00 AM |
| **Project:** | Kirtland AFB | | |
| **Lab ID:** | 1212373-002 | **Matrix:** | Air |
| **Client Sample ID:** | VA1979 | | |

| Analysis | Result | RL | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **Noncondensable Gases and Light Hydrocarbons** | | **Method: ASTM-D2504** | | | | **Analyst: cr** |
| Carbon dioxide | 11 | 0.10 | | % v/v | 1 | 12/26/2012 12:17 PM |
| Carbon Monoxide | ND | 0.10 | U | % v/v | 1 | 12/26/2012 12:17 PM |
| Methane | ND | 0.50 | U | % v/v | 1 | 12/26/2012 12:17 PM |
| Nitrogen | 84 | 0.10 | | % v/v | 1 | 12/26/2012 12:17 PM |
| Oxygen | 3.9 | 0.10 | | % v/v | 1 | 12/26/2012 12:17 PM |
| **Volatile Organic Compounds** | | **Method: TO-15** | | | | **Analyst: RH3** |
| 1,1,1-Trichloroethane | ND | 80,000 | U | ppbv | 80000 | 12/21/2012 8:55 PM |
| 1,1,2,2-Tetrachloroethane | ND | 80,000 | U | ppbv | 80000 | 12/21/2012 8:55 PM |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ND | 80,000 | U | ppbv | 80000 | 12/21/2012 8:55 PM |
| 1,1,2-Trichloroethane | ND | 80,000 | U | ppbv | 80000 | 12/21/2012 8:55 PM |
| 1,1-Dichloroethane | ND | 80,000 | U | ppbv | 80000 | 12/21/2012 8:55 PM |
| 1,1-Dichloroethene | ND | 80,000 | U | ppbv | 80000 | 12/21/2012 8:55 PM |
| 1,2,4-Trichlorobenzene | ND | 80,000 | U | ppbv | 80000 | 12/21/2012 8:55 PM |
| 1,2,4-Trimethylbenzene | ND | 80,000 | U | ppbv | 80000 | 12/21/2012 8:55 PM |
| 1,2-Dibromoethane | ND | 80,000 | U | ppbv | 80000 | 12/21/2012 8:55 PM |
| 1,2-Dichlorobenzene | ND | 80,000 | U | ppbv | 80000 | 12/21/2012 8:55 PM |
| 1,2-Dichloroethane | ND | 80,000 | U | ppbv | 80000 | 12/21/2012 8:55 PM |
| 1,2-Dichloropropane | ND | 80,000 | U | ppbv | 80000 | 12/21/2012 8:55 PM |
| 1,3,5-Trimethylbenzene | ND | 80,000 | U | ppbv | 80000 | 12/21/2012 8:55 PM |
| 1,3-Butadiene | ND | 80,000 | U | ppbv | 80000 | 12/21/2012 8:55 PM |
| 1,3-Dichlorobenzene | ND | 80,000 | U | ppbv | 80000 | 12/21/2012 8:55 PM |
| 1,4-Dichlorobenzene | ND | 80,000 | U | ppbv | 80000 | 12/21/2012 8:55 PM |
| 2-Butanone | ND | 80,000 | U | ppbv | 80000 | 12/21/2012 8:55 PM |
| 2-Hexanone | ND | 80,000 | U | ppbv | 80000 | 12/21/2012 8:55 PM |
| 4-Methyl-2-pentanone | ND | 80,000 | U | ppbv | 80000 | 12/21/2012 8:55 PM |
| Acetone | ND | 80,000 | U | ppbv | 80000 | 12/21/2012 8:55 PM |
| Benzene | 180,000 | 80,000 | | ppbv | 80000 | 12/21/2012 8:55 PM |
| Benzyl chloride | ND | 80,000 | U | ppbv | 80000 | 12/21/2012 8:55 PM |
| Bromodichloromethane | ND | 80,000 | U | ppbv | 80000 | 12/21/2012 8:55 PM |
| Bromoform | ND | 80,000 | U | ppbv | 80000 | 12/21/2012 8:55 PM |
| Bromomethane | ND | 80,000 | U | ppbv | 80000 | 12/21/2012 8:55 PM |
| Carbon disulfide | ND | 80,000 | U | ppbv | 80000 | 12/21/2012 8:55 PM |
| Carbon tetrachloride | ND | 80,000 | U | ppbv | 80000 | 12/21/2012 8:55 PM |
| Chlorobenzene | ND | 80,000 | U | ppbv | 80000 | 12/21/2012 8:55 PM |
| Chlorodibromomethane | ND | 80,000 | U | ppbv | 80000 | 12/21/2012 8:55 PM |
| Chloroethane | ND | 80,000 | U | ppbv | 80000 | 12/21/2012 8:55 PM |
| Chloroform | ND | 80,000 | U | ppbv | 80000 | 12/21/2012 8:55 PM |
| Chloromethane | ND | 80,000 | U | ppbv | 80000 | 12/21/2012 8:55 PM |
| cis-1,2-Dichloroethene | ND | 80,000 | U | ppbv | 80000 | 12/21/2012 8:55 PM |
| cis-1,3-dichloropropene | ND | 80,000 | U | ppbv | 80000 | 12/21/2012 8:55 PM |

# RTI Laboratories - Analytical Report

**WO#: 1212373**

**Date Reported: 1/7/2013**
**Revision v2**

| | | | |
|---|---|---|---|
| **Client:** | Shaw Environmental & Infrastructure, Inc | **Collection Date:** | 12/4/2012 10:10:00 AM |
| **Project:** | Kirtland AFB | | |
| **Lab ID:** | 1212373-002 | **Matrix:** | Air |
| **Client Sample ID:** | VA1979 | | |

| Analysis | Result | RL | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| Cyclohexane | 550,000 | 160,000 | | ppbv | 80000 | 12/21/2012 8:55 PM |
| Dichlorodifluoromethane | ND | 80,000 | U | ppbv | 80000 | 12/21/2012 8:55 PM |
| Ethyl acetate | ND | 80,000 | U | ppbv | 80000 | 12/21/2012 8:55 PM |
| Ethylbenzene | ND | 160,000 | U | ppbv | 80000 | 12/21/2012 8:55 PM |
| Heptane | 200,000 | 80,000 | | ppbv | 80000 | 12/21/2012 8:55 PM |
| Hexachlorobutadiene | ND | 160,000 | U | ppbv | 80000 | 12/21/2012 8:55 PM |
| m,p-Xylene | ND | 160,000 | U | ppbv | 80000 | 12/21/2012 8:55 PM |
| Methylene chloride | ND | 400,000 | U | ppbv | 80000 | 12/21/2012 8:55 PM |
| n-Hexane | 410,000 | 160,000 | | ppbv | 80000 | 12/21/2012 8:55 PM |
| Naphthalene | ND | 80,000 | U | ppbv | 80000 | 12/21/2012 8:55 PM |
| o-Xylene | ND | 80,000 | U | ppbv | 80000 | 12/21/2012 8:55 PM |
| Propylene | ND | 80,000 | U | ppbv | 80000 | 12/21/2012 8:55 PM |
| Styrene | ND | 80,000 | U | ppbv | 80000 | 12/21/2012 8:55 PM |
| tert-Butyl Methyl Ether | ND | 80,000 | U | ppbv | 80000 | 12/21/2012 8:55 PM |
| Tetrachloroethene | ND | 80,000 | U | ppbv | 80000 | 12/21/2012 8:55 PM |
| Tetrahydrofuran | ND | 80,000 | U | ppbv | 80000 | 12/21/2012 8:55 PM |
| Toluene | 180,000 | 80,000 | | ppbv | 80000 | 12/21/2012 8:55 PM |
| trans-1,2-Dichloroethene | ND | 80,000 | U | ppbv | 80000 | 12/21/2012 8:55 PM |
| trans-1,3-dichloropropene | ND | 80,000 | U | ppbv | 80000 | 12/21/2012 8:55 PM |
| Trichloroethene | ND | 80,000 | U | ppbv | 80000 | 12/21/2012 8:55 PM |
| Trichlorofluoromethane | ND | 80,000 | U | ppbv | 80000 | 12/21/2012 8:55 PM |
| Vinyl acetate | ND | 80,000 | U | ppbv | 80000 | 12/21/2012 8:55 PM |
| Vinyl chloride | ND | 80,000 | U | ppbv | 80000 | 12/21/2012 8:55 PM |
| Xylenes, Total | ND | 240,000 | U | ppbv | 80000 | 12/21/2012 8:55 PM |
| Surr: 4-Bromofluorobenzene | 95.1 | 70-130 | | %REC | 80000 | 12/21/2012 8:55 PM |
| **Mass APH Air** | | **Method:** | | | | **Analyst: RH3** |
| **Air-Phase Petroleum Hydrocarbons** | | | | | | |
| C5-C8 Aliphatic Hydrocarbons | 30,000,000 | 9,400,000 | | µg/m³ | 80000 | 12/29/2012 2:59 AM |
| C9-C10 Aromatic Hydrocarbons | ND | 11,000,000 | U | µg/m³ | 80000 | 12/29/2012 2:59 AM |
| C9-C12 Aliphatic Hydrocarbons | ND | 15,000,000 | U | µg/m³ | 80000 | 12/29/2012 2:59 AM |
| Surr: 4-Bromofluorobenzene | 95.0 | 70-130 | | %REC | 80000 | 12/29/2012 2:59 AM |

# RTI Laboratories - Analytical Report

**WO#: 1212373**

**Date Reported: 1/7/2013**
**Revision v2**

| | | | |
|---|---|---|---|
| **Client:** | Shaw Environmental & Infrastructure, Inc | **Collection Date:** | 12/4/2012 10:10:00 AM |
| **Project:** | Kirtland AFB | | |
| **Lab ID:** | 1212373-003 | **Matrix:** | Air |
| **Client Sample ID:** | VA1980 | | |

| Analysis | Result | RL | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **Noncondensable Gases and Light Hydrocarbons** | | **Method: ASTM-D2504** | | | | **Analyst: cr** |
| Carbon dioxide | 10 | 0.10 | | % v/v | 1 | 12/26/2012 12:32 PM |
| Carbon Monoxide | ND | 0.10 | U | % v/v | 1 | 12/26/2012 12:32 PM |
| Methane | ND | 0.50 | U | % v/v | 1 | 12/26/2012 12:32 PM |
| Nitrogen | 83 | 0.10 | | % v/v | 1 | 12/26/2012 12:32 PM |
| Oxygen | 4.8 | 0.10 | | % v/v | 1 | 12/26/2012 12:32 PM |
| **Volatile Organic Compounds** | | **Method: TO-15** | | | | **Analyst: RH3** |
| 1,1,1-Trichloroethane | ND | 80,000 | U | ppbv | 80000 | 12/21/2012 8:13 PM |
| 1,1,2,2-Tetrachloroethane | ND | 80,000 | U | ppbv | 80000 | 12/21/2012 8:13 PM |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ND | 80,000 | U | ppbv | 80000 | 12/21/2012 8:13 PM |
| 1,1,2-Trichloroethane | ND | 80,000 | U | ppbv | 80000 | 12/21/2012 8:13 PM |
| 1,1-Dichloroethane | ND | 80,000 | U | ppbv | 80000 | 12/21/2012 8:13 PM |
| 1,1-Dichloroethene | ND | 80,000 | U | ppbv | 80000 | 12/21/2012 8:13 PM |
| 1,2,4-Trichlorobenzene | ND | 80,000 | U | ppbv | 80000 | 12/21/2012 8:13 PM |
| 1,2,4-Trimethylbenzene | ND | 80,000 | U | ppbv | 80000 | 12/21/2012 8:13 PM |
| 1,2-Dibromoethane | ND | 80,000 | U | ppbv | 80000 | 12/21/2012 8:13 PM |
| 1,2-Dichlorobenzene | ND | 80,000 | U | ppbv | 80000 | 12/21/2012 8:13 PM |
| 1,2-Dichloroethane | ND | 80,000 | U | ppbv | 80000 | 12/21/2012 8:13 PM |
| 1,2-Dichloropropane | ND | 80,000 | U | ppbv | 80000 | 12/21/2012 8:13 PM |
| 1,3,5-Trimethylbenzene | ND | 80,000 | U | ppbv | 80000 | 12/21/2012 8:13 PM |
| 1,3-Butadiene | ND | 80,000 | U | ppbv | 80000 | 12/21/2012 8:13 PM |
| 1,3-Dichlorobenzene | ND | 80,000 | U | ppbv | 80000 | 12/21/2012 8:13 PM |
| 1,4-Dichlorobenzene | ND | 80,000 | U | ppbv | 80000 | 12/21/2012 8:13 PM |
| 2-Butanone | ND | 80,000 | U | ppbv | 80000 | 12/21/2012 8:13 PM |
| 2-Hexanone | ND | 80,000 | U | ppbv | 80000 | 12/21/2012 8:13 PM |
| 4-Methyl-2-pentanone | ND | 80,000 | U | ppbv | 80000 | 12/21/2012 8:13 PM |
| Acetone | ND | 80,000 | U | ppbv | 80000 | 12/21/2012 8:13 PM |
| Benzene | 150,000 | 80,000 | | ppbv | 80000 | 12/21/2012 8:13 PM |
| Benzyl chloride | ND | 80,000 | U | ppbv | 80000 | 12/21/2012 8:13 PM |
| Bromodichloromethane | ND | 80,000 | U | ppbv | 80000 | 12/21/2012 8:13 PM |
| Bromoform | ND | 80,000 | U | ppbv | 80000 | 12/21/2012 8:13 PM |
| Bromomethane | ND | 80,000 | U | ppbv | 80000 | 12/21/2012 8:13 PM |
| Carbon disulfide | ND | 80,000 | U | ppbv | 80000 | 12/21/2012 8:13 PM |
| Carbon tetrachloride | ND | 80,000 | U | ppbv | 80000 | 12/21/2012 8:13 PM |
| Chlorobenzene | ND | 80,000 | U | ppbv | 80000 | 12/21/2012 8:13 PM |
| Chlorodibromomethane | ND | 80,000 | U | ppbv | 80000 | 12/21/2012 8:13 PM |
| Chloroethane | ND | 80,000 | U | ppbv | 80000 | 12/21/2012 8:13 PM |
| Chloroform | ND | 80,000 | U | ppbv | 80000 | 12/21/2012 8:13 PM |
| Chloromethane | ND | 80,000 | U | ppbv | 80000 | 12/21/2012 8:13 PM |
| cis-1,2-Dichloroethene | ND | 80,000 | U | ppbv | 80000 | 12/21/2012 8:13 PM |
| cis-1,3-dichloropropene | ND | 80,000 | U | ppbv | 80000 | 12/21/2012 8:13 PM |

# RTI Laboratories - Analytical Report

**WO#: 1212373**

**Date Reported: 1/7/2013**
**Revision v2**

| | | | |
|---|---|---|---|
| **Client:** | Shaw Environmental & Infrastructure, Inc | **Collection Date:** | 12/4/2012 10:10:00 AM |
| **Project:** | Kirtland AFB | | |
| **Lab ID:** | 1212373-003 | **Matrix:** | Air |
| **Client Sample ID:** | VA1980 | | |

| Analysis | Result | RL | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| Cyclohexane | 480,000 | 160,000 | | ppbv | 80000 | 12/21/2012 8:13 PM |
| Dichlorodifluoromethane | ND | 80,000 | U | ppbv | 80000 | 12/21/2012 8:13 PM |
| Ethyl acetate | ND | 80,000 | U | ppbv | 80000 | 12/21/2012 8:13 PM |
| Ethylbenzene | ND | 160,000 | U | ppbv | 80000 | 12/21/2012 8:13 PM |
| Heptane | 170,000 | 80,000 | | ppbv | 80000 | 12/21/2012 8:13 PM |
| Hexachlorobutadiene | ND | 160,000 | U | ppbv | 80000 | 12/21/2012 8:13 PM |
| m,p-Xylene | ND | 160,000 | U | ppbv | 80000 | 12/21/2012 8:13 PM |
| Methylene chloride | ND | 400,000 | U | ppbv | 80000 | 12/21/2012 8:13 PM |
| n-Hexane | 370,000 | 160,000 | | ppbv | 80000 | 12/21/2012 8:13 PM |
| Naphthalene | ND | 80,000 | U | ppbv | 80000 | 12/21/2012 8:13 PM |
| o-Xylene | ND | 80,000 | U | ppbv | 80000 | 12/21/2012 8:13 PM |
| Propylene | ND | 80,000 | U | ppbv | 80000 | 12/21/2012 8:13 PM |
| Styrene | ND | 80,000 | U | ppbv | 80000 | 12/21/2012 8:13 PM |
| tert-Butyl Methyl Ether | ND | 80,000 | U | ppbv | 80000 | 12/21/2012 8:13 PM |
| Tetrachloroethene | ND | 80,000 | U | ppbv | 80000 | 12/21/2012 8:13 PM |
| Tetrahydrofuran | ND | 80,000 | U | ppbv | 80000 | 12/21/2012 8:13 PM |
| Toluene | 140,000 | 80,000 | | ppbv | 80000 | 12/21/2012 8:13 PM |
| trans-1,2-Dichloroethene | ND | 80,000 | U | ppbv | 80000 | 12/21/2012 8:13 PM |
| trans-1,3-dichloropropene | ND | 80,000 | U | ppbv | 80000 | 12/21/2012 8:13 PM |
| Trichloroethene | ND | 80,000 | U | ppbv | 80000 | 12/21/2012 8:13 PM |
| Trichlorofluoromethane | ND | 80,000 | U | ppbv | 80000 | 12/21/2012 8:13 PM |
| Vinyl acetate | ND | 80,000 | U | ppbv | 80000 | 12/21/2012 8:13 PM |
| Vinyl chloride | ND | 80,000 | U | ppbv | 80000 | 12/21/2012 8:13 PM |
| Xylenes, Total | ND | 240,000 | U | ppbv | 80000 | 12/21/2012 8:13 PM |
| Surr: 4-Bromofluorobenzene | 94.0 | 70-130 | | %REC | 80000 | 12/21/2012 8:13 PM |
| **Mass APH Air** | | **Method:** | | | | **Analyst: RH3** |
| **Air-Phase Petroleum Hydrocarbons** | | | | | | |
| C5-C8 Aliphatic Hydrocarbons | 22,000,000 | 9,400,000 | | µg/m³ | 80000 | 12/29/2012 3:47 AM |
| C9-C10 Aromatic Hydrocarbons | ND | 11,000,000 | U | µg/m³ | 80000 | 12/29/2012 3:47 AM |
| C9-C12 Aliphatic Hydrocarbons | ND | 15,000,000 | U | µg/m³ | 80000 | 12/29/2012 3:47 AM |
| Surr: 4-Bromofluorobenzene | 95.4 | 70-130 | | %REC | 80000 | 12/29/2012 3:47 AM |

# RTI Laboratories - Analytical Report

**WO#: 1212373**

**Date Reported: 1/7/2013**
**Revision v2**

| | | | |
|---|---|---|---|
| **Client:** | Shaw Environmental & Infrastructure, Inc | **Collection Date:** | 12/4/2012 10:51:00 AM |
| **Project:** | Kirtland AFB | | |
| **Lab ID:** | 1212373-004 | **Matrix:** | Air |
| **Client Sample ID:** | VA1981 | | |

| Analysis | Result | RL | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **Noncondensable Gases and Light Hydrocarbons** | | **Method: ASTM-D2504** | | | | **Analyst: cr** |
| Carbon dioxide | 1.1 | 0.10 | | % v/v | 1 | 12/26/2012 12:47 PM |
| Carbon Monoxide | ND | 0.10 | U | % v/v | 1 | 12/26/2012 12:47 PM |
| Methane | ND | 0.50 | U | % v/v | 1 | 12/26/2012 12:47 PM |
| Nitrogen | 81 | 0.10 | | % v/v | 1 | 12/26/2012 12:47 PM |
| Oxygen | 18 | 0.10 | | % v/v | 1 | 12/26/2012 12:47 PM |
| **Volatile Organic Compounds** | | **Method: TO-15** | | | | **Analyst: RH3** |
| 1,1,1-Trichloroethane | ND | 1,600 | U | ppbv | 1600 | 1/1/2013 9:30 PM |
| 1,1,2,2-Tetrachloroethane | ND | 1,600 | U | ppbv | 1600 | 1/1/2013 9:30 PM |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ND | 1,600 | U | ppbv | 1600 | 1/1/2013 9:30 PM |
| 1,1,2-Trichloroethane | ND | 1,600 | U | ppbv | 1600 | 1/1/2013 9:30 PM |
| 1,1-Dichloroethane | ND | 1,600 | U | ppbv | 1600 | 1/1/2013 9:30 PM |
| 1,1-Dichloroethene | ND | 1,600 | U | ppbv | 1600 | 1/1/2013 9:30 PM |
| 1,2,4-Trichlorobenzene | ND | 1,600 | U | ppbv | 1600 | 1/1/2013 9:30 PM |
| 1,2,4-Trimethylbenzene | ND | 1,600 | U | ppbv | 1600 | 1/1/2013 9:30 PM |
| 1,2-Dibromoethane | ND | 1,600 | U | ppbv | 1600 | 1/1/2013 9:30 PM |
| 1,2-Dichlorobenzene | ND | 1,600 | U | ppbv | 1600 | 1/1/2013 9:30 PM |
| 1,2-Dichloroethane | ND | 1,600 | U | ppbv | 1600 | 1/1/2013 9:30 PM |
| 1,2-Dichloropropane | ND | 1,600 | U | ppbv | 1600 | 1/1/2013 9:30 PM |
| 1,3,5-Trimethylbenzene | ND | 1,600 | U | ppbv | 1600 | 1/1/2013 9:30 PM |
| 1,3-Butadiene | ND | 1,600 | U | ppbv | 1600 | 1/1/2013 9:30 PM |
| 1,3-Dichlorobenzene | ND | 1,600 | U | ppbv | 1600 | 1/1/2013 9:30 PM |
| 1,4-Dichlorobenzene | ND | 1,600 | U | ppbv | 1600 | 1/1/2013 9:30 PM |
| 2-Butanone | 9,800 | 1,600 | | ppbv | 1600 | 1/1/2013 9:30 PM |
| 2-Hexanone | ND | 1,600 | U | ppbv | 1600 | 1/1/2013 9:30 PM |
| 4-Methyl-2-pentanone | ND | 1,600 | U | ppbv | 1600 | 1/1/2013 9:30 PM |
| Acetone | 46,000 | 1,600 | | ppbv | 1600 | 1/1/2013 9:30 PM |
| Benzene | 26,000 | 1,600 | | ppbv | 1600 | 1/1/2013 9:30 PM |
| Benzyl chloride | ND | 1,600 | U | ppbv | 1600 | 1/1/2013 9:30 PM |
| Bromodichloromethane | ND | 1,600 | U | ppbv | 1600 | 1/1/2013 9:30 PM |
| Bromoform | ND | 1,600 | U | ppbv | 1600 | 1/1/2013 9:30 PM |
| Bromomethane | ND | 1,600 | U | ppbv | 1600 | 1/1/2013 9:30 PM |
| Carbon disulfide | ND | 1,600 | U | ppbv | 1600 | 1/1/2013 9:30 PM |
| Carbon tetrachloride | ND | 1,600 | U | ppbv | 1600 | 1/1/2013 9:30 PM |
| Chlorobenzene | ND | 1,600 | U | ppbv | 1600 | 1/1/2013 9:30 PM |
| Chlorodibromomethane | ND | 1,600 | U | ppbv | 1600 | 1/1/2013 9:30 PM |
| Chloroethane | ND | 1,600 | U | ppbv | 1600 | 1/1/2013 9:30 PM |
| Chloroform | ND | 1,600 | U | ppbv | 1600 | 1/1/2013 9:30 PM |
| Chloromethane | ND | 1,600 | U | ppbv | 1600 | 1/1/2013 9:30 PM |
| cis-1,2-Dichloroethene | ND | 1,600 | U | ppbv | 1600 | 1/1/2013 9:30 PM |
| cis-1,3-dichloropropene | ND | 1,600 | U | ppbv | 1600 | 1/1/2013 9:30 PM |

# RTI Laboratories - Analytical Report

**WO#: 1212373**

**Date Reported: 1/7/2013**
**Revision v2**

| | | | |
|---|---|---|---|
| **Client:** | Shaw Environmental & Infrastructure, Inc | **Collection Date:** | 12/4/2012 10:51:00 AM |
| **Project:** | Kirtland AFB | | |
| **Lab ID:** | 1212373-004 | **Matrix:** | Air |
| **Client Sample ID:** | VA1981 | | |

| Analysis | Result | RL | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| Cyclohexane | 130,000 | 16,000 | | ppbv | 8000 | 1/1/2013 10:12 PM |
| Dichlorodifluoromethane | ND | 1,600 | U | ppbv | 1600 | 1/1/2013 9:30 PM |
| Ethyl acetate | ND | 1,600 | U | ppbv | 1600 | 1/1/2013 9:30 PM |
| Ethylbenzene | 1,800 | 3,200 | J | ppbv | 1600 | 1/1/2013 9:30 PM |
| Heptane | 55,000 | 1,600 | | ppbv | 1600 | 1/1/2013 9:30 PM |
| Hexachlorobutadiene | ND | 3,200 | U | ppbv | 1600 | 1/1/2013 9:30 PM |
| m,p-Xylene | 4,300 | 3,200 | | ppbv | 1600 | 1/1/2013 9:30 PM |
| Methylene chloride | ND | 8,000 | U | ppbv | 1600 | 1/1/2013 9:30 PM |
| n-Hexane | 99,000 | 16,000 | | ppbv | 8000 | 1/1/2013 10:12 PM |
| Naphthalene | ND | 1,600 | U | ppbv | 1600 | 1/1/2013 9:30 PM |
| o-Xylene | ND | 1,600 | U | ppbv | 1600 | 1/1/2013 9:30 PM |
| Propylene | ND | 1,600 | U | ppbv | 1600 | 1/1/2013 9:30 PM |
| Styrene | ND | 1,600 | U | ppbv | 1600 | 1/1/2013 9:30 PM |
| tert-Butyl Methyl Ether | ND | 1,600 | U | ppbv | 1600 | 1/1/2013 9:30 PM |
| Tetrachloroethene | ND | 1,600 | U | ppbv | 1600 | 1/1/2013 9:30 PM |
| Tetrahydrofuran | ND | 1,600 | U | ppbv | 1600 | 1/1/2013 9:30 PM |
| Toluene | 56,000 | 1,600 | | ppbv | 1600 | 1/1/2013 9:30 PM |
| trans-1,2-Dichloroethene | ND | 1,600 | U | ppbv | 1600 | 1/1/2013 9:30 PM |
| trans-1,3-dichloropropene | ND | 1,600 | U | ppbv | 1600 | 1/1/2013 9:30 PM |
| Trichloroethene | ND | 1,600 | U | ppbv | 1600 | 1/1/2013 9:30 PM |
| Trichlorofluoromethane | ND | 1,600 | U | ppbv | 1600 | 1/1/2013 9:30 PM |
| Vinyl acetate | ND | 1,600 | U | ppbv | 1600 | 1/1/2013 9:30 PM |
| Vinyl chloride | ND | 1,600 | U | ppbv | 1600 | 1/1/2013 9:30 PM |
| Xylenes, Total | 4,300 | 4,800 | J | ppbv | 1600 | 1/1/2013 9:30 PM |
| Surr: 4-Bromofluorobenzene | 96.0 | 70-130 | | %REC | 1600 | 1/1/2013 9:30 PM |
| **Mass APH Air** | **Method:** | | | | | **Analyst: RH3** |
| **Air-Phase Petroleum Hydrocarbons** | | | | | | |
| C5-C8 Aliphatic Hydrocarbons | 180,000 | 47,000 | | µg/m³ | 400 | 12/29/2012 4:36 AM |
| C9-C10 Aromatic Hydrocarbons | ND | 53,000 | U | µg/m³ | 400 | 12/29/2012 4:36 AM |
| C9-C12 Aliphatic Hydrocarbons | ND | 76,000 | U | µg/m³ | 400 | 12/29/2012 4:36 AM |
| Surr: 4-Bromofluorobenzene | 95.3 | 70-130 | | %REC | 400 | 12/29/2012 4:36 AM |

# RTI Laboratories - Analytical Report

**WO#: 1212373**

**Date Reported: 1/7/2013**
**Revision v2**

| | | | |
|---|---|---|---|
| **Client:** | Shaw Environmental & Infrastructure, Inc | **Collection Date:** | 12/4/2012 11:14:00 AM |
| **Project:** | Kirtland AFB | | |
| **Lab ID:** | 1212373-005 | **Matrix:** | Air |
| **Client Sample ID:** | VA1982 | | |

| Analysis | Result | RL | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **Noncondensable Gases and Light Hydrocarbons** | | **Method: ASTM-D2504** | | | | **Analyst: cr** |
| Carbon dioxide | 1.4 | 0.10 | | % v/v | 1 | 12/26/2012 1:01 PM |
| Carbon Monoxide | ND | 0.10 | U | % v/v | 1 | 12/26/2012 1:01 PM |
| Methane | ND | 0.50 | U | % v/v | 1 | 12/26/2012 1:01 PM |
| Nitrogen | 80 | 0.10 | | % v/v | 1 | 12/26/2012 1:01 PM |
| Oxygen | 18 | 0.10 | | % v/v | 1 | 12/26/2012 1:01 PM |
| **Volatile Organic Compounds** | | **Method: TO-15** | | | | **Analyst: RH3** |
| 1,1,1-Trichloroethane | ND | 400 | U | ppbv | 400 | 12/21/2012 11:52 PM |
| 1,1,2,2-Tetrachloroethane | ND | 400 | U | ppbv | 400 | 12/21/2012 11:52 PM |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ND | 400 | U | ppbv | 400 | 12/21/2012 11:52 PM |
| 1,1,2-Trichloroethane | ND | 400 | U | ppbv | 400 | 12/21/2012 11:52 PM |
| 1,1-Dichloroethane | ND | 400 | U | ppbv | 400 | 12/21/2012 11:52 PM |
| 1,1-Dichloroethene | ND | 400 | U | ppbv | 400 | 12/21/2012 11:52 PM |
| 1,2,4-Trichlorobenzene | ND | 400 | U | ppbv | 400 | 12/21/2012 11:52 PM |
| 1,2,4-Trimethylbenzene | ND | 400 | U | ppbv | 400 | 12/21/2012 11:52 PM |
| 1,2-Dibromoethane | ND | 400 | U | ppbv | 400 | 12/21/2012 11:52 PM |
| 1,2-Dichlorobenzene | ND | 400 | U | ppbv | 400 | 12/21/2012 11:52 PM |
| 1,2-Dichloroethane | ND | 400 | U | ppbv | 400 | 12/21/2012 11:52 PM |
| 1,2-Dichloropropane | ND | 400 | U | ppbv | 400 | 12/21/2012 11:52 PM |
| 1,3,5-Trimethylbenzene | ND | 400 | U | ppbv | 400 | 12/21/2012 11:52 PM |
| 1,3-Butadiene | ND | 400 | U | ppbv | 400 | 12/21/2012 11:52 PM |
| 1,3-Dichlorobenzene | ND | 400 | U | ppbv | 400 | 12/21/2012 11:52 PM |
| 1,4-Dichlorobenzene | ND | 400 | U | ppbv | 400 | 12/21/2012 11:52 PM |
| 2-Butanone | ND | 400 | U | ppbv | 400 | 12/21/2012 11:52 PM |
| 2-Hexanone | ND | 400 | U | ppbv | 400 | 12/21/2012 11:52 PM |
| 4-Methyl-2-pentanone | ND | 400 | U | ppbv | 400 | 12/21/2012 11:52 PM |
| Acetone | 3,000 | 400 | | ppbv | 400 | 12/21/2012 11:52 PM |
| Benzene | 2,800 | 400 | | ppbv | 400 | 12/21/2012 11:52 PM |
| Benzyl chloride | ND | 400 | U | ppbv | 400 | 12/21/2012 11:52 PM |
| Bromodichloromethane | ND | 400 | U | ppbv | 400 | 12/21/2012 11:52 PM |
| Bromoform | ND | 400 | U | ppbv | 400 | 12/21/2012 11:52 PM |
| Bromomethane | ND | 400 | U | ppbv | 400 | 12/21/2012 11:52 PM |
| Carbon disulfide | ND | 400 | U | ppbv | 400 | 12/21/2012 11:52 PM |
| Carbon tetrachloride | ND | 400 | U | ppbv | 400 | 12/21/2012 11:52 PM |
| Chlorobenzene | ND | 400 | U | ppbv | 400 | 12/21/2012 11:52 PM |
| Chlorodibromomethane | ND | 400 | U | ppbv | 400 | 12/21/2012 11:52 PM |
| Chloroethane | ND | 400 | U | ppbv | 400 | 12/21/2012 11:52 PM |
| Chloroform | ND | 400 | U | ppbv | 400 | 12/21/2012 11:52 PM |
| Chloromethane | ND | 400 | U | ppbv | 400 | 12/21/2012 11:52 PM |
| cis-1,2-Dichloroethene | ND | 400 | U | ppbv | 400 | 12/21/2012 11:52 PM |
| cis-1,3-dichloropropene | ND | 400 | U | ppbv | 400 | 12/21/2012 11:52 PM |

# RTI Laboratories - Analytical Report

**WO#: 1212373**

**Date Reported: 1/7/2013**
**Revision v2**

| | | | |
|---|---|---|---|
| **Client:** | Shaw Environmental & Infrastructure, Inc | **Collection Date:** | 12/4/2012 11:14:00 AM |
| **Project:** | Kirtland AFB | | |
| **Lab ID:** | 1212373-005 | **Matrix:** | Air |
| **Client Sample ID:** | VA1982 | | |

| Analysis | Result | RL | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| Cyclohexane | 4,900 | 800 | | ppbv | 400 | 12/21/2012 11:52 PM |
| Dichlorodifluoromethane | ND | 400 | U | ppbv | 400 | 12/21/2012 11:52 PM |
| Ethyl acetate | ND | 400 | U | ppbv | 400 | 12/21/2012 11:52 PM |
| Ethylbenzene | 2,300 | 800 | | ppbv | 400 | 12/21/2012 11:52 PM |
| Heptane | 6,000 | 400 | | ppbv | 400 | 12/21/2012 11:52 PM |
| Hexachlorobutadiene | ND | 800 | U | ppbv | 400 | 12/21/2012 11:52 PM |
| m,p-Xylene | 4,700 | 800 | | ppbv | 400 | 12/21/2012 11:52 PM |
| Methylene chloride | 12,000 | 2,000 | | ppbv | 400 | 12/21/2012 11:52 PM |
| n-Hexane | 5,400 | 800 | | ppbv | 400 | 12/21/2012 11:52 PM |
| Naphthalene | ND | 400 | U | ppbv | 400 | 12/21/2012 11:52 PM |
| o-Xylene | 1,500 | 400 | | ppbv | 400 | 12/21/2012 11:52 PM |
| Propylene | ND | 400 | U | ppbv | 400 | 12/21/2012 11:52 PM |
| Styrene | ND | 400 | U | ppbv | 400 | 12/21/2012 11:52 PM |
| tert-Butyl Methyl Ether | ND | 400 | U | ppbv | 400 | 12/21/2012 11:52 PM |
| Tetrachloroethene | ND | 400 | U | ppbv | 400 | 12/21/2012 11:52 PM |
| Tetrahydrofuran | ND | 400 | U | ppbv | 400 | 12/21/2012 11:52 PM |
| Toluene | 14,000 | 400 | | ppbv | 400 | 12/21/2012 11:52 PM |
| trans-1,2-Dichloroethene | ND | 400 | U | ppbv | 400 | 12/21/2012 11:52 PM |
| trans-1,3-dichloropropene | ND | 400 | U | ppbv | 400 | 12/21/2012 11:52 PM |
| Trichloroethene | ND | 400 | U | ppbv | 400 | 12/21/2012 11:52 PM |
| Trichlorofluoromethane | ND | 400 | U | ppbv | 400 | 12/21/2012 11:52 PM |
| Vinyl acetate | ND | 400 | U | ppbv | 400 | 12/21/2012 11:52 PM |
| Vinyl chloride | ND | 400 | U | ppbv | 400 | 12/21/2012 11:52 PM |
| Xylenes, Total | 6,300 | 1,200 | | ppbv | 400 | 12/21/2012 11:52 PM |
| Surr: 4-Bromofluorobenzene | 98.6 | 70-130 | | %REC | 400 | 12/21/2012 11:52 PM |
| **Mass APH Air** | **Method:** | | | | | **Analyst: RH3** |
| **Air-Phase Petroleum Hydrocarbons** | | | | | | |
| C5-C8 Aliphatic Hydrocarbons | 530,000 | 94,000 | | µg/m³ | 800 | 12/29/2012 7:01 AM |
| C9-C10 Aromatic Hydrocarbons | ND | 110,000 | U | µg/m³ | 800 | 12/29/2012 7:01 AM |
| C9-C12 Aliphatic Hydrocarbons | 120,000 | 150,000 | J | µg/m³ | 800 | 12/29/2012 7:01 AM |
| Surr: 4-Bromofluorobenzene | 96.8 | 70-130 | | %REC | 800 | 12/29/2012 7:01 AM |

# RTI Laboratories - Analytical Report

**WO#: 1212373**

**Date Reported: 1/7/2013**
**Revision v2**

| | | | |
|---|---|---|---|
| **Client:** | Shaw Environmental & Infrastructure, Inc | **Collection Date:** | 12/4/2012 8:50:00 AM |
| **Project:** | Kirtland AFB | | |
| **Lab ID:** | 1212373-006 | **Matrix:** | Air |
| **Client Sample ID:** | VA2074 | | |

| Analysis | Result | RL | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **Noncondensable Gases and Light Hydrocarbons** | | **Method: ASTM-D2504** | | | | **Analyst: cr** |
| Carbon dioxide | 0.31 | 0.10 | | % v/v | 1 | 12/26/2012 1:23 PM |
| Carbon Monoxide | ND | 0.10 | U | % v/v | 1 | 12/26/2012 1:23 PM |
| Methane | ND | 0.50 | U | % v/v | 1 | 12/26/2012 1:23 PM |
| Nitrogen | 80 | 0.10 | | % v/v | 1 | 12/26/2012 1:23 PM |
| Oxygen | 21 | 0.10 | | % v/v | 1 | 12/26/2012 1:23 PM |
| **Volatile Organic Compounds** | | **Method: TO-15** | | | | **Analyst: RH3** |
| 1,1,1-Trichloroethane | ND | 40 | U | ppbv | 40 | 12/20/2012 5:41 AM |
| 1,1,2,2-Tetrachloroethane | ND | 40 | U | ppbv | 40 | 12/20/2012 5:41 AM |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ND | 40 | U | ppbv | 40 | 12/20/2012 5:41 AM |
| 1,1,2-Trichloroethane | ND | 40 | U | ppbv | 40 | 12/20/2012 5:41 AM |
| 1,1-Dichloroethane | ND | 40 | U | ppbv | 40 | 12/20/2012 5:41 AM |
| 1,1-Dichloroethene | ND | 40 | U | ppbv | 40 | 12/20/2012 5:41 AM |
| 1,2,4-Trichlorobenzene | ND | 40 | U | ppbv | 40 | 12/20/2012 5:41 AM |
| 1,2,4-Trimethylbenzene | ND | 40 | U | ppbv | 40 | 12/20/2012 5:41 AM |
| 1,2-Dibromoethane | ND | 40 | U | ppbv | 40 | 12/20/2012 5:41 AM |
| 1,2-Dichlorobenzene | ND | 40 | U | ppbv | 40 | 12/20/2012 5:41 AM |
| 1,2-Dichloroethane | ND | 40 | U | ppbv | 40 | 12/20/2012 5:41 AM |
| 1,2-Dichloropropane | ND | 40 | U | ppbv | 40 | 12/20/2012 5:41 AM |
| 1,3,5-Trimethylbenzene | ND | 40 | U | ppbv | 40 | 12/20/2012 5:41 AM |
| 1,3-Butadiene | ND | 40 | U | ppbv | 40 | 12/20/2012 5:41 AM |
| 1,3-Dichlorobenzene | ND | 40 | U | ppbv | 40 | 12/20/2012 5:41 AM |
| 1,4-Dichlorobenzene | ND | 40 | U | ppbv | 40 | 12/20/2012 5:41 AM |
| 2-Butanone | ND | 40 | U | ppbv | 40 | 12/20/2012 5:41 AM |
| 2-Hexanone | ND | 40 | U | ppbv | 40 | 12/20/2012 5:41 AM |
| 4-Methyl-2-pentanone | ND | 40 | U | ppbv | 40 | 12/20/2012 5:41 AM |
| Acetone | ND | 40 | U | ppbv | 40 | 12/20/2012 5:41 AM |
| Benzene | 76 | 40 | | ppbv | 40 | 12/20/2012 5:41 AM |
| Benzyl chloride | ND | 40 | U | ppbv | 40 | 12/20/2012 5:41 AM |
| Bromodichloromethane | ND | 40 | U | ppbv | 40 | 12/20/2012 5:41 AM |
| Bromoform | ND | 40 | U | ppbv | 40 | 12/20/2012 5:41 AM |
| Bromomethane | ND | 40 | U | ppbv | 40 | 12/20/2012 5:41 AM |
| Carbon disulfide | ND | 40 | U | ppbv | 40 | 12/20/2012 5:41 AM |
| Carbon tetrachloride | ND | 40 | U | ppbv | 40 | 12/20/2012 5:41 AM |
| Chlorobenzene | ND | 40 | U | ppbv | 40 | 12/20/2012 5:41 AM |
| Chlorodibromomethane | ND | 40 | U | ppbv | 40 | 12/20/2012 5:41 AM |
| Chloroethane | ND | 40 | U | ppbv | 40 | 12/20/2012 5:41 AM |
| Chloroform | ND | 40 | U | ppbv | 40 | 12/20/2012 5:41 AM |
| Chloromethane | ND | 40 | U | ppbv | 40 | 12/20/2012 5:41 AM |
| cis-1,2-Dichloroethene | ND | 40 | U | ppbv | 40 | 12/20/2012 5:41 AM |
| cis-1,3-dichloropropene | ND | 40 | U | ppbv | 40 | 12/20/2012 5:41 AM |

# RTI Laboratories - Analytical Report

**WO#: 1212373**

**Date Reported: 1/7/2013**
**Revision v2**

| | | | |
|---|---|---|---|
| **Client:** | Shaw Environmental & Infrastructure, Inc | **Collection Date:** | 12/4/2012 8:50:00 AM |
| **Project:** | Kirtland AFB | | |
| **Lab ID:** | 1212373-006 | **Matrix:** | Air |
| **Client Sample ID:** | VA2074 | | |

| Analysis | Result | RL | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| Cyclohexane | 260 | 80 | | ppbv | 40 | 12/20/2012 5:41 AM |
| Dichlorodifluoromethane | ND | 40 | U | ppbv | 40 | 12/20/2012 5:41 AM |
| Ethyl acetate | ND | 40 | U | ppbv | 40 | 12/20/2012 5:41 AM |
| Ethylbenzene | ND | 80 | U | ppbv | 40 | 12/20/2012 5:41 AM |
| Heptane | 63 | 40 | | ppbv | 40 | 12/20/2012 5:41 AM |
| Hexachlorobutadiene | ND | 80 | U | ppbv | 40 | 12/20/2012 5:41 AM |
| m,p-Xylene | ND | 80 | U | ppbv | 40 | 12/20/2012 5:41 AM |
| Methylene chloride | ND | 200 | U | ppbv | 40 | 12/20/2012 5:41 AM |
| n-Hexane | 210 | 80 | | ppbv | 40 | 12/20/2012 5:41 AM |
| Naphthalene | ND | 40 | U | ppbv | 40 | 12/20/2012 5:41 AM |
| o-Xylene | ND | 40 | U | ppbv | 40 | 12/20/2012 5:41 AM |
| Propylene | ND | 40 | U | ppbv | 40 | 12/20/2012 5:41 AM |
| Styrene | ND | 40 | U | ppbv | 40 | 12/20/2012 5:41 AM |
| tert-Butyl Methyl Ether | ND | 40 | U | ppbv | 40 | 12/20/2012 5:41 AM |
| Tetrachloroethene | ND | 40 | U | ppbv | 40 | 12/20/2012 5:41 AM |
| Tetrahydrofuran | ND | 40 | U | ppbv | 40 | 12/20/2012 5:41 AM |
| Toluene | 310 | 40 | | ppbv | 40 | 12/20/2012 5:41 AM |
| trans-1,2-Dichloroethene | ND | 40 | U | ppbv | 40 | 12/20/2012 5:41 AM |
| trans-1,3-dichloropropene | ND | 40 | U | ppbv | 40 | 12/20/2012 5:41 AM |
| Trichloroethene | ND | 40 | U | ppbv | 40 | 12/20/2012 5:41 AM |
| Trichlorofluoromethane | ND | 40 | U | ppbv | 40 | 12/20/2012 5:41 AM |
| Vinyl acetate | ND | 40 | U | ppbv | 40 | 12/20/2012 5:41 AM |
| Vinyl chloride | ND | 40 | U | ppbv | 40 | 12/20/2012 5:41 AM |
| Xylenes, Total | ND | 120 | U | ppbv | 40 | 12/20/2012 5:41 AM |
| Surr: 4-Bromofluorobenzene | 100 | 70-130 | | %REC | 40 | 12/20/2012 5:41 AM |
| **Mass APH Air** | **Method:** | | | | | **Analyst: RH3** |
| **Air-Phase Petroleum Hydrocarbons** | | | | | | |
| C5-C8 Aliphatic Hydrocarbons | 100,000 | 47,000 | | µg/m³ | 400 | 12/21/2012 10:28 PM |
| C9-C10 Aromatic Hydrocarbons | ND | 53,000 | U | µg/m³ | 400 | 12/21/2012 10:28 PM |
| C9-C12 Aliphatic Hydrocarbons | ND | 76,000 | U | µg/m³ | 400 | 12/21/2012 10:28 PM |
| Surr: 4-Bromofluorobenzene | 95.5 | 70-130 | | %REC | 400 | 12/21/2012 10:28 PM |

# RTI Laboratories - Analytical Report

**WO#: 1212373**

**Date Reported: 1/7/2013**
**Revision v2**

| | | | |
|---|---|---|---|
| **Client:** | Shaw Environmental & Infrastructure, Inc | **Collection Date:** | 12/4/2012 9:19:00 AM |
| **Project:** | Kirtland AFB | | |
| **Lab ID:** | 1212373-007 | **Matrix:** | Air |
| **Client Sample ID:** | VA2075 | | |

| Analysis | Result | RL | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **Noncondensable Gases and Light Hydrocarbons** | | **Method: ASTM-D2504** | | | | **Analyst: cr** |
| Carbon dioxide | 0.38 | 0.10 | | % v/v | 1 | 12/26/2012 2:15 PM |
| Carbon Monoxide | ND | 0.10 | U | % v/v | 1 | 12/26/2012 2:15 PM |
| Methane | ND | 0.50 | U | % v/v | 1 | 12/26/2012 2:15 PM |
| Nitrogen | 81 | 0.10 | | % v/v | 1 | 12/26/2012 2:15 PM |
| Oxygen | 21 | 0.10 | | % v/v | 1 | 12/26/2012 2:15 PM |
| **Volatile Organic Compounds** | | **Method: TO-15** | | | | **Analyst: RH3** |
| 1,1,1-Trichloroethane | ND | 40 | U | ppbv | 40 | 12/20/2012 6:22 AM |
| 1,1,2,2-Tetrachloroethane | ND | 40 | U | ppbv | 40 | 12/20/2012 6:22 AM |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ND | 40 | U | ppbv | 40 | 12/20/2012 6:22 AM |
| 1,1,2-Trichloroethane | ND | 40 | U | ppbv | 40 | 12/20/2012 6:22 AM |
| 1,1-Dichloroethane | ND | 40 | U | ppbv | 40 | 12/20/2012 6:22 AM |
| 1,1-Dichloroethene | ND | 40 | U | ppbv | 40 | 12/20/2012 6:22 AM |
| 1,2,4-Trichlorobenzene | ND | 40 | U | ppbv | 40 | 12/20/2012 6:22 AM |
| 1,2,4-Trimethylbenzene | ND | 40 | U | ppbv | 40 | 12/20/2012 6:22 AM |
| 1,2-Dibromoethane | ND | 40 | U | ppbv | 40 | 12/20/2012 6:22 AM |
| 1,2-Dichlorobenzene | ND | 40 | U | ppbv | 40 | 12/20/2012 6:22 AM |
| 1,2-Dichloroethane | ND | 40 | U | ppbv | 40 | 12/20/2012 6:22 AM |
| 1,2-Dichloropropane | ND | 40 | U | ppbv | 40 | 12/20/2012 6:22 AM |
| 1,3,5-Trimethylbenzene | ND | 40 | U | ppbv | 40 | 12/20/2012 6:22 AM |
| 1,3-Butadiene | ND | 40 | U | ppbv | 40 | 12/20/2012 6:22 AM |
| 1,3-Dichlorobenzene | ND | 40 | U | ppbv | 40 | 12/20/2012 6:22 AM |
| 1,4-Dichlorobenzene | ND | 40 | U | ppbv | 40 | 12/20/2012 6:22 AM |
| 2-Butanone | ND | 40 | U | ppbv | 40 | 12/20/2012 6:22 AM |
| 2-Hexanone | ND | 40 | U | ppbv | 40 | 12/20/2012 6:22 AM |
| 4-Methyl-2-pentanone | ND | 40 | U | ppbv | 40 | 12/20/2012 6:22 AM |
| Acetone | ND | 40 | U | ppbv | 40 | 12/20/2012 6:22 AM |
| Benzene | 76 | 40 | | ppbv | 40 | 12/20/2012 6:22 AM |
| Benzyl chloride | ND | 40 | U | ppbv | 40 | 12/20/2012 6:22 AM |
| Bromodichloromethane | ND | 40 | U | ppbv | 40 | 12/20/2012 6:22 AM |
| Bromoform | ND | 40 | U | ppbv | 40 | 12/20/2012 6:22 AM |
| Bromomethane | ND | 40 | U | ppbv | 40 | 12/20/2012 6:22 AM |
| Carbon disulfide | ND | 40 | U | ppbv | 40 | 12/20/2012 6:22 AM |
| Carbon tetrachloride | ND | 40 | U | ppbv | 40 | 12/20/2012 6:22 AM |
| Chlorobenzene | ND | 40 | U | ppbv | 40 | 12/20/2012 6:22 AM |
| Chlorodibromomethane | ND | 40 | U | ppbv | 40 | 12/20/2012 6:22 AM |
| Chloroethane | ND | 40 | U | ppbv | 40 | 12/20/2012 6:22 AM |
| Chloroform | ND | 40 | U | ppbv | 40 | 12/20/2012 6:22 AM |
| Chloromethane | ND | 40 | U | ppbv | 40 | 12/20/2012 6:22 AM |
| cis-1,2-Dichloroethene | ND | 40 | U | ppbv | 40 | 12/20/2012 6:22 AM |
| cis-1,3-dichloropropene | ND | 40 | U | ppbv | 40 | 12/20/2012 6:22 AM |

# RTI Laboratories - Analytical Report

**WO#: 1212373**

**Date Reported: 1/7/2013**
**Revision v2**

| | | | |
|---|---|---|---|
| **Client:** | Shaw Environmental & Infrastructure, Inc | **Collection Date:** | 12/4/2012 9:19:00 AM |
| **Project:** | Kirtland AFB | | |
| **Lab ID:** | 1212373-007 | **Matrix:** | Air |
| **Client Sample ID:** | VA2075 | | |

| Analysis | Result | RL | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| Cyclohexane | 230 | 80 | | ppbv | 40 | 12/20/2012 6:22 AM |
| Dichlorodifluoromethane | ND | 40 | U | ppbv | 40 | 12/20/2012 6:22 AM |
| Ethyl acetate | ND | 40 | U | ppbv | 40 | 12/20/2012 6:22 AM |
| Ethylbenzene | ND | 80 | U | ppbv | 40 | 12/20/2012 6:22 AM |
| Heptane | 63 | 40 | | ppbv | 40 | 12/20/2012 6:22 AM |
| Hexachlorobutadiene | ND | 80 | U | ppbv | 40 | 12/20/2012 6:22 AM |
| m,p-Xylene | ND | 80 | U | ppbv | 40 | 12/20/2012 6:22 AM |
| Methylene chloride | ND | 200 | U | ppbv | 40 | 12/20/2012 6:22 AM |
| n-Hexane | 210 | 80 | | ppbv | 40 | 12/20/2012 6:22 AM |
| Naphthalene | ND | 40 | U | ppbv | 40 | 12/20/2012 6:22 AM |
| o-Xylene | ND | 40 | U | ppbv | 40 | 12/20/2012 6:22 AM |
| Propylene | ND | 40 | U | ppbv | 40 | 12/20/2012 6:22 AM |
| Styrene | ND | 40 | U | ppbv | 40 | 12/20/2012 6:22 AM |
| tert-Butyl Methyl Ether | ND | 40 | U | ppbv | 40 | 12/20/2012 6:22 AM |
| Tetrachloroethene | ND | 40 | U | ppbv | 40 | 12/20/2012 6:22 AM |
| Tetrahydrofuran | ND | 40 | U | ppbv | 40 | 12/20/2012 6:22 AM |
| Toluene | 310 | 40 | | ppbv | 40 | 12/20/2012 6:22 AM |
| trans-1,2-Dichloroethene | ND | 40 | U | ppbv | 40 | 12/20/2012 6:22 AM |
| trans-1,3-dichloropropene | ND | 40 | U | ppbv | 40 | 12/20/2012 6:22 AM |
| Trichloroethene | ND | 40 | U | ppbv | 40 | 12/20/2012 6:22 AM |
| Trichlorofluoromethane | ND | 40 | U | ppbv | 40 | 12/20/2012 6:22 AM |
| Vinyl acetate | ND | 40 | U | ppbv | 40 | 12/20/2012 6:22 AM |
| Vinyl chloride | ND | 40 | U | ppbv | 40 | 12/20/2012 6:22 AM |
| Xylenes, Total | ND | 120 | U | ppbv | 40 | 12/20/2012 6:22 AM |
| Surr: 4-Bromofluorobenzene | 99.4 | 70-130 | | %REC | 40 | 12/20/2012 6:22 AM |
| **Mass APH Air** | **Method:** | | | | | **Analyst: RH3** |
| **Air-Phase Petroleum Hydrocarbons** | | | | | | |
| C5-C8 Aliphatic Hydrocarbons | 150,000 | 47,000 | | µg/m³ | 400 | 12/21/2012 11:17 PM |
| C9-C10 Aromatic Hydrocarbons | ND | 53,000 | U | µg/m³ | 400 | 12/21/2012 11:17 PM |
| C9-C12 Aliphatic Hydrocarbons | ND | 76,000 | U | µg/m³ | 400 | 12/21/2012 11:17 PM |
| Surr: 4-Bromofluorobenzene | 94.6 | 70-130 | | %REC | 400 | 12/21/2012 11:17 PM |

# RTI Laboratories - Analytical Report

**WO#: 1212373**

**Date Reported: 1/7/2013**
**Revision v2**

| | | | |
|---|---|---|---|
| **Client:** | Shaw Environmental & Infrastructure, Inc | **Collection Date:** | 12/4/2012 9:50:00 AM |
| **Project:** | Kirtland AFB | | |
| **Lab ID:** | 1212373-008 | **Matrix:** | Air |
| **Client Sample ID:** | VA2076 | | |

| Analysis | Result | RL | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **Noncondensable Gases and Light Hydrocarbons** | | **Method: ASTM-D2504** | | | | **Analyst: cr** |
| Carbon dioxide | 0.39 | 0.10 | | % v/v | 1 | 12/26/2012 2:30 PM |
| Carbon Monoxide | ND | 0.10 | U | % v/v | 1 | 12/26/2012 2:30 PM |
| Methane | ND | 0.50 | U | % v/v | 1 | 12/26/2012 2:30 PM |
| Nitrogen | 81 | 0.10 | | % v/v | 1 | 12/26/2012 2:30 PM |
| Oxygen | 19 | 0.10 | | % v/v | 1 | 12/26/2012 2:30 PM |
| **Volatile Organic Compounds** | | **Method: TO-15** | | | | **Analyst: RH3** |
| 1,1,1-Trichloroethane | ND | 40 | U | ppbv | 40 | 12/21/2012 11:41 AM |
| 1,1,2,2-Tetrachloroethane | ND | 40 | U | ppbv | 40 | 12/21/2012 11:41 AM |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ND | 40 | U | ppbv | 40 | 12/21/2012 11:41 AM |
| 1,1,2-Trichloroethane | ND | 40 | U | ppbv | 40 | 12/21/2012 11:41 AM |
| 1,1-Dichloroethane | ND | 40 | U | ppbv | 40 | 12/21/2012 11:41 AM |
| 1,1-Dichloroethene | ND | 40 | U | ppbv | 40 | 12/21/2012 11:41 AM |
| 1,2,4-Trichlorobenzene | ND | 40 | U | ppbv | 40 | 12/21/2012 11:41 AM |
| 1,2,4-Trimethylbenzene | ND | 40 | U | ppbv | 40 | 12/21/2012 11:41 AM |
| 1,2-Dibromoethane | ND | 40 | U | ppbv | 40 | 12/21/2012 11:41 AM |
| 1,2-Dichlorobenzene | ND | 40 | U | ppbv | 40 | 12/21/2012 11:41 AM |
| 1,2-Dichloroethane | ND | 40 | U | ppbv | 40 | 12/21/2012 11:41 AM |
| 1,2-Dichloropropane | ND | 40 | U | ppbv | 40 | 12/21/2012 11:41 AM |
| 1,3,5-Trimethylbenzene | ND | 40 | U | ppbv | 40 | 12/21/2012 11:41 AM |
| 1,3-Butadiene | ND | 40 | U | ppbv | 40 | 12/21/2012 11:41 AM |
| 1,3-Dichlorobenzene | ND | 40 | U | ppbv | 40 | 12/21/2012 11:41 AM |
| 1,4-Dichlorobenzene | ND | 40 | U | ppbv | 40 | 12/21/2012 11:41 AM |
| 2-Butanone | ND | 40 | U | ppbv | 40 | 12/21/2012 11:41 AM |
| 2-Hexanone | ND | 40 | U | ppbv | 40 | 12/21/2012 11:41 AM |
| 4-Methyl-2-pentanone | ND | 40 | U | ppbv | 40 | 12/21/2012 11:41 AM |
| Acetone | ND | 40 | U | ppbv | 40 | 12/21/2012 11:41 AM |
| Benzene | 79 | 40 | | ppbv | 40 | 12/21/2012 11:41 AM |
| Benzyl chloride | ND | 40 | U | ppbv | 40 | 12/21/2012 11:41 AM |
| Bromodichloromethane | ND | 40 | U | ppbv | 40 | 12/21/2012 11:41 AM |
| Bromoform | ND | 40 | U | ppbv | 40 | 12/21/2012 11:41 AM |
| Bromomethane | ND | 40 | U | ppbv | 40 | 12/21/2012 11:41 AM |
| Carbon disulfide | ND | 40 | U | ppbv | 40 | 12/21/2012 11:41 AM |
| Carbon tetrachloride | ND | 40 | U | ppbv | 40 | 12/21/2012 11:41 AM |
| Chlorobenzene | ND | 40 | U | ppbv | 40 | 12/21/2012 11:41 AM |
| Chlorodibromomethane | ND | 40 | U | ppbv | 40 | 12/21/2012 11:41 AM |
| Chloroethane | ND | 40 | U | ppbv | 40 | 12/21/2012 11:41 AM |
| Chloroform | ND | 40 | U | ppbv | 40 | 12/21/2012 11:41 AM |
| Chloromethane | ND | 40 | U | ppbv | 40 | 12/21/2012 11:41 AM |
| cis-1,2-Dichloroethene | ND | 40 | U | ppbv | 40 | 12/21/2012 11:41 AM |
| cis-1,3-dichloropropene | ND | 40 | U | ppbv | 40 | 12/21/2012 11:41 AM |

# RTI Laboratories - Analytical Report

**WO#: 1212373**

**Date Reported: 1/7/2013**
**Revision v2**

| | | | |
|---|---|---|---|
| **Client:** | Shaw Environmental & Infrastructure, Inc | **Collection Date:** | 12/4/2012 9:50:00 AM |
| **Project:** | Kirtland AFB | | |
| **Lab ID:** | 1212373-008 | **Matrix:** | Air |
| **Client Sample ID:** | VA2076 | | |

| Analysis | Result | RL | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| Cyclohexane | 310 | 80 | | ppbv | 40 | 12/21/2012 11:41 AM |
| Dichlorodifluoromethane | ND | 40 | U | ppbv | 40 | 12/21/2012 11:41 AM |
| Ethyl acetate | ND | 40 | U | ppbv | 40 | 12/21/2012 11:41 AM |
| Ethylbenzene | ND | 80 | U | ppbv | 40 | 12/21/2012 11:41 AM |
| Heptane | 100 | 40 | | ppbv | 40 | 12/21/2012 11:41 AM |
| Hexachlorobutadiene | ND | 80 | U | ppbv | 40 | 12/21/2012 11:41 AM |
| m,p-Xylene | ND | 80 | U | ppbv | 40 | 12/21/2012 11:41 AM |
| Methylene chloride | ND | 200 | U | ppbv | 40 | 12/21/2012 11:41 AM |
| n-Hexane | 240 | 80 | | ppbv | 40 | 12/21/2012 11:41 AM |
| Naphthalene | ND | 40 | U | ppbv | 40 | 12/21/2012 11:41 AM |
| o-Xylene | ND | 40 | U | ppbv | 40 | 12/21/2012 11:41 AM |
| Propylene | ND | 40 | U | ppbv | 40 | 12/21/2012 11:41 AM |
| Styrene | ND | 40 | U | ppbv | 40 | 12/21/2012 11:41 AM |
| tert-Butyl Methyl Ether | ND | 40 | U | ppbv | 40 | 12/21/2012 11:41 AM |
| Tetrachloroethene | ND | 40 | U | ppbv | 40 | 12/21/2012 11:41 AM |
| Tetrahydrofuran | ND | 40 | U | ppbv | 40 | 12/21/2012 11:41 AM |
| Toluene | 390 | 40 | | ppbv | 40 | 12/21/2012 11:41 AM |
| trans-1,2-Dichloroethene | ND | 40 | U | ppbv | 40 | 12/21/2012 11:41 AM |
| trans-1,3-dichloropropene | ND | 40 | U | ppbv | 40 | 12/21/2012 11:41 AM |
| Trichloroethene | ND | 40 | U | ppbv | 40 | 12/21/2012 11:41 AM |
| Trichlorofluoromethane | ND | 40 | U | ppbv | 40 | 12/21/2012 11:41 AM |
| Vinyl acetate | ND | 40 | U | ppbv | 40 | 12/21/2012 11:41 AM |
| Vinyl chloride | ND | 40 | U | ppbv | 40 | 12/21/2012 11:41 AM |
| Xylenes, Total | ND | 120 | U | ppbv | 40 | 12/21/2012 11:41 AM |
| Surr: 4-Bromofluorobenzene | 97.7 | 70-130 | | %REC | 40 | 12/21/2012 11:41 AM |
| **Mass APH Air** | **Method:** | | | | | **Analyst: RH3** |
| **Air-Phase Petroleum Hydrocarbons** | | | | | | |
| C5-C8 Aliphatic Hydrocarbons | 190,000 | 47,000 | | µg/m³ | 400 | 12/29/2012 2:11 AM |
| C9-C10 Aromatic Hydrocarbons | ND | 53,000 | U | µg/m³ | 400 | 12/29/2012 2:11 AM |
| C9-C12 Aliphatic Hydrocarbons | ND | 76,000 | U | µg/m³ | 400 | 12/29/2012 2:11 AM |
| Surr: 4-Bromofluorobenzene | 95.8 | 70-130 | | %REC | 400 | 12/29/2012 2:11 AM |

# RTI Laboratories - Analytical Report

**WO#: 1212373**

**Date Reported: 1/7/2013**
**Revision v2**

| | | | |
|---|---|---|---|
| **Client:** | Shaw Environmental & Infrastructure, Inc | **Collection Date:** | 12/4/2012 10:25:00 AM |
| **Project:** | Kirtland AFB | | |
| **Lab ID:** | 1212373-009 | **Matrix:** | Air |
| **Client Sample ID:** | VA2077 | | |

| Analysis | Result | RL | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **Noncondensable Gases and Light Hydrocarbons** | | **Method: ASTM-D2504** | | | | **Analyst: cr** |
| Carbon dioxide | 0.29 | 0.10 | | % v/v | 1 | 12/26/2012 2:45 PM |
| Carbon Monoxide | ND | 0.10 | U | % v/v | 1 | 12/26/2012 2:45 PM |
| Methane | ND | 0.50 | U | % v/v | 1 | 12/26/2012 2:45 PM |
| Nitrogen | 80 | 0.10 | | % v/v | 1 | 12/26/2012 2:45 PM |
| Oxygen | 20 | 0.10 | | % v/v | 1 | 12/26/2012 2:45 PM |
| **Volatile Organic Compounds** | | **Method: TO-15** | | | | **Analyst: RH3** |
| 1,1,1-Trichloroethane | ND | 40 | U | ppbv | 40 | 12/21/2012 9:37 PM |
| 1,1,2,2-Tetrachloroethane | ND | 40 | U | ppbv | 40 | 12/21/2012 9:37 PM |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ND | 40 | U | ppbv | 40 | 12/21/2012 9:37 PM |
| 1,1,2-Trichloroethane | ND | 40 | U | ppbv | 40 | 12/21/2012 9:37 PM |
| 1,1-Dichloroethane | ND | 40 | U | ppbv | 40 | 12/21/2012 9:37 PM |
| 1,1-Dichloroethene | ND | 40 | U | ppbv | 40 | 12/21/2012 9:37 PM |
| 1,2,4-Trichlorobenzene | ND | 40 | U | ppbv | 40 | 12/21/2012 9:37 PM |
| 1,2,4-Trimethylbenzene | ND | 40 | U | ppbv | 40 | 12/21/2012 9:37 PM |
| 1,2-Dibromoethane | ND | 40 | U | ppbv | 40 | 12/21/2012 9:37 PM |
| 1,2-Dichlorobenzene | ND | 40 | U | ppbv | 40 | 12/21/2012 9:37 PM |
| 1,2-Dichloroethane | ND | 40 | U | ppbv | 40 | 12/21/2012 9:37 PM |
| 1,2-Dichloropropane | ND | 40 | U | ppbv | 40 | 12/21/2012 9:37 PM |
| 1,3,5-Trimethylbenzene | ND | 40 | U | ppbv | 40 | 12/21/2012 9:37 PM |
| 1,3-Butadiene | ND | 40 | U | ppbv | 40 | 12/21/2012 9:37 PM |
| 1,3-Dichlorobenzene | ND | 40 | U | ppbv | 40 | 12/21/2012 9:37 PM |
| 1,4-Dichlorobenzene | ND | 40 | U | ppbv | 40 | 12/21/2012 9:37 PM |
| 2-Butanone | ND | 40 | U | ppbv | 40 | 12/21/2012 9:37 PM |
| 2-Hexanone | ND | 40 | U | ppbv | 40 | 12/21/2012 9:37 PM |
| 4-Methyl-2-pentanone | ND | 40 | U | ppbv | 40 | 12/21/2012 9:37 PM |
| Acetone | ND | 40 | U | ppbv | 40 | 12/21/2012 9:37 PM |
| Benzene | 69 | 40 | | ppbv | 40 | 12/21/2012 9:37 PM |
| Benzyl chloride | ND | 40 | U | ppbv | 40 | 12/21/2012 9:37 PM |
| Bromodichloromethane | ND | 40 | U | ppbv | 40 | 12/21/2012 9:37 PM |
| Bromoform | ND | 40 | U | ppbv | 40 | 12/21/2012 9:37 PM |
| Bromomethane | ND | 40 | U | ppbv | 40 | 12/21/2012 9:37 PM |
| Carbon disulfide | ND | 40 | U | ppbv | 40 | 12/21/2012 9:37 PM |
| Carbon tetrachloride | ND | 40 | U | ppbv | 40 | 12/21/2012 9:37 PM |
| Chlorobenzene | ND | 40 | U | ppbv | 40 | 12/21/2012 9:37 PM |
| Chlorodibromomethane | ND | 40 | U | ppbv | 40 | 12/21/2012 9:37 PM |
| Chloroethane | ND | 40 | U | ppbv | 40 | 12/21/2012 9:37 PM |
| Chloroform | ND | 40 | U | ppbv | 40 | 12/21/2012 9:37 PM |
| Chloromethane | ND | 40 | U | ppbv | 40 | 12/21/2012 9:37 PM |
| cis-1,2-Dichloroethene | ND | 40 | U | ppbv | 40 | 12/21/2012 9:37 PM |
| cis-1,3-dichloropropene | ND | 40 | U | ppbv | 40 | 12/21/2012 9:37 PM |

# RTI Laboratories - Analytical Report

**WO#: 1212373**

**Date Reported: 1/7/2013**
**Revision v2**

| | | | |
|---|---|---|---|
| **Client:** | Shaw Environmental & Infrastructure, Inc | **Collection Date:** | 12/4/2012 10:25:00 AM |
| **Project:** | Kirtland AFB | | |
| **Lab ID:** | 1212373-009 | **Matrix:** | Air |
| **Client Sample ID:** | VA2077 | | |

| Analysis | Result | RL | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| Cyclohexane | 300 | 80 | | ppbv | 40 | 12/21/2012 9:37 PM |
| Dichlorodifluoromethane | ND | 40 | U | ppbv | 40 | 12/21/2012 9:37 PM |
| Ethyl acetate | ND | 40 | U | ppbv | 40 | 12/21/2012 9:37 PM |
| Ethylbenzene | ND | 80 | U | ppbv | 40 | 12/21/2012 9:37 PM |
| Heptane | 98 | 40 | | ppbv | 40 | 12/21/2012 9:37 PM |
| Hexachlorobutadiene | ND | 80 | U | ppbv | 40 | 12/21/2012 9:37 PM |
| m,p-Xylene | ND | 80 | U | ppbv | 40 | 12/21/2012 9:37 PM |
| Methylene chloride | ND | 200 | U | ppbv | 40 | 12/21/2012 9:37 PM |
| n-Hexane | 220 | 80 | | ppbv | 40 | 12/21/2012 9:37 PM |
| Naphthalene | ND | 40 | U | ppbv | 40 | 12/21/2012 9:37 PM |
| o-Xylene | ND | 40 | U | ppbv | 40 | 12/21/2012 9:37 PM |
| Propylene | ND | 40 | U | ppbv | 40 | 12/21/2012 9:37 PM |
| Styrene | ND | 40 | U | ppbv | 40 | 12/21/2012 9:37 PM |
| tert-Butyl Methyl Ether | ND | 40 | U | ppbv | 40 | 12/21/2012 9:37 PM |
| Tetrachloroethene | ND | 40 | U | ppbv | 40 | 12/21/2012 9:37 PM |
| Tetrahydrofuran | ND | 40 | U | ppbv | 40 | 12/21/2012 9:37 PM |
| Toluene | 350 | 40 | | ppbv | 40 | 12/21/2012 9:37 PM |
| trans-1,2-Dichloroethene | ND | 40 | U | ppbv | 40 | 12/21/2012 9:37 PM |
| trans-1,3-dichloropropene | ND | 40 | U | ppbv | 40 | 12/21/2012 9:37 PM |
| Trichloroethene | ND | 40 | U | ppbv | 40 | 12/21/2012 9:37 PM |
| Trichlorofluoromethane | ND | 40 | U | ppbv | 40 | 12/21/2012 9:37 PM |
| Vinyl acetate | ND | 40 | U | ppbv | 40 | 12/21/2012 9:37 PM |
| Vinyl chloride | ND | 40 | U | ppbv | 40 | 12/21/2012 9:37 PM |
| Xylenes, Total | ND | 120 | U | ppbv | 40 | 12/21/2012 9:37 PM |
| Surr: 4-Bromofluorobenzene | 97.1 | 70-130 | | %REC | 40 | 12/21/2012 9:37 PM |
| **Mass APH Air** | **Method:** | | | | | **Analyst: RH3** |
| **Air-Phase Petroleum Hydrocarbons** | | | | | | |
| C5-C8 Aliphatic Hydrocarbons | 190,000 | 47,000 | | µg/m³ | 400 | 12/29/2012 5:25 AM |
| C9-C10 Aromatic Hydrocarbons | ND | 53,000 | U | µg/m³ | 400 | 12/29/2012 5:25 AM |
| C9-C12 Aliphatic Hydrocarbons | ND | 76,000 | U | µg/m³ | 400 | 12/29/2012 5:25 AM |
| Surr: 4-Bromofluorobenzene | 97.0 | 70-130 | | %REC | 400 | 12/29/2012 5:25 AM |

# RTI Laboratories - Analytical Report

**WO#: 1212373**

**Date Reported: 1/7/2013**
**Revision v2**

| | | | |
|---|---|---|---|
| **Client:** | Shaw Environmental & Infrastructure, Inc | **Collection Date:** | 12/4/2012 11:01:00 AM |
| **Project:** | Kirtland AFB | | |
| **Lab ID:** | 1212373-010 | **Matrix:** | Air |
| **Client Sample ID:** | VA2078 | | |

| Analysis | Result | RL | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **Noncondensable Gases and Light Hydrocarbons** | | **Method: ASTM-D2504** | | | | **Analyst: cr** |
| Carbon dioxide | 0.30 | 0.10 | | % v/v | 1 | 12/26/2012 3:01 PM |
| Carbon Monoxide | ND | 0.10 | U | % v/v | 1 | 12/26/2012 3:01 PM |
| Methane | ND | 0.50 | U | % v/v | 1 | 12/26/2012 3:01 PM |
| Nitrogen | 80 | 0.10 | | % v/v | 1 | 12/26/2012 3:01 PM |
| Oxygen | 20 | 0.10 | | % v/v | 1 | 12/26/2012 3:01 PM |
| **Volatile Organic Compounds** | | **Method: TO-15** | | | | **Analyst: RH3** |
| 1,1,1-Trichloroethane | ND | 800 | U | ppbv | 800 | 12/21/2012 11:04 PM |
| 1,1,2,2-Tetrachloroethane | ND | 800 | U | ppbv | 800 | 12/21/2012 11:04 PM |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ND | 800 | U | ppbv | 800 | 12/21/2012 11:04 PM |
| 1,1,2-Trichloroethane | ND | 800 | U | ppbv | 800 | 12/21/2012 11:04 PM |
| 1,1-Dichloroethane | ND | 800 | U | ppbv | 800 | 12/21/2012 11:04 PM |
| 1,1-Dichloroethene | ND | 800 | U | ppbv | 800 | 12/21/2012 11:04 PM |
| 1,2,4-Trichlorobenzene | ND | 800 | U | ppbv | 800 | 12/21/2012 11:04 PM |
| 1,2,4-Trimethylbenzene | ND | 800 | U | ppbv | 800 | 12/21/2012 11:04 PM |
| 1,2-Dibromoethane | ND | 800 | U | ppbv | 800 | 12/21/2012 11:04 PM |
| 1,2-Dichlorobenzene | ND | 800 | U | ppbv | 800 | 12/21/2012 11:04 PM |
| 1,2-Dichloroethane | ND | 800 | U | ppbv | 800 | 12/21/2012 11:04 PM |
| 1,2-Dichloropropane | ND | 800 | U | ppbv | 800 | 12/21/2012 11:04 PM |
| 1,3,5-Trimethylbenzene | ND | 800 | U | ppbv | 800 | 12/21/2012 11:04 PM |
| 1,3-Butadiene | ND | 800 | U | ppbv | 800 | 12/21/2012 11:04 PM |
| 1,3-Dichlorobenzene | ND | 800 | U | ppbv | 800 | 12/21/2012 11:04 PM |
| 1,4-Dichlorobenzene | ND | 800 | U | ppbv | 800 | 12/21/2012 11:04 PM |
| 2-Butanone | ND | 800 | U | ppbv | 800 | 12/21/2012 11:04 PM |
| 2-Hexanone | ND | 800 | U | ppbv | 800 | 12/21/2012 11:04 PM |
| 4-Methyl-2-pentanone | ND | 800 | U | ppbv | 800 | 12/21/2012 11:04 PM |
| Acetone | 1,000 | 800 | | ppbv | 800 | 12/21/2012 11:04 PM |
| Benzene | ND | 800 | U | ppbv | 800 | 12/21/2012 11:04 PM |
| Benzyl chloride | ND | 800 | U | ppbv | 800 | 12/21/2012 11:04 PM |
| Bromodichloromethane | ND | 800 | U | ppbv | 800 | 12/21/2012 11:04 PM |
| Bromoform | ND | 800 | U | ppbv | 800 | 12/21/2012 11:04 PM |
| Bromomethane | ND | 800 | U | ppbv | 800 | 12/21/2012 11:04 PM |
| Carbon disulfide | ND | 800 | U | ppbv | 800 | 12/21/2012 11:04 PM |
| Carbon tetrachloride | ND | 800 | U | ppbv | 800 | 12/21/2012 11:04 PM |
| Chlorobenzene | ND | 800 | U | ppbv | 800 | 12/21/2012 11:04 PM |
| Chlorodibromomethane | ND | 800 | U | ppbv | 800 | 12/21/2012 11:04 PM |
| Chloroethane | ND | 800 | U | ppbv | 800 | 12/21/2012 11:04 PM |
| Chloroform | ND | 800 | U | ppbv | 800 | 12/21/2012 11:04 PM |
| Chloromethane | ND | 800 | U | ppbv | 800 | 12/21/2012 11:04 PM |
| cis-1,2-Dichloroethene | ND | 800 | U | ppbv | 800 | 12/21/2012 11:04 PM |
| cis-1,3-dichloropropene | ND | 800 | U | ppbv | 800 | 12/21/2012 11:04 PM |

# RTI Laboratories - Analytical Report

**WO#: 1212373**

**Date Reported: 1/7/2013**
**Revision v2**

| | | | |
|---|---|---|---|
| **Client:** | Shaw Environmental & Infrastructure, Inc | **Collection Date:** | 12/4/2012 11:01:00 AM |
| **Project:** | Kirtland AFB | | |
| **Lab ID:** | 1212373-010 | **Matrix:** | Air |
| **Client Sample ID:** | VA2078 | | |

| Analysis | Result | RL | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| Cyclohexane | 3,100 | 1,600 | | ppbv | 800 | 12/21/2012 11:04 PM |
| Dichlorodifluoromethane | ND | 800 | U | ppbv | 800 | 12/21/2012 11:04 PM |
| Ethyl acetate | ND | 800 | U | ppbv | 800 | 12/21/2012 11:04 PM |
| Ethylbenzene | ND | 1,600 | U | ppbv | 800 | 12/21/2012 11:04 PM |
| Heptane | ND | 800 | U | ppbv | 800 | 12/21/2012 11:04 PM |
| Hexachlorobutadiene | ND | 1,600 | U | ppbv | 800 | 12/21/2012 11:04 PM |
| m,p-Xylene | ND | 1,600 | U | ppbv | 800 | 12/21/2012 11:04 PM |
| Methylene chloride | 6,900 | 4,000 | | ppbv | 800 | 12/21/2012 11:04 PM |
| n-Hexane | 3,300 | 1,600 | | ppbv | 800 | 12/21/2012 11:04 PM |
| Naphthalene | ND | 800 | U | ppbv | 800 | 12/21/2012 11:04 PM |
| o-Xylene | ND | 800 | U | ppbv | 800 | 12/21/2012 11:04 PM |
| Propylene | 2,600 | 800 | | ppbv | 800 | 12/21/2012 11:04 PM |
| Styrene | ND | 800 | U | ppbv | 800 | 12/21/2012 11:04 PM |
| tert-Butyl Methyl Ether | ND | 800 | U | ppbv | 800 | 12/21/2012 11:04 PM |
| Tetrachloroethene | ND | 800 | U | ppbv | 800 | 12/21/2012 11:04 PM |
| Tetrahydrofuran | ND | 800 | U | ppbv | 800 | 12/21/2012 11:04 PM |
| Toluene | 910 | 800 | | ppbv | 800 | 12/21/2012 11:04 PM |
| trans-1,2-Dichloroethene | ND | 800 | U | ppbv | 800 | 12/21/2012 11:04 PM |
| trans-1,3-dichloropropene | ND | 800 | U | ppbv | 800 | 12/21/2012 11:04 PM |
| Trichloroethene | ND | 800 | U | ppbv | 800 | 12/21/2012 11:04 PM |
| Trichlorofluoromethane | ND | 800 | U | ppbv | 800 | 12/21/2012 11:04 PM |
| Vinyl acetate | ND | 800 | U | ppbv | 800 | 12/21/2012 11:04 PM |
| Vinyl chloride | ND | 800 | U | ppbv | 800 | 12/21/2012 11:04 PM |
| Xylenes, Total | ND | 2,400 | U | ppbv | 800 | 12/21/2012 11:04 PM |
| Surr: 4-Bromofluorobenzene | 93.8 | 70-130 | | %REC | 800 | 12/21/2012 11:04 PM |
| **Mass APH Air** | **Method:** | | | | | **Analyst: RH3** |
| **Air-Phase Petroleum Hydrocarbons** | | | | | | |
| C5-C8 Aliphatic Hydrocarbons | 2,500,000 | 940,000 | | µg/m³ | 8000 | 12/29/2012 6:13 AM |
| C9-C10 Aromatic Hydrocarbons | ND | 1,100,000 | U | µg/m³ | 8000 | 12/29/2012 6:13 AM |
| C9-C12 Aliphatic Hydrocarbons | ND | 1,500,000 | U | µg/m³ | 8000 | 12/29/2012 6:13 AM |
| Surr: 4-Bromofluorobenzene | 94.2 | 70-130 | | %REC | 8000 | 12/29/2012 6:13 AM |

# RTI Laboratories - Analytical Report

**WO#: 1212373**

**Date Reported: 1/7/2013**
**Revision v2**

| | | | |
|---|---|---|---|
| **Client:** | Shaw Environmental & Infrastructure, Inc | **Collection Date:** | 12/4/2012 11:41:00 AM |
| **Project:** | Kirtland AFB | | |
| **Lab ID:** | 1212373-011 | **Matrix:** | Air |
| **Client Sample ID:** | VA2079 | | |

| Analysis | Result | RL | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **Noncondensable Gases and Light Hydrocarbons** | | **Method: ASTM-D2504** | | | | **Analyst: cr** |
| Carbon dioxide | 1.5 | 0.10 | | % v/v | 1 | 12/26/2012 3:46 PM |
| Carbon Monoxide | ND | 0.10 | U | % v/v | 1 | 12/26/2012 3:46 PM |
| Methane | ND | 0.50 | U | % v/v | 1 | 12/26/2012 3:46 PM |
| Nitrogen | 83 | 0.10 | | % v/v | 1 | 12/26/2012 3:46 PM |
| Oxygen | 15 | 0.10 | | % v/v | 1 | 12/26/2012 3:46 PM |
| **Volatile Organic Compounds** | | **Method: TO-15** | | | | **Analyst: RH3** |
| 1,1,1-Trichloroethane | ND | 400 | U | ppbv | 400 | 12/22/2012 12:41 AM |
| 1,1,2,2-Tetrachloroethane | ND | 400 | U | ppbv | 400 | 12/22/2012 12:41 AM |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ND | 400 | U | ppbv | 400 | 12/22/2012 12:41 AM |
| 1,1,2-Trichloroethane | ND | 400 | U | ppbv | 400 | 12/22/2012 12:41 AM |
| 1,1-Dichloroethane | ND | 400 | U | ppbv | 400 | 12/22/2012 12:41 AM |
| 1,1-Dichloroethene | ND | 400 | U | ppbv | 400 | 12/22/2012 12:41 AM |
| 1,2,4-Trichlorobenzene | ND | 400 | U | ppbv | 400 | 12/22/2012 12:41 AM |
| 1,2,4-Trimethylbenzene | ND | 400 | U | ppbv | 400 | 12/22/2012 12:41 AM |
| 1,2-Dibromoethane | ND | 400 | U | ppbv | 400 | 12/22/2012 12:41 AM |
| 1,2-Dichlorobenzene | ND | 400 | U | ppbv | 400 | 12/22/2012 12:41 AM |
| 1,2-Dichloroethane | ND | 400 | U | ppbv | 400 | 12/22/2012 12:41 AM |
| 1,2-Dichloropropane | ND | 400 | U | ppbv | 400 | 12/22/2012 12:41 AM |
| 1,3,5-Trimethylbenzene | ND | 400 | U | ppbv | 400 | 12/22/2012 12:41 AM |
| 1,3-Butadiene | ND | 400 | U | ppbv | 400 | 12/22/2012 12:41 AM |
| 1,3-Dichlorobenzene | ND | 400 | U | ppbv | 400 | 12/22/2012 12:41 AM |
| 1,4-Dichlorobenzene | ND | 400 | U | ppbv | 400 | 12/22/2012 12:41 AM |
| 2-Butanone | ND | 400 | U | ppbv | 400 | 12/22/2012 12:41 AM |
| 2-Hexanone | ND | 400 | U | ppbv | 400 | 12/22/2012 12:41 AM |
| 4-Methyl-2-pentanone | ND | 400 | U | ppbv | 400 | 12/22/2012 12:41 AM |
| Acetone | 560 | 400 | | ppbv | 400 | 12/22/2012 12:41 AM |
| Benzene | 5,300 | 400 | | ppbv | 400 | 12/22/2012 12:41 AM |
| Benzyl chloride | ND | 400 | U | ppbv | 400 | 12/22/2012 12:41 AM |
| Bromodichloromethane | ND | 400 | U | ppbv | 400 | 12/22/2012 12:41 AM |
| Bromoform | ND | 400 | U | ppbv | 400 | 12/22/2012 12:41 AM |
| Bromomethane | ND | 400 | U | ppbv | 400 | 12/22/2012 12:41 AM |
| Carbon disulfide | ND | 400 | U | ppbv | 400 | 12/22/2012 12:41 AM |
| Carbon tetrachloride | ND | 400 | U | ppbv | 400 | 12/22/2012 12:41 AM |
| Chlorobenzene | ND | 400 | U | ppbv | 400 | 12/22/2012 12:41 AM |
| Chlorodibromomethane | ND | 400 | U | ppbv | 400 | 12/22/2012 12:41 AM |
| Chloroethane | ND | 400 | U | ppbv | 400 | 12/22/2012 12:41 AM |
| Chloroform | ND | 400 | U | ppbv | 400 | 12/22/2012 12:41 AM |
| Chloromethane | ND | 400 | U | ppbv | 400 | 12/22/2012 12:41 AM |
| cis-1,2-Dichloroethene | ND | 400 | U | ppbv | 400 | 12/22/2012 12:41 AM |
| cis-1,3-dichloropropene | ND | 400 | U | ppbv | 400 | 12/22/2012 12:41 AM |

# RTI Laboratories - Analytical Report

**WO#: 1212373**

**Date Reported: 1/7/2013**
**Revision v2**

| | | | |
|---|---|---|---|
| **Client:** | Shaw Environmental & Infrastructure, Inc | **Collection Date:** | 12/4/2012 11:41:00 AM |
| **Project:** | Kirtland AFB | | |
| **Lab ID:** | 1212373-011 | **Matrix:** | Air |
| **Client Sample ID:** | VA2079 | | |

| Analysis | Result | RL | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| Cyclohexane | 18,000 | 800 | m | ppbv | 400 | 12/22/2012 12:41 AM |
| Dichlorodifluoromethane | ND | 400 | U | ppbv | 400 | 12/22/2012 12:41 AM |
| Ethyl acetate | ND | 400 | U | ppbv | 400 | 12/22/2012 12:41 AM |
| Ethylbenzene | 440 | 800 | J | ppbv | 400 | 12/22/2012 12:41 AM |
| Heptane | 8,000 | 400 | | ppbv | 400 | 12/22/2012 12:41 AM |
| Hexachlorobutadiene | ND | 800 | U | ppbv | 400 | 12/22/2012 12:41 AM |
| m,p-Xylene | 730 | 800 | J | ppbv | 400 | 12/22/2012 12:41 AM |
| Methylene chloride | 1,700 | 2,000 | J | ppbv | 400 | 12/22/2012 12:41 AM |
| n-Hexane | 32,000 | 1,600 | | ppbv | 800 | 12/26/2012 4:27 PM |
| Naphthalene | ND | 400 | U | ppbv | 400 | 12/22/2012 12:41 AM |
| o-Xylene | ND | 400 | U | ppbv | 400 | 12/22/2012 12:41 AM |
| Propylene | 5,100 | 400 | | ppbv | 400 | 12/22/2012 12:41 AM |
| Styrene | ND | 400 | U | ppbv | 400 | 12/22/2012 12:41 AM |
| tert-Butyl Methyl Ether | ND | 400 | U | ppbv | 400 | 12/22/2012 12:41 AM |
| Tetrachloroethene | ND | 400 | U | ppbv | 400 | 12/22/2012 12:41 AM |
| Tetrahydrofuran | ND | 400 | U | ppbv | 400 | 12/22/2012 12:41 AM |
| Toluene | 11,000 | 400 | | ppbv | 400 | 12/22/2012 12:41 AM |
| trans-1,2-Dichloroethene | ND | 400 | U | ppbv | 400 | 12/22/2012 12:41 AM |
| trans-1,3-dichloropropene | ND | 400 | U | ppbv | 400 | 12/22/2012 12:41 AM |
| Trichloroethene | ND | 400 | U | ppbv | 400 | 12/22/2012 12:41 AM |
| Trichlorofluoromethane | ND | 400 | U | ppbv | 400 | 12/22/2012 12:41 AM |
| Vinyl acetate | ND | 400 | U | ppbv | 400 | 12/22/2012 12:41 AM |
| Vinyl chloride | ND | 400 | U | ppbv | 400 | 12/22/2012 12:41 AM |
| Xylenes, Total | 730 | 1,200 | J | ppbv | 400 | 12/22/2012 12:41 AM |
| Surr: 4-Bromofluorobenzene | 99.0 | 70-130 | | %REC | 400 | 12/22/2012 12:41 AM |
| **Mass APH Air** | | **Method:** | | | | **Analyst: RH3** |
| **Air-Phase Petroleum Hydrocarbons** | | | | | | |
| C5-C8 Aliphatic Hydrocarbons | 16,000,000 | 2,300,000 | | µg/m³ | 20000 | 12/29/2012 8:38 AM |
| C9-C10 Aromatic Hydrocarbons | ND | 2,700,000 | U | µg/m³ | 20000 | 12/29/2012 8:38 AM |
| C9-C12 Aliphatic Hydrocarbons | ND | 3,800,000 | U | µg/m³ | 20000 | 12/29/2012 8:38 AM |
| Surr: 4-Bromofluorobenzene | 94.7 | 70-130 | | %REC | 20000 | 12/29/2012 8:38 AM |

# RTI Laboratories - Analytical Report

**WO#: 1212373**

**Date Reported: 1/7/2013**
**Revision v2**

| | | | |
|---|---|---|---|
| **Client:** | Shaw Environmental & Infrastructure, Inc | **Collection Date:** | 11/29/2012 2:30:00 PM |
| **Project:** | Kirtland AFB | | |
| **Lab ID:** | 1212373-012 | **Matrix:** | Air |
| **Client Sample ID:** | VA2090 | | |

| Analysis | Result | RL | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **Noncondensable Gases and Light Hydrocarbons** | | **Method: ASTM-D2504** | | | | **Analyst: cr** |
| Carbon dioxide | 1.3 | 0.10 | | % v/v | 1 | 12/26/2012 4:01 PM |
| Carbon Monoxide | ND | 0.10 | U | % v/v | 1 | 12/26/2012 4:01 PM |
| Methane | ND | 0.50 | U | % v/v | 1 | 12/26/2012 4:01 PM |
| Nitrogen | 81 | 0.10 | | % v/v | 1 | 12/26/2012 4:01 PM |
| Oxygen | 18 | 0.10 | | % v/v | 1 | 12/26/2012 4:01 PM |
| **Volatile Organic Compounds** | | **Method: TO-15** | | | | **Analyst: RH3** |
| 1,1,1-Trichloroethane | ND | 40 | U | ppbv | 40 | 12/14/2012 3:39 AM |
| 1,1,2,2-Tetrachloroethane | ND | 40 | U | ppbv | 40 | 12/14/2012 3:39 AM |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ND | 40 | U | ppbv | 40 | 12/14/2012 3:39 AM |
| 1,1,2-Trichloroethane | ND | 40 | U | ppbv | 40 | 12/14/2012 3:39 AM |
| 1,1-Dichloroethane | ND | 40 | U | ppbv | 40 | 12/14/2012 3:39 AM |
| 1,1-Dichloroethene | ND | 40 | U | ppbv | 40 | 12/14/2012 3:39 AM |
| 1,2,4-Trichlorobenzene | ND | 40 | U | ppbv | 40 | 12/14/2012 3:39 AM |
| 1,2,4-Trimethylbenzene | 530 | 40 | | ppbv | 40 | 12/14/2012 3:39 AM |
| 1,2-Dibromoethane | 250 | 40 | | ppbv | 40 | 12/14/2012 3:39 AM |
| 1,2-Dichlorobenzene | ND | 40 | U | ppbv | 40 | 12/14/2012 3:39 AM |
| 1,2-Dichloroethane | ND | 40 | U | ppbv | 40 | 12/14/2012 3:39 AM |
| 1,2-Dichloropropane | ND | 40 | U | ppbv | 40 | 12/14/2012 3:39 AM |
| 1,3,5-Trimethylbenzene | 280 | 40 | | ppbv | 40 | 12/14/2012 3:39 AM |
| 1,3-Butadiene | ND | 40 | U | ppbv | 40 | 12/14/2012 3:39 AM |
| 1,3-Dichlorobenzene | ND | 40 | U | ppbv | 40 | 12/14/2012 3:39 AM |
| 1,4-Dichlorobenzene | ND | 40 | U | ppbv | 40 | 12/14/2012 3:39 AM |
| 2-Butanone | 750 | 40 | | ppbv | 40 | 12/14/2012 3:39 AM |
| 2-Hexanone | ND | 40 | U | ppbv | 40 | 12/14/2012 3:39 AM |
| 4-Methyl-2-pentanone | ND | 40 | U | ppbv | 40 | 12/14/2012 3:39 AM |
| Acetone | 530 | 40 | | ppbv | 40 | 12/14/2012 3:39 AM |
| Benzene | 30,000 | 8,000 | | ppbv | 8000 | 12/17/2012 8:44 PM |
| Benzyl chloride | ND | 40 | U | ppbv | 40 | 12/14/2012 3:39 AM |
| Bromodichloromethane | ND | 40 | U | ppbv | 40 | 12/14/2012 3:39 AM |
| Bromoform | ND | 40 | U | ppbv | 40 | 12/14/2012 3:39 AM |
| Bromomethane | ND | 40 | U | ppbv | 40 | 12/14/2012 3:39 AM |
| Carbon disulfide | ND | 40 | U | ppbv | 40 | 12/14/2012 3:39 AM |
| Carbon tetrachloride | ND | 40 | U | ppbv | 40 | 12/14/2012 3:39 AM |
| Chlorobenzene | ND | 40 | U | ppbv | 40 | 12/14/2012 3:39 AM |
| Chlorodibromomethane | ND | 40 | U | ppbv | 40 | 12/14/2012 3:39 AM |
| Chloroethane | ND | 40 | U | ppbv | 40 | 12/14/2012 3:39 AM |
| Chloroform | ND | 40 | U | ppbv | 40 | 12/14/2012 3:39 AM |
| Chloromethane | ND | 40 | U | ppbv | 40 | 12/14/2012 3:39 AM |
| cis-1,2-Dichloroethene | ND | 40 | U | ppbv | 40 | 12/14/2012 3:39 AM |
| cis-1,3-dichloropropene | ND | 40 | U | ppbv | 40 | 12/14/2012 3:39 AM |

# RTI Laboratories - Analytical Report

**WO#: 1212373**

**Date Reported: 1/7/2013**
**Revision v2**

| | | | |
|---|---|---|---|
| **Client:** | Shaw Environmental & Infrastructure, Inc | **Collection Date:** | 11/29/2012 2:30:00 PM |
| **Project:** | Kirtland AFB | | |
| **Lab ID:** | 1212373-012 | **Matrix:** | Air |
| **Client Sample ID:** | VA2090 | | |

| Analysis | Result | RL | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| Cyclohexane | 54,000 | 16,000 | | ppbv | 8000 | 12/17/2012 8:44 PM |
| Dichlorodifluoromethane | ND | 40 | U | ppbv | 40 | 12/14/2012 3:39 AM |
| Ethyl acetate | ND | 40 | U | ppbv | 40 | 12/14/2012 3:39 AM |
| Ethylbenzene | 3,400 | 1,600 | | ppbv | 800 | 12/18/2012 6:09 PM |
| Heptane | 52,000 | 8,000 | | ppbv | 8000 | 12/17/2012 8:44 PM |
| Hexachlorobutadiene | ND | 80 | U | ppbv | 40 | 12/14/2012 3:39 AM |
| m,p-Xylene | 7,700 | 1,600 | | ppbv | 800 | 12/18/2012 6:09 PM |
| Methylene chloride | ND | 200 | U | ppbv | 40 | 12/14/2012 3:39 AM |
| n-Hexane | 32,000 | 16,000 | | ppbv | 8000 | 12/17/2012 8:44 PM |
| Naphthalene | ND | 40 | U | ppbv | 40 | 12/14/2012 3:39 AM |
| o-Xylene | 2,300 | 800 | | ppbv | 800 | 12/18/2012 6:09 PM |
| Propylene | ND | 40 | U | ppbv | 40 | 12/14/2012 3:39 AM |
| Styrene | ND | 40 | U | ppbv | 40 | 12/14/2012 3:39 AM |
| tert-Butyl Methyl Ether | ND | 40 | U | ppbv | 40 | 12/14/2012 3:39 AM |
| Tetrachloroethene | ND | 40 | U | ppbv | 40 | 12/14/2012 3:39 AM |
| Tetrahydrofuran | ND | 40 | U | ppbv | 40 | 12/14/2012 3:39 AM |
| Toluene | 34,000 | 800 | | ppbv | 800 | 12/18/2012 6:09 PM |
| trans-1,2-Dichloroethene | ND | 40 | U | ppbv | 40 | 12/14/2012 3:39 AM |
| trans-1,3-dichloropropene | ND | 40 | U | ppbv | 40 | 12/14/2012 3:39 AM |
| Trichloroethene | ND | 40 | U | ppbv | 40 | 12/14/2012 3:39 AM |
| Trichlorofluoromethane | ND | 40 | U | ppbv | 40 | 12/14/2012 3:39 AM |
| Vinyl acetate | ND | 40 | U | ppbv | 40 | 12/14/2012 3:39 AM |
| Vinyl chloride | ND | 40 | U | ppbv | 40 | 12/14/2012 3:39 AM |
| Xylenes, Total | 9,900 | 2,400 | | ppbv | 800 | 12/18/2012 6:09 PM |
| Surr: 4-Bromofluorobenzene | 174 | 70-130 | S | %REC | 40 | 12/14/2012 3:39 AM |
| **Mass APH Air** | | **Method:** | | | | **Analyst: RH3** |
| **Air-Phase Petroleum Hydrocarbons** | | | | | | |
| C5-C8 Aliphatic Hydrocarbons | 2,900,000 | 940,000 | | µg/m³ | 8000 | 12/19/2012 12:14 AM |
| C9-C10 Aromatic Hydrocarbons | ND | 1,100,000 | U | µg/m³ | 8000 | 12/19/2012 12:14 AM |
| C9-C12 Aliphatic Hydrocarbons | ND | 1,500,000 | U | µg/m³ | 8000 | 12/19/2012 12:14 AM |
| Surr: 4-Bromofluorobenzene | 108 | 70-130 | | %REC | 8000 | 12/19/2012 12:14 AM |

# RTI Laboratories - Analytical Report

**WO#: 1212373**

**Date Reported: 1/7/2013**
**Revision v2**

| | | | |
|---|---|---|---|
| **Client:** | Shaw Environmental & Infrastructure, Inc | **Collection Date:** | 11/29/2012 3:05:00 PM |
| **Project:** | Kirtland AFB | | |
| **Lab ID:** | 1212373-013 | **Matrix:** | Air |
| **Client Sample ID:** | VA2091 | | |

| Analysis | Result | RL | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **Noncondensable Gases and Light Hydrocarbons** | | **Method: ASTM-D2504** | | | | **Analyst: cr** |
| Carbon dioxide | 1.6 | 0.10 | | % v/v | 1 | 12/26/2012 4:24 PM |
| Carbon Monoxide | ND | 0.10 | U | % v/v | 1 | 12/26/2012 4:24 PM |
| Methane | ND | 0.50 | U | % v/v | 1 | 12/26/2012 4:24 PM |
| Nitrogen | 81 | 0.10 | | % v/v | 1 | 12/26/2012 4:24 PM |
| Oxygen | 19 | 0.10 | | % v/v | 1 | 12/26/2012 4:24 PM |
| **Volatile Organic Compounds** | | **Method: TO-15** | | | | **Analyst: RH3** |
| 1,1,1-Trichloroethane | ND | 800 | U | ppbv | 800 | 12/14/2012 4:25 AM |
| 1,1,2,2-Tetrachloroethane | ND | 800 | U | ppbv | 800 | 12/14/2012 4:25 AM |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ND | 800 | U | ppbv | 800 | 12/14/2012 4:25 AM |
| 1,1,2-Trichloroethane | ND | 800 | U | ppbv | 800 | 12/14/2012 4:25 AM |
| 1,1-Dichloroethane | ND | 800 | U | ppbv | 800 | 12/14/2012 4:25 AM |
| 1,1-Dichloroethene | ND | 800 | U | ppbv | 800 | 12/14/2012 4:25 AM |
| 1,2,4-Trichlorobenzene | ND | 800 | U | ppbv | 800 | 12/14/2012 4:25 AM |
| 1,2,4-Trimethylbenzene | 1,400 | 800 | | ppbv | 800 | 12/14/2012 4:25 AM |
| 1,2-Dibromoethane | ND | 800 | U | ppbv | 800 | 12/14/2012 4:25 AM |
| 1,2-Dichlorobenzene | ND | 800 | U | ppbv | 800 | 12/14/2012 4:25 AM |
| 1,2-Dichloroethane | ND | 800 | U | ppbv | 800 | 12/14/2012 4:25 AM |
| 1,2-Dichloropropane | ND | 800 | U | ppbv | 800 | 12/14/2012 4:25 AM |
| 1,3,5-Trimethylbenzene | 810 | 800 | | ppbv | 800 | 12/14/2012 4:25 AM |
| 1,3-Butadiene | ND | 800 | U | ppbv | 800 | 12/14/2012 4:25 AM |
| 1,3-Dichlorobenzene | ND | 800 | U | ppbv | 800 | 12/14/2012 4:25 AM |
| 1,4-Dichlorobenzene | ND | 800 | U | ppbv | 800 | 12/14/2012 4:25 AM |
| 2-Butanone | 1,300 | 800 | | ppbv | 800 | 12/14/2012 4:25 AM |
| 2-Hexanone | ND | 800 | U | ppbv | 800 | 12/14/2012 4:25 AM |
| 4-Methyl-2-pentanone | ND | 800 | U | ppbv | 800 | 12/14/2012 4:25 AM |
| Acetone | 4,100 | 800 | | ppbv | 800 | 12/14/2012 4:25 AM |
| Benzene | 9,700 | 800 | | ppbv | 800 | 12/14/2012 4:25 AM |
| Benzyl chloride | ND | 800 | U | ppbv | 800 | 12/14/2012 4:25 AM |
| Bromodichloromethane | ND | 800 | U | ppbv | 800 | 12/14/2012 4:25 AM |
| Bromoform | ND | 800 | U | ppbv | 800 | 12/14/2012 4:25 AM |
| Bromomethane | ND | 800 | U | ppbv | 800 | 12/14/2012 4:25 AM |
| Carbon disulfide | ND | 800 | U | ppbv | 800 | 12/14/2012 4:25 AM |
| Carbon tetrachloride | ND | 800 | U | ppbv | 800 | 12/14/2012 4:25 AM |
| Chlorobenzene | ND | 800 | U | ppbv | 800 | 12/14/2012 4:25 AM |
| Chlorodibromomethane | ND | 800 | U | ppbv | 800 | 12/14/2012 4:25 AM |
| Chloroethane | ND | 800 | U | ppbv | 800 | 12/14/2012 4:25 AM |
| Chloroform | ND | 800 | U | ppbv | 800 | 12/14/2012 4:25 AM |
| Chloromethane | ND | 800 | U | ppbv | 800 | 12/14/2012 4:25 AM |
| cis-1,2-Dichloroethene | ND | 800 | U | ppbv | 800 | 12/14/2012 4:25 AM |
| cis-1,3-dichloropropene | ND | 800 | U | ppbv | 800 | 12/14/2012 4:25 AM |

# RTI Laboratories - Analytical Report

**WO#: 1212373**

**Date Reported: 1/7/2013**
**Revision v2**

| | | | |
|---|---|---|---|
| **Client:** | Shaw Environmental & Infrastructure, Inc | **Collection Date:** | 11/29/2012 3:05:00 PM |
| **Project:** | Kirtland AFB | | |
| **Lab ID:** | 1212373-013 | **Matrix:** | Air |
| **Client Sample ID:** | VA2091 | | |

| Analysis | Result | RL | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| Cyclohexane | 29,000 | 1,600 | | ppbv | 800 | 12/14/2012 4:25 AM |
| Dichlorodifluoromethane | ND | 800 | U | ppbv | 800 | 12/14/2012 4:25 AM |
| Ethyl acetate | ND | 800 | U | ppbv | 800 | 12/14/2012 4:25 AM |
| Ethylbenzene | 5,300 | 1,600 | | ppbv | 800 | 12/14/2012 4:25 AM |
| Heptane | 22,000 | 800 | | ppbv | 800 | 12/14/2012 4:25 AM |
| Hexachlorobutadiene | ND | 1,600 | U | ppbv | 800 | 12/14/2012 4:25 AM |
| m,p-Xylene | 16,000 | 1,600 | | ppbv | 800 | 12/14/2012 4:25 AM |
| Methylene chloride | 7,200 | 4,000 | | ppbv | 800 | 12/14/2012 4:25 AM |
| n-Hexane | 18,000 | 1,600 | | ppbv | 800 | 12/14/2012 4:25 AM |
| Naphthalene | ND | 800 | U | ppbv | 800 | 12/14/2012 4:25 AM |
| o-Xylene | 6,100 | 800 | | ppbv | 800 | 12/14/2012 4:25 AM |
| Propylene | ND | 800 | U | ppbv | 800 | 12/14/2012 4:25 AM |
| Styrene | ND | 800 | U | ppbv | 800 | 12/14/2012 4:25 AM |
| tert-Butyl Methyl Ether | ND | 800 | U | ppbv | 800 | 12/14/2012 4:25 AM |
| Tetrachloroethene | ND | 800 | U | ppbv | 800 | 12/14/2012 4:25 AM |
| Tetrahydrofuran | ND | 800 | U | ppbv | 800 | 12/14/2012 4:25 AM |
| Toluene | 29,000 | 800 | | ppbv | 800 | 12/14/2012 4:25 AM |
| trans-1,2-Dichloroethene | ND | 800 | U | ppbv | 800 | 12/14/2012 4:25 AM |
| trans-1,3-dichloropropene | ND | 800 | U | ppbv | 800 | 12/14/2012 4:25 AM |
| Trichloroethene | ND | 800 | U | ppbv | 800 | 12/14/2012 4:25 AM |
| Trichlorofluoromethane | ND | 800 | U | ppbv | 800 | 12/14/2012 4:25 AM |
| Vinyl acetate | ND | 800 | U | ppbv | 800 | 12/14/2012 4:25 AM |
| Vinyl chloride | ND | 800 | U | ppbv | 800 | 12/14/2012 4:25 AM |
| Xylenes, Total | 22,000 | 2,400 | | ppbv | 800 | 12/14/2012 4:25 AM |
| Surr: 4-Bromofluorobenzene | 127 | 70-130 | | %REC | 800 | 12/14/2012 4:25 AM |
| **Mass APH Air** | | **Method:** | | | | **Analyst: RH3** |
| **Air-Phase Petroleum Hydrocarbons** | | | | | | |
| C5-C8 Aliphatic Hydrocarbons | 11,000,000 | 2,300,000 | | µg/m³ | 20000 | 12/20/2012 1:44 PM |
| C9-C10 Aromatic Hydrocarbons | ND | 2,700,000 | U | µg/m³ | 20000 | 12/20/2012 1:44 PM |
| C9-C12 Aliphatic Hydrocarbons | 1,600,000 | 3,800,000 | J | µg/m³ | 20000 | 12/20/2012 1:44 PM |
| Surr: 4-Bromofluorobenzene | 96.8 | 70-130 | | %REC | 20000 | 12/20/2012 1:44 PM |

# RTI Laboratories - Analytical Report

**WO#: 1212373**

**Date Reported: 1/7/2013**
**Revision v2**

| | | | |
|---|---|---|---|
| **Client:** | Shaw Environmental & Infrastructure, Inc | **Collection Date:** | 11/29/2012 3:05:00 PM |
| **Project:** | Kirtland AFB | | |
| **Lab ID:** | 1212373-014 | **Matrix:** | Air |
| **Client Sample ID:** | VA2092 | | |

| Analysis | Result | RL | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **Noncondensable Gases and Light Hydrocarbons** | | **Method: ASTM-D2504** | | | | **Analyst: cr** |
| Carbon dioxide | 2.0 | 0.10 | | % v/v | 1 | 12/26/2012 4:39 PM |
| Carbon Monoxide | ND | 0.10 | U | % v/v | 1 | 12/26/2012 4:39 PM |
| Methane | ND | 0.50 | U | % v/v | 1 | 12/26/2012 4:39 PM |
| Nitrogen | 80 | 0.10 | | % v/v | 1 | 12/26/2012 4:39 PM |
| Oxygen | 18 | 0.10 | | % v/v | 1 | 12/26/2012 4:39 PM |
| **Volatile Organic Compounds** | | **Method: TO-15** | | | | **Analyst: RH3** |
| 1,1,1-Trichloroethane | ND | 800 | U | ppbv | 800 | 12/14/2012 5:11 AM |
| 1,1,2,2-Tetrachloroethane | ND | 800 | U | ppbv | 800 | 12/14/2012 5:11 AM |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ND | 800 | U | ppbv | 800 | 12/14/2012 5:11 AM |
| 1,1,2-Trichloroethane | ND | 800 | U | ppbv | 800 | 12/14/2012 5:11 AM |
| 1,1-Dichloroethane | ND | 800 | U | ppbv | 800 | 12/14/2012 5:11 AM |
| 1,1-Dichloroethene | ND | 800 | U | ppbv | 800 | 12/14/2012 5:11 AM |
| 1,2,4-Trichlorobenzene | ND | 800 | U | ppbv | 800 | 12/14/2012 5:11 AM |
| 1,2,4-Trimethylbenzene | 1,400 | 800 | | ppbv | 800 | 12/14/2012 5:11 AM |
| 1,2-Dibromoethane | ND | 800 | U | ppbv | 800 | 12/14/2012 5:11 AM |
| 1,2-Dichlorobenzene | ND | 800 | U | ppbv | 800 | 12/14/2012 5:11 AM |
| 1,2-Dichloroethane | ND | 800 | U | ppbv | 800 | 12/14/2012 5:11 AM |
| 1,2-Dichloropropane | ND | 800 | U | ppbv | 800 | 12/14/2012 5:11 AM |
| 1,3,5-Trimethylbenzene | 830 | 800 | | ppbv | 800 | 12/14/2012 5:11 AM |
| 1,3-Butadiene | ND | 800 | U | ppbv | 800 | 12/14/2012 5:11 AM |
| 1,3-Dichlorobenzene | ND | 800 | U | ppbv | 800 | 12/14/2012 5:11 AM |
| 1,4-Dichlorobenzene | ND | 800 | U | ppbv | 800 | 12/14/2012 5:11 AM |
| 2-Butanone | 1,400 | 800 | | ppbv | 800 | 12/14/2012 5:11 AM |
| 2-Hexanone | ND | 800 | U | ppbv | 800 | 12/14/2012 5:11 AM |
| 4-Methyl-2-pentanone | ND | 800 | U | ppbv | 800 | 12/14/2012 5:11 AM |
| Acetone | 3,700 | 800 | | ppbv | 800 | 12/14/2012 5:11 AM |
| Benzene | 9,400 | 800 | | ppbv | 800 | 12/14/2012 5:11 AM |
| Benzyl chloride | ND | 800 | U | ppbv | 800 | 12/14/2012 5:11 AM |
| Bromodichloromethane | ND | 800 | U | ppbv | 800 | 12/14/2012 5:11 AM |
| Bromoform | ND | 800 | U | ppbv | 800 | 12/14/2012 5:11 AM |
| Bromomethane | ND | 800 | U | ppbv | 800 | 12/14/2012 5:11 AM |
| Carbon disulfide | ND | 800 | U | ppbv | 800 | 12/14/2012 5:11 AM |
| Carbon tetrachloride | ND | 800 | U | ppbv | 800 | 12/14/2012 5:11 AM |
| Chlorobenzene | ND | 800 | U | ppbv | 800 | 12/14/2012 5:11 AM |
| Chlorodibromomethane | ND | 800 | U | ppbv | 800 | 12/14/2012 5:11 AM |
| Chloroethane | ND | 800 | U | ppbv | 800 | 12/14/2012 5:11 AM |
| Chloroform | ND | 800 | U | ppbv | 800 | 12/14/2012 5:11 AM |
| Chloromethane | ND | 800 | U | ppbv | 800 | 12/14/2012 5:11 AM |
| cis-1,2-Dichloroethene | ND | 800 | U | ppbv | 800 | 12/14/2012 5:11 AM |
| cis-1,3-dichloropropene | ND | 800 | U | ppbv | 800 | 12/14/2012 5:11 AM |

# RTI Laboratories - Analytical Report

**WO#: 1212373**

**Date Reported: 1/7/2013**
**Revision v2**

| | | | |
|---|---|---|---|
| **Client:** | Shaw Environmental & Infrastructure, Inc | **Collection Date:** | 11/29/2012 3:05:00 PM |
| **Project:** | Kirtland AFB | | |
| **Lab ID:** | 1212373-014 | **Matrix:** | Air |
| **Client Sample ID:** | VA2092 | | |

| Analysis | Result | RL | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| Cyclohexane | 32,000 | 1,600 | | ppbv | 800 | 12/14/2012 5:11 AM |
| Dichlorodifluoromethane | ND | 800 | U | ppbv | 800 | 12/14/2012 5:11 AM |
| Ethyl acetate | ND | 800 | U | ppbv | 800 | 12/14/2012 5:11 AM |
| Ethylbenzene | 6,200 | 1,600 | | ppbv | 800 | 12/14/2012 5:11 AM |
| Heptane | 25,000 | 800 | | ppbv | 800 | 12/14/2012 5:11 AM |
| Hexachlorobutadiene | ND | 1,600 | U | ppbv | 800 | 12/14/2012 5:11 AM |
| m,p-Xylene | 18,000 | 1,600 | | ppbv | 800 | 12/14/2012 5:11 AM |
| Methylene chloride | 2,100 | 4,000 | J | ppbv | 800 | 12/14/2012 5:11 AM |
| n-Hexane | 20,000 | 1,600 | | ppbv | 800 | 12/14/2012 5:11 AM |
| Naphthalene | ND | 800 | U | ppbv | 800 | 12/14/2012 5:11 AM |
| o-Xylene | 6,800 | 800 | | ppbv | 800 | 12/14/2012 5:11 AM |
| Propylene | ND | 800 | U | ppbv | 800 | 12/14/2012 5:11 AM |
| Styrene | ND | 800 | U | ppbv | 800 | 12/14/2012 5:11 AM |
| tert-Butyl Methyl Ether | ND | 800 | U | ppbv | 800 | 12/14/2012 5:11 AM |
| Tetrachloroethene | ND | 800 | U | ppbv | 800 | 12/14/2012 5:11 AM |
| Tetrahydrofuran | ND | 800 | U | ppbv | 800 | 12/14/2012 5:11 AM |
| Toluene | 32,000 | 800 | | ppbv | 800 | 12/14/2012 5:11 AM |
| trans-1,2-Dichloroethene | ND | 800 | U | ppbv | 800 | 12/14/2012 5:11 AM |
| trans-1,3-dichloropropene | ND | 800 | U | ppbv | 800 | 12/14/2012 5:11 AM |
| Trichloroethene | ND | 800 | U | ppbv | 800 | 12/14/2012 5:11 AM |
| Trichlorofluoromethane | ND | 800 | U | ppbv | 800 | 12/14/2012 5:11 AM |
| Vinyl acetate | ND | 800 | U | ppbv | 800 | 12/14/2012 5:11 AM |
| Vinyl chloride | ND | 800 | U | ppbv | 800 | 12/14/2012 5:11 AM |
| Xylenes, Total | 25,000 | 2,400 | | ppbv | 800 | 12/14/2012 5:11 AM |
| Surr: 4-Bromofluorobenzene | 128 | 70-130 | | %REC | 800 | 12/14/2012 5:11 AM |
| **Mass APH Air** | **Method:** | | | | | **Analyst: RH3** |
| **Air-Phase Petroleum Hydrocarbons** | | | | | | |
| C5-C8 Aliphatic Hydrocarbons | 12,000,000 | 2,300,000 | | µg/m³ | 20000 | 12/20/2012 2:32 PM |
| C9-C10 Aromatic Hydrocarbons | ND | 2,700,000 | U | µg/m³ | 20000 | 12/20/2012 2:32 PM |
| C9-C12 Aliphatic Hydrocarbons | 1,100,000 | 3,800,000 | J | µg/m³ | 20000 | 12/20/2012 2:32 PM |
| Surr: 4-Bromofluorobenzene | 96.9 | 70-130 | | %REC | 20000 | 12/20/2012 2:32 PM |

# RTI Laboratories - Analytical Report

**WO#: 1212373**

**Date Reported: 1/7/2013**
**Revision v2**

| | | | |
|---|---|---|---|
| **Client:** | Shaw Environmental & Infrastructure, Inc | **Collection Date:** | 11/29/2012 4:00:00 PM |
| **Project:** | Kirtland AFB | | |
| **Lab ID:** | 1212373-015 | **Matrix:** | Air |
| **Client Sample ID:** | VA2093 | | |

| Analysis | Result | RL | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **Noncondensable Gases and Light Hydrocarbons** | | **Method: ASTM-D2504** | | | | **Analyst: cr** |
| Carbon dioxide | 3.0 | 0.10 | | % v/v | 1 | 12/26/2012 4:57 PM |
| Carbon Monoxide | ND | 0.10 | U | % v/v | 1 | 12/26/2012 4:57 PM |
| Methane | ND | 0.50 | U | % v/v | 1 | 12/26/2012 4:57 PM |
| Nitrogen | 82 | 0.10 | | % v/v | 1 | 12/26/2012 4:57 PM |
| Oxygen | 15 | 0.10 | | % v/v | 1 | 12/26/2012 4:57 PM |
| **Volatile Organic Compounds** | | **Method: TO-15** | | | | **Analyst: RH3** |
| 1,1,1-Trichloroethane | ND | 40,000 | U | ppbv | 40000 | 12/17/2012 7:15 PM |
| 1,1,2,2-Tetrachloroethane | ND | 40,000 | U | ppbv | 40000 | 12/17/2012 7:15 PM |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ND | 40,000 | U | ppbv | 40000 | 12/17/2012 7:15 PM |
| 1,1,2-Trichloroethane | ND | 40,000 | U | ppbv | 40000 | 12/17/2012 7:15 PM |
| 1,1-Dichloroethane | ND | 40,000 | U | ppbv | 40000 | 12/17/2012 7:15 PM |
| 1,1-Dichloroethene | ND | 40,000 | U | ppbv | 40000 | 12/17/2012 7:15 PM |
| 1,2,4-Trichlorobenzene | ND | 40,000 | U | ppbv | 40000 | 12/17/2012 7:15 PM |
| 1,2,4-Trimethylbenzene | ND | 40,000 | U | ppbv | 40000 | 12/17/2012 7:15 PM |
| 1,2-Dibromoethane | ND | 40,000 | U | ppbv | 40000 | 12/17/2012 7:15 PM |
| 1,2-Dichlorobenzene | ND | 40,000 | U | ppbv | 40000 | 12/17/2012 7:15 PM |
| 1,2-Dichloroethane | ND | 40,000 | U | ppbv | 40000 | 12/17/2012 7:15 PM |
| 1,2-Dichloropropane | ND | 40,000 | U | ppbv | 40000 | 12/17/2012 7:15 PM |
| 1,3,5-Trimethylbenzene | ND | 40,000 | U | ppbv | 40000 | 12/17/2012 7:15 PM |
| 1,3-Butadiene | ND | 40,000 | U | ppbv | 40000 | 12/17/2012 7:15 PM |
| 1,3-Dichlorobenzene | ND | 40,000 | U | ppbv | 40000 | 12/17/2012 7:15 PM |
| 1,4-Dichlorobenzene | ND | 40,000 | U | ppbv | 40000 | 12/17/2012 7:15 PM |
| 2-Butanone | ND | 40,000 | U | ppbv | 40000 | 12/17/2012 7:15 PM |
| 2-Hexanone | ND | 40,000 | U | ppbv | 40000 | 12/17/2012 7:15 PM |
| 4-Methyl-2-pentanone | ND | 40,000 | U | ppbv | 40000 | 12/17/2012 7:15 PM |
| Acetone | ND | 40,000 | U | ppbv | 40000 | 12/17/2012 7:15 PM |
| Benzene | 400,000 | 40,000 | | ppbv | 40000 | 12/17/2012 7:15 PM |
| Benzyl chloride | ND | 40,000 | U | ppbv | 40000 | 12/17/2012 7:15 PM |
| Bromodichloromethane | ND | 40,000 | U | ppbv | 40000 | 12/17/2012 7:15 PM |
| Bromoform | ND | 40,000 | U | ppbv | 40000 | 12/17/2012 7:15 PM |
| Bromomethane | ND | 40,000 | U | ppbv | 40000 | 12/17/2012 7:15 PM |
| Carbon disulfide | ND | 40,000 | U | ppbv | 40000 | 12/17/2012 7:15 PM |
| Carbon tetrachloride | ND | 40,000 | U | ppbv | 40000 | 12/17/2012 7:15 PM |
| Chlorobenzene | ND | 40,000 | U | ppbv | 40000 | 12/17/2012 7:15 PM |
| Chlorodibromomethane | ND | 40,000 | U | ppbv | 40000 | 12/17/2012 7:15 PM |
| Chloroethane | ND | 40,000 | U | ppbv | 40000 | 12/17/2012 7:15 PM |
| Chloroform | ND | 40,000 | U | ppbv | 40000 | 12/17/2012 7:15 PM |
| Chloromethane | ND | 40,000 | U | ppbv | 40000 | 12/17/2012 7:15 PM |
| cis-1,2-Dichloroethene | ND | 40,000 | U | ppbv | 40000 | 12/17/2012 7:15 PM |
| cis-1,3-dichloropropene | ND | 40,000 | U | ppbv | 40000 | 12/17/2012 7:15 PM |

# RTI Laboratories - Analytical Report

**WO#: 1212373**

**Date Reported: 1/7/2013**
**Revision v2**

| | | | |
|---|---|---|---|
| **Client:** | Shaw Environmental & Infrastructure, Inc | **Collection Date:** | 11/29/2012 4:00:00 PM |
| **Project:** | Kirtland AFB | | |
| **Lab ID:** | 1212373-015 | **Matrix:** | Air |
| **Client Sample ID:** | VA2093 | | |

| Analysis | Result | RL | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| Cyclohexane | 1,100,000 | 80,000 | | ppbv | 40000 | 12/17/2012 7:15 PM |
| Dichlorodifluoromethane | ND | 40,000 | U | ppbv | 40000 | 12/17/2012 7:15 PM |
| Ethyl acetate | ND | 40,000 | U | ppbv | 40000 | 12/17/2012 7:15 PM |
| Ethylbenzene | ND | 80,000 | U | ppbv | 40000 | 12/17/2012 7:15 PM |
| Heptane | 620,000 | 40,000 | | ppbv | 40000 | 12/17/2012 7:15 PM |
| Hexachlorobutadiene | ND | 80,000 | U | ppbv | 40000 | 12/17/2012 7:15 PM |
| m,p-Xylene | 42,000 | 80,000 | J | ppbv | 40000 | 12/17/2012 7:15 PM |
| Methylene chloride | ND | 200,000 | U | ppbv | 40000 | 12/17/2012 7:15 PM |
| n-Hexane | 1,300,000 | 80,000 | | ppbv | 40000 | 12/17/2012 7:15 PM |
| Naphthalene | ND | 40,000 | U | ppbv | 40000 | 12/17/2012 7:15 PM |
| o-Xylene | ND | 40,000 | U | ppbv | 40000 | 12/17/2012 7:15 PM |
| Propylene | ND | 40,000 | U | ppbv | 40000 | 12/17/2012 7:15 PM |
| Styrene | ND | 40,000 | U | ppbv | 40000 | 12/17/2012 7:15 PM |
| tert-Butyl Methyl Ether | ND | 40,000 | U | ppbv | 40000 | 12/17/2012 7:15 PM |
| Tetrachloroethene | ND | 40,000 | U | ppbv | 40000 | 12/17/2012 7:15 PM |
| Tetrahydrofuran | ND | 40,000 | U | ppbv | 40000 | 12/17/2012 7:15 PM |
| Toluene | 460,000 | 40,000 | | ppbv | 40000 | 12/17/2012 7:15 PM |
| trans-1,2-Dichloroethene | ND | 40,000 | U | ppbv | 40000 | 12/17/2012 7:15 PM |
| trans-1,3-dichloropropene | ND | 40,000 | U | ppbv | 40000 | 12/17/2012 7:15 PM |
| Trichloroethene | ND | 40,000 | U | ppbv | 40000 | 12/17/2012 7:15 PM |
| Trichlorofluoromethane | ND | 40,000 | U | ppbv | 40000 | 12/17/2012 7:15 PM |
| Vinyl acetate | ND | 40,000 | U | ppbv | 40000 | 12/17/2012 7:15 PM |
| Vinyl chloride | ND | 40,000 | U | ppbv | 40000 | 12/17/2012 7:15 PM |
| Xylenes, Total | 42,000 | 120,000 | J | ppbv | 40000 | 12/17/2012 7:15 PM |
| Surr: 4-Bromofluorobenzene | 96.6 | 70-130 | | %REC | 40000 | 12/17/2012 7:15 PM |
| **Mass APH Air** | | **Method:** | | | | **Analyst: RH3** |
| **Air-Phase Petroleum Hydrocarbons** | | | | | | |
| C5-C8 Aliphatic Hydrocarbons | 41,000,000 | 9,400,000 | | µg/m³ | 80000 | 12/19/2012 3:14 AM |
| C9-C10 Aromatic Hydrocarbons | ND | 11,000,000 | U | µg/m³ | 80000 | 12/19/2012 3:14 AM |
| C9-C12 Aliphatic Hydrocarbons | ND | 15,000,000 | U | µg/m³ | 80000 | 12/19/2012 3:14 AM |
| Surr: 4-Bromofluorobenzene | 107 | 70-130 | | %REC | 80000 | 12/19/2012 3:14 AM |

# RTI Laboratories - Analytical Report

**WO#: 1212373**

**Date Reported: 1/7/2013**
**Revision v2**

| | | | |
|---|---|---|---|
| **Client:** | Shaw Environmental & Infrastructure, Inc | **Collection Date:** | 11/29/2012 2:10:00 PM |
| **Project:** | Kirtland AFB | | |
| **Lab ID:** | 1212373-016 | **Matrix:** | Air |
| **Client Sample ID:** | VA2127 | | |

| Analysis | Result | RL | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **Noncondensable Gases and Light Hydrocarbons** | | **Method: ASTM-D2504** | | | | **Analyst: cr** |
| Carbon dioxide | 0.23 | 0.10 | | % v/v | 1 | 12/26/2012 5:12 PM |
| Carbon Monoxide | ND | 0.10 | U | % v/v | 1 | 12/26/2012 5:12 PM |
| Methane | ND | 0.50 | U | % v/v | 1 | 12/26/2012 5:12 PM |
| Nitrogen | 79 | 0.10 | | % v/v | 1 | 12/26/2012 5:12 PM |
| Oxygen | 21 | 0.10 | | % v/v | 1 | 12/26/2012 5:12 PM |
| **Volatile Organic Compounds** | | **Method: TO-15** | | | | **Analyst: RH3** |
| 1,1,1-Trichloroethane | ND | 400 | U | ppbv | 400 | 12/17/2012 8:03 PM |
| 1,1,2,2-Tetrachloroethane | ND | 400 | U | ppbv | 400 | 12/17/2012 8:03 PM |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ND | 400 | U | ppbv | 400 | 12/17/2012 8:03 PM |
| 1,1,2-Trichloroethane | ND | 400 | U | ppbv | 400 | 12/17/2012 8:03 PM |
| 1,1-Dichloroethane | ND | 400 | U | ppbv | 400 | 12/17/2012 8:03 PM |
| 1,1-Dichloroethene | ND | 400 | U | ppbv | 400 | 12/17/2012 8:03 PM |
| 1,2,4-Trichlorobenzene | ND | 400 | U | ppbv | 400 | 12/17/2012 8:03 PM |
| 1,2,4-Trimethylbenzene | ND | 400 | U | ppbv | 400 | 12/17/2012 8:03 PM |
| 1,2-Dibromoethane | ND | 400 | U | ppbv | 400 | 12/17/2012 8:03 PM |
| 1,2-Dichlorobenzene | ND | 400 | U | ppbv | 400 | 12/17/2012 8:03 PM |
| 1,2-Dichloroethane | ND | 400 | U | ppbv | 400 | 12/17/2012 8:03 PM |
| 1,2-Dichloropropane | ND | 400 | U | ppbv | 400 | 12/17/2012 8:03 PM |
| 1,3,5-Trimethylbenzene | ND | 400 | U | ppbv | 400 | 12/17/2012 8:03 PM |
| 1,3-Butadiene | ND | 400 | U | ppbv | 400 | 12/17/2012 8:03 PM |
| 1,3-Dichlorobenzene | ND | 400 | U | ppbv | 400 | 12/17/2012 8:03 PM |
| 1,4-Dichlorobenzene | ND | 400 | U | ppbv | 400 | 12/17/2012 8:03 PM |
| 2-Butanone | ND | 400 | U | ppbv | 400 | 12/17/2012 8:03 PM |
| 2-Hexanone | ND | 400 | U | ppbv | 400 | 12/17/2012 8:03 PM |
| 4-Methyl-2-pentanone | ND | 400 | U | ppbv | 400 | 12/17/2012 8:03 PM |
| Acetone | 420 | 400 | | ppbv | 400 | 12/17/2012 8:03 PM |
| Benzene | 550 | 400 | | ppbv | 400 | 12/17/2012 8:03 PM |
| Benzyl chloride | ND | 400 | U | ppbv | 400 | 12/17/2012 8:03 PM |
| Bromodichloromethane | ND | 400 | U | ppbv | 400 | 12/17/2012 8:03 PM |
| Bromoform | ND | 400 | U | ppbv | 400 | 12/17/2012 8:03 PM |
| Bromomethane | ND | 400 | U | ppbv | 400 | 12/17/2012 8:03 PM |
| Carbon disulfide | ND | 400 | U | ppbv | 400 | 12/17/2012 8:03 PM |
| Carbon tetrachloride | ND | 400 | U | ppbv | 400 | 12/17/2012 8:03 PM |
| Chlorobenzene | ND | 400 | U | ppbv | 400 | 12/17/2012 8:03 PM |
| Chlorodibromomethane | ND | 400 | U | ppbv | 400 | 12/17/2012 8:03 PM |
| Chloroethane | ND | 400 | U | ppbv | 400 | 12/17/2012 8:03 PM |
| Chloroform | ND | 400 | U | ppbv | 400 | 12/17/2012 8:03 PM |
| Chloromethane | ND | 400 | U | ppbv | 400 | 12/17/2012 8:03 PM |
| cis-1,2-Dichloroethene | ND | 400 | U | ppbv | 400 | 12/17/2012 8:03 PM |
| cis-1,3-dichloropropene | ND | 400 | U | ppbv | 400 | 12/17/2012 8:03 PM |

# RTI Laboratories - Analytical Report

**WO#: 1212373**

**Date Reported: 1/7/2013**
**Revision v2**

| | | | |
|---|---|---|---|
| **Client:** | Shaw Environmental & Infrastructure, Inc | **Collection Date:** | 11/29/2012 2:10:00 PM |
| **Project:** | Kirtland AFB | | |
| **Lab ID:** | 1212373-016 | **Matrix:** | Air |
| **Client Sample ID:** | VA2127 | | |

| Analysis | Result | RL | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| Cyclohexane | 1,600 | 800 | | ppbv | 400 | 12/17/2012 8:03 PM |
| Dichlorodifluoromethane | ND | 400 | U | ppbv | 400 | 12/17/2012 8:03 PM |
| Ethyl acetate | ND | 400 | U | ppbv | 400 | 12/17/2012 8:03 PM |
| Ethylbenzene | ND | 800 | U | ppbv | 400 | 12/17/2012 8:03 PM |
| Heptane | 630 | 400 | | ppbv | 400 | 12/17/2012 8:03 PM |
| Hexachlorobutadiene | ND | 800 | U | ppbv | 400 | 12/17/2012 8:03 PM |
| m,p-Xylene | ND | 800 | U | ppbv | 400 | 12/17/2012 8:03 PM |
| Methylene chloride | 1,100 | 2,000 | J | ppbv | 400 | 12/17/2012 8:03 PM |
| n-Hexane | 1,100 | 800 | | ppbv | 400 | 12/17/2012 8:03 PM |
| Naphthalene | ND | 400 | U | ppbv | 400 | 12/17/2012 8:03 PM |
| o-Xylene | ND | 400 | U | ppbv | 400 | 12/17/2012 8:03 PM |
| Propylene | ND | 400 | U | ppbv | 400 | 12/17/2012 8:03 PM |
| Styrene | ND | 400 | U | ppbv | 400 | 12/17/2012 8:03 PM |
| tert-Butyl Methyl Ether | ND | 400 | U | ppbv | 400 | 12/17/2012 8:03 PM |
| Tetrachloroethene | ND | 400 | U | ppbv | 400 | 12/17/2012 8:03 PM |
| Tetrahydrofuran | ND | 400 | U | ppbv | 400 | 12/17/2012 8:03 PM |
| Toluene | 1,300 | 400 | | ppbv | 400 | 12/17/2012 8:03 PM |
| trans-1,2-Dichloroethene | ND | 400 | U | ppbv | 400 | 12/17/2012 8:03 PM |
| trans-1,3-dichloropropene | ND | 400 | U | ppbv | 400 | 12/17/2012 8:03 PM |
| Trichloroethene | ND | 400 | U | ppbv | 400 | 12/17/2012 8:03 PM |
| Trichlorofluoromethane | ND | 400 | U | ppbv | 400 | 12/17/2012 8:03 PM |
| Vinyl acetate | ND | 400 | U | ppbv | 400 | 12/17/2012 8:03 PM |
| Vinyl chloride | ND | 400 | U | ppbv | 400 | 12/17/2012 8:03 PM |
| Xylenes, Total | ND | 1,200 | U | ppbv | 400 | 12/17/2012 8:03 PM |
| Surr: 4-Bromofluorobenzene | 96.2 | 70-130 | | %REC | 400 | 12/17/2012 8:03 PM |
| **Mass APH Air** | **Method:** | | | | | **Analyst: RH3** |
| **Air-Phase Petroleum Hydrocarbons** | | | | | | |
| C5-C8 Aliphatic Hydrocarbons | 89,000 | 47,000 | | µg/m³ | 400 | 12/20/2012 12:57 PM |
| C9-C10 Aromatic Hydrocarbons | ND | 53,000 | U | µg/m³ | 400 | 12/20/2012 12:57 PM |
| C9-C12 Aliphatic Hydrocarbons | ND | 76,000 | U | µg/m³ | 400 | 12/20/2012 12:57 PM |
| Surr: 4-Bromofluorobenzene | 100 | 70-130 | | %REC | 400 | 12/20/2012 12:57 PM |

# RTI Laboratories - Analytical Report

**WO#: 1212373**

**Date Reported: 1/7/2013**
**Revision v2**

| | | | |
|---|---|---|---|
| **Client:** | Shaw Environmental & Infrastructure, Inc | **Collection Date:** | 11/29/2012 2:38:00 PM |
| **Project:** | Kirtland AFB | | |
| **Lab ID:** | 1212373-017 | **Matrix:** | Air |
| **Client Sample ID:** | VA2128 | | |

| Analysis | Result | RL | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **Noncondensable Gases and Light Hydrocarbons** | | **Method: ASTM-D2504** | | | | **Analyst: cr** |
| Carbon dioxide | 0.12 | 0.10 | | % v/v | 1 | 12/26/2012 5:28 PM |
| Carbon Monoxide | ND | 0.10 | U | % v/v | 1 | 12/26/2012 5:28 PM |
| Methane | ND | 0.50 | U | % v/v | 1 | 12/26/2012 5:28 PM |
| Nitrogen | 80 | 0.10 | | % v/v | 1 | 12/26/2012 5:28 PM |
| Oxygen | 21 | 0.10 | | % v/v | 1 | 12/26/2012 5:28 PM |
| **Volatile Organic Compounds** | | **Method: TO-15** | | | | **Analyst: RH3** |
| 1,1,1-Trichloroethane | ND | 40 | U | ppbv | 40 | 12/18/2012 6:51 PM |
| 1,1,2,2-Tetrachloroethane | ND | 40 | U | ppbv | 40 | 12/18/2012 6:51 PM |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ND | 40 | U | ppbv | 40 | 12/18/2012 6:51 PM |
| 1,1,2-Trichloroethane | ND | 40 | U | ppbv | 40 | 12/18/2012 6:51 PM |
| 1,1-Dichloroethane | ND | 40 | U | ppbv | 40 | 12/18/2012 6:51 PM |
| 1,1-Dichloroethene | ND | 40 | U | ppbv | 40 | 12/18/2012 6:51 PM |
| 1,2,4-Trichlorobenzene | ND | 40 | U | ppbv | 40 | 12/18/2012 6:51 PM |
| 1,2,4-Trimethylbenzene | ND | 40 | U | ppbv | 40 | 12/18/2012 6:51 PM |
| 1,2-Dibromoethane | ND | 40 | U | ppbv | 40 | 12/18/2012 6:51 PM |
| 1,2-Dichlorobenzene | ND | 40 | U | ppbv | 40 | 12/18/2012 6:51 PM |
| 1,2-Dichloroethane | ND | 40 | U | ppbv | 40 | 12/18/2012 6:51 PM |
| 1,2-Dichloropropane | ND | 40 | U | ppbv | 40 | 12/18/2012 6:51 PM |
| 1,3,5-Trimethylbenzene | ND | 40 | U | ppbv | 40 | 12/18/2012 6:51 PM |
| 1,3-Butadiene | ND | 40 | U | ppbv | 40 | 12/18/2012 6:51 PM |
| 1,3-Dichlorobenzene | ND | 40 | U | ppbv | 40 | 12/18/2012 6:51 PM |
| 1,4-Dichlorobenzene | ND | 40 | U | ppbv | 40 | 12/18/2012 6:51 PM |
| 2-Butanone | ND | 40 | U | ppbv | 40 | 12/18/2012 6:51 PM |
| 2-Hexanone | ND | 40 | U | ppbv | 40 | 12/18/2012 6:51 PM |
| 4-Methyl-2-pentanone | ND | 40 | U | ppbv | 40 | 12/18/2012 6:51 PM |
| Acetone | ND | 40 | U | ppbv | 40 | 12/18/2012 6:51 PM |
| Benzene | 110 | 40 | | ppbv | 40 | 12/18/2012 6:51 PM |
| Benzyl chloride | ND | 40 | U | ppbv | 40 | 12/18/2012 6:51 PM |
| Bromodichloromethane | ND | 40 | U | ppbv | 40 | 12/18/2012 6:51 PM |
| Bromoform | ND | 40 | U | ppbv | 40 | 12/18/2012 6:51 PM |
| Bromomethane | ND | 40 | U | ppbv | 40 | 12/18/2012 6:51 PM |
| Carbon disulfide | ND | 40 | U | ppbv | 40 | 12/18/2012 6:51 PM |
| Carbon tetrachloride | 59 | 40 | | ppbv | 40 | 12/18/2012 6:51 PM |
| Chlorobenzene | ND | 40 | U | ppbv | 40 | 12/18/2012 6:51 PM |
| Chlorodibromomethane | ND | 40 | U | ppbv | 40 | 12/18/2012 6:51 PM |
| Chloroethane | ND | 40 | U | ppbv | 40 | 12/18/2012 6:51 PM |
| Chloroform | 88 | 40 | | ppbv | 40 | 12/18/2012 6:51 PM |
| Chloromethane | ND | 40 | U | ppbv | 40 | 12/18/2012 6:51 PM |
| cis-1,2-Dichloroethene | ND | 40 | U | ppbv | 40 | 12/18/2012 6:51 PM |
| cis-1,3-dichloropropene | ND | 40 | U | ppbv | 40 | 12/18/2012 6:51 PM |

# RTI Laboratories - Analytical Report

**WO#: 1212373**

**Date Reported: 1/7/2013**
**Revision v2**

| | | | |
|---|---|---|---|
| **Client:** | Shaw Environmental & Infrastructure, Inc | **Collection Date:** | 11/29/2012 2:38:00 PM |
| **Project:** | Kirtland AFB | | |
| **Lab ID:** | 1212373-017 | **Matrix:** | Air |
| **Client Sample ID:** | VA2128 | | |

| Analysis | Result | RL | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| Cyclohexane | 180 | 80 | | ppbv | 40 | 12/18/2012 6:51 PM |
| Dichlorodifluoromethane | ND | 40 | U | ppbv | 40 | 12/18/2012 6:51 PM |
| Ethyl acetate | ND | 40 | U | ppbv | 40 | 12/18/2012 6:51 PM |
| Ethylbenzene | ND | 80 | U | ppbv | 40 | 12/18/2012 6:51 PM |
| Heptane | 57 | 40 | | ppbv | 40 | 12/18/2012 6:51 PM |
| Hexachlorobutadiene | ND | 80 | U | ppbv | 40 | 12/18/2012 6:51 PM |
| m,p-Xylene | 46 | 80 | J | ppbv | 40 | 12/18/2012 6:51 PM |
| Methylene chloride | ND | 200 | U | ppbv | 40 | 12/18/2012 6:51 PM |
| n-Hexane | 110 | 80 | | ppbv | 40 | 12/18/2012 6:51 PM |
| Naphthalene | ND | 40 | U | ppbv | 40 | 12/18/2012 6:51 PM |
| o-Xylene | ND | 40 | U | ppbv | 40 | 12/18/2012 6:51 PM |
| Propylene | ND | 40 | U | ppbv | 40 | 12/18/2012 6:51 PM |
| Styrene | ND | 40 | U | ppbv | 40 | 12/18/2012 6:51 PM |
| tert-Butyl Methyl Ether | ND | 40 | U | ppbv | 40 | 12/18/2012 6:51 PM |
| Tetrachloroethene | ND | 40 | U | ppbv | 40 | 12/18/2012 6:51 PM |
| Tetrahydrofuran | ND | 40 | U | ppbv | 40 | 12/18/2012 6:51 PM |
| Toluene | 350 | 40 | | ppbv | 40 | 12/18/2012 6:51 PM |
| trans-1,2-Dichloroethene | ND | 40 | U | ppbv | 40 | 12/18/2012 6:51 PM |
| trans-1,3-dichloropropene | ND | 40 | U | ppbv | 40 | 12/18/2012 6:51 PM |
| Trichloroethene | ND | 40 | U | ppbv | 40 | 12/18/2012 6:51 PM |
| Trichlorofluoromethane | ND | 40 | U | ppbv | 40 | 12/18/2012 6:51 PM |
| Vinyl acetate | ND | 40 | U | ppbv | 40 | 12/18/2012 6:51 PM |
| Vinyl chloride | ND | 40 | U | ppbv | 40 | 12/18/2012 6:51 PM |
| Xylenes, Total | 46 | 120 | J | ppbv | 40 | 12/18/2012 6:51 PM |
| Surr: 4-Bromofluorobenzene | 103 | 70-130 | | %REC | 40 | 12/18/2012 6:51 PM |
| **Mass APH Air** | **Method:** | | | | | **Analyst: RH3** |
| **Air-Phase Petroleum Hydrocarbons** | | | | | | |
| C5-C8 Aliphatic Hydrocarbons | 23,000 | 4,700 | | µg/m³ | 40 | 12/21/2012 3:13 PM |
| C9-C10 Aromatic Hydrocarbons | ND | 5,300 | U | µg/m³ | 40 | 12/21/2012 3:13 PM |
| C9-C12 Aliphatic Hydrocarbons | ND | 7,600 | U | µg/m³ | 40 | 12/21/2012 3:13 PM |
| Surr: 4-Bromofluorobenzene | 97.3 | 70-130 | | %REC | 40 | 12/21/2012 3:13 PM |

# RTI Laboratories - Analytical Report

**WO#: 1212373**

**Date Reported: 1/7/2013**
**Revision v2**

| | | | |
|---|---|---|---|
| **Client:** | Shaw Environmental & Infrastructure, Inc | **Collection Date:** | 11/29/2012 3:09:00 PM |
| **Project:** | Kirtland AFB | | |
| **Lab ID:** | 1212373-018 | **Matrix:** | Air |
| **Client Sample ID:** | VA2129 | | |

| Analysis | Result | RL | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **Noncondensable Gases and Light Hydrocarbons** | | **Method: ASTM-D2504** | | | | **Analyst: cr** |
| Carbon dioxide | 0.22 | 0.10 | | % v/v | 1 | 12/26/2012 5:43 PM |
| Carbon Monoxide | ND | 0.10 | U | % v/v | 1 | 12/26/2012 5:43 PM |
| Methane | ND | 0.50 | U | % v/v | 1 | 12/26/2012 5:43 PM |
| Nitrogen | 80 | 0.10 | | % v/v | 1 | 12/26/2012 5:43 PM |
| Oxygen | 20 | 0.10 | | % v/v | 1 | 12/26/2012 5:43 PM |
| **Volatile Organic Compounds** | | **Method: TO-15** | | | | **Analyst: RH3** |
| 1,1,1-Trichloroethane | ND | 40 | U | ppbv | 40 | 12/18/2012 7:34 PM |
| 1,1,2,2-Tetrachloroethane | ND | 40 | U | ppbv | 40 | 12/18/2012 7:34 PM |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ND | 40 | U | ppbv | 40 | 12/18/2012 7:34 PM |
| 1,1,2-Trichloroethane | ND | 40 | U | ppbv | 40 | 12/18/2012 7:34 PM |
| 1,1-Dichloroethane | ND | 40 | U | ppbv | 40 | 12/18/2012 7:34 PM |
| 1,1-Dichloroethene | ND | 40 | U | ppbv | 40 | 12/18/2012 7:34 PM |
| 1,2,4-Trichlorobenzene | ND | 40 | U | ppbv | 40 | 12/18/2012 7:34 PM |
| 1,2,4-Trimethylbenzene | ND | 40 | U | ppbv | 40 | 12/18/2012 7:34 PM |
| 1,2-Dibromoethane | ND | 40 | U | ppbv | 40 | 12/18/2012 7:34 PM |
| 1,2-Dichlorobenzene | ND | 40 | U | ppbv | 40 | 12/18/2012 7:34 PM |
| 1,2-Dichloroethane | ND | 40 | U | ppbv | 40 | 12/18/2012 7:34 PM |
| 1,2-Dichloropropane | ND | 40 | U | ppbv | 40 | 12/18/2012 7:34 PM |
| 1,3,5-Trimethylbenzene | ND | 40 | U | ppbv | 40 | 12/18/2012 7:34 PM |
| 1,3-Butadiene | ND | 40 | U | ppbv | 40 | 12/18/2012 7:34 PM |
| 1,3-Dichlorobenzene | ND | 40 | U | ppbv | 40 | 12/18/2012 7:34 PM |
| 1,4-Dichlorobenzene | ND | 40 | U | ppbv | 40 | 12/18/2012 7:34 PM |
| 2-Butanone | ND | 40 | U | ppbv | 40 | 12/18/2012 7:34 PM |
| 2-Hexanone | ND | 40 | U | ppbv | 40 | 12/18/2012 7:34 PM |
| 4-Methyl-2-pentanone | ND | 40 | U | ppbv | 40 | 12/18/2012 7:34 PM |
| Acetone | ND | 40 | U | ppbv | 40 | 12/18/2012 7:34 PM |
| Benzene | 90 | 40 | | ppbv | 40 | 12/18/2012 7:34 PM |
| Benzyl chloride | ND | 40 | U | ppbv | 40 | 12/18/2012 7:34 PM |
| Bromodichloromethane | ND | 40 | U | ppbv | 40 | 12/18/2012 7:34 PM |
| Bromoform | ND | 40 | U | ppbv | 40 | 12/18/2012 7:34 PM |
| Bromomethane | ND | 40 | U | ppbv | 40 | 12/18/2012 7:34 PM |
| Carbon disulfide | ND | 40 | U | ppbv | 40 | 12/18/2012 7:34 PM |
| Carbon tetrachloride | ND | 40 | U | ppbv | 40 | 12/18/2012 7:34 PM |
| Chlorobenzene | ND | 40 | U | ppbv | 40 | 12/18/2012 7:34 PM |
| Chlorodibromomethane | ND | 40 | U | ppbv | 40 | 12/18/2012 7:34 PM |
| Chloroethane | ND | 40 | U | ppbv | 40 | 12/18/2012 7:34 PM |
| Chloroform | ND | 40 | U | ppbv | 40 | 12/18/2012 7:34 PM |
| Chloromethane | ND | 40 | U | ppbv | 40 | 12/18/2012 7:34 PM |
| cis-1,2-Dichloroethene | ND | 40 | U | ppbv | 40 | 12/18/2012 7:34 PM |
| cis-1,3-dichloropropene | ND | 40 | U | ppbv | 40 | 12/18/2012 7:34 PM |

# RTI Laboratories - Analytical Report

**WO#: 1212373**

**Date Reported: 1/7/2013**
**Revision v2**

| | | | |
|---|---|---|---|
| **Client:** | Shaw Environmental & Infrastructure, Inc | **Collection Date:** | 11/29/2012 3:09:00 PM |
| **Project:** | Kirtland AFB | | |
| **Lab ID:** | 1212373-018 | **Matrix:** | Air |
| **Client Sample ID:** | VA2129 | | |

| Analysis | Result | RL | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| Cyclohexane | 140 | 80 | | ppbv | 40 | 12/18/2012 7:34 PM |
| Dichlorodifluoromethane | ND | 40 | U | ppbv | 40 | 12/18/2012 7:34 PM |
| Ethyl acetate | ND | 40 | U | ppbv | 40 | 12/18/2012 7:34 PM |
| Ethylbenzene | ND | 80 | U | ppbv | 40 | 12/18/2012 7:34 PM |
| Heptane | 46 | 40 | | ppbv | 40 | 12/18/2012 7:34 PM |
| Hexachlorobutadiene | ND | 80 | U | ppbv | 40 | 12/18/2012 7:34 PM |
| m,p-Xylene | 42 | 80 | J | ppbv | 40 | 12/18/2012 7:34 PM |
| Methylene chloride | ND | 200 | U | ppbv | 40 | 12/18/2012 7:34 PM |
| n-Hexane | 85 | 80 | | ppbv | 40 | 12/18/2012 7:34 PM |
| Naphthalene | ND | 40 | U | ppbv | 40 | 12/18/2012 7:34 PM |
| o-Xylene | ND | 40 | U | ppbv | 40 | 12/18/2012 7:34 PM |
| Propylene | ND | 40 | U | ppbv | 40 | 12/18/2012 7:34 PM |
| Styrene | ND | 40 | U | ppbv | 40 | 12/18/2012 7:34 PM |
| tert-Butyl Methyl Ether | ND | 40 | U | ppbv | 40 | 12/18/2012 7:34 PM |
| Tetrachloroethene | ND | 40 | U | ppbv | 40 | 12/18/2012 7:34 PM |
| Tetrahydrofuran | ND | 40 | U | ppbv | 40 | 12/18/2012 7:34 PM |
| Toluene | 300 | 40 | | ppbv | 40 | 12/18/2012 7:34 PM |
| trans-1,2-Dichloroethene | ND | 40 | U | ppbv | 40 | 12/18/2012 7:34 PM |
| trans-1,3-dichloropropene | ND | 40 | U | ppbv | 40 | 12/18/2012 7:34 PM |
| Trichloroethene | ND | 40 | U | ppbv | 40 | 12/18/2012 7:34 PM |
| Trichlorofluoromethane | ND | 40 | U | ppbv | 40 | 12/18/2012 7:34 PM |
| Vinyl acetate | ND | 40 | U | ppbv | 40 | 12/18/2012 7:34 PM |
| Vinyl chloride | ND | 40 | U | ppbv | 40 | 12/18/2012 7:34 PM |
| Xylenes, Total | 42 | 120 | J | ppbv | 40 | 12/18/2012 7:34 PM |
| Surr: 4-Bromofluorobenzene | 98.9 | 70-130 | | %REC | 40 | 12/18/2012 7:34 PM |
| **Mass APH Air** | **Method:** | | | | | **Analyst: RH3** |
| **Air-Phase Petroleum Hydrocarbons** | | | | | | |
| C5-C8 Aliphatic Hydrocarbons | 18,000 | 4,700 | | µg/m³ | 40 | 12/21/2012 4:01 PM |
| C9-C10 Aromatic Hydrocarbons | ND | 5,300 | U | µg/m³ | 40 | 12/21/2012 4:01 PM |
| C9-C12 Aliphatic Hydrocarbons | ND | 7,600 | U | µg/m³ | 40 | 12/21/2012 4:01 PM |
| Surr: 4-Bromofluorobenzene | 97.9 | 70-130 | | %REC | 40 | 12/21/2012 4:01 PM |

# RTI Laboratories - Analytical Report

**WO#: 1212373**

**Date Reported: 1/7/2013**
**Revision v2**

| | | | |
|---|---|---|---|
| **Client:** | Shaw Environmental & Infrastructure, Inc | **Collection Date:** | 11/29/2012 3:42:00 PM |
| **Project:** | Kirtland AFB | | |
| **Lab ID:** | 1212373-019 | **Matrix:** | Air |
| **Client Sample ID:** | VA2130 | | |

| Analysis | Result | RL | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **Noncondensable Gases and Light Hydrocarbons** | | **Method: ASTM-D2504** | | | | **Analyst: cr** |
| Carbon dioxide | 0.24 | 0.10 | | % v/v | 1 | 12/28/2012 12:10 PM |
| Carbon Monoxide | ND | 0.10 | U | % v/v | 1 | 12/28/2012 12:10 PM |
| Methane | ND | 0.50 | U | % v/v | 1 | 12/28/2012 12:10 PM |
| Nitrogen | 82 | 0.10 | | % v/v | 1 | 12/28/2012 12:10 PM |
| Oxygen | 21 | 0.10 | | % v/v | 1 | 12/28/2012 12:10 PM |
| **Volatile Organic Compounds** | | **Method: TO-15** | | | | **Analyst: RH3** |
| 1,1,1-Trichloroethane | ND | 40 | U | ppbv | 40 | 12/18/2012 4:39 AM |
| 1,1,2,2-Tetrachloroethane | ND | 40 | U | ppbv | 40 | 12/18/2012 4:39 AM |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ND | 40 | U | ppbv | 40 | 12/18/2012 4:39 AM |
| 1,1,2-Trichloroethane | ND | 40 | U | ppbv | 40 | 12/18/2012 4:39 AM |
| 1,1-Dichloroethane | ND | 40 | U | ppbv | 40 | 12/18/2012 4:39 AM |
| 1,1-Dichloroethene | ND | 40 | U | ppbv | 40 | 12/18/2012 4:39 AM |
| 1,2,4-Trichlorobenzene | ND | 40 | U | ppbv | 40 | 12/18/2012 4:39 AM |
| 1,2,4-Trimethylbenzene | ND | 40 | U | ppbv | 40 | 12/18/2012 4:39 AM |
| 1,2-Dibromoethane | ND | 40 | U | ppbv | 40 | 12/18/2012 4:39 AM |
| 1,2-Dichlorobenzene | ND | 40 | U | ppbv | 40 | 12/18/2012 4:39 AM |
| 1,2-Dichloroethane | ND | 40 | U | ppbv | 40 | 12/18/2012 4:39 AM |
| 1,2-Dichloropropane | ND | 40 | U | ppbv | 40 | 12/18/2012 4:39 AM |
| 1,3,5-Trimethylbenzene | ND | 40 | U | ppbv | 40 | 12/18/2012 4:39 AM |
| 1,3-Butadiene | ND | 40 | U | ppbv | 40 | 12/18/2012 4:39 AM |
| 1,3-Dichlorobenzene | ND | 40 | U | ppbv | 40 | 12/18/2012 4:39 AM |
| 1,4-Dichlorobenzene | ND | 40 | U | ppbv | 40 | 12/18/2012 4:39 AM |
| 2-Butanone | ND | 40 | U | ppbv | 40 | 12/18/2012 4:39 AM |
| 2-Hexanone | ND | 40 | U | ppbv | 40 | 12/18/2012 4:39 AM |
| 4-Methyl-2-pentanone | ND | 40 | U | ppbv | 40 | 12/18/2012 4:39 AM |
| Acetone | ND | 40 | U | ppbv | 40 | 12/18/2012 4:39 AM |
| Benzene | 84 | 40 | | ppbv | 40 | 12/18/2012 4:39 AM |
| Benzyl chloride | ND | 40 | U | ppbv | 40 | 12/18/2012 4:39 AM |
| Bromodichloromethane | ND | 40 | U | ppbv | 40 | 12/18/2012 4:39 AM |
| Bromoform | ND | 40 | U | ppbv | 40 | 12/18/2012 4:39 AM |
| Bromomethane | ND | 40 | U | ppbv | 40 | 12/18/2012 4:39 AM |
| Carbon disulfide | ND | 40 | U | ppbv | 40 | 12/18/2012 4:39 AM |
| Carbon tetrachloride | ND | 40 | U | ppbv | 40 | 12/18/2012 4:39 AM |
| Chlorobenzene | ND | 40 | U | ppbv | 40 | 12/18/2012 4:39 AM |
| Chlorodibromomethane | ND | 40 | U | ppbv | 40 | 12/18/2012 4:39 AM |
| Chloroethane | ND | 40 | U | ppbv | 40 | 12/18/2012 4:39 AM |
| Chloroform | ND | 40 | U | ppbv | 40 | 12/18/2012 4:39 AM |
| Chloromethane | ND | 40 | U | ppbv | 40 | 12/18/2012 4:39 AM |
| cis-1,2-Dichloroethene | ND | 40 | U | ppbv | 40 | 12/18/2012 4:39 AM |
| cis-1,3-dichloropropene | ND | 40 | U | ppbv | 40 | 12/18/2012 4:39 AM |

# RTI Laboratories - Analytical Report

**WO#: 1212373**

**Date Reported: 1/7/2013**
**Revision v2**

| | | | |
|---|---|---|---|
| **Client:** | Shaw Environmental & Infrastructure, Inc | **Collection Date:** | 11/29/2012 3:42:00 PM |
| **Project:** | Kirtland AFB | | |
| **Lab ID:** | 1212373-019 | **Matrix:** | Air |
| **Client Sample ID:** | VA2130 | | |

| Analysis | Result | RL | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| Cyclohexane | 140 | 80 | | ppbv | 40 | 12/18/2012 4:39 AM |
| Dichlorodifluoromethane | ND | 40 | U | ppbv | 40 | 12/18/2012 4:39 AM |
| Ethyl acetate | ND | 40 | U | ppbv | 40 | 12/18/2012 4:39 AM |
| Ethylbenzene | ND | 80 | U | ppbv | 40 | 12/18/2012 4:39 AM |
| Heptane | 47 | 40 | | ppbv | 40 | 12/18/2012 4:39 AM |
| Hexachlorobutadiene | ND | 80 | U | ppbv | 40 | 12/18/2012 4:39 AM |
| m,p-Xylene | ND | 80 | U | ppbv | 40 | 12/18/2012 4:39 AM |
| Methylene chloride | ND | 200 | U | ppbv | 40 | 12/18/2012 4:39 AM |
| n-Hexane | 90 | 80 | | ppbv | 40 | 12/18/2012 4:39 AM |
| Naphthalene | ND | 40 | U | ppbv | 40 | 12/18/2012 4:39 AM |
| o-Xylene | ND | 40 | U | ppbv | 40 | 12/18/2012 4:39 AM |
| Propylene | ND | 40 | U | ppbv | 40 | 12/18/2012 4:39 AM |
| Styrene | ND | 40 | U | ppbv | 40 | 12/18/2012 4:39 AM |
| tert-Butyl Methyl Ether | ND | 40 | U | ppbv | 40 | 12/18/2012 4:39 AM |
| Tetrachloroethene | ND | 40 | U | ppbv | 40 | 12/18/2012 4:39 AM |
| Tetrahydrofuran | ND | 40 | U | ppbv | 40 | 12/18/2012 4:39 AM |
| Toluene | 250 | 40 | | ppbv | 40 | 12/18/2012 4:39 AM |
| trans-1,2-Dichloroethene | ND | 40 | U | ppbv | 40 | 12/18/2012 4:39 AM |
| trans-1,3-dichloropropene | ND | 40 | U | ppbv | 40 | 12/18/2012 4:39 AM |
| Trichloroethene | ND | 40 | U | ppbv | 40 | 12/18/2012 4:39 AM |
| Trichlorofluoromethane | ND | 40 | U | ppbv | 40 | 12/18/2012 4:39 AM |
| Vinyl acetate | ND | 40 | U | ppbv | 40 | 12/18/2012 4:39 AM |
| Vinyl chloride | ND | 40 | U | ppbv | 40 | 12/18/2012 4:39 AM |
| Xylenes, Total | ND | 120 | U | ppbv | 40 | 12/18/2012 4:39 AM |
| Surr: 4-Bromofluorobenzene | 100 | 70-130 | | %REC | 40 | 12/18/2012 4:39 AM |
| **Mass APH Air** | **Method:** | | | | | **Analyst: RH3** |
| **Air-Phase Petroleum Hydrocarbons** | | | | | | |
| C5-C8 Aliphatic Hydrocarbons | 18,000 | 4,700 | | µg/m³ | 40 | 12/19/2012 2:29 AM |
| C9-C10 Aromatic Hydrocarbons | ND | 5,300 | U | µg/m³ | 40 | 12/19/2012 2:29 AM |
| C9-C12 Aliphatic Hydrocarbons | ND | 7,600 | U | µg/m³ | 40 | 12/19/2012 2:29 AM |
| Surr: 4-Bromofluorobenzene | 110 | 70-130 | | %REC | 40 | 12/19/2012 2:29 AM |

# RTI Laboratories - Analytical Report

**WO#: 1212373**

**Date Reported: 1/7/2013**
**Revision v2**

| | | | |
|---|---|---|---|
| **Client:** | Shaw Environmental & Infrastructure, Inc | **Collection Date:** | 11/29/2012 4:16:00 PM |
| **Project:** | Kirtland AFB | | |
| **Lab ID:** | 1212373-020 | **Matrix:** | Air |
| **Client Sample ID:** | VA2131 | | |

| Analysis | Result | RL | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **Noncondensable Gases and Light Hydrocarbons** | | **Method: ASTM-D2504** | | | | **Analyst: cr** |
| Carbon dioxide | 0.46 | 0.10 | | % v/v | 1 | 12/28/2012 12:28 PM |
| Carbon Monoxide | ND | 0.10 | U | % v/v | 1 | 12/28/2012 12:28 PM |
| Methane | ND | 0.50 | U | % v/v | 1 | 12/28/2012 12:28 PM |
| Nitrogen | 84 | 0.10 | | % v/v | 1 | 12/28/2012 12:28 PM |
| Oxygen | 21 | 0.10 | | % v/v | 1 | 12/28/2012 12:28 PM |
| **Volatile Organic Compounds** | | **Method: TO-15** | | | | **Analyst: RH3** |
| 1,1,1-Trichloroethane | ND | 40 | U | ppbv | 40 | 12/18/2012 5:21 AM |
| 1,1,2,2-Tetrachloroethane | ND | 40 | U | ppbv | 40 | 12/18/2012 5:21 AM |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ND | 40 | U | ppbv | 40 | 12/18/2012 5:21 AM |
| 1,1,2-Trichloroethane | ND | 40 | U | ppbv | 40 | 12/18/2012 5:21 AM |
| 1,1-Dichloroethane | ND | 40 | U | ppbv | 40 | 12/18/2012 5:21 AM |
| 1,1-Dichloroethene | ND | 40 | U | ppbv | 40 | 12/18/2012 5:21 AM |
| 1,2,4-Trichlorobenzene | ND | 40 | U | ppbv | 40 | 12/18/2012 5:21 AM |
| 1,2,4-Trimethylbenzene | ND | 40 | U | ppbv | 40 | 12/18/2012 5:21 AM |
| 1,2-Dibromoethane | ND | 40 | U | ppbv | 40 | 12/18/2012 5:21 AM |
| 1,2-Dichlorobenzene | ND | 40 | U | ppbv | 40 | 12/18/2012 5:21 AM |
| 1,2-Dichloroethane | ND | 40 | U | ppbv | 40 | 12/18/2012 5:21 AM |
| 1,2-Dichloropropane | ND | 40 | U | ppbv | 40 | 12/18/2012 5:21 AM |
| 1,3,5-Trimethylbenzene | ND | 40 | U | ppbv | 40 | 12/18/2012 5:21 AM |
| 1,3-Butadiene | ND | 40 | U | ppbv | 40 | 12/18/2012 5:21 AM |
| 1,3-Dichlorobenzene | ND | 40 | U | ppbv | 40 | 12/18/2012 5:21 AM |
| 1,4-Dichlorobenzene | ND | 40 | U | ppbv | 40 | 12/18/2012 5:21 AM |
| 2-Butanone | ND | 40 | U | ppbv | 40 | 12/18/2012 5:21 AM |
| 2-Hexanone | ND | 40 | U | ppbv | 40 | 12/18/2012 5:21 AM |
| 4-Methyl-2-pentanone | ND | 40 | U | ppbv | 40 | 12/18/2012 5:21 AM |
| Acetone | ND | 40 | U | ppbv | 40 | 12/18/2012 5:21 AM |
| Benzene | 59 | 40 | | ppbv | 40 | 12/18/2012 5:21 AM |
| Benzyl chloride | ND | 40 | U | ppbv | 40 | 12/18/2012 5:21 AM |
| Bromodichloromethane | ND | 40 | U | ppbv | 40 | 12/18/2012 5:21 AM |
| Bromoform | ND | 40 | U | ppbv | 40 | 12/18/2012 5:21 AM |
| Bromomethane | ND | 40 | U | ppbv | 40 | 12/18/2012 5:21 AM |
| Carbon disulfide | ND | 40 | U | ppbv | 40 | 12/18/2012 5:21 AM |
| Carbon tetrachloride | ND | 40 | U | ppbv | 40 | 12/18/2012 5:21 AM |
| Chlorobenzene | ND | 40 | U | ppbv | 40 | 12/18/2012 5:21 AM |
| Chlorodibromomethane | ND | 40 | U | ppbv | 40 | 12/18/2012 5:21 AM |
| Chloroethane | ND | 40 | U | ppbv | 40 | 12/18/2012 5:21 AM |
| Chloroform | ND | 40 | U | ppbv | 40 | 12/18/2012 5:21 AM |
| Chloromethane | ND | 40 | U | ppbv | 40 | 12/18/2012 5:21 AM |
| cis-1,2-Dichloroethene | ND | 40 | U | ppbv | 40 | 12/18/2012 5:21 AM |
| cis-1,3-dichloropropene | ND | 40 | U | ppbv | 40 | 12/18/2012 5:21 AM |

# RTI Laboratories - Analytical Report

**WO#: 1212373**

**Date Reported: 1/7/2013**
**Revision v2**

| | | | |
|---|---|---|---|
| **Client:** | Shaw Environmental & Infrastructure, Inc | **Collection Date:** | 11/29/2012 4:16:00 PM |
| **Project:** | Kirtland AFB | | |
| **Lab ID:** | 1212373-020 | **Matrix:** | Air |
| **Client Sample ID:** | VA2131 | | |

| Analysis | Result | RL | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| Cyclohexane | 90 | 80 | | ppbv | 40 | 12/18/2012 5:21 AM |
| Dichlorodifluoromethane | ND | 40 | U | ppbv | 40 | 12/18/2012 5:21 AM |
| Ethyl acetate | ND | 40 | U | ppbv | 40 | 12/18/2012 5:21 AM |
| Ethylbenzene | ND | 80 | U | ppbv | 40 | 12/18/2012 5:21 AM |
| Heptane | ND | 40 | U | ppbv | 40 | 12/18/2012 5:21 AM |
| Hexachlorobutadiene | ND | 80 | U | ppbv | 40 | 12/18/2012 5:21 AM |
| m,p-Xylene | ND | 80 | U | ppbv | 40 | 12/18/2012 5:21 AM |
| Methylene chloride | ND | 200 | U | ppbv | 40 | 12/18/2012 5:21 AM |
| n-Hexane | 52 | 80 | J | ppbv | 40 | 12/18/2012 5:21 AM |
| Naphthalene | ND | 40 | U | ppbv | 40 | 12/18/2012 5:21 AM |
| o-Xylene | ND | 40 | U | ppbv | 40 | 12/18/2012 5:21 AM |
| Propylene | ND | 40 | U | ppbv | 40 | 12/18/2012 5:21 AM |
| Styrene | ND | 40 | U | ppbv | 40 | 12/18/2012 5:21 AM |
| tert-Butyl Methyl Ether | ND | 40 | U | ppbv | 40 | 12/18/2012 5:21 AM |
| Tetrachloroethene | ND | 40 | U | ppbv | 40 | 12/18/2012 5:21 AM |
| Tetrahydrofuran | ND | 40 | U | ppbv | 40 | 12/18/2012 5:21 AM |
| Toluene | 190 | 40 | | ppbv | 40 | 12/18/2012 5:21 AM |
| trans-1,2-Dichloroethene | ND | 40 | U | ppbv | 40 | 12/18/2012 5:21 AM |
| trans-1,3-dichloropropene | ND | 40 | U | ppbv | 40 | 12/18/2012 5:21 AM |
| Trichloroethene | ND | 40 | U | ppbv | 40 | 12/18/2012 5:21 AM |
| Trichlorofluoromethane | ND | 40 | U | ppbv | 40 | 12/18/2012 5:21 AM |
| Vinyl acetate | ND | 40 | U | ppbv | 40 | 12/18/2012 5:21 AM |
| Vinyl chloride | ND | 40 | U | ppbv | 40 | 12/18/2012 5:21 AM |
| Xylenes, Total | ND | 120 | U | ppbv | 40 | 12/18/2012 5:21 AM |
| Surr: 4-Bromofluorobenzene | 97.9 | 70-130 | | %REC | 40 | 12/18/2012 5:21 AM |
| **Mass APH Air** | **Method:** | | | | | **Analyst: RH3** |
| **Air-Phase Petroleum Hydrocarbons** | | | | | | |
| C5-C8 Aliphatic Hydrocarbons | 9,500 | 4,700 | | µg/m³ | 40 | 12/19/2012 3:58 AM |
| C9-C10 Aromatic Hydrocarbons | ND | 5,300 | U | µg/m³ | 40 | 12/19/2012 3:58 AM |
| C9-C12 Aliphatic Hydrocarbons | ND | 7,600 | U | µg/m³ | 40 | 12/19/2012 3:58 AM |
| Surr: 4-Bromofluorobenzene | 109 | 70-130 | | %REC | 40 | 12/19/2012 3:58 AM |

# RTI Laboratories - Analytical Report

**WO#: 1212373**

**Date Reported: 1/7/2013**
**Revision v2**

| | | | |
|---|---|---|---|
| **Client:** | Shaw Environmental & Infrastructure, Inc | **Collection Date:** | 12/3/2012 8:32:00 AM |
| **Project:** | Kirtland AFB | | |
| **Lab ID:** | 1212373-021 | **Matrix:** | Air |
| **Client Sample ID:** | VA2132 | | |

| Analysis | Result | RL | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **Noncondensable Gases and Light Hydrocarbons** | | **Method: ASTM-D2504** | | | | **Analyst: cr** |
| Carbon dioxide | 0.43 | 0.10 | | % v/v | 1 | 12/28/2012 3:51 PM |
| Carbon Monoxide | ND | 0.10 | U | % v/v | 1 | 12/28/2012 3:51 PM |
| Methane | ND | 0.50 | U | % v/v | 1 | 12/28/2012 3:51 PM |
| Nitrogen | 84 | 0.10 | | % v/v | 1 | 12/28/2012 3:51 PM |
| Oxygen | 20 | 0.10 | | % v/v | 1 | 12/28/2012 3:51 PM |
| **Volatile Organic Compounds** | | **Method: TO-15** | | | | **Analyst: RH3** |
| 1,1,1-Trichloroethane | ND | 8,000 | U | ppbv | 8000 | 12/17/2012 10:12 PM |
| 1,1,2,2-Tetrachloroethane | ND | 8,000 | U | ppbv | 8000 | 12/17/2012 10:12 PM |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ND | 8,000 | U | ppbv | 8000 | 12/17/2012 10:12 PM |
| 1,1,2-Trichloroethane | ND | 8,000 | U | ppbv | 8000 | 12/17/2012 10:12 PM |
| 1,1-Dichloroethane | ND | 8,000 | U | ppbv | 8000 | 12/17/2012 10:12 PM |
| 1,1-Dichloroethene | ND | 8,000 | U | ppbv | 8000 | 12/17/2012 10:12 PM |
| 1,2,4-Trichlorobenzene | ND | 8,000 | U | ppbv | 8000 | 12/17/2012 10:12 PM |
| 1,2,4-Trimethylbenzene | ND | 8,000 | U | ppbv | 8000 | 12/17/2012 10:12 PM |
| 1,2-Dibromoethane | ND | 8,000 | U | ppbv | 8000 | 12/17/2012 10:12 PM |
| 1,2-Dichlorobenzene | ND | 8,000 | U | ppbv | 8000 | 12/17/2012 10:12 PM |
| 1,2-Dichloroethane | ND | 8,000 | U | ppbv | 8000 | 12/17/2012 10:12 PM |
| 1,2-Dichloropropane | ND | 8,000 | U | ppbv | 8000 | 12/17/2012 10:12 PM |
| 1,3,5-Trimethylbenzene | ND | 8,000 | U | ppbv | 8000 | 12/17/2012 10:12 PM |
| 1,3-Butadiene | ND | 8,000 | U | ppbv | 8000 | 12/17/2012 10:12 PM |
| 1,3-Dichlorobenzene | ND | 8,000 | U | ppbv | 8000 | 12/17/2012 10:12 PM |
| 1,4-Dichlorobenzene | ND | 8,000 | U | ppbv | 8000 | 12/17/2012 10:12 PM |
| 2-Butanone | ND | 8,000 | U | ppbv | 8000 | 12/17/2012 10:12 PM |
| 2-Hexanone | ND | 8,000 | U | ppbv | 8000 | 12/17/2012 10:12 PM |
| 4-Methyl-2-pentanone | ND | 8,000 | U | ppbv | 8000 | 12/17/2012 10:12 PM |
| Acetone | ND | 8,000 | U | ppbv | 8000 | 12/17/2012 10:12 PM |
| Benzene | 29,000 | 8,000 | | ppbv | 8000 | 12/17/2012 10:12 PM |
| Benzyl chloride | ND | 8,000 | U | ppbv | 8000 | 12/17/2012 10:12 PM |
| Bromodichloromethane | ND | 8,000 | U | ppbv | 8000 | 12/17/2012 10:12 PM |
| Bromoform | ND | 8,000 | U | ppbv | 8000 | 12/17/2012 10:12 PM |
| Bromomethane | ND | 8,000 | U | ppbv | 8000 | 12/17/2012 10:12 PM |
| Carbon disulfide | ND | 8,000 | U | ppbv | 8000 | 12/17/2012 10:12 PM |
| Carbon tetrachloride | ND | 8,000 | U | ppbv | 8000 | 12/17/2012 10:12 PM |
| Chlorobenzene | ND | 8,000 | U | ppbv | 8000 | 12/17/2012 10:12 PM |
| Chlorodibromomethane | ND | 8,000 | U | ppbv | 8000 | 12/17/2012 10:12 PM |
| Chloroethane | ND | 8,000 | U | ppbv | 8000 | 12/17/2012 10:12 PM |
| Chloroform | ND | 8,000 | U | ppbv | 8000 | 12/17/2012 10:12 PM |
| Chloromethane | ND | 8,000 | U | ppbv | 8000 | 12/17/2012 10:12 PM |
| cis-1,2-Dichloroethene | ND | 8,000 | U | ppbv | 8000 | 12/17/2012 10:12 PM |
| cis-1,3-dichloropropene | ND | 8,000 | U | ppbv | 8000 | 12/17/2012 10:12 PM |

# RTI Laboratories - Analytical Report

**WO#: 1212373**

**Date Reported: 1/7/2013**
**Revision v2**

| | | | |
|---|---|---|---|
| **Client:** | Shaw Environmental & Infrastructure, Inc | **Collection Date:** | 12/3/2012 8:32:00 AM |
| **Project:** | Kirtland AFB | | |
| **Lab ID:** | 1212373-021 | **Matrix:** | Air |
| **Client Sample ID:** | VA2132 | | |

| Analysis | Result | RL | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| Cyclohexane | 63,000 | 16,000 | | ppbv | 8000 | 12/17/2012 10:12 PM |
| Dichlorodifluoromethane | ND | 8,000 | U | ppbv | 8000 | 12/17/2012 10:12 PM |
| Ethyl acetate | ND | 8,000 | U | ppbv | 8000 | 12/17/2012 10:12 PM |
| Ethylbenzene | ND | 16,000 | U | ppbv | 8000 | 12/17/2012 10:12 PM |
| Heptane | 14,000 | 8,000 | | ppbv | 8000 | 12/17/2012 10:12 PM |
| Hexachlorobutadiene | ND | 16,000 | U | ppbv | 8000 | 12/17/2012 10:12 PM |
| m,p-Xylene | ND | 16,000 | U | ppbv | 8000 | 12/17/2012 10:12 PM |
| Methylene chloride | ND | 40,000 | U | ppbv | 8000 | 12/17/2012 10:12 PM |
| n-Hexane | 68,000 | 16,000 | | ppbv | 8000 | 12/17/2012 10:12 PM |
| Naphthalene | ND | 8,000 | U | ppbv | 8000 | 12/17/2012 10:12 PM |
| o-Xylene | ND | 8,000 | U | ppbv | 8000 | 12/17/2012 10:12 PM |
| Propylene | ND | 8,000 | U | ppbv | 8000 | 12/17/2012 10:12 PM |
| Styrene | ND | 8,000 | U | ppbv | 8000 | 12/17/2012 10:12 PM |
| tert-Butyl Methyl Ether | ND | 8,000 | U | ppbv | 8000 | 12/17/2012 10:12 PM |
| Tetrachloroethene | ND | 8,000 | U | ppbv | 8000 | 12/17/2012 10:12 PM |
| Tetrahydrofuran | ND | 8,000 | U | ppbv | 8000 | 12/17/2012 10:12 PM |
| Toluene | 40,000 | 8,000 | | ppbv | 8000 | 12/17/2012 10:12 PM |
| trans-1,2-Dichloroethene | ND | 8,000 | U | ppbv | 8000 | 12/17/2012 10:12 PM |
| trans-1,3-dichloropropene | ND | 8,000 | U | ppbv | 8000 | 12/17/2012 10:12 PM |
| Trichloroethene | ND | 8,000 | U | ppbv | 8000 | 12/17/2012 10:12 PM |
| Trichlorofluoromethane | ND | 8,000 | U | ppbv | 8000 | 12/17/2012 10:12 PM |
| Vinyl acetate | ND | 8,000 | U | ppbv | 8000 | 12/17/2012 10:12 PM |
| Vinyl chloride | ND | 8,000 | U | ppbv | 8000 | 12/17/2012 10:12 PM |
| Xylenes, Total | ND | 24,000 | U | ppbv | 8000 | 12/17/2012 10:12 PM |
| Surr: 4-Bromofluorobenzene | 93.8 | 70-130 | | %REC | 8000 | 12/17/2012 10:12 PM |
| **Mass APH Air** | | **Method:** | | | | **Analyst: RH3** |
| **Air-Phase Petroleum Hydrocarbons** | | | | | | |
| C5-C8 Aliphatic Hydrocarbons | 18,000,000 | 2,300,000 | | µg/m³ | 20000 | 12/19/2012 4:42 AM |
| C9-C10 Aromatic Hydrocarbons | ND | 2,700,000 | U | µg/m³ | 20000 | 12/19/2012 4:42 AM |
| C9-C12 Aliphatic Hydrocarbons | ND | 3,800,000 | U | µg/m³ | 20000 | 12/19/2012 4:42 AM |
| Surr: 4-Bromofluorobenzene | 107 | 70-130 | | %REC | 20000 | 12/19/2012 4:42 AM |

# RTI Laboratories - Analytical Report

**WO#: 1212373**

**Date Reported: 1/7/2013**
**Revision v2**

| | | | |
|---|---|---|---|
| **Client:** | Shaw Environmental & Infrastructure, Inc | **Collection Date:** | 12/3/2012 9:20:00 AM |
| **Project:** | Kirtland AFB | | |
| **Lab ID:** | 1212373-022 | **Matrix:** | Air |
| **Client Sample ID:** | VA2133 | | |

| Analysis | Result | RL | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **Noncondensable Gases and Light Hydrocarbons** | | **Method: ASTM-D2504** | | | | **Analyst: cr** |
| Carbon dioxide | 1.1 | 0.10 | | % v/v | 1 | 12/28/2012 4:05 PM |
| Carbon Monoxide | ND | 0.10 | U | % v/v | 1 | 12/28/2012 4:05 PM |
| Methane | ND | 0.50 | U | % v/v | 1 | 12/28/2012 4:05 PM |
| Nitrogen | 82 | 0.10 | | % v/v | 1 | 12/28/2012 4:05 PM |
| Oxygen | 21 | 0.10 | | % v/v | 1 | 12/28/2012 4:05 PM |
| **Volatile Organic Compounds** | | **Method: TO-15** | | | | **Analyst: RH3** |
| 1,1,1-Trichloroethane | ND | 40 | U | ppbv | 40 | 12/18/2012 3:58 AM |
| 1,1,2,2-Tetrachloroethane | ND | 40 | U | ppbv | 40 | 12/18/2012 3:58 AM |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ND | 40 | U | ppbv | 40 | 12/18/2012 3:58 AM |
| 1,1,2-Trichloroethane | ND | 40 | U | ppbv | 40 | 12/18/2012 3:58 AM |
| 1,1-Dichloroethane | ND | 40 | U | ppbv | 40 | 12/18/2012 3:58 AM |
| 1,1-Dichloroethene | ND | 40 | U | ppbv | 40 | 12/18/2012 3:58 AM |
| 1,2,4-Trichlorobenzene | ND | 40 | U | ppbv | 40 | 12/18/2012 3:58 AM |
| 1,2,4-Trimethylbenzene | ND | 40 | U | ppbv | 40 | 12/18/2012 3:58 AM |
| 1,2-Dibromoethane | ND | 40 | U | ppbv | 40 | 12/18/2012 3:58 AM |
| 1,2-Dichlorobenzene | ND | 40 | U | ppbv | 40 | 12/18/2012 3:58 AM |
| 1,2-Dichloroethane | ND | 40 | U | ppbv | 40 | 12/18/2012 3:58 AM |
| 1,2-Dichloropropane | ND | 40 | U | ppbv | 40 | 12/18/2012 3:58 AM |
| 1,3,5-Trimethylbenzene | ND | 40 | U | ppbv | 40 | 12/18/2012 3:58 AM |
| 1,3-Butadiene | ND | 40 | U | ppbv | 40 | 12/18/2012 3:58 AM |
| 1,3-Dichlorobenzene | ND | 40 | U | ppbv | 40 | 12/18/2012 3:58 AM |
| 1,4-Dichlorobenzene | ND | 40 | U | ppbv | 40 | 12/18/2012 3:58 AM |
| 2-Butanone | ND | 40 | U | ppbv | 40 | 12/18/2012 3:58 AM |
| 2-Hexanone | ND | 40 | U | ppbv | 40 | 12/18/2012 3:58 AM |
| 4-Methyl-2-pentanone | ND | 40 | U | ppbv | 40 | 12/18/2012 3:58 AM |
| Acetone | ND | 40 | U | ppbv | 40 | 12/18/2012 3:58 AM |
| Benzene | 1,200 | 40 | | ppbv | 40 | 12/18/2012 3:58 AM |
| Benzyl chloride | ND | 40 | U | ppbv | 40 | 12/18/2012 3:58 AM |
| Bromodichloromethane | 110 | 40 | | ppbv | 40 | 12/18/2012 3:58 AM |
| Bromoform | ND | 40 | U | ppbv | 40 | 12/18/2012 3:58 AM |
| Bromomethane | ND | 40 | U | ppbv | 40 | 12/18/2012 3:58 AM |
| Carbon disulfide | ND | 40 | U | ppbv | 40 | 12/18/2012 3:58 AM |
| Carbon tetrachloride | ND | 40 | U | ppbv | 40 | 12/18/2012 3:58 AM |
| Chlorobenzene | ND | 40 | U | ppbv | 40 | 12/18/2012 3:58 AM |
| Chlorodibromomethane | ND | 40 | U | ppbv | 40 | 12/18/2012 3:58 AM |
| Chloroethane | ND | 40 | U | ppbv | 40 | 12/18/2012 3:58 AM |
| Chloroform | 1,100 | 40 | | ppbv | 40 | 12/18/2012 3:58 AM |
| Chloromethane | ND | 40 | U | ppbv | 40 | 12/18/2012 3:58 AM |
| cis-1,2-Dichloroethene | ND | 40 | U | ppbv | 40 | 12/18/2012 3:58 AM |
| cis-1,3-dichloropropene | ND | 40 | U | ppbv | 40 | 12/18/2012 3:58 AM |

# RTI Laboratories - Analytical Report

**WO#: 1212373**

**Date Reported: 1/7/2013**
**Revision v2**

| | | | |
|---|---|---|---|
| **Client:** | Shaw Environmental & Infrastructure, Inc | **Collection Date:** | 12/3/2012 9:20:00 AM |
| **Project:** | Kirtland AFB | | |
| **Lab ID:** | 1212373-022 | **Matrix:** | Air |
| **Client Sample ID:** | VA2133 | | |

| Analysis | Result | RL | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| Cyclohexane | 1,200 | 80 | | ppbv | 40 | 12/18/2012 3:58 AM |
| Dichlorodifluoromethane | ND | 40 | U | ppbv | 40 | 12/18/2012 3:58 AM |
| Ethyl acetate | ND | 40 | U | ppbv | 40 | 12/18/2012 3:58 AM |
| Ethylbenzene | 140 | 80 | | ppbv | 40 | 12/18/2012 3:58 AM |
| Heptane | 460 | 40 | | ppbv | 40 | 12/18/2012 3:58 AM |
| Hexachlorobutadiene | ND | 80 | U | ppbv | 40 | 12/18/2012 3:58 AM |
| m,p-Xylene | 210 | 80 | | ppbv | 40 | 12/18/2012 3:58 AM |
| Methylene chloride | ND | 200 | U | ppbv | 40 | 12/18/2012 3:58 AM |
| n-Hexane | 1,400 | 80 | | ppbv | 40 | 12/18/2012 3:58 AM |
| Naphthalene | ND | 40 | U | ppbv | 40 | 12/18/2012 3:58 AM |
| o-Xylene | 69 | 40 | | ppbv | 40 | 12/18/2012 3:58 AM |
| Propylene | ND | 40 | U | ppbv | 40 | 12/18/2012 3:58 AM |
| Styrene | ND | 40 | U | ppbv | 40 | 12/18/2012 3:58 AM |
| tert-Butyl Methyl Ether | ND | 40 | U | ppbv | 40 | 12/18/2012 3:58 AM |
| Tetrachloroethene | ND | 40 | U | ppbv | 40 | 12/18/2012 3:58 AM |
| Tetrahydrofuran | ND | 40 | U | ppbv | 40 | 12/18/2012 3:58 AM |
| Toluene | 5,100 | 400 | | ppbv | 400 | 12/18/2012 8:23 PM |
| trans-1,2-Dichloroethene | ND | 40 | U | ppbv | 40 | 12/18/2012 3:58 AM |
| trans-1,3-dichloropropene | ND | 40 | U | ppbv | 40 | 12/18/2012 3:58 AM |
| Trichloroethene | ND | 40 | U | ppbv | 40 | 12/18/2012 3:58 AM |
| Trichlorofluoromethane | ND | 40 | U | ppbv | 40 | 12/18/2012 3:58 AM |
| Vinyl acetate | ND | 40 | U | ppbv | 40 | 12/18/2012 3:58 AM |
| Vinyl chloride | ND | 40 | U | ppbv | 40 | 12/18/2012 3:58 AM |
| Xylenes, Total | 280 | 120 | | ppbv | 40 | 12/18/2012 3:58 AM |
| Surr: 4-Bromofluorobenzene | 105 | 70-130 | | %REC | 40 | 12/18/2012 3:58 AM |
| **Mass APH Air** | **Method:** | | | | | **Analyst: RH3** |
| **Air-Phase Petroleum Hydrocarbons** | | | | | | |
| C5-C8 Aliphatic Hydrocarbons | 430,000 | 47,000 | | µg/m³ | 400 | 12/19/2012 7:46 AM |
| C9-C10 Aromatic Hydrocarbons | ND | 53,000 | U | µg/m³ | 400 | 12/19/2012 7:46 AM |
| C9-C12 Aliphatic Hydrocarbons | ND | 76,000 | U | µg/m³ | 400 | 12/19/2012 7:46 AM |
| Surr: 4-Bromofluorobenzene | 109 | 70-130 | | %REC | 400 | 12/19/2012 7:46 AM |

# RTI Laboratories - Analytical Report

**WO#: 1212373**

**Date Reported: 1/7/2013**
**Revision v2**

| | | | |
|---|---|---|---|
| **Client:** | Shaw Environmental & Infrastructure, Inc | **Collection Date:** | 12/3/2012 9:50:00 AM |
| **Project:** | Kirtland AFB | | |
| **Lab ID:** | 1212373-023 | **Matrix:** | Air |
| **Client Sample ID:** | VA2134 | | |

| Analysis | Result | RL | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **Noncondensable Gases and Light Hydrocarbons** | **Method: ASTM-D2504** | | | | | **Analyst: cr** |
| Carbon dioxide | 1.0 | 0.10 | | % v/v | 1 | 12/28/2012 4:19 PM |
| Carbon Monoxide | ND | 0.10 | U | % v/v | 1 | 12/28/2012 4:19 PM |
| Methane | ND | 0.50 | U | % v/v | 1 | 12/28/2012 4:19 PM |
| Nitrogen | 82 | 0.10 | | % v/v | 1 | 12/28/2012 4:19 PM |
| Oxygen | 21 | 0.10 | | % v/v | 1 | 12/28/2012 4:19 PM |
| **Volatile Organic Compounds** | **Method: TO-15** | | | | | **Analyst: RH3** |
| 1,1,1-Trichloroethane | ND | 40 | U | ppbv | 40 | 12/18/2012 2:34 AM |
| 1,1,2,2-Tetrachloroethane | ND | 40 | U | ppbv | 40 | 12/18/2012 2:34 AM |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ND | 40 | U | ppbv | 40 | 12/18/2012 2:34 AM |
| 1,1,2-Trichloroethane | ND | 40 | U | ppbv | 40 | 12/18/2012 2:34 AM |
| 1,1-Dichloroethane | ND | 40 | U | ppbv | 40 | 12/18/2012 2:34 AM |
| 1,1-Dichloroethene | ND | 40 | U | ppbv | 40 | 12/18/2012 2:34 AM |
| 1,2,4-Trichlorobenzene | ND | 40 | U | ppbv | 40 | 12/18/2012 2:34 AM |
| 1,2,4-Trimethylbenzene | ND | 40 | U | ppbv | 40 | 12/18/2012 2:34 AM |
| 1,2-Dibromoethane | ND | 40 | U | ppbv | 40 | 12/18/2012 2:34 AM |
| 1,2-Dichlorobenzene | ND | 40 | U | ppbv | 40 | 12/18/2012 2:34 AM |
| 1,2-Dichloroethane | ND | 40 | U | ppbv | 40 | 12/18/2012 2:34 AM |
| 1,2-Dichloropropane | ND | 40 | U | ppbv | 40 | 12/18/2012 2:34 AM |
| 1,3,5-Trimethylbenzene | ND | 40 | U | ppbv | 40 | 12/18/2012 2:34 AM |
| 1,3-Butadiene | ND | 40 | U | ppbv | 40 | 12/18/2012 2:34 AM |
| 1,3-Dichlorobenzene | ND | 40 | U | ppbv | 40 | 12/18/2012 2:34 AM |
| 1,4-Dichlorobenzene | ND | 40 | U | ppbv | 40 | 12/18/2012 2:34 AM |
| 2-Butanone | ND | 40 | U | ppbv | 40 | 12/18/2012 2:34 AM |
| 2-Hexanone | ND | 40 | U | ppbv | 40 | 12/18/2012 2:34 AM |
| 4-Methyl-2-pentanone | ND | 40 | U | ppbv | 40 | 12/18/2012 2:34 AM |
| Acetone | ND | 40 | U | ppbv | 40 | 12/18/2012 2:34 AM |
| Benzene | 450 | 40 | | ppbv | 40 | 12/18/2012 2:34 AM |
| Benzyl chloride | ND | 40 | U | ppbv | 40 | 12/18/2012 2:34 AM |
| Bromodichloromethane | ND | 40 | U | ppbv | 40 | 12/18/2012 2:34 AM |
| Bromoform | ND | 40 | U | ppbv | 40 | 12/18/2012 2:34 AM |
| Bromomethane | ND | 40 | U | ppbv | 40 | 12/18/2012 2:34 AM |
| Carbon disulfide | ND | 40 | U | ppbv | 40 | 12/18/2012 2:34 AM |
| Carbon tetrachloride | ND | 40 | U | ppbv | 40 | 12/18/2012 2:34 AM |
| Chlorobenzene | ND | 40 | U | ppbv | 40 | 12/18/2012 2:34 AM |
| Chlorodibromomethane | ND | 40 | U | ppbv | 40 | 12/18/2012 2:34 AM |
| Chloroethane | ND | 40 | U | ppbv | 40 | 12/18/2012 2:34 AM |
| Chloroform | 410 | 40 | | ppbv | 40 | 12/18/2012 2:34 AM |
| Chloromethane | ND | 40 | U | ppbv | 40 | 12/18/2012 2:34 AM |
| cis-1,2-Dichloroethene | ND | 40 | U | ppbv | 40 | 12/18/2012 2:34 AM |
| cis-1,3-dichloropropene | ND | 40 | U | ppbv | 40 | 12/18/2012 2:34 AM |

# RTI Laboratories - Analytical Report

**WO#: 1212373**

**Date Reported: 1/7/2013**
**Revision v2**

| | | | |
|---|---|---|---|
| **Client:** | Shaw Environmental & Infrastructure, Inc | **Collection Date:** | 12/3/2012 9:50:00 AM |
| **Project:** | Kirtland AFB | | |
| **Lab ID:** | 1212373-023 | **Matrix:** | Air |
| **Client Sample ID:** | VA2134 | | |

| Analysis | Result | RL | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| Cyclohexane | 540 | 80 | | ppbv | 40 | 12/18/2012 2:34 AM |
| Dichlorodifluoromethane | ND | 40 | U | ppbv | 40 | 12/18/2012 2:34 AM |
| Ethyl acetate | ND | 40 | U | ppbv | 40 | 12/18/2012 2:34 AM |
| Ethylbenzene | 57 | 80 | J | ppbv | 40 | 12/18/2012 2:34 AM |
| Heptane | 210 | 40 | | ppbv | 40 | 12/18/2012 2:34 AM |
| Hexachlorobutadiene | ND | 80 | U | ppbv | 40 | 12/18/2012 2:34 AM |
| m,p-Xylene | 92 | 80 | | ppbv | 40 | 12/18/2012 2:34 AM |
| Methylene chloride | ND | 200 | U | ppbv | 40 | 12/18/2012 2:34 AM |
| n-Hexane | 490 | 80 | | ppbv | 40 | 12/18/2012 2:34 AM |
| Naphthalene | ND | 40 | U | ppbv | 40 | 12/18/2012 2:34 AM |
| o-Xylene | ND | 40 | U | ppbv | 40 | 12/18/2012 2:34 AM |
| Propylene | ND | 40 | U | ppbv | 40 | 12/18/2012 2:34 AM |
| Styrene | ND | 40 | U | ppbv | 40 | 12/18/2012 2:34 AM |
| tert-Butyl Methyl Ether | ND | 40 | U | ppbv | 40 | 12/18/2012 2:34 AM |
| Tetrachloroethene | ND | 40 | U | ppbv | 40 | 12/18/2012 2:34 AM |
| Tetrahydrofuran | ND | 40 | U | ppbv | 40 | 12/18/2012 2:34 AM |
| Toluene | 1,100 | 40 | | ppbv | 40 | 12/18/2012 2:34 AM |
| trans-1,2-Dichloroethene | ND | 40 | U | ppbv | 40 | 12/18/2012 2:34 AM |
| trans-1,3-dichloropropene | ND | 40 | U | ppbv | 40 | 12/18/2012 2:34 AM |
| Trichloroethene | ND | 40 | U | ppbv | 40 | 12/18/2012 2:34 AM |
| Trichlorofluoromethane | ND | 40 | U | ppbv | 40 | 12/18/2012 2:34 AM |
| Vinyl acetate | ND | 40 | U | ppbv | 40 | 12/18/2012 2:34 AM |
| Vinyl chloride | ND | 40 | U | ppbv | 40 | 12/18/2012 2:34 AM |
| Xylenes, Total | 92 | 120 | J | ppbv | 40 | 12/18/2012 2:34 AM |
| Surr: 4-Bromofluorobenzene | 101 | 70-130 | | %REC | 40 | 12/18/2012 2:34 AM |
| **Mass APH Air** | **Method:** | | | | | **Analyst: RH3** |
| **Air-Phase Petroleum Hydrocarbons** | | | | | | |
| C5-C8 Aliphatic Hydrocarbons | 490,000 | 94,000 | H | µg/m³ | 800 | 1/4/2013 9:31 AM |
| C9-C10 Aromatic Hydrocarbons | ND | 110,000 | UH | µg/m³ | 800 | 1/4/2013 9:31 AM |
| C9-C12 Aliphatic Hydrocarbons | ND | 150,000 | UH | µg/m³ | 800 | 1/4/2013 9:31 AM |
| Surr: 4-Bromofluorobenzene | 96.1 | 70-130 | H | %REC | 800 | 1/4/2013 9:31 AM |

# RTI Laboratories - Analytical Report

**WO#: 1212373**

**Date Reported: 1/7/2013**
**Revision v2**

| | | | |
|---|---|---|---|
| **Client:** | Shaw Environmental & Infrastructure, Inc | **Collection Date:** | 12/3/2012 9:50:00 AM |
| **Project:** | Kirtland AFB | | |
| **Lab ID:** | 1212373-024 | **Matrix:** | Air |
| **Client Sample ID:** | VA2135 | | |

| Analysis | Result | RL | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **Noncondensable Gases and Light Hydrocarbons** | | **Method: ASTM-D2504** | | | | **Analyst: cr** |
| Carbon dioxide | 0.24 | 0.10 | | % v/v | 1 | 12/28/2012 4:33 PM |
| Carbon Monoxide | ND | 0.10 | U | % v/v | 1 | 12/28/2012 4:33 PM |
| Methane | ND | 0.50 | U | % v/v | 1 | 12/28/2012 4:33 PM |
| Nitrogen | 82 | 0.10 | | % v/v | 1 | 12/28/2012 4:33 PM |
| Oxygen | 22 | 0.10 | | % v/v | 1 | 12/28/2012 4:33 PM |
| **Volatile Organic Compounds** | | **Method: TO-15** | | | | **Analyst: RH3** |
| 1,1,1-Trichloroethane | ND | 40 | U | ppbv | 40 | 12/18/2012 9:05 PM |
| 1,1,2,2-Tetrachloroethane | ND | 40 | U | ppbv | 40 | 12/18/2012 9:05 PM |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ND | 40 | U | ppbv | 40 | 12/18/2012 9:05 PM |
| 1,1,2-Trichloroethane | ND | 40 | U | ppbv | 40 | 12/18/2012 9:05 PM |
| 1,1-Dichloroethane | ND | 40 | U | ppbv | 40 | 12/18/2012 9:05 PM |
| 1,1-Dichloroethene | ND | 40 | U | ppbv | 40 | 12/18/2012 9:05 PM |
| 1,2,4-Trichlorobenzene | ND | 40 | U | ppbv | 40 | 12/18/2012 9:05 PM |
| 1,2,4-Trimethylbenzene | ND | 40 | U | ppbv | 40 | 12/18/2012 9:05 PM |
| 1,2-Dibromoethane | ND | 40 | U | ppbv | 40 | 12/18/2012 9:05 PM |
| 1,2-Dichlorobenzene | ND | 40 | U | ppbv | 40 | 12/18/2012 9:05 PM |
| 1,2-Dichloroethane | ND | 40 | U | ppbv | 40 | 12/18/2012 9:05 PM |
| 1,2-Dichloropropane | ND | 40 | U | ppbv | 40 | 12/18/2012 9:05 PM |
| 1,3,5-Trimethylbenzene | ND | 40 | U | ppbv | 40 | 12/18/2012 9:05 PM |
| 1,3-Butadiene | ND | 40 | U | ppbv | 40 | 12/18/2012 9:05 PM |
| 1,3-Dichlorobenzene | ND | 40 | U | ppbv | 40 | 12/18/2012 9:05 PM |
| 1,4-Dichlorobenzene | ND | 40 | U | ppbv | 40 | 12/18/2012 9:05 PM |
| 2-Butanone | ND | 40 | U | ppbv | 40 | 12/18/2012 9:05 PM |
| 2-Hexanone | ND | 40 | U | ppbv | 40 | 12/18/2012 9:05 PM |
| 4-Methyl-2-pentanone | ND | 40 | U | ppbv | 40 | 12/18/2012 9:05 PM |
| Acetone | ND | 40 | U | ppbv | 40 | 12/18/2012 9:05 PM |
| Benzene | 820 | 40 | | ppbv | 40 | 12/18/2012 9:05 PM |
| Benzyl chloride | ND | 40 | U | ppbv | 40 | 12/18/2012 9:05 PM |
| Bromodichloromethane | 52 | 40 | | ppbv | 40 | 12/18/2012 9:05 PM |
| Bromoform | ND | 40 | U | ppbv | 40 | 12/18/2012 9:05 PM |
| Bromomethane | ND | 40 | U | ppbv | 40 | 12/18/2012 9:05 PM |
| Carbon disulfide | ND | 40 | U | ppbv | 40 | 12/18/2012 9:05 PM |
| Carbon tetrachloride | ND | 40 | U | ppbv | 40 | 12/18/2012 9:05 PM |
| Chlorobenzene | ND | 40 | U | ppbv | 40 | 12/18/2012 9:05 PM |
| Chlorodibromomethane | ND | 40 | U | ppbv | 40 | 12/18/2012 9:05 PM |
| Chloroethane | ND | 40 | U | ppbv | 40 | 12/18/2012 9:05 PM |
| Chloroform | 580 | 40 | | ppbv | 40 | 12/18/2012 9:05 PM |
| Chloromethane | ND | 40 | U | ppbv | 40 | 12/18/2012 9:05 PM |
| cis-1,2-Dichloroethene | ND | 40 | U | ppbv | 40 | 12/18/2012 9:05 PM |
| cis-1,3-dichloropropene | ND | 40 | U | ppbv | 40 | 12/18/2012 9:05 PM |

# RTI Laboratories - Analytical Report

**WO#: 1212373**

**Date Reported: 1/7/2013**
**Revision v2**

| | | | |
|---|---|---|---|
| **Client:** | Shaw Environmental & Infrastructure, Inc | **Collection Date:** | 12/3/2012 9:50:00 AM |
| **Project:** | Kirtland AFB | | |
| **Lab ID:** | 1212373-024 | **Matrix:** | Air |
| **Client Sample ID:** | VA2135 | | |

| Analysis | Result | RL | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| Cyclohexane | 930 | 80 | | ppbv | 40 | 12/18/2012 9:05 PM |
| Dichlorodifluoromethane | ND | 40 | U | ppbv | 40 | 12/18/2012 9:05 PM |
| Ethyl acetate | ND | 40 | U | ppbv | 40 | 12/18/2012 9:05 PM |
| Ethylbenzene | 110 | 80 | | ppbv | 40 | 12/18/2012 9:05 PM |
| Heptane | 350 | 40 | | ppbv | 40 | 12/18/2012 9:05 PM |
| Hexachlorobutadiene | ND | 80 | U | ppbv | 40 | 12/18/2012 9:05 PM |
| m,p-Xylene | 180 | 80 | | ppbv | 40 | 12/18/2012 9:05 PM |
| Methylene chloride | ND | 200 | U | ppbv | 40 | 12/18/2012 9:05 PM |
| n-Hexane | 890 | 80 | | ppbv | 40 | 12/18/2012 9:05 PM |
| Naphthalene | ND | 40 | U | ppbv | 40 | 12/18/2012 9:05 PM |
| o-Xylene | 60 | 40 | | ppbv | 40 | 12/18/2012 9:05 PM |
| Propylene | ND | 40 | U | ppbv | 40 | 12/18/2012 9:05 PM |
| Styrene | ND | 40 | U | ppbv | 40 | 12/18/2012 9:05 PM |
| tert-Butyl Methyl Ether | ND | 40 | U | ppbv | 40 | 12/18/2012 9:05 PM |
| Tetrachloroethene | ND | 40 | U | ppbv | 40 | 12/18/2012 9:05 PM |
| Tetrahydrofuran | ND | 40 | U | ppbv | 40 | 12/18/2012 9:05 PM |
| Toluene | 1,800 | 40 | | ppbv | 40 | 12/18/2012 9:05 PM |
| trans-1,2-Dichloroethene | ND | 40 | U | ppbv | 40 | 12/18/2012 9:05 PM |
| trans-1,3-dichloropropene | ND | 40 | U | ppbv | 40 | 12/18/2012 9:05 PM |
| Trichloroethene | ND | 40 | U | ppbv | 40 | 12/18/2012 9:05 PM |
| Trichlorofluoromethane | ND | 40 | U | ppbv | 40 | 12/18/2012 9:05 PM |
| Vinyl acetate | ND | 40 | U | ppbv | 40 | 12/18/2012 9:05 PM |
| Vinyl chloride | ND | 40 | U | ppbv | 40 | 12/18/2012 9:05 PM |
| Xylenes, Total | 240 | 120 | | ppbv | 40 | 12/18/2012 9:05 PM |
| Surr: 4-Bromofluorobenzene | 104 | 70-130 | | %REC | 40 | 12/18/2012 9:05 PM |
| **Mass APH Air** | **Method:** | | | | | **Analyst: RH3** |
| **Air-Phase Petroleum Hydrocarbons** | | | | | | |
| C5-C8 Aliphatic Hydrocarbons | 280,000 | 94,000 | H | µg/m³ | 800 | 1/4/2013 10:16 AM |
| C9-C10 Aromatic Hydrocarbons | ND | 110,000 | UH | µg/m³ | 800 | 1/4/2013 10:16 AM |
| C9-C12 Aliphatic Hydrocarbons | ND | 150,000 | UH | µg/m³ | 800 | 1/4/2013 10:16 AM |
| Surr: 4-Bromofluorobenzene | 97.1 | 70-130 | H | %REC | 800 | 1/4/2013 10:16 AM |

# RTI Laboratories - Analytical Report

**WO#: 1212373**

**Date Reported: 1/7/2013**
**Revision v2**

| | | | |
|---|---|---|---|
| **Client:** | Shaw Environmental & Infrastructure, Inc | **Collection Date:** | 12/3/2012 10:35:00 AM |
| **Project:** | Kirtland AFB | | |
| **Lab ID:** | 1212373-025 | **Matrix:** | Air |
| **Client Sample ID:** | VA2136 | | |

| Analysis | Result | RL | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **Noncondensable Gases and Light Hydrocarbons** | | **Method: ASTM-D2504** | | | | **Analyst: cr** |
| Carbon dioxide | 0.18 | 0.10 | | % v/v | 1 | 12/28/2012 4:48 PM |
| Carbon Monoxide | ND | 0.10 | U | % v/v | 1 | 12/28/2012 4:48 PM |
| Methane | ND | 0.50 | U | % v/v | 1 | 12/28/2012 4:48 PM |
| Nitrogen | 82 | 0.10 | | % v/v | 1 | 12/28/2012 4:48 PM |
| Oxygen | 22 | 0.10 | | % v/v | 1 | 12/28/2012 4:48 PM |
| **Volatile Organic Compounds** | | **Method: TO-15** | | | | **Analyst: RH3** |
| 1,1,1-Trichloroethane | ND | 40 | U | ppbv | 40 | 12/18/2012 9:48 PM |
| 1,1,2,2-Tetrachloroethane | ND | 40 | U | ppbv | 40 | 12/18/2012 9:48 PM |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ND | 40 | U | ppbv | 40 | 12/18/2012 9:48 PM |
| 1,1,2-Trichloroethane | ND | 40 | U | ppbv | 40 | 12/18/2012 9:48 PM |
| 1,1-Dichloroethane | ND | 40 | U | ppbv | 40 | 12/18/2012 9:48 PM |
| 1,1-Dichloroethene | ND | 40 | U | ppbv | 40 | 12/18/2012 9:48 PM |
| 1,2,4-Trichlorobenzene | ND | 40 | U | ppbv | 40 | 12/18/2012 9:48 PM |
| 1,2,4-Trimethylbenzene | ND | 40 | U | ppbv | 40 | 12/18/2012 9:48 PM |
| 1,2-Dibromoethane | ND | 40 | U | ppbv | 40 | 12/18/2012 9:48 PM |
| 1,2-Dichlorobenzene | ND | 40 | U | ppbv | 40 | 12/18/2012 9:48 PM |
| 1,2-Dichloroethane | ND | 40 | U | ppbv | 40 | 12/18/2012 9:48 PM |
| 1,2-Dichloropropane | ND | 40 | U | ppbv | 40 | 12/18/2012 9:48 PM |
| 1,3,5-Trimethylbenzene | ND | 40 | U | ppbv | 40 | 12/18/2012 9:48 PM |
| 1,3-Butadiene | ND | 40 | U | ppbv | 40 | 12/18/2012 9:48 PM |
| 1,3-Dichlorobenzene | ND | 40 | U | ppbv | 40 | 12/18/2012 9:48 PM |
| 1,4-Dichlorobenzene | ND | 40 | U | ppbv | 40 | 12/18/2012 9:48 PM |
| 2-Butanone | ND | 40 | U | ppbv | 40 | 12/18/2012 9:48 PM |
| 2-Hexanone | ND | 40 | U | ppbv | 40 | 12/18/2012 9:48 PM |
| 4-Methyl-2-pentanone | ND | 40 | U | ppbv | 40 | 12/18/2012 9:48 PM |
| Acetone | ND | 40 | U | ppbv | 40 | 12/18/2012 9:48 PM |
| Benzene | 430 | 40 | | ppbv | 40 | 12/18/2012 9:48 PM |
| Benzyl chloride | ND | 40 | U | ppbv | 40 | 12/18/2012 9:48 PM |
| Bromodichloromethane | ND | 40 | U | ppbv | 40 | 12/18/2012 9:48 PM |
| Bromoform | ND | 40 | U | ppbv | 40 | 12/18/2012 9:48 PM |
| Bromomethane | ND | 40 | U | ppbv | 40 | 12/18/2012 9:48 PM |
| Carbon disulfide | ND | 40 | U | ppbv | 40 | 12/18/2012 9:48 PM |
| Carbon tetrachloride | ND | 40 | U | ppbv | 40 | 12/18/2012 9:48 PM |
| Chlorobenzene | ND | 40 | U | ppbv | 40 | 12/18/2012 9:48 PM |
| Chlorodibromomethane | ND | 40 | U | ppbv | 40 | 12/18/2012 9:48 PM |
| Chloroethane | ND | 40 | U | ppbv | 40 | 12/18/2012 9:48 PM |
| Chloroform | 70 | 40 | | ppbv | 40 | 12/18/2012 9:48 PM |
| Chloromethane | ND | 40 | U | ppbv | 40 | 12/18/2012 9:48 PM |
| cis-1,2-Dichloroethene | ND | 40 | U | ppbv | 40 | 12/18/2012 9:48 PM |
| cis-1,3-dichloropropene | ND | 40 | U | ppbv | 40 | 12/18/2012 9:48 PM |

# RTI Laboratories - Analytical Report

**WO#: 1212373**

**Date Reported: 1/7/2013**
**Revision v2**

| | | | |
|---|---|---|---|
| **Client:** | Shaw Environmental & Infrastructure, Inc | **Collection Date:** | 12/3/2012 10:35:00 AM |
| **Project:** | Kirtland AFB | | |
| **Lab ID:** | 1212373-025 | **Matrix:** | Air |
| **Client Sample ID:** | VA2136 | | |

| Analysis | Result | RL | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| Cyclohexane | 490 | 80 | | ppbv | 40 | 12/18/2012 9:48 PM |
| Dichlorodifluoromethane | ND | 40 | U | ppbv | 40 | 12/18/2012 9:48 PM |
| Ethyl acetate | ND | 40 | U | ppbv | 40 | 12/18/2012 9:48 PM |
| Ethylbenzene | 81 | 80 | | ppbv | 40 | 12/18/2012 9:48 PM |
| Heptane | 190 | 40 | | ppbv | 40 | 12/18/2012 9:48 PM |
| Hexachlorobutadiene | ND | 80 | U | ppbv | 40 | 12/18/2012 9:48 PM |
| m,p-Xylene | 130 | 80 | | ppbv | 40 | 12/18/2012 9:48 PM |
| Methylene chloride | ND | 200 | U | ppbv | 40 | 12/18/2012 9:48 PM |
| n-Hexane | 420 | 80 | | ppbv | 40 | 12/18/2012 9:48 PM |
| Naphthalene | ND | 40 | U | ppbv | 40 | 12/18/2012 9:48 PM |
| o-Xylene | 46 | 40 | | ppbv | 40 | 12/18/2012 9:48 PM |
| Propylene | ND | 40 | U | ppbv | 40 | 12/18/2012 9:48 PM |
| Styrene | ND | 40 | U | ppbv | 40 | 12/18/2012 9:48 PM |
| tert-Butyl Methyl Ether | ND | 40 | U | ppbv | 40 | 12/18/2012 9:48 PM |
| Tetrachloroethene | ND | 40 | U | ppbv | 40 | 12/18/2012 9:48 PM |
| Tetrahydrofuran | ND | 40 | U | ppbv | 40 | 12/18/2012 9:48 PM |
| Toluene | 1,300 | 40 | | ppbv | 40 | 12/18/2012 9:48 PM |
| trans-1,2-Dichloroethene | ND | 40 | U | ppbv | 40 | 12/18/2012 9:48 PM |
| trans-1,3-dichloropropene | ND | 40 | U | ppbv | 40 | 12/18/2012 9:48 PM |
| Trichloroethene | ND | 40 | U | ppbv | 40 | 12/18/2012 9:48 PM |
| Trichlorofluoromethane | ND | 40 | U | ppbv | 40 | 12/18/2012 9:48 PM |
| Vinyl acetate | ND | 40 | U | ppbv | 40 | 12/18/2012 9:48 PM |
| Vinyl chloride | ND | 40 | U | ppbv | 40 | 12/18/2012 9:48 PM |
| Xylenes, Total | 180 | 120 | | ppbv | 40 | 12/18/2012 9:48 PM |
| Surr: 4-Bromofluorobenzene | 101 | 70-130 | | %REC | 40 | 12/18/2012 9:48 PM |
| **Mass APH Air** | **Method:** | | | | | **Analyst: RH3** |
| **Air-Phase Petroleum Hydrocarbons** | | | | | | |
| C5-C8 Aliphatic Hydrocarbons | 120,000 | 47,000 | | µg/m³ | 400 | 12/20/2012 4:55 PM |
| C9-C10 Aromatic Hydrocarbons | ND | 53,000 | U | µg/m³ | 400 | 12/20/2012 4:55 PM |
| C9-C12 Aliphatic Hydrocarbons | ND | 76,000 | U | µg/m³ | 400 | 12/20/2012 4:55 PM |
| Surr: 4-Bromofluorobenzene | 98.5 | 70-130 | | %REC | 400 | 12/20/2012 4:55 PM |

# RTI Laboratories - Analytical Report

**WO#: 1212373**

**Date Reported: 1/7/2013**
**Revision v2**

| | | | |
|---|---|---|---|
| **Client:** | Shaw Environmental & Infrastructure, Inc | **Collection Date:** | 12/3/2012 11:10:00 AM |
| **Project:** | Kirtland AFB | | |
| **Lab ID:** | 1212373-026 | **Matrix:** | Air |
| **Client Sample ID:** | VA2137 | | |

| Analysis | Result | RL | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **Noncondensable Gases and Light Hydrocarbons** | | **Method: ASTM-D2504** | | | | **Analyst: cr** |
| Carbon dioxide | 0.17 | 0.10 | | % v/v | 1 | 12/28/2012 5:17 PM |
| Carbon Monoxide | ND | 0.10 | U | % v/v | 1 | 12/28/2012 5:17 PM |
| Methane | ND | 0.50 | U | % v/v | 1 | 12/28/2012 5:17 PM |
| Nitrogen | 83 | 0.10 | | % v/v | 1 | 12/28/2012 5:17 PM |
| Oxygen | 22 | 0.10 | | % v/v | 1 | 12/28/2012 5:17 PM |
| **Volatile Organic Compounds** | | **Method: TO-15** | | | | **Analyst: RH3** |
| 1,1,1-Trichloroethane | ND | 40 | U | ppbv | 40 | 12/18/2012 10:31 PM |
| 1,1,2,2-Tetrachloroethane | ND | 40 | U | ppbv | 40 | 12/18/2012 10:31 PM |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ND | 40 | U | ppbv | 40 | 12/18/2012 10:31 PM |
| 1,1,2-Trichloroethane | ND | 40 | U | ppbv | 40 | 12/18/2012 10:31 PM |
| 1,1-Dichloroethane | ND | 40 | U | ppbv | 40 | 12/18/2012 10:31 PM |
| 1,1-Dichloroethene | ND | 40 | U | ppbv | 40 | 12/18/2012 10:31 PM |
| 1,2,4-Trichlorobenzene | ND | 40 | U | ppbv | 40 | 12/18/2012 10:31 PM |
| 1,2,4-Trimethylbenzene | ND | 40 | U | ppbv | 40 | 12/18/2012 10:31 PM |
| 1,2-Dibromoethane | ND | 40 | U | ppbv | 40 | 12/18/2012 10:31 PM |
| 1,2-Dichlorobenzene | ND | 40 | U | ppbv | 40 | 12/18/2012 10:31 PM |
| 1,2-Dichloroethane | ND | 40 | U | ppbv | 40 | 12/18/2012 10:31 PM |
| 1,2-Dichloropropane | ND | 40 | U | ppbv | 40 | 12/18/2012 10:31 PM |
| 1,3,5-Trimethylbenzene | ND | 40 | U | ppbv | 40 | 12/18/2012 10:31 PM |
| 1,3-Butadiene | ND | 40 | U | ppbv | 40 | 12/18/2012 10:31 PM |
| 1,3-Dichlorobenzene | ND | 40 | U | ppbv | 40 | 12/18/2012 10:31 PM |
| 1,4-Dichlorobenzene | ND | 40 | U | ppbv | 40 | 12/18/2012 10:31 PM |
| 2-Butanone | ND | 40 | U | ppbv | 40 | 12/18/2012 10:31 PM |
| 2-Hexanone | ND | 40 | U | ppbv | 40 | 12/18/2012 10:31 PM |
| 4-Methyl-2-pentanone | ND | 40 | U | ppbv | 40 | 12/18/2012 10:31 PM |
| Acetone | ND | 40 | U | ppbv | 40 | 12/18/2012 10:31 PM |
| Benzene | 430 | 40 | | ppbv | 40 | 12/18/2012 10:31 PM |
| Benzyl chloride | ND | 40 | U | ppbv | 40 | 12/18/2012 10:31 PM |
| Bromodichloromethane | ND | 40 | U | ppbv | 40 | 12/18/2012 10:31 PM |
| Bromoform | ND | 40 | U | ppbv | 40 | 12/18/2012 10:31 PM |
| Bromomethane | ND | 40 | U | ppbv | 40 | 12/18/2012 10:31 PM |
| Carbon disulfide | ND | 40 | U | ppbv | 40 | 12/18/2012 10:31 PM |
| Carbon tetrachloride | ND | 40 | U | ppbv | 40 | 12/18/2012 10:31 PM |
| Chlorobenzene | ND | 40 | U | ppbv | 40 | 12/18/2012 10:31 PM |
| Chlorodibromomethane | ND | 40 | U | ppbv | 40 | 12/18/2012 10:31 PM |
| Chloroethane | ND | 40 | U | ppbv | 40 | 12/18/2012 10:31 PM |
| Chloroform | 49 | 40 | | ppbv | 40 | 12/18/2012 10:31 PM |
| Chloromethane | ND | 40 | U | ppbv | 40 | 12/18/2012 10:31 PM |
| cis-1,2-Dichloroethene | ND | 40 | U | ppbv | 40 | 12/18/2012 10:31 PM |
| cis-1,3-dichloropropene | ND | 40 | U | ppbv | 40 | 12/18/2012 10:31 PM |

# RTI Laboratories - Analytical Report

**WO#: 1212373**

**Date Reported: 1/7/2013**
**Revision v2**

| | | | |
|---|---|---|---|
| **Client:** | Shaw Environmental & Infrastructure, Inc | **Collection Date:** | 12/3/2012 11:10:00 AM |
| **Project:** | Kirtland AFB | | |
| **Lab ID:** | 1212373-026 | **Matrix:** | Air |
| **Client Sample ID:** | VA2137 | | |

| Analysis | Result | RL | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| Cyclohexane | 500 | 80 | | ppbv | 40 | 12/18/2012 10:31 PM |
| Dichlorodifluoromethane | ND | 40 | U | ppbv | 40 | 12/18/2012 10:31 PM |
| Ethyl acetate | ND | 40 | U | ppbv | 40 | 12/18/2012 10:31 PM |
| Ethylbenzene | 80 | 80 | J | ppbv | 40 | 12/18/2012 10:31 PM |
| Heptane | 190 | 40 | | ppbv | 40 | 12/18/2012 10:31 PM |
| Hexachlorobutadiene | ND | 80 | U | ppbv | 40 | 12/18/2012 10:31 PM |
| m,p-Xylene | 140 | 80 | | ppbv | 40 | 12/18/2012 10:31 PM |
| Methylene chloride | ND | 200 | U | ppbv | 40 | 12/18/2012 10:31 PM |
| n-Hexane | 410 | 80 | | ppbv | 40 | 12/18/2012 10:31 PM |
| Naphthalene | ND | 40 | U | ppbv | 40 | 12/18/2012 10:31 PM |
| o-Xylene | 47 | 40 | | ppbv | 40 | 12/18/2012 10:31 PM |
| Propylene | ND | 40 | U | ppbv | 40 | 12/18/2012 10:31 PM |
| Styrene | ND | 40 | U | ppbv | 40 | 12/18/2012 10:31 PM |
| tert-Butyl Methyl Ether | ND | 40 | U | ppbv | 40 | 12/18/2012 10:31 PM |
| Tetrachloroethene | ND | 40 | U | ppbv | 40 | 12/18/2012 10:31 PM |
| Tetrahydrofuran | ND | 40 | U | ppbv | 40 | 12/18/2012 10:31 PM |
| Toluene | 1,200 | 40 | | ppbv | 40 | 12/18/2012 10:31 PM |
| trans-1,2-Dichloroethene | ND | 40 | U | ppbv | 40 | 12/18/2012 10:31 PM |
| trans-1,3-dichloropropene | ND | 40 | U | ppbv | 40 | 12/18/2012 10:31 PM |
| Trichloroethene | ND | 40 | U | ppbv | 40 | 12/18/2012 10:31 PM |
| Trichlorofluoromethane | ND | 40 | U | ppbv | 40 | 12/18/2012 10:31 PM |
| Vinyl acetate | ND | 40 | U | ppbv | 40 | 12/18/2012 10:31 PM |
| Vinyl chloride | ND | 40 | U | ppbv | 40 | 12/18/2012 10:31 PM |
| Xylenes, Total | 180 | 120 | | ppbv | 40 | 12/18/2012 10:31 PM |
| Surr: 4-Bromofluorobenzene | 104 | 70-130 | | %REC | 40 | 12/18/2012 10:31 PM |
| **Mass APH Air** | **Method:** | | | | | **Analyst: RH3** |
| **Air-Phase Petroleum Hydrocarbons** | | | | | | |
| C5-C8 Aliphatic Hydrocarbons | 120,000 | 47,000 | | µg/m³ | 400 | 12/20/2012 6:30 PM |
| C9-C10 Aromatic Hydrocarbons | ND | 53,000 | U | µg/m³ | 400 | 12/20/2012 6:30 PM |
| C9-C12 Aliphatic Hydrocarbons | ND | 76,000 | U | µg/m³ | 400 | 12/20/2012 6:30 PM |
| Surr: 4-Bromofluorobenzene | 97.4 | 70-130 | | %REC | 400 | 12/20/2012 6:30 PM |

# RTI Laboratories - Analytical Report

**WO#: 1212373**

**Date Reported: 1/7/2013**
**Revision v2**

| | | | |
|---|---|---|---|
| **Client:** | Shaw Environmental & Infrastructure, Inc | **Collection Date:** | 12/3/2012 11:44:00 AM |
| **Project:** | Kirtland AFB | | |
| **Lab ID:** | 1212373-027 | **Matrix:** | Air |
| **Client Sample ID:** | VA2138 | | |

| Analysis | Result | RL | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **Noncondensable Gases and Light Hydrocarbons** | | **Method: ASTM-D2504** | | | | **Analyst: cr** |
| Carbon dioxide | 0.20 | 0.10 | | % v/v | 1 | 12/28/2012 5:31 PM |
| Carbon Monoxide | ND | 0.10 | U | % v/v | 1 | 12/28/2012 5:31 PM |
| Methane | ND | 0.50 | U | % v/v | 1 | 12/28/2012 5:31 PM |
| Nitrogen | 82 | 0.10 | | % v/v | 1 | 12/28/2012 5:31 PM |
| Oxygen | 22 | 0.10 | | % v/v | 1 | 12/28/2012 5:31 PM |
| **Volatile Organic Compounds** | | **Method: TO-15** | | | | **Analyst: RH3** |
| 1,1,1-Trichloroethane | ND | 800 | U | ppbv | 800 | 12/18/2012 11:17 PM |
| 1,1,2,2-Tetrachloroethane | ND | 800 | U | ppbv | 800 | 12/18/2012 11:17 PM |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ND | 800 | U | ppbv | 800 | 12/18/2012 11:17 PM |
| 1,1,2-Trichloroethane | ND | 800 | U | ppbv | 800 | 12/18/2012 11:17 PM |
| 1,1-Dichloroethane | ND | 800 | U | ppbv | 800 | 12/18/2012 11:17 PM |
| 1,1-Dichloroethene | ND | 800 | U | ppbv | 800 | 12/18/2012 11:17 PM |
| 1,2,4-Trichlorobenzene | ND | 800 | U | ppbv | 800 | 12/18/2012 11:17 PM |
| 1,2,4-Trimethylbenzene | ND | 800 | U | ppbv | 800 | 12/18/2012 11:17 PM |
| 1,2-Dibromoethane | ND | 800 | U | ppbv | 800 | 12/18/2012 11:17 PM |
| 1,2-Dichlorobenzene | ND | 800 | U | ppbv | 800 | 12/18/2012 11:17 PM |
| 1,2-Dichloroethane | ND | 800 | U | ppbv | 800 | 12/18/2012 11:17 PM |
| 1,2-Dichloropropane | ND | 800 | U | ppbv | 800 | 12/18/2012 11:17 PM |
| 1,3,5-Trimethylbenzene | ND | 800 | U | ppbv | 800 | 12/18/2012 11:17 PM |
| 1,3-Butadiene | ND | 800 | U | ppbv | 800 | 12/18/2012 11:17 PM |
| 1,3-Dichlorobenzene | ND | 800 | U | ppbv | 800 | 12/18/2012 11:17 PM |
| 1,4-Dichlorobenzene | ND | 800 | U | ppbv | 800 | 12/18/2012 11:17 PM |
| 2-Butanone | ND | 800 | U | ppbv | 800 | 12/18/2012 11:17 PM |
| 2-Hexanone | ND | 800 | U | ppbv | 800 | 12/18/2012 11:17 PM |
| 4-Methyl-2-pentanone | ND | 800 | U | ppbv | 800 | 12/18/2012 11:17 PM |
| Acetone | 1,800 | 800 | | ppbv | 800 | 12/18/2012 11:17 PM |
| Benzene | 900 | 800 | | ppbv | 800 | 12/18/2012 11:17 PM |
| Benzyl chloride | ND | 800 | U | ppbv | 800 | 12/18/2012 11:17 PM |
| Bromodichloromethane | ND | 800 | U | ppbv | 800 | 12/18/2012 11:17 PM |
| Bromoform | ND | 800 | U | ppbv | 800 | 12/18/2012 11:17 PM |
| Bromomethane | ND | 800 | U | ppbv | 800 | 12/18/2012 11:17 PM |
| Carbon disulfide | ND | 800 | U | ppbv | 800 | 12/18/2012 11:17 PM |
| Carbon tetrachloride | ND | 800 | U | ppbv | 800 | 12/18/2012 11:17 PM |
| Chlorobenzene | ND | 800 | U | ppbv | 800 | 12/18/2012 11:17 PM |
| Chlorodibromomethane | ND | 800 | U | ppbv | 800 | 12/18/2012 11:17 PM |
| Chloroethane | ND | 800 | U | ppbv | 800 | 12/18/2012 11:17 PM |
| Chloroform | ND | 800 | U | ppbv | 800 | 12/18/2012 11:17 PM |
| Chloromethane | ND | 800 | U | ppbv | 800 | 12/18/2012 11:17 PM |
| cis-1,2-Dichloroethene | ND | 800 | U | ppbv | 800 | 12/18/2012 11:17 PM |
| cis-1,3-dichloropropene | ND | 800 | U | ppbv | 800 | 12/18/2012 11:17 PM |

# RTI Laboratories - Analytical Report

**WO#: 1212373**

**Date Reported: 1/7/2013**
**Revision v2**

| | | | |
|---|---|---|---|
| **Client:** | Shaw Environmental & Infrastructure, Inc | **Collection Date:** | 12/3/2012 11:44:00 AM |
| **Project:** | Kirtland AFB | | |
| **Lab ID:** | 1212373-027 | **Matrix:** | Air |
| **Client Sample ID:** | VA2138 | | |

| Analysis | Result | RL | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| Cyclohexane | 4,100 | 1,600 | | ppbv | 800 | 12/18/2012 11:17 PM |
| Dichlorodifluoromethane | ND | 800 | U | ppbv | 800 | 12/18/2012 11:17 PM |
| Ethyl acetate | ND | 800 | U | ppbv | 800 | 12/18/2012 11:17 PM |
| Ethylbenzene | ND | 1,600 | U | ppbv | 800 | 12/18/2012 11:17 PM |
| Heptane | ND | 800 | U | ppbv | 800 | 12/18/2012 11:17 PM |
| Hexachlorobutadiene | ND | 1,600 | U | ppbv | 800 | 12/18/2012 11:17 PM |
| m,p-Xylene | ND | 1,600 | U | ppbv | 800 | 12/18/2012 11:17 PM |
| Methylene chloride | 6,600 | 4,000 | | ppbv | 800 | 12/18/2012 11:17 PM |
| n-Hexane | 12,000 | 1,600 | | ppbv | 800 | 12/18/2012 11:17 PM |
| Naphthalene | ND | 800 | U | ppbv | 800 | 12/18/2012 11:17 PM |
| o-Xylene | ND | 800 | U | ppbv | 800 | 12/18/2012 11:17 PM |
| Propylene | ND | 800 | U | ppbv | 800 | 12/18/2012 11:17 PM |
| Styrene | ND | 800 | U | ppbv | 800 | 12/18/2012 11:17 PM |
| tert-Butyl Methyl Ether | ND | 800 | U | ppbv | 800 | 12/18/2012 11:17 PM |
| Tetrachloroethene | ND | 800 | U | ppbv | 800 | 12/18/2012 11:17 PM |
| Tetrahydrofuran | ND | 800 | U | ppbv | 800 | 12/18/2012 11:17 PM |
| Toluene | 2,600 | 800 | | ppbv | 800 | 12/18/2012 11:17 PM |
| trans-1,2-Dichloroethene | ND | 800 | U | ppbv | 800 | 12/18/2012 11:17 PM |
| trans-1,3-dichloropropene | ND | 800 | U | ppbv | 800 | 12/18/2012 11:17 PM |
| Trichloroethene | ND | 800 | U | ppbv | 800 | 12/18/2012 11:17 PM |
| Trichlorofluoromethane | ND | 800 | U | ppbv | 800 | 12/18/2012 11:17 PM |
| Vinyl acetate | ND | 800 | U | ppbv | 800 | 12/18/2012 11:17 PM |
| Vinyl chloride | ND | 800 | U | ppbv | 800 | 12/18/2012 11:17 PM |
| Xylenes, Total | ND | 2,400 | U | ppbv | 800 | 12/18/2012 11:17 PM |
| Surr: 4-Bromofluorobenzene | 95.4 | 70-130 | | %REC | 800 | 12/18/2012 11:17 PM |
| **Mass APH Air** | **Method:** | | | | | **Analyst: RH3** |
| **Air-Phase Petroleum Hydrocarbons** | | | | | | |
| C5-C8 Aliphatic Hydrocarbons | 3,700,000 | 940,000 | | µg/m³ | 8000 | 12/20/2012 8:53 PM |
| C9-C10 Aromatic Hydrocarbons | ND | 1,100,000 | U | µg/m³ | 8000 | 12/20/2012 8:53 PM |
| C9-C12 Aliphatic Hydrocarbons | ND | 1,500,000 | U | µg/m³ | 8000 | 12/20/2012 8:53 PM |
| Surr: 4-Bromofluorobenzene | 94.2 | 70-130 | | %REC | 8000 | 12/20/2012 8:53 PM |

# RTI Laboratories - Analytical Report

**WO#: 1212373**

**Date Reported: 1/7/2013**
**Revision v2**

| | | | |
|---|---|---|---|
| **Client:** | Shaw Environmental & Infrastructure, Inc | **Collection Date:** | 12/3/2012 12:22:00 PM |
| **Project:** | Kirtland AFB | | |
| **Lab ID:** | 1212373-028 | **Matrix:** | Air |
| **Client Sample ID:** | VA2139 | | |

| Analysis | Result | RL | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **Noncondensable Gases and Light Hydrocarbons** | | **Method: ASTM-D2504** | | | | **Analyst: cr** |
| Carbon dioxide | 0.29 | 0.10 | | % v/v | 1 | 12/28/2012 5:47 PM |
| Carbon Monoxide | ND | 0.10 | U | % v/v | 1 | 12/28/2012 5:47 PM |
| Methane | ND | 0.50 | U | % v/v | 1 | 12/28/2012 5:47 PM |
| Nitrogen | 83 | 0.10 | | % v/v | 1 | 12/28/2012 5:47 PM |
| Oxygen | 21 | 0.10 | | % v/v | 1 | 12/28/2012 5:47 PM |
| **Volatile Organic Compounds** | | **Method: TO-15** | | | | **Analyst: RH3** |
| 1,1,1-Trichloroethane | ND | 800 | U | ppbv | 800 | 12/19/2012 12:48 AM |
| 1,1,2,2-Tetrachloroethane | ND | 800 | U | ppbv | 800 | 12/19/2012 12:48 AM |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ND | 800 | U | ppbv | 800 | 12/19/2012 12:48 AM |
| 1,1,2-Trichloroethane | ND | 800 | U | ppbv | 800 | 12/19/2012 12:48 AM |
| 1,1-Dichloroethane | ND | 800 | U | ppbv | 800 | 12/19/2012 12:48 AM |
| 1,1-Dichloroethene | ND | 800 | U | ppbv | 800 | 12/19/2012 12:48 AM |
| 1,2,4-Trichlorobenzene | ND | 800 | U | ppbv | 800 | 12/19/2012 12:48 AM |
| 1,2,4-Trimethylbenzene | ND | 800 | U | ppbv | 800 | 12/19/2012 12:48 AM |
| 1,2-Dibromoethane | ND | 800 | U | ppbv | 800 | 12/19/2012 12:48 AM |
| 1,2-Dichlorobenzene | ND | 800 | U | ppbv | 800 | 12/19/2012 12:48 AM |
| 1,2-Dichloroethane | ND | 800 | U | ppbv | 800 | 12/19/2012 12:48 AM |
| 1,2-Dichloropropane | ND | 800 | U | ppbv | 800 | 12/19/2012 12:48 AM |
| 1,3,5-Trimethylbenzene | ND | 800 | U | ppbv | 800 | 12/19/2012 12:48 AM |
| 1,3-Butadiene | ND | 800 | U | ppbv | 800 | 12/19/2012 12:48 AM |
| 1,3-Dichlorobenzene | ND | 800 | U | ppbv | 800 | 12/19/2012 12:48 AM |
| 1,4-Dichlorobenzene | ND | 800 | U | ppbv | 800 | 12/19/2012 12:48 AM |
| 2-Butanone | ND | 800 | U | ppbv | 800 | 12/19/2012 12:48 AM |
| 2-Hexanone | ND | 800 | U | ppbv | 800 | 12/19/2012 12:48 AM |
| 4-Methyl-2-pentanone | ND | 800 | U | ppbv | 800 | 12/19/2012 12:48 AM |
| Acetone | 2,200 | 800 | | ppbv | 800 | 12/19/2012 12:48 AM |
| Benzene | 1,900 | 800 | | ppbv | 800 | 12/19/2012 12:48 AM |
| Benzyl chloride | ND | 800 | U | ppbv | 800 | 12/19/2012 12:48 AM |
| Bromodichloromethane | ND | 800 | U | ppbv | 800 | 12/19/2012 12:48 AM |
| Bromoform | ND | 800 | U | ppbv | 800 | 12/19/2012 12:48 AM |
| Bromomethane | ND | 800 | U | ppbv | 800 | 12/19/2012 12:48 AM |
| Carbon disulfide | ND | 800 | U | ppbv | 800 | 12/19/2012 12:48 AM |
| Carbon tetrachloride | ND | 800 | U | ppbv | 800 | 12/19/2012 12:48 AM |
| Chlorobenzene | ND | 800 | U | ppbv | 800 | 12/19/2012 12:48 AM |
| Chlorodibromomethane | ND | 800 | U | ppbv | 800 | 12/19/2012 12:48 AM |
| Chloroethane | ND | 800 | U | ppbv | 800 | 12/19/2012 12:48 AM |
| Chloroform | ND | 800 | U | ppbv | 800 | 12/19/2012 12:48 AM |
| Chloromethane | ND | 800 | U | ppbv | 800 | 12/19/2012 12:48 AM |
| cis-1,2-Dichloroethene | ND | 800 | U | ppbv | 800 | 12/19/2012 12:48 AM |
| cis-1,3-dichloropropene | ND | 800 | U | ppbv | 800 | 12/19/2012 12:48 AM |

# RTI Laboratories - Analytical Report

**WO#: 1212373**

**Date Reported: 1/7/2013**
**Revision v2**

| | | | |
|---|---|---|---|
| **Client:** | Shaw Environmental & Infrastructure, Inc | **Collection Date:** | 12/3/2012 12:22:00 PM |
| **Project:** | Kirtland AFB | | |
| **Lab ID:** | 1212373-028 | **Matrix:** | Air |
| **Client Sample ID:** | VA2139 | | |

| Analysis | Result | RL | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| Cyclohexane | 13,000 | 1,600 | | ppbv | 800 | 12/19/2012 12:48 AM |
| Dichlorodifluoromethane | ND | 800 | U | ppbv | 800 | 12/19/2012 12:48 AM |
| Ethyl acetate | ND | 800 | U | ppbv | 800 | 12/19/2012 12:48 AM |
| Ethylbenzene | ND | 1,600 | U | ppbv | 800 | 12/19/2012 12:48 AM |
| Heptane | 2,400 | 800 | | ppbv | 800 | 12/19/2012 12:48 AM |
| Hexachlorobutadiene | ND | 1,600 | U | ppbv | 800 | 12/19/2012 12:48 AM |
| m,p-Xylene | ND | 1,600 | U | ppbv | 800 | 12/19/2012 12:48 AM |
| Methylene chloride | 5,800 | 4,000 | | ppbv | 800 | 12/19/2012 12:48 AM |
| n-Hexane | 19,000 | 1,600 | | ppbv | 800 | 12/19/2012 12:48 AM |
| Naphthalene | ND | 800 | U | ppbv | 800 | 12/19/2012 12:48 AM |
| o-Xylene | ND | 800 | U | ppbv | 800 | 12/19/2012 12:48 AM |
| Propylene | ND | 800 | U | ppbv | 800 | 12/19/2012 12:48 AM |
| Styrene | ND | 800 | U | ppbv | 800 | 12/19/2012 12:48 AM |
| tert-Butyl Methyl Ether | ND | 800 | U | ppbv | 800 | 12/19/2012 12:48 AM |
| Tetrachloroethene | ND | 800 | U | ppbv | 800 | 12/19/2012 12:48 AM |
| Tetrahydrofuran | ND | 800 | U | ppbv | 800 | 12/19/2012 12:48 AM |
| Toluene | 5,300 | 800 | | ppbv | 800 | 12/19/2012 12:48 AM |
| trans-1,2-Dichloroethene | ND | 800 | U | ppbv | 800 | 12/19/2012 12:48 AM |
| trans-1,3-dichloropropene | ND | 800 | U | ppbv | 800 | 12/19/2012 12:48 AM |
| Trichloroethene | ND | 800 | U | ppbv | 800 | 12/19/2012 12:48 AM |
| Trichlorofluoromethane | ND | 800 | U | ppbv | 800 | 12/19/2012 12:48 AM |
| Vinyl acetate | ND | 800 | U | ppbv | 800 | 12/19/2012 12:48 AM |
| Vinyl chloride | ND | 800 | U | ppbv | 800 | 12/19/2012 12:48 AM |
| Xylenes, Total | ND | 2,400 | U | ppbv | 800 | 12/19/2012 12:48 AM |
| Surr: 4-Bromofluorobenzene | 99.8 | 70-130 | | %REC | 800 | 12/19/2012 12:48 AM |
| **Mass APH Air** | **Method:** | | | | | **Analyst: RH3** |
| **Air-Phase Petroleum Hydrocarbons** | | | | | | |
| C5-C8 Aliphatic Hydrocarbons | 9,000,000 | 940,000 | | µg/m³ | 8000 | 12/21/2012 12:00 AM |
| C9-C10 Aromatic Hydrocarbons | ND | 1,100,000 | U | µg/m³ | 8000 | 12/21/2012 12:00 AM |
| C9-C12 Aliphatic Hydrocarbons | ND | 1,500,000 | U | µg/m³ | 8000 | 12/21/2012 12:00 AM |
| Surr: 4-Bromofluorobenzene | 96.4 | 70-130 | | %REC | 8000 | 12/21/2012 12:00 AM |

# RTI Laboratories - Analytical Report

**WO#: 1212373**

**Date Reported: 1/7/2013**
**Revision v2**

| | | | |
|---|---|---|---|
| **Client:** | Shaw Environmental & Infrastructure, Inc | **Collection Date:** | 12/3/2012 1:22:00 PM |
| **Project:** | Kirtland AFB | | |
| **Lab ID:** | 1212373-029 | **Matrix:** | Air |
| **Client Sample ID:** | VA2153 | | |

| Analysis | Result | RL | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **Noncondensable Gases and Light Hydrocarbons** | | **Method: ASTM-D2504** | | | | **Analyst: cr** |
| Carbon dioxide | 0.53 | 0.10 | | % v/v | 1 | 12/28/2012 6:02 PM |
| Carbon Monoxide | ND | 0.10 | U | % v/v | 1 | 12/28/2012 6:02 PM |
| Methane | ND | 0.50 | U | % v/v | 1 | 12/28/2012 6:02 PM |
| Nitrogen | 82 | 0.10 | | % v/v | 1 | 12/28/2012 6:02 PM |
| Oxygen | 22 | 0.10 | | % v/v | 1 | 12/28/2012 6:02 PM |
| **Volatile Organic Compounds** | | **Method: TO-15** | | | | **Analyst: RH3** |
| 1,1,1-Trichloroethane | ND | 40 | U | ppbv | 40 | 12/19/2012 1:31 AM |
| 1,1,2,2-Tetrachloroethane | ND | 40 | U | ppbv | 40 | 12/19/2012 1:31 AM |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ND | 40 | U | ppbv | 40 | 12/19/2012 1:31 AM |
| 1,1,2-Trichloroethane | ND | 40 | U | ppbv | 40 | 12/19/2012 1:31 AM |
| 1,1-Dichloroethane | ND | 40 | U | ppbv | 40 | 12/19/2012 1:31 AM |
| 1,1-Dichloroethene | ND | 40 | U | ppbv | 40 | 12/19/2012 1:31 AM |
| 1,2,4-Trichlorobenzene | ND | 40 | U | ppbv | 40 | 12/19/2012 1:31 AM |
| 1,2,4-Trimethylbenzene | ND | 40 | U | ppbv | 40 | 12/19/2012 1:31 AM |
| 1,2-Dibromoethane | ND | 40 | U | ppbv | 40 | 12/19/2012 1:31 AM |
| 1,2-Dichlorobenzene | ND | 40 | U | ppbv | 40 | 12/19/2012 1:31 AM |
| 1,2-Dichloroethane | ND | 40 | U | ppbv | 40 | 12/19/2012 1:31 AM |
| 1,2-Dichloropropane | ND | 40 | U | ppbv | 40 | 12/19/2012 1:31 AM |
| 1,3,5-Trimethylbenzene | ND | 40 | U | ppbv | 40 | 12/19/2012 1:31 AM |
| 1,3-Butadiene | ND | 40 | U | ppbv | 40 | 12/19/2012 1:31 AM |
| 1,3-Dichlorobenzene | ND | 40 | U | ppbv | 40 | 12/19/2012 1:31 AM |
| 1,4-Dichlorobenzene | ND | 40 | U | ppbv | 40 | 12/19/2012 1:31 AM |
| 2-Butanone | ND | 40 | U | ppbv | 40 | 12/19/2012 1:31 AM |
| 2-Hexanone | ND | 40 | U | ppbv | 40 | 12/19/2012 1:31 AM |
| 4-Methyl-2-pentanone | ND | 40 | U | ppbv | 40 | 12/19/2012 1:31 AM |
| Acetone | ND | 40 | U | ppbv | 40 | 12/19/2012 1:31 AM |
| Benzene | 210 | 40 | | ppbv | 40 | 12/19/2012 1:31 AM |
| Benzyl chloride | ND | 40 | U | ppbv | 40 | 12/19/2012 1:31 AM |
| Bromodichloromethane | 42 | 40 | | ppbv | 40 | 12/19/2012 1:31 AM |
| Bromoform | ND | 40 | U | ppbv | 40 | 12/19/2012 1:31 AM |
| Bromomethane | ND | 40 | U | ppbv | 40 | 12/19/2012 1:31 AM |
| Carbon disulfide | ND | 40 | U | ppbv | 40 | 12/19/2012 1:31 AM |
| Carbon tetrachloride | ND | 40 | U | ppbv | 40 | 12/19/2012 1:31 AM |
| Chlorobenzene | ND | 40 | U | ppbv | 40 | 12/19/2012 1:31 AM |
| Chlorodibromomethane | ND | 40 | U | ppbv | 40 | 12/19/2012 1:31 AM |
| Chloroethane | ND | 40 | U | ppbv | 40 | 12/19/2012 1:31 AM |
| Chloroform | 510 | 40 | | ppbv | 40 | 12/19/2012 1:31 AM |
| Chloromethane | ND | 40 | U | ppbv | 40 | 12/19/2012 1:31 AM |
| cis-1,2-Dichloroethene | ND | 40 | U | ppbv | 40 | 12/19/2012 1:31 AM |
| cis-1,3-dichloropropene | ND | 40 | U | ppbv | 40 | 12/19/2012 1:31 AM |

# RTI Laboratories - Analytical Report

**WO#: 1212373**

**Date Reported: 1/7/2013**
**Revision v2**

| | | | |
|---|---|---|---|
| **Client:** | Shaw Environmental & Infrastructure, Inc | **Collection Date:** | 12/3/2012 1:22:00 PM |
| **Project:** | Kirtland AFB | | |
| **Lab ID:** | 1212373-029 | **Matrix:** | Air |
| **Client Sample ID:** | VA2153 | | |

| Analysis | Result | RL | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| Cyclohexane | 600 | 80 | | ppbv | 40 | 12/19/2012 1:31 AM |
| Dichlorodifluoromethane | ND | 40 | U | ppbv | 40 | 12/19/2012 1:31 AM |
| Ethyl acetate | ND | 40 | U | ppbv | 40 | 12/19/2012 1:31 AM |
| Ethylbenzene | 50 | 80 | J | ppbv | 40 | 12/19/2012 1:31 AM |
| Heptane | 180 | 40 | | ppbv | 40 | 12/19/2012 1:31 AM |
| Hexachlorobutadiene | ND | 80 | U | ppbv | 40 | 12/19/2012 1:31 AM |
| m,p-Xylene | 85 | 80 | | ppbv | 40 | 12/19/2012 1:31 AM |
| Methylene chloride | ND | 200 | U | ppbv | 40 | 12/19/2012 1:31 AM |
| n-Hexane | 580 | 80 | | ppbv | 40 | 12/19/2012 1:31 AM |
| Naphthalene | ND | 40 | U | ppbv | 40 | 12/19/2012 1:31 AM |
| o-Xylene | ND | 40 | U | ppbv | 40 | 12/19/2012 1:31 AM |
| Propylene | ND | 40 | U | ppbv | 40 | 12/19/2012 1:31 AM |
| Styrene | ND | 40 | U | ppbv | 40 | 12/19/2012 1:31 AM |
| tert-Butyl Methyl Ether | ND | 40 | U | ppbv | 40 | 12/19/2012 1:31 AM |
| Tetrachloroethene | ND | 40 | U | ppbv | 40 | 12/19/2012 1:31 AM |
| Tetrahydrofuran | ND | 40 | U | ppbv | 40 | 12/19/2012 1:31 AM |
| Toluene | 810 | 40 | | ppbv | 40 | 12/19/2012 1:31 AM |
| trans-1,2-Dichloroethene | ND | 40 | U | ppbv | 40 | 12/19/2012 1:31 AM |
| trans-1,3-dichloropropene | ND | 40 | U | ppbv | 40 | 12/19/2012 1:31 AM |
| Trichloroethene | ND | 40 | U | ppbv | 40 | 12/19/2012 1:31 AM |
| Trichlorofluoromethane | ND | 40 | U | ppbv | 40 | 12/19/2012 1:31 AM |
| Vinyl acetate | ND | 40 | U | ppbv | 40 | 12/19/2012 1:31 AM |
| Vinyl chloride | ND | 40 | U | ppbv | 40 | 12/19/2012 1:31 AM |
| Xylenes, Total | 85 | 120 | J | ppbv | 40 | 12/19/2012 1:31 AM |
| Surr: 4-Bromofluorobenzene | 104 | 70-130 | | %REC | 40 | 12/19/2012 1:31 AM |
| **Mass APH Air** | **Method:** | | | | | **Analyst: RH3** |
| **Air-Phase Petroleum Hydrocarbons** | | | | | | |
| C5-C8 Aliphatic Hydrocarbons | 320,000 | 94,000 | | µg/m³ | 800 | 12/21/2012 2:21 AM |
| C9-C10 Aromatic Hydrocarbons | ND | 110,000 | U | µg/m³ | 800 | 12/21/2012 2:21 AM |
| C9-C12 Aliphatic Hydrocarbons | ND | 150,000 | U | µg/m³ | 800 | 12/21/2012 2:21 AM |
| Surr: 4-Bromofluorobenzene | 97.7 | 70-130 | | %REC | 800 | 12/21/2012 2:21 AM |

# RTI Laboratories - Analytical Report

**WO#: 1212373**

**Date Reported: 1/7/2013**
**Revision v2**

| | | | |
|---|---|---|---|
| **Client:** | Shaw Environmental & Infrastructure, Inc | **Collection Date:** | 12/3/2012 1:54:00 PM |
| **Project:** | Kirtland AFB | | |
| **Lab ID:** | 1212373-030 | **Matrix:** | Air |
| **Client Sample ID:** | VA2154 | | |

| Analysis | Result | RL | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **Noncondensable Gases and Light Hydrocarbons** | | **Method: ASTM-D2504** | | | | **Analyst: cr** |
| Carbon dioxide | 0.55 | 0.10 | | % v/v | 1 | 12/28/2012 6:17 PM |
| Carbon Monoxide | ND | 0.10 | U | % v/v | 1 | 12/28/2012 6:17 PM |
| Methane | ND | 0.50 | U | % v/v | 1 | 12/28/2012 6:17 PM |
| Nitrogen | 82 | 0.10 | | % v/v | 1 | 12/28/2012 6:17 PM |
| Oxygen | 21 | 0.10 | | % v/v | 1 | 12/28/2012 6:17 PM |
| **Volatile Organic Compounds** | | **Method: TO-15** | | | | **Analyst: RH3** |
| 1,1,1-Trichloroethane | ND | 40 | U | ppbv | 40 | 12/19/2012 2:14 AM |
| 1,1,2,2-Tetrachloroethane | ND | 40 | U | ppbv | 40 | 12/19/2012 2:14 AM |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ND | 40 | U | ppbv | 40 | 12/19/2012 2:14 AM |
| 1,1,2-Trichloroethane | ND | 40 | U | ppbv | 40 | 12/19/2012 2:14 AM |
| 1,1-Dichloroethane | ND | 40 | U | ppbv | 40 | 12/19/2012 2:14 AM |
| 1,1-Dichloroethene | ND | 40 | U | ppbv | 40 | 12/19/2012 2:14 AM |
| 1,2,4-Trichlorobenzene | ND | 40 | U | ppbv | 40 | 12/19/2012 2:14 AM |
| 1,2,4-Trimethylbenzene | ND | 40 | U | ppbv | 40 | 12/19/2012 2:14 AM |
| 1,2-Dibromoethane | ND | 40 | U | ppbv | 40 | 12/19/2012 2:14 AM |
| 1,2-Dichlorobenzene | ND | 40 | U | ppbv | 40 | 12/19/2012 2:14 AM |
| 1,2-Dichloroethane | ND | 40 | U | ppbv | 40 | 12/19/2012 2:14 AM |
| 1,2-Dichloropropane | ND | 40 | U | ppbv | 40 | 12/19/2012 2:14 AM |
| 1,3,5-Trimethylbenzene | ND | 40 | U | ppbv | 40 | 12/19/2012 2:14 AM |
| 1,3-Butadiene | ND | 40 | U | ppbv | 40 | 12/19/2012 2:14 AM |
| 1,3-Dichlorobenzene | ND | 40 | U | ppbv | 40 | 12/19/2012 2:14 AM |
| 1,4-Dichlorobenzene | ND | 40 | U | ppbv | 40 | 12/19/2012 2:14 AM |
| 2-Butanone | ND | 40 | U | ppbv | 40 | 12/19/2012 2:14 AM |
| 2-Hexanone | ND | 40 | U | ppbv | 40 | 12/19/2012 2:14 AM |
| 4-Methyl-2-pentanone | ND | 40 | U | ppbv | 40 | 12/19/2012 2:14 AM |
| Acetone | ND | 40 | U | ppbv | 40 | 12/19/2012 2:14 AM |
| Benzene | 170 | 40 | | ppbv | 40 | 12/19/2012 2:14 AM |
| Benzyl chloride | ND | 40 | U | ppbv | 40 | 12/19/2012 2:14 AM |
| Bromodichloromethane | ND | 40 | U | ppbv | 40 | 12/19/2012 2:14 AM |
| Bromoform | ND | 40 | U | ppbv | 40 | 12/19/2012 2:14 AM |
| Bromomethane | ND | 40 | U | ppbv | 40 | 12/19/2012 2:14 AM |
| Carbon disulfide | ND | 40 | U | ppbv | 40 | 12/19/2012 2:14 AM |
| Carbon tetrachloride | ND | 40 | U | ppbv | 40 | 12/19/2012 2:14 AM |
| Chlorobenzene | ND | 40 | U | ppbv | 40 | 12/19/2012 2:14 AM |
| Chlorodibromomethane | ND | 40 | U | ppbv | 40 | 12/19/2012 2:14 AM |
| Chloroethane | ND | 40 | U | ppbv | 40 | 12/19/2012 2:14 AM |
| Chloroform | 230 | 40 | | ppbv | 40 | 12/19/2012 2:14 AM |
| Chloromethane | ND | 40 | U | ppbv | 40 | 12/19/2012 2:14 AM |
| cis-1,2-Dichloroethene | ND | 40 | U | ppbv | 40 | 12/19/2012 2:14 AM |
| cis-1,3-dichloropropene | ND | 40 | U | ppbv | 40 | 12/19/2012 2:14 AM |

# RTI Laboratories - Analytical Report

**WO#: 1212373**

**Date Reported: 1/7/2013**
**Revision v2**

| | | | |
|---|---|---|---|
| **Client:** | Shaw Environmental & Infrastructure, Inc | **Collection Date:** | 12/3/2012 1:54:00 PM |
| **Project:** | Kirtland AFB | | |
| **Lab ID:** | 1212373-030 | **Matrix:** | Air |
| **Client Sample ID:** | VA2154 | | |

| Analysis | Result | RL | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| Cyclohexane | 840 | 80 | | ppbv | 40 | 12/19/2012 2:14 AM |
| Dichlorodifluoromethane | ND | 40 | U | ppbv | 40 | 12/19/2012 2:14 AM |
| Ethyl acetate | ND | 40 | U | ppbv | 40 | 12/19/2012 2:14 AM |
| Ethylbenzene | 44 | 80 | J | ppbv | 40 | 12/19/2012 2:14 AM |
| Heptane | 150 | 40 | | ppbv | 40 | 12/19/2012 2:14 AM |
| Hexachlorobutadiene | ND | 80 | U | ppbv | 40 | 12/19/2012 2:14 AM |
| m,p-Xylene | 78 | 80 | J | ppbv | 40 | 12/19/2012 2:14 AM |
| Methylene chloride | ND | 200 | U | ppbv | 40 | 12/19/2012 2:14 AM |
| n-Hexane | 820 | 80 | | ppbv | 40 | 12/19/2012 2:14 AM |
| Naphthalene | ND | 40 | U | ppbv | 40 | 12/19/2012 2:14 AM |
| o-Xylene | ND | 40 | U | ppbv | 40 | 12/19/2012 2:14 AM |
| Propylene | ND | 40 | U | ppbv | 40 | 12/19/2012 2:14 AM |
| Styrene | ND | 40 | U | ppbv | 40 | 12/19/2012 2:14 AM |
| tert-Butyl Methyl Ether | ND | 40 | U | ppbv | 40 | 12/19/2012 2:14 AM |
| Tetrachloroethene | ND | 40 | U | ppbv | 40 | 12/19/2012 2:14 AM |
| Tetrahydrofuran | ND | 40 | U | ppbv | 40 | 12/19/2012 2:14 AM |
| Toluene | 700 | 40 | | ppbv | 40 | 12/19/2012 2:14 AM |
| trans-1,2-Dichloroethene | ND | 40 | U | ppbv | 40 | 12/19/2012 2:14 AM |
| trans-1,3-dichloropropene | ND | 40 | U | ppbv | 40 | 12/19/2012 2:14 AM |
| Trichloroethene | ND | 40 | U | ppbv | 40 | 12/19/2012 2:14 AM |
| Trichlorofluoromethane | ND | 40 | U | ppbv | 40 | 12/19/2012 2:14 AM |
| Vinyl acetate | ND | 40 | U | ppbv | 40 | 12/19/2012 2:14 AM |
| Vinyl chloride | ND | 40 | U | ppbv | 40 | 12/19/2012 2:14 AM |
| Xylenes, Total | 78 | 120 | J | ppbv | 40 | 12/19/2012 2:14 AM |
| Surr: 4-Bromofluorobenzene | 106 | 70-130 | | %REC | 40 | 12/19/2012 2:14 AM |
| **Mass APH Air** | **Method:** | | | | | **Analyst: RH3** |
| **Air-Phase Petroleum Hydrocarbons** | | | | | | |
| C5-C8 Aliphatic Hydrocarbons | 700,000 | 94,000 | | µg/m³ | 800 | 12/21/2012 3:10 AM |
| C9-C10 Aromatic Hydrocarbons | ND | 110,000 | U | µg/m³ | 800 | 12/21/2012 3:10 AM |
| C9-C12 Aliphatic Hydrocarbons | ND | 150,000 | U | µg/m³ | 800 | 12/21/2012 3:10 AM |
| Surr: 4-Bromofluorobenzene | 97.5 | 70-130 | | %REC | 800 | 12/21/2012 3:10 AM |

# RTI Laboratories - Analytical Report

**WO#: 1212373**

**Date Reported: 1/7/2013**
**Revision v2**

| | | | |
|---|---|---|---|
| **Client:** | Shaw Environmental & Infrastructure, Inc | **Collection Date:** | 12/3/2012 2:27:00 PM |
| **Project:** | Kirtland AFB | | |
| **Lab ID:** | 1212373-031 | **Matrix:** | Air |
| **Client Sample ID:** | VA2155 | | |

| Analysis | Result | RL | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **Noncondensable Gases and Light Hydrocarbons** | | **Method: ASTM-D2504** | | | | **Analyst: cr** |
| Carbon dioxide | 0.18 | 0.10 | | % v/v | 1 | 12/31/2012 12:05 PM |
| Carbon Monoxide | ND | 0.10 | U | % v/v | 1 | 12/31/2012 12:05 PM |
| Methane | ND | 0.50 | U | % v/v | 1 | 12/31/2012 12:05 PM |
| Nitrogen | 83 | 0.10 | | % v/v | 1 | 12/31/2012 12:05 PM |
| Oxygen | 21 | 0.10 | | % v/v | 1 | 12/31/2012 12:05 PM |
| **Volatile Organic Compounds** | | **Method: TO-15** | | | | **Analyst: RH3** |
| 1,1,1-Trichloroethane | ND | 40 | U | ppbv | 40 | 12/19/2012 2:56 AM |
| 1,1,2,2-Tetrachloroethane | ND | 40 | U | ppbv | 40 | 12/19/2012 2:56 AM |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ND | 40 | U | ppbv | 40 | 12/19/2012 2:56 AM |
| 1,1,2-Trichloroethane | ND | 40 | U | ppbv | 40 | 12/19/2012 2:56 AM |
| 1,1-Dichloroethane | ND | 40 | U | ppbv | 40 | 12/19/2012 2:56 AM |
| 1,1-Dichloroethene | ND | 40 | U | ppbv | 40 | 12/19/2012 2:56 AM |
| 1,2,4-Trichlorobenzene | ND | 40 | U | ppbv | 40 | 12/19/2012 2:56 AM |
| 1,2,4-Trimethylbenzene | ND | 40 | U | ppbv | 40 | 12/19/2012 2:56 AM |
| 1,2-Dibromoethane | ND | 40 | U | ppbv | 40 | 12/19/2012 2:56 AM |
| 1,2-Dichlorobenzene | ND | 40 | U | ppbv | 40 | 12/19/2012 2:56 AM |
| 1,2-Dichloroethane | ND | 40 | U | ppbv | 40 | 12/19/2012 2:56 AM |
| 1,2-Dichloropropane | ND | 40 | U | ppbv | 40 | 12/19/2012 2:56 AM |
| 1,3,5-Trimethylbenzene | ND | 40 | U | ppbv | 40 | 12/19/2012 2:56 AM |
| 1,3-Butadiene | ND | 40 | U | ppbv | 40 | 12/19/2012 2:56 AM |
| 1,3-Dichlorobenzene | ND | 40 | U | ppbv | 40 | 12/19/2012 2:56 AM |
| 1,4-Dichlorobenzene | ND | 40 | U | ppbv | 40 | 12/19/2012 2:56 AM |
| 2-Butanone | ND | 40 | U | ppbv | 40 | 12/19/2012 2:56 AM |
| 2-Hexanone | ND | 40 | U | ppbv | 40 | 12/19/2012 2:56 AM |
| 4-Methyl-2-pentanone | ND | 40 | U | ppbv | 40 | 12/19/2012 2:56 AM |
| Acetone | ND | 40 | U | ppbv | 40 | 12/19/2012 2:56 AM |
| Benzene | 170 | 40 | | ppbv | 40 | 12/19/2012 2:56 AM |
| Benzyl chloride | ND | 40 | U | ppbv | 40 | 12/19/2012 2:56 AM |
| Bromodichloromethane | ND | 40 | U | ppbv | 40 | 12/19/2012 2:56 AM |
| Bromoform | ND | 40 | U | ppbv | 40 | 12/19/2012 2:56 AM |
| Bromomethane | ND | 40 | U | ppbv | 40 | 12/19/2012 2:56 AM |
| Carbon disulfide | ND | 40 | U | ppbv | 40 | 12/19/2012 2:56 AM |
| Carbon tetrachloride | ND | 40 | U | ppbv | 40 | 12/19/2012 2:56 AM |
| Chlorobenzene | ND | 40 | U | ppbv | 40 | 12/19/2012 2:56 AM |
| Chlorodibromomethane | ND | 40 | U | ppbv | 40 | 12/19/2012 2:56 AM |
| Chloroethane | ND | 40 | U | ppbv | 40 | 12/19/2012 2:56 AM |
| Chloroform | 41 | 40 | | ppbv | 40 | 12/19/2012 2:56 AM |
| Chloromethane | ND | 40 | U | ppbv | 40 | 12/19/2012 2:56 AM |
| cis-1,2-Dichloroethene | ND | 40 | U | ppbv | 40 | 12/19/2012 2:56 AM |
| cis-1,3-dichloropropene | ND | 40 | U | ppbv | 40 | 12/19/2012 2:56 AM |

# RTI Laboratories - Analytical Report

**WO#: 1212373**

**Date Reported: 1/7/2013**
**Revision v2**

| | | | |
|---|---|---|---|
| **Client:** | Shaw Environmental & Infrastructure, Inc | **Collection Date:** | 12/3/2012 2:27:00 PM |
| **Project:** | Kirtland AFB | | |
| **Lab ID:** | 1212373-031 | **Matrix:** | Air |
| **Client Sample ID:** | VA2155 | | |

| Analysis | Result | RL | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| Cyclohexane | 380 | 80 | | ppbv | 40 | 12/19/2012 2:56 AM |
| Dichlorodifluoromethane | ND | 40 | U | ppbv | 40 | 12/19/2012 2:56 AM |
| Ethyl acetate | ND | 40 | U | ppbv | 40 | 12/19/2012 2:56 AM |
| Ethylbenzene | 43 | 80 | J | ppbv | 40 | 12/19/2012 2:56 AM |
| Heptane | 120 | 40 | | ppbv | 40 | 12/19/2012 2:56 AM |
| Hexachlorobutadiene | ND | 80 | U | ppbv | 40 | 12/19/2012 2:56 AM |
| m,p-Xylene | 76 | 80 | J | ppbv | 40 | 12/19/2012 2:56 AM |
| Methylene chloride | ND | 200 | U | ppbv | 40 | 12/19/2012 2:56 AM |
| n-Hexane | 350 | 80 | | ppbv | 40 | 12/19/2012 2:56 AM |
| Naphthalene | ND | 40 | U | ppbv | 40 | 12/19/2012 2:56 AM |
| o-Xylene | ND | 40 | U | ppbv | 40 | 12/19/2012 2:56 AM |
| Propylene | ND | 40 | U | ppbv | 40 | 12/19/2012 2:56 AM |
| Styrene | ND | 40 | U | ppbv | 40 | 12/19/2012 2:56 AM |
| tert-Butyl Methyl Ether | ND | 40 | U | ppbv | 40 | 12/19/2012 2:56 AM |
| Tetrachloroethene | ND | 40 | U | ppbv | 40 | 12/19/2012 2:56 AM |
| Tetrahydrofuran | ND | 40 | U | ppbv | 40 | 12/19/2012 2:56 AM |
| Toluene | 660 | 40 | | ppbv | 40 | 12/19/2012 2:56 AM |
| trans-1,2-Dichloroethene | ND | 40 | U | ppbv | 40 | 12/19/2012 2:56 AM |
| trans-1,3-dichloropropene | ND | 40 | U | ppbv | 40 | 12/19/2012 2:56 AM |
| Trichloroethene | ND | 40 | U | ppbv | 40 | 12/19/2012 2:56 AM |
| Trichlorofluoromethane | ND | 40 | U | ppbv | 40 | 12/19/2012 2:56 AM |
| Vinyl acetate | ND | 40 | U | ppbv | 40 | 12/19/2012 2:56 AM |
| Vinyl chloride | ND | 40 | U | ppbv | 40 | 12/19/2012 2:56 AM |
| Xylenes, Total | 76 | 120 | J | ppbv | 40 | 12/19/2012 2:56 AM |
| Surr: 4-Bromofluorobenzene | 102 | 70-130 | | %REC | 40 | 12/19/2012 2:56 AM |
| **Mass APH Air** | **Method:** | | | | | **Analyst: RH3** |
| **Air-Phase Petroleum Hydrocarbons** | | | | | | |
| C5-C8 Aliphatic Hydrocarbons | 130,000 | 47,000 | | µg/m³ | 400 | 12/21/2012 3:58 AM |
| C9-C10 Aromatic Hydrocarbons | ND | 53,000 | U | µg/m³ | 400 | 12/21/2012 3:58 AM |
| C9-C12 Aliphatic Hydrocarbons | ND | 76,000 | U | µg/m³ | 400 | 12/21/2012 3:58 AM |
| Surr: 4-Bromofluorobenzene | 96.8 | 70-130 | | %REC | 400 | 12/21/2012 3:58 AM |

# RTI Laboratories - Analytical Report

**WO#: 1212373**

**Date Reported: 1/7/2013**
**Revision v2**

| | | | |
|---|---|---|---|
| **Client:** | Shaw Environmental & Infrastructure, Inc | **Collection Date:** | 12/3/2012 3:02:00 PM |
| **Project:** | Kirtland AFB | | |
| **Lab ID:** | 1212373-032 | **Matrix:** | Air |
| **Client Sample ID:** | VA2156 | | |

| Analysis | Result | RL | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **Noncondensable Gases and Light Hydrocarbons** | | **Method: ASTM-D2504** | | | | **Analyst: cr** |
| Carbon dioxide | 0.15 | 0.10 | | % v/v | 1 | 12/31/2012 12:20 PM |
| Carbon Monoxide | ND | 0.10 | U | % v/v | 1 | 12/31/2012 12:20 PM |
| Methane | ND | 0.50 | U | % v/v | 1 | 12/31/2012 12:20 PM |
| Nitrogen | 82 | 0.10 | | % v/v | 1 | 12/31/2012 12:20 PM |
| Oxygen | 21 | 0.10 | | % v/v | 1 | 12/31/2012 12:20 PM |
| **Volatile Organic Compounds** | | **Method: TO-15** | | | | **Analyst: RH3** |
| 1,1,1-Trichloroethane | ND | 40 | U | ppbv | 40 | 12/19/2012 3:39 AM |
| 1,1,2,2-Tetrachloroethane | ND | 40 | U | ppbv | 40 | 12/19/2012 3:39 AM |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ND | 40 | U | ppbv | 40 | 12/19/2012 3:39 AM |
| 1,1,2-Trichloroethane | ND | 40 | U | ppbv | 40 | 12/19/2012 3:39 AM |
| 1,1-Dichloroethane | ND | 40 | U | ppbv | 40 | 12/19/2012 3:39 AM |
| 1,1-Dichloroethene | ND | 40 | U | ppbv | 40 | 12/19/2012 3:39 AM |
| 1,2,4-Trichlorobenzene | ND | 40 | U | ppbv | 40 | 12/19/2012 3:39 AM |
| 1,2,4-Trimethylbenzene | ND | 40 | U | ppbv | 40 | 12/19/2012 3:39 AM |
| 1,2-Dibromoethane | ND | 40 | U | ppbv | 40 | 12/19/2012 3:39 AM |
| 1,2-Dichlorobenzene | ND | 40 | U | ppbv | 40 | 12/19/2012 3:39 AM |
| 1,2-Dichloroethane | ND | 40 | U | ppbv | 40 | 12/19/2012 3:39 AM |
| 1,2-Dichloropropane | ND | 40 | U | ppbv | 40 | 12/19/2012 3:39 AM |
| 1,3,5-Trimethylbenzene | ND | 40 | U | ppbv | 40 | 12/19/2012 3:39 AM |
| 1,3-Butadiene | ND | 40 | U | ppbv | 40 | 12/19/2012 3:39 AM |
| 1,3-Dichlorobenzene | ND | 40 | U | ppbv | 40 | 12/19/2012 3:39 AM |
| 1,4-Dichlorobenzene | ND | 40 | U | ppbv | 40 | 12/19/2012 3:39 AM |
| 2-Butanone | ND | 40 | U | ppbv | 40 | 12/19/2012 3:39 AM |
| 2-Hexanone | ND | 40 | U | ppbv | 40 | 12/19/2012 3:39 AM |
| 4-Methyl-2-pentanone | ND | 40 | U | ppbv | 40 | 12/19/2012 3:39 AM |
| Acetone | ND | 40 | U | ppbv | 40 | 12/19/2012 3:39 AM |
| Benzene | 130 | 40 | | ppbv | 40 | 12/19/2012 3:39 AM |
| Benzyl chloride | ND | 40 | U | ppbv | 40 | 12/19/2012 3:39 AM |
| Bromodichloromethane | ND | 40 | U | ppbv | 40 | 12/19/2012 3:39 AM |
| Bromoform | ND | 40 | U | ppbv | 40 | 12/19/2012 3:39 AM |
| Bromomethane | ND | 40 | U | ppbv | 40 | 12/19/2012 3:39 AM |
| Carbon disulfide | ND | 40 | U | ppbv | 40 | 12/19/2012 3:39 AM |
| Carbon tetrachloride | ND | 40 | U | ppbv | 40 | 12/19/2012 3:39 AM |
| Chlorobenzene | ND | 40 | U | ppbv | 40 | 12/19/2012 3:39 AM |
| Chlorodibromomethane | ND | 40 | U | ppbv | 40 | 12/19/2012 3:39 AM |
| Chloroethane | ND | 40 | U | ppbv | 40 | 12/19/2012 3:39 AM |
| Chloroform | ND | 40 | U | ppbv | 40 | 12/19/2012 3:39 AM |
| Chloromethane | ND | 40 | U | ppbv | 40 | 12/19/2012 3:39 AM |
| cis-1,2-Dichloroethene | ND | 40 | U | ppbv | 40 | 12/19/2012 3:39 AM |
| cis-1,3-dichloropropene | ND | 40 | U | ppbv | 40 | 12/19/2012 3:39 AM |

# RTI Laboratories - Analytical Report

**WO#: 1212373**

**Date Reported: 1/7/2013**
**Revision v2**

| | | | |
|---|---|---|---|
| **Client:** | Shaw Environmental & Infrastructure, Inc | **Collection Date:** | 12/3/2012 3:02:00 PM |
| **Project:** | Kirtland AFB | | |
| **Lab ID:** | 1212373-032 | **Matrix:** | Air |
| **Client Sample ID:** | VA2156 | | |

| Analysis | Result | RL | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| Cyclohexane | 270 | 80 | | ppbv | 40 | 12/19/2012 3:39 AM |
| Dichlorodifluoromethane | ND | 40 | U | ppbv | 40 | 12/19/2012 3:39 AM |
| Ethyl acetate | ND | 40 | U | ppbv | 40 | 12/19/2012 3:39 AM |
| Ethylbenzene | ND | 80 | U | ppbv | 40 | 12/19/2012 3:39 AM |
| Heptane | 88 | 40 | | ppbv | 40 | 12/19/2012 3:39 AM |
| Hexachlorobutadiene | ND | 80 | U | ppbv | 40 | 12/19/2012 3:39 AM |
| m,p-Xylene | 61 | 80 | J | ppbv | 40 | 12/19/2012 3:39 AM |
| Methylene chloride | ND | 200 | U | ppbv | 40 | 12/19/2012 3:39 AM |
| n-Hexane | 230 | 80 | | ppbv | 40 | 12/19/2012 3:39 AM |
| Naphthalene | ND | 40 | U | ppbv | 40 | 12/19/2012 3:39 AM |
| o-Xylene | ND | 40 | U | ppbv | 40 | 12/19/2012 3:39 AM |
| Propylene | ND | 40 | U | ppbv | 40 | 12/19/2012 3:39 AM |
| Styrene | ND | 40 | U | ppbv | 40 | 12/19/2012 3:39 AM |
| tert-Butyl Methyl Ether | ND | 40 | U | ppbv | 40 | 12/19/2012 3:39 AM |
| Tetrachloroethene | ND | 40 | U | ppbv | 40 | 12/19/2012 3:39 AM |
| Tetrahydrofuran | ND | 40 | U | ppbv | 40 | 12/19/2012 3:39 AM |
| Toluene | 510 | 40 | | ppbv | 40 | 12/19/2012 3:39 AM |
| trans-1,2-Dichloroethene | ND | 40 | U | ppbv | 40 | 12/19/2012 3:39 AM |
| trans-1,3-dichloropropene | ND | 40 | U | ppbv | 40 | 12/19/2012 3:39 AM |
| Trichloroethene | ND | 40 | U | ppbv | 40 | 12/19/2012 3:39 AM |
| Trichlorofluoromethane | ND | 40 | U | ppbv | 40 | 12/19/2012 3:39 AM |
| Vinyl acetate | ND | 40 | U | ppbv | 40 | 12/19/2012 3:39 AM |
| Vinyl chloride | ND | 40 | U | ppbv | 40 | 12/19/2012 3:39 AM |
| Xylenes, Total | 61 | 120 | J | ppbv | 40 | 12/19/2012 3:39 AM |
| Surr: 4-Bromofluorobenzene | 102 | 70-130 | | %REC | 40 | 12/19/2012 3:39 AM |
| **Mass APH Air** | **Method:** | | | | | **Analyst: RH3** |
| **Air-Phase Petroleum Hydrocarbons** | | | | | | |
| C5-C8 Aliphatic Hydrocarbons | 42,000 | 4,700 | | µg/m³ | 40 | 12/22/2012 12:06 AM |
| C9-C10 Aromatic Hydrocarbons | ND | 5,300 | U | µg/m³ | 40 | 12/22/2012 12:06 AM |
| C9-C12 Aliphatic Hydrocarbons | 1,600 | 7,600 | J | µg/m³ | 40 | 12/22/2012 12:06 AM |
| Surr: 4-Bromofluorobenzene | 95.8 | 70-130 | | %REC | 40 | 12/22/2012 12:06 AM |

# RTI Laboratories - Analytical Report

**WO#: 1212373**

**Date Reported: 1/7/2013**
**Revision v2**

| | | | |
|---|---|---|---|
| **Client:** | Shaw Environmental & Infrastructure, Inc | **Collection Date:** | 12/3/2012 3:40:00 PM |
| **Project:** | Kirtland AFB | | |
| **Lab ID:** | 1212373-033 | **Matrix:** | Air |
| **Client Sample ID:** | VA2157 | | |

| Analysis | Result | RL | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **Noncondensable Gases and Light Hydrocarbons** | | **Method: ASTM-D2504** | | | | **Analyst: cr** |
| Carbon dioxide | 0.047 | 0.10 | J | % v/v | 1 | 12/31/2012 12:36 PM |
| Carbon Monoxide | ND | 0.10 | U | % v/v | 1 | 12/31/2012 12:36 PM |
| Methane | ND | 0.50 | U | % v/v | 1 | 12/31/2012 12:36 PM |
| Nitrogen | 81 | 0.10 | | % v/v | 1 | 12/31/2012 12:36 PM |
| Oxygen | 22 | 0.10 | | % v/v | 1 | 12/31/2012 12:36 PM |
| **Volatile Organic Compounds** | | **Method: TO-15** | | | | **Analyst: RH3** |
| 1,1,1-Trichloroethane | ND | 800 | U | ppbv | 800 | 12/19/2012 4:24 AM |
| 1,1,2,2-Tetrachloroethane | ND | 800 | U | ppbv | 800 | 12/19/2012 4:24 AM |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ND | 800 | U | ppbv | 800 | 12/19/2012 4:24 AM |
| 1,1,2-Trichloroethane | ND | 800 | U | ppbv | 800 | 12/19/2012 4:24 AM |
| 1,1-Dichloroethane | ND | 800 | U | ppbv | 800 | 12/19/2012 4:24 AM |
| 1,1-Dichloroethene | ND | 800 | U | ppbv | 800 | 12/19/2012 4:24 AM |
| 1,2,4-Trichlorobenzene | ND | 800 | U | ppbv | 800 | 12/19/2012 4:24 AM |
| 1,2,4-Trimethylbenzene | ND | 800 | U | ppbv | 800 | 12/19/2012 4:24 AM |
| 1,2-Dibromoethane | ND | 800 | U | ppbv | 800 | 12/19/2012 4:24 AM |
| 1,2-Dichlorobenzene | ND | 800 | U | ppbv | 800 | 12/19/2012 4:24 AM |
| 1,2-Dichloroethane | ND | 800 | U | ppbv | 800 | 12/19/2012 4:24 AM |
| 1,2-Dichloropropane | ND | 800 | U | ppbv | 800 | 12/19/2012 4:24 AM |
| 1,3,5-Trimethylbenzene | ND | 800 | U | ppbv | 800 | 12/19/2012 4:24 AM |
| 1,3-Butadiene | ND | 800 | U | ppbv | 800 | 12/19/2012 4:24 AM |
| 1,3-Dichlorobenzene | ND | 800 | U | ppbv | 800 | 12/19/2012 4:24 AM |
| 1,4-Dichlorobenzene | ND | 800 | U | ppbv | 800 | 12/19/2012 4:24 AM |
| 2-Butanone | ND | 800 | U | ppbv | 800 | 12/19/2012 4:24 AM |
| 2-Hexanone | ND | 800 | U | ppbv | 800 | 12/19/2012 4:24 AM |
| 4-Methyl-2-pentanone | ND | 800 | U | ppbv | 800 | 12/19/2012 4:24 AM |
| Acetone | 3,300 | 800 | | ppbv | 800 | 12/19/2012 4:24 AM |
| Benzene | ND | 800 | U | ppbv | 800 | 12/19/2012 4:24 AM |
| Benzyl chloride | ND | 800 | U | ppbv | 800 | 12/19/2012 4:24 AM |
| Bromodichloromethane | ND | 800 | U | ppbv | 800 | 12/19/2012 4:24 AM |
| Bromoform | ND | 800 | U | ppbv | 800 | 12/19/2012 4:24 AM |
| Bromomethane | ND | 800 | U | ppbv | 800 | 12/19/2012 4:24 AM |
| Carbon disulfide | ND | 800 | U | ppbv | 800 | 12/19/2012 4:24 AM |
| Carbon tetrachloride | ND | 800 | U | ppbv | 800 | 12/19/2012 4:24 AM |
| Chlorobenzene | ND | 800 | U | ppbv | 800 | 12/19/2012 4:24 AM |
| Chlorodibromomethane | ND | 800 | U | ppbv | 800 | 12/19/2012 4:24 AM |
| Chloroethane | ND | 800 | U | ppbv | 800 | 12/19/2012 4:24 AM |
| Chloroform | ND | 800 | U | ppbv | 800 | 12/19/2012 4:24 AM |
| Chloromethane | ND | 800 | U | ppbv | 800 | 12/19/2012 4:24 AM |
| cis-1,2-Dichloroethene | ND | 800 | U | ppbv | 800 | 12/19/2012 4:24 AM |
| cis-1,3-dichloropropene | ND | 800 | U | ppbv | 800 | 12/19/2012 4:24 AM |

# RTI Laboratories - Analytical Report

**WO#: 1212373**

**Date Reported: 1/7/2013**
**Revision v2**

| | | | |
|---|---|---|---|
| **Client:** | Shaw Environmental & Infrastructure, Inc | **Collection Date:** | 12/3/2012 3:40:00 PM |
| **Project:** | Kirtland AFB | | |
| **Lab ID:** | 1212373-033 | **Matrix:** | Air |
| **Client Sample ID:** | VA2157 | | |

| Analysis | Result | RL | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| Cyclohexane | 3,000 | 1,600 | | ppbv | 800 | 12/19/2012 4:24 AM |
| Dichlorodifluoromethane | ND | 800 | U | ppbv | 800 | 12/19/2012 4:24 AM |
| Ethyl acetate | ND | 800 | U | ppbv | 800 | 12/19/2012 4:24 AM |
| Ethylbenzene | ND | 1,600 | U | ppbv | 800 | 12/19/2012 4:24 AM |
| Heptane | ND | 800 | U | ppbv | 800 | 12/19/2012 4:24 AM |
| Hexachlorobutadiene | ND | 1,600 | U | ppbv | 800 | 12/19/2012 4:24 AM |
| m,p-Xylene | ND | 1,600 | U | ppbv | 800 | 12/19/2012 4:24 AM |
| Methylene chloride | 9,900 | 4,000 | | ppbv | 800 | 12/19/2012 4:24 AM |
| n-Hexane | 17,000 | 1,600 | | ppbv | 800 | 12/19/2012 4:24 AM |
| Naphthalene | ND | 800 | U | ppbv | 800 | 12/19/2012 4:24 AM |
| o-Xylene | ND | 800 | U | ppbv | 800 | 12/19/2012 4:24 AM |
| Propylene | 1,500 | 800 | | ppbv | 800 | 12/19/2012 4:24 AM |
| Styrene | ND | 800 | U | ppbv | 800 | 12/19/2012 4:24 AM |
| tert-Butyl Methyl Ether | ND | 800 | U | ppbv | 800 | 12/19/2012 4:24 AM |
| Tetrachloroethene | ND | 800 | U | ppbv | 800 | 12/19/2012 4:24 AM |
| Tetrahydrofuran | ND | 800 | U | ppbv | 800 | 12/19/2012 4:24 AM |
| Toluene | 1,200 | 800 | | ppbv | 800 | 12/19/2012 4:24 AM |
| trans-1,2-Dichloroethene | ND | 800 | U | ppbv | 800 | 12/19/2012 4:24 AM |
| trans-1,3-dichloropropene | ND | 800 | U | ppbv | 800 | 12/19/2012 4:24 AM |
| Trichloroethene | ND | 800 | U | ppbv | 800 | 12/19/2012 4:24 AM |
| Trichlorofluoromethane | ND | 800 | U | ppbv | 800 | 12/19/2012 4:24 AM |
| Vinyl acetate | ND | 800 | U | ppbv | 800 | 12/19/2012 4:24 AM |
| Vinyl chloride | ND | 800 | U | ppbv | 800 | 12/19/2012 4:24 AM |
| Xylenes, Total | ND | 2,400 | U | ppbv | 800 | 12/19/2012 4:24 AM |
| Surr: 4-Bromofluorobenzene | 98.1 | 70-130 | | %REC | 800 | 12/19/2012 4:24 AM |
| **Mass APH Air** | **Method:** | | | | | **Analyst: RH3** |
| **Air-Phase Petroleum Hydrocarbons** | | | | | | |
| C5-C8 Aliphatic Hydrocarbons | 1,600,000 | 190,000 | | µg/m³ | 1600 | 12/28/2012 10:57 PM |
| C9-C10 Aromatic Hydrocarbons | ND | 210,000 | U | µg/m³ | 1600 | 12/28/2012 10:57 PM |
| C9-C12 Aliphatic Hydrocarbons | ND | 300,000 | U | µg/m³ | 1600 | 12/28/2012 10:57 PM |
| Surr: 4-Bromofluorobenzene | 94.3 | 70-130 | | %REC | 1600 | 12/28/2012 10:57 PM |

# RTI Laboratories - Analytical Report

**WO#: 1212373**

**Date Reported: 1/7/2013**
**Revision v2**

| | | | |
|---|---|---|---|
| **Client:** | Shaw Environmental & Infrastructure, Inc | **Collection Date:** | 12/3/2012 4:18:00 PM |
| **Project:** | Kirtland AFB | | |
| **Lab ID:** | 1212373-034 | **Matrix:** | Air |
| **Client Sample ID:** | VA2158 | | |

| Analysis | Result | RL | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **Noncondensable Gases and Light Hydrocarbons** | | **Method: ASTM-D2504** | | | | **Analyst: cr** |
| Carbon dioxide | 0.46 | 0.10 | | % v/v | 1 | 12/31/2012 12:56 PM |
| Carbon Monoxide | ND | 0.10 | U | % v/v | 1 | 12/31/2012 12:56 PM |
| Methane | ND | 0.50 | U | % v/v | 1 | 12/31/2012 12:56 PM |
| Nitrogen | 83 | 0.10 | | % v/v | 1 | 12/31/2012 12:56 PM |
| Oxygen | 20 | 0.10 | | % v/v | 1 | 12/31/2012 12:56 PM |
| **Volatile Organic Compounds** | | **Method: TO-15** | | | | **Analyst: RH3** |
| 1,1,1-Trichloroethane | ND | 800 | U | ppbv | 800 | 12/20/2012 3:26 AM |
| 1,1,2,2-Tetrachloroethane | ND | 800 | U | ppbv | 800 | 12/20/2012 3:26 AM |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ND | 800 | U | ppbv | 800 | 12/20/2012 3:26 AM |
| 1,1,2-Trichloroethane | ND | 800 | U | ppbv | 800 | 12/20/2012 3:26 AM |
| 1,1-Dichloroethane | ND | 800 | U | ppbv | 800 | 12/20/2012 3:26 AM |
| 1,1-Dichloroethene | ND | 800 | U | ppbv | 800 | 12/20/2012 3:26 AM |
| 1,2,4-Trichlorobenzene | ND | 800 | U | ppbv | 800 | 12/20/2012 3:26 AM |
| 1,2,4-Trimethylbenzene | ND | 800 | U | ppbv | 800 | 12/20/2012 3:26 AM |
| 1,2-Dibromoethane | ND | 800 | U | ppbv | 800 | 12/20/2012 3:26 AM |
| 1,2-Dichlorobenzene | ND | 800 | U | ppbv | 800 | 12/20/2012 3:26 AM |
| 1,2-Dichloroethane | ND | 800 | U | ppbv | 800 | 12/20/2012 3:26 AM |
| 1,2-Dichloropropane | ND | 800 | U | ppbv | 800 | 12/20/2012 3:26 AM |
| 1,3,5-Trimethylbenzene | ND | 800 | U | ppbv | 800 | 12/20/2012 3:26 AM |
| 1,3-Butadiene | ND | 800 | U | ppbv | 800 | 12/20/2012 3:26 AM |
| 1,3-Dichlorobenzene | ND | 800 | U | ppbv | 800 | 12/20/2012 3:26 AM |
| 1,4-Dichlorobenzene | ND | 800 | U | ppbv | 800 | 12/20/2012 3:26 AM |
| 2-Butanone | ND | 800 | U | ppbv | 800 | 12/20/2012 3:26 AM |
| 2-Hexanone | ND | 800 | U | ppbv | 800 | 12/20/2012 3:26 AM |
| 4-Methyl-2-pentanone | ND | 800 | U | ppbv | 800 | 12/20/2012 3:26 AM |
| Acetone | 920 | 800 | | ppbv | 800 | 12/20/2012 3:26 AM |
| Benzene | 1,800 | 800 | | ppbv | 800 | 12/20/2012 3:26 AM |
| Benzyl chloride | ND | 800 | U | ppbv | 800 | 12/20/2012 3:26 AM |
| Bromodichloromethane | ND | 800 | U | ppbv | 800 | 12/20/2012 3:26 AM |
| Bromoform | ND | 800 | U | ppbv | 800 | 12/20/2012 3:26 AM |
| Bromomethane | ND | 800 | U | ppbv | 800 | 12/20/2012 3:26 AM |
| Carbon disulfide | ND | 800 | U | ppbv | 800 | 12/20/2012 3:26 AM |
| Carbon tetrachloride | ND | 800 | U | ppbv | 800 | 12/20/2012 3:26 AM |
| Chlorobenzene | ND | 800 | U | ppbv | 800 | 12/20/2012 3:26 AM |
| Chlorodibromomethane | ND | 800 | U | ppbv | 800 | 12/20/2012 3:26 AM |
| Chloroethane | ND | 800 | U | ppbv | 800 | 12/20/2012 3:26 AM |
| Chloroform | ND | 800 | U | ppbv | 800 | 12/20/2012 3:26 AM |
| Chloromethane | ND | 800 | U | ppbv | 800 | 12/20/2012 3:26 AM |
| cis-1,2-Dichloroethene | ND | 800 | U | ppbv | 800 | 12/20/2012 3:26 AM |
| cis-1,3-dichloropropene | ND | 800 | U | ppbv | 800 | 12/20/2012 3:26 AM |

# RTI Laboratories - Analytical Report

**WO#: 1212373**

**Date Reported: 1/7/2013**
**Revision v2**

| | | | |
|---|---|---|---|
| **Client:** | Shaw Environmental & Infrastructure, Inc | **Collection Date:** | 12/3/2012 4:18:00 PM |
| **Project:** | Kirtland AFB | | |
| **Lab ID:** | 1212373-034 | **Matrix:** | Air |
| **Client Sample ID:** | VA2158 | | |

| Analysis | Result | RL | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| Cyclohexane | 15,000 | 1,600 | | ppbv | 800 | 12/20/2012 3:26 AM |
| Dichlorodifluoromethane | ND | 800 | U | ppbv | 800 | 12/20/2012 3:26 AM |
| Ethyl acetate | ND | 800 | U | ppbv | 800 | 12/20/2012 3:26 AM |
| Ethylbenzene | ND | 1,600 | U | ppbv | 800 | 12/20/2012 3:26 AM |
| Heptane | 5,000 | 800 | | ppbv | 800 | 12/20/2012 3:26 AM |
| Hexachlorobutadiene | ND | 1,600 | U | ppbv | 800 | 12/20/2012 3:26 AM |
| m,p-Xylene | 1,600 | 1,600 | | ppbv | 800 | 12/20/2012 3:26 AM |
| Methylene chloride | ND | 4,000 | U | ppbv | 800 | 12/20/2012 3:26 AM |
| n-Hexane | 20,000 | 1,600 | | ppbv | 800 | 12/20/2012 3:26 AM |
| Naphthalene | ND | 800 | U | ppbv | 800 | 12/20/2012 3:26 AM |
| o-Xylene | ND | 800 | U | ppbv | 800 | 12/20/2012 3:26 AM |
| Propylene | ND | 800 | U | ppbv | 800 | 12/20/2012 3:26 AM |
| Styrene | ND | 800 | U | ppbv | 800 | 12/20/2012 3:26 AM |
| tert-Butyl Methyl Ether | ND | 800 | U | ppbv | 800 | 12/20/2012 3:26 AM |
| Tetrachloroethene | ND | 800 | U | ppbv | 800 | 12/20/2012 3:26 AM |
| Tetrahydrofuran | ND | 800 | U | ppbv | 800 | 12/20/2012 3:26 AM |
| Toluene | 8,800 | 800 | | ppbv | 800 | 12/20/2012 3:26 AM |
| trans-1,2-Dichloroethene | ND | 800 | U | ppbv | 800 | 12/20/2012 3:26 AM |
| trans-1,3-dichloropropene | ND | 800 | U | ppbv | 800 | 12/20/2012 3:26 AM |
| Trichloroethene | ND | 800 | U | ppbv | 800 | 12/20/2012 3:26 AM |
| Trichlorofluoromethane | ND | 800 | U | ppbv | 800 | 12/20/2012 3:26 AM |
| Vinyl acetate | ND | 800 | U | ppbv | 800 | 12/20/2012 3:26 AM |
| Vinyl chloride | ND | 800 | U | ppbv | 800 | 12/20/2012 3:26 AM |
| Xylenes, Total | 1,600 | 2,400 | J | ppbv | 800 | 12/20/2012 3:26 AM |
| Surr: 4-Bromofluorobenzene | 103 | 70-130 | | %REC | 800 | 12/20/2012 3:26 AM |
| **Mass APH Air** | | **Method:** | | | | **Analyst: RH3** |
| **Air-Phase Petroleum Hydrocarbons** | | | | | | |
| C5-C8 Aliphatic Hydrocarbons | 27,000,000 | 4,700,000 | | µg/m³ | 40000 | 12/29/2012 12:34 AM |
| C9-C10 Aromatic Hydrocarbons | ND | 5,300,000 | U | µg/m³ | 40000 | 12/29/2012 12:34 AM |
| C9-C12 Aliphatic Hydrocarbons | ND | 7,600,000 | U | µg/m³ | 40000 | 12/29/2012 12:34 AM |
| Surr: 4-Bromofluorobenzene | 95.5 | 70-130 | | %REC | 40000 | 12/29/2012 12:34 AM |

# RTI Laboratories - Analytical Report

**WO#: 1212373**

**Date Reported: 1/7/2013**
**Revision v2**

| | | | |
|---|---|---|---|
| **Client:** | Shaw Environmental & Infrastructure, Inc | **Collection Date:** | 12/3/2012 2:04:00 PM |
| **Project:** | Kirtland AFB | | |
| **Lab ID:** | 1212373-035 | **Matrix:** | Air |
| **Client Sample ID:** | VA2205 | | |

| Analysis | Result | RL | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **Noncondensable Gases and Light Hydrocarbons** | | **Method: ASTM-D2504** | | | | **Analyst: cr** |
| Carbon dioxide | 0.25 | 0.10 | | % v/v | 1 | 12/31/2012 1:31 PM |
| Carbon Monoxide | ND | 0.10 | U | % v/v | 1 | 12/31/2012 1:31 PM |
| Methane | ND | 0.50 | U | % v/v | 1 | 12/31/2012 1:31 PM |
| Nitrogen | 83 | 0.10 | | % v/v | 1 | 12/31/2012 1:31 PM |
| Oxygen | 22 | 0.10 | | % v/v | 1 | 12/31/2012 1:31 PM |
| **Volatile Organic Compounds** | | **Method: TO-15** | | | | **Analyst: RH3** |
| 1,1,1-Trichloroethane | ND | 400 | U | ppbv | 400 | 12/19/2012 10:30 PM |
| 1,1,2,2-Tetrachloroethane | ND | 400 | U | ppbv | 400 | 12/19/2012 10:30 PM |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ND | 400 | U | ppbv | 400 | 12/19/2012 10:30 PM |
| 1,1,2-Trichloroethane | ND | 400 | U | ppbv | 400 | 12/19/2012 10:30 PM |
| 1,1-Dichloroethane | ND | 400 | U | ppbv | 400 | 12/19/2012 10:30 PM |
| 1,1-Dichloroethene | ND | 400 | U | ppbv | 400 | 12/19/2012 10:30 PM |
| 1,2,4-Trichlorobenzene | ND | 400 | U | ppbv | 400 | 12/19/2012 10:30 PM |
| 1,2,4-Trimethylbenzene | ND | 400 | U | ppbv | 400 | 12/19/2012 10:30 PM |
| 1,2-Dibromoethane | ND | 400 | U | ppbv | 400 | 12/19/2012 10:30 PM |
| 1,2-Dichlorobenzene | ND | 400 | U | ppbv | 400 | 12/19/2012 10:30 PM |
| 1,2-Dichloroethane | ND | 400 | U | ppbv | 400 | 12/19/2012 10:30 PM |
| 1,2-Dichloropropane | ND | 400 | U | ppbv | 400 | 12/19/2012 10:30 PM |
| 1,3,5-Trimethylbenzene | ND | 400 | U | ppbv | 400 | 12/19/2012 10:30 PM |
| 1,3-Butadiene | ND | 400 | U | ppbv | 400 | 12/19/2012 10:30 PM |
| 1,3-Dichlorobenzene | ND | 400 | U | ppbv | 400 | 12/19/2012 10:30 PM |
| 1,4-Dichlorobenzene | ND | 400 | U | ppbv | 400 | 12/19/2012 10:30 PM |
| 2-Butanone | 560 | 400 | | ppbv | 400 | 12/19/2012 10:30 PM |
| 2-Hexanone | ND | 400 | U | ppbv | 400 | 12/19/2012 10:30 PM |
| 4-Methyl-2-pentanone | ND | 400 | U | ppbv | 400 | 12/19/2012 10:30 PM |
| Acetone | 3,300 | 400 | | ppbv | 400 | 12/19/2012 10:30 PM |
| Benzene | 3,700 | 400 | | ppbv | 400 | 12/19/2012 10:30 PM |
| Benzyl chloride | ND | 400 | U | ppbv | 400 | 12/19/2012 10:30 PM |
| Bromodichloromethane | ND | 400 | U | ppbv | 400 | 12/19/2012 10:30 PM |
| Bromoform | ND | 400 | U | ppbv | 400 | 12/19/2012 10:30 PM |
| Bromomethane | ND | 400 | U | ppbv | 400 | 12/19/2012 10:30 PM |
| Carbon disulfide | ND | 400 | U | ppbv | 400 | 12/19/2012 10:30 PM |
| Carbon tetrachloride | ND | 400 | U | ppbv | 400 | 12/19/2012 10:30 PM |
| Chlorobenzene | ND | 400 | U | ppbv | 400 | 12/19/2012 10:30 PM |
| Chlorodibromomethane | ND | 400 | U | ppbv | 400 | 12/19/2012 10:30 PM |
| Chloroethane | ND | 400 | U | ppbv | 400 | 12/19/2012 10:30 PM |
| Chloroform | ND | 400 | U | ppbv | 400 | 12/19/2012 10:30 PM |
| Chloromethane | ND | 400 | U | ppbv | 400 | 12/19/2012 10:30 PM |
| cis-1,2-Dichloroethene | ND | 400 | U | ppbv | 400 | 12/19/2012 10:30 PM |
| cis-1,3-dichloropropene | ND | 400 | U | ppbv | 400 | 12/19/2012 10:30 PM |

# RTI Laboratories - Analytical Report

**WO#: 1212373**

**Date Reported: 1/7/2013**
**Revision v2**

| | | | |
|---|---|---|---|
| **Client:** | Shaw Environmental & Infrastructure, Inc | **Collection Date:** | 12/3/2012 2:04:00 PM |
| **Project:** | Kirtland AFB | | |
| **Lab ID:** | 1212373-035 | **Matrix:** | Air |
| **Client Sample ID:** | VA2205 | | |

| Analysis | Result | RL | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| Cyclohexane | 9,200 | 800 | | ppbv | 400 | 12/19/2012 10:30 PM |
| Dichlorodifluoromethane | ND | 400 | U | ppbv | 400 | 12/19/2012 10:30 PM |
| Ethyl acetate | ND | 400 | U | ppbv | 400 | 12/19/2012 10:30 PM |
| Ethylbenzene | 1,500 | 800 | | ppbv | 400 | 12/19/2012 10:30 PM |
| Heptane | 7,700 | 400 | | ppbv | 400 | 12/19/2012 10:30 PM |
| Hexachlorobutadiene | ND | 800 | U | ppbv | 400 | 12/19/2012 10:30 PM |
| m,p-Xylene | 3,700 | 800 | | ppbv | 400 | 12/19/2012 10:30 PM |
| Methylene chloride | 8,200 | 2,000 | | ppbv | 400 | 12/19/2012 10:30 PM |
| n-Hexane | 5,500 | 800 | | ppbv | 400 | 12/19/2012 10:30 PM |
| Naphthalene | ND | 400 | U | ppbv | 400 | 12/19/2012 10:30 PM |
| o-Xylene | 1,200 | 400 | | ppbv | 400 | 12/19/2012 10:30 PM |
| Propylene | ND | 400 | U | ppbv | 400 | 12/19/2012 10:30 PM |
| Styrene | ND | 400 | U | ppbv | 400 | 12/19/2012 10:30 PM |
| tert-Butyl Methyl Ether | ND | 400 | U | ppbv | 400 | 12/19/2012 10:30 PM |
| Tetrachloroethene | ND | 400 | U | ppbv | 400 | 12/19/2012 10:30 PM |
| Tetrahydrofuran | ND | 400 | U | ppbv | 400 | 12/19/2012 10:30 PM |
| Toluene | 13,000 | 400 | | ppbv | 400 | 12/19/2012 10:30 PM |
| trans-1,2-Dichloroethene | ND | 400 | U | ppbv | 400 | 12/19/2012 10:30 PM |
| trans-1,3-dichloropropene | ND | 400 | U | ppbv | 400 | 12/19/2012 10:30 PM |
| Trichloroethene | ND | 400 | U | ppbv | 400 | 12/19/2012 10:30 PM |
| Trichlorofluoromethane | ND | 400 | U | ppbv | 400 | 12/19/2012 10:30 PM |
| Vinyl acetate | ND | 400 | U | ppbv | 400 | 12/19/2012 10:30 PM |
| Vinyl chloride | ND | 400 | U | ppbv | 400 | 12/19/2012 10:30 PM |
| Xylenes, Total | 4,800 | 1,200 | | ppbv | 400 | 12/19/2012 10:30 PM |
| Surr: 4-Bromofluorobenzene | 109 | 70-130 | | %REC | 400 | 12/19/2012 10:30 PM |
| **Mass APH Air** | **Method:** | | | | | **Analyst: RH3** |
| **Air-Phase Petroleum Hydrocarbons** | | | | | | |
| C5-C8 Aliphatic Hydrocarbons | 1,600,000 | 940,000 | | µg/m³ | 8000 | 12/21/2012 12:06 PM |
| C9-C10 Aromatic Hydrocarbons | ND | 1,100,000 | U | µg/m³ | 8000 | 12/21/2012 12:06 PM |
| C9-C12 Aliphatic Hydrocarbons | ND | 1,500,000 | U | µg/m³ | 8000 | 12/21/2012 12:06 PM |
| Surr: 4-Bromofluorobenzene | 97.0 | 70-130 | | %REC | 8000 | 12/21/2012 12:06 PM |

# RTI Laboratories - Analytical Report

**WO#: 1212373**

**Date Reported: 1/7/2013**
**Revision v2**

| | | | |
|---|---|---|---|
| **Client:** | Shaw Environmental & Infrastructure, Inc | **Collection Date:** | 12/3/2012 2:30:00 PM |
| **Project:** | Kirtland AFB | | |
| **Lab ID:** | 1212373-036 | **Matrix:** | Air |
| **Client Sample ID:** | VA2206 | | |

| Analysis | Result | RL | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **Noncondensable Gases and Light Hydrocarbons** | | **Method: ASTM-D2504** | | | | **Analyst: cr** |
| Carbon dioxide | 0.22 | 0.10 | | % v/v | 1 | 12/31/2012 1:52 PM |
| Carbon Monoxide | ND | 0.10 | U | % v/v | 1 | 12/31/2012 1:52 PM |
| Methane | ND | 0.50 | U | % v/v | 1 | 12/31/2012 1:52 PM |
| Nitrogen | 83 | 0.10 | | % v/v | 1 | 12/31/2012 1:52 PM |
| Oxygen | 22 | 0.10 | | % v/v | 1 | 12/31/2012 1:52 PM |
| **Volatile Organic Compounds** | | **Method: TO-15** | | | | **Analyst: RH3** |
| 1,1,1-Trichloroethane | ND | 40 | U | ppbv | 40 | 12/19/2012 11:12 PM |
| 1,1,2,2-Tetrachloroethane | ND | 40 | U | ppbv | 40 | 12/19/2012 11:12 PM |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ND | 40 | U | ppbv | 40 | 12/19/2012 11:12 PM |
| 1,1,2-Trichloroethane | ND | 40 | U | ppbv | 40 | 12/19/2012 11:12 PM |
| 1,1-Dichloroethane | ND | 40 | U | ppbv | 40 | 12/19/2012 11:12 PM |
| 1,1-Dichloroethene | ND | 40 | U | ppbv | 40 | 12/19/2012 11:12 PM |
| 1,2,4-Trichlorobenzene | ND | 40 | U | ppbv | 40 | 12/19/2012 11:12 PM |
| 1,2,4-Trimethylbenzene | 340 | 40 | | ppbv | 40 | 12/19/2012 11:12 PM |
| 1,2-Dibromoethane | 78 | 40 | | ppbv | 40 | 12/19/2012 11:12 PM |
| 1,2-Dichlorobenzene | ND | 40 | U | ppbv | 40 | 12/19/2012 11:12 PM |
| 1,2-Dichloroethane | ND | 40 | U | ppbv | 40 | 12/19/2012 11:12 PM |
| 1,2-Dichloropropane | ND | 40 | U | ppbv | 40 | 12/19/2012 11:12 PM |
| 1,3,5-Trimethylbenzene | 170 | 40 | | ppbv | 40 | 12/19/2012 11:12 PM |
| 1,3-Butadiene | ND | 40 | U | ppbv | 40 | 12/19/2012 11:12 PM |
| 1,3-Dichlorobenzene | ND | 40 | U | ppbv | 40 | 12/19/2012 11:12 PM |
| 1,4-Dichlorobenzene | ND | 40 | U | ppbv | 40 | 12/19/2012 11:12 PM |
| 2-Butanone | 160 | 40 | | ppbv | 40 | 12/19/2012 11:12 PM |
| 2-Hexanone | 93 | 40 | | ppbv | 40 | 12/19/2012 11:12 PM |
| 4-Methyl-2-pentanone | ND | 40 | U | ppbv | 40 | 12/19/2012 11:12 PM |
| Acetone | 96 | 40 | | ppbv | 40 | 12/19/2012 11:12 PM |
| Benzene | 1,500 | 40 | | ppbv | 40 | 12/19/2012 11:12 PM |
| Benzyl chloride | ND | 40 | U | ppbv | 40 | 12/19/2012 11:12 PM |
| Bromodichloromethane | ND | 40 | U | ppbv | 40 | 12/19/2012 11:12 PM |
| Bromoform | ND | 40 | U | ppbv | 40 | 12/19/2012 11:12 PM |
| Bromomethane | ND | 40 | U | ppbv | 40 | 12/19/2012 11:12 PM |
| Carbon disulfide | ND | 40 | U | ppbv | 40 | 12/19/2012 11:12 PM |
| Carbon tetrachloride | ND | 40 | U | ppbv | 40 | 12/19/2012 11:12 PM |
| Chlorobenzene | ND | 40 | U | ppbv | 40 | 12/19/2012 11:12 PM |
| Chlorodibromomethane | ND | 40 | U | ppbv | 40 | 12/19/2012 11:12 PM |
| Chloroethane | ND | 40 | U | ppbv | 40 | 12/19/2012 11:12 PM |
| Chloroform | ND | 40 | U | ppbv | 40 | 12/19/2012 11:12 PM |
| Chloromethane | ND | 40 | U | ppbv | 40 | 12/19/2012 11:12 PM |
| cis-1,2-Dichloroethene | ND | 40 | U | ppbv | 40 | 12/19/2012 11:12 PM |
| cis-1,3-dichloropropene | ND | 40 | U | ppbv | 40 | 12/19/2012 11:12 PM |

# RTI Laboratories - Analytical Report

**WO#: 1212373**

**Date Reported: 1/7/2013**
**Revision v2**

| | | | |
|---|---|---|---|
| **Client:** | Shaw Environmental & Infrastructure, Inc | **Collection Date:** | 12/3/2012 2:30:00 PM |
| **Project:** | Kirtland AFB | | |
| **Lab ID:** | 1212373-036 | **Matrix:** | Air |
| **Client Sample ID:** | VA2206 | | |

| Analysis | Result | RL | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| Cyclohexane | 9,000 | 800 | | ppbv | 400 | 12/21/2012 3:29 PM |
| Dichlorodifluoromethane | ND | 40 | U | ppbv | 40 | 12/19/2012 11:12 PM |
| Ethyl acetate | ND | 40 | U | ppbv | 40 | 12/19/2012 11:12 PM |
| Ethylbenzene | 1,400 | 80 | | ppbv | 40 | 12/19/2012 11:12 PM |
| Heptane | 10,000 | 400 | | ppbv | 400 | 12/21/2012 3:29 PM |
| Hexachlorobutadiene | ND | 80 | U | ppbv | 40 | 12/19/2012 11:12 PM |
| m,p-Xylene | 2,900 | 80 | | ppbv | 40 | 12/19/2012 11:12 PM |
| Methylene chloride | ND | 200 | U | ppbv | 40 | 12/19/2012 11:12 PM |
| n-Hexane | 4,300 | 800 | | ppbv | 400 | 12/21/2012 3:29 PM |
| Naphthalene | ND | 40 | U | ppbv | 40 | 12/19/2012 11:12 PM |
| o-Xylene | 1,200 | 40 | | ppbv | 40 | 12/19/2012 11:12 PM |
| Propylene | ND | 40 | U | ppbv | 40 | 12/19/2012 11:12 PM |
| Styrene | ND | 40 | U | ppbv | 40 | 12/19/2012 11:12 PM |
| tert-Butyl Methyl Ether | ND | 40 | U | ppbv | 40 | 12/19/2012 11:12 PM |
| Tetrachloroethene | ND | 40 | U | ppbv | 40 | 12/19/2012 11:12 PM |
| Tetrahydrofuran | ND | 40 | U | ppbv | 40 | 12/19/2012 11:12 PM |
| Toluene | 15,000 | 400 | | ppbv | 400 | 12/21/2012 3:29 PM |
| trans-1,2-Dichloroethene | ND | 40 | U | ppbv | 40 | 12/19/2012 11:12 PM |
| trans-1,3-dichloropropene | ND | 40 | U | ppbv | 40 | 12/19/2012 11:12 PM |
| Trichloroethene | ND | 40 | U | ppbv | 40 | 12/19/2012 11:12 PM |
| Trichlorofluoromethane | ND | 40 | U | ppbv | 40 | 12/19/2012 11:12 PM |
| Vinyl acetate | ND | 40 | U | ppbv | 40 | 12/19/2012 11:12 PM |
| Vinyl chloride | ND | 40 | U | ppbv | 40 | 12/19/2012 11:12 PM |
| Xylenes, Total | 4,100 | 120 | | ppbv | 40 | 12/19/2012 11:12 PM |
| Surr: 4-Bromofluorobenzene | 157 | 70-130 | S | %REC | 40 | 12/19/2012 11:12 PM |
| **Mass APH Air** | **Method:** | | | | | **Analyst: RH3** |
| **Air-Phase Petroleum Hydrocarbons** | | | | | | |
| C5-C8 Aliphatic Hydrocarbons | 600,000 | 94,000 | | µg/m³ | 800 | 12/21/2012 12:53 PM |
| C9-C10 Aromatic Hydrocarbons | ND | 110,000 | U | µg/m³ | 800 | 12/21/2012 12:53 PM |
| C9-C12 Aliphatic Hydrocarbons | 49,000 | 150,000 | J | µg/m³ | 800 | 12/21/2012 12:53 PM |
| Surr: 4-Bromofluorobenzene | 97.8 | 70-130 | | %REC | 800 | 12/21/2012 12:53 PM |

# RTI Laboratories - Analytical Report

**WO#: 1212373**

**Date Reported: 1/7/2013**
**Revision v2**

| | | | |
|---|---|---|---|
| **Client:** | Shaw Environmental & Infrastructure, Inc | **Collection Date:** | 12/3/2012 2:58:00 PM |
| **Project:** | Kirtland AFB | | |
| **Lab ID:** | 1212373-037 | **Matrix:** | Air |
| **Client Sample ID:** | VA2207 | | |

| Analysis | Result | RL | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **Noncondensable Gases and Light Hydrocarbons** | | **Method: ASTM-D2504** | | | | **Analyst: cr** |
| Carbon dioxide | 0.13 | 0.10 | | % v/v | 1 | 12/31/2012 2:08 PM |
| Carbon Monoxide | ND | 0.10 | U | % v/v | 1 | 12/31/2012 2:08 PM |
| Methane | ND | 0.50 | U | % v/v | 1 | 12/31/2012 2:08 PM |
| Nitrogen | 82 | 0.10 | | % v/v | 1 | 12/31/2012 2:08 PM |
| Oxygen | 21 | 0.10 | | % v/v | 1 | 12/31/2012 2:08 PM |
| **Volatile Organic Compounds** | | **Method: TO-15** | | | | **Analyst: RH3** |
| 1,1,1-Trichloroethane | ND | 40 | U | ppbv | 40 | 12/20/2012 12:35 AM |
| 1,1,2,2-Tetrachloroethane | ND | 40 | U | ppbv | 40 | 12/20/2012 12:35 AM |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ND | 40 | U | ppbv | 40 | 12/20/2012 12:35 AM |
| 1,1,2-Trichloroethane | ND | 40 | U | ppbv | 40 | 12/20/2012 12:35 AM |
| 1,1-Dichloroethane | ND | 40 | U | ppbv | 40 | 12/20/2012 12:35 AM |
| 1,1-Dichloroethene | ND | 40 | U | ppbv | 40 | 12/20/2012 12:35 AM |
| 1,2,4-Trichlorobenzene | ND | 40 | U | ppbv | 40 | 12/20/2012 12:35 AM |
| 1,2,4-Trimethylbenzene | 200 | 40 | | ppbv | 40 | 12/20/2012 12:35 AM |
| 1,2-Dibromoethane | 50 | 40 | | ppbv | 40 | 12/20/2012 12:35 AM |
| 1,2-Dichlorobenzene | ND | 40 | U | ppbv | 40 | 12/20/2012 12:35 AM |
| 1,2-Dichloroethane | ND | 40 | U | ppbv | 40 | 12/20/2012 12:35 AM |
| 1,2-Dichloropropane | ND | 40 | U | ppbv | 40 | 12/20/2012 12:35 AM |
| 1,3,5-Trimethylbenzene | 100 | 40 | | ppbv | 40 | 12/20/2012 12:35 AM |
| 1,3-Butadiene | ND | 40 | U | ppbv | 40 | 12/20/2012 12:35 AM |
| 1,3-Dichlorobenzene | ND | 40 | U | ppbv | 40 | 12/20/2012 12:35 AM |
| 1,4-Dichlorobenzene | ND | 40 | U | ppbv | 40 | 12/20/2012 12:35 AM |
| 2-Butanone | 92 | 40 | | ppbv | 40 | 12/20/2012 12:35 AM |
| 2-Hexanone | 49 | 40 | | ppbv | 40 | 12/20/2012 12:35 AM |
| 4-Methyl-2-pentanone | ND | 40 | U | ppbv | 40 | 12/20/2012 12:35 AM |
| Acetone | 54 | 40 | | ppbv | 40 | 12/20/2012 12:35 AM |
| Benzene | 1,100 | 40 | | ppbv | 40 | 12/20/2012 12:35 AM |
| Benzyl chloride | ND | 40 | U | ppbv | 40 | 12/20/2012 12:35 AM |
| Bromodichloromethane | ND | 40 | U | ppbv | 40 | 12/20/2012 12:35 AM |
| Bromoform | ND | 40 | U | ppbv | 40 | 12/20/2012 12:35 AM |
| Bromomethane | ND | 40 | U | ppbv | 40 | 12/20/2012 12:35 AM |
| Carbon disulfide | ND | 40 | U | ppbv | 40 | 12/20/2012 12:35 AM |
| Carbon tetrachloride | ND | 40 | U | ppbv | 40 | 12/20/2012 12:35 AM |
| Chlorobenzene | ND | 40 | U | ppbv | 40 | 12/20/2012 12:35 AM |
| Chlorodibromomethane | ND | 40 | U | ppbv | 40 | 12/20/2012 12:35 AM |
| Chloroethane | ND | 40 | U | ppbv | 40 | 12/20/2012 12:35 AM |
| Chloroform | ND | 40 | U | ppbv | 40 | 12/20/2012 12:35 AM |
| Chloromethane | ND | 40 | U | ppbv | 40 | 12/20/2012 12:35 AM |
| cis-1,2-Dichloroethene | ND | 40 | U | ppbv | 40 | 12/20/2012 12:35 AM |
| cis-1,3-dichloropropene | ND | 40 | U | ppbv | 40 | 12/20/2012 12:35 AM |

# RTI Laboratories - Analytical Report

**WO#: 1212373**

**Date Reported: 1/7/2013**
**Revision v2**

| | | | |
|---|---|---|---|
| **Client:** | Shaw Environmental & Infrastructure, Inc | **Collection Date:** | 12/3/2012 2:58:00 PM |
| **Project:** | Kirtland AFB | | |
| **Lab ID:** | 1212373-037 | **Matrix:** | Air |
| **Client Sample ID:** | VA2207 | | |

| Analysis | Result | RL | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| Cyclohexane | 2,000 | 80 | | ppbv | 40 | 12/20/2012 12:35 AM |
| Dichlorodifluoromethane | ND | 40 | U | ppbv | 40 | 12/20/2012 12:35 AM |
| Ethyl acetate | ND | 40 | U | ppbv | 40 | 12/20/2012 12:35 AM |
| Ethylbenzene | 940 | 80 | | ppbv | 40 | 12/20/2012 12:35 AM |
| Heptane | 1,500 | 40 | | ppbv | 40 | 12/20/2012 12:35 AM |
| Hexachlorobutadiene | ND | 80 | U | ppbv | 40 | 12/20/2012 12:35 AM |
| m,p-Xylene | 2,000 | 80 | | ppbv | 40 | 12/20/2012 12:35 AM |
| Methylene chloride | ND | 200 | U | ppbv | 40 | 12/20/2012 12:35 AM |
| n-Hexane | 1,600 | 80 | | ppbv | 40 | 12/20/2012 12:35 AM |
| Naphthalene | ND | 40 | U | ppbv | 40 | 12/20/2012 12:35 AM |
| o-Xylene | 790 | 40 | | ppbv | 40 | 12/20/2012 12:35 AM |
| Propylene | ND | 40 | U | ppbv | 40 | 12/20/2012 12:35 AM |
| Styrene | ND | 40 | U | ppbv | 40 | 12/20/2012 12:35 AM |
| tert-Butyl Methyl Ether | ND | 40 | U | ppbv | 40 | 12/20/2012 12:35 AM |
| Tetrachloroethene | ND | 40 | U | ppbv | 40 | 12/20/2012 12:35 AM |
| Tetrahydrofuran | ND | 40 | U | ppbv | 40 | 12/20/2012 12:35 AM |
| Toluene | 10,000 | 400 | | ppbv | 400 | 12/21/2012 4:18 PM |
| trans-1,2-Dichloroethene | ND | 40 | U | ppbv | 40 | 12/20/2012 12:35 AM |
| trans-1,3-dichloropropene | ND | 40 | U | ppbv | 40 | 12/20/2012 12:35 AM |
| Trichloroethene | ND | 40 | U | ppbv | 40 | 12/20/2012 12:35 AM |
| Trichlorofluoromethane | ND | 40 | U | ppbv | 40 | 12/20/2012 12:35 AM |
| Vinyl acetate | ND | 40 | U | ppbv | 40 | 12/20/2012 12:35 AM |
| Vinyl chloride | ND | 40 | U | ppbv | 40 | 12/20/2012 12:35 AM |
| Xylenes, Total | 2,800 | 120 | | ppbv | 40 | 12/20/2012 12:35 AM |
| Surr: 4-Bromofluorobenzene | 143 | 70-130 | S | %REC | 40 | 12/20/2012 12:35 AM |
| **Mass APH Air** | **Method:** | | | | | **Analyst: RH3** |
| **Air-Phase Petroleum Hydrocarbons** | | | | | | |
| C5-C8 Aliphatic Hydrocarbons | 410,000 | 94,000 | | µg/m³ | 800 | 12/21/2012 2:27 PM |
| C9-C10 Aromatic Hydrocarbons | ND | 110,000 | U | µg/m³ | 800 | 12/21/2012 2:27 PM |
| C9-C12 Aliphatic Hydrocarbons | 54,000 | 150,000 | J | µg/m³ | 800 | 12/21/2012 2:27 PM |
| Surr: 4-Bromofluorobenzene | 96.6 | 70-130 | | %REC | 800 | 12/21/2012 2:27 PM |

# RTI Laboratories - Analytical Report

**WO#: 1212373**

**Date Reported: 1/7/2013**
**Revision v2**

| | | | |
|---|---|---|---|
| **Client:** | Shaw Environmental & Infrastructure, Inc | **Collection Date:** | 12/3/2012 3:30:00 PM |
| **Project:** | Kirtland AFB | | |
| **Lab ID:** | 1212373-038 | **Matrix:** | Air |
| **Client Sample ID:** | VA2208 | | |

| Analysis | Result | RL | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **Noncondensable Gases and Light Hydrocarbons** | | **Method: ASTM-D2504** | | | | **Analyst: cr** |
| Carbon dioxide | 0.17 | 0.10 | | % v/v | 1 | 12/31/2012 2:29 PM |
| Carbon Monoxide | ND | 0.10 | U | % v/v | 1 | 12/31/2012 2:29 PM |
| Methane | ND | 0.50 | U | % v/v | 1 | 12/31/2012 2:29 PM |
| Nitrogen | 83 | 0.10 | | % v/v | 1 | 12/31/2012 2:29 PM |
| Oxygen | 21 | 0.10 | | % v/v | 1 | 12/31/2012 2:29 PM |
| **Volatile Organic Compounds** | | **Method: TO-15** | | | | **Analyst: RH3** |
| 1,1,1-Trichloroethane | ND | 40 | U | ppbv | 40 | 12/20/2012 1:17 AM |
| 1,1,2,2-Tetrachloroethane | 58 | 40 | | ppbv | 40 | 12/20/2012 1:17 AM |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ND | 40 | U | ppbv | 40 | 12/20/2012 1:17 AM |
| 1,1,2-Trichloroethane | ND | 40 | U | ppbv | 40 | 12/20/2012 1:17 AM |
| 1,1-Dichloroethane | ND | 40 | U | ppbv | 40 | 12/20/2012 1:17 AM |
| 1,1-Dichloroethene | ND | 40 | U | ppbv | 40 | 12/20/2012 1:17 AM |
| 1,2,4-Trichlorobenzene | ND | 40 | U | ppbv | 40 | 12/20/2012 1:17 AM |
| 1,2,4-Trimethylbenzene | 290 | 40 | | ppbv | 40 | 12/20/2012 1:17 AM |
| 1,2-Dibromoethane | 57 | 40 | | ppbv | 40 | 12/20/2012 1:17 AM |
| 1,2-Dichlorobenzene | ND | 40 | U | ppbv | 40 | 12/20/2012 1:17 AM |
| 1,2-Dichloroethane | ND | 40 | U | ppbv | 40 | 12/20/2012 1:17 AM |
| 1,2-Dichloropropane | ND | 40 | U | ppbv | 40 | 12/20/2012 1:17 AM |
| 1,3,5-Trimethylbenzene | 140 | 40 | | ppbv | 40 | 12/20/2012 1:17 AM |
| 1,3-Butadiene | ND | 40 | U | ppbv | 40 | 12/20/2012 1:17 AM |
| 1,3-Dichlorobenzene | ND | 40 | U | ppbv | 40 | 12/20/2012 1:17 AM |
| 1,4-Dichlorobenzene | ND | 40 | U | ppbv | 40 | 12/20/2012 1:17 AM |
| 2-Butanone | 78 | 40 | | ppbv | 40 | 12/20/2012 1:17 AM |
| 2-Hexanone | 54 | 40 | | ppbv | 40 | 12/20/2012 1:17 AM |
| 4-Methyl-2-pentanone | ND | 40 | U | ppbv | 40 | 12/20/2012 1:17 AM |
| Acetone | 47 | 40 | | ppbv | 40 | 12/20/2012 1:17 AM |
| Benzene | 1,000 | 40 | | ppbv | 40 | 12/20/2012 1:17 AM |
| Benzyl chloride | ND | 40 | U | ppbv | 40 | 12/20/2012 1:17 AM |
| Bromodichloromethane | ND | 40 | U | ppbv | 40 | 12/20/2012 1:17 AM |
| Bromoform | ND | 40 | U | ppbv | 40 | 12/20/2012 1:17 AM |
| Bromomethane | ND | 40 | U | ppbv | 40 | 12/20/2012 1:17 AM |
| Carbon disulfide | ND | 40 | U | ppbv | 40 | 12/20/2012 1:17 AM |
| Carbon tetrachloride | ND | 40 | U | ppbv | 40 | 12/20/2012 1:17 AM |
| Chlorobenzene | ND | 40 | U | ppbv | 40 | 12/20/2012 1:17 AM |
| Chlorodibromomethane | ND | 40 | U | ppbv | 40 | 12/20/2012 1:17 AM |
| Chloroethane | ND | 40 | U | ppbv | 40 | 12/20/2012 1:17 AM |
| Chloroform | ND | 40 | U | ppbv | 40 | 12/20/2012 1:17 AM |
| Chloromethane | ND | 40 | U | ppbv | 40 | 12/20/2012 1:17 AM |
| cis-1,2-Dichloroethene | ND | 40 | U | ppbv | 40 | 12/20/2012 1:17 AM |
| cis-1,3-dichloropropene | ND | 40 | U | ppbv | 40 | 12/20/2012 1:17 AM |

# RTI Laboratories - Analytical Report

**WO#: 1212373**

**Date Reported: 1/7/2013**
**Revision v2**

| | | | |
|---|---|---|---|
| **Client:** | Shaw Environmental & Infrastructure, Inc | **Collection Date:** | 12/3/2012 3:30:00 PM |
| **Project:** | Kirtland AFB | | |
| **Lab ID:** | 1212373-038 | **Matrix:** | Air |
| **Client Sample ID:** | VA2208 | | |

| Analysis | Result | RL | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| Cyclohexane | 7,000 | 800 | | ppbv | 400 | 12/21/2012 5:07 PM |
| Dichlorodifluoromethane | ND | 40 | U | ppbv | 40 | 12/20/2012 1:17 AM |
| Ethyl acetate | ND | 40 | U | ppbv | 40 | 12/20/2012 1:17 AM |
| Ethylbenzene | 1,100 | 80 | | ppbv | 40 | 12/20/2012 1:17 AM |
| Heptane | 1,700 | 40 | | ppbv | 40 | 12/20/2012 1:17 AM |
| Hexachlorobutadiene | ND | 80 | U | ppbv | 40 | 12/20/2012 1:17 AM |
| m,p-Xylene | 2,300 | 80 | | ppbv | 40 | 12/20/2012 1:17 AM |
| Methylene chloride | ND | 200 | U | ppbv | 40 | 12/20/2012 1:17 AM |
| n-Hexane | 1,600 | 80 | | ppbv | 40 | 12/20/2012 1:17 AM |
| Naphthalene | ND | 40 | U | ppbv | 40 | 12/20/2012 1:17 AM |
| o-Xylene | 960 | 40 | | ppbv | 40 | 12/20/2012 1:17 AM |
| Propylene | ND | 40 | U | ppbv | 40 | 12/20/2012 1:17 AM |
| Styrene | ND | 40 | U | ppbv | 40 | 12/20/2012 1:17 AM |
| tert-Butyl Methyl Ether | ND | 40 | U | ppbv | 40 | 12/20/2012 1:17 AM |
| Tetrachloroethene | ND | 40 | U | ppbv | 40 | 12/20/2012 1:17 AM |
| Tetrahydrofuran | ND | 40 | U | ppbv | 40 | 12/20/2012 1:17 AM |
| Toluene | 14,000 | 400 | | ppbv | 400 | 12/21/2012 5:07 PM |
| trans-1,2-Dichloroethene | ND | 40 | U | ppbv | 40 | 12/20/2012 1:17 AM |
| trans-1,3-dichloropropene | ND | 40 | U | ppbv | 40 | 12/20/2012 1:17 AM |
| Trichloroethene | ND | 40 | U | ppbv | 40 | 12/20/2012 1:17 AM |
| Trichlorofluoromethane | ND | 40 | U | ppbv | 40 | 12/20/2012 1:17 AM |
| Vinyl acetate | ND | 40 | U | ppbv | 40 | 12/20/2012 1:17 AM |
| Vinyl chloride | ND | 40 | U | ppbv | 40 | 12/20/2012 1:17 AM |
| Xylenes, Total | 3,300 | 120 | | ppbv | 40 | 12/20/2012 1:17 AM |
| Surr: 4-Bromofluorobenzene | 149 | 70-130 | S | %REC | 40 | 12/20/2012 1:17 AM |
| **Mass APH Air** | **Method:** | | | | | **Analyst: RH3** |
| **Air-Phase Petroleum Hydrocarbons** | | | | | | |
| C5-C8 Aliphatic Hydrocarbons | 430,000 | 94,000 | | µg/m³ | 800 | 12/21/2012 5:38 PM |
| C9-C10 Aromatic Hydrocarbons | ND | 110,000 | U | µg/m³ | 800 | 12/21/2012 5:38 PM |
| C9-C12 Aliphatic Hydrocarbons | 69,000 | 150,000 | J | µg/m³ | 800 | 12/21/2012 5:38 PM |
| Surr: 4-Bromofluorobenzene | 100 | 70-130 | | %REC | 800 | 12/21/2012 5:38 PM |

# RTI Laboratories - Analytical Report

**WO#: 1212373**

**Date Reported: 1/7/2013**
**Revision v2**

| | | | |
|---|---|---|---|
| **Client:** | Shaw Environmental & Infrastructure, Inc | **Collection Date:** | 12/3/2012 3:30:00 PM |
| **Project:** | Kirtland AFB | | |
| **Lab ID:** | 1212373-039 | **Matrix:** | Air |
| **Client Sample ID:** | VA2209 | | |

| Analysis | Result | RL | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **Noncondensable Gases and Light Hydrocarbons** | | **Method: ASTM-D2504** | | | | **Analyst: cr** |
| Carbon dioxide | 0.11 | 0.10 | m | % v/v | 1 | 12/31/2012 2:43 PM |
| Carbon Monoxide | ND | 0.10 | U | % v/v | 1 | 12/31/2012 2:43 PM |
| Methane | ND | 0.50 | U | % v/v | 1 | 12/31/2012 2:43 PM |
| Nitrogen | 82 | 0.10 | | % v/v | 1 | 12/31/2012 2:43 PM |
| Oxygen | 22 | 0.10 | | % v/v | 1 | 12/31/2012 2:43 PM |
| **Volatile Organic Compounds** | | **Method: TO-15** | | | | **Analyst: RH3** |
| 1,1,1-Trichloroethane | ND | 40 | U | ppbv | 40 | 12/20/2012 1:59 AM |
| 1,1,2,2-Tetrachloroethane | ND | 40 | U | ppbv | 40 | 12/20/2012 1:59 AM |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ND | 40 | U | ppbv | 40 | 12/20/2012 1:59 AM |
| 1,1,2-Trichloroethane | ND | 40 | U | ppbv | 40 | 12/20/2012 1:59 AM |
| 1,1-Dichloroethane | ND | 40 | U | ppbv | 40 | 12/20/2012 1:59 AM |
| 1,1-Dichloroethene | ND | 40 | U | ppbv | 40 | 12/20/2012 1:59 AM |
| 1,2,4-Trichlorobenzene | ND | 40 | U | ppbv | 40 | 12/20/2012 1:59 AM |
| 1,2,4-Trimethylbenzene | 350 | 40 | | ppbv | 40 | 12/20/2012 1:59 AM |
| 1,2-Dibromoethane | 80 | 40 | | ppbv | 40 | 12/20/2012 1:59 AM |
| 1,2-Dichlorobenzene | ND | 40 | U | ppbv | 40 | 12/20/2012 1:59 AM |
| 1,2-Dichloroethane | ND | 40 | U | ppbv | 40 | 12/20/2012 1:59 AM |
| 1,2-Dichloropropane | ND | 40 | U | ppbv | 40 | 12/20/2012 1:59 AM |
| 1,3,5-Trimethylbenzene | 180 | 40 | | ppbv | 40 | 12/20/2012 1:59 AM |
| 1,3-Butadiene | ND | 40 | U | ppbv | 40 | 12/20/2012 1:59 AM |
| 1,3-Dichlorobenzene | ND | 40 | U | ppbv | 40 | 12/20/2012 1:59 AM |
| 1,4-Dichlorobenzene | ND | 40 | U | ppbv | 40 | 12/20/2012 1:59 AM |
| 2-Butanone | 120 | 40 | | ppbv | 40 | 12/20/2012 1:59 AM |
| 2-Hexanone | 86 | 40 | | ppbv | 40 | 12/20/2012 1:59 AM |
| 4-Methyl-2-pentanone | 50 | 40 | | ppbv | 40 | 12/20/2012 1:59 AM |
| Acetone | 67 | 40 | | ppbv | 40 | 12/20/2012 1:59 AM |
| Benzene | 1,300 | 40 | | ppbv | 40 | 12/20/2012 1:59 AM |
| Benzyl chloride | ND | 40 | U | ppbv | 40 | 12/20/2012 1:59 AM |
| Bromodichloromethane | ND | 40 | U | ppbv | 40 | 12/20/2012 1:59 AM |
| Bromoform | ND | 40 | U | ppbv | 40 | 12/20/2012 1:59 AM |
| Bromomethane | ND | 40 | U | ppbv | 40 | 12/20/2012 1:59 AM |
| Carbon disulfide | ND | 40 | U | ppbv | 40 | 12/20/2012 1:59 AM |
| Carbon tetrachloride | ND | 40 | U | ppbv | 40 | 12/20/2012 1:59 AM |
| Chlorobenzene | ND | 40 | U | ppbv | 40 | 12/20/2012 1:59 AM |
| Chlorodibromomethane | ND | 40 | U | ppbv | 40 | 12/20/2012 1:59 AM |
| Chloroethane | ND | 40 | U | ppbv | 40 | 12/20/2012 1:59 AM |
| Chloroform | ND | 40 | U | ppbv | 40 | 12/20/2012 1:59 AM |
| Chloromethane | ND | 40 | U | ppbv | 40 | 12/20/2012 1:59 AM |
| cis-1,2-Dichloroethene | ND | 40 | U | ppbv | 40 | 12/20/2012 1:59 AM |
| cis-1,3-dichloropropene | ND | 40 | U | ppbv | 40 | 12/20/2012 1:59 AM |

# RTI Laboratories - Analytical Report

**WO#: 1212373**

**Date Reported: 1/7/2013**
**Revision v2**

| | | | |
|---|---|---|---|
| **Client:** | Shaw Environmental & Infrastructure, Inc | **Collection Date:** | 12/3/2012 3:30:00 PM |
| **Project:** | Kirtland AFB | | |
| **Lab ID:** | 1212373-039 | **Matrix:** | Air |
| **Client Sample ID:** | VA2209 | | |

| Analysis | Result | RL | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| Cyclohexane | 10,000 | 800 | | ppbv | 400 | 12/21/2012 5:55 PM |
| Dichlorodifluoromethane | ND | 40 | U | ppbv | 40 | 12/20/2012 1:59 AM |
| Ethyl acetate | ND | 40 | U | ppbv | 40 | 12/20/2012 1:59 AM |
| Ethylbenzene | 1,500 | 80 | | ppbv | 40 | 12/20/2012 1:59 AM |
| Heptane | 12,000 | 400 | | ppbv | 400 | 12/21/2012 5:55 PM |
| Hexachlorobutadiene | ND | 80 | U | ppbv | 40 | 12/20/2012 1:59 AM |
| m,p-Xylene | 3,000 | 80 | | ppbv | 40 | 12/20/2012 1:59 AM |
| Methylene chloride | ND | 200 | U | ppbv | 40 | 12/20/2012 1:59 AM |
| n-Hexane | 5,300 | 800 | | ppbv | 400 | 12/21/2012 5:55 PM |
| Naphthalene | ND | 40 | U | ppbv | 40 | 12/20/2012 1:59 AM |
| o-Xylene | 1,300 | 40 | | ppbv | 40 | 12/20/2012 1:59 AM |
| Propylene | ND | 40 | U | ppbv | 40 | 12/20/2012 1:59 AM |
| Styrene | ND | 40 | U | ppbv | 40 | 12/20/2012 1:59 AM |
| tert-Butyl Methyl Ether | ND | 40 | U | ppbv | 40 | 12/20/2012 1:59 AM |
| Tetrachloroethene | ND | 40 | U | ppbv | 40 | 12/20/2012 1:59 AM |
| Tetrahydrofuran | ND | 40 | U | ppbv | 40 | 12/20/2012 1:59 AM |
| Toluene | 18,000 | 400 | | ppbv | 400 | 12/21/2012 5:55 PM |
| trans-1,2-Dichloroethene | ND | 40 | U | ppbv | 40 | 12/20/2012 1:59 AM |
| trans-1,3-dichloropropene | ND | 40 | U | ppbv | 40 | 12/20/2012 1:59 AM |
| Trichloroethene | ND | 40 | U | ppbv | 40 | 12/20/2012 1:59 AM |
| Trichlorofluoromethane | ND | 40 | U | ppbv | 40 | 12/20/2012 1:59 AM |
| Vinyl acetate | ND | 40 | U | ppbv | 40 | 12/20/2012 1:59 AM |
| Vinyl chloride | ND | 40 | U | ppbv | 40 | 12/20/2012 1:59 AM |
| Xylenes, Total | 4,200 | 120 | | ppbv | 40 | 12/20/2012 1:59 AM |
| Surr: 4-Bromofluorobenzene | 155 | 70-130 | S | %REC | 40 | 12/20/2012 1:59 AM |
| **Mass APH Air** | **Method:** | | | | | **Analyst: RH3** |
| **Air-Phase Petroleum Hydrocarbons** | | | | | | |
| C5-C8 Aliphatic Hydrocarbons | 610,000 | 94,000 | | µg/m³ | 800 | 12/21/2012 6:27 PM |
| C9-C10 Aromatic Hydrocarbons | ND | 110,000 | U | µg/m³ | 800 | 12/21/2012 6:27 PM |
| C9-C12 Aliphatic Hydrocarbons | 110,000 | 150,000 | J | µg/m³ | 800 | 12/21/2012 6:27 PM |
| Surr: 4-Bromofluorobenzene | 102 | 70-130 | | %REC | 800 | 12/21/2012 6:27 PM |

# RTI Laboratories - Analytical Report

**WO#: 1212373**

**Date Reported: 1/7/2013**
**Revision v2**

| | | | |
|---|---|---|---|
| **Client:** | Shaw Environmental & Infrastructure, Inc | **Collection Date:** | 12/3/2012 4:13:00 PM |
| **Project:** | Kirtland AFB | | |
| **Lab ID:** | 1212373-040 | **Matrix:** | Air |
| **Client Sample ID:** | VA2210 | | |

| Analysis | Result | RL | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **Noncondensable Gases and Light Hydrocarbons** | | **Method: ASTM-D2504** | | | | **Analyst: cr** |
| Carbon dioxide | 0.19 | 0.10 | | % v/v | 1 | 12/31/2012 3:05 PM |
| Carbon Monoxide | ND | 0.10 | U | % v/v | 1 | 12/31/2012 3:05 PM |
| Methane | ND | 0.50 | U | % v/v | 1 | 12/31/2012 3:05 PM |
| Nitrogen | 82 | 0.10 | | % v/v | 1 | 12/31/2012 3:05 PM |
| Oxygen | 22 | 0.10 | | % v/v | 1 | 12/31/2012 3:05 PM |
| **Volatile Organic Compounds** | | **Method: TO-15** | | | | **Analyst: RH3** |
| 1,1,1-Trichloroethane | ND | 40 | U | ppbv | 40 | 12/20/2012 2:41 AM |
| 1,1,2,2-Tetrachloroethane | ND | 40 | U | ppbv | 40 | 12/20/2012 2:41 AM |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ND | 40 | U | ppbv | 40 | 12/20/2012 2:41 AM |
| 1,1,2-Trichloroethane | ND | 40 | U | ppbv | 40 | 12/20/2012 2:41 AM |
| 1,1-Dichloroethane | ND | 40 | U | ppbv | 40 | 12/20/2012 2:41 AM |
| 1,1-Dichloroethene | ND | 40 | U | ppbv | 40 | 12/20/2012 2:41 AM |
| 1,2,4-Trichlorobenzene | ND | 40 | U | ppbv | 40 | 12/20/2012 2:41 AM |
| 1,2,4-Trimethylbenzene | 170 | 40 | | ppbv | 40 | 12/20/2012 2:41 AM |
| 1,2-Dibromoethane | ND | 40 | U | ppbv | 40 | 12/20/2012 2:41 AM |
| 1,2-Dichlorobenzene | ND | 40 | U | ppbv | 40 | 12/20/2012 2:41 AM |
| 1,2-Dichloroethane | ND | 40 | U | ppbv | 40 | 12/20/2012 2:41 AM |
| 1,2-Dichloropropane | ND | 40 | U | ppbv | 40 | 12/20/2012 2:41 AM |
| 1,3,5-Trimethylbenzene | 80 | 40 | | ppbv | 40 | 12/20/2012 2:41 AM |
| 1,3-Butadiene | ND | 40 | U | ppbv | 40 | 12/20/2012 2:41 AM |
| 1,3-Dichlorobenzene | ND | 40 | U | ppbv | 40 | 12/20/2012 2:41 AM |
| 1,4-Dichlorobenzene | ND | 40 | U | ppbv | 40 | 12/20/2012 2:41 AM |
| 2-Butanone | ND | 40 | U | ppbv | 40 | 12/20/2012 2:41 AM |
| 2-Hexanone | ND | 40 | U | ppbv | 40 | 12/20/2012 2:41 AM |
| 4-Methyl-2-pentanone | ND | 40 | U | ppbv | 40 | 12/20/2012 2:41 AM |
| Acetone | ND | 40 | U | ppbv | 40 | 12/20/2012 2:41 AM |
| Benzene | 630 | 40 | | ppbv | 40 | 12/20/2012 2:41 AM |
| Benzyl chloride | ND | 40 | U | ppbv | 40 | 12/20/2012 2:41 AM |
| Bromodichloromethane | ND | 40 | U | ppbv | 40 | 12/20/2012 2:41 AM |
| Bromoform | ND | 40 | U | ppbv | 40 | 12/20/2012 2:41 AM |
| Bromomethane | ND | 40 | U | ppbv | 40 | 12/20/2012 2:41 AM |
| Carbon disulfide | ND | 40 | U | ppbv | 40 | 12/20/2012 2:41 AM |
| Carbon tetrachloride | ND | 40 | U | ppbv | 40 | 12/20/2012 2:41 AM |
| Chlorobenzene | ND | 40 | U | ppbv | 40 | 12/20/2012 2:41 AM |
| Chlorodibromomethane | ND | 40 | U | ppbv | 40 | 12/20/2012 2:41 AM |
| Chloroethane | ND | 40 | U | ppbv | 40 | 12/20/2012 2:41 AM |
| Chloroform | ND | 40 | U | ppbv | 40 | 12/20/2012 2:41 AM |
| Chloromethane | ND | 40 | U | ppbv | 40 | 12/20/2012 2:41 AM |
| cis-1,2-Dichloroethene | ND | 40 | U | ppbv | 40 | 12/20/2012 2:41 AM |
| cis-1,3-dichloropropene | ND | 40 | U | ppbv | 40 | 12/20/2012 2:41 AM |

# RTI Laboratories - Analytical Report

**WO#: 1212373**

**Date Reported: 1/7/2013**
**Revision v2**

| | | | |
|---|---|---|---|
| **Client:** | Shaw Environmental & Infrastructure, Inc | **Collection Date:** | 12/3/2012 4:13:00 PM |
| **Project:** | Kirtland AFB | | |
| **Lab ID:** | 1212373-040 | **Matrix:** | Air |
| **Client Sample ID:** | VA2210 | | |

| Analysis | Result | RL | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| Cyclohexane | 1,400 | 80 | | ppbv | 40 | 12/20/2012 2:41 AM |
| Dichlorodifluoromethane | ND | 40 | U | ppbv | 40 | 12/20/2012 2:41 AM |
| Ethyl acetate | ND | 40 | U | ppbv | 40 | 12/20/2012 2:41 AM |
| Ethylbenzene | 650 | 80 | | ppbv | 40 | 12/20/2012 2:41 AM |
| Heptane | 1,100 | 40 | | ppbv | 40 | 12/20/2012 2:41 AM |
| Hexachlorobutadiene | ND | 80 | U | ppbv | 40 | 12/20/2012 2:41 AM |
| m,p-Xylene | 1,500 | 80 | | ppbv | 40 | 12/20/2012 2:41 AM |
| Methylene chloride | ND | 200 | U | ppbv | 40 | 12/20/2012 2:41 AM |
| n-Hexane | 810 | 80 | | ppbv | 40 | 12/20/2012 2:41 AM |
| Naphthalene | ND | 40 | U | ppbv | 40 | 12/20/2012 2:41 AM |
| o-Xylene | 560 | 40 | | ppbv | 40 | 12/20/2012 2:41 AM |
| Propylene | ND | 40 | U | ppbv | 40 | 12/20/2012 2:41 AM |
| Styrene | ND | 40 | U | ppbv | 40 | 12/20/2012 2:41 AM |
| tert-Butyl Methyl Ether | ND | 40 | U | ppbv | 40 | 12/20/2012 2:41 AM |
| Tetrachloroethene | ND | 40 | U | ppbv | 40 | 12/20/2012 2:41 AM |
| Tetrahydrofuran | ND | 40 | U | ppbv | 40 | 12/20/2012 2:41 AM |
| Toluene | 10,000 | 400 | | ppbv | 400 | 12/21/2012 6:43 PM |
| trans-1,2-Dichloroethene | ND | 40 | U | ppbv | 40 | 12/20/2012 2:41 AM |
| trans-1,3-dichloropropene | ND | 40 | U | ppbv | 40 | 12/20/2012 2:41 AM |
| Trichloroethene | ND | 40 | U | ppbv | 40 | 12/20/2012 2:41 AM |
| Trichlorofluoromethane | ND | 40 | U | ppbv | 40 | 12/20/2012 2:41 AM |
| Vinyl acetate | ND | 40 | U | ppbv | 40 | 12/20/2012 2:41 AM |
| Vinyl chloride | ND | 40 | U | ppbv | 40 | 12/20/2012 2:41 AM |
| Xylenes, Total | 2,000 | 120 | | ppbv | 40 | 12/20/2012 2:41 AM |
| Surr: 4-Bromofluorobenzene | 135 | 70-130 | S | %REC | 40 | 12/20/2012 2:41 AM |
| **Mass APH Air** | **Method:** | | | | | **Analyst: RH3** |
| **Air-Phase Petroleum Hydrocarbons** | | | | | | |
| C5-C8 Aliphatic Hydrocarbons | 580,000 | 94,000 | | µg/m³ | 800 | 12/21/2012 8:50 PM |
| C9-C10 Aromatic Hydrocarbons | ND | 110,000 | U | µg/m³ | 800 | 12/21/2012 8:50 PM |
| C9-C12 Aliphatic Hydrocarbons | 25,000 | 150,000 | J | µg/m³ | 800 | 12/21/2012 8:50 PM |
| Surr: 4-Bromofluorobenzene | 98.2 | 70-130 | | %REC | 800 | 12/21/2012 8:50 PM |

# RTI Laboratories - Analytical Report

**WO#: 1212373**

**Date Reported: 1/7/2013**
**Revision v2**

| | | | |
|---|---|---|---|
| **Client:** | Shaw Environmental & Infrastructure, Inc | **Collection Date:** | 12/4/2012 8:45:00 AM |
| **Project:** | Kirtland AFB | | |
| **Lab ID:** | 1212373-041 | **Matrix:** | Air |
| **Client Sample ID:** | VA2211 | | |

| Analysis | Result | RL | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **Noncondensable Gases and Light Hydrocarbons** | | **Method: ASTM-D2504** | | | | **Analyst: cr** |
| Carbon dioxide | 0.27 | 0.10 | | % v/v | 1 | 12/28/2012 12:46 PM |
| Carbon Monoxide | ND | 0.10 | U | % v/v | 1 | 12/28/2012 12:46 PM |
| Methane | ND | 0.50 | U | % v/v | 1 | 12/28/2012 12:46 PM |
| Nitrogen | 83 | 0.10 | | % v/v | 1 | 12/28/2012 12:46 PM |
| Oxygen | 22 | 0.10 | | % v/v | 1 | 12/28/2012 12:46 PM |
| **Volatile Organic Compounds** | | **Method: TO-15** | | | | **Analyst: RH3** |
| 1,1,1-Trichloroethane | ND | 400 | U | ppbv | 400 | 12/21/2012 7:32 PM |
| 1,1,2,2-Tetrachloroethane | ND | 400 | U | ppbv | 400 | 12/21/2012 7:32 PM |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ND | 400 | U | ppbv | 400 | 12/21/2012 7:32 PM |
| 1,1,2-Trichloroethane | ND | 400 | U | ppbv | 400 | 12/21/2012 7:32 PM |
| 1,1-Dichloroethane | ND | 400 | U | ppbv | 400 | 12/21/2012 7:32 PM |
| 1,1-Dichloroethene | ND | 400 | U | ppbv | 400 | 12/21/2012 7:32 PM |
| 1,2,4-Trichlorobenzene | ND | 400 | U | ppbv | 400 | 12/21/2012 7:32 PM |
| 1,2,4-Trimethylbenzene | ND | 400 | U | ppbv | 400 | 12/21/2012 7:32 PM |
| 1,2-Dibromoethane | ND | 400 | U | ppbv | 400 | 12/21/2012 7:32 PM |
| 1,2-Dichlorobenzene | ND | 400 | U | ppbv | 400 | 12/21/2012 7:32 PM |
| 1,2-Dichloroethane | ND | 400 | U | ppbv | 400 | 12/21/2012 7:32 PM |
| 1,2-Dichloropropane | ND | 400 | U | ppbv | 400 | 12/21/2012 7:32 PM |
| 1,3,5-Trimethylbenzene | ND | 400 | U | ppbv | 400 | 12/21/2012 7:32 PM |
| 1,3-Butadiene | ND | 400 | U | ppbv | 400 | 12/21/2012 7:32 PM |
| 1,3-Dichlorobenzene | ND | 400 | U | ppbv | 400 | 12/21/2012 7:32 PM |
| 1,4-Dichlorobenzene | ND | 400 | U | ppbv | 400 | 12/21/2012 7:32 PM |
| 2-Butanone | ND | 400 | U | ppbv | 400 | 12/21/2012 7:32 PM |
| 2-Hexanone | ND | 400 | U | ppbv | 400 | 12/21/2012 7:32 PM |
| 4-Methyl-2-pentanone | ND | 400 | U | ppbv | 400 | 12/21/2012 7:32 PM |
| Acetone | 820 | 400 | | ppbv | 400 | 12/21/2012 7:32 PM |
| Benzene | 500 | 400 | | ppbv | 400 | 12/21/2012 7:32 PM |
| Benzyl chloride | ND | 400 | U | ppbv | 400 | 12/21/2012 7:32 PM |
| Bromodichloromethane | ND | 400 | U | ppbv | 400 | 12/21/2012 7:32 PM |
| Bromoform | ND | 400 | U | ppbv | 400 | 12/21/2012 7:32 PM |
| Bromomethane | ND | 400 | U | ppbv | 400 | 12/21/2012 7:32 PM |
| Carbon disulfide | ND | 400 | U | ppbv | 400 | 12/21/2012 7:32 PM |
| Carbon tetrachloride | ND | 400 | U | ppbv | 400 | 12/21/2012 7:32 PM |
| Chlorobenzene | ND | 400 | U | ppbv | 400 | 12/21/2012 7:32 PM |
| Chlorodibromomethane | ND | 400 | U | ppbv | 400 | 12/21/2012 7:32 PM |
| Chloroethane | ND | 400 | U | ppbv | 400 | 12/21/2012 7:32 PM |
| Chloroform | ND | 400 | U | ppbv | 400 | 12/21/2012 7:32 PM |
| Chloromethane | ND | 400 | U | ppbv | 400 | 12/21/2012 7:32 PM |
| cis-1,2-Dichloroethene | ND | 400 | U | ppbv | 400 | 12/21/2012 7:32 PM |
| cis-1,3-dichloropropene | ND | 400 | U | ppbv | 400 | 12/21/2012 7:32 PM |

# RTI Laboratories - Analytical Report

**WO#: 1212373**

**Date Reported: 1/7/2013**
**Revision v2**

| | | | |
|---|---|---|---|
| **Client:** | Shaw Environmental & Infrastructure, Inc | **Collection Date:** | 12/4/2012 8:45:00 AM |
| **Project:** | Kirtland AFB | | |
| **Lab ID:** | 1212373-041 | **Matrix:** | Air |
| **Client Sample ID:** | VA2211 | | |

| Analysis | Result | RL | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| Cyclohexane | 1,400 | 800 | | ppbv | 400 | 12/21/2012 7:32 PM |
| Dichlorodifluoromethane | ND | 400 | U | ppbv | 400 | 12/21/2012 7:32 PM |
| Ethyl acetate | ND | 400 | U | ppbv | 400 | 12/21/2012 7:32 PM |
| Ethylbenzene | 450 | 800 | J | ppbv | 400 | 12/21/2012 7:32 PM |
| Heptane | 1,800 | 400 | | ppbv | 400 | 12/21/2012 7:32 PM |
| Hexachlorobutadiene | ND | 800 | U | ppbv | 400 | 12/21/2012 7:32 PM |
| m,p-Xylene | 1,300 | 800 | | ppbv | 400 | 12/21/2012 7:32 PM |
| Methylene chloride | 1,000 | 2,000 | J | ppbv | 400 | 12/21/2012 7:32 PM |
| n-Hexane | 800 | 800 | J | ppbv | 400 | 12/21/2012 7:32 PM |
| Naphthalene | ND | 400 | U | ppbv | 400 | 12/21/2012 7:32 PM |
| o-Xylene | 400 | 400 | | ppbv | 400 | 12/21/2012 7:32 PM |
| Propylene | ND | 400 | U | ppbv | 400 | 12/21/2012 7:32 PM |
| Styrene | ND | 400 | U | ppbv | 400 | 12/21/2012 7:32 PM |
| tert-Butyl Methyl Ether | ND | 400 | U | ppbv | 400 | 12/21/2012 7:32 PM |
| Tetrachloroethene | ND | 400 | U | ppbv | 400 | 12/21/2012 7:32 PM |
| Tetrahydrofuran | ND | 400 | U | ppbv | 400 | 12/21/2012 7:32 PM |
| Toluene | 3,900 | 400 | | ppbv | 400 | 12/21/2012 7:32 PM |
| trans-1,2-Dichloroethene | ND | 400 | U | ppbv | 400 | 12/21/2012 7:32 PM |
| trans-1,3-dichloropropene | ND | 400 | U | ppbv | 400 | 12/21/2012 7:32 PM |
| Trichloroethene | ND | 400 | U | ppbv | 400 | 12/21/2012 7:32 PM |
| Trichlorofluoromethane | ND | 400 | U | ppbv | 400 | 12/21/2012 7:32 PM |
| Vinyl acetate | ND | 400 | U | ppbv | 400 | 12/21/2012 7:32 PM |
| Vinyl chloride | ND | 400 | U | ppbv | 400 | 12/21/2012 7:32 PM |
| Xylenes, Total | 1,700 | 1,200 | | ppbv | 400 | 12/21/2012 7:32 PM |
| Surr: 4-Bromofluorobenzene | 95.2 | 70-130 | | %REC | 400 | 12/21/2012 7:32 PM |
| **Mass APH Air** | **Method:** | | | | | **Analyst: RH3** |
| **Air-Phase Petroleum Hydrocarbons** | | | | | | |
| C5-C8 Aliphatic Hydrocarbons | 82,000 | 47,000 | | µg/m³ | 400 | 12/21/2012 9:39 PM |
| C9-C10 Aromatic Hydrocarbons | ND | 53,000 | U | µg/m³ | 400 | 12/21/2012 9:39 PM |
| C9-C12 Aliphatic Hydrocarbons | ND | 76,000 | U | µg/m³ | 400 | 12/21/2012 9:39 PM |
| Surr: 4-Bromofluorobenzene | 97.1 | 70-130 | | %REC | 400 | 12/21/2012 9:39 PM |

# RTI Laboratories - Analytical Report

**WO#: 1212373**

**Date Reported: 1/7/2013**
**Revision v2**

| | | | |
|---|---|---|---|
| **Client:** | Shaw Environmental & Infrastructure, Inc | **Collection Date:** | 12/3/2012 8:37:00 AM |
| **Project:** | Kirtland AFB | | |
| **Lab ID:** | 1212373-042 | **Matrix:** | Air |
| **Client Sample ID:** | VA2245 | | |

| Analysis | Result | RL | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **Noncondensable Gases and Light Hydrocarbons** | | **Method: ASTM-D2504** | | | | **Analyst: cr** |
| Carbon dioxide | 0.16 | 0.10 | | % v/v | 1 | 12/28/2012 1:06 PM |
| Carbon Monoxide | ND | 0.10 | U | % v/v | 1 | 12/28/2012 1:06 PM |
| Methane | ND | 0.50 | U | % v/v | 1 | 12/28/2012 1:06 PM |
| Nitrogen | 83 | 0.10 | | % v/v | 1 | 12/28/2012 1:06 PM |
| Oxygen | 22 | 0.10 | | % v/v | 1 | 12/28/2012 1:06 PM |
| **Volatile Organic Compounds** | | **Method: TO-15** | | | | **Analyst: RH3** |
| 1,1,1-Trichloroethane | ND | 800 | U | ppbv | 800 | 12/17/2012 10:57 PM |
| 1,1,2,2-Tetrachloroethane | ND | 800 | U | ppbv | 800 | 12/17/2012 10:57 PM |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ND | 800 | U | ppbv | 800 | 12/17/2012 10:57 PM |
| 1,1,2-Trichloroethane | ND | 800 | U | ppbv | 800 | 12/17/2012 10:57 PM |
| 1,1-Dichloroethane | ND | 800 | U | ppbv | 800 | 12/17/2012 10:57 PM |
| 1,1-Dichloroethene | ND | 800 | U | ppbv | 800 | 12/17/2012 10:57 PM |
| 1,2,4-Trichlorobenzene | ND | 800 | U | ppbv | 800 | 12/17/2012 10:57 PM |
| 1,2,4-Trimethylbenzene | ND | 800 | U | ppbv | 800 | 12/17/2012 10:57 PM |
| 1,2-Dibromoethane | ND | 800 | U | ppbv | 800 | 12/17/2012 10:57 PM |
| 1,2-Dichlorobenzene | ND | 800 | U | ppbv | 800 | 12/17/2012 10:57 PM |
| 1,2-Dichloroethane | ND | 800 | U | ppbv | 800 | 12/17/2012 10:57 PM |
| 1,2-Dichloropropane | ND | 800 | U | ppbv | 800 | 12/17/2012 10:57 PM |
| 1,3,5-Trimethylbenzene | ND | 800 | U | ppbv | 800 | 12/17/2012 10:57 PM |
| 1,3-Butadiene | ND | 800 | U | ppbv | 800 | 12/17/2012 10:57 PM |
| 1,3-Dichlorobenzene | ND | 800 | U | ppbv | 800 | 12/17/2012 10:57 PM |
| 1,4-Dichlorobenzene | ND | 800 | U | ppbv | 800 | 12/17/2012 10:57 PM |
| 2-Butanone | ND | 800 | U | ppbv | 800 | 12/17/2012 10:57 PM |
| 2-Hexanone | ND | 800 | U | ppbv | 800 | 12/17/2012 10:57 PM |
| 4-Methyl-2-pentanone | ND | 800 | U | ppbv | 800 | 12/17/2012 10:57 PM |
| Acetone | 2,500 | 800 | | ppbv | 800 | 12/17/2012 10:57 PM |
| Benzene | 6,300 | 800 | | ppbv | 800 | 12/17/2012 10:57 PM |
| Benzyl chloride | ND | 800 | U | ppbv | 800 | 12/17/2012 10:57 PM |
| Bromodichloromethane | ND | 800 | U | ppbv | 800 | 12/17/2012 10:57 PM |
| Bromoform | ND | 800 | U | ppbv | 800 | 12/17/2012 10:57 PM |
| Bromomethane | ND | 800 | U | ppbv | 800 | 12/17/2012 10:57 PM |
| Carbon disulfide | ND | 800 | U | ppbv | 800 | 12/17/2012 10:57 PM |
| Carbon tetrachloride | ND | 800 | U | ppbv | 800 | 12/17/2012 10:57 PM |
| Chlorobenzene | ND | 800 | U | ppbv | 800 | 12/17/2012 10:57 PM |
| Chlorodibromomethane | ND | 800 | U | ppbv | 800 | 12/17/2012 10:57 PM |
| Chloroethane | ND | 800 | U | ppbv | 800 | 12/17/2012 10:57 PM |
| Chloroform | ND | 800 | U | ppbv | 800 | 12/17/2012 10:57 PM |
| Chloromethane | ND | 800 | U | ppbv | 800 | 12/17/2012 10:57 PM |
| cis-1,2-Dichloroethene | ND | 800 | U | ppbv | 800 | 12/17/2012 10:57 PM |
| cis-1,3-dichloropropene | ND | 800 | U | ppbv | 800 | 12/17/2012 10:57 PM |

# RTI Laboratories - Analytical Report

**WO#: 1212373**

**Date Reported: 1/7/2013**
**Revision v2**

| | | | |
|---|---|---|---|
| **Client:** | Shaw Environmental & Infrastructure, Inc | **Collection Date:** | 12/3/2012 8:37:00 AM |
| **Project:** | Kirtland AFB | | |
| **Lab ID:** | 1212373-042 | **Matrix:** | Air |
| **Client Sample ID:** | VA2245 | | |

| Analysis | Result | RL | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| Cyclohexane | 15,000 | 1,600 | | ppbv | 800 | 12/17/2012 10:57 PM |
| Dichlorodifluoromethane | ND | 800 | U | ppbv | 800 | 12/17/2012 10:57 PM |
| Ethyl acetate | ND | 800 | U | ppbv | 800 | 12/17/2012 10:57 PM |
| Ethylbenzene | 1,100 | 1,600 | J | ppbv | 800 | 12/17/2012 10:57 PM |
| Heptane | 14,000 | 800 | | ppbv | 800 | 12/17/2012 10:57 PM |
| Hexachlorobutadiene | ND | 1,600 | U | ppbv | 800 | 12/17/2012 10:57 PM |
| m,p-Xylene | 2,800 | 1,600 | | ppbv | 800 | 12/17/2012 10:57 PM |
| Methylene chloride | 15,000 | 4,000 | | ppbv | 800 | 12/17/2012 10:57 PM |
| n-Hexane | 12,000 | 1,600 | | ppbv | 800 | 12/17/2012 10:57 PM |
| Naphthalene | ND | 800 | U | ppbv | 800 | 12/17/2012 10:57 PM |
| o-Xylene | ND | 800 | U | ppbv | 800 | 12/17/2012 10:57 PM |
| Propylene | ND | 800 | U | ppbv | 800 | 12/17/2012 10:57 PM |
| Styrene | ND | 800 | U | ppbv | 800 | 12/17/2012 10:57 PM |
| tert-Butyl Methyl Ether | ND | 800 | U | ppbv | 800 | 12/17/2012 10:57 PM |
| Tetrachloroethene | ND | 800 | U | ppbv | 800 | 12/17/2012 10:57 PM |
| Tetrahydrofuran | ND | 800 | U | ppbv | 800 | 12/17/2012 10:57 PM |
| Toluene | 19,000 | 800 | | ppbv | 800 | 12/17/2012 10:57 PM |
| trans-1,2-Dichloroethene | ND | 800 | U | ppbv | 800 | 12/17/2012 10:57 PM |
| trans-1,3-dichloropropene | ND | 800 | U | ppbv | 800 | 12/17/2012 10:57 PM |
| Trichloroethene | ND | 800 | U | ppbv | 800 | 12/17/2012 10:57 PM |
| Trichlorofluoromethane | ND | 800 | U | ppbv | 800 | 12/17/2012 10:57 PM |
| Vinyl acetate | ND | 800 | U | ppbv | 800 | 12/17/2012 10:57 PM |
| Vinyl chloride | ND | 800 | U | ppbv | 800 | 12/17/2012 10:57 PM |
| Xylenes, Total | 2,800 | 2,400 | | ppbv | 800 | 12/17/2012 10:57 PM |
| Surr: 4-Bromofluorobenzene | 99.5 | 70-130 | | %REC | 800 | 12/17/2012 10:57 PM |
| **Mass APH Air** | **Method:** | | | | | **Analyst: RH3** |
| **Air-Phase Petroleum Hydrocarbons** | | | | | | |
| C5-C8 Aliphatic Hydrocarbons | 2,200,000 | 940,000 | | µg/m³ | 8000 | 12/19/2012 5:27 AM |
| C9-C10 Aromatic Hydrocarbons | ND | 1,100,000 | U | µg/m³ | 8000 | 12/19/2012 5:27 AM |
| C9-C12 Aliphatic Hydrocarbons | ND | 1,500,000 | U | µg/m³ | 8000 | 12/19/2012 5:27 AM |
| Surr: 4-Bromofluorobenzene | 104 | 70-130 | | %REC | 8000 | 12/19/2012 5:27 AM |

# RTI Laboratories - Analytical Report

**WO#: 1212373**

**Date Reported: 1/7/2013**
**Revision v2**

| | | | |
|---|---|---|---|
| **Client:** | Shaw Environmental & Infrastructure, Inc | **Collection Date:** | 12/3/2012 9:04:00 AM |
| **Project:** | Kirtland AFB | | |
| **Lab ID:** | 1212373-043 | **Matrix:** | Air |
| **Client Sample ID:** | VA2246 | | |

| Analysis | Result | RL | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **Noncondensable Gases and Light Hydrocarbons** | | **Method: ASTM-D2504** | | | | **Analyst: cr** |
| Carbon dioxide | 0.12 | 0.10 | | % v/v | 1 | 12/28/2012 1:30 PM |
| Carbon Monoxide | ND | 0.10 | U | % v/v | 1 | 12/28/2012 1:30 PM |
| Methane | ND | 0.50 | U | % v/v | 1 | 12/28/2012 1:30 PM |
| Nitrogen | 83 | 0.10 | | % v/v | 1 | 12/28/2012 1:30 PM |
| Oxygen | 22 | 0.10 | | % v/v | 1 | 12/28/2012 1:30 PM |
| **Volatile Organic Compounds** | | **Method: TO-15** | | | | **Analyst: RH3** |
| 1,1,1-Trichloroethane | ND | 800 | U | ppbv | 800 | 12/18/2012 1:08 AM |
| 1,1,2,2-Tetrachloroethane | ND | 800 | U | ppbv | 800 | 12/18/2012 1:08 AM |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ND | 800 | U | ppbv | 800 | 12/18/2012 1:08 AM |
| 1,1,2-Trichloroethane | ND | 800 | U | ppbv | 800 | 12/18/2012 1:08 AM |
| 1,1-Dichloroethane | ND | 800 | U | ppbv | 800 | 12/18/2012 1:08 AM |
| 1,1-Dichloroethene | ND | 800 | U | ppbv | 800 | 12/18/2012 1:08 AM |
| 1,2,4-Trichlorobenzene | ND | 800 | U | ppbv | 800 | 12/18/2012 1:08 AM |
| 1,2,4-Trimethylbenzene | ND | 800 | U | ppbv | 800 | 12/18/2012 1:08 AM |
| 1,2-Dibromoethane | ND | 800 | U | ppbv | 800 | 12/18/2012 1:08 AM |
| 1,2-Dichlorobenzene | ND | 800 | U | ppbv | 800 | 12/18/2012 1:08 AM |
| 1,2-Dichloroethane | ND | 800 | U | ppbv | 800 | 12/18/2012 1:08 AM |
| 1,2-Dichloropropane | ND | 800 | U | ppbv | 800 | 12/18/2012 1:08 AM |
| 1,3,5-Trimethylbenzene | ND | 800 | U | ppbv | 800 | 12/18/2012 1:08 AM |
| 1,3-Butadiene | ND | 800 | U | ppbv | 800 | 12/18/2012 1:08 AM |
| 1,3-Dichlorobenzene | ND | 800 | U | ppbv | 800 | 12/18/2012 1:08 AM |
| 1,4-Dichlorobenzene | ND | 800 | U | ppbv | 800 | 12/18/2012 1:08 AM |
| 2-Butanone | ND | 800 | U | ppbv | 800 | 12/18/2012 1:08 AM |
| 2-Hexanone | ND | 800 | U | ppbv | 800 | 12/18/2012 1:08 AM |
| 4-Methyl-2-pentanone | ND | 800 | U | ppbv | 800 | 12/18/2012 1:08 AM |
| Acetone | 1,800 | 800 | | ppbv | 800 | 12/18/2012 1:08 AM |
| Benzene | 4,900 | 800 | | ppbv | 800 | 12/18/2012 1:08 AM |
| Benzyl chloride | ND | 800 | U | ppbv | 800 | 12/18/2012 1:08 AM |
| Bromodichloromethane | ND | 800 | U | ppbv | 800 | 12/18/2012 1:08 AM |
| Bromoform | ND | 800 | U | ppbv | 800 | 12/18/2012 1:08 AM |
| Bromomethane | ND | 800 | U | ppbv | 800 | 12/18/2012 1:08 AM |
| Carbon disulfide | ND | 800 | U | ppbv | 800 | 12/18/2012 1:08 AM |
| Carbon tetrachloride | ND | 800 | U | ppbv | 800 | 12/18/2012 1:08 AM |
| Chlorobenzene | ND | 800 | U | ppbv | 800 | 12/18/2012 1:08 AM |
| Chlorodibromomethane | ND | 800 | U | ppbv | 800 | 12/18/2012 1:08 AM |
| Chloroethane | ND | 800 | U | ppbv | 800 | 12/18/2012 1:08 AM |
| Chloroform | ND | 800 | U | ppbv | 800 | 12/18/2012 1:08 AM |
| Chloromethane | ND | 800 | U | ppbv | 800 | 12/18/2012 1:08 AM |
| cis-1,2-Dichloroethene | ND | 800 | U | ppbv | 800 | 12/18/2012 1:08 AM |
| cis-1,3-dichloropropene | ND | 800 | U | ppbv | 800 | 12/18/2012 1:08 AM |

# RTI Laboratories - Analytical Report

**WO#: 1212373**

**Date Reported: 1/7/2013**
**Revision v2**

| | | | |
|---|---|---|---|
| **Client:** | Shaw Environmental & Infrastructure, Inc | **Collection Date:** | 12/3/2012 9:04:00 AM |
| **Project:** | Kirtland AFB | | |
| **Lab ID:** | 1212373-043 | **Matrix:** | Air |
| **Client Sample ID:** | VA2246 | | |

| Analysis | Result | RL | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| Cyclohexane | 11,000 | 1,600 | | ppbv | 800 | 12/18/2012 1:08 AM |
| Dichlorodifluoromethane | ND | 800 | U | ppbv | 800 | 12/18/2012 1:08 AM |
| Ethyl acetate | ND | 800 | U | ppbv | 800 | 12/18/2012 1:08 AM |
| Ethylbenzene | 1,100 | 1,600 | J | ppbv | 800 | 12/18/2012 1:08 AM |
| Heptane | 11,000 | 800 | | ppbv | 800 | 12/18/2012 1:08 AM |
| Hexachlorobutadiene | ND | 1,600 | U | ppbv | 800 | 12/18/2012 1:08 AM |
| m,p-Xylene | 2,800 | 1,600 | | ppbv | 800 | 12/18/2012 1:08 AM |
| Methylene chloride | 12,000 | 4,000 | | ppbv | 800 | 12/18/2012 1:08 AM |
| n-Hexane | 7,600 | 1,600 | | ppbv | 800 | 12/18/2012 1:08 AM |
| Naphthalene | ND | 800 | U | ppbv | 800 | 12/18/2012 1:08 AM |
| o-Xylene | 800 | 800 | | ppbv | 800 | 12/18/2012 1:08 AM |
| Propylene | ND | 800 | U | ppbv | 800 | 12/18/2012 1:08 AM |
| Styrene | ND | 800 | U | ppbv | 800 | 12/18/2012 1:08 AM |
| tert-Butyl Methyl Ether | ND | 800 | U | ppbv | 800 | 12/18/2012 1:08 AM |
| Tetrachloroethene | ND | 800 | U | ppbv | 800 | 12/18/2012 1:08 AM |
| Tetrahydrofuran | ND | 800 | U | ppbv | 800 | 12/18/2012 1:08 AM |
| Toluene | 16,000 | 800 | | ppbv | 800 | 12/18/2012 1:08 AM |
| trans-1,2-Dichloroethene | ND | 800 | U | ppbv | 800 | 12/18/2012 1:08 AM |
| trans-1,3-dichloropropene | ND | 800 | U | ppbv | 800 | 12/18/2012 1:08 AM |
| Trichloroethene | ND | 800 | U | ppbv | 800 | 12/18/2012 1:08 AM |
| Trichlorofluoromethane | ND | 800 | U | ppbv | 800 | 12/18/2012 1:08 AM |
| Vinyl acetate | ND | 800 | U | ppbv | 800 | 12/18/2012 1:08 AM |
| Vinyl chloride | ND | 800 | U | ppbv | 800 | 12/18/2012 1:08 AM |
| Xylenes, Total | 3,600 | 2,400 | | ppbv | 800 | 12/18/2012 1:08 AM |
| Surr: 4-Bromofluorobenzene | 99.4 | 70-130 | | %REC | 800 | 12/18/2012 1:08 AM |
| **Mass APH Air** | **Method:** | | | | | **Analyst: RH3** |
| **Air-Phase Petroleum Hydrocarbons** | | | | | | |
| C5-C8 Aliphatic Hydrocarbons | 820,000 | 94,000 | | µg/m³ | 800 | 12/19/2012 6:12 AM |
| C9-C10 Aromatic Hydrocarbons | ND | 110,000 | U | µg/m³ | 800 | 12/19/2012 6:12 AM |
| C9-C12 Aliphatic Hydrocarbons | 38,000 | 150,000 | J | µg/m³ | 800 | 12/19/2012 6:12 AM |
| Surr: 4-Bromofluorobenzene | 106 | 70-130 | | %REC | 800 | 12/19/2012 6:12 AM |

# RTI Laboratories - Analytical Report

**WO#: 1212373**

**Date Reported: 1/7/2013**
**Revision v2**

| | | | |
|---|---|---|---|
| **Client:** | Shaw Environmental & Infrastructure, Inc | **Collection Date:** | 12/3/2012 11:11:00 AM |
| **Project:** | Kirtland AFB | | |
| **Lab ID:** | 1212373-044 | **Matrix:** | Air |
| **Client Sample ID:** | VA2247 | | |

| Analysis | Result | RL | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **Noncondensable Gases and Light Hydrocarbons** | | **Method: ASTM-D2504** | | | | **Analyst: cr** |
| Carbon dioxide | 0.13 | 0.10 | | % v/v | 1 | 12/28/2012 1:54 PM |
| Carbon Monoxide | ND | 0.10 | U | % v/v | 1 | 12/28/2012 1:54 PM |
| Methane | ND | 0.50 | U | % v/v | 1 | 12/28/2012 1:54 PM |
| Nitrogen | 83 | 0.10 | | % v/v | 1 | 12/28/2012 1:54 PM |
| Oxygen | 22 | 0.10 | | % v/v | 1 | 12/28/2012 1:54 PM |
| **Volatile Organic Compounds** | | **Method: TO-15** | | | | **Analyst: RH3** |
| 1,1,1-Trichloroethane | ND | 400 | U | ppbv | 400 | 12/19/2012 5:42 PM |
| 1,1,2,2-Tetrachloroethane | ND | 400 | U | ppbv | 400 | 12/19/2012 5:42 PM |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ND | 400 | U | ppbv | 400 | 12/19/2012 5:42 PM |
| 1,1,2-Trichloroethane | ND | 400 | U | ppbv | 400 | 12/19/2012 5:42 PM |
| 1,1-Dichloroethane | ND | 400 | U | ppbv | 400 | 12/19/2012 5:42 PM |
| 1,1-Dichloroethene | ND | 400 | U | ppbv | 400 | 12/19/2012 5:42 PM |
| 1,2,4-Trichlorobenzene | ND | 400 | U | ppbv | 400 | 12/19/2012 5:42 PM |
| 1,2,4-Trimethylbenzene | ND | 400 | U | ppbv | 400 | 12/19/2012 5:42 PM |
| 1,2-Dibromoethane | ND | 400 | U | ppbv | 400 | 12/19/2012 5:42 PM |
| 1,2-Dichlorobenzene | ND | 400 | U | ppbv | 400 | 12/19/2012 5:42 PM |
| 1,2-Dichloroethane | ND | 400 | U | ppbv | 400 | 12/19/2012 5:42 PM |
| 1,2-Dichloropropane | ND | 400 | U | ppbv | 400 | 12/19/2012 5:42 PM |
| 1,3,5-Trimethylbenzene | ND | 400 | U | ppbv | 400 | 12/19/2012 5:42 PM |
| 1,3-Butadiene | ND | 400 | U | ppbv | 400 | 12/19/2012 5:42 PM |
| 1,3-Dichlorobenzene | ND | 400 | U | ppbv | 400 | 12/19/2012 5:42 PM |
| 1,4-Dichlorobenzene | ND | 400 | U | ppbv | 400 | 12/19/2012 5:42 PM |
| 2-Butanone | 620 | 400 | | ppbv | 400 | 12/19/2012 5:42 PM |
| 2-Hexanone | ND | 400 | U | ppbv | 400 | 12/19/2012 5:42 PM |
| 4-Methyl-2-pentanone | ND | 400 | U | ppbv | 400 | 12/19/2012 5:42 PM |
| Acetone | 7,300 | 400 | | ppbv | 400 | 12/19/2012 5:42 PM |
| Benzene | 4,800 | 400 | | ppbv | 400 | 12/19/2012 5:42 PM |
| Benzyl chloride | ND | 400 | U | ppbv | 400 | 12/19/2012 5:42 PM |
| Bromodichloromethane | ND | 400 | U | ppbv | 400 | 12/19/2012 5:42 PM |
| Bromoform | ND | 400 | U | ppbv | 400 | 12/19/2012 5:42 PM |
| Bromomethane | ND | 400 | U | ppbv | 400 | 12/19/2012 5:42 PM |
| Carbon disulfide | ND | 400 | U | ppbv | 400 | 12/19/2012 5:42 PM |
| Carbon tetrachloride | ND | 400 | U | ppbv | 400 | 12/19/2012 5:42 PM |
| Chlorobenzene | ND | 400 | U | ppbv | 400 | 12/19/2012 5:42 PM |
| Chlorodibromomethane | ND | 400 | U | ppbv | 400 | 12/19/2012 5:42 PM |
| Chloroethane | ND | 400 | U | ppbv | 400 | 12/19/2012 5:42 PM |
| Chloroform | ND | 400 | U | ppbv | 400 | 12/19/2012 5:42 PM |
| Chloromethane | ND | 400 | U | ppbv | 400 | 12/19/2012 5:42 PM |
| cis-1,2-Dichloroethene | ND | 400 | U | ppbv | 400 | 12/19/2012 5:42 PM |
| cis-1,3-dichloropropene | ND | 400 | U | ppbv | 400 | 12/19/2012 5:42 PM |

# RTI Laboratories - Analytical Report

**WO#: 1212373**

**Date Reported: 1/7/2013**
**Revision v2**

| | | | |
|---|---|---|---|
| **Client:** | Shaw Environmental & Infrastructure, Inc | **Collection Date:** | 12/3/2012 11:11:00 AM |
| **Project:** | Kirtland AFB | | |
| **Lab ID:** | 1212373-044 | **Matrix:** | Air |
| **Client Sample ID:** | VA2247 | | |

| Analysis | Result | RL | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| Cyclohexane | 11,000 | 800 | | ppbv | 400 | 12/19/2012 5:42 PM |
| Dichlorodifluoromethane | ND | 400 | U | ppbv | 400 | 12/19/2012 5:42 PM |
| Ethyl acetate | ND | 400 | U | ppbv | 400 | 12/19/2012 5:42 PM |
| Ethylbenzene | 1,800 | 800 | | ppbv | 400 | 12/19/2012 5:42 PM |
| Heptane | 9,000 | 400 | | ppbv | 400 | 12/19/2012 5:42 PM |
| Hexachlorobutadiene | ND | 800 | U | ppbv | 400 | 12/19/2012 5:42 PM |
| m,p-Xylene | 4,200 | 800 | | ppbv | 400 | 12/19/2012 5:42 PM |
| Methylene chloride | 16,000 | 8,000 | | ppbv | 1600 | 12/21/2012 1:13 PM |
| n-Hexane | 12,000 | 800 | | ppbv | 400 | 12/19/2012 5:42 PM |
| Naphthalene | ND | 400 | U | ppbv | 400 | 12/19/2012 5:42 PM |
| o-Xylene | 1,300 | 400 | | ppbv | 400 | 12/19/2012 5:42 PM |
| Propylene | ND | 400 | U | ppbv | 400 | 12/19/2012 5:42 PM |
| Styrene | ND | 400 | U | ppbv | 400 | 12/19/2012 5:42 PM |
| tert-Butyl Methyl Ether | ND | 400 | U | ppbv | 400 | 12/19/2012 5:42 PM |
| Tetrachloroethene | ND | 400 | U | ppbv | 400 | 12/19/2012 5:42 PM |
| Tetrahydrofuran | ND | 400 | U | ppbv | 400 | 12/19/2012 5:42 PM |
| Toluene | 16,000 | 400 | | ppbv | 400 | 12/19/2012 5:42 PM |
| trans-1,2-Dichloroethene | ND | 400 | U | ppbv | 400 | 12/19/2012 5:42 PM |
| trans-1,3-dichloropropene | ND | 400 | U | ppbv | 400 | 12/19/2012 5:42 PM |
| Trichloroethene | ND | 400 | U | ppbv | 400 | 12/19/2012 5:42 PM |
| Trichlorofluoromethane | ND | 400 | U | ppbv | 400 | 12/19/2012 5:42 PM |
| Vinyl acetate | ND | 400 | U | ppbv | 400 | 12/19/2012 5:42 PM |
| Vinyl chloride | ND | 400 | U | ppbv | 400 | 12/19/2012 5:42 PM |
| Xylenes, Total | 5,500 | 1,200 | | ppbv | 400 | 12/19/2012 5:42 PM |
| Surr: 4-Bromofluorobenzene | 109 | 70-130 | | %REC | 400 | 12/19/2012 5:42 PM |
| **Mass APH Air** | **Method:** | | | | | **Analyst: RH3** |
| **Air-Phase Petroleum Hydrocarbons** | | | | | | |
| C5-C8 Aliphatic Hydrocarbons | 2,000,000 | 940,000 | | µg/m³ | 8000 | 12/20/2012 7:19 PM |
| C9-C10 Aromatic Hydrocarbons | ND | 1,100,000 | U | µg/m³ | 8000 | 12/20/2012 7:19 PM |
| C9-C12 Aliphatic Hydrocarbons | ND | 1,500,000 | U | µg/m³ | 8000 | 12/20/2012 7:19 PM |
| Surr: 4-Bromofluorobenzene | 95.5 | 70-130 | | %REC | 8000 | 12/20/2012 7:19 PM |

# RTI Laboratories - Analytical Report

**WO#: 1212373**

**Date Reported: 1/7/2013**
**Revision v2**

| | | | |
|---|---|---|---|
| **Client:** | Shaw Environmental & Infrastructure, Inc | **Collection Date:** | 12/3/2012 11:11:00 AM |
| **Project:** | Kirtland AFB | | |
| **Lab ID:** | 1212373-045 | **Matrix:** | Air |
| **Client Sample ID:** | VA2248 | | |

| Analysis | Result | RL | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **Noncondensable Gases and Light Hydrocarbons** | | **Method: ASTM-D2504** | | | | **Analyst: cr** |
| Carbon dioxide | 0.13 | 0.10 | | % v/v | 1 | 12/28/2012 2:10 PM |
| Carbon Monoxide | ND | 0.10 | U | % v/v | 1 | 12/28/2012 2:10 PM |
| Methane | ND | 0.50 | U | % v/v | 1 | 12/28/2012 2:10 PM |
| Nitrogen | 82 | 0.10 | | % v/v | 1 | 12/28/2012 2:10 PM |
| Oxygen | 22 | 0.10 | | % v/v | 1 | 12/28/2012 2:10 PM |
| **Volatile Organic Compounds** | | **Method: TO-15** | | | | **Analyst: RH3** |
| 1,1,1-Trichloroethane | ND | 400 | U | ppbv | 400 | 12/19/2012 7:16 PM |
| 1,1,2,2-Tetrachloroethane | ND | 400 | U | ppbv | 400 | 12/19/2012 7:16 PM |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ND | 400 | U | ppbv | 400 | 12/19/2012 7:16 PM |
| 1,1,2-Trichloroethane | ND | 400 | U | ppbv | 400 | 12/19/2012 7:16 PM |
| 1,1-Dichloroethane | ND | 400 | U | ppbv | 400 | 12/19/2012 7:16 PM |
| 1,1-Dichloroethene | ND | 400 | U | ppbv | 400 | 12/19/2012 7:16 PM |
| 1,2,4-Trichlorobenzene | ND | 400 | U | ppbv | 400 | 12/19/2012 7:16 PM |
| 1,2,4-Trimethylbenzene | ND | 400 | U | ppbv | 400 | 12/19/2012 7:16 PM |
| 1,2-Dibromoethane | ND | 400 | U | ppbv | 400 | 12/19/2012 7:16 PM |
| 1,2-Dichlorobenzene | ND | 400 | U | ppbv | 400 | 12/19/2012 7:16 PM |
| 1,2-Dichloroethane | ND | 400 | U | ppbv | 400 | 12/19/2012 7:16 PM |
| 1,2-Dichloropropane | ND | 400 | U | ppbv | 400 | 12/19/2012 7:16 PM |
| 1,3,5-Trimethylbenzene | ND | 400 | U | ppbv | 400 | 12/19/2012 7:16 PM |
| 1,3-Butadiene | ND | 400 | U | ppbv | 400 | 12/19/2012 7:16 PM |
| 1,3-Dichlorobenzene | ND | 400 | U | ppbv | 400 | 12/19/2012 7:16 PM |
| 1,4-Dichlorobenzene | ND | 400 | U | ppbv | 400 | 12/19/2012 7:16 PM |
| 2-Butanone | ND | 400 | U | ppbv | 400 | 12/19/2012 7:16 PM |
| 2-Hexanone | ND | 400 | U | ppbv | 400 | 12/19/2012 7:16 PM |
| 4-Methyl-2-pentanone | ND | 400 | U | ppbv | 400 | 12/19/2012 7:16 PM |
| Acetone | 5,600 | 400 | | ppbv | 400 | 12/19/2012 7:16 PM |
| Benzene | 4,900 | 400 | | ppbv | 400 | 12/19/2012 7:16 PM |
| Benzyl chloride | ND | 400 | U | ppbv | 400 | 12/19/2012 7:16 PM |
| Bromodichloromethane | ND | 400 | U | ppbv | 400 | 12/19/2012 7:16 PM |
| Bromoform | ND | 400 | U | ppbv | 400 | 12/19/2012 7:16 PM |
| Bromomethane | ND | 400 | U | ppbv | 400 | 12/19/2012 7:16 PM |
| Carbon disulfide | ND | 400 | U | ppbv | 400 | 12/19/2012 7:16 PM |
| Carbon tetrachloride | ND | 400 | U | ppbv | 400 | 12/19/2012 7:16 PM |
| Chlorobenzene | ND | 400 | U | ppbv | 400 | 12/19/2012 7:16 PM |
| Chlorodibromomethane | ND | 400 | U | ppbv | 400 | 12/19/2012 7:16 PM |
| Chloroethane | ND | 400 | U | ppbv | 400 | 12/19/2012 7:16 PM |
| Chloroform | ND | 400 | U | ppbv | 400 | 12/19/2012 7:16 PM |
| Chloromethane | ND | 400 | U | ppbv | 400 | 12/19/2012 7:16 PM |
| cis-1,2-Dichloroethene | ND | 400 | U | ppbv | 400 | 12/19/2012 7:16 PM |
| cis-1,3-dichloropropene | ND | 400 | U | ppbv | 400 | 12/19/2012 7:16 PM |

# RTI Laboratories - Analytical Report

**WO#: 1212373**

**Date Reported: 1/7/2013**
**Revision v2**

| | | | |
|---|---|---|---|
| **Client:** | Shaw Environmental & Infrastructure, Inc | **Collection Date:** | 12/3/2012 11:11:00 AM |
| **Project:** | Kirtland AFB | | |
| **Lab ID:** | 1212373-045 | **Matrix:** | Air |
| **Client Sample ID:** | VA2248 | | |

| Analysis | Result | RL | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| Cyclohexane | 12,000 | 800 | | ppbv | 400 | 12/19/2012 7:16 PM |
| Dichlorodifluoromethane | ND | 400 | U | ppbv | 400 | 12/19/2012 7:16 PM |
| Ethyl acetate | ND | 400 | U | ppbv | 400 | 12/19/2012 7:16 PM |
| Ethylbenzene | 2,100 | 800 | | ppbv | 400 | 12/19/2012 7:16 PM |
| Heptane | 9,600 | 400 | | ppbv | 400 | 12/19/2012 7:16 PM |
| Hexachlorobutadiene | ND | 800 | U | ppbv | 400 | 12/19/2012 7:16 PM |
| m,p-Xylene | 4,900 | 800 | | ppbv | 400 | 12/19/2012 7:16 PM |
| Methylene chloride | 27,000 | 8,000 | | ppbv | 1600 | 12/26/2012 2:59 PM |
| n-Hexane | 14,000 | 800 | | ppbv | 400 | 12/19/2012 7:16 PM |
| Naphthalene | ND | 400 | U | ppbv | 400 | 12/19/2012 7:16 PM |
| o-Xylene | 1,500 | 400 | | ppbv | 400 | 12/19/2012 7:16 PM |
| Propylene | ND | 400 | U | ppbv | 400 | 12/19/2012 7:16 PM |
| Styrene | ND | 400 | U | ppbv | 400 | 12/19/2012 7:16 PM |
| tert-Butyl Methyl Ether | ND | 400 | U | ppbv | 400 | 12/19/2012 7:16 PM |
| Tetrachloroethene | ND | 400 | U | ppbv | 400 | 12/19/2012 7:16 PM |
| Tetrahydrofuran | ND | 400 | U | ppbv | 400 | 12/19/2012 7:16 PM |
| Toluene | 17,000 | 400 | | ppbv | 400 | 12/19/2012 7:16 PM |
| trans-1,2-Dichloroethene | ND | 400 | U | ppbv | 400 | 12/19/2012 7:16 PM |
| trans-1,3-dichloropropene | ND | 400 | U | ppbv | 400 | 12/19/2012 7:16 PM |
| Trichloroethene | ND | 400 | U | ppbv | 400 | 12/19/2012 7:16 PM |
| Trichlorofluoromethane | ND | 400 | U | ppbv | 400 | 12/19/2012 7:16 PM |
| Vinyl acetate | ND | 400 | U | ppbv | 400 | 12/19/2012 7:16 PM |
| Vinyl chloride | ND | 400 | U | ppbv | 400 | 12/19/2012 7:16 PM |
| Xylenes, Total | 6,400 | 1,200 | | ppbv | 400 | 12/19/2012 7:16 PM |
| Surr: 4-Bromofluorobenzene | 110 | 70-130 | | %REC | 400 | 12/19/2012 7:16 PM |
| **Mass APH Air** | | **Method:** | | | | **Analyst: RH3** |
| **Air-Phase Petroleum Hydrocarbons** | | | | | | |
| C5-C8 Aliphatic Hydrocarbons | 2,100,000 | 940,000 | | µg/m³ | 8000 | 12/20/2012 8:07 PM |
| C9-C10 Aromatic Hydrocarbons | ND | 1,100,000 | U | µg/m³ | 8000 | 12/20/2012 8:07 PM |
| C9-C12 Aliphatic Hydrocarbons | ND | 1,500,000 | U | µg/m³ | 8000 | 12/20/2012 8:07 PM |
| Surr: 4-Bromofluorobenzene | 97.7 | 70-130 | | %REC | 8000 | 12/20/2012 8:07 PM |

# RTI Laboratories - Analytical Report

**WO#: 1212373**

**Date Reported: 1/7/2013**
**Revision v2**

| | | | |
|---|---|---|---|
| **Client:** | Shaw Environmental & Infrastructure, Inc | **Collection Date:** | 12/3/2012 11:56:00 AM |
| **Project:** | Kirtland AFB | | |
| **Lab ID:** | 1212373-046 | **Matrix:** | Air |
| **Client Sample ID:** | VA2249 | | |

| Analysis | Result | RL | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **Noncondensable Gases and Light Hydrocarbons** | | **Method: ASTM-D2504** | | | | **Analyst: cr** |
| Carbon dioxide | 0.14 | 0.10 | | % v/v | 1 | 12/28/2012 2:28 PM |
| Carbon Monoxide | ND | 0.10 | U | % v/v | 1 | 12/28/2012 2:28 PM |
| Methane | ND | 0.50 | U | % v/v | 1 | 12/28/2012 2:28 PM |
| Nitrogen | 82 | 0.10 | | % v/v | 1 | 12/28/2012 2:28 PM |
| Oxygen | 22 | 0.10 | | % v/v | 1 | 12/28/2012 2:28 PM |
| **Volatile Organic Compounds** | | **Method: TO-15** | | | | **Analyst: RH3** |
| 1,1,1-Trichloroethane | ND | 400 | U | ppbv | 400 | 12/19/2012 8:05 PM |
| 1,1,2,2-Tetrachloroethane | ND | 400 | U | ppbv | 400 | 12/19/2012 8:05 PM |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ND | 400 | U | ppbv | 400 | 12/19/2012 8:05 PM |
| 1,1,2-Trichloroethane | ND | 400 | U | ppbv | 400 | 12/19/2012 8:05 PM |
| 1,1-Dichloroethane | ND | 400 | U | ppbv | 400 | 12/19/2012 8:05 PM |
| 1,1-Dichloroethene | ND | 400 | U | ppbv | 400 | 12/19/2012 8:05 PM |
| 1,2,4-Trichlorobenzene | ND | 400 | U | ppbv | 400 | 12/19/2012 8:05 PM |
| 1,2,4-Trimethylbenzene | ND | 400 | U | ppbv | 400 | 12/19/2012 8:05 PM |
| 1,2-Dibromoethane | ND | 400 | U | ppbv | 400 | 12/19/2012 8:05 PM |
| 1,2-Dichlorobenzene | ND | 400 | U | ppbv | 400 | 12/19/2012 8:05 PM |
| 1,2-Dichloroethane | ND | 400 | U | ppbv | 400 | 12/19/2012 8:05 PM |
| 1,2-Dichloropropane | ND | 400 | U | ppbv | 400 | 12/19/2012 8:05 PM |
| 1,3,5-Trimethylbenzene | ND | 400 | U | ppbv | 400 | 12/19/2012 8:05 PM |
| 1,3-Butadiene | ND | 400 | U | ppbv | 400 | 12/19/2012 8:05 PM |
| 1,3-Dichlorobenzene | ND | 400 | U | ppbv | 400 | 12/19/2012 8:05 PM |
| 1,4-Dichlorobenzene | ND | 400 | U | ppbv | 400 | 12/19/2012 8:05 PM |
| 2-Butanone | ND | 400 | U | ppbv | 400 | 12/19/2012 8:05 PM |
| 2-Hexanone | ND | 400 | U | ppbv | 400 | 12/19/2012 8:05 PM |
| 4-Methyl-2-pentanone | ND | 400 | U | ppbv | 400 | 12/19/2012 8:05 PM |
| Acetone | 2,500 | 400 | | ppbv | 400 | 12/19/2012 8:05 PM |
| Benzene | 3,900 | 400 | | ppbv | 400 | 12/19/2012 8:05 PM |
| Benzyl chloride | ND | 400 | U | ppbv | 400 | 12/19/2012 8:05 PM |
| Bromodichloromethane | ND | 400 | U | ppbv | 400 | 12/19/2012 8:05 PM |
| Bromoform | ND | 400 | U | ppbv | 400 | 12/19/2012 8:05 PM |
| Bromomethane | ND | 400 | U | ppbv | 400 | 12/19/2012 8:05 PM |
| Carbon disulfide | ND | 400 | U | ppbv | 400 | 12/19/2012 8:05 PM |
| Carbon tetrachloride | ND | 400 | U | ppbv | 400 | 12/19/2012 8:05 PM |
| Chlorobenzene | ND | 400 | U | ppbv | 400 | 12/19/2012 8:05 PM |
| Chlorodibromomethane | ND | 400 | U | ppbv | 400 | 12/19/2012 8:05 PM |
| Chloroethane | ND | 400 | U | ppbv | 400 | 12/19/2012 8:05 PM |
| Chloroform | ND | 400 | U | ppbv | 400 | 12/19/2012 8:05 PM |
| Chloromethane | ND | 400 | U | ppbv | 400 | 12/19/2012 8:05 PM |
| cis-1,2-Dichloroethene | ND | 400 | U | ppbv | 400 | 12/19/2012 8:05 PM |
| cis-1,3-dichloropropene | ND | 400 | U | ppbv | 400 | 12/19/2012 8:05 PM |

# RTI Laboratories - Analytical Report

**WO#: 1212373**

**Date Reported: 1/7/2013**
**Revision v2**

| | | | |
|---|---|---|---|
| **Client:** | Shaw Environmental & Infrastructure, Inc | **Collection Date:** | 12/3/2012 11:56:00 AM |
| **Project:** | Kirtland AFB | | |
| **Lab ID:** | 1212373-046 | **Matrix:** | Air |
| **Client Sample ID:** | VA2249 | | |

| Analysis | Result | RL | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| Cyclohexane | 9,700 | 800 | | ppbv | 400 | 12/19/2012 8:05 PM |
| Dichlorodifluoromethane | ND | 400 | U | ppbv | 400 | 12/19/2012 8:05 PM |
| Ethyl acetate | ND | 400 | U | ppbv | 400 | 12/19/2012 8:05 PM |
| Ethylbenzene | 1,900 | 800 | | ppbv | 400 | 12/19/2012 8:05 PM |
| Heptane | 8,100 | 400 | | ppbv | 400 | 12/19/2012 8:05 PM |
| Hexachlorobutadiene | ND | 800 | U | ppbv | 400 | 12/19/2012 8:05 PM |
| m,p-Xylene | 4,700 | 800 | | ppbv | 400 | 12/19/2012 8:05 PM |
| Methylene chloride | 78,000 | 8,000 | | ppbv | 1600 | 12/20/2012 7:49 AM |
| n-Hexane | 8,000 | 800 | | ppbv | 400 | 12/19/2012 8:05 PM |
| Naphthalene | ND | 400 | U | ppbv | 400 | 12/19/2012 8:05 PM |
| o-Xylene | 1,500 | 400 | | ppbv | 400 | 12/19/2012 8:05 PM |
| Propylene | ND | 400 | U | ppbv | 400 | 12/19/2012 8:05 PM |
| Styrene | ND | 400 | U | ppbv | 400 | 12/19/2012 8:05 PM |
| tert-Butyl Methyl Ether | ND | 400 | U | ppbv | 400 | 12/19/2012 8:05 PM |
| Tetrachloroethene | ND | 400 | U | ppbv | 400 | 12/19/2012 8:05 PM |
| Tetrahydrofuran | ND | 400 | U | ppbv | 400 | 12/19/2012 8:05 PM |
| Toluene | 15,000 | 400 | | ppbv | 400 | 12/19/2012 8:05 PM |
| trans-1,2-Dichloroethene | ND | 400 | U | ppbv | 400 | 12/19/2012 8:05 PM |
| trans-1,3-dichloropropene | ND | 400 | U | ppbv | 400 | 12/19/2012 8:05 PM |
| Trichloroethene | ND | 400 | U | ppbv | 400 | 12/19/2012 8:05 PM |
| Trichlorofluoromethane | ND | 400 | U | ppbv | 400 | 12/19/2012 8:05 PM |
| Vinyl acetate | ND | 400 | U | ppbv | 400 | 12/19/2012 8:05 PM |
| Vinyl chloride | ND | 400 | U | ppbv | 400 | 12/19/2012 8:05 PM |
| Xylenes, Total | 6,200 | 1,200 | | ppbv | 400 | 12/19/2012 8:05 PM |
| Surr: 4-Bromofluorobenzene | 110 | 70-130 | | %REC | 400 | 12/19/2012 8:05 PM |
| **Mass APH Air** | **Method:** | | | | | **Analyst: RH3** |
| **Air-Phase Petroleum Hydrocarbons** | | | | | | |
| C5-C8 Aliphatic Hydrocarbons | 860,000 | 94,000 | | µg/m³ | 800 | 12/20/2012 9:40 PM |
| C9-C10 Aromatic Hydrocarbons | ND | 110,000 | U | µg/m³ | 800 | 12/20/2012 9:40 PM |
| C9-C12 Aliphatic Hydrocarbons | 89,000 | 150,000 | J | µg/m³ | 800 | 12/20/2012 9:40 PM |
| Surr: 4-Bromofluorobenzene | 97.5 | 70-130 | | %REC | 800 | 12/20/2012 9:40 PM |

# RTI Laboratories - Analytical Report

**WO#: 1212373**

**Date Reported: 1/7/2013**
**Revision v2**

| | | | |
|---|---|---|---|
| **Client:** | Shaw Environmental & Infrastructure, Inc | **Collection Date:** | 12/3/2012 12:30:00 PM |
| **Project:** | Kirtland AFB | | |
| **Lab ID:** | 1212373-047 | **Matrix:** | Air |
| **Client Sample ID:** | VA2250 | | |

| Analysis | Result | RL | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **Noncondensable Gases and Light Hydrocarbons** | | **Method: ASTM-D2504** | | | | **Analyst: cr** |
| Carbon dioxide | 0.088 | 0.10 | J | % v/v | 1 | 12/28/2012 2:45 PM |
| Carbon Monoxide | ND | 0.10 | U | % v/v | 1 | 12/28/2012 2:45 PM |
| Methane | ND | 0.50 | U | % v/v | 1 | 12/28/2012 2:45 PM |
| Nitrogen | 82 | 0.10 | | % v/v | 1 | 12/28/2012 2:45 PM |
| Oxygen | 22 | 0.10 | | % v/v | 1 | 12/28/2012 2:45 PM |
| **Volatile Organic Compounds** | | **Method: TO-15** | | | | **Analyst: RH3** |
| 1,1,1-Trichloroethane | ND | 400 | U | ppbv | 400 | 12/19/2012 8:54 PM |
| 1,1,2,2-Tetrachloroethane | ND | 400 | U | ppbv | 400 | 12/19/2012 8:54 PM |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ND | 400 | U | ppbv | 400 | 12/19/2012 8:54 PM |
| 1,1,2-Trichloroethane | ND | 400 | U | ppbv | 400 | 12/19/2012 8:54 PM |
| 1,1-Dichloroethane | ND | 400 | U | ppbv | 400 | 12/19/2012 8:54 PM |
| 1,1-Dichloroethene | ND | 400 | U | ppbv | 400 | 12/19/2012 8:54 PM |
| 1,2,4-Trichlorobenzene | ND | 400 | U | ppbv | 400 | 12/19/2012 8:54 PM |
| 1,2,4-Trimethylbenzene | ND | 400 | U | ppbv | 400 | 12/19/2012 8:54 PM |
| 1,2-Dibromoethane | ND | 400 | U | ppbv | 400 | 12/19/2012 8:54 PM |
| 1,2-Dichlorobenzene | ND | 400 | U | ppbv | 400 | 12/19/2012 8:54 PM |
| 1,2-Dichloroethane | ND | 400 | U | ppbv | 400 | 12/19/2012 8:54 PM |
| 1,2-Dichloropropane | ND | 400 | U | ppbv | 400 | 12/19/2012 8:54 PM |
| 1,3,5-Trimethylbenzene | ND | 400 | U | ppbv | 400 | 12/19/2012 8:54 PM |
| 1,3-Butadiene | ND | 400 | U | ppbv | 400 | 12/19/2012 8:54 PM |
| 1,3-Dichlorobenzene | ND | 400 | U | ppbv | 400 | 12/19/2012 8:54 PM |
| 1,4-Dichlorobenzene | ND | 400 | U | ppbv | 400 | 12/19/2012 8:54 PM |
| 2-Butanone | ND | 400 | U | ppbv | 400 | 12/19/2012 8:54 PM |
| 2-Hexanone | ND | 400 | U | ppbv | 400 | 12/19/2012 8:54 PM |
| 4-Methyl-2-pentanone | ND | 400 | U | ppbv | 400 | 12/19/2012 8:54 PM |
| Acetone | 2,300 | 400 | | ppbv | 400 | 12/19/2012 8:54 PM |
| Benzene | 3,000 | 400 | | ppbv | 400 | 12/19/2012 8:54 PM |
| Benzyl chloride | ND | 400 | U | ppbv | 400 | 12/19/2012 8:54 PM |
| Bromodichloromethane | ND | 400 | U | ppbv | 400 | 12/19/2012 8:54 PM |
| Bromoform | ND | 400 | U | ppbv | 400 | 12/19/2012 8:54 PM |
| Bromomethane | ND | 400 | U | ppbv | 400 | 12/19/2012 8:54 PM |
| Carbon disulfide | ND | 400 | U | ppbv | 400 | 12/19/2012 8:54 PM |
| Carbon tetrachloride | ND | 400 | U | ppbv | 400 | 12/19/2012 8:54 PM |
| Chlorobenzene | ND | 400 | U | ppbv | 400 | 12/19/2012 8:54 PM |
| Chlorodibromomethane | ND | 400 | U | ppbv | 400 | 12/19/2012 8:54 PM |
| Chloroethane | ND | 400 | U | ppbv | 400 | 12/19/2012 8:54 PM |
| Chloroform | ND | 400 | U | ppbv | 400 | 12/19/2012 8:54 PM |
| Chloromethane | ND | 400 | U | ppbv | 400 | 12/19/2012 8:54 PM |
| cis-1,2-Dichloroethene | ND | 400 | U | ppbv | 400 | 12/19/2012 8:54 PM |
| cis-1,3-dichloropropene | ND | 400 | U | ppbv | 400 | 12/19/2012 8:54 PM |

# RTI Laboratories - Analytical Report

**WO#: 1212373**

**Date Reported: 1/7/2013**
**Revision v2**

| | | | |
|---|---|---|---|
| **Client:** | Shaw Environmental & Infrastructure, Inc | **Collection Date:** | 12/3/2012 12:30:00 PM |
| **Project:** | Kirtland AFB | | |
| **Lab ID:** | 1212373-047 | **Matrix:** | Air |
| **Client Sample ID:** | VA2250 | | |

| Analysis | Result | RL | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| Cyclohexane | 7,700 | 800 | | ppbv | 400 | 12/19/2012 8:54 PM |
| Dichlorodifluoromethane | ND | 400 | U | ppbv | 400 | 12/19/2012 8:54 PM |
| Ethyl acetate | ND | 400 | U | ppbv | 400 | 12/19/2012 8:54 PM |
| Ethylbenzene | 1,600 | 800 | | ppbv | 400 | 12/19/2012 8:54 PM |
| Heptane | 7,000 | 400 | | ppbv | 400 | 12/19/2012 8:54 PM |
| Hexachlorobutadiene | ND | 800 | U | ppbv | 400 | 12/19/2012 8:54 PM |
| m,p-Xylene | 4,000 | 800 | | ppbv | 400 | 12/19/2012 8:54 PM |
| Methylene chloride | 6,800 | 2,000 | | ppbv | 400 | 12/19/2012 8:54 PM |
| n-Hexane | 4,800 | 800 | | ppbv | 400 | 12/19/2012 8:54 PM |
| Naphthalene | ND | 400 | U | ppbv | 400 | 12/19/2012 8:54 PM |
| o-Xylene | 1,200 | 400 | | ppbv | 400 | 12/19/2012 8:54 PM |
| Propylene | ND | 400 | U | ppbv | 400 | 12/19/2012 8:54 PM |
| Styrene | ND | 400 | U | ppbv | 400 | 12/19/2012 8:54 PM |
| tert-Butyl Methyl Ether | ND | 400 | U | ppbv | 400 | 12/19/2012 8:54 PM |
| Tetrachloroethene | ND | 400 | U | ppbv | 400 | 12/19/2012 8:54 PM |
| Tetrahydrofuran | ND | 400 | U | ppbv | 400 | 12/19/2012 8:54 PM |
| Toluene | 13,000 | 400 | | ppbv | 400 | 12/19/2012 8:54 PM |
| trans-1,2-Dichloroethene | ND | 400 | U | ppbv | 400 | 12/19/2012 8:54 PM |
| trans-1,3-dichloropropene | ND | 400 | U | ppbv | 400 | 12/19/2012 8:54 PM |
| Trichloroethene | ND | 400 | U | ppbv | 400 | 12/19/2012 8:54 PM |
| Trichlorofluoromethane | ND | 400 | U | ppbv | 400 | 12/19/2012 8:54 PM |
| Vinyl acetate | ND | 400 | U | ppbv | 400 | 12/19/2012 8:54 PM |
| Vinyl chloride | ND | 400 | U | ppbv | 400 | 12/19/2012 8:54 PM |
| Xylenes, Total | 5,300 | 1,200 | | ppbv | 400 | 12/19/2012 8:54 PM |
| Surr: 4-Bromofluorobenzene | 107 | 70-130 | | %REC | 400 | 12/19/2012 8:54 PM |
| **Mass APH Air** | **Method:** | | | | | **Analyst: RH3** |
| **Air-Phase Petroleum Hydrocarbons** | | | | | | |
| C5-C8 Aliphatic Hydrocarbons | 750,000 | 94,000 | | µg/m³ | 800 | 12/20/2012 11:12 PM |
| C9-C10 Aromatic Hydrocarbons | ND | 110,000 | U | µg/m³ | 800 | 12/20/2012 11:12 PM |
| C9-C12 Aliphatic Hydrocarbons | 100,000 | 150,000 | J | µg/m³ | 800 | 12/20/2012 11:12 PM |
| Surr: 4-Bromofluorobenzene | 104 | 70-130 | | %REC | 800 | 12/20/2012 11:12 PM |

# RTI Laboratories - Analytical Report

**WO#: 1212373**

**Date Reported: 1/7/2013**
**Revision v2**

| | | | |
|---|---|---|---|
| **Client:** | Shaw Environmental & Infrastructure, Inc | **Collection Date:** | 12/3/2012 1:06:00 PM |
| **Project:** | Kirtland AFB | | |
| **Lab ID:** | 1212373-048 | **Matrix:** | Air |
| **Client Sample ID:** | VA2251 | | |

| Analysis | Result | RL | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **Noncondensable Gases and Light Hydrocarbons** | | **Method: ASTM-D2504** | | | | **Analyst: cr** |
| Carbon dioxide | 0.13 | 0.10 | | % v/v | 1 | 12/28/2012 2:59 PM |
| Carbon Monoxide | ND | 0.10 | U | % v/v | 1 | 12/28/2012 2:59 PM |
| Methane | ND | 0.50 | U | % v/v | 1 | 12/28/2012 2:59 PM |
| Nitrogen | 82 | 0.10 | | % v/v | 1 | 12/28/2012 2:59 PM |
| Oxygen | 22 | 0.10 | | % v/v | 1 | 12/28/2012 2:59 PM |
| **Volatile Organic Compounds** | | **Method: TO-15** | | | | **Analyst: RH3** |
| 1,1,1-Trichloroethane | ND | 400 | U | ppbv | 400 | 12/19/2012 9:44 PM |
| 1,1,2,2-Tetrachloroethane | ND | 400 | U | ppbv | 400 | 12/19/2012 9:44 PM |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ND | 400 | U | ppbv | 400 | 12/19/2012 9:44 PM |
| 1,1,2-Trichloroethane | ND | 400 | U | ppbv | 400 | 12/19/2012 9:44 PM |
| 1,1-Dichloroethane | ND | 400 | U | ppbv | 400 | 12/19/2012 9:44 PM |
| 1,1-Dichloroethene | ND | 400 | U | ppbv | 400 | 12/19/2012 9:44 PM |
| 1,2,4-Trichlorobenzene | ND | 400 | U | ppbv | 400 | 12/19/2012 9:44 PM |
| 1,2,4-Trimethylbenzene | ND | 400 | U | ppbv | 400 | 12/19/2012 9:44 PM |
| 1,2-Dibromoethane | ND | 400 | U | ppbv | 400 | 12/19/2012 9:44 PM |
| 1,2-Dichlorobenzene | ND | 400 | U | ppbv | 400 | 12/19/2012 9:44 PM |
| 1,2-Dichloroethane | ND | 400 | U | ppbv | 400 | 12/19/2012 9:44 PM |
| 1,2-Dichloropropane | ND | 400 | U | ppbv | 400 | 12/19/2012 9:44 PM |
| 1,3,5-Trimethylbenzene | ND | 400 | U | ppbv | 400 | 12/19/2012 9:44 PM |
| 1,3-Butadiene | ND | 400 | U | ppbv | 400 | 12/19/2012 9:44 PM |
| 1,3-Dichlorobenzene | ND | 400 | U | ppbv | 400 | 12/19/2012 9:44 PM |
| 1,4-Dichlorobenzene | ND | 400 | U | ppbv | 400 | 12/19/2012 9:44 PM |
| 2-Butanone | 590 | 400 | | ppbv | 400 | 12/19/2012 9:44 PM |
| 2-Hexanone | ND | 400 | U | ppbv | 400 | 12/19/2012 9:44 PM |
| 4-Methyl-2-pentanone | ND | 400 | U | ppbv | 400 | 12/19/2012 9:44 PM |
| Acetone | 6,000 | 400 | | ppbv | 400 | 12/19/2012 9:44 PM |
| Benzene | 2,700 | 400 | | ppbv | 400 | 12/19/2012 9:44 PM |
| Benzyl chloride | ND | 400 | U | ppbv | 400 | 12/19/2012 9:44 PM |
| Bromodichloromethane | ND | 400 | U | ppbv | 400 | 12/19/2012 9:44 PM |
| Bromoform | ND | 400 | U | ppbv | 400 | 12/19/2012 9:44 PM |
| Bromomethane | ND | 400 | U | ppbv | 400 | 12/19/2012 9:44 PM |
| Carbon disulfide | ND | 400 | U | ppbv | 400 | 12/19/2012 9:44 PM |
| Carbon tetrachloride | ND | 400 | U | ppbv | 400 | 12/19/2012 9:44 PM |
| Chlorobenzene | ND | 400 | U | ppbv | 400 | 12/19/2012 9:44 PM |
| Chlorodibromomethane | ND | 400 | U | ppbv | 400 | 12/19/2012 9:44 PM |
| Chloroethane | ND | 400 | U | ppbv | 400 | 12/19/2012 9:44 PM |
| Chloroform | ND | 400 | U | ppbv | 400 | 12/19/2012 9:44 PM |
| Chloromethane | ND | 400 | U | ppbv | 400 | 12/19/2012 9:44 PM |
| cis-1,2-Dichloroethene | ND | 400 | U | ppbv | 400 | 12/19/2012 9:44 PM |
| cis-1,3-dichloropropene | ND | 400 | U | ppbv | 400 | 12/19/2012 9:44 PM |

# RTI Laboratories - Analytical Report

**WO#: 1212373**

**Date Reported: 1/7/2013**
**Revision v2**

| | | | |
|---|---|---|---|
| **Client:** | Shaw Environmental & Infrastructure, Inc | **Collection Date:** | 12/3/2012 1:06:00 PM |
| **Project:** | Kirtland AFB | | |
| **Lab ID:** | 1212373-048 | **Matrix:** | Air |
| **Client Sample ID:** | VA2251 | | |

| Analysis | Result | RL | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| Cyclohexane | 6,500 | 800 | | ppbv | 400 | 12/19/2012 9:44 PM |
| Dichlorodifluoromethane | ND | 400 | U | ppbv | 400 | 12/19/2012 9:44 PM |
| Ethyl acetate | ND | 400 | U | ppbv | 400 | 12/19/2012 9:44 PM |
| Ethylbenzene | 1,400 | 800 | | ppbv | 400 | 12/19/2012 9:44 PM |
| Heptane | 6,300 | 400 | | ppbv | 400 | 12/19/2012 9:44 PM |
| Hexachlorobutadiene | ND | 800 | U | ppbv | 400 | 12/19/2012 9:44 PM |
| m,p-Xylene | 3,400 | 800 | | ppbv | 400 | 12/19/2012 9:44 PM |
| Methylene chloride | 15,000 | 2,000 | | ppbv | 400 | 12/19/2012 9:44 PM |
| n-Hexane | 6,300 | 800 | | ppbv | 400 | 12/19/2012 9:44 PM |
| Naphthalene | ND | 400 | U | ppbv | 400 | 12/19/2012 9:44 PM |
| o-Xylene | 1,000 | 400 | | ppbv | 400 | 12/19/2012 9:44 PM |
| Propylene | ND | 400 | U | ppbv | 400 | 12/19/2012 9:44 PM |
| Styrene | ND | 400 | U | ppbv | 400 | 12/19/2012 9:44 PM |
| tert-Butyl Methyl Ether | ND | 400 | U | ppbv | 400 | 12/19/2012 9:44 PM |
| Tetrachloroethene | ND | 400 | U | ppbv | 400 | 12/19/2012 9:44 PM |
| Tetrahydrofuran | ND | 400 | U | ppbv | 400 | 12/19/2012 9:44 PM |
| Toluene | 12,000 | 400 | | ppbv | 400 | 12/19/2012 9:44 PM |
| trans-1,2-Dichloroethene | ND | 400 | U | ppbv | 400 | 12/19/2012 9:44 PM |
| trans-1,3-dichloropropene | ND | 400 | U | ppbv | 400 | 12/19/2012 9:44 PM |
| Trichloroethene | ND | 400 | U | ppbv | 400 | 12/19/2012 9:44 PM |
| Trichlorofluoromethane | ND | 400 | U | ppbv | 400 | 12/19/2012 9:44 PM |
| Vinyl acetate | ND | 400 | U | ppbv | 400 | 12/19/2012 9:44 PM |
| Vinyl chloride | ND | 400 | U | ppbv | 400 | 12/19/2012 9:44 PM |
| Xylenes, Total | 4,500 | 1,200 | | ppbv | 400 | 12/19/2012 9:44 PM |
| Surr: 4-Bromofluorobenzene | 107 | 70-130 | | %REC | 400 | 12/19/2012 9:44 PM |
| **Mass APH Air** | **Method:** | | | | | **Analyst: RH3** |
| **Air-Phase Petroleum Hydrocarbons** | | | | | | |
| C5-C8 Aliphatic Hydrocarbons | 610,000 | 94,000 | | µg/m³ | 800 | 12/21/2012 12:48 AM |
| C9-C10 Aromatic Hydrocarbons | ND | 110,000 | U | µg/m³ | 800 | 12/21/2012 12:48 AM |
| C9-C12 Aliphatic Hydrocarbons | 70,000 | 150,000 | J | µg/m³ | 800 | 12/21/2012 12:48 AM |
| Surr: 4-Bromofluorobenzene | 101 | 70-130 | | %REC | 800 | 12/21/2012 12:48 AM |

# RTI Laboratories - Analytical Report

**WO#: 1212373**

**Date Reported: 1/7/2013**
**Revision v2**

| | | | |
|---|---|---|---|
| **Client:** | Shaw Environmental & Infrastructure, Inc | **Collection Date:** | 11/29/2012 8:00:00 AM |
| **Project:** | Kirtland AFB | | |
| **Lab ID:** | 1212373-049 | **Matrix:** | Air |
| **Client Sample ID:** | VA8107-TB | | |

| Analysis | Result | RL | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **Volatile Organic Compounds** | **Method: TO-15** | | | | | **Analyst: RH3** |
| 1,1,1-Trichloroethane | ND | 2.0 | U | ppbv | 2 | 12/19/2012 4:53 PM |
| 1,1,2,2-Tetrachloroethane | ND | 2.0 | U | ppbv | 2 | 12/19/2012 4:53 PM |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ND | 2.0 | U | ppbv | 2 | 12/19/2012 4:53 PM |
| 1,1,2-Trichloroethane | ND | 2.0 | U | ppbv | 2 | 12/19/2012 4:53 PM |
| 1,1-Dichloroethane | ND | 2.0 | U | ppbv | 2 | 12/19/2012 4:53 PM |
| 1,1-Dichloroethene | ND | 2.0 | U | ppbv | 2 | 12/19/2012 4:53 PM |
| 1,2,4-Trichlorobenzene | ND | 2.0 | U | ppbv | 2 | 12/19/2012 4:53 PM |
| 1,2,4-Trimethylbenzene | ND | 2.0 | U | ppbv | 2 | 12/19/2012 4:53 PM |
| 1,2-Dibromoethane | ND | 2.0 | U | ppbv | 2 | 12/19/2012 4:53 PM |
| 1,2-Dichlorobenzene | ND | 2.0 | U | ppbv | 2 | 12/19/2012 4:53 PM |
| 1,2-Dichloroethane | ND | 2.0 | U | ppbv | 2 | 12/19/2012 4:53 PM |
| 1,2-Dichloropropane | ND | 2.0 | U | ppbv | 2 | 12/19/2012 4:53 PM |
| 1,3,5-Trimethylbenzene | ND | 2.0 | U | ppbv | 2 | 12/19/2012 4:53 PM |
| 1,3-Butadiene | ND | 2.0 | U | ppbv | 2 | 12/19/2012 4:53 PM |
| 1,3-Dichlorobenzene | ND | 2.0 | U | ppbv | 2 | 12/19/2012 4:53 PM |
| 1,4-Dichlorobenzene | ND | 2.0 | U | ppbv | 2 | 12/19/2012 4:53 PM |
| 2-Butanone | 3.1 | 2.0 | | ppbv | 2 | 12/19/2012 4:53 PM |
| 2-Hexanone | ND | 2.0 | U | ppbv | 2 | 12/19/2012 4:53 PM |
| 4-Methyl-2-pentanone | ND | 2.0 | U | ppbv | 2 | 12/19/2012 4:53 PM |
| Acetone | 11 | 2.0 | | ppbv | 2 | 12/19/2012 4:53 PM |
| Benzene | 27 | 2.0 | | ppbv | 2 | 12/19/2012 4:53 PM |
| Benzyl chloride | ND | 2.0 | U | ppbv | 2 | 12/19/2012 4:53 PM |
| Bromodichloromethane | ND | 2.0 | U | ppbv | 2 | 12/19/2012 4:53 PM |
| Bromoform | ND | 2.0 | U | ppbv | 2 | 12/19/2012 4:53 PM |
| Bromomethane | ND | 2.0 | U | ppbv | 2 | 12/19/2012 4:53 PM |
| Carbon disulfide | ND | 2.0 | U | ppbv | 2 | 12/19/2012 4:53 PM |
| Carbon tetrachloride | ND | 2.0 | U | ppbv | 2 | 12/19/2012 4:53 PM |
| Chlorobenzene | ND | 2.0 | U | ppbv | 2 | 12/19/2012 4:53 PM |
| Chlorodibromomethane | ND | 2.0 | U | ppbv | 2 | 12/19/2012 4:53 PM |
| Chloroethane | ND | 2.0 | U | ppbv | 2 | 12/19/2012 4:53 PM |
| Chloroform | ND | 2.0 | U | ppbv | 2 | 12/19/2012 4:53 PM |
| Chloromethane | ND | 2.0 | U | ppbv | 2 | 12/19/2012 4:53 PM |
| cis-1,2-Dichloroethene | ND | 2.0 | U | ppbv | 2 | 12/19/2012 4:53 PM |
| cis-1,3-dichloropropene | ND | 2.0 | U | ppbv | 2 | 12/19/2012 4:53 PM |
| Cyclohexane | 76 | 4.0 | | ppbv | 2 | 12/19/2012 4:53 PM |
| Dichlorodifluoromethane | ND | 2.0 | U | ppbv | 2 | 12/19/2012 4:53 PM |
| Ethyl acetate | ND | 2.0 | U | ppbv | 2 | 12/19/2012 4:53 PM |
| Ethylbenzene | 3.0 | 4.0 | J | ppbv | 2 | 12/19/2012 4:53 PM |
| Heptane | 42 | 2.0 | | ppbv | 2 | 12/19/2012 4:53 PM |
| Hexachlorobutadiene | ND | 4.0 | U | ppbv | 2 | 12/19/2012 4:53 PM |
| m,p-Xylene | 8.7 | 4.0 | | ppbv | 2 | 12/19/2012 4:53 PM |
| Methylene chloride | 6.2 | 10 | J | ppbv | 2 | 12/19/2012 4:53 PM |

# RTI Laboratories - Analytical Report

**WO#: 1212373**

**Date Reported: 1/7/2013**
**Revision v2**

| | | | |
|---|---|---|---|
| **Client:** | Shaw Environmental & Infrastructure, Inc | **Collection Date:** | 11/29/2012 8:00:00 AM |
| **Project:** | Kirtland AFB | | |
| **Lab ID:** | 1212373-049 | **Matrix:** | Air |
| **Client Sample ID:** | VA8107-TB | | |

| Analysis | Result | RL | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| n-Hexane | 75 | 4.0 | | ppbv | 2 | 12/19/2012 4:53 PM |
| Naphthalene | ND | 2.0 | U | ppbv | 2 | 12/19/2012 4:53 PM |
| o-Xylene | 2.7 | 2.0 | | ppbv | 2 | 12/19/2012 4:53 PM |
| Propylene | ND | 2.0 | U | ppbv | 2 | 12/19/2012 4:53 PM |
| Styrene | ND | 2.0 | U | ppbv | 2 | 12/19/2012 4:53 PM |
| tert-Butyl Methyl Ether | ND | 2.0 | U | ppbv | 2 | 12/19/2012 4:53 PM |
| Tetrachloroethene | ND | 2.0 | U | ppbv | 2 | 12/19/2012 4:53 PM |
| Tetrahydrofuran | ND | 2.0 | U | ppbv | 2 | 12/19/2012 4:53 PM |
| Toluene | 46 | 2.0 | | ppbv | 2 | 12/19/2012 4:53 PM |
| trans-1,2-Dichloroethene | ND | 2.0 | U | ppbv | 2 | 12/19/2012 4:53 PM |
| trans-1,3-dichloropropene | ND | 2.0 | U | ppbv | 2 | 12/19/2012 4:53 PM |
| Trichloroethene | ND | 2.0 | U | ppbv | 2 | 12/19/2012 4:53 PM |
| Trichlorofluoromethane | ND | 2.0 | U | ppbv | 2 | 12/19/2012 4:53 PM |
| Vinyl acetate | ND | 2.0 | U | ppbv | 2 | 12/19/2012 4:53 PM |
| Vinyl chloride | ND | 2.0 | U | ppbv | 2 | 12/19/2012 4:53 PM |
| Xylenes, Total | 11 | 6.0 | | ppbv | 2 | 12/19/2012 4:53 PM |
| Surr: 4-Bromofluorobenzene | 107 | 70-130 | | %REC | 2 | 12/19/2012 4:53 PM |

# RTI Laboratories - QC SUMMARY REPORT

**WO#: 1212373**

**Date Reported: 1/7/2013**
**Revision v2**

**Client:** Shaw Environmental & Infrastructure, Inc

**Project:** Kirtland AFB **Batch ID:** **R54613**

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | **MBLK VOA1 121312** | Samp Type: | **MBLK** | Test Code: | **EPA_TO15** | Units: | **ppbv** | Prep Date: | | RunNo: | **54613** |
| Client ID: | **PBW** | Batch ID: | **R54613** | TestNo: | **TO-15** | | | Analysis Date: | **12/13/2012** | SeqNo: | **1076253** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | Low Limit | High Limit | RPD Ref Value | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | ND | 1.0 | | | | | | | | | U |
| 1,1,2,2-Tetrachloroethane | ND | 1.0 | | | | | | | | | U |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ND | 1.0 | | | | | | | | | U |
| 1,1,2-Trichloroethane | ND | 1.0 | | | | | | | | | U |
| 1,1-Dichloroethane | ND | 1.0 | | | | | | | | | U |
| 1,1-Dichloroethene | ND | 1.0 | | | | | | | | | U |
| 1,2,4-Trichlorobenzene | ND | 1.0 | | | | | | | | | U |
| 1,2,4-Trimethylbenzene | ND | 1.0 | | | | | | | | | U |
| 1,2-Dibromoethane | ND | 1.0 | | | | | | | | | U |
| 1,2-Dichlorobenzene | ND | 1.0 | | | | | | | | | U |
| 1,2-Dichloroethane | ND | 1.0 | | | | | | | | | U |
| 1,2-Dichloropropane | ND | 1.0 | | | | | | | | | U |
| 1,3,5-Trimethylbenzene | ND | 1.0 | | | | | | | | | U |
| 1,3-Butadiene | ND | 1.0 | | | | | | | | | U |
| 1,3-Dichlorobenzene | ND | 1.0 | | | | | | | | | U |
| 1,4-Dichlorobenzene | ND | 1.0 | | | | | | | | | U |
| 2-Butanone | ND | 1.0 | | | | | | | | | U |
| 2-Hexanone | ND | 1.0 | | | | | | | | | U |
| 4-Methyl-2-pentanone | ND | 1.0 | | | | | | | | | U |
| Acetone | ND | 1.0 | | | | | | | | | U |
| Benzene | ND | 1.0 | | | | | | | | | U |
| Benzyl chloride | ND | 1.0 | | | | | | | | | U |
| Bromodichloromethane | ND | 1.0 | | | | | | | | | U |
| Bromoform | ND | 1.0 | | | | | | | | | U |
| Bromomethane | ND | 1.0 | | | | | | | | | U |
| Carbon disulfide | ND | 1.0 | | | | | | | | | U |
| Carbon tetrachloride | ND | 1.0 | | | | | | | | | U |
| Chlorobenzene | ND | 1.0 | | | | | | | | | U |
| Chlorodibromomethane | ND | 1.0 | | | | | | | | | U |
| Chloroethane | ND | 1.0 | | | | | | | | | U |
| Chloroform | ND | 1.0 | | | | | | | | | U |

# RTI Laboratories - QC SUMMARY REPORT

**WO#: 1212373**

**Date Reported: 1/7/2013**
**Revision v2**

**Client:** Shaw Environmental & Infrastructure, Inc

**Project:** Kirtland AFB **Batch ID:** **R54613**

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | **MBLK VOA1 121312** | Samp Type: | **MBLK** | Test Code: | **EPA_TO15** | Units: | **ppbv** | Prep Date: | | RunNo: | **54613** |
| Client ID: | **PBW** | Batch ID: | **R54613** | TestNo: | **TO-15** | | | Analysis Date: | **12/13/2012** | SeqNo: | **1076253** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | Low Limit | High Limit | RPD Ref Value | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloromethane | ND | 1.0 | | | | | | | | | U |
| cis-1,2-Dichloroethene | ND | 1.0 | | | | | | | | | U |
| cis-1,3-dichloropropene | ND | 1.0 | | | | | | | | | U |
| Cyclohexane | ND | 2.0 | | | | | | | | | U |
| Dichlorodifluoromethane | ND | 1.0 | | | | | | | | | U |
| Ethyl acetate | ND | 1.0 | | | | | | | | | U |
| Ethylbenzene | ND | 2.0 | | | | | | | | | U |
| Heptane | ND | 1.0 | | | | | | | | | U |
| Hexachlorobutadiene | ND | 2.0 | | | | | | | | | U |
| m,p-Xylene | ND | 2.0 | | | | | | | | | U |
| Methylene chloride | ND | 5.0 | | | | | | | | | U |
| n-Hexane | ND | 2.0 | | | | | | | | | U |
| Naphthalene | ND | 1.0 | | | | | | | | | U |
| o-Xylene | ND | 1.0 | | | | | | | | | U |
| Propylene | ND | 1.0 | | | | | | | | | U |
| Styrene | ND | 1.0 | | | | | | | | | U |
| tert-Butyl Methyl Ether | ND | 1.0 | | | | | | | | | U |
| Tetrachloroethene | ND | 1.0 | | | | | | | | | U |
| Tetrahydrofuran | ND | 1.0 | | | | | | | | | U |
| Toluene | ND | 1.0 | | | | | | | | | U |
| trans-1,2-Dichloroethene | ND | 1.0 | | | | | | | | | U |
| trans-1,3-dichloropropene | ND | 1.0 | | | | | | | | | U |
| Trichloroethene | ND | 1.0 | | | | | | | | | U |
| Trichlorofluoromethane | ND | 1.0 | | | | | | | | | U |
| Vinyl acetate | ND | 1.0 | | | | | | | | | U |
| Vinyl chloride | ND | 1.0 | | | | | | | | | U |
| Xylenes, Total | ND | 3.0 | | | | | | | | | U |
| Surr: 4-Bromofluorobenzene | 12 | | 12.50 | | 96.7 | 70 | 130 | | | | |

# RTI Laboratories - QC SUMMARY REPORT

**WO#: 1212373**

**Date Reported: 1/7/2013**
**Revision v2**

**Client:** Shaw Environmental & Infrastructure, Inc

**Project:** Kirtland AFB **Batch ID:** **R54613**

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | **1212185-057ADUP** | Samp Type: | **DUP** | Test Code: | **EPA_TO15** | Units: | **ppbv** | Prep Date: | | RunNo: | **54613** |
| Client ID: | **ZZZZZZ** | Batch ID: | **R54613** | TestNo: | **TO-15** | | | Analysis Date: | **12/14/2012** | SeqNo: | **1076262** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | Low Limit | High Limit | RPD Ref Value | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | ND | 800 | | | | | | 0 | 0 | 25 | U |
| 1,1,2,2-Tetrachloroethane | ND | 800 | | | | | | 0 | 0 | 25 | U |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ND | 800 | | | | | | 0 | 0 | 25 | U |
| 1,1,2-Trichloroethane | ND | 800 | | | | | | 0 | 0 | 25 | U |
| 1,1-Dichloroethane | ND | 800 | | | | | | 0 | 0 | 25 | U |
| 1,1-Dichloroethene | ND | 800 | | | | | | 0 | 0 | 25 | U |
| 1,2,4-Trichlorobenzene | ND | 800 | | | | | | 0 | 0 | 25 | U |
| 1,2,4-Trimethylbenzene | ND | 800 | | | | | | 0 | 0 | 25 | U |
| 1,2-Dibromoethane | ND | 800 | | | | | | 0 | 0 | 25 | U |
| 1,2-Dichlorobenzene | ND | 800 | | | | | | 0 | 0 | 25 | U |
| 1,2-Dichloroethane | ND | 800 | | | | | | 0 | 0 | 25 | U |
| 1,2-Dichloropropane | ND | 800 | | | | | | 0 | 0 | 25 | U |
| 1,3,5-Trimethylbenzene | ND | 800 | | | | | | 0 | 0 | 25 | U |
| 1,3-Butadiene | ND | 800 | | | | | | 0 | 0 | 25 | U |
| 1,3-Dichlorobenzene | ND | 800 | | | | | | 0 | 0 | 25 | U |
| 1,4-Dichlorobenzene | ND | 800 | | | | | | 0 | 0 | 25 | U |
| 2-Butanone | ND | 800 | | | | | | 0 | 0 | 25 | U |
| 2-Hexanone | ND | 800 | | | | | | 0 | 0 | 25 | U |
| 4-Methyl-2-pentanone | ND | 800 | | | | | | 0 | 0 | 25 | U |
| Acetone | 1,300 | 800 | | | | | | 1,192 | 12.0 | 25 | |
| Benzene | 4,500 | 800 | | | | | | 4,200 | 6.99 | 25 | |
| Benzyl chloride | ND | 800 | | | | | | 0 | 0 | 25 | U |
| Bromodichloromethane | ND | 800 | | | | | | 0 | 0 | 25 | U |
| Bromoform | ND | 800 | | | | | | 0 | 0 | 25 | U |
| Bromomethane | ND | 800 | | | | | | 0 | 0 | 25 | U |
| Carbon disulfide | ND | 800 | | | | | | 0 | 0 | 25 | U |
| Carbon tetrachloride | ND | 800 | | | | | | 0 | 0 | 25 | U |
| Chlorobenzene | ND | 800 | | | | | | 0 | 0 | 25 | U |
| Chlorodibromomethane | ND | 800 | | | | | | 0 | 0 | 25 | U |
| Chloroethane | ND | 800 | | | | | | 0 | 0 | 25 | U |
| Chloroform | ND | 800 | | | | | | 0 | 0 | 25 | U |

# RTI Laboratories - QC SUMMARY REPORT

**WO#: 1212373**

**Date Reported: 1/7/2013**
**Revision v2**

**Client:** Shaw Environmental & Infrastructure, Inc

**Project:** Kirtland AFB **Batch ID:** **R54613**

| Sample ID: | **1212185-057ADUP** | Samp Type: | **DUP** | Test Code: | **EPA_TO15** | Units: | **ppbv** | Prep Date: | | RunNo: | **54613** |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Client ID: | **ZZZZZZ** | Batch ID: | **R54613** | TestNo: | **TO-15** | | | Analysis Date: | **12/14/2012** | SeqNo: | **1076262** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | Low Limit | High Limit | RPD Ref Value | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloromethane | ND | 800 | | | | | | 0 | 0 | 25 | U |
| cis-1,2-Dichloroethene | ND | 800 | | | | | | 0 | 0 | 25 | U |
| cis-1,3-dichloropropene | ND | 800 | | | | | | 0 | 0 | 25 | U |
| Cyclohexane | 15,000 | 1,600 | | | | | | 14,950 | 3.11 | 25 | |
| Dichlorodifluoromethane | ND | 800 | | | | | | 0 | 0 | 25 | U |
| Ethyl acetate | ND | 800 | | | | | | 0 | 0 | 25 | U |
| Ethylbenzene | ND | 1,600 | | | | | | 0 | 0 | 25 | U |
| Heptane | 3,600 | 800 | | | | | | 3,504 | 2.70 | 25 | |
| Hexachlorobutadiene | ND | 1,600 | | | | | | 0 | 0 | 25 | U |
| m,p-Xylene | ND | 1,600 | | | | | | 0 | 0 | 25 | U |
| Methylene chloride | 21,000 | 4,000 | | | | | | 19,820 | 5.15 | 25 | |
| n-Hexane | 20,000 | 1,600 | | | | | | 19,210 | 6.10 | 25 | |
| Naphthalene | ND | 800 | | | | | | 0 | 0 | 25 | U |
| o-Xylene | ND | 800 | | | | | | 0 | 0 | 25 | U |
| Propylene | ND | 800 | | | | | | 0 | 0 | 25 | U |
| Styrene | ND | 800 | | | | | | 0 | 0 | 25 | U |
| tert-Butyl Methyl Ether | ND | 800 | | | | | | 0 | 0 | 25 | U |
| Tetrachloroethene | ND | 800 | | | | | | 0 | 0 | 25 | U |
| Tetrahydrofuran | ND | 800 | | | | | | 0 | 0 | 25 | U |
| Toluene | 9,100 | 800 | | | | | | 8,768 | 4.11 | 25 | |
| trans-1,2-Dichloroethene | ND | 800 | | | | | | 0 | 0 | 25 | U |
| trans-1,3-dichloropropene | ND | 800 | | | | | | 0 | 0 | 25 | U |
| Trichloroethene | ND | 800 | | | | | | 0 | 0 | 25 | U |
| Trichlorofluoromethane | ND | 800 | | | | | | 0 | 0 | 25 | U |
| Vinyl acetate | ND | 800 | | | | | | 0 | 0 | 25 | U |
| Vinyl chloride | ND | 800 | | | | | | 0 | 0 | 25 | U |
| Xylenes, Total | ND | 2,400 | | | | | | 0 | 0 | 25 | U |
| Surr: 4-Bromofluorobenzene | 9,900 | | 10,000 | | 99.3 | 70 | 130 | | 0 | 25 | |

# RTI Laboratories - QC SUMMARY REPORT

**WO#: 1212373**

**Date Reported: 1/7/2013**
**Revision v2**

**Client:** Shaw Environmental & Infrastructure, Inc

**Project:** Kirtland AFB **Batch ID:** **R54678**

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | **MBLK/DBVCC 128 1** | Samp Type: | **MBLK** | Test Code: | **EPA_TO15** | Units: | **ppbv** | Prep Date: | | RunNo: | **54678** |
| Client ID: | **PBW** | Batch ID: | **R54678** | TestNo: | **TO-15** | | | Analysis Date: | **12/17/2012** | SeqNo: | **1077780** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | Low Limit | High Limit | RPD Ref Value | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | ND | 1.0 | | | | | | | | | U |
| 1,1,2,2-Tetrachloroethane | ND | 1.0 | | | | | | | | | U |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ND | 1.0 | | | | | | | | | U |
| 1,1,2-Trichloroethane | ND | 1.0 | | | | | | | | | U |
| 1,1-Dichloroethane | ND | 1.0 | | | | | | | | | U |
| 1,1-Dichloroethene | ND | 1.0 | | | | | | | | | U |
| 1,2,4-Trichlorobenzene | ND | 1.0 | | | | | | | | | U |
| 1,2,4-Trimethylbenzene | ND | 1.0 | | | | | | | | | U |
| 1,2-Dibromoethane | ND | 1.0 | | | | | | | | | U |
| 1,2-Dichlorobenzene | ND | 1.0 | | | | | | | | | U |
| 1,2-Dichloroethane | ND | 1.0 | | | | | | | | | U |
| 1,2-Dichloropropane | ND | 1.0 | | | | | | | | | U |
| 1,3,5-Trimethylbenzene | ND | 1.0 | | | | | | | | | U |
| 1,3-Butadiene | ND | 1.0 | | | | | | | | | U |
| 1,3-Dichlorobenzene | ND | 1.0 | | | | | | | | | U |
| 1,4-Dichlorobenzene | ND | 1.0 | | | | | | | | | U |
| 2-Butanone | ND | 1.0 | | | | | | | | | U |
| 2-Hexanone | ND | 1.0 | | | | | | | | | U |
| 4-Methyl-2-pentanone | ND | 1.0 | | | | | | | | | U |
| Acetone | ND | 1.0 | | | | | | | | | U |
| Benzene | ND | 1.0 | | | | | | | | | U |
| Benzyl chloride | ND | 1.0 | | | | | | | | | U |
| Bromodichloromethane | ND | 1.0 | | | | | | | | | U |
| Bromoform | ND | 1.0 | | | | | | | | | U |
| Bromomethane | ND | 1.0 | | | | | | | | | U |
| Carbon disulfide | ND | 1.0 | | | | | | | | | U |
| Carbon tetrachloride | ND | 1.0 | | | | | | | | | U |
| Chlorobenzene | ND | 1.0 | | | | | | | | | U |
| Chlorodibromomethane | ND | 1.0 | | | | | | | | | U |
| Chloroethane | ND | 1.0 | | | | | | | | | U |
| Chloroform | ND | 1.0 | | | | | | | | | U |

# RTI Laboratories - QC SUMMARY REPORT

**WO#: 1212373**

**Date Reported: 1/7/2013**
**Revision v2**

**Client:** Shaw Environmental & Infrastructure, Inc

**Project:** Kirtland AFB **Batch ID:** **R54678**

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | **MBLK/DBVCC 128 1** | Samp Type: | **MBLK** | Test Code: | **EPA_TO15** | Units: | **ppbv** | Prep Date: | | RunNo: | **54678** |
| Client ID: | **PBW** | Batch ID: | **R54678** | TestNo: | **TO-15** | | | Analysis Date: | **12/17/2012** | SeqNo: | **1077780** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | Low Limit | High Limit | RPD Ref Value | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloromethane | ND | 1.0 | | | | | | | | | U |
| cis-1,2-Dichloroethene | ND | 1.0 | | | | | | | | | U |
| cis-1,3-dichloropropene | ND | 1.0 | | | | | | | | | U |
| Cyclohexane | ND | 2.0 | | | | | | | | | U |
| Dichlorodifluoromethane | ND | 1.0 | | | | | | | | | U |
| Ethyl acetate | ND | 1.0 | | | | | | | | | U |
| Ethylbenzene | ND | 2.0 | | | | | | | | | U |
| Heptane | ND | 1.0 | | | | | | | | | U |
| Hexachlorobutadiene | ND | 2.0 | | | | | | | | | U |
| m,p-Xylene | ND | 2.0 | | | | | | | | | U |
| Methylene chloride | ND | 5.0 | | | | | | | | | U |
| n-Hexane | ND | 2.0 | | | | | | | | | U |
| Naphthalene | ND | 1.0 | | | | | | | | | U |
| o-Xylene | ND | 1.0 | | | | | | | | | U |
| Propylene | ND | 1.0 | | | | | | | | | U |
| Styrene | ND | 1.0 | | | | | | | | | U |
| tert-Butyl Methyl Ether | ND | 1.0 | | | | | | | | | U |
| Tetrachloroethene | ND | 1.0 | | | | | | | | | U |
| Tetrahydrofuran | ND | 1.0 | | | | | | | | | U |
| Toluene | ND | 1.0 | | | | | | | | | U |
| trans-1,2-Dichloroethene | ND | 1.0 | | | | | | | | | U |
| trans-1,3-dichloropropene | ND | 1.0 | | | | | | | | | U |
| Trichloroethene | ND | 1.0 | | | | | | | | | U |
| Trichlorofluoromethane | ND | 1.0 | | | | | | | | | U |
| Vinyl acetate | ND | 1.0 | | | | | | | | | U |
| Vinyl chloride | ND | 1.0 | | | | | | | | | U |
| Xylenes, Total | ND | 3.0 | | | | | | | | | U |
| Surr: 4-Bromofluorobenzene | 11 | | 12.50 | | 90.4 | 70 | 130 | | | | |

# RTI Laboratories - QC SUMMARY REPORT

**WO#: 1212373**

**Date Reported: 1/7/2013**
**Revision v2**

**Client:** Shaw Environmental & Infrastructure, Inc

**Project:** Kirtland AFB **Batch ID:** **R54678**

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | **1212373-043ADUP** | Samp Type: | **DUP** | Test Code: | **EPA_TO15** | Units: | **ppbv** | Prep Date: | | RunNo: | **54678** |
| Client ID: | **VA2246** | Batch ID: | **R54678** | TestNo: | **TO-15** | | | Analysis Date: | **12/18/2012** | SeqNo: | **1077790** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | Low Limit | High Limit | RPD Ref Value | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | ND | 800 | | | | | | 0 | 0 | 25 | U |
| 1,1,2,2-Tetrachloroethane | ND | 800 | | | | | | 0 | 0 | 25 | U |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ND | 800 | | | | | | 0 | 0 | 25 | U |
| 1,1,2-Trichloroethane | ND | 800 | | | | | | 0 | 0 | 25 | U |
| 1,1-Dichloroethane | ND | 800 | | | | | | 0 | 0 | 25 | U |
| 1,1-Dichloroethene | ND | 800 | | | | | | 0 | 0 | 25 | U |
| 1,2,4-Trichlorobenzene | ND | 800 | | | | | | 0 | 0 | 25 | U |
| 1,2,4-Trimethylbenzene | ND | 800 | | | | | | 0 | 0 | 25 | U |
| 1,2-Dibromoethane | ND | 800 | | | | | | 0 | 0 | 25 | U |
| 1,2-Dichlorobenzene | ND | 800 | | | | | | 0 | 0 | 25 | U |
| 1,2-Dichloroethane | ND | 800 | | | | | | 0 | 0 | 25 | U |
| 1,2-Dichloropropane | ND | 800 | | | | | | 0 | 0 | 25 | U |
| 1,3,5-Trimethylbenzene | ND | 800 | | | | | | 0 | 0 | 25 | U |
| 1,3-Butadiene | ND | 800 | | | | | | 0 | 0 | 25 | U |
| 1,3-Dichlorobenzene | ND | 800 | | | | | | 0 | 0 | 25 | U |
| 1,4-Dichlorobenzene | ND | 800 | | | | | | 0 | 0 | 25 | U |
| 2-Butanone | ND | 800 | | | | | | 0 | 0 | 25 | U |
| 2-Hexanone | ND | 800 | | | | | | 0 | 0 | 25 | U |
| 4-Methyl-2-pentanone | ND | 800 | | | | | | 0 | 0 | 25 | U |
| Acetone | 2,000 | 800 | | | | | | 1,800 | 10.9 | 25 | |
| Benzene | 5,400 | 800 | | | | | | 4,896 | 10.5 | 25 | |
| Benzyl chloride | ND | 800 | | | | | | 0 | 0 | 25 | U |
| Bromodichloromethane | ND | 800 | | | | | | 0 | 0 | 25 | U |
| Bromoform | ND | 800 | | | | | | 0 | 0 | 25 | U |
| Bromomethane | ND | 800 | | | | | | 0 | 0 | 25 | U |
| Carbon disulfide | ND | 800 | | | | | | 0 | 0 | 25 | U |
| Carbon tetrachloride | ND | 800 | | | | | | 0 | 0 | 25 | U |
| Chlorobenzene | ND | 800 | | | | | | 0 | 0 | 25 | U |
| Chlorodibromomethane | ND | 800 | | | | | | 0 | 0 | 25 | U |
| Chloroethane | ND | 800 | | | | | | 0 | 0 | 25 | U |
| Chloroform | ND | 800 | | | | | | 0 | 0 | 25 | U |

# RTI Laboratories - QC SUMMARY REPORT

**WO#: 1212373**

**Date Reported: 1/7/2013**
**Revision v2**

**Client:** Shaw Environmental & Infrastructure, Inc

**Project:** Kirtland AFB **Batch ID:** **R54678**

| Sample ID: | **1212373-043ADUP** | Samp Type: | **DUP** | Test Code: | **EPA_TO15** | Units: | **ppbv** | Prep Date: | | RunNo: | **54678** |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Client ID: | **VA2246** | Batch ID: | **R54678** | TestNo: | **TO-15** | | | Analysis Date: | **12/18/2012** | SeqNo: | **1077790** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | Low Limit | High Limit | RPD Ref Value | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloromethane | ND | 800 | | | | | | 0 | 0 | 25 | U |
| cis-1,2-Dichloroethene | ND | 800 | | | | | | 0 | 0 | 25 | U |
| cis-1,3-dichloropropene | ND | 800 | | | | | | 0 | 0 | 25 | U |
| Cyclohexane | 12,000 | 1,600 | | | | | | 10,900 | 11.7 | 25 | |
| Dichlorodifluoromethane | ND | 800 | | | | | | 0 | 0 | 25 | U |
| Ethyl acetate | ND | 800 | | | | | | 0 | 0 | 25 | U |
| Ethylbenzene | 1,200 | 1,600 | | | | | | 1,096 | 9.06 | 25 | J |
| Heptane | 12,000 | 800 | | | | | | 10,820 | 6.51 | 25 | |
| Hexachlorobutadiene | ND | 1,600 | | | | | | 0 | 0 | 25 | U |
| m,p-Xylene | 3,000 | 1,600 | | | | | | 2,776 | 7.76 | 25 | |
| Methylene chloride | 13,000 | 4,000 | | | | | | 12,350 | 7.66 | 25 | |
| n-Hexane | 8,600 | 1,600 | | | | | | 7,640 | 11.6 | 25 | |
| Naphthalene | ND | 800 | | | | | | 0 | 0 | 25 | U |
| o-Xylene | 860 | 800 | | | | | | 800.0 | 7.69 | 25 | |
| Propylene | ND | 800 | | | | | | 0 | 0 | 25 | U |
| Styrene | ND | 800 | | | | | | 0 | 0 | 25 | U |
| tert-Butyl Methyl Ether | ND | 800 | | | | | | 0 | 0 | 25 | U |
| Tetrachloroethene | ND | 800 | | | | | | 0 | 0 | 25 | U |
| Tetrahydrofuran | ND | 800 | | | | | | 0 | 0 | 25 | U |
| Toluene | 18,000 | 800 | | | | | | 16,310 | 7.51 | 25 | |
| trans-1,2-Dichloroethene | ND | 800 | | | | | | 0 | 0 | 25 | U |
| trans-1,3-dichloropropene | ND | 800 | | | | | | 0 | 0 | 25 | U |
| Trichloroethene | ND | 800 | | | | | | 0 | 0 | 25 | U |
| Trichlorofluoromethane | ND | 800 | | | | | | 0 | 0 | 25 | U |
| Vinyl acetate | ND | 800 | | | | | | 0 | 0 | 25 | U |
| Vinyl chloride | ND | 800 | | | | | | 0 | 0 | 25 | U |
| Xylenes, Total | 3,900 | 2,400 | | | | | | 3,576 | 7.74 | 25 | |
| Surr: 4-Bromofluorobenzene | 9,900 | | 10,000 | | 99.4 | 70 | 130 | | 0 | 25 | |

# RTI Laboratories - QC SUMMARY REPORT

**WO#: 1212373**

**Date Reported: 1/7/2013**
**Revision v2**

**Client:** Shaw Environmental & Infrastructure, Inc

**Project:** Kirtland AFB **Batch ID:** **R54727**

| Sample ID: | **MBLK VOA1 121812** | Samp Type: | **MBLK** | Test Code: | **EPA_TO15** | Units: | **ppbv** | Prep Date: | | RunNo: | **54727** |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Client ID: | **PBW** | Batch ID: | **R54727** | TestNo: | **TO-15** | | | Analysis Date: | **12/18/2012** | SeqNo: | **1078623** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | Low Limit | High Limit | RPD Ref Value | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | ND | 1.0 | | | | | | | | | U |
| 1,1,2,2-Tetrachloroethane | ND | 1.0 | | | | | | | | | U |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ND | 1.0 | | | | | | | | | U |
| 1,1,2-Trichloroethane | ND | 1.0 | | | | | | | | | U |
| 1,1-Dichloroethane | ND | 1.0 | | | | | | | | | U |
| 1,1-Dichloroethene | ND | 1.0 | | | | | | | | | U |
| 1,2,4-Trichlorobenzene | ND | 1.0 | | | | | | | | | U |
| 1,2,4-Trimethylbenzene | ND | 1.0 | | | | | | | | | U |
| 1,2-Dibromoethane | ND | 1.0 | | | | | | | | | U |
| 1,2-Dichlorobenzene | ND | 1.0 | | | | | | | | | U |
| 1,2-Dichloroethane | ND | 1.0 | | | | | | | | | U |
| 1,2-Dichloropropane | ND | 1.0 | | | | | | | | | U |
| 1,3,5-Trimethylbenzene | ND | 1.0 | | | | | | | | | U |
| 1,3-Butadiene | ND | 1.0 | | | | | | | | | U |
| 1,3-Dichlorobenzene | ND | 1.0 | | | | | | | | | U |
| 1,4-Dichlorobenzene | ND | 1.0 | | | | | | | | | U |
| 2-Butanone | ND | 1.0 | | | | | | | | | U |
| 2-Hexanone | ND | 1.0 | | | | | | | | | U |
| 4-Methyl-2-pentanone | ND | 1.0 | | | | | | | | | U |
| Acetone | ND | 1.0 | | | | | | | | | U |
| Benzene | ND | 1.0 | | | | | | | | | U |
| Benzyl chloride | ND | 1.0 | | | | | | | | | U |
| Bromodichloromethane | ND | 1.0 | | | | | | | | | U |
| Bromoform | ND | 1.0 | | | | | | | | | U |
| Bromomethane | ND | 1.0 | | | | | | | | | U |
| Carbon disulfide | ND | 1.0 | | | | | | | | | U |
| Carbon tetrachloride | ND | 1.0 | | | | | | | | | U |
| Chlorobenzene | ND | 1.0 | | | | | | | | | U |
| Chlorodibromomethane | ND | 1.0 | | | | | | | | | U |
| Chloroethane | ND | 1.0 | | | | | | | | | U |
| Chloroform | ND | 1.0 | | | | | | | | | U |

# RTI Laboratories - QC SUMMARY REPORT

**WO#: 1212373**

**Date Reported: 1/7/2013**
**Revision v2**

**Client:** Shaw Environmental & Infrastructure, Inc

**Project:** Kirtland AFB **Batch ID:** **R54727**

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | **MBLK VOA1 121812** | Samp Type: | **MBLK** | Test Code: | **EPA_TO15** | Units: | **ppbv** | Prep Date: | | RunNo: | **54727** |
| Client ID: | **PBW** | Batch ID: | **R54727** | TestNo: | **TO-15** | | | Analysis Date: | **12/18/2012** | SeqNo: | **1078623** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | Low Limit | High Limit | RPD Ref Value | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloromethane | ND | 1.0 | | | | | | | | | U |
| cis-1,2-Dichloroethene | ND | 1.0 | | | | | | | | | U |
| cis-1,3-dichloropropene | ND | 1.0 | | | | | | | | | U |
| Cyclohexane | ND | 2.0 | | | | | | | | | U |
| Dichlorodifluoromethane | ND | 1.0 | | | | | | | | | U |
| Ethyl acetate | ND | 1.0 | | | | | | | | | U |
| Ethylbenzene | ND | 2.0 | | | | | | | | | U |
| Heptane | ND | 1.0 | | | | | | | | | U |
| Hexachlorobutadiene | ND | 2.0 | | | | | | | | | U |
| m,p-Xylene | ND | 2.0 | | | | | | | | | U |
| Methylene chloride | ND | 5.0 | | | | | | | | | U |
| n-Hexane | ND | 2.0 | | | | | | | | | U |
| Naphthalene | ND | 1.0 | | | | | | | | | U |
| o-Xylene | ND | 1.0 | | | | | | | | | U |
| Propylene | ND | 1.0 | | | | | | | | | U |
| Styrene | ND | 1.0 | | | | | | | | | U |
| tert-Butyl Methyl Ether | ND | 1.0 | | | | | | | | | U |
| Tetrachloroethene | ND | 1.0 | | | | | | | | | U |
| Tetrahydrofuran | ND | 1.0 | | | | | | | | | U |
| Toluene | ND | 1.0 | | | | | | | | | U |
| trans-1,2-Dichloroethene | ND | 1.0 | | | | | | | | | U |
| trans-1,3-dichloropropene | ND | 1.0 | | | | | | | | | U |
| Trichloroethene | ND | 1.0 | | | | | | | | | U |
| Trichlorofluoromethane | ND | 1.0 | | | | | | | | | U |
| Vinyl acetate | ND | 1.0 | | | | | | | | | U |
| Vinyl chloride | ND | 1.0 | | | | | | | | | U |
| Xylenes, Total | ND | 3.0 | | | | | | | | | U |
| Surr: 4-Bromofluorobenzene | 12 | | 12.50 | | 94.2 | 70 | 130 | | | | |

# RTI Laboratories - QC SUMMARY REPORT

**WO#: 1212373**

**Date Reported: 1/7/2013**
**Revision v2**

**Client:** Shaw Environmental & Infrastructure, Inc

**Project:** Kirtland AFB **Batch ID:** **R54727**

| Sample ID: | **1212373-027ADUP** | Samp Type: | **DUP** | Test Code: | **EPA_TO15** | Units: | **ppbv** | Prep Date: | | RunNo: | **54727** |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Client ID: | **VA2138** | Batch ID: | **R54727** | TestNo: | **TO-15** | | | Analysis Date: | **12/19/2012** | SeqNo: | **1078635** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | Low Limit | High Limit | RPD Ref Value | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | ND | 800 | | | | | | 0 | 0 | 25 | U |
| 1,1,2,2-Tetrachloroethane | ND | 800 | | | | | | 0 | 0 | 25 | U |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ND | 800 | | | | | | 0 | 0 | 25 | U |
| 1,1,2-Trichloroethane | ND | 800 | | | | | | 0 | 0 | 25 | U |
| 1,1-Dichloroethane | ND | 800 | | | | | | 0 | 0 | 25 | U |
| 1,1-Dichloroethene | ND | 800 | | | | | | 0 | 0 | 25 | U |
| 1,2,4-Trichlorobenzene | ND | 800 | | | | | | 0 | 0 | 25 | U |
| 1,2,4-Trimethylbenzene | ND | 800 | | | | | | 0 | 0 | 25 | U |
| 1,2-Dibromoethane | ND | 800 | | | | | | 0 | 0 | 25 | U |
| 1,2-Dichlorobenzene | ND | 800 | | | | | | 0 | 0 | 25 | U |
| 1,2-Dichloroethane | ND | 800 | | | | | | 0 | 0 | 25 | U |
| 1,2-Dichloropropane | ND | 800 | | | | | | 0 | 0 | 25 | U |
| 1,3,5-Trimethylbenzene | ND | 800 | | | | | | 0 | 0 | 25 | U |
| 1,3-Butadiene | ND | 800 | | | | | | 0 | 0 | 25 | U |
| 1,3-Dichlorobenzene | ND | 800 | | | | | | 0 | 0 | 25 | U |
| 1,4-Dichlorobenzene | ND | 800 | | | | | | 0 | 0 | 25 | U |
| 2-Butanone | ND | 800 | | | | | | 0 | 0 | 25 | U |
| 2-Hexanone | ND | 800 | | | | | | 0 | 0 | 25 | U |
| 4-Methyl-2-pentanone | ND | 800 | | | | | | 0 | 0 | 25 | U |
| Acetone | 2,100 | 800 | | | | | | 1,824 | 13.5 | 25 | |
| Benzene | 920 | 800 | | | | | | 896.0 | 2.64 | 25 | |
| Benzyl chloride | ND | 800 | | | | | | 0 | 0 | 25 | U |
| Bromodichloromethane | ND | 800 | | | | | | 0 | 0 | 25 | U |
| Bromoform | ND | 800 | | | | | | 0 | 0 | 25 | U |
| Bromomethane | ND | 800 | | | | | | 0 | 0 | 25 | U |
| Carbon disulfide | ND | 800 | | | | | | 0 | 0 | 25 | U |
| Carbon tetrachloride | ND | 800 | | | | | | 0 | 0 | 25 | U |
| Chlorobenzene | ND | 800 | | | | | | 0 | 0 | 25 | U |
| Chlorodibromomethane | ND | 800 | | | | | | 0 | 0 | 25 | U |
| Chloroethane | ND | 800 | | | | | | 0 | 0 | 25 | U |
| Chloroform | ND | 800 | | | | | | 0 | 0 | 25 | U |

# RTI Laboratories - QC SUMMARY REPORT

**WO#: 1212373**

**Date Reported: 1/7/2013**
**Revision v2**

**Client:** Shaw Environmental & Infrastructure, Inc

**Project:** Kirtland AFB **Batch ID:** **R54727**

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | **1212373-027ADUP** | Samp Type: | **DUP** | Test Code: | **EPA_TO15** | Units: | **ppbv** | Prep Date: | | RunNo: | **54727** |
| Client ID: | **VA2138** | Batch ID: | **R54727** | TestNo: | **TO-15** | | | Analysis Date: | **12/19/2012** | SeqNo: | **1078635** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | Low Limit | High Limit | RPD Ref Value | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloromethane | ND | 800 | | | | | | 0 | 0 | 25 | U |
| cis-1,2-Dichloroethene | ND | 800 | | | | | | 0 | 0 | 25 | U |
| cis-1,3-dichloropropene | ND | 800 | | | | | | 0 | 0 | 25 | U |
| Cyclohexane | 4,300 | 1,600 | | | | | | 4,112 | 4.93 | 25 | |
| Dichlorodifluoromethane | ND | 800 | | | | | | 0 | 0 | 25 | U |
| Ethyl acetate | ND | 800 | | | | | | 0 | 0 | 25 | U |
| Ethylbenzene | ND | 1,600 | | | | | | 0 | 0 | 25 | U |
| Heptane | ND | 800 | | | | | | 0 | 0 | 25 | U |
| Hexachlorobutadiene | ND | 1,600 | | | | | | 0 | 0 | 25 | U |
| m,p-Xylene | ND | 1,600 | | | | | | 0 | 0 | 25 | U |
| Methylene chloride | 7,000 | 4,000 | | | | | | 6,552 | 6.84 | 25 | |
| n-Hexane | 13,000 | 1,600 | | | | | | 12,410 | 5.27 | 25 | |
| Naphthalene | ND | 800 | | | | | | 0 | 0 | 25 | U |
| o-Xylene | ND | 800 | | | | | | 0 | 0 | 25 | U |
| Propylene | ND | 800 | | | | | | 0 | 0 | 25 | U |
| Styrene | ND | 800 | | | | | | 0 | 0 | 25 | U |
| tert-Butyl Methyl Ether | ND | 800 | | | | | | 0 | 0 | 25 | U |
| Tetrachloroethene | ND | 800 | | | | | | 0 | 0 | 25 | U |
| Tetrahydrofuran | ND | 800 | | | | | | 0 | 0 | 25 | U |
| Toluene | 2,600 | 800 | | | | | | 2,568 | 0.621 | 25 | |
| trans-1,2-Dichloroethene | ND | 800 | | | | | | 0 | 0 | 25 | U |
| trans-1,3-dichloropropene | ND | 800 | | | | | | 0 | 0 | 25 | U |
| Trichloroethene | ND | 800 | | | | | | 0 | 0 | 25 | U |
| Trichlorofluoromethane | ND | 800 | | | | | | 0 | 0 | 25 | U |
| Vinyl acetate | ND | 800 | | | | | | 0 | 0 | 25 | U |
| Vinyl chloride | ND | 800 | | | | | | 0 | 0 | 25 | U |
| Xylenes, Total | ND | 2,400 | | | | | | 0 | 0 | 25 | U |
| Surr: 4-Bromofluorobenzene | 9,600 | | 10,000 | | 96.3 | 70 | 130 | | 0 | 25 | |

# RTI Laboratories - QC SUMMARY REPORT

**WO#: 1212373**

**Date Reported: 1/7/2013**
**Revision v2**

**Client:** Shaw Environmental & Infrastructure, Inc

**Project:** Kirtland AFB

**Batch ID:** **R54762**

| Sample ID: | **MBLK VOA9 121812** | Samp Type: | **MBLK** | Test Code: | **MA_APH** | Units: | **µg/m³** | Prep Date: | | RunNo: | **54762** |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Client ID: | **PBW** | Batch ID: | **R54762** | TestNo: | **MA_APH** | | | Analysis Date: | **12/18/2012** | SeqNo: | **1079174** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | Low Limit | High Limit | RPD Ref Value | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| C5-C8 Aliphatic Hydrocarbons | ND | 120 | | | | | | | | | U |
| C9-C10 Aromatic Hydrocarbons | ND | 130 | | | | | | | | | U |
| C9-C12 Aliphatic Hydrocarbons | ND | 190 | | | | | | | | | U |
| Surr: 4-Bromofluorobenzene | 93 | | 89.50 | | 104 | 70 | 130 | | | | |

| Sample ID: | **1212185-064ADUP** | Samp Type: | **DUP** | Test Code: | **MA_APH** | Units: | **µg/m³** | Prep Date: | | RunNo: | **54762** |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Client ID: | **ZZZZZZ** | Batch ID: | **R54762** | TestNo: | **MA_APH** | | | Analysis Date: | **12/18/2012** | SeqNo: | **1079178** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | Low Limit | High Limit | RPD Ref Value | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| C5-C8 Aliphatic Hydrocarbons | 420,000 | 94,000 | | | | | | 403,600 | 4.57 | 30 | |
| C9-C10 Aromatic Hydrocarbons | ND | 110,000 | | | | | | 0 | 0 | 30 | U |
| C9-C12 Aliphatic Hydrocarbons | ND | 150,000 | | | | | | 0 | 0 | 30 | U |
| Surr: 4-Bromofluorobenzene | 75,000 | | 71,600 | | 104 | 70 | 130 | | 0 | 30 | |

# RTI Laboratories - QC SUMMARY REPORT

**WO#: 1212373**

**Date Reported: 1/7/2013**
**Revision v2**

**Client:** Shaw Environmental & Infrastructure, Inc

**Project:** Kirtland AFB **Batch ID:** **R54782**

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | **DBV91 CC/MBLK VO** | Samp Type: | **MBLK** | Test Code: | **EPA_TO15** | Units: | **ppbv** | Prep Date: | | RunNo: | **54782** |
| Client ID: | **PBW** | Batch ID: | **R54782** | TestNo: | **TO-15** | | | Analysis Date: | **12/19/2012** | SeqNo: | **1079485** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | Low Limit | High Limit | RPD Ref Value | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | ND | 1.0 | | | | | | | | | U |
| 1,1,2,2-Tetrachloroethane | ND | 1.0 | | | | | | | | | U |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ND | 1.0 | | | | | | | | | U |
| 1,1,2-Trichloroethane | ND | 1.0 | | | | | | | | | U |
| 1,1-Dichloroethane | ND | 1.0 | | | | | | | | | U |
| 1,1-Dichloroethene | ND | 1.0 | | | | | | | | | U |
| 1,2,4-Trichlorobenzene | ND | 1.0 | | | | | | | | | U |
| 1,2,4-Trimethylbenzene | ND | 1.0 | | | | | | | | | U |
| 1,2-Dibromoethane | ND | 1.0 | | | | | | | | | U |
| 1,2-Dichlorobenzene | ND | 1.0 | | | | | | | | | U |
| 1,2-Dichloroethane | ND | 1.0 | | | | | | | | | U |
| 1,2-Dichloropropane | ND | 1.0 | | | | | | | | | U |
| 1,3,5-Trimethylbenzene | ND | 1.0 | | | | | | | | | U |
| 1,3-Butadiene | ND | 1.0 | | | | | | | | | U |
| 1,3-Dichlorobenzene | ND | 1.0 | | | | | | | | | U |
| 1,4-Dichlorobenzene | ND | 1.0 | | | | | | | | | U |
| 2-Butanone | ND | 1.0 | | | | | | | | | U |
| 2-Hexanone | ND | 1.0 | | | | | | | | | U |
| 4-Methyl-2-pentanone | ND | 1.0 | | | | | | | | | U |
| Acetone | ND | 1.0 | | | | | | | | | U |
| Benzene | ND | 1.0 | | | | | | | | | U |
| Benzyl chloride | ND | 1.0 | | | | | | | | | U |
| Bromodichloromethane | ND | 1.0 | | | | | | | | | U |
| Bromoform | ND | 1.0 | | | | | | | | | U |
| Bromomethane | ND | 1.0 | | | | | | | | | U |
| Carbon disulfide | ND | 1.0 | | | | | | | | | U |
| Carbon tetrachloride | ND | 1.0 | | | | | | | | | U |
| Chlorobenzene | ND | 1.0 | | | | | | | | | U |
| Chlorodibromomethane | ND | 1.0 | | | | | | | | | U |
| Chloroethane | ND | 1.0 | | | | | | | | | U |
| Chloroform | ND | 1.0 | | | | | | | | | U |

# RTI Laboratories - QC SUMMARY REPORT

**WO#: 1212373**

**Date Reported: 1/7/2013**
**Revision v2**

**Client:** Shaw Environmental & Infrastructure, Inc

**Project:** Kirtland AFB **Batch ID:** **R54782**

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | **DBV91 CC/MBLK VO** | Samp Type: | **MBLK** | Test Code: | **EPA_TO15** | Units: | **ppbv** | Prep Date: | | RunNo: | **54782** |
| Client ID: | **PBW** | Batch ID: | **R54782** | TestNo: | **TO-15** | | | Analysis Date: | **12/19/2012** | SeqNo: | **1079485** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | Low Limit | High Limit | RPD Ref Value | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloromethane | ND | 1.0 | | | | | | | | | U |
| cis-1,2-Dichloroethene | ND | 1.0 | | | | | | | | | U |
| cis-1,3-dichloropropene | ND | 1.0 | | | | | | | | | U |
| Cyclohexane | ND | 2.0 | | | | | | | | | U |
| Dichlorodifluoromethane | ND | 1.0 | | | | | | | | | U |
| Ethyl acetate | ND | 1.0 | | | | | | | | | U |
| Ethylbenzene | ND | 2.0 | | | | | | | | | U |
| Heptane | ND | 1.0 | | | | | | | | | U |
| Hexachlorobutadiene | ND | 2.0 | | | | | | | | | U |
| m,p-Xylene | ND | 2.0 | | | | | | | | | U |
| Methylene chloride | ND | 5.0 | | | | | | | | | U |
| n-Hexane | ND | 2.0 | | | | | | | | | U |
| Naphthalene | ND | 1.0 | | | | | | | | | U |
| o-Xylene | ND | 1.0 | | | | | | | | | U |
| Propylene | ND | 1.0 | | | | | | | | | U |
| Styrene | ND | 1.0 | | | | | | | | | U |
| tert-Butyl Methyl Ether | ND | 1.0 | | | | | | | | | U |
| Tetrachloroethene | ND | 1.0 | | | | | | | | | U |
| Tetrahydrofuran | ND | 1.0 | | | | | | | | | U |
| Toluene | ND | 1.0 | | | | | | | | | U |
| trans-1,2-Dichloroethene | ND | 1.0 | | | | | | | | | U |
| trans-1,3-dichloropropene | ND | 1.0 | | | | | | | | | U |
| Trichloroethene | ND | 1.0 | | | | | | | | | U |
| Trichlorofluoromethane | ND | 1.0 | | | | | | | | | U |
| Vinyl acetate | ND | 1.0 | | | | | | | | | U |
| Vinyl chloride | ND | 1.0 | | | | | | | | | U |
| Xylenes, Total | ND | 3.0 | | | | | | | | | U |
| Surr: 4-Bromofluorobenzene | 12 | | 12.50 | | 94.1 | 70 | 130 | | | | |

# RTI Laboratories - QC SUMMARY REPORT

**WO#: 1212373**

**Date Reported: 1/7/2013**
**Revision v2**

**Client:** Shaw Environmental & Infrastructure, Inc

**Project:** Kirtland AFB **Batch ID:** **R54782**

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | **1212373-036ADUP** | Samp Type: | **DUP** | Test Code: | **EPA_TO15** | Units: | **ppbv** | Prep Date: | | RunNo: | **54782** |
| Client ID: | **VA2206** | Batch ID: | **R54782** | TestNo: | **TO-15** | | | Analysis Date: | **12/19/2012** | SeqNo: | **1079494** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | Low Limit | High Limit | RPD Ref Value | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | ND | 40 | | | | | | 0 | 0 | 25 | U |
| 1,1,2,2-Tetrachloroethane | ND | 40 | | | | | | 0 | 0 | 25 | U |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ND | 40 | | | | | | 0 | 0 | 25 | U |
| 1,1,2-Trichloroethane | ND | 40 | | | | | | 0 | 0 | 25 | U |
| 1,1-Dichloroethane | ND | 40 | | | | | | 0 | 0 | 25 | U |
| 1,1-Dichloroethene | ND | 40 | | | | | | 0 | 0 | 25 | U |
| 1,2,4-Trichlorobenzene | ND | 40 | | | | | | 0 | 0 | 25 | U |
| 1,2,4-Trimethylbenzene | 320 | 40 | | | | | | 335.6 | 3.27 | 25 | |
| 1,2-Dibromoethane | 73 | 40 | | | | | | 78.00 | 6.90 | 25 | |
| 1,2-Dichlorobenzene | ND | 40 | | | | | | 0 | 0 | 25 | U |
| 1,2-Dichloroethane | ND | 40 | | | | | | 0 | 0 | 25 | U |
| 1,2-Dichloropropane | ND | 40 | | | | | | 0 | 0 | 25 | U |
| 1,3,5-Trimethylbenzene | 160 | 40 | | | | | | 166.8 | 3.66 | 25 | |
| 1,3-Butadiene | ND | 40 | | | | | | 0 | 0 | 25 | U |
| 1,3-Dichlorobenzene | ND | 40 | | | | | | 0 | 0 | 25 | U |
| 1,4-Dichlorobenzene | ND | 40 | | | | | | 0 | 0 | 25 | U |
| 2-Butanone | 160 | 40 | | | | | | 158.0 | 3.97 | 25 | |
| 2-Hexanone | 82 | 40 | | | | | | 93.20 | 12.3 | 25 | |
| 4-Methyl-2-pentanone | ND | 40 | | | | | | 0 | 0 | 25 | U |
| Acetone | 100 | 40 | | | | | | 96.40 | 3.67 | 25 | |
| Benzene | 1,600 | 40 | | | | | | 1,512 | 4.55 | 25 | |
| Benzyl chloride | ND | 40 | | | | | | 0 | 0 | 25 | U |
| Bromodichloromethane | ND | 40 | | | | | | 0 | 0 | 25 | U |
| Bromoform | ND | 40 | | | | | | 0 | 0 | 25 | U |
| Bromomethane | ND | 40 | | | | | | 0 | 0 | 25 | U |
| Carbon disulfide | ND | 40 | | | | | | 0 | 0 | 25 | U |
| Carbon tetrachloride | ND | 40 | | | | | | 0 | 0 | 25 | U |
| Chlorobenzene | ND | 40 | | | | | | 0 | 0 | 25 | U |
| Chlorodibromomethane | ND | 40 | | | | | | 0 | 0 | 25 | U |
| Chloroethane | ND | 40 | | | | | | 0 | 0 | 25 | U |
| Chloroform | ND | 40 | | | | | | 0 | 0 | 25 | U |

# RTI Laboratories - QC SUMMARY REPORT

**WO#: 1212373**

**Date Reported: 1/7/2013**
**Revision v2**

**Client:** Shaw Environmental & Infrastructure, Inc

**Project:** Kirtland AFB **Batch ID:** **R54782**

| Sample ID: | **1212373-036ADUP** | Samp Type: | **DUP** | Test Code: | **EPA_TO15** | Units: | **ppbv** | Prep Date: | | RunNo: | **54782** |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Client ID: | **VA2206** | Batch ID: | **R54782** | TestNo: | **TO-15** | | | Analysis Date: | **12/19/2012** | SeqNo: | **1079494** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | Low Limit | High Limit | RPD Ref Value | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloromethane | ND | 40 | | | | | | 0 | 0 | 25 | U |
| cis-1,2-Dichloroethene | ND | 40 | | | | | | 0 | 0 | 25 | U |
| cis-1,3-dichloropropene | ND | 40 | | | | | | 0 | 0 | 25 | U |
| Cyclohexane | 2,700 | 80 | | | | | | 2,836 | 4.97 | 25 | E |
| Dichlorodifluoromethane | ND | 40 | | | | | | 0 | 0 | 25 | U |
| Ethyl acetate | ND | 40 | | | | | | 0 | 0 | 25 | U |
| Ethylbenzene | 1,300 | 80 | | | | | | 1,365 | 3.49 | 25 | |
| Heptane | 2,300 | 40 | | | | | | 2,482 | 8.07 | 25 | E |
| Hexachlorobutadiene | ND | 80 | | | | | | 0 | 0 | 25 | U |
| m,p-Xylene | 2,800 | 80 | | | | | | 2,922 | 5.37 | 25 | |
| Methylene chloride | ND | 200 | | | | | | 0 | 0 | 25 | U |
| n-Hexane | 2,400 | 80 | | | | | | 2,412 | 0.449 | 25 | E |
| Naphthalene | ND | 40 | | | | | | 0 | 0 | 25 | U |
| o-Xylene | 1,100 | 40 | | | | | | 1,196 | 4.44 | 25 | |
| Propylene | ND | 40 | | | | | | 0 | 0 | 25 | U |
| Styrene | ND | 40 | | | | | | 0 | 0 | 25 | U |
| tert-Butyl Methyl Ether | ND | 40 | | | | | | 0 | 0 | 25 | U |
| Tetrachloroethene | ND | 40 | | | | | | 0 | 0 | 25 | U |
| Tetrahydrofuran | ND | 40 | | | | | | 0 | 0 | 25 | U |
| Toluene | 4,400 | 40 | | | | | | 4,968 | 12.7 | 25 | E |
| trans-1,2-Dichloroethene | ND | 40 | | | | | | 0 | 0 | 25 | U |
| trans-1,3-dichloropropene | ND | 40 | | | | | | 0 | 0 | 25 | U |
| Trichloroethene | ND | 40 | | | | | | 0 | 0 | 25 | U |
| Trichlorofluoromethane | ND | 40 | | | | | | 0 | 0 | 25 | U |
| Vinyl acetate | ND | 40 | | | | | | 0 | 0 | 25 | U |
| Vinyl chloride | ND | 40 | | | | | | 0 | 0 | 25 | U |
| Xylenes, Total | 3,900 | 120 | | | | | | 4,119 | 5.10 | 25 | |
| Surr: 4-Bromofluorobenzene | 770 | | 500.0 | | 154 | 70 | 130 | | 0 | 25 | S |

# RTI Laboratories - QC SUMMARY REPORT

**WO#: 1212373**

**Date Reported: 1/7/2013**
**Revision v2**

**Client:** Shaw Environmental & Infrastructure, Inc

**Project:** Kirtland AFB **Batch ID:** **R54799**

| Sample ID: | **MBLK VOA9 121912** | Samp Type: | **MBLK** | Test Code: | **MA_APH** | Units: | **µg/m³** | Prep Date: | | RunNo: | **54799** |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Client ID: | **PBW** | Batch ID: | **R54799** | TestNo: | **MA_APH** | | | Analysis Date: | **12/20/2012** | SeqNo: | **1080238** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | Low Limit | High Limit | RPD Ref Value | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| C5-C8 Aliphatic Hydrocarbons | ND | 120 | | | | | | | | | U |
| C9-C10 Aromatic Hydrocarbons | ND | 130 | | | | | | | | | U |
| C9-C12 Aliphatic Hydrocarbons | ND | 190 | | | | | | | | | U |
| Surr: 4-Bromofluorobenzene | 84 | | 89.50 | | 94.4 | 70 | 130 | | | | |

| Sample ID: | **1212373-046ADUP** | Samp Type: | **DUP** | Test Code: | **MA_APH** | Units: | **µg/m³** | Prep Date: | | RunNo: | **54799** |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Client ID: | **VA2249** | Batch ID: | **R54799** | TestNo: | **MA_APH** | | | Analysis Date: | **12/20/2012** | SeqNo: | **1080310** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | Low Limit | High Limit | RPD Ref Value | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| C5-C8 Aliphatic Hydrocarbons | 880,000 | 94,000 | | | | | | 864,900 | 1.57 | 30 | |
| C9-C10 Aromatic Hydrocarbons | ND | 110,000 | | | | | | 0 | 0 | 30 | U |
| C9-C12 Aliphatic Hydrocarbons | 90,000 | 150,000 | | | | | | 89,340 | 0.206 | 30 | J |
| Surr: 4-Bromofluorobenzene | 71,000 | | 71,600 | | 99.6 | 70 | 130 | | 0 | 30 | |

# RTI Laboratories - QC SUMMARY REPORT

**WO#: 1212373**

**Date Reported: 1/7/2013**
**Revision v2**

**Client:** Shaw Environmental & Infrastructure, Inc

**Project:** Kirtland AFB **Batch ID:** **R54847**

| Sample ID: | **MBLK/DBV114 CC V** | Samp Type: | **MBLK** | Test Code: | **EPA_TO15** | Units: | **ppbv** | Prep Date: | | RunNo: | **54847** |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Client ID: | **PBW** | Batch ID: | **R54847** | TestNo: | **TO-15** | | | Analysis Date: | **12/21/2012** | SeqNo: | **1081114** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | Low Limit | High Limit | RPD Ref Value | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | ND | 1.0 | | | | | | | | | U |
| 1,1,2,2-Tetrachloroethane | ND | 1.0 | | | | | | | | | U |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ND | 1.0 | | | | | | | | | U |
| 1,1,2-Trichloroethane | ND | 1.0 | | | | | | | | | U |
| 1,1-Dichloroethane | ND | 1.0 | | | | | | | | | U |
| 1,1-Dichloroethene | ND | 1.0 | | | | | | | | | U |
| 1,2,4-Trichlorobenzene | ND | 1.0 | | | | | | | | | U |
| 1,2,4-Trimethylbenzene | ND | 1.0 | | | | | | | | | U |
| 1,2-Dibromoethane | ND | 1.0 | | | | | | | | | U |
| 1,2-Dichlorobenzene | ND | 1.0 | | | | | | | | | U |
| 1,2-Dichloroethane | ND | 1.0 | | | | | | | | | U |
| 1,2-Dichloropropane | ND | 1.0 | | | | | | | | | U |
| 1,3,5-Trimethylbenzene | ND | 1.0 | | | | | | | | | U |
| 1,3-Butadiene | ND | 1.0 | | | | | | | | | U |
| 1,3-Dichlorobenzene | ND | 1.0 | | | | | | | | | U |
| 1,4-Dichlorobenzene | ND | 1.0 | | | | | | | | | U |
| 2-Butanone | ND | 1.0 | | | | | | | | | U |
| 2-Hexanone | ND | 1.0 | | | | | | | | | U |
| 4-Methyl-2-pentanone | ND | 1.0 | | | | | | | | | U |
| Acetone | ND | 1.0 | | | | | | | | | U |
| Benzene | ND | 1.0 | | | | | | | | | U |
| Benzyl chloride | ND | 1.0 | | | | | | | | | U |
| Bromodichloromethane | ND | 1.0 | | | | | | | | | U |
| Bromoform | ND | 1.0 | | | | | | | | | U |
| Bromomethane | ND | 1.0 | | | | | | | | | U |
| Carbon disulfide | ND | 1.0 | | | | | | | | | U |
| Carbon tetrachloride | ND | 1.0 | | | | | | | | | U |
| Chlorobenzene | ND | 1.0 | | | | | | | | | U |
| Chlorodibromomethane | ND | 1.0 | | | | | | | | | U |
| Chloroethane | ND | 1.0 | | | | | | | | | U |
| Chloroform | ND | 1.0 | | | | | | | | | U |

# RTI Laboratories - QC SUMMARY REPORT

**WO#: 1212373**

**Date Reported: 1/7/2013**
**Revision v2**

**Client:** Shaw Environmental & Infrastructure, Inc

**Project:** Kirtland AFB **Batch ID:** **R54847**

| Sample ID: | **MBLK/DBV114 CC V** | Samp Type: | **MBLK** | Test Code: | **EPA_TO15** | Units: | **ppbv** | Prep Date: | | RunNo: | **54847** |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Client ID: | **PBW** | Batch ID: | **R54847** | TestNo: | **TO-15** | | | Analysis Date: | **12/21/2012** | SeqNo: | **1081114** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | Low Limit | High Limit | RPD Ref Value | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloromethane | ND | 1.0 | | | | | | | | | U |
| cis-1,2-Dichloroethene | ND | 1.0 | | | | | | | | | U |
| cis-1,3-dichloropropene | ND | 1.0 | | | | | | | | | U |
| Cyclohexane | ND | 2.0 | | | | | | | | | U |
| Dichlorodifluoromethane | ND | 1.0 | | | | | | | | | U |
| Ethyl acetate | ND | 1.0 | | | | | | | | | U |
| Ethylbenzene | ND | 2.0 | | | | | | | | | U |
| Heptane | ND | 1.0 | | | | | | | | | U |
| Hexachlorobutadiene | ND | 2.0 | | | | | | | | | U |
| m,p-Xylene | ND | 2.0 | | | | | | | | | U |
| Methylene chloride | ND | 5.0 | | | | | | | | | U |
| n-Hexane | ND | 2.0 | | | | | | | | | U |
| Naphthalene | ND | 1.0 | | | | | | | | | U |
| o-Xylene | ND | 1.0 | | | | | | | | | U |
| Propylene | ND | 1.0 | | | | | | | | | U |
| Styrene | ND | 1.0 | | | | | | | | | U |
| tert-Butyl Methyl Ether | ND | 1.0 | | | | | | | | | U |
| Tetrachloroethene | ND | 1.0 | | | | | | | | | U |
| Tetrahydrofuran | ND | 1.0 | | | | | | | | | U |
| Toluene | ND | 1.0 | | | | | | | | | U |
| trans-1,2-Dichloroethene | ND | 1.0 | | | | | | | | | U |
| trans-1,3-dichloropropene | ND | 1.0 | | | | | | | | | U |
| Trichloroethene | ND | 1.0 | | | | | | | | | U |
| Trichlorofluoromethane | ND | 1.0 | | | | | | | | | U |
| Vinyl acetate | ND | 1.0 | | | | | | | | | U |
| Vinyl chloride | ND | 1.0 | | | | | | | | | U |
| Xylenes, Total | ND | 3.0 | | | | | | | | | U |
| Surr: 4-Bromofluorobenzene | 12 | | 12.50 | | 93.4 | 70 | 130 | | | | |

# RTI Laboratories - QC SUMMARY REPORT

**WO#: 1212373**

**Date Reported: 1/7/2013**
**Revision v2**

**Client:** Shaw Environmental & Infrastructure, Inc

**Project:** Kirtland AFB **Batch ID:** **R54847**

| Sample ID: | **1212373-044ADUP** | Samp Type: | **DUP** | Test Code: | **EPA_TO15** | Units: | **ppbv** | Prep Date: | | RunNo: | **54847** |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Client ID: | **VA2247** | Batch ID: | **R54847** | TestNo: | **TO-15** | | | Analysis Date: | **12/21/2012** | SeqNo: | **1081118** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | Low Limit | High Limit | RPD Ref Value | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | ND | 1,600 | | | | | | 0 | 0 | 25 | U |
| 1,1,2,2-Tetrachloroethane | ND | 1,600 | | | | | | 0 | 0 | 25 | U |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ND | 1,600 | | | | | | 0 | 0 | 25 | U |
| 1,1,2-Trichloroethane | ND | 1,600 | | | | | | 0 | 0 | 25 | U |
| 1,1-Dichloroethane | ND | 1,600 | | | | | | 0 | 0 | 25 | U |
| 1,1-Dichloroethene | ND | 1,600 | | | | | | 0 | 0 | 25 | U |
| 1,2,4-Trichlorobenzene | ND | 1,600 | | | | | | 0 | 0 | 25 | U |
| 1,2,4-Trimethylbenzene | ND | 1,600 | | | | | | 0 | 0 | 25 | U |
| 1,2-Dibromoethane | ND | 1,600 | | | | | | 0 | 0 | 25 | U |
| 1,2-Dichlorobenzene | ND | 1,600 | | | | | | 0 | 0 | 25 | U |
| 1,2-Dichloroethane | ND | 1,600 | | | | | | 0 | 0 | 25 | U |
| 1,2-Dichloropropane | ND | 1,600 | | | | | | 0 | 0 | 25 | U |
| 1,3,5-Trimethylbenzene | ND | 1,600 | | | | | | 0 | 0 | 25 | U |
| 1,3-Butadiene | ND | 1,600 | | | | | | 0 | 0 | 25 | U |
| 1,3-Dichlorobenzene | ND | 1,600 | | | | | | 0 | 0 | 25 | U |
| 1,4-Dichlorobenzene | ND | 1,600 | | | | | | 0 | 0 | 25 | U |
| 2-Butanone | ND | 1,600 | | | | | | 0 | 0 | 25 | U |
| 2-Hexanone | ND | 1,600 | | | | | | 0 | 0 | 25 | U |
| 4-Methyl-2-pentanone | ND | 1,600 | | | | | | 0 | 0 | 25 | U |
| Acetone | 7,500 | 1,600 | | | | | | 6,816 | 9.61 | 25 | |
| Benzene | 4,800 | 1,600 | | | | | | 4,672 | 2.70 | 25 | |
| Benzyl chloride | ND | 1,600 | | | | | | 0 | 0 | 25 | U |
| Bromodichloromethane | ND | 1,600 | | | | | | 0 | 0 | 25 | U |
| Bromoform | ND | 1,600 | | | | | | 0 | 0 | 25 | U |
| Bromomethane | ND | 1,600 | | | | | | 0 | 0 | 25 | U |
| Carbon disulfide | ND | 1,600 | | | | | | 0 | 0 | 25 | U |
| Carbon tetrachloride | ND | 1,600 | | | | | | 0 | 0 | 25 | U |
| Chlorobenzene | ND | 1,600 | | | | | | 0 | 0 | 25 | U |
| Chlorodibromomethane | ND | 1,600 | | | | | | 0 | 0 | 25 | U |
| Chloroethane | ND | 1,600 | | | | | | 0 | 0 | 25 | U |
| Chloroform | ND | 1,600 | | | | | | 0 | 0 | 25 | U |

# RTI Laboratories - QC SUMMARY REPORT

**WO#: 1212373**

**Date Reported: 1/7/2013**
**Revision v2**

**Client:** Shaw Environmental & Infrastructure, Inc

**Project:** Kirtland AFB **Batch ID:** **R54847**

| Sample ID: | **1212373-044ADUP** | Samp Type: | **DUP** | Test Code: | **EPA_TO15** | Units: | **ppbv** | Prep Date: | | RunNo: | **54847** |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Client ID: | **VA2247** | Batch ID: | **R54847** | TestNo: | **TO-15** | | | Analysis Date: | **12/21/2012** | SeqNo: | **1081118** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | Low Limit | High Limit | RPD Ref Value | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloromethane | ND | 1,600 | | | | | | 0 | 0 | 25 | U |
| cis-1,2-Dichloroethene | ND | 1,600 | | | | | | 0 | 0 | 25 | U |
| cis-1,3-dichloropropene | ND | 1,600 | | | | | | 0 | 0 | 25 | U |
| Cyclohexane | 15,000 | 3,200 | | | | | | 14,220 | 2.11 | 25 | |
| Dichlorodifluoromethane | ND | 1,600 | | | | | | 0 | 0 | 25 | U |
| Ethyl acetate | ND | 1,600 | | | | | | 0 | 0 | 25 | U |
| Ethylbenzene | 1,900 | 3,200 | | | | | | 1,840 | 5.08 | 25 | J |
| Heptane | 19,000 | 1,600 | | | | | | 18,190 | 5.14 | 25 | |
| Hexachlorobutadiene | ND | 3,200 | | | | | | 0 | 0 | 25 | U |
| m,p-Xylene | 5,200 | 3,200 | | | | | | 4,944 | 4.74 | 25 | |
| Methylene chloride | 17,000 | 8,000 | | | | | | 15,700 | 5.84 | 25 | |
| n-Hexane | 9,600 | 3,200 | | | | | | 9,360 | 2.20 | 25 | |
| Naphthalene | ND | 1,600 | | | | | | 0 | 0 | 25 | U |
| o-Xylene | ND | 1,600 | | | | | | 0 | 0 | 25 | U |
| Propylene | ND | 1,600 | | | | | | 0 | 0 | 25 | U |
| Styrene | ND | 1,600 | | | | | | 0 | 0 | 25 | U |
| tert-Butyl Methyl Ether | ND | 1,600 | | | | | | 0 | 0 | 25 | U |
| Tetrachloroethene | ND | 1,600 | | | | | | 0 | 0 | 25 | U |
| Tetrahydrofuran | ND | 1,600 | | | | | | 0 | 0 | 25 | U |
| Toluene | 28,000 | 1,600 | | | | | | 26,160 | 5.53 | 25 | |
| trans-1,2-Dichloroethene | ND | 1,600 | | | | | | 0 | 0 | 25 | U |
| trans-1,3-dichloropropene | ND | 1,600 | | | | | | 0 | 0 | 25 | U |
| Trichloroethene | ND | 1,600 | | | | | | 0 | 0 | 25 | U |
| Trichlorofluoromethane | ND | 1,600 | | | | | | 0 | 0 | 25 | U |
| Vinyl acetate | ND | 1,600 | | | | | | 0 | 0 | 25 | U |
| Vinyl chloride | ND | 1,600 | | | | | | 0 | 0 | 25 | U |
| Xylenes, Total | 5,200 | 4,800 | | | | | | 4,944 | 4.74 | 25 | |
| Surr: 4-Bromofluorobenzene | 19,000 | | 20,000 | | 96.0 | 70 | 130 | | 0 | 25 | |

# RTI Laboratories - QC SUMMARY REPORT

**WO#: 1212373**

**Date Reported: 1/7/2013**
**Revision v2**

**Client:** Shaw Environmental & Infrastructure, Inc

**Project:** Kirtland AFB **Batch ID:** **R54855**

| Sample ID: | **MBLK VOA9 122112** | Samp Type: | **MBLK** | Test Code: | **MA_APH** | Units: | **µg/m³** | Prep Date: | | RunNo: | **54855** |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Client ID: | **PBW** | Batch ID: | **R54855** | TestNo: | **MA_APH** | | | Analysis Date: | **12/21/2012** | SeqNo: | **1081392** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | Low Limit | High Limit | RPD Ref Value | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| C5-C8 Aliphatic Hydrocarbons | ND | 120 | | | | | | | | | U |
| C9-C10 Aromatic Hydrocarbons | ND | 130 | | | | | | | | | U |
| C9-C12 Aliphatic Hydrocarbons | ND | 190 | | | | | | | | | U |
| Surr: 4-Bromofluorobenzene | 86 | | 89.50 | | 96.4 | 70 | 130 | | | | |

| Sample ID: | **1212373-036ADUP** | Samp Type: | **DUP** | Test Code: | **MA_APH** | Units: | **µg/m³** | Prep Date: | | RunNo: | **54855** |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Client ID: | **VA2206** | Batch ID: | **R54855** | TestNo: | **MA_APH** | | | Analysis Date: | **12/21/2012** | SeqNo: | **1081395** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | Low Limit | High Limit | RPD Ref Value | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| C5-C8 Aliphatic Hydrocarbons | 640,000 | 94,000 | | | | | | 604,900 | 4.87 | 30 | |
| C9-C10 Aromatic Hydrocarbons | ND | 110,000 | | | | | | 0 | 0 | 30 | U |
| C9-C12 Aliphatic Hydrocarbons | 88,000 | 150,000 | | | | | | 48,860 | 57.2 | 30 | JR |
| Surr: 4-Bromofluorobenzene | 70,000 | | 71,600 | | 98.4 | 70 | 130 | | 0 | 30 | |

# RTI Laboratories - QC SUMMARY REPORT

**WO#: 1212373**

**Date Reported: 1/7/2013**
**Revision v2**

**Client:** Shaw Environmental & Infrastructure, Inc

**Project:** Kirtland AFB **Batch ID:** **R54890**

Sample ID: **MBLK-122612 TCD-A** Samp Type: **MBLK** Test Code: **ASTM-D2504** Units: **% v/v** Prep Date: RunNo: **54890**
Client ID: **PBW** Batch ID: **R54890** TestNo: **ASTM-D2504** Analysis Date: **12/26/2012** SeqNo: **1081971**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | Low Limit | High Limit | RPD Ref Value | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Carbon dioxide | ND | 0.10 | | | | | | | | | U |
| Carbon Monoxide | ND | 0.10 | | | | | | | | | U |
| Methane | ND | 0.50 | | | | | | | | | U |
| Nitrogen | ND | 0.10 | | | | | | | | | U |
| Oxygen | ND | 0.10 | | | | | | | | | U |

Sample ID: **LCS-122612 TCD** Samp Type: **LCS** Test Code: **ASTM-D2504** Units: **% v/v** Prep Date: RunNo: **54890**
Client ID: **LCSW** Batch ID: **R54890** TestNo: **ASTM-D2504** Analysis Date: **12/26/2012** SeqNo: **1081973**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | Low Limit | High Limit | RPD Ref Value | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Carbon dioxide | 2.5 | 0.10 | 2.500 | 0 | 99.6 | 70 | 130 | 2.504 | 0.521 | 20 | |
| Carbon Monoxide | 2.6 | 0.10 | 2.500 | 0 | 105 | 70 | 130 | 2.633 | 0.266 | 20 | |
| Methane | 2.0 | 0.50 | 2.000 | 0 | 101 | 70 | 130 | 2.023 | 0.595 | 20 | |
| Nitrogen | 2.7 | 0.10 | 2.500 | 0 | 106 | 70 | 130 | 2.668 | 0.338 | 20 | |
| Oxygen | 2.5 | 0.10 | 2.500 | 0 | 102 | 70 | 130 | 2.550 | 0.354 | 20 | |

Sample ID: **1212373-010BDUP** Samp Type: **DUP** Test Code: **ASTM-D2504** Units: **% v/v** Prep Date: RunNo: **54890**
Client ID: **VA2078** Batch ID: **R54890** TestNo: **ASTM-D2504** Analysis Date: **12/26/2012** SeqNo: **1081985**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | Low Limit | High Limit | RPD Ref Value | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Carbon dioxide | 0.30 | 0.10 | | | | | | 0.3010 | 0.662 | 20 | |
| Carbon Monoxide | ND | 0.10 | | | | | | 0 | 0 | 20 | U |
| Methane | ND | 0.50 | | | | | | 0 | 0 | 20 | U |
| Nitrogen | 79 | 0.10 | | | | | | 80.19 | 0.959 | 20 | |
| Oxygen | 20 | 0.10 | | | | | | 20.42 | 2.00 | 20 | |

Sample ID: **1212373-018BDUP** Samp Type: **DUP** Test Code: **ASTM-D2504** Units: **% v/v** Prep Date: RunNo: **54890**
Client ID: **VA2129** Batch ID: **R54890** TestNo: **ASTM-D2504** Analysis Date: **12/26/2012** SeqNo: **1081995**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | Low Limit | High Limit | RPD Ref Value | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Carbon dioxide | 0.22 | 0.10 | | | | | | 0.2170 | 0.462 | 20 | |
| Carbon Monoxide | ND | 0.10 | | | | | | 0 | 0 | 20 | U |

# RTI Laboratories - QC SUMMARY REPORT

**WO#: 1212373**

**Date Reported: 1/7/2013**
**Revision v2**

**Client:** Shaw Environmental & Infrastructure, Inc

**Project:** Kirtland AFB **Batch ID:** **R54890**

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | **1212373-018BDUP** | Samp Type: | **DUP** | Test Code: | **ASTM-D2504** | Units: | **% v/v** | Prep Date: | | RunNo: | **54890** |
| Client ID: | **VA2129** | Batch ID: | **R54890** | TestNo: | **ASTM-D2504** | | | Analysis Date: | **12/26/2012** | SeqNo: | **1081995** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | Low Limit | High Limit | RPD Ref Value | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Methane | ND | 0.50 | | | | | | 0 | 0 | 20 | U |
| Nitrogen | 80 | 0.10 | | | | | | 80.24 | 0.0623 | 20 | |
| Oxygen | 20 | 0.10 | | | | | | 20.06 | 0.0299 | 20 | |

# RTI Laboratories - QC SUMMARY REPORT

**WO#: 1212373**

**Date Reported: 1/7/2013**
**Revision v2**

**Client:** Shaw Environmental & Infrastructure, Inc

**Project:** Kirtland AFB

**Batch ID:** **R54892**

| Sample ID: | **MBLK/DBV37 CC VO** | Samp Type: | **MBLK** | Test Code: | **EPA_TO15** | Units: | **ppbv** | Prep Date: | | RunNo: | **54892** |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Client ID: | **PBW** | Batch ID: | **R54892** | TestNo: | **TO-15** | | | Analysis Date: | **12/26/2012** | SeqNo: | **1082104** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | Low Limit | High Limit | RPD Ref Value | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Methylene chloride | ND | 5.0 | | | | | | | | | U |
| n-Hexane | ND | 2.0 | | | | | | | | | U |
| Surr: 4-Bromofluorobenzene | 12 | | 12.50 | | 93.4 | 70 | 130 | | | | |

| Sample ID: | **1212437-034ADUP** | Samp Type: | **DUP** | Test Code: | **EPA_TO15** | Units: | **ppbv** | Prep Date: | | RunNo: | **54892** |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Client ID: | **ZZZZZZ** | Batch ID: | **R54892** | TestNo: | **TO-15** | | | Analysis Date: | **12/26/2012** | SeqNo: | **1082114** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | Low Limit | High Limit | RPD Ref Value | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Methylene chloride | 8,500 | 4,000 | | | | | | 8,496 | 0 | 25 | |
| n-Hexane | 11,000 | 1,600 | | | | | | 10,030 | 4.82 | 25 | |
| Surr: 4-Bromofluorobenzene | 10,000 | | 10,000 | | 99.5 | 70 | 130 | | 0 | 25 | |

# RTI Laboratories - QC SUMMARY REPORT

**WO#: 1212373**

**Date Reported: 1/7/2013**
**Revision v2**

**Client:** Shaw Environmental & Infrastructure, Inc

**Project:** Kirtland AFB **Batch ID:** **R54981**

Sample ID: **MBLK-122812 TCD-A** Samp Type: **MBLK** Test Code: **ASTM-D2504** Units: **% v/v** Prep Date: RunNo: **54981**
Client ID: **PBW** Batch ID: **R54981** TestNo: **ASTM-D2504** Analysis Date: **12/28/2012** SeqNo: **1083916**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | Low Limit | High Limit | RPD Ref Value | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Carbon dioxide | ND | 0.10 | | | | | | | | | U |
| Carbon Monoxide | ND | 0.10 | | | | | | | | | U |
| Methane | ND | 0.50 | | | | | | | | | U |
| Nitrogen | 0.032 | 0.10 | | | | | | | | | J |
| Oxygen | ND | 0.10 | | | | | | | | | U |

Sample ID: **LCS-122812 TCD** Samp Type: **LCS** Test Code: **ASTM-D2504** Units: **% v/v** Prep Date: RunNo: **54981**
Client ID: **LCSW** Batch ID: **R54981** TestNo: **ASTM-D2504** Analysis Date: **12/28/2012** SeqNo: **1083918**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | Low Limit | High Limit | RPD Ref Value | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Carbon dioxide | 2.6 | 0.10 | 2.500 | 0 | 104 | 70 | 130 | 2.584 | 0.425 | 20 | |
| Carbon Monoxide | 2.7 | 0.10 | 2.500 | 0 | 109 | 70 | 130 | 2.696 | 1.22 | 20 | |
| Methane | 2.1 | 0.50 | 2.000 | 0 | 105 | 70 | 130 | 2.087 | 0.526 | 20 | |
| Nitrogen | 2.8 | 0.10 | 2.500 | 0 | 111 | 70 | 130 | 2.781 | 0.469 | 20 | |
| Oxygen | 2.7 | 0.10 | 2.500 | 0 | 108 | 70 | 130 | 2.690 | 0.0743 | 20 | |

Sample ID: **1212373-048BDUP** Samp Type: **DUP** Test Code: **ASTM-D2504** Units: **% v/v** Prep Date: RunNo: **54981**
Client ID: **VA2251** Batch ID: **R54981** TestNo: **ASTM-D2504** Analysis Date: **12/28/2012** SeqNo: **1083930**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | Low Limit | High Limit | RPD Ref Value | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Carbon dioxide | 0.13 | 0.10 | | | | | | 0.1280 | 2.32 | 20 | |
| Carbon Monoxide | ND | 0.10 | | | | | | 0 | 0 | 20 | U |
| Methane | ND | 0.50 | | | | | | 0 | 0 | 20 | U |
| Nitrogen | 82 | 0.10 | | | | | | 82.00 | 0.253 | 20 | |
| Oxygen | 22 | 0.10 | | | | | | 22.00 | 0.322 | 20 | |

Sample ID: **1212373-030BDUP** Samp Type: **DUP** Test Code: **ASTM-D2504** Units: **% v/v** Prep Date: RunNo: **54981**
Client ID: **VA2154** Batch ID: **R54981** TestNo: **ASTM-D2504** Analysis Date: **12/28/2012** SeqNo: **1083945**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | Low Limit | High Limit | RPD Ref Value | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Carbon dioxide | 0.55 | 0.10 | | | | | | 0.5490 | 0.364 | 20 | |
| Carbon Monoxide | ND | 0.10 | | | | | | 0 | 0 | 20 | U |

# RTI Laboratories - QC SUMMARY REPORT

**WO#: 1212373**

**Date Reported: 1/7/2013**
**Revision v2**

**Client:** Shaw Environmental & Infrastructure, Inc

**Project:** Kirtland AFB

**Batch ID: R54981**

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | **1212373-030BDUP** | Samp Type: | **DUP** | Test Code: | **ASTM-D2504** | Units: | **% v/v** | Prep Date: | | RunNo: | **54981** |
| Client ID: | **VA2154** | Batch ID: | **R54981** | TestNo: | **ASTM-D2504** | | | Analysis Date: | **12/28/2012** | SeqNo: | **1083945** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | Low Limit | High Limit | RPD Ref Value | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Methane | ND | 0.50 | | | | | | 0 | 0 | 20 | U |
| Nitrogen | 82 | 0.10 | | | | | | 82.13 | 0.106 | 20 | |
| Oxygen | 21 | 0.10 | | | | | | 21.35 | 0.00468 | 20 | |

# RTI Laboratories - QC SUMMARY REPORT

**WO#: 1212373**

**Date Reported: 1/7/2013**
**Revision v2**

**Client:** Shaw Environmental & Infrastructure, Inc

**Project:** Kirtland AFB **Batch ID:** **R55005**

| Sample ID: | **MBLK VOA9 122812** | Samp Type: | **MBLK** | Test Code: | **MA_APH** | Units: | **µg/m³** | Prep Date: | | RunNo: | **55005** |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Client ID: | **PBW** | Batch ID: | **R55005** | TestNo: | **MA_APH** | | | Analysis Date: | **12/28/2012** | SeqNo: | **1084469** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | Low Limit | High Limit | RPD Ref Value | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| C5-C8 Aliphatic Hydrocarbons | ND | 120 | | | | | | | | | U |
| C9-C10 Aromatic Hydrocarbons | ND | 130 | | | | | | | | | U |
| C9-C12 Aliphatic Hydrocarbons | ND | 190 | | | | | | | | | U |
| Surr: 4-Bromofluorobenzene | 84 | | 89.50 | | 93.8 | 70 | 130 | | | | |

| Sample ID: | **1212373-033ADUP** | Samp Type: | **DUP** | Test Code: | **MA_APH** | Units: | **µg/m³** | Prep Date: | | RunNo: | **55005** |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Client ID: | **VA2157** | Batch ID: | **R55005** | TestNo: | **MA_APH** | | | Analysis Date: | **12/28/2012** | SeqNo: | **1084474** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | Low Limit | High Limit | RPD Ref Value | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| C5-C8 Aliphatic Hydrocarbons | 1,600,000 | 190,000 | | | | | | 1,616,000 | 0.938 | 30 | |
| C9-C10 Aromatic Hydrocarbons | ND | 210,000 | | | | | | 0 | 0 | 30 | U |
| C9-C12 Aliphatic Hydrocarbons | ND | 300,000 | | | | | | 0 | 0 | 30 | U |
| Surr: 4-Bromofluorobenzene | 140,000 | | 143,200 | | 94.3 | 70 | 130 | | 0 | 30 | |

# RTI Laboratories - QC SUMMARY REPORT

**WO#: 1212373**

**Date Reported: 1/7/2013**
**Revision v2**

**Client:** Shaw Environmental & Infrastructure, Inc

**Project:** Kirtland AFB **Batch ID:** **R55007**

Sample ID: **MBLK-123112 TCD-A** Samp Type: **MBLK** Test Code: **ASTM-D2504** Units: **% v/v** Prep Date: RunNo: **55007**
Client ID: **PBW** Batch ID: **R55007** TestNo: **ASTM-D2504** Analysis Date: **12/31/2012** SeqNo: **1084561**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | Low Limit | High Limit | RPD Ref Value | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Carbon dioxide | ND | 0.10 | | | | | | | | | U |
| Carbon Monoxide | ND | 0.10 | | | | | | | | | U |
| Methane | ND | 0.50 | | | | | | | | | U |
| Nitrogen | ND | 0.10 | | | | | | | | | U |
| Oxygen | ND | 0.10 | | | | | | | | | U |

Sample ID: **LCS-123112 TCD** Samp Type: **LCS** Test Code: **ASTM-D2504** Units: **% v/v** Prep Date: RunNo: **55007**
Client ID: **LCSW** Batch ID: **R55007** TestNo: **ASTM-D2504** Analysis Date: **12/31/2012** SeqNo: **1084563**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | Low Limit | High Limit | RPD Ref Value | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Carbon dioxide | 2.4 | 0.10 | 2.500 | 0 | 98.0 | 70 | 130 | 2.512 | 2.50 | 20 | |
| Carbon Monoxide | 2.6 | 0.10 | 2.500 | 0 | 105 | 70 | 130 | 2.634 | 0.380 | 20 | |
| Methane | 1.9 | 0.50 | 2.000 | 0 | 96.4 | 70 | 130 | 2.060 | 6.57 | 20 | |
| Nitrogen | 2.7 | 0.10 | 2.500 | 0 | 109 | 70 | 130 | 2.790 | 2.47 | 20 | |
| Oxygen | 2.7 | 0.10 | 2.500 | 0 | 106 | 70 | 130 | 2.647 | 0.339 | 20 | |

Sample ID: **1212373-040BDUP** Samp Type: **DUP** Test Code: **ASTM-D2504** Units: **% v/v** Prep Date: RunNo: **55007**
Client ID: **VA2210** Batch ID: **R55007** TestNo: **ASTM-D2504** Analysis Date: **12/31/2012** SeqNo: **1084575**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | Low Limit | High Limit | RPD Ref Value | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Carbon dioxide | 0.19 | 0.10 | | | | | | 0.1910 | 1.58 | 20 | |
| Carbon Monoxide | ND | 0.10 | | | | | | 0 | 0 | 20 | U |
| Methane | ND | 0.50 | | | | | | 0 | 0 | 20 | U |
| Nitrogen | 81 | 0.10 | | | | | | 82.01 | 0.920 | 20 | |
| Oxygen | 22 | 0.10 | | | | | | 22.21 | 1.79 | 20 | |

# RTI Laboratories - QC SUMMARY REPORT

**WO#: 1212373**

**Date Reported: 1/7/2013**
**Revision v2**

**Client:** Shaw Environmental & Infrastructure, Inc

**Project:** Kirtland AFB **Batch ID:** **R55020**

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | **MBLK/DBV118 CC V** | Samp Type: | **MBLK** | Test Code: | **EPA_TO15** | Units: | **ppbv** | Prep Date: | | RunNo: | **55020** |
| Client ID: | **PBW** | Batch ID: | **R55020** | TestNo: | **TO-15** | | | Analysis Date: | **1/1/2013** | SeqNo: | **1084685** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | Low Limit | High Limit | RPD Ref Value | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | ND | 1.0 | | | | | | | | | U |
| 1,1,2,2-Tetrachloroethane | ND | 1.0 | | | | | | | | | U |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ND | 1.0 | | | | | | | | | U |
| 1,1,2-Trichloroethane | ND | 1.0 | | | | | | | | | U |
| 1,1-Dichloroethane | ND | 1.0 | | | | | | | | | U |
| 1,1-Dichloroethene | ND | 1.0 | | | | | | | | | U |
| 1,2,4-Trichlorobenzene | ND | 1.0 | | | | | | | | | U |
| 1,2,4-Trimethylbenzene | ND | 1.0 | | | | | | | | | U |
| 1,2-Dibromoethane | ND | 1.0 | | | | | | | | | U |
| 1,2-Dichlorobenzene | ND | 1.0 | | | | | | | | | U |
| 1,2-Dichloroethane | ND | 1.0 | | | | | | | | | U |
| 1,2-Dichloropropane | ND | 1.0 | | | | | | | | | U |
| 1,3,5-Trimethylbenzene | ND | 1.0 | | | | | | | | | U |
| 1,3-Butadiene | ND | 1.0 | | | | | | | | | U |
| 1,3-Dichlorobenzene | ND | 1.0 | | | | | | | | | U |
| 1,4-Dichlorobenzene | ND | 1.0 | | | | | | | | | U |
| 2-Butanone | ND | 1.0 | | | | | | | | | U |
| 2-Hexanone | ND | 1.0 | | | | | | | | | U |
| 4-Methyl-2-pentanone | ND | 1.0 | | | | | | | | | U |
| Acetone | ND | 1.0 | | | | | | | | | U |
| Benzene | ND | 1.0 | | | | | | | | | U |
| Benzyl chloride | ND | 1.0 | | | | | | | | | U |
| Bromodichloromethane | ND | 1.0 | | | | | | | | | U |
| Bromoform | ND | 1.0 | | | | | | | | | U |
| Bromomethane | ND | 1.0 | | | | | | | | | U |
| Carbon disulfide | ND | 1.0 | | | | | | | | | U |
| Carbon tetrachloride | ND | 1.0 | | | | | | | | | U |
| Chlorobenzene | ND | 1.0 | | | | | | | | | U |
| Chlorodibromomethane | ND | 1.0 | | | | | | | | | U |
| Chloroethane | ND | 1.0 | | | | | | | | | U |
| Chloroform | ND | 1.0 | | | | | | | | | U |

# RTI Laboratories - QC SUMMARY REPORT

**WO#: 1212373**

**Date Reported: 1/7/2013**
**Revision v2**

**Client:** Shaw Environmental & Infrastructure, Inc

**Project:** Kirtland AFB **Batch ID:** **R55020**

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | **MBLK/DBV118 CC V** | Samp Type: | **MBLK** | Test Code: | **EPA_TO15** | Units: | **ppbv** | Prep Date: | | RunNo: | **55020** |
| Client ID: | **PBW** | Batch ID: | **R55020** | TestNo: | **TO-15** | | | Analysis Date: | **1/1/2013** | SeqNo: | **1084685** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | Low Limit | High Limit | RPD Ref Value | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloromethane | ND | 1.0 | | | | | | | | | U |
| cis-1,2-Dichloroethene | ND | 1.0 | | | | | | | | | U |
| cis-1,3-dichloropropene | ND | 1.0 | | | | | | | | | U |
| Cyclohexane | ND | 2.0 | | | | | | | | | U |
| Dichlorodifluoromethane | ND | 1.0 | | | | | | | | | U |
| Ethyl acetate | ND | 1.0 | | | | | | | | | U |
| Ethylbenzene | ND | 2.0 | | | | | | | | | U |
| Heptane | ND | 1.0 | | | | | | | | | U |
| Hexachlorobutadiene | ND | 2.0 | | | | | | | | | U |
| m,p-Xylene | ND | 2.0 | | | | | | | | | U |
| Methylene chloride | ND | 5.0 | | | | | | | | | U |
| n-Hexane | ND | 2.0 | | | | | | | | | U |
| Naphthalene | ND | 1.0 | | | | | | | | | U |
| o-Xylene | ND | 1.0 | | | | | | | | | U |
| Propylene | ND | 1.0 | | | | | | | | | U |
| Styrene | ND | 1.0 | | | | | | | | | U |
| tert-Butyl Methyl Ether | ND | 1.0 | | | | | | | | | U |
| Tetrachloroethene | ND | 1.0 | | | | | | | | | U |
| Tetrahydrofuran | ND | 1.0 | | | | | | | | | U |
| Toluene | ND | 1.0 | | | | | | | | | U |
| trans-1,2-Dichloroethene | ND | 1.0 | | | | | | | | | U |
| trans-1,3-dichloropropene | ND | 1.0 | | | | | | | | | U |
| Trichloroethene | ND | 1.0 | | | | | | | | | U |
| Trichlorofluoromethane | ND | 1.0 | | | | | | | | | U |
| Vinyl acetate | ND | 1.0 | | | | | | | | | U |
| Vinyl chloride | ND | 1.0 | | | | | | | | | U |
| Xylenes, Total | ND | 3.0 | | | | | | | | | U |
| Surr: 4-Bromofluorobenzene | 12 | | 12.50 | | 92.7 | 70 | 130 | | | | |

# RTI Laboratories - QC SUMMARY REPORT

**WO#: 1212373**

**Date Reported: 1/7/2013**
**Revision v2**

**Client:** Shaw Environmental & Infrastructure, Inc

**Project:** Kirtland AFB **Batch ID:** **R55020**

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | **1212437-035ADUP** | Samp Type: | **DUP** | Test Code: | **EPA_TO15** | Units: | **ppbv** | Prep Date: | | RunNo: | **55020** |
| Client ID: | **ZZZZZZ** | Batch ID: | **R55020** | TestNo: | **TO-15** | | | Analysis Date: | **1/2/2013** | SeqNo: | **1084757** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | Low Limit | High Limit | RPD Ref Value | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | ND | 800 | | | | | | 0 | 0 | 25 | U |
| 1,1,2,2-Tetrachloroethane | ND | 800 | | | | | | 0 | 0 | 25 | U |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ND | 800 | | | | | | 0 | 0 | 25 | U |
| 1,1,2-Trichloroethane | ND | 800 | | | | | | 0 | 0 | 25 | U |
| 1,1-Dichloroethane | ND | 800 | | | | | | 0 | 0 | 25 | U |
| 1,1-Dichloroethene | ND | 800 | | | | | | 0 | 0 | 25 | U |
| 1,2,4-Trichlorobenzene | ND | 800 | | | | | | 0 | 0 | 25 | U |
| 1,2,4-Trimethylbenzene | ND | 800 | | | | | | 0 | 0 | 25 | U |
| 1,2-Dibromoethane | ND | 800 | | | | | | 0 | 0 | 25 | U |
| 1,2-Dichlorobenzene | ND | 800 | | | | | | 0 | 0 | 25 | U |
| 1,2-Dichloroethane | ND | 800 | | | | | | 0 | 0 | 25 | U |
| 1,2-Dichloropropane | ND | 800 | | | | | | 0 | 0 | 25 | U |
| 1,3,5-Trimethylbenzene | ND | 800 | | | | | | 0 | 0 | 25 | U |
| 1,3-Butadiene | ND | 800 | | | | | | 0 | 0 | 25 | U |
| 1,3-Dichlorobenzene | ND | 800 | | | | | | 0 | 0 | 25 | U |
| 1,4-Dichlorobenzene | ND | 800 | | | | | | 0 | 0 | 25 | U |
| 2-Butanone | ND | 800 | | | | | | 0 | 0 | 25 | U |
| 2-Hexanone | ND | 800 | | | | | | 0 | 0 | 25 | U |
| 4-Methyl-2-pentanone | ND | 800 | | | | | | 0 | 0 | 25 | U |
| Acetone | ND | 800 | | | | | | 0 | 0 | 25 | U |
| Benzene | 6,000 | 800 | | | | | | 5,408 | 9.58 | 25 | |
| Benzyl chloride | ND | 800 | | | | | | 0 | 0 | 25 | U |
| Bromodichloromethane | ND | 800 | | | | | | 0 | 0 | 25 | U |
| Bromoform | ND | 800 | | | | | | 0 | 0 | 25 | U |
| Bromomethane | ND | 800 | | | | | | 0 | 0 | 25 | U |
| Carbon disulfide | ND | 800 | | | | | | 0 | 0 | 25 | U |
| Carbon tetrachloride | ND | 800 | | | | | | 0 | 0 | 25 | U |
| Chlorobenzene | ND | 800 | | | | | | 0 | 0 | 25 | U |
| Chlorodibromomethane | ND | 800 | | | | | | 0 | 0 | 25 | U |
| Chloroethane | ND | 800 | | | | | | 0 | 0 | 25 | U |
| Chloroform | ND | 800 | | | | | | 0 | 0 | 25 | U |

# RTI Laboratories - QC SUMMARY REPORT

**WO#: 1212373**

**Date Reported: 1/7/2013**
**Revision v2**

**Client:** Shaw Environmental & Infrastructure, Inc

**Project:** Kirtland AFB **Batch ID:** **R55020**

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | **1212437-035ADUP** | Samp Type: | **DUP** | Test Code: | **EPA_TO15** | Units: | **ppbv** | Prep Date: | | RunNo: | **55020** |
| Client ID: | **ZZZZZZ** | Batch ID: | **R55020** | TestNo: | **TO-15** | | | Analysis Date: | **1/2/2013** | SeqNo: | **1084757** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | Low Limit | High Limit | RPD Ref Value | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloromethane | ND | 800 | | | | | | 0 | 0 | 25 | U |
| cis-1,2-Dichloroethene | ND | 800 | | | | | | 0 | 0 | 25 | U |
| cis-1,3-dichloropropene | ND | 800 | | | | | | 0 | 0 | 25 | U |
| Cyclohexane | 12,000 | 1,600 | | | | | | 11,430 | 8.32 | 25 | |
| Dichlorodifluoromethane | ND | 800 | | | | | | 0 | 0 | 25 | U |
| Ethyl acetate | ND | 800 | | | | | | 0 | 0 | 25 | U |
| Ethylbenzene | 2,300 | 1,600 | | | | | | 2,056 | 9.63 | 25 | |
| Heptane | 13,000 | 800 | | | | | | 11,910 | 7.06 | 25 | |
| Hexachlorobutadiene | ND | 1,600 | | | | | | 0 | 0 | 25 | U |
| m,p-Xylene | 5,600 | 1,600 | | | | | | 5,080 | 9.31 | 25 | |
| Methylene chloride | 3,200 | 4,000 | | | | | | 2,928 | 8.13 | 25 | J |
| n-Hexane | 6,500 | 1,600 | | | | | | 5,952 | 8.74 | 25 | |
| Naphthalene | ND | 800 | | | | | | 0 | 0 | 25 | U |
| o-Xylene | 1,600 | 800 | | | | | | 1,432 | 8.56 | 25 | |
| Propylene | ND | 800 | | | | | | 0 | 0 | 25 | U |
| Styrene | ND | 800 | | | | | | 0 | 0 | 25 | U |
| tert-Butyl Methyl Ether | ND | 800 | | | | | | 0 | 0 | 25 | U |
| Tetrachloroethene | ND | 800 | | | | | | 0 | 0 | 25 | U |
| Tetrahydrofuran | ND | 800 | | | | | | 0 | 0 | 25 | U |
| Toluene | 23,000 | 800 | | | | | | 21,230 | 9.27 | 25 | |
| trans-1,2-Dichloroethene | ND | 800 | | | | | | 0 | 0 | 25 | U |
| trans-1,3-dichloropropene | ND | 800 | | | | | | 0 | 0 | 25 | U |
| Trichloroethene | ND | 800 | | | | | | 0 | 0 | 25 | U |
| Trichlorofluoromethane | ND | 800 | | | | | | 0 | 0 | 25 | U |
| Vinyl acetate | ND | 800 | | | | | | 0 | 0 | 25 | U |
| Vinyl chloride | ND | 800 | | | | | | 0 | 0 | 25 | U |
| Xylenes, Total | 7,100 | 2,400 | | | | | | 6,512 | 9.14 | 25 | |
| Surr: 4-Bromofluorobenzene | 9,300 | | 10,000 | | 92.6 | 70 | 130 | | 0 | 25 | |

# RTI Laboratories - QC SUMMARY REPORT

**WO#: 1212373**

**Date Reported: 1/7/2013**
**Revision v2**

**Client:** Shaw Environmental & Infrastructure, Inc

**Project:** Kirtland AFB **Batch ID:** **R55111**

| Sample ID: | **MBLK VOA9 010313** | Samp Type: | **MBLK** | Test Code: | **MA_APH** | Units: | **µg/m³** | Prep Date: | | RunNo: | **55111** |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Client ID: | **PBW** | Batch ID: | **R55111** | TestNo: | **MA_APH** | | | Analysis Date: | **1/4/2013** | SeqNo: | **1086444** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | Low Limit | High Limit | RPD Ref Value | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| C5-C8 Aliphatic Hydrocarbons | ND | 120 | | | | | | | | | U |
| C9-C10 Aromatic Hydrocarbons | ND | 130 | | | | | | | | | U |
| C9-C12 Aliphatic Hydrocarbons | ND | 190 | | | | | | | | | U |
| Surr: 4-Bromofluorobenzene | 84 | | 89.50 | | 93.4 | 70 | 130 | | | | |

| Sample ID: | **1212722-004ADUP** | Samp Type: | **DUP** | Test Code: | **MA_APH** | Units: | **µg/m³** | Prep Date: | | RunNo: | **55111** |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Client ID: | **ZZZZZZ** | Batch ID: | **R55111** | TestNo: | **MA_APH** | | | Analysis Date: | **1/5/2013** | SeqNo: | **1086795** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | Low Limit | High Limit | RPD Ref Value | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| C5-C8 Aliphatic Hydrocarbons | 640,000 | 94,000 | | | | | | 629,200 | 1.42 | 30 | |
| C9-C10 Aromatic Hydrocarbons | ND | 110,000 | | | | | | 0 | 0 | 30 | U |
| C9-C12 Aliphatic Hydrocarbons | 65,000 | 150,000 | | | | | | 78,380 | 18.9 | 30 | J |
| Surr: 4-Bromofluorobenzene | 70,000 | | 71,600 | | 97.3 | 70 | 130 | | 0 | 30 | |

# Injection Log

Directory: C:\HPCHEM\1\DATA\121312

| Line | Vial | FileName | Multiplier | SampleName | Misc Info | Injected |
|---|---|---|---|---|---|---|
| 1 | 1 | 12131201.d | 1. | BFB VOA1 121312 | TUNE BFB_TUNE | 13 Dec 2012 12:06 |
| 2 | 2 | 12131202.d | 1. | CCV VOA1 121312 | ICV EPA_TO15 | 13 Dec 2012 12:49 |
| 3 | 3 | 12131203.d | 1. | RLVS VOA1 121312 | RLVS EPA_TO15 | 13 Dec 2012 13:33 |
| 4 | 4 | 12131204.d | 1. | DBV118 CC VOA1 121312 | DATA NOT USED | 13 Dec 2012 14:22 |
| 5 | 5 | 12131205.d | 1. | BV1216 CC VOA1 121312 | DATA NOT USED | 13 Dec 2012 15:21 |
| 6 | 6 | 12131206.d | 1. | DBV128 CC VOA1 121312 | DATA NOT USED | 13 Dec 2012 16:09 |
| 7 | 7 | 12131207.d | 1. | MBLK VOA1 121312 | MBLK EPA_TO15 | 13 Dec 2012 17:07 |
| 8 | 1 | 12131208.d | 1. | 1212185-065A | SAMP EPA_TO15 | 13 Dec 2012 17:56 |
| 9 | 2 | 12131209.d | 40. | 1212185-035A | SAMP EPA_TO15 | 13 Dec 2012 18:39 |
| 10 | 3 | 12131210.d | 40. | 1212185-036A | SAMP EPA_TO15 | 13 Dec 2012 19:21 |
| 11 | 4 | 12131211.d | 40. | 1212185-037A | SAMP EPA_TO15 | 13 Dec 2012 20:04 |
| 12 | 6 | 12131212.d | 800. | 1212185-050A | DATA NOT USED | 13 Dec 2012 20:50 |
| 13 | 6 | 12131213.d | 800. | 1212185-050A | DATA NOT USED | 13 Dec 2012 21:36 |
| 14 | 7 | 12131214.d | 400. | 1212185-051A | DATA NOT USED | 13 Dec 2012 22:25 |
| 15 | 8 | 12131215.d | 40. | 1212185-054A | SAMP EPA_TO15 | 13 Dec 2012 23:08 |
| 16 | 9 | 12131216.d | 800. | 1212185-055A | SAMP EPA_TO15 | 13 Dec 2012 23:54 |
| 17 | 10 | 12131217.d | 800. | 1212185-056A | SAMP EPA_TO15 | 14 Dec 2012 00:39 |
| 18 | 11 | 12131218.d | 800. | 1212185-057A | SAMP EPA_TO15 | 14 Dec 2012 01:25 |
| 19 | 11 | 12131219.d | 800. | 1212185-057ADUP | DUP EPA_TO15 | 14 Dec 2012 02:11 |
| 20 | 12 | 12131220.d | 800. | 1212185-064A | SAMP EPA_TO15 | 14 Dec 2012 02:57 |
| 21 | 13 | 12131221.d | 40. | 1212373-012A | SAMP EPA_TO15 | 14 Dec 2012 03:39 |
| 22 | 14 | 12131222.d | 800. | 1212373-013A | SAMP EPA_TO15 | 14 Dec 2012 04:25 |
| 23 | 15 | 12131223.d | 800. | 1212373-014A | SAMP EPA_TO15 | 14 Dec 2012 05:11 |
| 24 | 16 | 12131224.d | 40000. | 1212373-015A | DATA NOT USED | 14 Dec 2012 05:53 |
| 25 | 4 | 12131225.d | 1. | DBV118 CC RERUN 121312 | DATA NOT USED | 14 Dec 2012 08:40 |
| 26 | 5 | 12131226.d | 1. | DBV42 CC 121312 | DATA NOT USED | 14 Dec 2012 09:29 |
| 27 | 6 | 12131227.d | 1. | DBV29 CC 121312 | DATA NOT USED | 14 Dec 2012 10:45 |
| 28 | 3 | 12131228.d | 1. | RLVS2 VOA1 121312 | RLVS EPA_TO15 | 14 Dec 2012 11:28 |

# RTI Laboratories

# ANALYTICAL RUN Summary

*02-Jan-13*

**RunNo** 54613

| Seq No | Sample ID | Test Code | Sample Typ | File ID | Analysis Date | DF | Batch ID | Prep Date | SPKref | RPDref | pmoist |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1076250 | BFB VOA1 121312 | BFB_TUNE | TUNE | \1\DATA\121312\ | 12/13/2012 12:0 | 1 | R54613 | | 0 | 0 | |

| Analyte | T | Units | RAW | Final | Text | Spike | SPKref | RPDref | MDL | PQL | UQL | %REC | LOW | HIGH | %RPD | Q |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 173 | M | | 0.5 | 0.5 | | 100 | 0 | 0 | 0 | 0 | 0 | 1% | 0 | 2 | 0% | |
| 174 | M | | 82.4 | 82.4 | | 100 | 0 | 0 | 0 | 0 | 0 | 82% | 50 | 200 | 0% | |
| 175 | M | | 7.1 | 7.1 | | 100 | 0 | 0 | 0 | 0 | 0 | 7% | 4 | 9 | 0% | |
| 176 | M | | 96.2 | 96.2 | | 100 | 0 | 0 | 0 | 0 | 0 | 96% | 93 | 101 | 0% | |
| 177 | M | | 6.6 | 6.6 | | 100 | 0 | 0 | 0 | 0 | 0 | 7% | 5 | 9 | 0% | |
| 50 | M | | 19.5 | 19.5 | | 100 | 0 | 0 | 0 | 0 | 0 | 20% | 8 | 40 | 0% | |
| 75 | M | | 46.7 | 46.7 | | 100 | 0 | 0 | 0 | 0 | 0 | 47% | 30 | 66 | 0% | |
| 95 | M | | 100 | 100 | | 100 | 0 | 0 | 0 | 0 | 0 | 100% | 100 | 100 | 0% | |
| 96 | M | | 6.5 | 6.5 | | 100 | 0 | 0 | 0 | 0 | 0 | 7% | 5 | 9 | 0% | |

| Seq No | Sample ID | Test Code | Sample Typ | File ID | Analysis Date | DF | Batch ID | Prep Date | SPKref | RPDref | pmoist |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1076251 | CCV VOA1 121312 | EPA_TO15 | CCV | \1\DATA\121312\ | 12/13/2012 12:4 | 1 | R54613 | | 0 | 0 | |

| Analyte | T | Units | RAW | Final | Text | Spike | SPKref | RPDref | MDL | PQL | UQL | %REC | LOW | HIGH | %RPD | Q |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | A | ppbv | 11.03 | 11.03 | | 9.6 | 0 | 0 | 0.107 | 1 | 50 | 115% | 70 | 130 | 0% | |
| 1,1,2,2-Tetrachloroethane | A | ppbv | 10.95 | 10.95 | | 10 | 0 | 0 | 0.211 | 1 | 50 | 110% | 70 | 130 | 0% | |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | A | ppbv | 11.2 | 11.2 | | 9.8 | 0 | 0 | 0.108 | 1 | 50 | 114% | 70 | 130 | 0% | |
| 1,1,2-Trichloroethane | A | ppbv | 10.71 | 10.71 | | 9.8 | 0 | 0 | 0.2 | 1 | 50 | 109% | 70 | 130 | 0% | |
| 1,1-Dichloroethane | A | ppbv | 11.55 | 11.55 | | 9.7 | 0 | 0 | 0.111 | 1 | 50 | 119% | 70 | 130 | 0% | |
| 1,1-Dichloroethene | A | ppbv | 11.27 | 11.27 | | 9.9 | 0 | 0 | 0.097 | 1 | 50 | 114% | 70 | 130 | 0% | |
| 1,2,4-Trichlorobenzene | A | ppbv | 10.06 | 10.06 | | 9.1 | 0 | 0 | 0.271 | 1 | 50 | 111% | 70 | 130 | 0% | |
| 1,2,4-Trimethylbenzene | A | ppbv | 11.06 | 11.06 | | 9.8 | 0 | 0 | 0.245 | 1 | 50 | 113% | 70 | 130 | 0% | |
| 1,2-Dibromoethane | A | ppbv | 10.84 | 10.84 | | 9.6 | 0 | 0 | 0.186 | 1 | 50 | 113% | 70 | 130 | 0% | |
| 1,2-Dichlorobenzene | A | ppbv | 11.14 | 11.14 | | 9.7 | 0 | 0 | 0.208 | 1 | 50 | 115% | 70 | 130 | 0% | |
| 1,2-Dichloroethane | A | ppbv | 11.31 | 11.31 | | 9.7 | 0 | 0 | 0.196 | 1 | 50 | 117% | 70 | 130 | 0% | |
| 1,2-Dichloropropane | A | ppbv | 11.3 | 11.3 | | 9.8 | 0 | 0 | 0.224 | 1 | 50 | 115% | 70 | 130 | 0% | |
| 1,3,5-Trimethylbenzene | A | ppbv | 10.89 | 10.89 | | 9.7 | 0 | 0 | 0.24 | 1 | 50 | 112% | 70 | 130 | 0% | |
| 1,3-Butadiene | A | ppbv | 9.54 | 9.54 | | 9.8 | 0 | 0 | 0.152 | 1 | 50 | 97% | 70 | 130 | 0% | |
| 1,3-Dichlorobenzene | A | ppbv | 10.95 | 10.95 | | 9.7 | 0 | 0 | 0.202 | 1 | 50 | 113% | 70 | 130 | 0% | |

| Seq No | Sample ID | Test Code | Sample Typ | File ID | Analysis Date | DF | Batch ID | Prep Date | SPKref | RPDref | pmoist |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1076251 | CCV VOA1 121312 | EPA_TO15 | CCV | \\1\DATA\121312\ | 12/13/2012 12:4 | 1 | R54613 | | 0 | 0 | |

| Analyte | T | Units | RAW | Final | Text | Spike | SPKref | RPDref | MDL | PQL | UQL | %REC | LOW | HIGH | %RPD | Q |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,4-Dichlorobenzene | A | ppbv | 11.11 | 11.11 | | 9.6 | 0 | 0 | 0.194 | 1 | 50 | 116% | 70 | 130 | 0% | |
| 1,4-Dioxane | A | ppbv | 10.62 | 10.62 | | 9.6 | 0 | 0 | 0.128 | 1 | 50 | 111% | 70 | 130 | 0% | |
| 2-Butanone | A | ppbv | 11.14 | 11.14 | | 9.9 | 0 | 0 | 0.287 | 1 | 50 | 113% | 70 | 130 | 0% | |
| 2-Hexanone | A | ppbv | 10.7 | 10.7 | | 9.8 | 0 | 0 | 0.135 | 1 | 50 | 109% | 70 | 130 | 0% | |
| 2-Propanol | A | ppbv | 10.99 | 10.99 | | 10.1 | 0 | 0 | 0.329 | 1 | 50 | 109% | 70 | 130 | 0% | |
| 4-Methyl-2-pentanone | A | ppbv | 11.19 | 11.19 | | 10 | 0 | 0 | 0.157 | 1 | 50 | 112% | 70 | 130 | 0% | |
| Acetone | A | ppbv | 10.86 | 10.86 | | 10 | 0 | 0 | 0.43 | 1 | 50 | 109% | 70 | 130 | 0% | |
| Benzene | A | ppbv | 11.36 | 11.36 | | 9.6 | 0 | 0 | 0.126 | 1 | 50 | 118% | 70 | 130 | 0% | |
| Benzyl chloride | A | ppbv | 11.4 | 11.4 | | 9.7 | 0 | 0 | 0.155 | 1 | 50 | 118% | 70 | 130 | 0% | |
| Bromodichloromethane | A | ppbv | 10.73 | 10.73 | | 9.6 | 0 | 0 | 0.156 | 1 | 50 | 112% | 70 | 130 | 0% | |
| Bromoform | A | ppbv | 10.75 | 10.75 | | 9.6 | 0 | 0 | 0.197 | 1 | 50 | 112% | 70 | 130 | 0% | |
| Bromomethane | A | ppbv | 9.97 | 9.97 | | 9.3 | 0 | 0 | 0.075 | 1 | 50 | 107% | 70 | 130 | 0% | |
| Carbon disulfide | A | ppbv | 10.68 | 10.68 | | 9.7 | 0 | 0 | 0.093 | 1 | 50 | 110% | 70 | 130 | 0% | |
| Carbon tetrachloride | A | ppbv | 10.9 | 10.9 | | 9.5 | 0 | 0 | 0.114 | 1 | 50 | 115% | 70 | 130 | 0% | |
| Chlorobenzene | A | ppbv | 10.96 | 10.96 | | 9.9 | 0 | 0 | 0.275 | 1 | 50 | 111% | 70 | 130 | 0% | |
| Chlorodibromomethane | A | ppbv | 10.84 | 10.84 | | 9.2 | 0 | 0 | 0.165 | 1 | 50 | 118% | 70 | 130 | 0% | |
| Chloroethane | A | ppbv | 10.04 | 10.04 | | 9.8 | 0 | 0 | 0.063 | 1 | 50 | 102% | 70 | 130 | 0% | |
| Chloroform | A | ppbv | 11.36 | 11.36 | | 9.4 | 0 | 0 | 0.126 | 1 | 50 | 121% | 70 | 130 | 0% | |
| Chloromethane | A | ppbv | 9.96 | 9.96 | | 9.8 | 0 | 0 | 0.104 | 1 | 50 | 102% | 70 | 130 | 0% | |
| cis-1,2-Dichloroethene | A | ppbv | 11.47 | 11.47 | | 9.8 | 0 | 0 | 0.107 | 1 | 50 | 117% | 70 | 130 | 0% | |
| cis-1,3-dichloropropene | A | ppbv | 10.83 | 10.83 | | 9.5 | 0 | 0 | 0.166 | 1 | 50 | 114% | 70 | 130 | 0% | |
| Cyclohexane | A | ppbv | 11.36 | 11.36 | | 9.8 | 0 | 0 | 0.684 | 2 | 50 | 116% | 70 | 130 | 0% | |
| Dichlorodifluoromethane | A | ppbv | 9.64 | 9.64 | | 9.2 | 0 | 0 | 0.086 | 1 | 50 | 105% | 70 | 130 | 0% | |
| Ethanol | A | ppbv | 9.66 | 9.66 | | 9.2 | 0 | 0 | 1.962 | 5 | 50 | 105% | 70 | 130 | 0% | |
| Ethyl acetate | A | ppbv | 11.27 | 11.27 | | 9.8 | 0 | 0 | 0.157 | 1 | 50 | 115% | 70 | 130 | 0% | |
| Ethylbenzene | A | ppbv | 10.91 | 10.91 | | 9.8 | 0 | 0 | 0.737 | 2 | 50 | 111% | 70 | 130 | 0% | |
| Heptane | A | ppbv | 10.66 | 10.66 | | 9.9 | 0 | 0 | 0.249 | 1 | 50 | 108% | 70 | 130 | 0% | |
| Hexachlorobutadiene | A | ppbv | 9.89 | 9.89 | | 9.4 | 0 | 0 | 0.374 | 2 | 50 | 105% | 70 | 130 | 0% | |
| m,p-Xylene | A | ppbv | 21.28 | 21.28 | | 19.2 | 0 | 0 | 0.524 | 2 | 100 | 111% | 70 | 130 | 0% | |
| Methylene chloride | A | ppbv | 10.77 | 10.77 | | 10 | 0 | 0 | 2.077 | 5 | 50 | 108% | 70 | 130 | 0% | |
| n-Hexane | A | ppbv | 11.6 | 11.6 | | 10.1 | 0 | 0 | 0.692 | 2 | 50 | 115% | 70 | 130 | 0% | |
| Naphthalene | A | ppbv | 9.37 | 9.37 | | 9.2 | 0 | 0 | 0.247 | 1 | 50 | 102% | 70 | 130 | 0% | |
| o-Xylene | A | ppbv | 11.03 | 11.03 | | 10 | 0 | 0 | 0.258 | 1 | 50 | 110% | 70 | 130 | 0% | |
| Propylene | A | ppbv | 9.36 | 9.36 | | 10.2 | 0 | 0 | 0.075 | 1 | 50 | 92% | 70 | 130 | 0% | |

| Seq No | Sample ID | Test Code | Sample Typ | File ID | Analysis Date | DF | Batch ID | Prep Date | SPKref | RPDref | pmoist |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1076251 | CCV VOA1 121312 | EPA_TO15 | CCV | [\1\DATA\121312]12/13/2012 12:4 | | 1 | R54613 | | 0 | 0 | |

| Analyte | T | Units | RAW | Final | Text | Spike | SPKref | RPDref | MDL | PQL | UQL | %REC | LOW | HIGH | %RPD | Q |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Styrene | A | ppbv | 10.99 | 10.99 | | 9.8 | 0 | 0 | 0.263 | 1 | 50 | 112% | 70 | 130 | 0% | |
| tert-Butyl Methyl Ether | A | ppbv | 11.88 | 11.88 | | 9.9 | 0 | 0 | 0.228 | 1 | 50 | 120% | 70 | 130 | 0% | |
| Tetrachloroethene | A | ppbv | 10.81 | 10.81 | | 9.6 | 0 | 0 | 0.148 | 1 | 50 | 113% | 70 | 130 | 0% | |
| Tetrahydrofuran | A | ppbv | 11.32 | 11.32 | | 10 | 0 | 0 | 0.201 | 1 | 50 | 113% | 70 | 130 | 0% | |
| Toluene | A | ppbv | 11 | 11 | | 9.8 | 0 | 0 | 0.158 | 1 | 50 | 112% | 70 | 130 | 0% | |
| trans-1,2-Dichloroethene | A | ppbv | 11.31 | 11.31 | | 9.8 | 0 | 0 | 0.117 | 1 | 50 | 115% | 70 | 130 | 0% | |
| trans-1,3-dichloropropene | A | ppbv | 10.45 | 10.45 | | 9.1 | 0 | 0 | 0.171 | 1 | 50 | 115% | 70 | 130 | 0% | |
| Trichloroethene | A | ppbv | 10.47 | 10.47 | | 9.6 | 0 | 0 | 0.119 | 1 | 50 | 109% | 70 | 130 | 0% | |
| Trichlorofluoromethane | A | ppbv | 10.48 | 10.48 | | 9.6 | 0 | 0 | 0.148 | 1 | 50 | 109% | 70 | 130 | 0% | |
| Vinyl acetate | A | ppbv | 12.06 | 12.06 | | 9.9 | 0 | 0 | 0.266 | 1 | 50 | 122% | 70 | 130 | 0% | |
| Vinyl chloride | A | ppbv | 9.82 | 9.82 | | 9.4 | 0 | 0 | 0.072 | 1 | 50 | 104% | 70 | 130 | 0% | |
| Xylenes, Total | C | ppbv | 32.31 | 32.31 | | 29.2 | 0 | 0 | 0.782 | 3 | 150 | 111% | 70 | 130 | 0% | |
| 1,4-Difluorobenzene | I | ppbv | 12.5 | 12.5 | | 12.5 | 0 | 0 | 0 | 0 | 0 | 100% | | | 0% | |
| Bromochloromethane | I | ppbv | 12.5 | 12.5 | | 12.5 | 0 | 0 | 0 | 0 | 0 | 100% | | | 0% | |
| Chlorobenzene-d5 | I | ppbv | 12.5 | 12.5 | | 12.5 | 0 | 0 | 0 | 0 | 0 | 100% | | | 0% | |
| 4-Bromofluorobenzene | S | ppbv | 12.65 | 12.65 | | 12.5 | 0 | 0 | 0 | 0 | 0 | 101% | 70 | 130 | 0% | |

| Seq No | Sample ID | Test Code | Sample Typ | File ID | Analysis Date | DF | Batch ID | Prep Date | SPKref | RPDref | pmoist |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1076252 | RLVS VOA1 121312 | EPA_TO15 | RLVS | [\1\DATA\121312]12/13/2012 1:33: | | 1 | R54613 | | 0 | 0 | |

| Analyte | T | Units | RAW | Final | Text | Spike | SPKref | RPDref | MDL | PQL | UQL | %REC | LOW | HIGH | %RPD | Q |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | A | ppbv | 1 | 1 | | 0.996 | 0 | 0 | 0.107 | 1 | 50 | 100% | 70 | 130 | 0% | |
| 1,1,2,2-Tetrachloroethane | A | ppbv | 1.02 | 1.02 | | 1 | 0 | 0 | 0.211 | 1 | 50 | 102% | 70 | 130 | 0% | |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | A | ppbv | 1.03 | 1.03 | | 0.98 | 0 | 0 | 0.108 | 1 | 50 | 105% | 70 | 130 | 0% | |
| 1,1,2-Trichloroethane | A | ppbv | 0.95 | 0.95 | | 0.98 | 0 | 0 | 0.2 | 1 | 50 | 97% | 70 | 130 | 0% | |
| 1,1-Dichloroethane | A | ppbv | 1.06 | 1.06 | | 0.97 | 0 | 0 | 0.111 | 1 | 50 | 109% | 70 | 130 | 0% | |
| 1,1-Dichloroethene | A | ppbv | 1.03 | 1.03 | | 0.99 | 0 | 0 | 0.097 | 1 | 50 | 104% | 70 | 130 | 0% | |
| 1,2,4-Trichlorobenzene | A | ppbv | 0.89 | 0.89 | | 0.91 | 0 | 0 | 0.271 | 1 | 50 | 98% | 70 | 130 | 0% | |
| 1,2,4-Trimethylbenzene | A | ppbv | 0.98 | 0.98 | | 0.98 | 0 | 0 | 0.245 | 1 | 50 | 100% | 70 | 130 | 0% | |
| 1,2-Dibromoethane | A | ppbv | 0.93 | 0.93 | | 0.96 | 0 | 0 | 0.186 | 1 | 50 | 97% | 70 | 130 | 0% | |
| 1,2-Dichlorobenzene | A | ppbv | 0.99 | 0.99 | | 0.97 | 0 | 0 | 0.208 | 1 | 50 | 102% | 70 | 130 | 0% | |
| 1,2-Dichloroethane | A | ppbv | 1.06 | 1.06 | | 0.97 | 0 | 0 | 0.196 | 1 | 50 | 109% | 70 | 130 | 0% | |
| 1,2-Dichloropropane | A | ppbv | 1.02 | 1.02 | | 0.98 | 0 | 0 | 0.224 | 1 | 50 | 104% | 70 | 130 | 0% | |

# Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\121312\12131202.D  Vial: 2
Acq On : 13 Dec 2012 12:49 pm  Operator: RACHEL HILL
Sample : CCV VOA1 121312  Inst : VOA 1
Misc : ICV EPA_TO15  Multiplr: 1.00
MS Integration Params: CLME.P

Method : C:\HPCHEM\1\METHODS\112812V1.M (RTE Integrator)
Title : TO15 ppbv
Last Update : Thu Nov 29 10:50:07 2012
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 200%

| | | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|---|
| 1 | I | Bromochloromethane | 1.000 | 1.000 | 0.0 | 104 | 0.00 |
| 2 | T | Propylene | 1.422 | 1.305 | 8.2 | 82 | 0.00 |
| 3 | T | Dichlorodifluoromethane | 4.303 | 4.509 | -4.8 | 93 | 0.00 |
| 4 | T | 1,2-Dichloro-1,2,2,2-tetraf | 2.793 | 3.063 | -9.7 | 99 | 0.01 |
| 5 | T | Chloromethane | 1.728 | 1.812 | -4.9 | 92 | 0.00 |
| 6 | T | Vinyl chloride | 2.126 | 2.221 | -4.5 | 94 | 0.00 |
| 7 | T | 1,3-Butadiene | 1.234 | 1.201 | 2.7 | 85 | 0.00 |
| 8 | T | Bromomethane | 1.588 | 1.702 | -7.2 | 97 | 0.00 |
| 9 | T | Chloroethane | 0.988 | 1.079 | -9.2 | 99 | 0.00 |
| 10 | T | Trichlorofluoromethane | 4.039 | 4.411 | -9.2 | 99 | 0.00 |
| 11 | T | Ethanol | 0.500 | 0.525 | -5.0 | 99 | 0.01 |
| 12 | T | Freon113 | 2.723 | 3.112 | -14.3 | 102 | 0.00 |
| 13 | T | 1,1-Dichloroethene | 2.517 | 2.865 | -13.8 | 100 | 0.00 |
| 14 | T | Acetone | 2.403 | 2.610 | -8.6 | 96 | 0.01 |
| 15 | T | Carbon disulfide | 3.567 | 3.926 | -10.1 | 99 | 0.00 |
| 16 | T | 2-Propanol | 2.345 | 2.551 | -8.8 | 96 | 0.00 |
| 17 | T | Methylene chloride | 1.891 | 2.036 | -7.7 | 96 | 0.01 |
| 18 | T | tert-Butyl Methyl Ether | 3.502 | 4.202 | -20.0 | 105 | 0.00 |
| 19 | T | trans-1,2-Dichloroethene | 2.279 | 2.629 | -15.4 | 103 | 0.00 |
| 20 | T | n-Hexane | 2.742 | 3.150 | -14.9 | 103 | 0.00 |
| 21 | T | 1,1-Dichloroethane | 2.869 | 3.417 | -19.1 | 105 | 0.00 |
| 22 | T | Vinyl acetate | 3.601 | 4.387 | -21.8 | 100 | 0.00 |
| 23 | T | cis-1,2-Dichloroethene | 1.449 | 1.696 | -17.0 | 104 | 0.01 |
| 24 | T | 2-Butanone | 2.457 | 2.764 | -12.5 | 97 | 0.00 |
| 25 | T | Ethyl acetate | 3.135 | 3.605 | -15.0 | 99 | 0.00 |
| 26 | T | Tetrahydrofuran | 1.562 | 1.767 | -13.1 | 94 | 0.00 |
| 27 | T | Chloroform | 2.762 | 3.201 | -15.9 | 101 | 0.00 |
| 28 | T | 1,1,1-Trichloroethane | 2.932 | 3.368 | -14.9 | 101 | 0.00 |
| 29 | T | Cyclohexane | 2.831 | 3.281 | -15.9 | 98 | 0.00 |
| 30 | T | Carbon tetrachloride | 3.022 | 3.467 | -14.7 | 99 | 0.00 |
| 31 | T | Benzene | 4.074 | 4.820 | -18.3 | 104 | 0.00 |
| 32 | T | 1,2-Dichloroethane | 2.025 | 2.361 | -16.6 | 100 | 0.00 |
| 33 | I | 1,4-Difluorobenzene | 1.000 | 1.000 | 0.0 | 109 | 0.00 |
| 34 | T | Heptane | 0.771 | 0.830 | -7.7 | 94 | 0.00 |
| 35 | T | Trichloroethene | 0.537 | 0.586 | -9.1 | 102 | 0.00 |
| 36 | T | 1,2-Dichloropropane | 0.507 | 0.584 | -15.2 | 106 | 0.00 |
| 37 | T | 1,4-Dioxane | 0.229 | 0.254 | -10.9 | 105 | 0.00 |
| 38 | T | Bromodichloromethane | 0.826 | 0.923 | -11.7 | 102 | 0.00 |
| 39 | T | cis-1,3-Dichloropropene | 0.681 | 0.777 | -14.1 | 104 | 0.00 |
| 40 | T | 4-Methyl-2-pentanone | 0.400 | 0.448 | -12.0 | 103 | 0.00 |
| 41 | T | Toluene | 1.376 | 1.545 | -12.3 | 103 | 0.00 |
| 42 | T | trans-1,3-Dichloropropene | 0.630 | 0.723 | -14.8 | 103 | 0.00 |
| 43 | T | 1,1,2-Trichloroethane | 0.480 | 0.524 | -9.2 | 101 | 0.00 |
| 44 | T | Tetrachloroethene | 0.677 | 0.762 | -12.6 | 105 | 0.00 |
| 45 | T | 2-Hexanone | 0.738 | 0.806 | -9.2 | 96 | 0.00 |
| 46 | T | Chlorodibromomethane | 0.803 | 0.889 | -10.7 | 100 | 0.00 |
| 47 | T | 1,2-Dibromoethane | 0.702 | 0.793 | -13.0 | 101 | 0.00 |
| 48 | I | Chlorobenzene-d5 | 1.000 | 1.000 | 0.0 | 109 | 0.00 |
| 49 | T | Chlorobenzene | 1.205 | 1.335 | -10.8 | 103 | 0.00 |
| 50 | T | Ethylbenzene | 2.002 | 2.229 | -11.3 | 102 | 0.00 |
| 51 | T | m,p-Xylene | 1.538 | 1.705 | -10.9 | 97 | 0.00 |
| 52 | T | o-Xylene | 1.584 | 1.748 | -10.4 | 100 | 0.00 |
| 53 | T | Styrene | 1.155 | 1.296 | -12.2 | 100 | 0.00 |
| 54 | T | Bromoform | 0.845 | 0.946 | -12.0 | 103 | 0.00 |
| 55 | S | 4-Bromofluorobenzene | 0.608 | 0.616 | -1.3 | 110 | 0.00 |

(#) = Out of Range

Data File : C:\HPCHEM\1\DATA\121312\12131202.D Vial: 2
Acq On : 13 Dec 2012 12:49 pm Operator: RACHEL HILL
Sample : CCV VOA1 121312 Inst : VOA 1
Misc : ICV EPA_TO15 Multiplr: 1.00
MS Integration Params: CLME.P

Method : C:\HPCHEM\1\METHODS\112812V1.M (RTE Integrator)
Title : TO15 ppbv
Last Update : Thu Nov 29 10:50:07 2012
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 200%

| | | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|---|
| 56 | T | 1,1,2,2-Tetrachloroethane | 1.042 | 1.140 | -9.4 | 102 | 0.00 |
| 57 | T | 4-Ethyltoluene | 1.949 | 2.198 | -12.8 | 103 | 0.00 |
| 58 | T | 1,3,5-Trimethylbenzene | 1.664 | 1.867 | -12.2 | 102 | 0.00 |
| 59 | T | 1,2,4-Trimethylbenzene | 1.549 | 1.749 | -12.9 | 104 | 0.00 |
| 60 | T | 1,3-Dichlorobenzene | 0.858 | 0.968 | -12.8 | 106 | 0.00 |
| 61 | T | 1,4-Dichlorobenzene | 0.807 | 0.934 | -15.7 | 108 | 0.00 |
| 62 | T | Benzyl chloride | 1.005 | 1.181 | -17.5 | 104 | 0.00 |
| 63 | T | 1,2-Dichlorobenzene | 0.727 | 0.835 | -14.9 | 108 | 0.00 |
| 64 | T | 1,2,4-Trichlorobenzene | 0.228 | 0.252 | -10.5 | 114 | 0.00 |
| 65 | T | Hexachlorobutadiene | 0.412 | 0.434 | -5.3 | 111 | 0.00 |
| 66 | | Naphthalene | 0.427 | 0.435 | -1.9 | 103 | 0.00 |

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\121312\12131202.D Vial: 2
Acq On : 13 Dec 2012 12:49 pm Operator: RACHEL HILL
Sample : CCV VOA1 121312 Inst : VOA 1
Misc : ICV EPA_TO15 Multiplr: 1.00
MS Integration Params: CLME.P
Quant Time: Dec 13 13:14 2012 Quant Results File: 112812V1.RES

Quant Method : C:\HPCHEM\1\METHODS\112812V1.M (RTE Integrator)
Title : TO15 ppbv
Last Update : Thu Nov 29 10:50:07 2012
Response via : Initial Calibration
DataAcq Meth : 112812V1

| Internal Standards | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 1) Bromochloromethane | 10.52 | 130 | 192446 | 12.50 | ppbv | 0.00 |
| 33) 1,4-Difluorobenzene | 11.62 | 114 | 715159 | 12.50 | ppbv | 0.00 |
| 48) Chlorobenzene-d5 | 15.47 | 117 | 610744 | 12.50 | ppbv | 0.00 |

System Monitoring Compounds

| | | | | | | |
|---|---|---|---|---|---|---|
| 55) 4-Bromofluorobenzene | 17.12 | 95 | 375939 | 12.65 | ppbv | 0.00 |

Spiked Amount 12.500 Range 70 - 113 Recovery = 101.20%

| Target Compounds | | | | | | Qvalue |
|---|---|---|---|---|---|---|
| 2) Propylene | 5.43 | 41 | 204862 | 9.36 | ppbv | 99 |
| 3) Dichlorodifluoromethane | 5.51 | 85 | 638726 | 9.64 | ppbv | 99 |
| 4) 1,2-Dichloro-1,2,2,2-tetra | 5.77 | 135 | 447921 | 10.42 | ppbv # | 71 |
| 5) Chloromethane | 5.94 | 50 | 265062 | 9.96 | ppbv | 99 |
| 6) Vinyl chloride | 6.15 | 62 | 321449 | 9.82 | ppbv | 96 |
| 7) 1,3-Butadiene | 6.20 | 39 | 181246 | 9.54 | ppbv # | 62 |
| 8) Bromomethane | 6.77 | 94 | 243658 | 9.97 | ppbv | 98 |
| 9) Chloroethane | 6.93 | 64 | 152771 | 10.04 | ppbv | 98 |
| 10) Trichlorofluoromethane | 7.26 | 101 | 651958 | 10.48 | ppbv | 98 |
| 11) Ethanol | 7.51 | 45 | 74430 | 9.66 | ppbv | 98 |
| 12) Freon113 | 7.92 | 101 | 469572 | 11.20 | ppbv | 88 |
| 13) 1,1-Dichloroethene | 8.02 | 61 | 436638 | 11.27 | ppbv # | 85 |
| 14) Acetone | 8.12 | 43 | 401798 | 10.86 | ppbv # | 90 |
| 15) Carbon disulfide | 8.39 | 76 | 586351 | 10.68 | ppbv # | 100 |
| 16) 2-Propanol | 8.17 | 45 | 396647 | 10.99 | ppbv # | 1 |
| 17) Methylene chloride | 8.69 | 49 | 313440 | 10.77 | ppbv # | 83 |
| 18) tert-Butyl Methyl Ether | 8.89 | 73 | 640509 | 11.88 | ppbv # | 94 |
| 19) trans-1,2-Dichloroethene | 8.96 | 61 | 396693 | 11.31 | ppbv # | 81 |
| 20) n-Hexane | 9.15 | 57 | 489844 | 11.60 | ppbv # | 84 |
| 21) 1,1-Dichloroethane | 9.53 | 63 | 510274 | 11.55 | ppbv # | 95 |
| 22) Vinyl acetate | 9.46 | 43 | 668720 | 12.06 | ppbv | 98 |
| 23) cis-1,2-Dichloroethene | 10.21 | 96 | 255852 | 11.47 | ppbv # | 79 |
| 24) 2-Butanone | 10.18 | 43 | 421332 | 11.14 | ppbv # | 97 |
| 25) Ethyl acetate | 10.13 | 43 | 543972 | 11.27 | ppbv # | 99 |
| 26) Tetrahydrofuran | 10.52 | 42 | 272070 | 11.32 | ppbv | 97 |
| 27) Chloroform | 10.54 | 83 | 482898 | 11.36 | ppbv | 100 |
| 28) 1,1,1-Trichloroethane | 10.78 | 97 | 497855 | 11.03 | ppbv # | 93 |
| 29) Cyclohexane | 10.79 | 56 | 494983 | 11.36 | ppbv # | 77 |
| 30) Carbon tetrachloride | 10.95 | 117 | 507041 | 10.90 | ppbv | 98 |
| 31) Benzene | 11.23 | 78 | 712424 | 11.36 | ppbv | 94 |
| 32) 1,2-Dichloroethane | 11.31 | 62 | 352585 | 11.31 | ppbv # | 96 |
| 34) Heptane | 11.28 | 43 | 470178 | 10.66 | ppbv # | 90 |
| 35) Trichloroethene | 11.96 | 130 | 321651 | 10.47 | ppbv | 95 |
| 36) 1,2-Dichloropropane | 12.32 | 63 | 327483 | 11.30 | ppbv | 94 |
| 37) 1,4-Dioxane | 12.40 | 88 | 139419 | 10.62 | ppbv # | 81 |
| 38) Bromodichloromethane | 12.60 | 83 | 507030 | 10.73 | ppbv | 99 |
| 39) cis-1,3-Dichloropropene | 13.15 | 75 | 422051 | 10.83 | ppbv | 98 |
| 40) 4-Methyl-2-pentanone | 13.26 | 58 | 256257 | 11.19 | ppbv # | 90 |
| 41) Toluene | 13.56 | 91 | 866048 | 11.00 | ppbv | 99 |
| 42) trans-1,3-Dichloropropene | 13.86 | 75 | 376628 | 10.45 | ppbv | 97 |
| 43) 1,1,2-Trichloroethane | 14.14 | 97 | 293995 | 10.71 | ppbv | 97 |
| 44) Tetrachloroethene | 14.26 | 166 | 418335 | 10.81 | ppbv | 98 |
| 45) 2-Hexanone | 14.34 | 43 | 451705 | 10.70 | ppbv | 84 |
| 46) Chlorodibromomethane | 14.68 | 129 | 498309 | 10.84 | ppbv | 98 |
| 47) 1,2-Dibromoethane | 14.92 | 107 | 435346 | 10.84 | ppbv | 100 |
| 49) Chlorobenzene | 15.51 | 112 | 645582 | 10.96 | ppbv | 94 |
| 50) Ethylbenzene | 15.55 | 91 | 1067153 | 10.91 | ppbv | 96 |
| 51) m,p-Xylene | 15.71 | 91 | 1599669 | 21.28 | ppbv | 93 |
| 52) o-Xylene | 16.30 | 91 | 853958 | 11.03 | ppbv # | 92 |

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\121312\12131202.D Vial: 2
Acq On : 13 Dec 2012 12:49 pm Operator: RACHEL HILL
Sample : CCV VOA1 121312 Inst : VOA 1
Misc : ICV EPA_TO15 Multiplr: 1.00
MS Integration Params: CLME.P
Quant Time: Dec 13 13:14 2012 Quant Results File: 112812V1.RES

Quant Method : C:\HPCHEM\1\METHODS\112812V1.M (RTE Integrator)
Title : TO15 ppbv
Last Update : Thu Nov 29 10:50:07 2012
Response via : Initial Calibration
DataAcq Meth : 112812V1

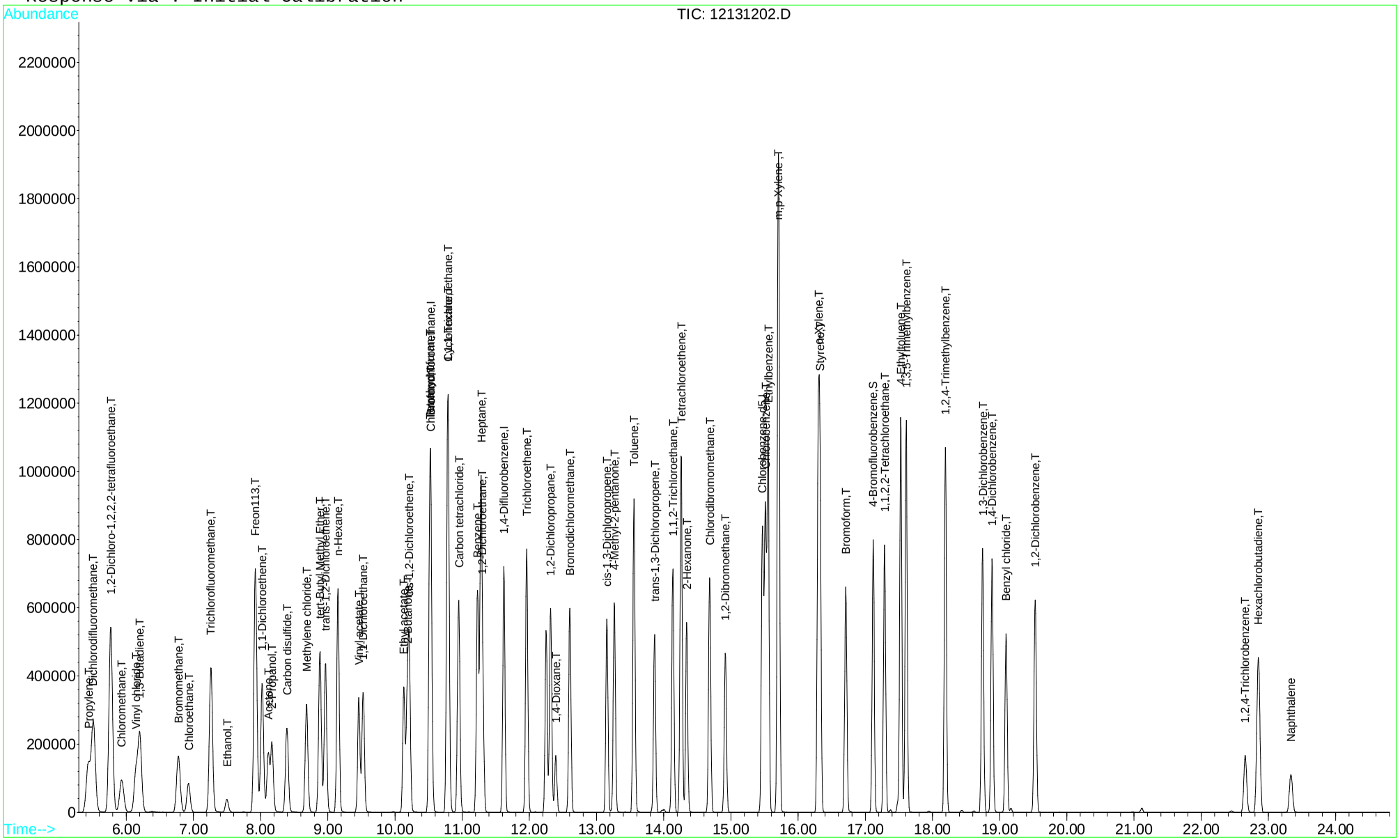
| | Compound | R.T. | QIon | Response | Conc | Unit | Qvalue |
|---|---|---|---|---|---|---|---|
| 53) | Styrene | 16.33 | 104 | 620675 | 10.99 | ppbv | 97 |
| 54) | Bromoform | 16.71 | 173 | 443695 | 10.75 | ppbv | 98 |
| 56) | 1,1,2,2-Tetrachloroethane | 17.29 | 83 | 557016 | 10.95 | ppbv | 99 |
| 57) | 4-Ethyltoluene | 17.53 | 105 | 1052359 | 11.05 | ppbv | 97 |
| 58) | 1,3,5-Trimethylbenzene | 17.61 | 105 | 885026 | 10.89 | ppbv | 97 |
| 59) | 1,2,4-Trimethylbenzene | 18.19 | 105 | 837459 | 11.06 | ppbv | 97 |
| 60) | 1,3-Dichlorobenzene | 18.74 | 146 | 458707 | 10.95 | ppbv | 97 |
| 61) | 1,4-Dichlorobenzene | 18.89 | 146 | 438040 | 11.11 | ppbv | 97 |
| 62) | Benzyl chloride | 19.10 | 91 | 559765 | 11.40 | ppbv | 99 |
| 63) | 1,2-Dichlorobenzene | 19.53 | 146 | 395671 | 11.14 | ppbv | 97 |
| 64) | 1,2,4-Trichlorobenzene | 22.65 | 180 | 111981 | 10.06 | ppbv | 99 |
| 65) | Hexachlorobutadiene | 22.85 | 225 | 199265 | 9.89 | ppbv | 99 |
| 66) | Naphthalene | 23.34 | 128 | 195483 | 9.37 | ppbv | 99 |

(#) = qualifier out of range (m) = manual integration

# Quantitation Report

Data File : C:\HPCHEM\1\DATA\121312\12131202.D  Vial: 2
Acq On : 13 Dec 2012 12:49 pm  Operator: RACHEL HILL
Sample : CCV VOA1 121312  Inst : VOA 1
Misc : ICV EPA_TO15  Multiplr: 1.00
MS Integration Params: CLME.P
Quant Time: Dec 13 13:14 2012  Quant Results File: 112812V1.RES

Method : C:\HPCHEM\1\METHODS\112812V1.M (RTE Integrator)
Title : TO15 ppbv
Last Update : Thu Nov 29 10:50:07 2012
Response via : Initial Calibration



# Injection Log

Directory: C:\HPCHEM\1\DATA\121712

| Line | Vial | FileName | Multiplier | SampleName | Misc Info | Injected |
|---|---|---|---|---|---|---|
| 1 | 1 | 12171201.d | 1. | BFB VOA1 121712 | TUNE BFB_TUNE | 17 Dec 2012 10:44 |
| 2 | 2 | 12171202.d | 1. | CCV VOA1 121712 | CCV EPA_TO15 | 17 Dec 2012 11:26 |
| 3 | 3 | 12171203.d | 1. | MBLK/DBVCC 128 121712 | MBLK EPA_TO15 | 17 Dec 2012 12:15 |
| 4 | 4 | 12171204.d | 1. | DBVCC 30 | DATA NOT USED | 17 Dec 2012 13:04 |
| 5 | 5 | 12171205.d | 1. | DBVCC 118 | DATA NOT USED | 17 Dec 2012 13:58 |
| 6 | 6 | 12171206.d | 1. | BVCC 1216 | DATA NOT USED | 17 Dec 2012 14:49 |
| 7 | 2 | 12171207.d | 1. | RLVS VOA1 121712 | RLVS EPA_TO15 | 17 Dec 2012 15:32 |
| 8 | 3 | 12171208.d | 40. | 1212185-050A | SAMP EPA_TO15 | 17 Dec 2012 16:15 |
| 9 | 2 | 12171209.d | 40. | 1212185-051A | SAMP EPA_TO15 | 17 Dec 2012 16:56 |
| 10 | 3 | 12171210.d | 400. | 1212373-018A | DATA NOT USED | 17 Dec 2012 17:45 |
| 11 | 4 | 12171211.d | 400. | 1212373-017A | DATA NOT USED | 17 Dec 2012 18:33 |
| 12 | 6 | 12171212.d | 40000. | 1212373-015A | SAMP EPA_TO15 | 17 Dec 2012 19:15 |
| 13 | 7 | 12171213.d | 400. | 1212373-016A | SAMP EPA_TO15 | 17 Dec 2012 20:03 |
| 14 | 8 | 12171214.d | 8000. | 1212373-012A | SAMP EPA_TO15 | 17 Dec 2012 20:44 |
| 15 | 9 | 12171215.d | 8000. | 1212185-035A | DATA NOT USED | 17 Dec 2012 21:31 |
| 16 | 10 | 12171216.d | 8000. | 1212373-021A | SAMP EPA_TO15 | 17 Dec 2012 22:12 |
| 17 | 11 | 12171217.d | 800. | 1212373-042A | SAMP EPA_TO15 | 17 Dec 2012 22:57 |
| 18 | 11 | 12171218.d | 800. | 1212373-042A | DATA NOT USED | 17 Dec 2012 23:42 |
| 19 | 12 | 12171219.d | 8000. | 1212185-036A | DATA NOT USED | 18 Dec 2012 00:23 |
| 20 | 13 | 12171220.d | 800. | 1212373-043A | SAMP EPA_TO15 | 18 Dec 2012 01:08 |
| 21 | 13 | 12171221.d | 800. | 1212373-043ADUP | DUP EPA_TO15 | 18 Dec 2012 01:53 |
| 22 | 14 | 12171222.d | 40. | 1212373-023A | SAMP EPA_TO15 | 18 Dec 2012 02:34 |
| 23 | 15 | 12171223.d | 8000. | 1212185-037A | SAMP EPA_TO15 | 18 Dec 2012 03:16 |
| 24 | 16 | 12171224.d | 40. | 1212373-022A | SAMP EPA_TO15 | 18 Dec 2012 03:58 |
| 25 | 1 | 12171225.d | 40. | 1212373-019A | SAMP EPA_TO15 | 18 Dec 2012 04:39 |
| 26 | 2 | 12171226.d | 40. | 1212373-020A | SAMP EPA_TO15 | 18 Dec 2012 05:21 |
| 27 | 2 | 12171227.d | 1. | RLVS2 VOA1 121712 | RLVS EPA_TO15 | 18 Dec 2012 08:51 |

# RTI Laboratories

# ANALYTICAL RUN Summary

*02-Jan-13*

**RunNo** 54678

| Seq No | Sample ID | Test Code | Sample Typ | File ID | Analysis Date | DF | Batch ID | Prep Date | SPKref | RPDref | pmoist |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1077778 | BFB VOA1 121712 | BFB_TUNE | TUNE | \\1\DATA\121712\ | 12/17/2012 10:4 | 1 | R54678 | | 0 | 0 | |

| Analyte | T | Units | RAW | Final | Text | Spike | SPKref | RPDref | MDL | PQL | UQL | %REC | LOW | HIGH | %RPD | Q |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 173 | M | | 0.5 | 0.5 | | 100 | 0 | 0 | 0 | 0 | 0 | 1% | 0 | 2 | 0% | |
| 174 | M | | 82.6 | 82.6 | | 100 | 0 | 0 | 0 | 0 | 0 | 83% | 50 | 200 | 0% | |
| 175 | M | | 7.1 | 7.1 | | 100 | 0 | 0 | 0 | 0 | 0 | 7% | 4 | 9 | 0% | |
| 176 | M | | 96.3 | 96.3 | | 100 | 0 | 0 | 0 | 0 | 0 | 96% | 93 | 101 | 0% | |
| 177 | M | | 6.7 | 6.7 | | 100 | 0 | 0 | 0 | 0 | 0 | 7% | 5 | 9 | 0% | |
| 50 | M | | 19 | 19 | | 100 | 0 | 0 | 0 | 0 | 0 | 19% | 8 | 40 | 0% | |
| 75 | M | | 46.8 | 46.8 | | 100 | 0 | 0 | 0 | 0 | 0 | 47% | 30 | 66 | 0% | |
| 95 | M | | 100 | 100 | | 100 | 0 | 0 | 0 | 0 | 0 | 100% | 100 | 100 | 0% | |
| 96 | M | | 6.5 | 6.5 | | 100 | 0 | 0 | 0 | 0 | 0 | 7% | 5 | 9 | 0% | |

| Seq No | Sample ID | Test Code | Sample Typ | File ID | Analysis Date | DF | Batch ID | Prep Date | SPKref | RPDref | pmoist |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1077779 | CCV VOA1 121712 | EPA_TO15 | CCV | \\1\DATA\121712\ | 12/17/2012 11:2 | 1 | R54678 | | 0 | 0 | |

| Analyte | T | Units | RAW | Final | Text | Spike | SPKref | RPDref | MDL | PQL | UQL | %REC | LOW | HIGH | %RPD | Q |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | A | ppbv | 9.71 | 9.71 | | 9.6 | 0 | 0 | 0.107 | 1 | 50 | 101% | 70 | 130 | 0% | |
| 1,1,2,2-Tetrachloroethane | A | ppbv | 10.13 | 10.13 | | 10 | 0 | 0 | 0.211 | 1 | 50 | 101% | 70 | 130 | 0% | |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | A | ppbv | 10.18 | 10.18 | | 9.8 | 0 | 0 | 0.108 | 1 | 50 | 104% | 70 | 130 | 0% | |
| 1,1,2-Trichloroethane | A | ppbv | 9.58 | 9.58 | | 9.8 | 0 | 0 | 0.2 | 1 | 50 | 98% | 70 | 130 | 0% | |
| 1,1-Dichloroethane | A | ppbv | 10 | 10 | | 9.7 | 0 | 0 | 0.111 | 1 | 50 | 103% | 70 | 130 | 0% | |
| 1,1-Dichloroethene | A | ppbv | 9.74 | 9.74 | | 9.9 | 0 | 0 | 0.097 | 1 | 50 | 98% | 70 | 130 | 0% | |
| 1,2,4-Trichlorobenzene | A | ppbv | 10.27 | 10.27 | | 9.1 | 0 | 0 | 0.271 | 1 | 50 | 113% | 70 | 130 | 0% | |
| 1,2,4-Trimethylbenzene | A | ppbv | 9.89 | 9.89 | | 9.8 | 0 | 0 | 0.245 | 1 | 50 | 101% | 70 | 130 | 0% | |
| 1,2-Dibromoethane | A | ppbv | 9.76 | 9.76 | | 9.6 | 0 | 0 | 0.186 | 1 | 50 | 102% | 70 | 130 | 0% | |
| 1,2-Dichlorobenzene | A | ppbv | 10.54 | 10.54 | | 9.7 | 0 | 0 | 0.208 | 1 | 50 | 109% | 70 | 130 | 0% | |
| 1,2-Dichloroethane | A | ppbv | 9.63 | 9.63 | | 9.7 | 0 | 0 | 0.196 | 1 | 50 | 99% | 70 | 130 | 0% | |
| 1,2-Dichloropropane | A | ppbv | 9.75 | 9.75 | | 9.8 | 0 | 0 | 0.224 | 1 | 50 | 99% | 70 | 130 | 0% | |
| 1,3,5-Trimethylbenzene | A | ppbv | 9.72 | 9.72 | | 9.7 | 0 | 0 | 0.24 | 1 | 50 | 100% | 70 | 130 | 0% | |
| 1,3-Butadiene | A | ppbv | 8.21 | 8.21 | | 9.8 | 0 | 0 | 0.152 | 1 | 50 | 84% | 70 | 130 | 0% | |
| 1,3-Dichlorobenzene | A | ppbv | 10.37 | 10.37 | | 9.7 | 0 | 0 | 0.202 | 1 | 50 | 107% | 70 | 130 | 0% | |

| Seq No | Sample ID | Test Code | Sample Typ | File ID | Analysis Date | DF | Batch ID | Prep Date | SPKref | RPDref | pmoist |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1077779 | CCV VOA1 121712 | EPA_TO15 | CCV | \\1\DATA\121712\ | 12/17/2012 11:2 | 1 | R54678 | | 0 | 0 | |

| Analyte | T | Units | RAW | Final | Text | Spike | SPKref | RPDref | MDL | PQL | UQL | %REC | LOW | HIGH | %RPD | Q |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,4-Dichlorobenzene | A | ppbv | 10.37 | 10.37 | | 9.6 | 0 | 0 | 0.194 | 1 | 50 | 108% | 70 | 130 | 0% | |
| 1,4-Dioxane | A | ppbv | 9.48 | 9.48 | | 9.6 | 0 | 0 | 0.128 | 1 | 50 | 99% | 70 | 130 | 0% | |
| 2-Butanone | A | ppbv | 10.49 | 10.49 | | 9.9 | 0 | 0 | 0.287 | 1 | 50 | 106% | 70 | 130 | 0% | |
| 2-Hexanone | A | ppbv | 9.06 | 9.06 | | 9.8 | 0 | 0 | 0.135 | 1 | 50 | 92% | 70 | 130 | 0% | |
| 2-Propanol | A | ppbv | 9.42 | 9.42 | | 10.1 | 0 | 0 | 0.329 | 1 | 50 | 93% | 70 | 130 | 0% | |
| 4-Methyl-2-pentanone | A | ppbv | 9.52 | 9.52 | | 10 | 0 | 0 | 0.157 | 1 | 50 | 95% | 70 | 130 | 0% | |
| Acetone | A | ppbv | 9.24 | 9.24 | | 10 | 0 | 0 | 0.43 | 1 | 50 | 92% | 70 | 130 | 0% | |
| Benzene | A | ppbv | 10.29 | 10.29 | | 9.6 | 0 | 0 | 0.126 | 1 | 50 | 107% | 70 | 130 | 0% | |
| Benzyl chloride | A | ppbv | 10.67 | 10.67 | | 9.7 | 0 | 0 | 0.155 | 1 | 50 | 110% | 70 | 130 | 0% | |
| Bromodichloromethane | A | ppbv | 9.34 | 9.34 | | 9.6 | 0 | 0 | 0.156 | 1 | 50 | 97% | 70 | 130 | 0% | |
| Bromoform | A | ppbv | 10.03 | 10.03 | | 9.6 | 0 | 0 | 0.197 | 1 | 50 | 104% | 70 | 130 | 0% | |
| Bromomethane | A | ppbv | 8.52 | 8.52 | | 9.3 | 0 | 0 | 0.075 | 1 | 50 | 92% | 70 | 130 | 0% | |
| Carbon disulfide | A | ppbv | 9.93 | 9.93 | | 9.7 | 0 | 0 | 0.093 | 1 | 50 | 102% | 70 | 130 | 0% | |
| Carbon tetrachloride | A | ppbv | 9.69 | 9.69 | | 9.5 | 0 | 0 | 0.114 | 1 | 50 | 102% | 70 | 130 | 0% | |
| Chlorobenzene | A | ppbv | 9.87 | 9.87 | | 9.9 | 0 | 0 | 0.275 | 1 | 50 | 100% | 70 | 130 | 0% | |
| Chlorodibromomethane | A | ppbv | 9.61 | 9.61 | | 9.2 | 0 | 0 | 0.165 | 1 | 50 | 104% | 70 | 130 | 0% | |
| Chloroethane | A | ppbv | 8.18 | 8.18 | | 9.8 | 0 | 0 | 0.063 | 1 | 50 | 83% | 70 | 130 | 0% | |
| Chloroform | A | ppbv | 10 | 10 | | 9.4 | 0 | 0 | 0.126 | 1 | 50 | 106% | 70 | 130 | 0% | |
| Chloromethane | A | ppbv | 8.89 | 8.89 | | 9.8 | 0 | 0 | 0.104 | 1 | 50 | 91% | 70 | 130 | 0% | |
| cis-1,2-Dichloroethene | A | ppbv | 10.2 | 10.2 | | 9.8 | 0 | 0 | 0.107 | 1 | 50 | 104% | 70 | 130 | 0% | |
| cis-1,3-dichloropropene | A | ppbv | 9.53 | 9.53 | | 9.5 | 0 | 0 | 0.166 | 1 | 50 | 100% | 70 | 130 | 0% | |
| Cyclohexane | A | ppbv | 9.63 | 9.63 | | 9.8 | 0 | 0 | 0.684 | 2 | 50 | 98% | 70 | 130 | 0% | |
| Dichlorodifluoromethane | A | ppbv | 8.55 | 8.55 | | 9.2 | 0 | 0 | 0.086 | 1 | 50 | 93% | 70 | 130 | 0% | |
| Ethanol | A | ppbv | 8.8 | 8.8 | | 9.2 | 0 | 0 | 1.962 | 5 | 50 | 96% | 70 | 130 | 0% | |
| Ethyl acetate | A | ppbv | 9.84 | 9.84 | | 9.8 | 0 | 0 | 0.157 | 1 | 50 | 100% | 70 | 130 | 0% | |
| Ethylbenzene | A | ppbv | 9.72 | 9.72 | | 9.8 | 0 | 0 | 0.737 | 2 | 50 | 99% | 70 | 130 | 0% | |
| Heptane | A | ppbv | 8.91 | 8.91 | | 9.9 | 0 | 0 | 0.249 | 1 | 50 | 90% | 70 | 130 | 0% | |
| Hexachlorobutadiene | A | ppbv | 9.44 | 9.44 | | 9.4 | 0 | 0 | 0.374 | 2 | 50 | 100% | 70 | 130 | 0% | |
| m,p-Xylene | A | ppbv | 18.81 | 18.81 | | 19.2 | 0 | 0 | 0.524 | 2 | 100 | 98% | 70 | 130 | 0% | |
| Methylene chloride | A | ppbv | 9.38 | 9.38 | | 10 | 0 | 0 | 2.077 | 5 | 50 | 94% | 70 | 130 | 0% | |
| n-Hexane | A | ppbv | 9.9 | 9.9 | | 10.1 | 0 | 0 | 0.692 | 2 | 50 | 98% | 70 | 130 | 0% | |
| Naphthalene | A | ppbv | 9.56 | 9.56 | | 9.2 | 0 | 0 | 0.247 | 1 | 50 | 104% | 70 | 130 | 0% | |
| o-Xylene | A | ppbv | 9.8 | 9.8 | | 10 | 0 | 0 | 0.258 | 1 | 50 | 98% | 70 | 130 | 0% | |
| Propylene | A | ppbv | 8.33 | 8.33 | | 10.2 | 0 | 0 | 0.075 | 1 | 50 | 82% | 70 | 130 | 0% | |

| Seq No | Sample ID | Test Code | Sample Typ | File ID | Analysis Date | DF | Batch ID | Prep Date | SPKref | RPDref | pmoist |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1077779 | CCV VOA1 121712 | EPA_TO15 | CCV | [\1\DATA\121712`12/17/2012 11:2 | | 1 | R54678 | | 0 | 0 | |

| Analyte | T | Units | RAW | Final | Text | Spike | SPKref | RPDref | MDL | PQL | UQL | %REC | LOW | HIGH | %RPD | Q |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Styrene | A | ppbv | 9.85 | 9.85 | | 9.8 | 0 | 0 | 0.263 | 1 | 50 | 101% | 70 | 130 | 0% | |
| tert-Butyl Methyl Ether | A | ppbv | 10.28 | 10.28 | | 9.9 | 0 | 0 | 0.228 | 1 | 50 | 104% | 70 | 130 | 0% | |
| Tetrachloroethene | A | ppbv | 9.55 | 9.55 | | 9.6 | 0 | 0 | 0.148 | 1 | 50 | 99% | 70 | 130 | 0% | |
| Tetrahydrofuran | A | ppbv | 9.73 | 9.73 | | 10 | 0 | 0 | 0.201 | 1 | 50 | 97% | 70 | 130 | 0% | |
| Toluene | A | ppbv | 9.65 | 9.65 | | 9.8 | 0 | 0 | 0.158 | 1 | 50 | 98% | 70 | 130 | 0% | |
| trans-1,2-Dichloroethene | A | ppbv | 9.7 | 9.7 | | 9.8 | 0 | 0 | 0.117 | 1 | 50 | 99% | 70 | 130 | 0% | |
| trans-1,3-dichloropropene | A | ppbv | 8.99 | 8.99 | | 9.1 | 0 | 0 | 0.171 | 1 | 50 | 99% | 70 | 130 | 0% | |
| Trichloroethene | A | ppbv | 9.31 | 9.31 | | 9.6 | 0 | 0 | 0.119 | 1 | 50 | 97% | 70 | 130 | 0% | |
| Trichlorofluoromethane | A | ppbv | 9.12 | 9.12 | | 9.6 | 0 | 0 | 0.148 | 1 | 50 | 95% | 70 | 130 | 0% | |
| Vinyl acetate | A | ppbv | 10.36 | 10.36 | | 9.9 | 0 | 0 | 0.266 | 1 | 50 | 105% | 70 | 130 | 0% | |
| Vinyl chloride | A | ppbv | 8.42 | 8.42 | | 9.4 | 0 | 0 | 0.072 | 1 | 50 | 90% | 70 | 130 | 0% | |
| Xylenes, Total | C | ppbv | 28.61 | 28.61 | | 29.2 | 0 | 0 | 0.782 | 3 | 150 | 98% | 70 | 130 | 0% | |
| 1,4-Difluorobenzene | I | ppbv | 12.5 | 12.5 | | 12.5 | 0 | 0 | 0 | 0 | 0 | 100% | | | 0% | |
| Bromochloromethane | I | ppbv | 12.5 | 12.5 | | 12.5 | 0 | 0 | 0 | 0 | 0 | 100% | | | 0% | |
| Chlorobenzene-d5 | I | ppbv | 12.5 | 12.5 | | 12.5 | 0 | 0 | 0 | 0 | 0 | 100% | | | 0% | |
| 4-Bromofluorobenzene | S | ppbv | 12.65 | 12.65 | | 12.5 | 0 | 0 | 0 | 0 | 0 | 101% | 70 | 130 | 0% | |

| Seq No | Sample ID | Test Code | Sample Typ | File ID | Analysis Date | DF | Batch ID | Prep Date | SPKref | RPDref | pmoist |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1077780 | MBLK/DBVCC 128 1 | EPA_TO15 | MBLK | [\1\DATA\121712`12/17/2012 12:1 | | 1 | R54678 | | 0 | 0 | |

| Analyte | T | Units | RAW | Final | Text | Spike | SPKref | RPDref | MDL | PQL | UQL | %REC | LOW | HIGH | %RPD | Q |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | A | ppbv | | 0 | | 0 | 0 | 0 | 0.107 | 1 | 50 | 0% | 0 | 0 | 0% | U |
| 1,1,2,2-Tetrachloroethane | A | ppbv | | 0 | | 0 | 0 | 0 | 0.211 | 1 | 50 | 0% | 0 | 0 | 0% | U |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | A | ppbv | | 0 | | 0 | 0 | 0 | 0.108 | 1 | 50 | 0% | 0 | 0 | 0% | U |
| 1,1,2-Trichloroethane | A | ppbv | | 0 | | 0 | 0 | 0 | 0.2 | 1 | 50 | 0% | 0 | 0 | 0% | U |
| 1,1-Dichloroethane | A | ppbv | | 0 | | 0 | 0 | 0 | 0.111 | 1 | 50 | 0% | 0 | 0 | 0% | U |
| 1,1-Dichloroethene | A | ppbv | | 0 | | 0 | 0 | 0 | 0.097 | 1 | 50 | 0% | 0 | 0 | 0% | U |
| 1,2,4-Trichlorobenzene | A | ppbv | | 0 | | 0 | 0 | 0 | 0.271 | 1 | 50 | 0% | 0 | 0 | 0% | U |
| 1,2,4-Trimethylbenzene | A | ppbv | | 0 | | 0 | 0 | 0 | 0.245 | 1 | 50 | 0% | 0 | 0 | 0% | U |
| 1,2-Dibromoethane | A | ppbv | | 0 | | 0 | 0 | 0 | 0.186 | 1 | 50 | 0% | 0 | 0 | 0% | U |
| 1,2-Dichlorobenzene | A | ppbv | | 0 | | 0 | 0 | 0 | 0.208 | 1 | 50 | 0% | 0 | 0 | 0% | U |
| 1,2-Dichloroethane | A | ppbv | | 0 | | 0 | 0 | 0 | 0.196 | 1 | 50 | 0% | 0 | 0 | 0% | U |
| 1,2-Dichloropropane | A | ppbv | | 0 | | 0 | 0 | 0 | 0.224 | 1 | 50 | 0% | 0 | 0 | 0% | U |

# Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\121712\12171202.D  Vial: 2
Acq On : 17 Dec 2012 11:26 am  Operator: RACHEL HILL
Sample : CCV VOA1 121712  Inst : VOA 1
Misc : CCV EPA_TO15  Multiplr: 1.00
MS Integration Params: CLME.P

Method : C:\HPCHEM\1\METHODS\112812V1.M (RTE Integrator)
Title : TO15 ppbv
Last Update : Thu Nov 29 10:50:07 2012
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 200%

| | | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|---|
| 1 | I | Bromochloromethane | 1.000 | 1.000 | 0.0 | 93 | -0.01 |
| 2 | T | Propylene | 1.422 | 1.162 | 18.3 | 66 | -0.02 |
| 3 | T | Dichlorodifluoromethane | 4.303 | 3.998 | 7.1 | 74 | 0.00 |
| 4 | T | 1,2-Dichloro-1,2,2,2-tetraf | 2.793 | 2.839 | -1.6 | 82 | -0.01 |
| 5 | T | Chloromethane | 1.728 | 1.617 | 6.4 | 74 | -0.02 |
| 6 | T | Vinyl chloride | 2.126 | 1.906 | 10.3 | 73 | -0.02 |
| 7 | T | 1,3-Butadiene | 1.234 | 1.034 | 16.2 | 65 | -0.01 |
| 8 | T | Bromomethane | 1.588 | 1.455 | 8.4 | 74 | -0.01 |
| 9 | T | Chloroethane | 0.988 | 0.878 | 11.1 | 72 | -0.01 |
| 10 | T | Trichlorofluoromethane | 4.039 | 3.837 | 5.0 | 78 | -0.01 |
| 11 | T | Ethanol | 0.500 | 0.478 | 4.4 | 81 | 0.00 |
| 12 | T | Freon113 | 2.723 | 2.827 | -3.8 | 83 | -0.01 |
| 13 | T | 1,1-Dichloroethene | 2.517 | 2.478 | 1.5 | 77 | -0.01 |
| 14 | T | Acetone | 2.403 | 2.221 | 7.6 | 73 | 0.00 |
| 15 | T | Carbon disulfide | 3.567 | 3.653 | -2.4 | 83 | -0.01 |
| 16 | T | 2-Propanol | 2.345 | 2.188 | 6.7 | 74 | 0.00 |
| 17 | T | Methylene chloride | 1.891 | 1.774 | 6.2 | 75 | 0.00 |
| 18 | T | tert-Butyl Methyl Ether | 3.502 | 3.636 | -3.8 | 82 | 0.00 |
| 19 | T | trans-1,2-Dichloroethene | 2.279 | 2.257 | 1.0 | 79 | -0.01 |
| 20 | T | n-Hexane | 2.742 | 2.688 | 2.0 | 79 | -0.01 |
| 21 | T | 1,1-Dichloroethane | 2.869 | 2.959 | -3.1 | 81 | -0.01 |
| 22 | T | Vinyl acetate | 3.601 | 3.769 | -4.7 | 77 | 0.00 |
| 23 | T | cis-1,2-Dichloroethene | 1.449 | 1.507 | -4.0 | 83 | 0.00 |
| 24 | T | 2-Butanone | 2.457 | 2.602 | -5.9 | 82 | 0.00 |
| 25 | T | Ethyl acetate | 3.135 | 3.149 | -0.4 | 78 | 0.00 |
| 26 | T | Tetrahydrofuran | 1.562 | 1.519 | 2.8 | 73 | -0.01 |
| 27 | T | Chloroform | 2.762 | 2.819 | -2.1 | 80 | 0.00 |
| 28 | T | 1,1,1-Trichloroethane | 2.932 | 2.964 | -1.1 | 79 | 0.00 |
| 29 | T | Cyclohexane | 2.831 | 2.783 | 1.7 | 75 | -0.01 |
| 30 | T | Carbon tetrachloride | 3.022 | 3.082 | -2.0 | 79 | 0.00 |
| 31 | T | Benzene | 4.074 | 4.365 | -7.1 | 84 | -0.01 |
| 32 | T | 1,2-Dichloroethane | 2.025 | 2.010 | 0.7 | 77 | 0.00 |
| 33 | I | 1,4-Difluorobenzene | 1.000 | 1.000 | 0.0 | 99 | 0.00 |
| 34 | T | Heptane | 0.771 | 0.693 | 10.1 | 72 | -0.01 |
| 35 | T | Trichloroethene | 0.537 | 0.521 | 3.0 | 83 | -0.01 |
| 36 | T | 1,2-Dichloropropane | 0.507 | 0.504 | 0.6 | 84 | 0.00 |
| 37 | T | 1,4-Dioxane | 0.229 | 0.226 | 1.3 | 86 | 0.00 |
| 38 | T | Bromodichloromethane | 0.826 | 0.804 | 2.7 | 81 | 0.00 |
| 39 | T | cis-1,3-Dichloropropene | 0.681 | 0.683 | -0.3 | 84 | 0.00 |
| 40 | T | 4-Methyl-2-pentanone | 0.400 | 0.381 | 4.8 | 80 | -0.01 |
| 41 | T | Toluene | 1.376 | 1.355 | 1.5 | 82 | 0.00 |
| 42 | T | trans-1,3-Dichloropropene | 0.630 | 0.622 | 1.3 | 81 | 0.00 |
| 43 | T | 1,1,2-Trichloroethane | 0.480 | 0.469 | 2.3 | 83 | 0.00 |
| 44 | T | Tetrachloroethene | 0.677 | 0.673 | 0.6 | 85 | -0.01 |
| 45 | T | 2-Hexanone | 0.738 | 0.682 | 7.6 | 74 | 0.00 |
| 46 | T | Chlorodibromomethane | 0.803 | 0.788 | 1.9 | 81 | 0.00 |
| 47 | T | 1,2-Dibromoethane | 0.702 | 0.714 | -1.7 | 84 | -0.01 |
| 48 | I | Chlorobenzene-d5 | 1.000 | 1.000 | 0.0 | 96 | 0.00 |
| 49 | T | Chlorobenzene | 1.205 | 1.201 | 0.3 | 82 | 0.00 |
| 50 | T | Ethylbenzene | 2.002 | 1.986 | 0.8 | 80 | 0.00 |
| 51 | T | m,p-Xylene | 1.538 | 1.507 | 2.0 | 76 | -0.01 |
| 52 | T | o-Xylene | 1.584 | 1.552 | 2.0 | 79 | -0.01 |
| 53 | T | Styrene | 1.155 | 1.162 | -0.6 | 79 | 0.00 |
| 54 | T | Bromoform | 0.845 | 0.882 | -4.4 | 85 | 0.00 |
| 55 | S | 4-Bromofluorobenzene | 0.608 | 0.616 | -1.3 | 98 | 0.00 |

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\121712\12171202.D Vial: 2
Acq On : 17 Dec 2012 11:26 am Operator: RACHEL HILL
Sample : CCV VOA1 121712 Inst : VOA 1
Misc : CCV EPA_TO15 Multiplr: 1.00
MS Integration Params: CLME.P

Method : C:\HPCHEM\1\METHODS\112812V1.M (RTE Integrator)
Title : TO15 ppbv
Last Update : Thu Nov 29 10:50:07 2012
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 200%

| | | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|---|
| 56 | T | 1,1,2,2-Tetrachloroethane | 1.042 | 1.055 | -1.2 | 83 | -0.01 |
| 57 | T | 4-Ethyltoluene | 1.949 | 1.977 | -1.4 | 82 | -0.01 |
| 58 | T | 1,3,5-Trimethylbenzene | 1.664 | 1.667 | -0.2 | 81 | 0.00 |
| 59 | T | 1,2,4-Trimethylbenzene | 1.549 | 1.564 | -1.0 | 82 | -0.01 |
| 60 | T | 1,3-Dichlorobenzene | 0.858 | 0.917 | -6.9 | 88 | -0.01 |
| 61 | T | 1,4-Dichlorobenzene | 0.807 | 0.871 | -7.9 | 89 | -0.01 |
| 62 | T | Benzyl chloride | 1.005 | 1.105 | -10.0 | 86 | 0.00 |
| 63 | T | 1,2-Dichlorobenzene | 0.727 | 0.790 | -8.7 | 90 | 0.00 |
| 64 | T | 1,2,4-Trichlorobenzene | 0.228 | 0.257 | -12.7 | 102 | -0.02 |
| 65 | T | Hexachlorobutadiene | 0.412 | 0.414 | -0.5 | 94 | -0.02 |
| 66 | | Naphthalene | 0.427 | 0.444 | -4.0 | 93 | -0.02 |

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\121712\12171202.D Vial: 2
Acq On : 17 Dec 2012 11:26 am Operator: RACHEL HILL
Sample : CCV VOA1 121712 Inst : VOA 1
Misc : CCV EPA_TO15 Multiplr: 1.00
MS Integration Params: CLME.P
Quant Time: Dec 17 11:51 2012 Quant Results File: 112812V1.RES

Quant Method : C:\HPCHEM\1\METHODS\112812V1.M (RTE Integrator)
Title : TO15 ppbv
Last Update : Thu Nov 29 10:50:07 2012
Response via : Initial Calibration
DataAcq Meth : 112812V1

| Internal Standards | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 1) Bromochloromethane | 10.51 | 130 | 172415 | 12.50 | ppbv | -0.01 |
| 33) 1,4-Difluorobenzene | 11.61 | 114 | 653971 | 12.50 | ppbv | 0.00 |
| 48) Chlorobenzene-d5 | 15.46 | 117 | 539706 | 12.50 | ppbv | 0.00 |
| **System Monitoring Compounds** | | | | | | |
| 55) 4-Bromofluorobenzene | 17.11 | 95 | 332233 | 12.65 | ppbv | 0.00 |
| Spiked Amount 12.500 | Range 70 - 113 | | Recovery = 101.20% | | | |
| **Target Compounds** | | | | | | Qvalue |
| 2) Propylene | 5.42 | 41 | 163434 | 8.33 | ppbv | 100 |
| 3) Dichlorodifluoromethane | 5.50 | 85 | 507369 | 8.55 | ppbv | 99 |
| 4) 1,2-Dichloro-1,2,2,2-tetra | 5.75 | 135 | 371959 | 9.65 | ppbv # | 71 |
| 5) Chloromethane | 5.91 | 50 | 211863 | 8.89 | ppbv # | 97 |
| 6) Vinyl chloride | 6.13 | 62 | 247095 | 8.42 | ppbv | 96 |
| 7) 1,3-Butadiene | 6.19 | 39 | 139800 | 8.21 | ppbv # | 63 |
| 8) Bromomethane | 6.76 | 94 | 186629 | 8.52 | ppbv # | 99 |
| 9) Chloroethane | 6.91 | 64 | 111438 | 8.18 | ppbv | 98 |
| 10) Trichlorofluoromethane | 7.24 | 101 | 508015 | 9.12 | ppbv | 99 |
| 11) Ethanol | 7.49 | 45 | 60690 | 8.80 | ppbv | 98 |
| 12) Freon113 | 7.91 | 101 | 382139 | 10.18 | ppbv | 89 |
| 13) 1,1-Dichloroethene | 8.01 | 61 | 338324 | 9.74 | ppbv | 88 |
| 14) Acetone | 8.10 | 43 | 306386 | 9.24 | ppbv # | 87 |
| 15) Carbon disulfide | 8.38 | 76 | 488701 | 9.93 | ppbv # | 99 |
| 16) 2-Propanol | 8.16 | 45 | 304754 | 9.42 | ppbv # | 1 |
| 17) Methylene chloride | 8.67 | 49 | 244730 | 9.38 | ppbv | 87 |
| 18) tert-Butyl Methyl Ether | 8.87 | 73 | 496535 | 10.28 | ppbv # | 94 |
| 19) trans-1,2-Dichloroethene | 8.95 | 61 | 305040 | 9.70 | ppbv | 85 |
| 20) n-Hexane | 9.13 | 57 | 374422 | 9.90 | ppbv # | 83 |
| 21) 1,1-Dichloroethane | 9.51 | 63 | 395926 | 10.00 | ppbv | 95 |
| 22) Vinyl acetate | 9.45 | 43 | 514730 | 10.36 | ppbv | 99 |
| 23) cis-1,2-Dichloroethene | 10.20 | 96 | 203764 | 10.20 | ppbv # | 83 |
| 24) 2-Butanone | 10.17 | 43 | 355371 | 10.49 | ppbv | 95 |
| 25) Ethyl acetate | 10.12 | 43 | 425659 | 9.84 | ppbv # | 99 |
| 26) Tetrahydrofuran | 10.51 | 42 | 209516 | 9.73 | ppbv | 98 |
| 27) Chloroform | 10.53 | 83 | 380994 | 10.00 | ppbv | 100 |
| 28) 1,1,1-Trichloroethane | 10.77 | 97 | 392530 | 9.71 | ppbv # | 95 |
| 29) Cyclohexane | 10.78 | 56 | 376129 | 9.63 | ppbv # | 79 |
| 30) Carbon tetrachloride | 10.93 | 117 | 403834 | 9.69 | ppbv | 99 |
| 31) Benzene | 11.21 | 78 | 577965 | 10.29 | ppbv | 96 |
| 32) 1,2-Dichloroethane | 11.29 | 62 | 268869 | 9.63 | ppbv # | 97 |
| 34) Heptane | 11.26 | 43 | 359121 | 8.91 | ppbv # | 91 |
| 35) Trichloroethene | 11.95 | 130 | 261464 | 9.31 | ppbv | 96 |
| 36) 1,2-Dichloropropane | 12.30 | 63 | 258448 | 9.75 | ppbv | 94 |
| 37) 1,4-Dioxane | 12.38 | 88 | 113756 | 9.48 | ppbv # | 86 |
| 38) Bromodichloromethane | 12.59 | 83 | 403592 | 9.34 | ppbv | 99 |
| 39) cis-1,3-Dichloropropene | 13.14 | 75 | 339470 | 9.53 | ppbv | 99 |
| 40) 4-Methyl-2-pentanone | 13.25 | 58 | 199271 | 9.52 | ppbv # | 90 |
| 41) Toluene | 13.54 | 91 | 694598 | 9.65 | ppbv | 99 |
| 42) trans-1,3-Dichloropropene | 13.85 | 75 | 296347 | 8.99 | ppbv | 99 |
| 43) 1,1,2-Trichloroethane | 14.12 | 97 | 240369 | 9.58 | ppbv | 97 |
| 44) Tetrachloroethene | 14.24 | 166 | 338061 | 9.55 | ppbv | 98 |
| 45) 2-Hexanone | 14.33 | 43 | 349871 | 9.06 | ppbv | 83 |
| 46) Chlorodibromomethane | 14.67 | 129 | 404086 | 9.61 | ppbv | 99 |
| 47) 1,2-Dibromoethane | 14.90 | 107 | 358419 | 9.76 | ppbv | 100 |
| 49) Chlorobenzene | 15.50 | 112 | 513535 | 9.87 | ppbv | 96 |
| 50) Ethylbenzene | 15.54 | 91 | 840496 | 9.72 | ppbv | 96 |
| 51) m,p-Xylene | 15.69 | 91 | 1249514 | 18.81 | ppbv | 93 |
| 52) o-Xylene | 16.28 | 91 | 670298 | 9.80 | ppbv # | 93 |

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\121712\12171202.D Vial: 2
Acq On : 17 Dec 2012 11:26 am Operator: RACHEL HILL
Sample : CCV VOA1 121712 Inst : VOA 1
Misc : CCV EPA_TO15 Multiplr: 1.00
MS Integration Params: CLME.P
Quant Time: Dec 17 11:51 2012 Quant Results File: 112812V1.RES

Quant Method : C:\HPCHEM\1\METHODS\112812V1.M (RTE Integrator)
Title : TO15 ppbv
Last Update : Thu Nov 29 10:50:07 2012
Response via : Initial Calibration
DataAcq Meth : 112812V1

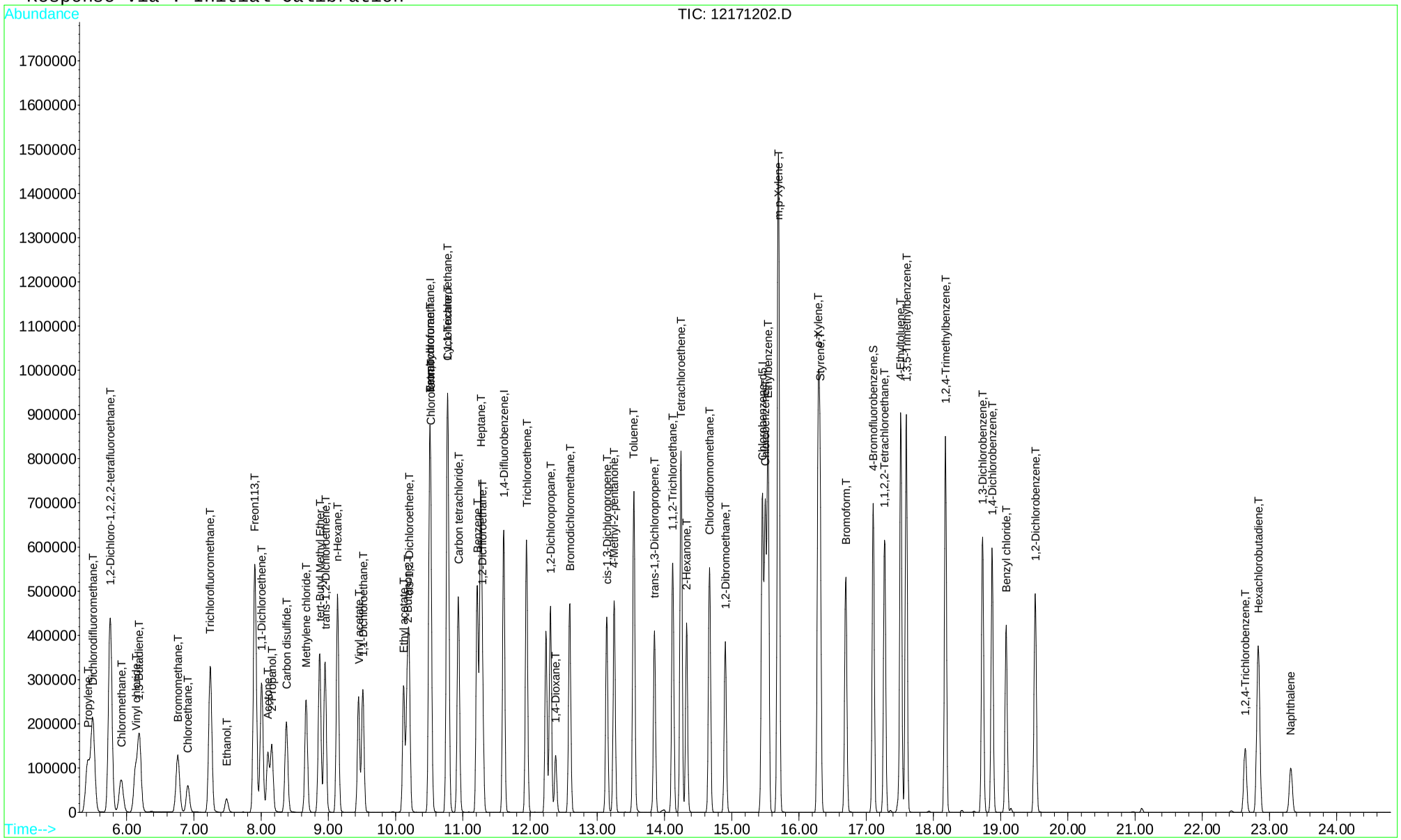
| | Compound | R.T. | QIon | Response | Conc | Unit | Qvalue |
|---|---|---|---|---|---|---|---|
| 53) | Styrene | 16.32 | 104 | 491611 | 9.85 | ppbv | 98 |
| 54) | Bromoform | 16.70 | 173 | 365758 | 10.03 | ppbv | 98 |
| 56) | 1,1,2,2-Tetrachloroethane | 17.27 | 83 | 455584 | 10.13 | ppbv | 99 |
| 57) | 4-Ethyltoluene | 17.51 | 105 | 836558 | 9.94 | ppbv | 98 |
| 58) | 1,3,5-Trimethylbenzene | 17.60 | 105 | 698260 | 9.72 | ppbv | 97 |
| 59) | 1,2,4-Trimethylbenzene | 18.18 | 105 | 661712 | 9.89 | ppbv | 98 |
| 60) | 1,3-Dichlorobenzene | 18.73 | 146 | 384073 | 10.37 | ppbv | 98 |
| 61) | 1,4-Dichlorobenzene | 18.87 | 146 | 361151 | 10.37 | ppbv | 98 |
| 62) | Benzyl chloride | 19.08 | 91 | 462878 | 10.67 | ppbv | 100 |
| 63) | 1,2-Dichlorobenzene | 19.52 | 146 | 330746 | 10.54 | ppbv | 99 |
| 64) | 1,2,4-Trichlorobenzene | 22.63 | 180 | 100969 | 10.27 | ppbv | 98 |
| 65) | Hexachlorobutadiene | 22.83 | 225 | 168098 | 9.44 | ppbv | 99 |
| 66) | Naphthalene | 23.31 | 128 | 176330 | 9.56 | ppbv | 99 |

(#) = qualifier out of range (m) = manual integration

# Quantitation Report

Data File : C:\HPCHEM\1\DATA\121712\12171202.D  Vial: 2
Acq On : 17 Dec 2012 11:26 am  Operator: RACHEL HILL
Sample : CCV VOA1 121712  Inst : VOA 1
Misc : CCV EPA_TO15  Multiplr: 1.00
MS Integration Params: CLME.P
Quant Time: Dec 17 11:51 2012  Quant Results File: 112812V1.RES

Method : C:\HPCHEM\1\METHODS\112812V1.M (RTE Integrator)
Title : TO15 ppbv
Last Update : Thu Nov 29 10:50:07 2012
Response via : Initial Calibration



# Injection Log

Directory: C:\HPCHEM\1\DATA\121812

| Line | Vial | FileName | Multiplier | SampleName | Misc Info | Injected |
|---|---|---|---|---|---|---|
| 1 | 1 | 12181201.d | 1. | BFB VOA1 121812 | TUNE BFB_TUNE | 18 Dec 2012 09:34 |
| 2 | 2 | 12181202.d | 1. | CCV VOA1 121812 | CCV EPA_TO15 | 18 Dec 2012 10:17 |
| 3 | 2 | 12181203.d | 1. | RLVS VOA1 121812 | RLVS EPA_TO15 | 18 Dec 2012 11:04 |
| 4 | 3 | 12181204.d | 1. | DBV67 CC VOA1 121812 | DATA NOT USED | 18 Dec 2012 11:52 |
| 5 | 4 | 12181205.d | 1. | DBV42 CC VOA1 121812 | DATA NOT USED | 18 Dec 2012 12:42 |
| 6 | 5 | 12181206.d | 400. | 1212185-035A | DATA NOT USED | 18 Dec 2012 14:14 |
| 7 | 4 | 12181207.d | 1. | MBLK VOA1 121812 | MBLK EPA_TO15 | 18 Dec 2012 15:06 |
| 8 | 6 | 12181208.d | 800. | 1212185-035A | SAMP EPA_TO15 | 18 Dec 2012 15:53 |
| 9 | 7 | 12181209.d | 800. | 1212185-036A | SAMP EPA_TO15 | 18 Dec 2012 16:38 |
| 10 | 8 | 12181210.d | 800. | 1212185-037A | SAMP EPA_TO15 | 18 Dec 2012 17:23 |
| 11 | 9 | 12181211.d | 800. | 1212373-012A | SAMP EPA_TO15 | 18 Dec 2012 18:09 |
| 12 | 10 | 12181212.d | 40. | 1212373-017A | SAMP EPA_TO15 | 18 Dec 2012 18:51 |
| 13 | 11 | 12181213.d | 40. | 1212373-018A | SAMP EPA_TO15 | 18 Dec 2012 19:34 |
| 14 | 12 | 12181214.d | 400. | 1212373-022A | SAMP EPA_TO15 | 18 Dec 2012 20:23 |
| 15 | 13 | 12181215.d | 40. | 1212373-024A | SAMP EPA_TO15 | 18 Dec 2012 21:05 |
| 16 | 14 | 12181216.d | 40. | 1212373-025A | SAMP EPA_TO15 | 18 Dec 2012 21:48 |
| 17 | 15 | 12181217.d | 40. | 1212373-026A | SAMP EPA_TO15 | 18 Dec 2012 22:31 |
| 18 | 16 | 12181218.d | 800. | 1212373-027A | SAMP EPA_TO15 | 18 Dec 2012 23:17 |
| 19 | 17 | 12181219.d | 800. | 1212373-027ADUP | DUP EPA_TO15 | 19 Dec 2012 00:02 |
| 20 | 18 | 12181220.d | 800. | 1212373-028A | SAMP EPA_TO15 | 19 Dec 2012 00:48 |
| 21 | 19 | 12181221.d | 40. | 1212373-029A | SAMP EPA_TO15 | 19 Dec 2012 01:31 |
| 22 | 20 | 12181222.d | 40. | 1212373-030A | SAMP EPA_TO15 | 19 Dec 2012 02:14 |
| 23 | 21 | 12181223.d | 40. | 1212373-031A | SAMP EPA_TO15 | 19 Dec 2012 02:56 |
| 24 | 22 | 12181224.d | 40. | 1212373-032A | SAMP EPA_TO15 | 19 Dec 2012 03:39 |
| 25 | 23 | 12181225.d | 800. | 1212373-033A | SAMP EPA_TO15 | 19 Dec 2012 04:24 |
| 26 | 24 | 12181226.d | 800. | 1212373-033A | DATA NOT USED | 19 Dec 2012 05:10 |
| 27 | 2 | 12181227.d | 1. | RLVS2 VOA1 121812 | RLVS EPA_TO15 | 19 Dec 2012 07:52 |

# RTI Laboratories

# ANALYTICAL RUN Summary

*02-Jan-13*

**RunNo** 54727

| Seq No | Sample ID | Test Code | Sample Typ | File ID | Analysis Date | DF | Batch ID | Prep Date | SPKref | RPDref | pmoist |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1078620 | BFB VOA1 121812 | BFB_TUNE | TUNE | \\1\DATA\121812\ | 12/18/2012 9:34: | 1 | R54727 | | 0 | 0 | |

| Analyte | T | Units | RAW | Final | Text | Spike | SPKref | RPDref | MDL | PQL | UQL | %REC | LOW | HIGH | %RPD | Q |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 173 | M | | 0.5 | 0.5 | | 100 | 0 | 0 | 0 | 0 | 0 | 1% | 0 | 2 | 0% | |
| 174 | M | | 83.8 | 83.8 | | 100 | 0 | 0 | 0 | 0 | 0 | 84% | 50 | 200 | 0% | |
| 175 | M | | 7.2 | 7.2 | | 100 | 0 | 0 | 0 | 0 | 0 | 7% | 4 | 9 | 0% | |
| 176 | M | | 99.3 | 99.3 | | 100 | 0 | 0 | 0 | 0 | 0 | 99% | 93 | 101 | 0% | |
| 177 | M | | 6.7 | 6.7 | | 100 | 0 | 0 | 0 | 0 | 0 | 7% | 5 | 9 | 0% | |
| 50 | M | | 18.3 | 18.3 | | 100 | 0 | 0 | 0 | 0 | 0 | 18% | 8 | 40 | 0% | |
| 75 | M | | 46.3 | 46.3 | | 100 | 0 | 0 | 0 | 0 | 0 | 46% | 30 | 66 | 0% | |
| 95 | M | | 100 | 100 | | 100 | 0 | 0 | 0 | 0 | 0 | 100% | 100 | 100 | 0% | |
| 96 | M | | 6.7 | 6.7 | | 100 | 0 | 0 | 0 | 0 | 0 | 7% | 5 | 9 | 0% | |

| Seq No | Sample ID | Test Code | Sample Typ | File ID | Analysis Date | DF | Batch ID | Prep Date | SPKref | RPDref | pmoist |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1078621 | CCV VOA1 121812 | EPA_TO15 | CCV | \\1\DATA\121812\ | 12/18/2012 10:1 | 1 | R54727 | | 0 | 0 | |

| Analyte | T | Units | RAW | Final | Text | Spike | SPKref | RPDref | MDL | PQL | UQL | %REC | LOW | HIGH | %RPD | Q |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | A | ppbv | 10.9 | 10.9 | | 9.6 | 0 | 0 | 0.107 | 1 | 50 | 114% | 70 | 130 | 0% | |
| 1,1,2,2-Tetrachloroethane | A | ppbv | 10.82 | 10.82 | | 10 | 0 | 0 | 0.211 | 1 | 50 | 108% | 70 | 130 | 0% | |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | A | ppbv | 11.45 | 11.45 | | 9.8 | 0 | 0 | 0.108 | 1 | 50 | 117% | 70 | 130 | 0% | |
| 1,1,2-Trichloroethane | A | ppbv | 10.49 | 10.49 | | 9.8 | 0 | 0 | 0.2 | 1 | 50 | 107% | 70 | 130 | 0% | |
| 1,1-Dichloroethane | A | ppbv | 11.55 | 11.55 | | 9.7 | 0 | 0 | 0.111 | 1 | 50 | 119% | 70 | 130 | 0% | |
| 1,1-Dichloroethene | A | ppbv | 11.22 | 11.22 | | 9.9 | 0 | 0 | 0.097 | 1 | 50 | 113% | 70 | 130 | 0% | |
| 1,2,4-Trichlorobenzene | A | ppbv | 9.82 | 9.82 | | 9.1 | 0 | 0 | 0.271 | 1 | 50 | 108% | 70 | 130 | 0% | |
| 1,2,4-Trimethylbenzene | A | ppbv | 10.53 | 10.53 | | 9.8 | 0 | 0 | 0.245 | 1 | 50 | 107% | 70 | 130 | 0% | |
| 1,2-Dibromoethane | A | ppbv | 10.49 | 10.49 | | 9.6 | 0 | 0 | 0.186 | 1 | 50 | 109% | 70 | 130 | 0% | |
| 1,2-Dichlorobenzene | A | ppbv | 10.94 | 10.94 | | 9.7 | 0 | 0 | 0.208 | 1 | 50 | 113% | 70 | 130 | 0% | |
| 1,2-Dichloroethane | A | ppbv | 11.11 | 11.11 | | 9.7 | 0 | 0 | 0.196 | 1 | 50 | 115% | 70 | 130 | 0% | |
| 1,2-Dichloropropane | A | ppbv | 10.67 | 10.67 | | 9.8 | 0 | 0 | 0.224 | 1 | 50 | 109% | 70 | 130 | 0% | |
| 1,3,5-Trimethylbenzene | A | ppbv | 10.32 | 10.32 | | 9.7 | 0 | 0 | 0.24 | 1 | 50 | 106% | 70 | 130 | 0% | |
| 1,3-Butadiene | A | ppbv | 8.85 | 8.85 | | 9.8 | 0 | 0 | 0.152 | 1 | 50 | 90% | 70 | 130 | 0% | |
| 1,3-Dichlorobenzene | A | ppbv | 10.9 | 10.9 | | 9.7 | 0 | 0 | 0.202 | 1 | 50 | 112% | 70 | 130 | 0% | |

| Seq No | Sample ID | Test Code | Sample Typ | File ID | Analysis Date | DF | Batch ID | Prep Date | SPKref | RPDref | pmoist |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1078621 | CCV VOA1 121812 | EPA_TO15 | CCV | \\1\DATA\121812\ | 12/18/2012 10:1 | 1 | R54727 | | 0 | 0 | |

| Analyte | T | Units | RAW | Final | Text | Spike | SPKref | RPDref | MDL | PQL | UQL | %REC | LOW | HIGH | %RPD | Q |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,4-Dichlorobenzene | A | ppbv | 10.89 | 10.89 | | 9.6 | 0 | 0 | 0.194 | 1 | 50 | 113% | 70 | 130 | 0% | |
| 1,4-Dioxane | A | ppbv | 10.5 | 10.5 | | 9.6 | 0 | 0 | 0.128 | 1 | 50 | 109% | 70 | 130 | 0% | |
| 2-Butanone | A | ppbv | 11.15 | 11.15 | | 9.9 | 0 | 0 | 0.287 | 1 | 50 | 113% | 70 | 130 | 0% | |
| 2-Hexanone | A | ppbv | 9.84 | 9.84 | | 9.8 | 0 | 0 | 0.135 | 1 | 50 | 100% | 70 | 130 | 0% | |
| 2-Propanol | A | ppbv | 10.68 | 10.68 | | 10.1 | 0 | 0 | 0.329 | 1 | 50 | 106% | 70 | 130 | 0% | |
| 4-Methyl-2-pentanone | A | ppbv | 10.42 | 10.42 | | 10 | 0 | 0 | 0.157 | 1 | 50 | 104% | 70 | 130 | 0% | |
| Acetone | A | ppbv | 10.52 | 10.52 | | 10 | 0 | 0 | 0.43 | 1 | 50 | 105% | 70 | 130 | 0% | |
| Benzene | A | ppbv | 11.89 | 11.89 | | 9.6 | 0 | 0 | 0.126 | 1 | 50 | 124% | 70 | 130 | 0% | |
| Benzyl chloride | A | ppbv | 10.98 | 10.98 | | 9.7 | 0 | 0 | 0.155 | 1 | 50 | 113% | 70 | 130 | 0% | |
| Bromodichloromethane | A | ppbv | 10.19 | 10.19 | | 9.6 | 0 | 0 | 0.156 | 1 | 50 | 106% | 70 | 130 | 0% | |
| Bromoform | A | ppbv | 10.65 | 10.65 | | 9.6 | 0 | 0 | 0.197 | 1 | 50 | 111% | 70 | 130 | 0% | |
| Bromomethane | A | ppbv | 10.37 | 10.37 | | 9.3 | 0 | 0 | 0.075 | 1 | 50 | 112% | 70 | 130 | 0% | |
| Carbon disulfide | A | ppbv | 11.28 | 11.28 | | 9.7 | 0 | 0 | 0.093 | 1 | 50 | 116% | 70 | 130 | 0% | |
| Carbon tetrachloride | A | ppbv | 11.1 | 11.1 | | 9.5 | 0 | 0 | 0.114 | 1 | 50 | 117% | 70 | 130 | 0% | |
| Chlorobenzene | A | ppbv | 10.74 | 10.74 | | 9.9 | 0 | 0 | 0.275 | 1 | 50 | 108% | 70 | 130 | 0% | |
| Chlorodibromomethane | A | ppbv | 10.34 | 10.34 | | 9.2 | 0 | 0 | 0.165 | 1 | 50 | 112% | 70 | 130 | 0% | |
| Chloroethane | A | ppbv | 10.62 | 10.62 | | 9.8 | 0 | 0 | 0.063 | 1 | 50 | 108% | 70 | 130 | 0% | |
| Chloroform | A | ppbv | 11.1 | 11.1 | | 9.4 | 0 | 0 | 0.126 | 1 | 50 | 118% | 70 | 130 | 0% | |
| Chloromethane | A | ppbv | 10.2 | 10.2 | | 9.8 | 0 | 0 | 0.104 | 1 | 50 | 104% | 70 | 130 | 0% | |
| cis-1,2-Dichloroethene | A | ppbv | 11.48 | 11.48 | | 9.8 | 0 | 0 | 0.107 | 1 | 50 | 117% | 70 | 130 | 0% | |
| cis-1,3-dichloropropene | A | ppbv | 10.37 | 10.37 | | 9.5 | 0 | 0 | 0.166 | 1 | 50 | 109% | 70 | 130 | 0% | |
| Cyclohexane | A | ppbv | 10.85 | 10.85 | | 9.8 | 0 | 0 | 0.684 | 2 | 50 | 111% | 70 | 130 | 0% | |
| Dichlorodifluoromethane | A | ppbv | 9.77 | 9.77 | | 9.2 | 0 | 0 | 0.086 | 1 | 50 | 106% | 70 | 130 | 0% | |
| Ethanol | A | ppbv | 10.02 | 10.02 | | 9.2 | 0 | 0 | 1.962 | 5 | 50 | 109% | 70 | 130 | 0% | |
| Ethyl acetate | A | ppbv | 11.36 | 11.36 | | 9.8 | 0 | 0 | 0.157 | 1 | 50 | 116% | 70 | 130 | 0% | |
| Ethylbenzene | A | ppbv | 10.57 | 10.57 | | 9.8 | 0 | 0 | 0.737 | 2 | 50 | 108% | 70 | 130 | 0% | |
| Heptane | A | ppbv | 9.54 | 9.54 | | 9.9 | 0 | 0 | 0.249 | 1 | 50 | 96% | 70 | 130 | 0% | |
| Hexachlorobutadiene | A | ppbv | 9.9 | 9.9 | | 9.4 | 0 | 0 | 0.374 | 2 | 50 | 105% | 70 | 130 | 0% | |
| m,p-Xylene | A | ppbv | 19.81 | 19.81 | | 19.2 | 0 | 0 | 0.524 | 2 | 100 | 103% | 70 | 130 | 0% | |
| Methylene chloride | A | ppbv | 10.78 | 10.78 | | 10 | 0 | 0 | 2.077 | 5 | 50 | 108% | 70 | 130 | 0% | |
| n-Hexane | A | ppbv | 11.62 | 11.62 | | 10.1 | 0 | 0 | 0.692 | 2 | 50 | 115% | 70 | 130 | 0% | |
| Naphthalene | A | ppbv | 9.23 | 9.23 | | 9.2 | 0 | 0 | 0.247 | 1 | 50 | 100% | 70 | 130 | 0% | |
| o-Xylene | A | ppbv | 10.48 | 10.48 | | 10 | 0 | 0 | 0.258 | 1 | 50 | 105% | 70 | 130 | 0% | |
| Propylene | A | ppbv | 9.73 | 9.73 | | 10.2 | 0 | 0 | 0.075 | 1 | 50 | 95% | 70 | 130 | 0% | |

| Seq No | Sample ID | Test Code | Sample Typ | File ID | Analysis Date | DF | Batch ID | Prep Date | SPKref | RPDref | pmoist |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1078621 | CCV VOA1 121812 | EPA_TO15 | CCV | [\1\DATA\121812]12/18/2012 10:1 | | 1 | R54727 | | 0 | 0 | |

| Analyte | T | Units | RAW | Final | Text | Spike | SPKref | RPDref | MDL | PQL | UQL | %REC | LOW | HIGH | %RPD | Q |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Styrene | A | ppbv | 10.51 | 10.51 | | 9.8 | 0 | 0 | 0.263 | 1 | 50 | 107% | 70 | 130 | 0% | |
| tert-Butyl Methyl Ether | A | ppbv | 12.08 | 12.08 | | 9.9 | 0 | 0 | 0.228 | 1 | 50 | 122% | 70 | 130 | 0% | |
| Tetrachloroethene | A | ppbv | 10.27 | 10.27 | | 9.6 | 0 | 0 | 0.148 | 1 | 50 | 107% | 70 | 130 | 0% | |
| Tetrahydrofuran | A | ppbv | 10.54 | 10.54 | | 10 | 0 | 0 | 0.201 | 1 | 50 | 105% | 70 | 130 | 0% | |
| Toluene | A | ppbv | 10.5 | 10.5 | | 9.8 | 0 | 0 | 0.158 | 1 | 50 | 107% | 70 | 130 | 0% | |
| trans-1,2-Dichloroethene | A | ppbv | 11.26 | 11.26 | | 9.8 | 0 | 0 | 0.117 | 1 | 50 | 115% | 70 | 130 | 0% | |
| trans-1,3-dichloropropene | A | ppbv | 9.8 | 9.8 | | 9.1 | 0 | 0 | 0.171 | 1 | 50 | 108% | 70 | 130 | 0% | |
| Trichloroethene | A | ppbv | 10.03 | 10.03 | | 9.6 | 0 | 0 | 0.119 | 1 | 50 | 104% | 70 | 130 | 0% | |
| Trichlorofluoromethane | A | ppbv | 10.54 | 10.54 | | 9.6 | 0 | 0 | 0.148 | 1 | 50 | 110% | 70 | 130 | 0% | |
| Vinyl acetate | A | ppbv | 11.67 | 11.67 | | 9.9 | 0 | 0 | 0.266 | 1 | 50 | 118% | 70 | 130 | 0% | |
| Vinyl chloride | A | ppbv | 9.42 | 9.42 | | 9.4 | 0 | 0 | 0.072 | 1 | 50 | 100% | 70 | 130 | 0% | |
| Xylenes, Total | C | ppbv | 30.29 | 30.29 | | 29.2 | 0 | 0 | 0.782 | 3 | 150 | 104% | 70 | 130 | 0% | |
| 1,4-Difluorobenzene | I | ppbv | 12.5 | 12.5 | | 12.5 | 0 | 0 | 0 | 0 | 0 | 100% | | | 0% | |
| Bromochloromethane | I | ppbv | 12.5 | 12.5 | | 12.5 | 0 | 0 | 0 | 0 | 0 | 100% | | | 0% | |
| Chlorobenzene-d5 | I | ppbv | 12.5 | 12.5 | | 12.5 | 0 | 0 | 0 | 0 | 0 | 100% | | | 0% | |
| 4-Bromofluorobenzene | S | ppbv | 12.59 | 12.59 | | 12.5 | 0 | 0 | 0 | 0 | 0 | 101% | 70 | 130 | 0% | |

| Seq No | Sample ID | Test Code | Sample Typ | File ID | Analysis Date | DF | Batch ID | Prep Date | SPKref | RPDref | pmoist |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1078622 | RLVS VOA1 121812 | EPA_TO15 | RLVS | [\1\DATA\121812]12/18/2012 11:0 | | 1 | R54727 | | 0 | 0 | |

| Analyte | T | Units | RAW | Final | Text | Spike | SPKref | RPDref | MDL | PQL | UQL | %REC | LOW | HIGH | %RPD | Q |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | A | ppbv | 0.91 | 0.91 | | 0.996 | 0 | 0 | 0.107 | 1 | 50 | 91% | 70 | 130 | 0% | |
| 1,1,2,2-Tetrachloroethane | A | ppbv | 0.96 | 0.96 | | 1 | 0 | 0 | 0.211 | 1 | 50 | 96% | 70 | 130 | 0% | |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | A | ppbv | 1.01 | 1.01 | | 0.98 | 0 | 0 | 0.108 | 1 | 50 | 103% | 70 | 130 | 0% | |
| 1,1,2-Trichloroethane | A | ppbv | 0.91 | 0.91 | | 0.98 | 0 | 0 | 0.2 | 1 | 50 | 93% | 70 | 130 | 0% | |
| 1,1-Dichloroethane | A | ppbv | 0.98 | 0.98 | | 0.97 | 0 | 0 | 0.111 | 1 | 50 | 101% | 70 | 130 | 0% | |
| 1,1-Dichloroethene | A | ppbv | 0.95 | 0.95 | | 0.99 | 0 | 0 | 0.097 | 1 | 50 | 96% | 70 | 130 | 0% | |
| 1,2,4-Trichlorobenzene | A | ppbv | 0.86 | 0.86 | | 0.91 | 0 | 0 | 0.271 | 1 | 50 | 95% | 70 | 130 | 0% | |
| 1,2,4-Trimethylbenzene | A | ppbv | 0.9 | 0.9 | | 0.98 | 0 | 0 | 0.245 | 1 | 50 | 92% | 70 | 130 | 0% | |
| 1,2-Dibromoethane | A | ppbv | 0.87 | 0.87 | | 0.96 | 0 | 0 | 0.186 | 1 | 50 | 91% | 70 | 130 | 0% | |
| 1,2-Dichlorobenzene | A | ppbv | 0.93 | 0.93 | | 0.97 | 0 | 0 | 0.208 | 1 | 50 | 96% | 70 | 130 | 0% | |
| 1,2-Dichloroethane | A | ppbv | 0.91 | 0.91 | | 0.97 | 0 | 0 | 0.196 | 1 | 50 | 94% | 70 | 130 | 0% | |
| 1,2-Dichloropropane | A | ppbv | 0.94 | 0.94 | | 0.98 | 0 | 0 | 0.224 | 1 | 50 | 96% | 70 | 130 | 0% | |

# Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\121812\12181202.D  Vial: 2
Acq On : 18 Dec 2012 10:17 am  Operator: RACHEL HILL
Sample : CCV VOA1 121812  Inst : VOA 1
Misc : CCV EPA_TO15  Multiplr: 1.00
MS Integration Params: CLME.P

Method : C:\HPCHEM\1\METHODS\112812V1.M (RTE Integrator)
Title : TO15 ppbv
Last Update : Thu Nov 29 10:50:07 2012
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 200%

| | | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|---|
| 1 | I | Bromochloromethane | 1.000 | 1.000 | 0.0 | 94 | 0.00 |
| 2 | T | Propylene | 1.422 | 1.357 | 4.6 | 78 | 0.00 |
| 3 | T | Dichlorodifluoromethane | 4.303 | 4.568 | -6.2 | 86 | 0.00 |
| 4 | T | 1,2-Dichloro-1,2,2,2-tetraf | 2.793 | 3.161 | -13.2 | 93 | 0.00 |
| 5 | T | Chloromethane | 1.728 | 1.856 | -7.4 | 86 | 0.00 |
| 6 | T | Vinyl chloride | 2.126 | 2.131 | -0.2 | 83 | 0.00 |
| 7 | T | 1,3-Butadiene | 1.234 | 1.115 | 9.6 | 72 | 0.00 |
| 8 | T | Bromomethane | 1.588 | 1.770 | -11.5 | 92 | 0.00 |
| 9 | T | Chloroethane | 0.988 | 1.141 | -15.5 | 95 | 0.00 |
| 10 | T | Trichlorofluoromethane | 4.039 | 4.434 | -9.8 | 91 | 0.00 |
| 11 | T | Ethanol | 0.500 | 0.545 | -9.0 | 94 | 0.00 |
| 12 | T | Freon113 | 2.723 | 3.180 | -16.8 | 95 | 0.00 |
| 13 | T | 1,1-Dichloroethene | 2.517 | 2.854 | -13.4 | 91 | 0.00 |
| 14 | T | Acetone | 2.403 | 2.528 | -5.2 | 84 | 0.00 |
| 15 | T | Carbon disulfide | 3.567 | 4.149 | -16.3 | 96 | 0.00 |
| 16 | T | 2-Propanol | 2.345 | 2.479 | -5.7 | 85 | 0.00 |
| 17 | T | Methylene chloride | 1.891 | 2.037 | -7.7 | 88 | 0.00 |
| 18 | T | tert-Butyl Methyl Ether | 3.502 | 4.272 | -22.0 | 98 | 0.00 |
| 19 | T | trans-1,2-Dichloroethene | 2.279 | 2.619 | -14.9 | 93 | 0.00 |
| 20 | T | n-Hexane | 2.742 | 3.155 | -15.1 | 94 | 0.00 |
| 21 | T | 1,1-Dichloroethane | 2.869 | 3.417 | -19.1 | 96 | 0.00 |
| 22 | T | Vinyl acetate | 3.601 | 4.245 | -17.9 | 88 | 0.00 |
| 23 | T | cis-1,2-Dichloroethene | 1.449 | 1.697 | -17.1 | 95 | 0.00 |
| 24 | T | 2-Butanone | 2.457 | 2.767 | -12.6 | 88 | 0.00 |
| 25 | T | Ethyl acetate | 3.135 | 3.634 | -15.9 | 91 | 0.00 |
| 26 | T | Tetrahydrofuran | 1.562 | 1.647 | -5.4 | 80 | 0.00 |
| 27 | T | Chloroform | 2.762 | 3.130 | -13.3 | 90 | 0.00 |
| 28 | T | 1,1,1-Trichloroethane | 2.932 | 3.328 | -13.5 | 91 | 0.00 |
| 29 | T | Cyclohexane | 2.831 | 3.135 | -10.7 | 86 | 0.00 |
| 30 | T | Carbon tetrachloride | 3.022 | 3.532 | -16.9 | 92 | 0.00 |
| 31 | T | Benzene | 4.074 | 5.046 | -23.9 | 99 | 0.00 |
| 32 | T | 1,2-Dichloroethane | 2.025 | 2.320 | -14.6 | 90 | 0.00 |
| 33 | I | 1,4-Difluorobenzene | 1.000 | 1.000 | 0.0 | 106 | 0.00 |
| 34 | T | Heptane | 0.771 | 0.743 | 3.6 | 82 | 0.00 |
| 35 | T | Trichloroethene | 0.537 | 0.561 | -4.5 | 95 | 0.00 |
| 36 | T | 1,2-Dichloropropane | 0.507 | 0.552 | -8.9 | 98 | 0.00 |
| 37 | T | 1,4-Dioxane | 0.229 | 0.251 | -9.6 | 102 | 0.00 |
| 38 | T | Bromodichloromethane | 0.826 | 0.877 | -6.2 | 94 | 0.00 |
| 39 | T | cis-1,3-Dichloropropene | 0.681 | 0.743 | -9.1 | 97 | 0.00 |
| 40 | T | 4-Methyl-2-pentanone | 0.400 | 0.417 | -4.2 | 93 | 0.00 |
| 41 | T | Toluene | 1.376 | 1.474 | -7.1 | 95 | 0.00 |
| 42 | T | trans-1,3-Dichloropropene | 0.630 | 0.679 | -7.8 | 95 | 0.00 |
| 43 | T | 1,1,2-Trichloroethane | 0.480 | 0.513 | -6.9 | 96 | 0.00 |
| 44 | T | Tetrachloroethene | 0.677 | 0.724 | -6.9 | 97 | 0.00 |
| 45 | T | 2-Hexanone | 0.738 | 0.741 | -0.4 | 86 | 0.00 |
| 46 | T | Chlorodibromomethane | 0.803 | 0.848 | -5.6 | 93 | 0.00 |
| 47 | T | 1,2-Dibromoethane | 0.702 | 0.767 | -9.3 | 96 | 0.00 |
| 48 | I | Chlorobenzene-d5 | 1.000 | 1.000 | 0.0 | 101 | 0.00 |
| 49 | T | Chlorobenzene | 1.205 | 1.307 | -8.5 | 93 | 0.00 |
| 50 | T | Ethylbenzene | 2.002 | 2.159 | -7.8 | 91 | 0.00 |
| 51 | T | m,p-Xylene | 1.538 | 1.588 | -3.3 | 83 | 0.00 |
| 52 | T | o-Xylene | 1.584 | 1.660 | -4.8 | 88 | 0.00 |
| 53 | T | Styrene | 1.155 | 1.239 | -7.3 | 89 | 0.00 |
| 54 | T | Bromoform | 0.845 | 0.937 | -10.9 | 94 | 0.00 |
| 55 | S | 4-Bromofluorobenzene | 0.608 | 0.613 | -0.8 | 102 | 0.00 |

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\121812\12181202.D Vial: 2
Acq On : 18 Dec 2012 10:17 am Operator: RACHEL HILL
Sample : CCV VOA1 121812 Inst : VOA 1
Misc : CCV EPA_TO15 Multiplr: 1.00
MS Integration Params: CLME.P

Method : C:\HPCHEM\1\METHODS\112812V1.M (RTE Integrator)
Title : TO15 ppbv
Last Update : Thu Nov 29 10:50:07 2012
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 200%

| | | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|---|
| 56 | T | 1,1,2,2-Tetrachloroethane | 1.042 | 1.127 | -8.2 | 93 | 0.00 |
| 57 | T | 4-Ethyltoluene | 1.949 | 2.119 | -8.7 | 92 | 0.00 |
| 58 | T | 1,3,5-Trimethylbenzene | 1.664 | 1.769 | -6.3 | 90 | 0.00 |
| 59 | T | 1,2,4-Trimethylbenzene | 1.549 | 1.665 | -7.5 | 91 | 0.00 |
| 60 | T | 1,3-Dichlorobenzene | 0.858 | 0.964 | -12.4 | 97 | 0.00 |
| 61 | T | 1,4-Dichlorobenzene | 0.807 | 0.915 | -13.4 | 98 | 0.00 |
| 62 | T | Benzyl chloride | 1.005 | 1.137 | -13.1 | 93 | 0.00 |
| 63 | T | 1,2-Dichlorobenzene | 0.727 | 0.820 | -12.8 | 98 | 0.00 |
| 64 | T | 1,2,4-Trichlorobenzene | 0.228 | 0.246 | -7.9 | 103 | 0.00 |
| 65 | T | Hexachlorobutadiene | 0.412 | 0.434 | -5.3 | 103 | 0.00 |
| 66 | | Naphthalene | 0.427 | 0.429 | -0.5 | 94 | 0.00 |

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\121812\12181202.D Vial: 2
Acq On : 18 Dec 2012 10:17 am Operator: RACHEL HILL
Sample : CCV VOA1 121812 Inst : VOA 1
Misc : CCV EPA_TO15 Multiplr: 1.00
MS Integration Params: CLME.P
Quant Time: Dec 18 10:41 2012 Quant Results File: 112812V1.RES

Quant Method : C:\HPCHEM\1\METHODS\112812V1.M (RTE Integrator)
Title : TO15 ppbv
Last Update : Thu Nov 29 10:50:07 2012
Response via : Initial Calibration
DataAcq Meth : 112812V1

| Internal Standards | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 1) Bromochloromethane | 10.52 | 130 | 175581 | 12.50 | ppbv | 0.00 |
| 33) 1,4-Difluorobenzene | 11.62 | 114 | 696987 | 12.50 | ppbv | 0.00 |
| 48) Chlorobenzene-d5 | 15.46 | 117 | 565252 | 12.50 | ppbv | 0.00 |
| System Monitoring Compounds | | | | | | |
| 55) 4-Bromofluorobenzene | 17.11 | 95 | 346505 | 12.59 | ppbv | 0.00 |
| Spiked Amount 12.500 | Range 70 - 113 | | Recovery = 100.72% | | | |
| Target Compounds | | | | | | Qvalue |
| 2) Propylene | 5.43 | 41 | 194367 | 9.73 | ppbv | 98 |
| 3) Dichlorodifluoromethane | 5.51 | 85 | 590269 | 9.77 | ppbv | 99 |
| 4) 1,2-Dichloro-1,2,2,2-tetra | 5.77 | 135 | 421842 | 10.75 | ppbv # | 72 |
| 5) Chloromethane | 5.92 | 50 | 247691 | 10.20 | ppbv | 99 |
| 6) Vinyl chloride | 6.14 | 62 | 281340 | 9.42 | ppbv | 96 |
| 7) 1,3-Butadiene | 6.20 | 39 | 153422 | 8.85 | ppbv # | 60 |
| 8) Bromomethane | 6.77 | 94 | 231249 | 10.37 | ppbv | 99 |
| 9) Chloroethane | 6.92 | 64 | 147399 | 10.62 | ppbv | 99 |
| 10) Trichlorofluoromethane | 7.25 | 101 | 597903 | 10.54 | ppbv | 99 |
| 11) Ethanol | 7.49 | 45 | 70385 | 10.02 | ppbv | 97 |
| 12) Freon113 | 7.92 | 101 | 437780 | 11.45 | ppbv | 90 |
| 13) 1,1-Dichloroethene | 8.02 | 61 | 396834 | 11.22 | ppbv # | 87 |
| 14) Acetone | 8.11 | 43 | 355096 | 10.52 | ppbv # | 85 |
| 15) Carbon disulfide | 8.39 | 76 | 565345 | 11.28 | ppbv # | 99 |
| 16) 2-Propanol | 8.17 | 45 | 351744 | 10.68 | ppbv # | 1 |
| 17) Methylene chloride | 8.67 | 49 | 286164 | 10.78 | ppbv | 87 |
| 18) tert-Butyl Methyl Ether | 8.88 | 73 | 594110 | 12.08 | ppbv # | 93 |
| 19) trans-1,2-Dichloroethene | 8.96 | 61 | 360512 | 11.26 | ppbv # | 84 |
| 20) n-Hexane | 9.15 | 57 | 447568 | 11.62 | ppbv # | 81 |
| 21) 1,1-Dichloroethane | 9.52 | 63 | 465636 | 11.55 | ppbv | 95 |
| 22) Vinyl acetate | 9.45 | 43 | 590288 | 11.67 | ppbv | 99 |
| 23) cis-1,2-Dichloroethene | 10.21 | 96 | 233662 | 11.48 | ppbv # | 82 |
| 24) 2-Butanone | 10.18 | 43 | 384738 | 11.15 | ppbv # | 97 |
| 25) Ethyl acetate | 10.13 | 43 | 500220 | 11.36 | ppbv # | 100 |
| 26) Tetrahydrofuran | 10.51 | 42 | 231286 | 10.54 | ppbv | 99 |
| 27) Chloroform | 10.53 | 83 | 430823 | 11.10 | ppbv | 100 |
| 28) 1,1,1-Trichloroethane | 10.78 | 97 | 448815 | 10.90 | ppbv | 95 |
| 29) Cyclohexane | 10.78 | 56 | 431496 | 10.85 | ppbv # | 78 |
| 30) Carbon tetrachloride | 10.94 | 117 | 471250 | 11.10 | ppbv | 98 |
| 31) Benzene | 11.22 | 78 | 680407 | 11.89 | ppbv | 96 |
| 32) 1,2-Dichloroethane | 11.30 | 62 | 316125 | 11.11 | ppbv # | 96 |
| 34) Heptane | 11.27 | 43 | 409982 | 9.54 | ppbv # | 91 |
| 35) Trichloroethene | 11.95 | 130 | 300257 | 10.03 | ppbv | 96 |
| 36) 1,2-Dichloropropane | 12.31 | 63 | 301582 | 10.67 | ppbv | 94 |
| 37) 1,4-Dioxane | 12.39 | 88 | 134373 | 10.50 | ppbv # | 86 |
| 38) Bromodichloromethane | 12.60 | 83 | 469382 | 10.19 | ppbv | 99 |
| 39) cis-1,3-Dichloropropene | 13.15 | 75 | 393628 | 10.37 | ppbv | 98 |
| 40) 4-Methyl-2-pentanone | 13.26 | 58 | 232562 | 10.42 | ppbv # | 91 |
| 41) Toluene | 13.55 | 91 | 805334 | 10.50 | ppbv | 99 |
| 42) trans-1,3-Dichloropropene | 13.86 | 75 | 344300 | 9.80 | ppbv | 99 |
| 43) 1,1,2-Trichloroethane | 14.13 | 97 | 280518 | 10.49 | ppbv | 98 |
| 44) Tetrachloroethene | 14.26 | 166 | 387434 | 10.27 | ppbv | 98 |
| 45) 2-Hexanone | 14.33 | 43 | 405026 | 9.84 | ppbv | 81 |
| 46) Chlorodibromomethane | 14.68 | 129 | 463241 | 10.34 | ppbv | 98 |
| 47) 1,2-Dibromoethane | 14.91 | 107 | 410808 | 10.49 | ppbv | 100 |
| 49) Chlorobenzene | 15.51 | 112 | 585024 | 10.74 | ppbv | 96 |
| 50) Ethylbenzene | 15.55 | 91 | 956867 | 10.57 | ppbv | 97 |
| 51) m,p-Xylene | 15.70 | 91 | 1378484 | 19.81 | ppbv | 94 |
| 52) o-Xylene | 16.29 | 91 | 750862 | 10.48 | ppbv # | 93 |

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\121812\12181202.D Vial: 2
Acq On : 18 Dec 2012 10:17 am Operator: RACHEL HILL
Sample : CCV VOA1 121812 Inst : VOA 1
Misc : CCV EPA_TO15 Multiplr: 1.00
MS Integration Params: CLME.P
Quant Time: Dec 18 10:41 2012 Quant Results File: 112812V1.RES

Quant Method : C:\HPCHEM\1\METHODS\112812V1.M (RTE Integrator)
Title : TO15 ppbv
Last Update : Thu Nov 29 10:50:07 2012
Response via : Initial Calibration
DataAcq Meth : 112812V1

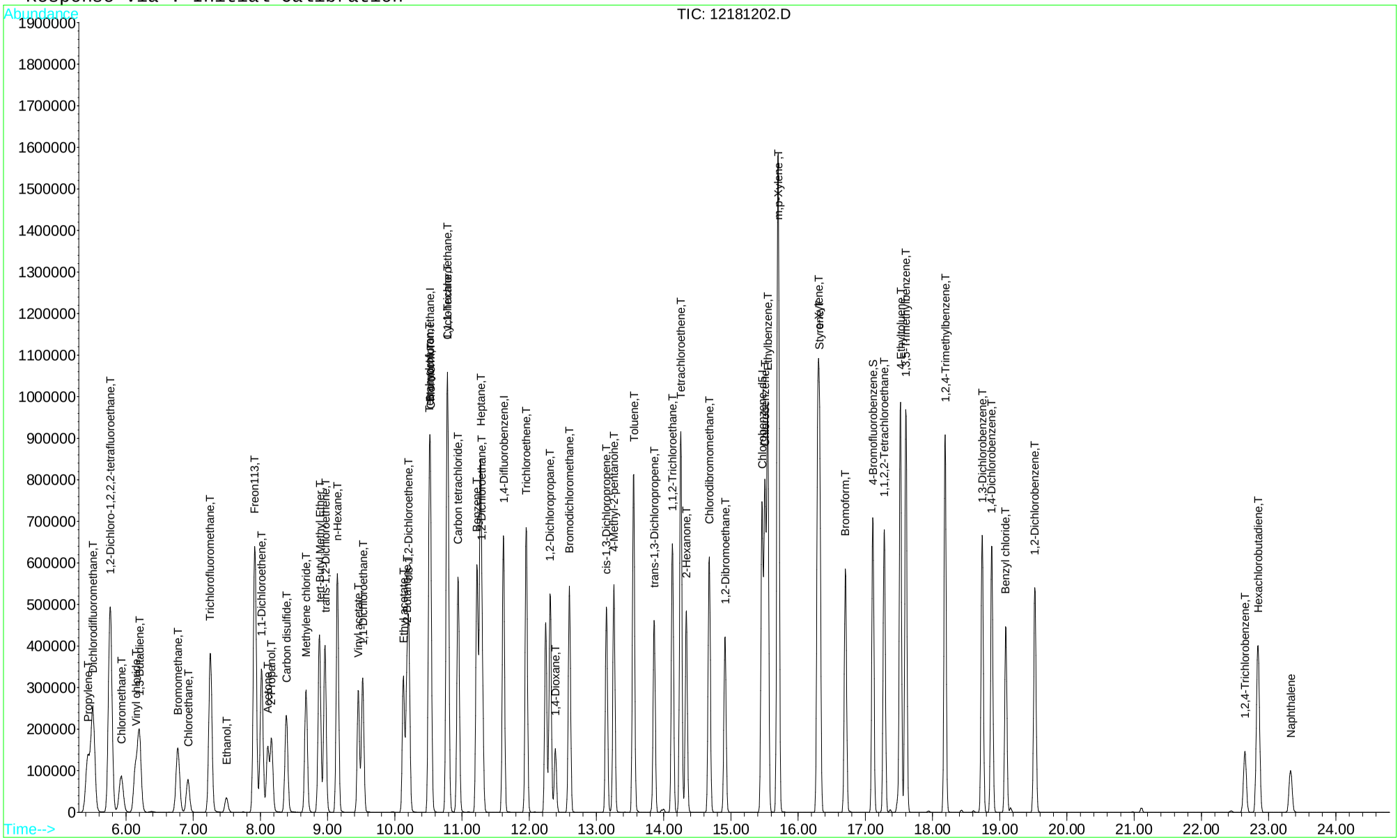
| | Compound | R.T. | QIon | Response | Conc | Unit | Qvalue |
|---|---|---|---|---|---|---|---|
| 53) | Styrene | 16.32 | 104 | 549248 | 10.51 | ppbv | 97 |
| 54) | Bromoform | 16.70 | 173 | 406885 | 10.65 | ppbv | 99 |
| 56) | 1,1,2,2-Tetrachloroethane | 17.28 | 83 | 509536 | 10.82 | ppbv | 99 |
| 57) | 4-Ethyltoluene | 17.52 | 105 | 938943 | 10.65 | ppbv | 97 |
| 58) | 1,3,5-Trimethylbenzene | 17.60 | 105 | 776141 | 10.32 | ppbv | 98 |
| 59) | 1,2,4-Trimethylbenzene | 18.19 | 105 | 738054 | 10.53 | ppbv | 98 |
| 60) | 1,3-Dichlorobenzene | 18.74 | 146 | 422785 | 10.90 | ppbv | 98 |
| 61) | 1,4-Dichlorobenzene | 18.88 | 146 | 397341 | 10.89 | ppbv | 98 |
| 62) | Benzyl chloride | 19.09 | 91 | 498934 | 10.98 | ppbv | 99 |
| 63) | 1,2-Dichlorobenzene | 19.52 | 146 | 359631 | 10.94 | ppbv | 98 |
| 64) | 1,2,4-Trichlorobenzene | 22.65 | 180 | 101091 | 9.82 | ppbv | 98 |
| 65) | Hexachlorobutadiene | 22.84 | 225 | 184614 | 9.90 | ppbv | 99 |
| 66) | Naphthalene | 23.32 | 128 | 178318 | 9.23 | ppbv | 100 |

(#) = qualifier out of range (m) = manual integration

# Quantitation Report

Data File : C:\HPCHEM\1\DATA\121812\12181202.D  Vial: 2
Acq On : 18 Dec 2012 10:17 am  Operator: RACHEL HILL
Sample : CCV VOA1 121812  Inst : VOA 1
Misc : CCV EPA_TO15  Multiplr: 1.00
MS Integration Params: CLME.P
Quant Time: Dec 18 10:41 2012  Quant Results File: 112812V1.RES

Method : C:\HPCHEM\1\METHODS\112812V1.M (RTE Integrator)
Title : TO15 ppbv
Last Update : Thu Nov 29 10:50:07 2012
Response via : Initial Calibration



# Injection Log

Directory: C:\HPCHEM\1\DATA\121912

| Line | Vial | FileName | Multiplier | SampleName | Misc Info | Injected |
|---|---|---|---|---|---|---|
| 1 | 1 | 12191201.d | 1. | BFB VOA1 121912 | TUNE BFB_TUNE | 19 Dec 2012 10:17 |
| 2 | 2 | 12191202.d | 1. | CCV VOA1 121912 | CCV EPA_TO15 | 19 Dec 2012 11:45 |
| 3 | 2 | 12191203.d | 1. | RLVS VOA1 121912 | RLVS EPA_TO15 | 19 Dec 2012 14:22 |
| 4 | 4 | 12191204.d | 1. | DBV91 CC/MBLK VOA1 121912 | MBLK EPA_TO15 | 19 Dec 2012 15:18 |
| 5 | 5 | 12191205.d | 1. | 1212373-049A | DATA NOT USED | 19 Dec 2012 16:07 |
| 6 | 6 | 12191206.d | 2. | 1212373-049A | SAMP EPA_TO15 | 19 Dec 2012 16:53 |
| 7 | 6 | 12191207.d | 400. | 1212373-044A | SAMP EPA_TO15 | 19 Dec 2012 17:42 |
| 8 | 2 | 12191208.d | 800. | 1212373-044A | DATA NOT USED | 19 Dec 2012 18:27 |
| 9 | 3 | 12191209.d | 400. | 1212373-045A | SAMP EPA_TO15 | 19 Dec 2012 19:16 |
| 10 | 4 | 12191210.d | 400. | 1212373-046A | SAMP EPA_TO15 | 19 Dec 2012 20:05 |
| 11 | 6 | 12191211.d | 400. | 1212373-047A | SAMP EPA_TO15 | 19 Dec 2012 20:54 |
| 12 | 7 | 12191212.d | 400. | 1212373-048A | SAMP EPA_TO15 | 19 Dec 2012 21:44 |
| 13 | 9 | 12191213.d | 400. | 1212373-035A | SAMP EPA_TO15 | 19 Dec 2012 22:30 |
| 14 | 9 | 12191214.d | 40. | 1212373-036A | SAMP EPA_TO15 | 19 Dec 2012 23:12 |
| 15 | 9 | 12191215.d | 40. | 1212373-036ADUP | DUP EPA_TO15 | 19 Dec 2012 23:54 |
| 16 | 10 | 12191216.d | 40. | 1212373-037A | SAMP EPA_TO15 | 20 Dec 2012 00:35 |
| 17 | 11 | 12191217.d | 40. | 1212373-038A | SAMP EPA_TO15 | 20 Dec 2012 01:17 |
| 18 | 12 | 12191218.d | 40. | 1212373-039A | SAMP EPA_TO15 | 20 Dec 2012 01:59 |
| 19 | 13 | 12191219.d | 40. | 1212373-040A | SAMP EPA_TO15 | 20 Dec 2012 02:41 |
| 20 | 14 | 12191220.d | 800. | 1212373-034A | SAMP EPA_TO15 | 20 Dec 2012 03:26 |
| 21 | 14 | 12191221.d | 800. | 1212373-034A | DATA NOT USED | 20 Dec 2012 04:11 |
| 22 | 15 | 12191222.d | 400. | 1212373-041A | DATA NOT USED | 20 Dec 2012 04:59 |
| 23 | 16 | 12191223.d | 40. | 1212373-006A | SAMP EPA_TO15 | 20 Dec 2012 05:41 |
| 24 | 1 | 12191224.d | 40. | 1212373-007A | SAMP EPA_TO15 | 20 Dec 2012 06:22 |
| 25 | 2 | 12191225.d | 1600. | 1212373-045A | DATA NOT USED | 20 Dec 2012 07:05 |
| 26 | 3 | 12191226.d | 1600. | 1212373-046A | SAMP EPA_TO15 | 20 Dec 2012 07:49 |
| 27 | 2 | 12191227.d | 1. | RLVS2 VOA1 121912 | DATA NOT USED | 20 Dec 2012 08:35 |
| 28 | 3 | 12191228.d | 1. | RLVS2 VOA1 121912 | RLVS EPA_TO15 | 20 Dec 2012 09:28 |

# RTI Laboratories

# ANALYTICAL RUN Summary

*03-Jan-13*

**RunNo** 54782

| Seq No | Sample ID | Test Code | Sample Typ | File ID | Analysis Date | DF | Batch ID | Prep Date | SPKref | RPDref | pmoist |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1079482 | BFB VOA1 121912 | BFB_TUNE | TUNE | \\1\DATA\121912\ | 12/19/2012 10:1 | 1 | R54782 | | 0 | 0 | |

| Analyte | T | Units | RAW | Final | Text | Spike | SPKref | RPDref | MDL | PQL | UQL | %REC | LOW | HIGH | %RPD | Q |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 173 | M | | 0.6 | 0.6 | | 100 | 0 | 0 | 0 | 0 | 0 | 1% | 0 | 2 | 0% | |
| 174 | M | | 83.7 | 83.7 | | 100 | 0 | 0 | 0 | 0 | 0 | 84% | 50 | 200 | 0% | |
| 175 | M | | 7.4 | 7.4 | | 100 | 0 | 0 | 0 | 0 | 0 | 7% | 4 | 9 | 0% | |
| 176 | M | | 97 | 97 | | 100 | 0 | 0 | 0 | 0 | 0 | 97% | 93 | 101 | 0% | |
| 177 | M | | 6.6 | 6.6 | | 100 | 0 | 0 | 0 | 0 | 0 | 7% | 5 | 9 | 0% | |
| 50 | M | | 17.8 | 17.8 | | 100 | 0 | 0 | 0 | 0 | 0 | 18% | 8 | 40 | 0% | |
| 75 | M | | 46.1 | 46.1 | | 100 | 0 | 0 | 0 | 0 | 0 | 46% | 30 | 66 | 0% | |
| 95 | M | | 100 | 100 | | 100 | 0 | 0 | 0 | 0 | 0 | 100% | 100 | 100 | 0% | |
| 96 | M | | 6.9 | 6.9 | | 100 | 0 | 0 | 0 | 0 | 0 | 7% | 5 | 9 | 0% | |

| Seq No | Sample ID | Test Code | Sample Typ | File ID | Analysis Date | DF | Batch ID | Prep Date | SPKref | RPDref | pmoist |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1079483 | CCV VOA1 121912 | EPA_TO15 | CCV | \\1\DATA\121912\ | 12/19/2012 11:4 | 1 | R54782 | | 0 | 0 | |

| Analyte | T | Units | RAW | Final | Text | Spike | SPKref | RPDref | MDL | PQL | UQL | %REC | LOW | HIGH | %RPD | Q |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | A | ppbv | 11.05 | 11.05 | | 9.6 | 0 | 0 | 0.107 | 1 | 50 | 115% | 70 | 130 | 0% | |
| 1,1,2,2-Tetrachloroethane | A | ppbv | 10.7 | 10.7 | | 10 | 0 | 0 | 0.211 | 1 | 50 | 107% | 70 | 130 | 0% | |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | A | ppbv | 11.89 | 11.89 | | 9.8 | 0 | 0 | 0.108 | 1 | 50 | 121% | 70 | 130 | 0% | |
| 1,1,2-Trichloroethane | A | ppbv | 10.35 | 10.35 | | 9.8 | 0 | 0 | 0.2 | 1 | 50 | 106% | 70 | 130 | 0% | |
| 1,1-Dichloroethane | A | ppbv | 11.86 | 11.86 | | 9.7 | 0 | 0 | 0.111 | 1 | 50 | 122% | 70 | 130 | 0% | |
| 1,1-Dichloroethene | A | ppbv | 11.59 | 11.59 | | 9.9 | 0 | 0 | 0.097 | 1 | 50 | 117% | 70 | 130 | 0% | |
| 1,2,4-Trichlorobenzene | A | ppbv | 10.94 | 10.94 | | 9.1 | 0 | 0 | 0.271 | 1 | 50 | 120% | 70 | 130 | 0% | |
| 1,2,4-Trimethylbenzene | A | ppbv | 10.36 | 10.36 | | 9.8 | 0 | 0 | 0.245 | 1 | 50 | 106% | 70 | 130 | 0% | |
| 1,2-Dibromoethane | A | ppbv | 10.39 | 10.39 | | 9.6 | 0 | 0 | 0.186 | 1 | 50 | 108% | 70 | 130 | 0% | |
| 1,2-Dichlorobenzene | A | ppbv | 10.98 | 10.98 | | 9.7 | 0 | 0 | 0.208 | 1 | 50 | 113% | 70 | 130 | 0% | |
| 1,2-Dichloroethane | A | ppbv | 11.13 | 11.13 | | 9.7 | 0 | 0 | 0.196 | 1 | 50 | 115% | 70 | 130 | 0% | |
| 1,2-Dichloropropane | A | ppbv | 10.59 | 10.59 | | 9.8 | 0 | 0 | 0.224 | 1 | 50 | 108% | 70 | 130 | 0% | |
| 1,3,5-Trimethylbenzene | A | ppbv | 10.23 | 10.23 | | 9.7 | 0 | 0 | 0.24 | 1 | 50 | 105% | 70 | 130 | 0% | |
| 1,3-Butadiene | A | ppbv | 9.18 | 9.18 | | 9.8 | 0 | 0 | 0.152 | 1 | 50 | 94% | 70 | 130 | 0% | |
| 1,3-Dichlorobenzene | A | ppbv | 10.92 | 10.92 | | 9.7 | 0 | 0 | 0.202 | 1 | 50 | 113% | 70 | 130 | 0% | |

| Seq No | Sample ID | Test Code | Sample Typ | File ID | Analysis Date | DF | Batch ID | Prep Date | SPKref | RPDref | pmoist |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1079483 | CCV VOA1 121912 | EPA_TO15 | CCV | \\1\DATA\121912\ | 12/19/2012 11:4 | 1 | R54782 | | 0 | 0 | |

| Analyte | T | Units | RAW | Final | Text | Spike | SPKref | RPDref | MDL | PQL | UQL | %REC | LOW | HIGH | %RPD | Q |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,4-Dichlorobenzene | A | ppbv | 10.92 | 10.92 | | 9.6 | 0 | 0 | 0.194 | 1 | 50 | 114% | 70 | 130 | 0% | |
| 1,4-Dioxane | A | ppbv | 9.75 | 9.75 | | 9.6 | 0 | 0 | 0.128 | 1 | 50 | 102% | 70 | 130 | 0% | |
| 2-Butanone | A | ppbv | 11.31 | 11.31 | | 9.9 | 0 | 0 | 0.287 | 1 | 50 | 114% | 70 | 130 | 0% | |
| 2-Hexanone | A | ppbv | 9.13 | 9.13 | | 9.8 | 0 | 0 | 0.135 | 1 | 50 | 93% | 70 | 130 | 0% | |
| 2-Propanol | A | ppbv | 10.77 | 10.77 | | 10.1 | 0 | 0 | 0.329 | 1 | 50 | 107% | 70 | 130 | 0% | |
| 4-Methyl-2-pentanone | A | ppbv | 10.08 | 10.08 | | 10 | 0 | 0 | 0.157 | 1 | 50 | 101% | 70 | 130 | 0% | |
| Acetone | A | ppbv | 10.53 | 10.53 | | 10 | 0 | 0 | 0.43 | 1 | 50 | 105% | 70 | 130 | 0% | |
| Benzene | A | ppbv | 12.05 | 12.05 | | 9.6 | 0 | 0 | 0.126 | 1 | 50 | 126% | 70 | 130 | 0% | |
| Benzyl chloride | A | ppbv | 11.27 | 11.27 | | 9.7 | 0 | 0 | 0.155 | 1 | 50 | 116% | 70 | 130 | 0% | |
| Bromodichloromethane | A | ppbv | 10.04 | 10.04 | | 9.6 | 0 | 0 | 0.156 | 1 | 50 | 105% | 70 | 130 | 0% | |
| Bromoform | A | ppbv | 10.46 | 10.46 | | 9.6 | 0 | 0 | 0.197 | 1 | 50 | 109% | 70 | 130 | 0% | |
| Bromomethane | A | ppbv | 10.99 | 10.99 | | 9.3 | 0 | 0 | 0.075 | 1 | 50 | 118% | 70 | 130 | 0% | |
| Carbon disulfide | A | ppbv | 11.75 | 11.75 | | 9.7 | 0 | 0 | 0.093 | 1 | 50 | 121% | 70 | 130 | 0% | |
| Carbon tetrachloride | A | ppbv | 11.36 | 11.36 | | 9.5 | 0 | 0 | 0.114 | 1 | 50 | 120% | 70 | 130 | 0% | |
| Chlorobenzene | A | ppbv | 10.65 | 10.65 | | 9.9 | 0 | 0 | 0.275 | 1 | 50 | 108% | 70 | 130 | 0% | |
| Chlorodibromomethane | A | ppbv | 10.25 | 10.25 | | 9.2 | 0 | 0 | 0.165 | 1 | 50 | 111% | 70 | 130 | 0% | |
| Chloroethane | A | ppbv | 11.09 | 11.09 | | 9.8 | 0 | 0 | 0.063 | 1 | 50 | 113% | 70 | 130 | 0% | |
| Chloroform | A | ppbv | 11.24 | 11.24 | | 9.4 | 0 | 0 | 0.126 | 1 | 50 | 120% | 70 | 130 | 0% | |
| Chloromethane | A | ppbv | 10.84 | 10.84 | | 9.8 | 0 | 0 | 0.104 | 1 | 50 | 111% | 70 | 130 | 0% | |
| cis-1,2-Dichloroethene | A | ppbv | 11.85 | 11.85 | | 9.8 | 0 | 0 | 0.107 | 1 | 50 | 121% | 70 | 130 | 0% | |
| cis-1,3-dichloropropene | A | ppbv | 10.41 | 10.41 | | 9.5 | 0 | 0 | 0.166 | 1 | 50 | 110% | 70 | 130 | 0% | |
| Cyclohexane | A | ppbv | 10.86 | 10.86 | | 9.8 | 0 | 0 | 0.684 | 2 | 50 | 111% | 70 | 130 | 0% | |
| Dichlorodifluoromethane | A | ppbv | 10.51 | 10.51 | | 9.2 | 0 | 0 | 0.086 | 1 | 50 | 114% | 70 | 130 | 0% | |
| Ethanol | A | ppbv | 9.98 | 9.98 | | 9.2 | 0 | 0 | 1.962 | 5 | 50 | 108% | 70 | 130 | 0% | |
| Ethyl acetate | A | ppbv | 11.36 | 11.36 | | 9.8 | 0 | 0 | 0.157 | 1 | 50 | 116% | 70 | 130 | 0% | |
| Ethylbenzene | A | ppbv | 10.44 | 10.44 | | 9.8 | 0 | 0 | 0.737 | 2 | 50 | 107% | 70 | 130 | 0% | |
| Heptane | A | ppbv | 9.26 | 9.26 | | 9.9 | 0 | 0 | 0.249 | 1 | 50 | 94% | 70 | 130 | 0% | |
| Hexachlorobutadiene | A | ppbv | 10.13 | 10.13 | | 9.4 | 0 | 0 | 0.374 | 2 | 50 | 108% | 70 | 130 | 0% | |
| m,p-Xylene | A | ppbv | 19.36 | 19.36 | | 19.2 | 0 | 0 | 0.524 | 2 | 100 | 101% | 70 | 130 | 0% | |
| Methylene chloride | A | ppbv | 11.04 | 11.04 | | 10 | 0 | 0 | 2.077 | 5 | 50 | 110% | 70 | 130 | 0% | |
| n-Hexane | A | ppbv | 11.99 | 11.99 | | 10.1 | 0 | 0 | 0.692 | 2 | 50 | 119% | 70 | 130 | 0% | |
| Naphthalene | A | ppbv | 10.41 | 10.41 | | 9.2 | 0 | 0 | 0.247 | 1 | 50 | 113% | 70 | 130 | 0% | |
| o-Xylene | A | ppbv | 10.33 | 10.33 | | 10 | 0 | 0 | 0.258 | 1 | 50 | 103% | 70 | 130 | 0% | |
| Propylene | A | ppbv | 10.49 | 10.49 | | 10.2 | 0 | 0 | 0.075 | 1 | 50 | 103% | 70 | 130 | 0% | |

| Seq No | Sample ID | Test Code | Sample Typ | File ID | Analysis Date | DF | Batch ID | Prep Date | SPKref | RPDref | pmoist |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1079483 | CCV VOA1 121912 | EPA_TO15 | CCV | [\1\DATA\121912]12/19/2012 11:4 | | 1 | R54782 | | 0 | 0 | |

| Analyte | T | Units | RAW | Final | Text | Spike | SPKref | RPDref | MDL | PQL | UQL | %REC | LOW | HIGH | %RPD | Q |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Styrene | A | ppbv | 10.28 | 10.28 | | 9.8 | 0 | 0 | 0.263 | 1 | 50 | 105% | 70 | 130 | 0% | |
| tert-Butyl Methyl Ether | A | ppbv | 12.37 | 12.37 | | 9.9 | 0 | 0 | 0.228 | 1 | 50 | 125% | 70 | 130 | 0% | |
| Tetrachloroethene | A | ppbv | 9.98 | 9.98 | | 9.6 | 0 | 0 | 0.148 | 1 | 50 | 104% | 70 | 130 | 0% | |
| Tetrahydrofuran | A | ppbv | 10.17 | 10.17 | | 10 | 0 | 0 | 0.201 | 1 | 50 | 102% | 70 | 130 | 0% | |
| Toluene | A | ppbv | 10.35 | 10.35 | | 9.8 | 0 | 0 | 0.158 | 1 | 50 | 106% | 70 | 130 | 0% | |
| trans-1,2-Dichloroethene | A | ppbv | 11.66 | 11.66 | | 9.8 | 0 | 0 | 0.117 | 1 | 50 | 119% | 70 | 130 | 0% | |
| trans-1,3-dichloropropene | A | ppbv | 9.83 | 9.83 | | 9.1 | 0 | 0 | 0.171 | 1 | 50 | 108% | 70 | 130 | 0% | |
| Trichloroethene | A | ppbv | 10.02 | 10.02 | | 9.6 | 0 | 0 | 0.119 | 1 | 50 | 104% | 70 | 130 | 0% | |
| Trichlorofluoromethane | A | ppbv | 11.02 | 11.02 | | 9.6 | 0 | 0 | 0.148 | 1 | 50 | 115% | 70 | 130 | 0% | |
| Vinyl acetate | A | ppbv | 11.98 | 11.98 | | 9.9 | 0 | 0 | 0.266 | 1 | 50 | 121% | 70 | 130 | 0% | |
| Vinyl chloride | A | ppbv | 9.79 | 9.79 | | 9.4 | 0 | 0 | 0.072 | 1 | 50 | 104% | 70 | 130 | 0% | |
| Xylenes, Total | C | ppbv | 29.69 | 29.69 | | 29.2 | 0 | 0 | 0.782 | 3 | 150 | 102% | 70 | 130 | 0% | |
| 1,4-Difluorobenzene | I | ppbv | 12.5 | 12.5 | | 12.5 | 0 | 0 | 0 | 0 | 0 | 100% | | | 0% | |
| Bromochloromethane | I | ppbv | 12.5 | 12.5 | | 12.5 | 0 | 0 | 0 | 0 | 0 | 100% | | | 0% | |
| Chlorobenzene-d5 | I | ppbv | 12.5 | 12.5 | | 12.5 | 0 | 0 | 0 | 0 | 0 | 100% | | | 0% | |
| 4-Bromofluorobenzene | S | ppbv | 12.78 | 12.78 | | 12.5 | 0 | 0 | 0 | 0 | 0 | 102% | 70 | 130 | 0% | |

| Seq No | Sample ID | Test Code | Sample Typ | File ID | Analysis Date | DF | Batch ID | Prep Date | SPKref | RPDref | pmoist |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1079484 | RLVS VOA1 121912 | EPA_TO15 | RLVS | [\1\DATA\121912]12/19/2012 2:22: | | 1 | R54782 | | 0 | 0 | |

| Analyte | T | Units | RAW | Final | Text | Spike | SPKref | RPDref | MDL | PQL | UQL | %REC | LOW | HIGH | %RPD | Q |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | A | ppbv | 0.94 | 0.94 | | 0.996 | 0 | 0 | 0.107 | 1 | 50 | 94% | 70 | 130 | 0% | |
| 1,1,2,2-Tetrachloroethane | A | ppbv | 0.77 | 0.77 | | 1 | 0 | 0 | 0.211 | 1 | 50 | 77% | 70 | 130 | 0% | |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | A | ppbv | 1 | 1 | | 0.98 | 0 | 0 | 0.108 | 1 | 50 | 102% | 70 | 130 | 0% | |
| 1,1,2-Trichloroethane | A | ppbv | 0.76 | 0.76 | | 0.98 | 0 | 0 | 0.2 | 1 | 50 | 78% | 70 | 130 | 0% | |
| 1,1-Dichloroethane | A | ppbv | 1 | 1 | | 0.97 | 0 | 0 | 0.111 | 1 | 50 | 103% | 70 | 130 | 0% | |
| 1,1-Dichloroethene | A | ppbv | 1.11 | 1.11 | | 0.99 | 0 | 0 | 0.097 | 1 | 50 | 112% | 70 | 130 | 0% | |
| 1,2,4-Trichlorobenzene | A | ppbv | 0.66 | 0.66 | | 0.91 | 0 | 0 | 0.271 | 1 | 50 | 73% | 70 | 130 | 0% | |
| 1,2,4-Trimethylbenzene | A | ppbv | 0.72 | 0.72 | | 0.98 | 0 | 0 | 0.245 | 1 | 50 | 73% | 70 | 130 | 0% | |
| 1,2-Dibromoethane | A | ppbv | 0.75 | 0.75 | | 0.96 | 0 | 0 | 0.186 | 1 | 50 | 78% | 70 | 130 | 0% | |
| 1,2-Dichlorobenzene | A | ppbv | 0.72 | 0.72 | | 0.97 | 0 | 0 | 0.208 | 1 | 50 | 74% | 70 | 130 | 0% | |
| 1,2-Dichloroethane | A | ppbv | 0.89 | 0.89 | | 0.97 | 0 | 0 | 0.196 | 1 | 50 | 92% | 70 | 130 | 0% | |
| 1,2-Dichloropropane | A | ppbv | 0.8 | 0.8 | | 0.98 | 0 | 0 | 0.224 | 1 | 50 | 82% | 70 | 130 | 0% | |

# Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\121912\12191202.D  Vial: 2
Acq On : 19 Dec 2012 11:45 am  Operator: RACHEL HILL
Sample : CCV VOA1 121912  Inst : VOA 1
Misc : CCV EPA_TO15  Multiplr: 1.00
MS Integration Params: CLME.P

Method : C:\HPCHEM\1\METHODS\112812V1.M (RTE Integrator)
Title : TO15 ppbv
Last Update : Thu Nov 29 10:50:07 2012
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 200%

| | | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|---|
| 1 | I | Bromochloromethane | 1.000 | 1.000 | 0.0 | 106 | 0.00 |
| 2 | T | Propylene | 1.422 | 1.463 | -2.9 | 94 | 0.00 |
| 3 | T | Dichlorodifluoromethane | 4.303 | 4.917 | -14.3 | 103 | 0.00 |
| 4 | T | 1,2-Dichloro-1,2,2,2-tetraf | 2.793 | 3.321 | -18.9 | 109 | 0.00 |
| 5 | T | Chloromethane | 1.728 | 1.971 | -14.1 | 102 | 0.00 |
| 6 | T | Vinyl chloride | 2.126 | 2.216 | -4.2 | 96 | 0.00 |
| 7 | T | 1,3-Butadiene | 1.234 | 1.155 | 6.4 | 83 | 0.00 |
| 8 | T | Bromomethane | 1.588 | 1.876 | -18.1 | 109 | 0.00 |
| 9 | T | Chloroethane | 0.988 | 1.191 | -20.5 | 111 | 0.00 |
| 10 | T | Trichlorofluoromethane | 4.039 | 4.635 | -14.8 | 107 | 0.00 |
| 11 | T | Ethanol | 0.500 | 0.543 | -8.6 | 105 | 0.00 |
| 12 | T | Freon113 | 2.723 | 3.304 | -21.3 | 111 | 0.00 |
| 13 | T | 1,1-Dichloroethene | 2.517 | 2.947 | -17.1 | 105 | 0.00 |
| 14 | T | Acetone | 2.403 | 2.530 | -5.3 | 94 | 0.00 |
| 15 | T | Carbon disulfide | 3.567 | 4.321 | -21.1 | 111 | 0.00 |
| 16 | T | 2-Propanol | 2.345 | 2.499 | -6.6 | 96 | 0.00 |
| 17 | T | Methylene chloride | 1.891 | 2.088 | -10.4 | 100 | 0.00 |
| 18 | T | tert-Butyl Methyl Ether | 3.502 | 4.378 | -25.0 | 112 | 0.00 |
| 19 | T | trans-1,2-Dichloroethene | 2.279 | 2.711 | -19.0 | 108 | 0.00 |
| 20 | T | n-Hexane | 2.742 | 3.254 | -18.7 | 109 | 0.00 |
| 21 | T | 1,1-Dichloroethane | 2.869 | 3.509 | -22.3 | 110 | 0.00 |
| 22 | T | Vinyl acetate | 3.601 | 4.357 | -21.0 | 101 | 0.00 |
| 23 | T | cis-1,2-Dichloroethene | 1.449 | 1.752 | -20.9 | 110 | 0.00 |
| 24 | T | 2-Butanone | 2.457 | 2.807 | -14.2 | 100 | 0.00 |
| 25 | T | Ethyl acetate | 3.135 | 3.634 | -15.9 | 102 | 0.00 |
| 26 | T | Tetrahydrofuran | 1.562 | 1.588 | -1.7 | 86 | 0.00 |
| 27 | T | Chloroform | 2.762 | 3.167 | -14.7 | 102 | 0.00 |
| 28 | T | 1,1,1-Trichloroethane | 2.932 | 3.376 | -15.1 | 103 | 0.00 |
| 29 | T | Cyclohexane | 2.831 | 3.137 | -10.8 | 96 | 0.00 |
| 30 | T | Carbon tetrachloride | 3.022 | 3.612 | -19.5 | 105 | 0.00 |
| 31 | T | Benzene | 4.074 | 5.115 | -25.6 | 112 | 0.00 |
| 32 | T | 1,2-Dichloroethane | 2.025 | 2.323 | -14.7 | 101 | 0.00 |
| 33 | I | 1,4-Difluorobenzene | 1.000 | 1.000 | 0.0 | 121 | 0.00 |
| 34 | T | Heptane | 0.771 | 0.721 | 6.5 | 90 | 0.00 |
| 35 | T | Trichloroethene | 0.537 | 0.560 | -4.3 | 108 | 0.00 |
| 36 | T | 1,2-Dichloropropane | 0.507 | 0.547 | -7.9 | 111 | 0.00 |
| 37 | T | 1,4-Dioxane | 0.229 | 0.233 | -1.7 | 107 | 0.00 |
| 38 | T | Bromodichloromethane | 0.826 | 0.864 | -4.6 | 106 | 0.00 |
| 39 | T | cis-1,3-Dichloropropene | 0.681 | 0.746 | -9.5 | 111 | 0.00 |
| 40 | T | 4-Methyl-2-pentanone | 0.400 | 0.404 | -1.0 | 103 | 0.00 |
| 41 | T | Toluene | 1.376 | 1.453 | -5.6 | 107 | 0.00 |
| 42 | T | trans-1,3-Dichloropropene | 0.630 | 0.681 | -8.1 | 108 | 0.00 |
| 43 | T | 1,1,2-Trichloroethane | 0.480 | 0.506 | -5.4 | 108 | 0.00 |
| 44 | T | Tetrachloroethene | 0.677 | 0.703 | -3.8 | 108 | 0.00 |
| 45 | T | 2-Hexanone | 0.738 | 0.688 | 6.8 | 91 | 0.00 |
| 46 | T | Chlorodibromomethane | 0.803 | 0.840 | -4.6 | 105 | 0.00 |
| 47 | T | 1,2-Dibromoethane | 0.702 | 0.760 | -8.3 | 108 | 0.00 |
| 48 | I | Chlorobenzene-d5 | 1.000 | 1.000 | 0.0 | 115 | 0.00 |
| 49 | T | Chlorobenzene | 1.205 | 1.297 | -7.6 | 105 | 0.00 |
| 50 | T | Ethylbenzene | 2.002 | 2.133 | -6.5 | 103 | 0.00 |
| 51 | T | m,p-Xylene | 1.538 | 1.551 | -0.8 | 93 | 0.00 |
| 52 | T | o-Xylene | 1.584 | 1.637 | -3.3 | 99 | 0.00 |
| 53 | T | Styrene | 1.155 | 1.212 | -4.9 | 99 | 0.00 |
| 54 | T | Bromoform | 0.845 | 0.920 | -8.9 | 106 | 0.00 |
| 55 | S | 4-Bromofluorobenzene | 0.608 | 0.622 | -2.3 | 118 | 0.00 |

(#) = Out of Range

Data File : C:\HPCHEM\1\DATA\121912\12191202.D Vial: 2
Acq On : 19 Dec 2012 11:45 am Operator: RACHEL HILL
Sample : CCV VOA1 121912 Inst : VOA 1
Misc : CCV EPA_TO15 Multiplr: 1.00
MS Integration Params: CLME.P

Method : C:\HPCHEM\1\METHODS\112812V1.M (RTE Integrator)
Title : TO15 ppbv
Last Update : Thu Nov 29 10:50:07 2012
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 200%

| | | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|---|
| 56 | T | 1,1,2,2-Tetrachloroethane | 1.042 | 1.114 | -6.9 | 105 | 0.00 |
| 57 | T | 4-Ethyltoluene | 1.949 | 2.088 | -7.1 | 103 | 0.00 |
| 58 | T | 1,3,5-Trimethylbenzene | 1.664 | 1.755 | -5.5 | 102 | 0.00 |
| 59 | T | 1,2,4-Trimethylbenzene | 1.549 | 1.638 | -5.7 | 102 | 0.00 |
| 60 | T | 1,3-Dichlorobenzene | 0.858 | 0.966 | -12.6 | 111 | 0.00 |
| 61 | T | 1,4-Dichlorobenzene | 0.807 | 0.918 | -13.8 | 112 | 0.00 |
| 62 | T | Benzyl chloride | 1.005 | 1.167 | -16.1 | 108 | 0.00 |
| 63 | T | 1,2-Dichlorobenzene | 0.727 | 0.823 | -13.2 | 112 | 0.00 |
| 64 | T | 1,2,4-Trichlorobenzene | 0.228 | 0.274 | -20.2 | 131 | 0.00 |
| 65 | T | Hexachlorobutadiene | 0.412 | 0.444 | -7.8 | 120 | 0.00 |
| 66 | | Naphthalene | 0.427 | 0.484 | -13.3 | 121 | 0.00 |

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\121912\12191202.D Vial: 2
Acq On : 19 Dec 2012 11:45 am Operator: RACHEL HILL
Sample : CCV VOA1 121912 Inst : VOA 1
Misc : CCV EPA_TO15 Multiplr: 1.00
MS Integration Params: CLME.P
Quant Time: Dec 19 12:10 2012 Quant Results File: 112812V1.RES

Quant Method : C:\HPCHEM\1\METHODS\112812V1.M (RTE Integrator)
Title : TO15 ppbv
Last Update : Thu Nov 29 10:50:07 2012
Response via : Initial Calibration
DataAcq Meth : 112812V1

| Internal Standards | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 1) Bromochloromethane | 10.51 | 130 | 196215 | 12.50 | ppbv | 0.00 |
| 33) 1,4-Difluorobenzene | 11.62 | 114 | 793653 | 12.50 | ppbv | 0.00 |
| 48) Chlorobenzene-d5 | 15.46 | 117 | 644984 | 12.50 | ppbv | 0.00 |

System Monitoring Compounds

| | | | | | | |
|---|---|---|---|---|---|---|
| 55) 4-Bromofluorobenzene | 17.11 | 95 | 401142 | 12.78 | ppbv | 0.00 |

Spiked Amount 12.500 Range 70 - 113 Recovery = 102.24%

| Target Compounds | | | | | | Qvalue |
|---|---|---|---|---|---|---|
| 2) Propylene | 5.42 | 41 | 234290 | 10.49 | ppbv | 99 |
| 3) Dichlorodifluoromethane | 5.50 | 85 | 710019 | 10.51 | ppbv | 99 |
| 4) 1,2-Dichloro-1,2,2,2-tetra | 5.76 | 135 | 495293 | 11.30 | ppbv # | 72 |
| 5) Chloromethane | 5.92 | 50 | 293989 | 10.84 | ppbv | 99 |
| 6) Vinyl chloride | 6.14 | 62 | 326933 | 9.79 | ppbv | 96 |
| 7) 1,3-Butadiene | 6.19 | 39 | 177722 | 9.18 | ppbv # | 60 |
| 8) Bromomethane | 6.76 | 94 | 273921 | 10.99 | ppbv | 99 |
| 9) Chloroethane | 6.92 | 64 | 171941 | 11.09 | ppbv | 99 |
| 10) Trichlorofluoromethane | 7.25 | 101 | 698522 | 11.02 | ppbv | 99 |
| 11) Ethanol | 7.49 | 45 | 78382 | 9.98 | ppbv | 97 |
| 12) Freon113 | 7.91 | 101 | 508316 | 11.89 | ppbv | 89 |
| 13) 1,1-Dichloroethene | 8.01 | 61 | 458023 | 11.59 | ppbv | 88 |
| 14) Acetone | 8.11 | 43 | 397084 | 10.53 | ppbv # | 85 |
| 15) Carbon disulfide | 8.38 | 76 | 657947 | 11.75 | ppbv # | 100 |
| 16) 2-Propanol | 8.17 | 45 | 396258 | 10.77 | ppbv # | 1 |
| 17) Methylene chloride | 8.68 | 49 | 327755 | 11.04 | ppbv | 87 |
| 18) tert-Butyl Methyl Ether | 8.88 | 73 | 680322 | 12.37 | ppbv # | 93 |
| 19) trans-1,2-Dichloroethene | 8.96 | 61 | 417063 | 11.66 | ppbv # | 84 |
| 20) n-Hexane | 9.14 | 57 | 515918 | 11.99 | ppbv # | 81 |
| 21) 1,1-Dichloroethane | 9.52 | 63 | 534359 | 11.86 | ppbv # | 96 |
| 22) Vinyl acetate | 9.45 | 43 | 677155 | 11.98 | ppbv | 99 |
| 23) cis-1,2-Dichloroethene | 10.20 | 96 | 269576 | 11.85 | ppbv # | 83 |
| 24) 2-Butanone | 10.17 | 43 | 436210 | 11.31 | ppbv | 97 |
| 25) Ethyl acetate | 10.13 | 43 | 558979 | 11.36 | ppbv # | 99 |
| 26) Tetrahydrofuran | 10.51 | 42 | 249249 | 10.17 | ppbv | 100 |
| 27) Chloroform | 10.53 | 83 | 487238 | 11.24 | ppbv | 100 |
| 28) 1,1,1-Trichloroethane | 10.78 | 97 | 508716 | 11.05 | ppbv | 95 |
| 29) Cyclohexane | 10.79 | 56 | 482583 | 10.86 | ppbv # | 78 |
| 30) Carbon tetrachloride | 10.94 | 117 | 538672 | 11.36 | ppbv | 98 |
| 31) Benzene | 11.22 | 78 | 770739 | 12.05 | ppbv | 96 |
| 32) 1,2-Dichloroethane | 11.30 | 62 | 353689 | 11.13 | ppbv # | 97 |
| 34) Heptane | 11.27 | 43 | 452916 | 9.26 | ppbv # | 91 |
| 35) Trichloroethene | 11.96 | 130 | 341447 | 10.02 | ppbv | 96 |
| 36) 1,2-Dichloropropane | 12.31 | 63 | 340608 | 10.59 | ppbv | 94 |
| 37) 1,4-Dioxane | 12.39 | 88 | 142029 | 9.75 | ppbv # | 85 |
| 38) Bromodichloromethane | 12.60 | 83 | 526460 | 10.04 | ppbv | 100 |
| 39) cis-1,3-Dichloropropene | 13.15 | 75 | 450114 | 10.41 | ppbv | 98 |
| 40) 4-Methyl-2-pentanone | 13.26 | 58 | 256229 | 10.08 | ppbv # | 90 |
| 41) Toluene | 13.55 | 91 | 903851 | 10.35 | ppbv | 100 |
| 42) trans-1,3-Dichloropropene | 13.86 | 75 | 393251 | 9.83 | ppbv | 99 |
| 43) 1,1,2-Trichloroethane | 14.13 | 97 | 315067 | 10.35 | ppbv | 98 |
| 44) Tetrachloroethene | 14.25 | 166 | 428667 | 9.98 | ppbv | 98 |
| 45) 2-Hexanone | 14.34 | 43 | 427839 | 9.13 | ppbv | 80 |
| 46) Chlorodibromomethane | 14.68 | 129 | 522720 | 10.25 | ppbv | 99 |
| 47) 1,2-Dibromoethane | 14.91 | 107 | 463047 | 10.39 | ppbv | 99 |
| 49) Chlorobenzene | 15.51 | 112 | 662426 | 10.65 | ppbv | 97 |
| 50) Ethylbenzene | 15.55 | 91 | 1078770 | 10.44 | ppbv | 97 |
| 51) m,p-Xylene | 15.70 | 91 | 1536494 | 19.36 | ppbv | 94 |
| 52) o-Xylene | 16.29 | 91 | 844470 | 10.33 | ppbv # | 94 |

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\121912\12191202.D Vial: 2
Acq On : 19 Dec 2012 11:45 am Operator: RACHEL HILL
Sample : CCV VOA1 121912 Inst : VOA 1
Misc : CCV EPA_TO15 Multiplr: 1.00
MS Integration Params: CLME.P
Quant Time: Dec 19 12:10 2012 Quant Results File: 112812V1.RES

Quant Method : C:\HPCHEM\1\METHODS\112812V1.M (RTE Integrator)
Title : TO15 ppbv
Last Update : Thu Nov 29 10:50:07 2012
Response via : Initial Calibration
DataAcq Meth : 112812V1

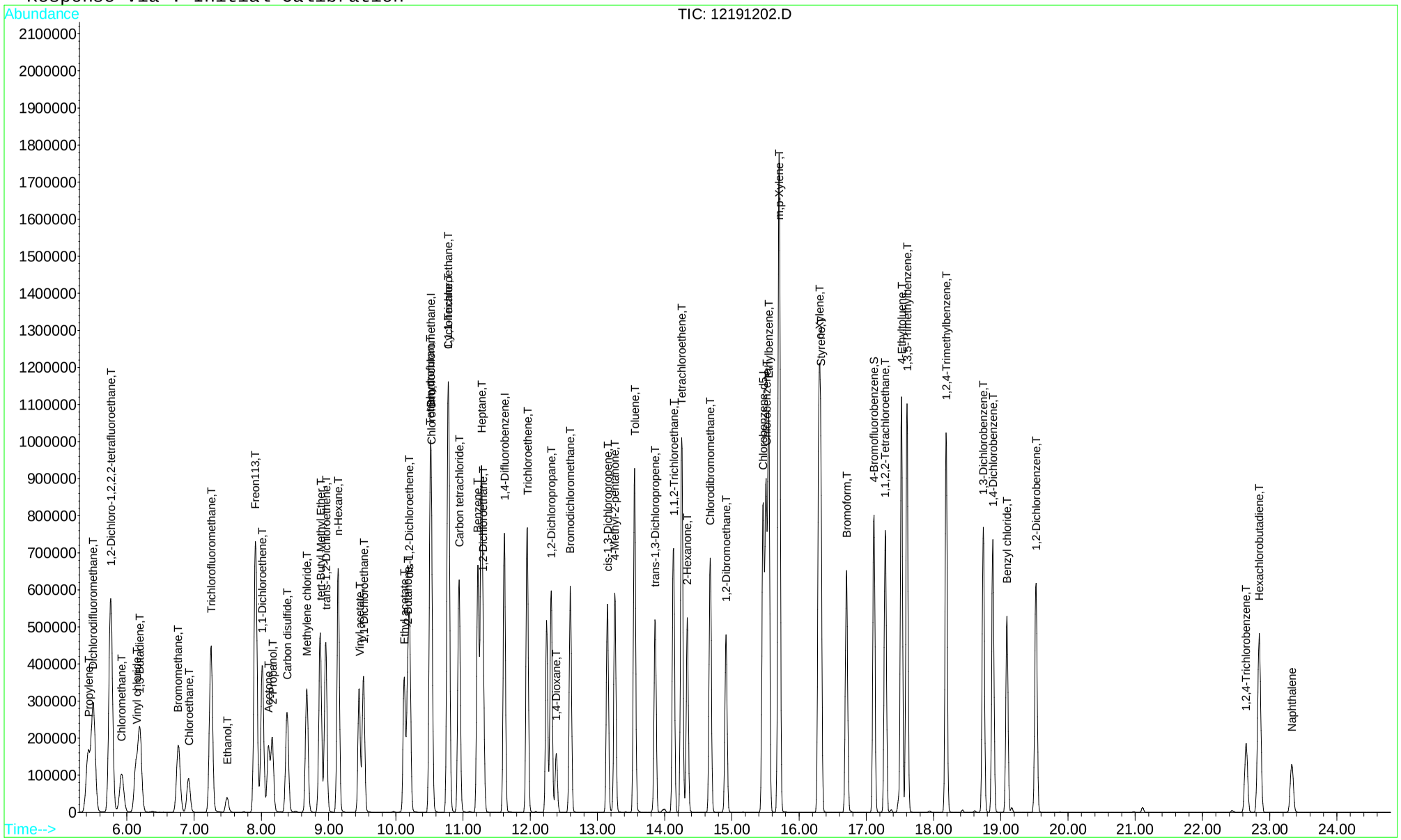
| | Compound | R.T. | QIon | Response | Conc | Unit | Qvalue |
|---|---|---|---|---|---|---|---|
| 53) | Styrene | 16.32 | 104 | 612779 | 10.28 | ppbv | 97 |
| 54) | Bromoform | 16.71 | 173 | 455671 | 10.46 | ppbv | 99 |
| 56) | 1,1,2,2-Tetrachloroethane | 17.28 | 83 | 574879 | 10.70 | ppbv | 99 |
| 57) | 4-Ethyltoluene | 17.52 | 105 | 1055966 | 10.50 | ppbv | 98 |
| 58) | 1,3,5-Trimethylbenzene | 17.61 | 105 | 878242 | 10.23 | ppbv | 97 |
| 59) | 1,2,4-Trimethylbenzene | 18.19 | 105 | 828395 | 10.36 | ppbv | 99 |
| 60) | 1,3-Dichlorobenzene | 18.74 | 146 | 483351 | 10.92 | ppbv | 97 |
| 61) | 1,4-Dichlorobenzene | 18.88 | 146 | 454682 | 10.92 | ppbv | 97 |
| 62) | Benzyl chloride | 19.09 | 91 | 584269 | 11.27 | ppbv | 99 |
| 63) | 1,2-Dichlorobenzene | 19.53 | 146 | 411933 | 10.98 | ppbv | 98 |
| 64) | 1,2,4-Trichlorobenzene | 22.65 | 180 | 128616 | 10.94 | ppbv | 98 |
| 65) | Hexachlorobutadiene | 22.85 | 225 | 215587 | 10.13 | ppbv | 99 |
| 66) | Naphthalene | 23.33 | 128 | 229559 | 10.41 | ppbv | 100 |

(#) = qualifier out of range (m) = manual integration

# Quantitation Report

Data File : C:\HPCHEM\1\DATA\121912\12191202.D  Vial: 2
Acq On : 19 Dec 2012 11:45 am  Operator: RACHEL HILL
Sample : CCV VOA1 121912  Inst : VOA 1
Misc : CCV EPA_TO15  Multiplr: 1.00
MS Integration Params: CLME.P
Quant Time: Dec 19 12:10 2012  Quant Results File: 112812V1.RES

Method : C:\HPCHEM\1\METHODS\112812V1.M (RTE Integrator)
Title : TO15 ppbv
Last Update : Thu Nov 29 10:50:07 2012
Response via : Initial Calibration



# Injection Log

Directory: C:\HPCHEM\1\DATA\122012B

| Line | Vial | FileName | Multiplier | SampleName | Misc Info | Injected |
|---|---|---|---|---|---|---|
| 1 | 1 | 12201201.d | 1. | BFB VOA1 122012 | TUNE BFB_TUNE | 20 Dec 2012 21:43 |
| 2 | 2 | 12201202.d | 1. | 1ppb VOA1 122012 | DATA NOT USED | 20 Dec 2012 22:27 |
| 3 | 3 | 12201203.d | 1. | 1ppb VOA1 122012 | ICAL2EPA_TO15 | 20 Dec 2012 23:11 |
| 4 | 4 | 12201204.d | 1. | 10ppb VOA1 122012 | ICAL4EPA_TO15 | 20 Dec 2012 23:53 |
| 5 | 5 | 12201205.d | 1. | 12ppb VOA1 122012 | ICAL5EPA_TO15 | 21 Dec 2012 00:36 |
| 6 | 6 | 12201206.d | 1. | 15ppb VOA1 122012 | ICAL6EPA_TO15 | 21 Dec 2012 01:19 |
| 7 | 7 | 12201207.d | 1. | 20ppb VOA1 122012 | ICAL7EPA_TO15 | 21 Dec 2012 02:03 |
| 8 | 8 | 12201208.d | 1. | 30ppb VOA1 122012 | ICAL8EPA_TO15 | 21 Dec 2012 02:47 |
| 9 | 9 | 12201209.d | 1. | 50ppb VOA1 122012 | ICAL9EPA_TO15 | 21 Dec 2012 03:33 |
| 10 | 1 | 12201210.d | 1. | BFB2 VOA1 122012 | TUNE BFB_TUNE | 21 Dec 2012 04:15 |
| 11 | 2 | 12201211.d | 1. | ICV VOA1 122012 | ICV EPA_TO15 | 21 Dec 2012 04:58 |
| 12 | 3 | 12201212.d | 1. | RLVS VOA1 122012 | RLVS EPA_TO15 | 21 Dec 2012 05:41 |
| 13 | 4 | 12201213.d | 1. | MBLK/DBV114 CC VOA1 122012 | MBLK EPA_TO15 | 21 Dec 2012 09:26 |
| 14 | 5 | 12201214.d | 1. | BV67 CC VOA1 122012 | DATA NOT USED | 21 Dec 2012 10:16 |
| 15 | 6 | 12201215.d | 8000. | 1212373-001A | DATA NOT USED | 21 Dec 2012 10:58 |
| 16 | 7 | 12201216.d | 40. | 1212373-008A | SAMP EPA_TO15 | 21 Dec 2012 11:41 |
| 17 | 6 | 12201217.d | 400. | 1212373-001A | SAMP EPA_TO15 | 21 Dec 2012 12:30 |
| 18 | 7 | 12201218.d | 1600. | 1212373-044A | SAMP EPA_TO15 | 21 Dec 2012 13:13 |
| 19 | 8 | 12201219.d | 1600. | 1212373-044ADUP | DUP EPA_TO15 | 21 Dec 2012 13:57 |
| 20 | 9 | 12201220.d | 1600. | 1212373-045A | DATA NOT USED | 21 Dec 2012 14:41 |
| 21 | 10 | 12201221.d | 400. | 1212373-036A | SAMP EPA_TO15 | 21 Dec 2012 15:29 |
| 22 | 11 | 12201222.d | 400. | 1212373-037A | SAMP EPA_TO15 | 21 Dec 2012 16:18 |
| 23 | 8 | 12201223.d | 400. | 1212373-038A | SAMP EPA_TO15 | 21 Dec 2012 17:07 |
| 24 | 9 | 12201224.d | 400. | 1212373-039A | SAMP EPA_TO15 | 21 Dec 2012 17:55 |
| 25 | 10 | 12201225.d | 400. | 1212373-040A | SAMP EPA_TO15 | 21 Dec 2012 18:43 |
| 26 | 11 | 12201226.d | 400. | 1212373-041A | SAMP EPA_TO15 | 21 Dec 2012 19:32 |
| 27 | 12 | 12201227.d | 80000. | 1212373-003A | SAMP EPA_TO15 | 21 Dec 2012 20:13 |
| 28 | 13 | 12201228.d | 80000. | 1212373-002A | SAMP EPA_TO15 | 21 Dec 2012 20:55 |
| 29 | 14 | 12201229.d | 40. | 1212373-009A | SAMP EPA_TO15 | 21 Dec 2012 21:37 |
| 30 | 15 | 12201230.d | 20000. | 1212373-004A | DATA NOT USED | 21 Dec 2012 22:19 |
| 31 | 16 | 12201231.d | 800. | 1212373-010A | SAMP EPA_TO15 | 21 Dec 2012 23:04 |
| 32 | 1 | 12201232.d | 400. | 1212373-005A | SAMP EPA_TO15 | 21 Dec 2012 23:52 |
| 33 | 2 | 12201233.d | 400. | 1212373-011A | SAMP EPA_TO15 | 22 Dec 2012 00:41 |
| 34 | 1 | 12201234.d | 1. | RLVS2 VOA1 122012 | RLVS EPA_TO15 | 22 Dec 2012 01:23 |

# RTI Laboratories

# ANALYTICAL RUN Summary

*03-Jan-13*

**RunNo** 54847

| Seq No | Sample ID | Test Code | Sample Typ | File ID | Analysis Date | DF | Batch ID | Prep Date | SPKref | RPDref | pmoist |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1081111 | BFB2 VOA1 122012 | BFB_TUNE | TUNE | .1\DATA\122012F | 12/21/2012 4:15: | 1 | R54847 | | 0 | 0 | |

| Analyte | T | Units | RAW | Final | Text | Spike | SPKref | RPDref | MDL | PQL | UQL | %REC | LOW | HIGH | %RPD | Q |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 173 | M | | 0.6 | 0.6 | | 100 | 0 | 0 | 0 | 0 | 0 | 1% | 0 | 2 | 0% | |
| 174 | M | | 82.9 | 82.9 | | 100 | 0 | 0 | 0 | 0 | 0 | 83% | 50 | 200 | 0% | |
| 175 | M | | 7.3 | 7.3 | | 100 | 0 | 0 | 0 | 0 | 0 | 7% | 4 | 9 | 0% | |
| 176 | M | | 96.9 | 96.9 | | 100 | 0 | 0 | 0 | 0 | 0 | 97% | 93 | 101 | 0% | |
| 177 | M | | 6.5 | 6.5 | | 100 | 0 | 0 | 0 | 0 | 0 | 7% | 5 | 9 | 0% | |
| 50 | M | | 17.7 | 17.7 | | 100 | 0 | 0 | 0 | 0 | 0 | 18% | 8 | 40 | 0% | |
| 75 | M | | 44.8 | 44.8 | | 100 | 0 | 0 | 0 | 0 | 0 | 45% | 30 | 66 | 0% | |
| 95 | M | | 100 | 100 | | 100 | 0 | 0 | 0 | 0 | 0 | 100% | 100 | 100 | 0% | |
| 96 | M | | 6.6 | 6.6 | | 100 | 0 | 0 | 0 | 0 | 0 | 7% | 5 | 9 | 0% | |

| Seq No | Sample ID | Test Code | Sample Typ | File ID | Analysis Date | DF | Batch ID | Prep Date | SPKref | RPDref | pmoist |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1081112 | ICV VOA1 122012 | EPA_TO15 | ICV | .1\DATA\122012F | 12/21/2012 4:58: | 1 | R54847 | | 0 | 0 | |

| Analyte | T | Units | RAW | Final | Text | Spike | SPKref | RPDref | MDL | PQL | UQL | %REC | LOW | HIGH | %RPD | Q |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | A | ppbv | 11.21 | 11.21 | | 9.6 | 0 | 0 | 0.107 | 1 | 50 | 117% | 70 | 130 | 0% | |
| 1,1,2,2-Tetrachloroethane | A | ppbv | 11.91 | 11.91 | | 10 | 0 | 0 | 0.211 | 1 | 50 | 119% | 70 | 130 | 0% | |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | A | ppbv | 11.54 | 11.54 | | 9.8 | 0 | 0 | 0.108 | 1 | 50 | 118% | 70 | 130 | 0% | |
| 1,1,2-Trichloroethane | A | ppbv | 11.75 | 11.75 | | 9.8 | 0 | 0 | 0.2 | 1 | 50 | 120% | 70 | 130 | 0% | |
| 1,1-Dichloroethane | A | ppbv | 11.36 | 11.36 | | 9.7 | 0 | 0 | 0.111 | 1 | 50 | 117% | 70 | 130 | 0% | |
| 1,1-Dichloroethene | A | ppbv | 11.32 | 11.32 | | 9.9 | 0 | 0 | 0.097 | 1 | 50 | 114% | 70 | 130 | 0% | |
| 1,2,4-Trichlorobenzene | A | ppbv | 10.08 | 10.08 | | 9.1 | 0 | 0 | 0.271 | 1 | 50 | 111% | 70 | 130 | 0% | |
| 1,2,4-Trimethylbenzene | A | ppbv | 11.58 | 11.58 | | 9.8 | 0 | 0 | 0.245 | 1 | 50 | 118% | 70 | 130 | 0% | |
| 1,2-Dibromoethane | A | ppbv | 11.72 | 11.72 | | 9.6 | 0 | 0 | 0.186 | 1 | 50 | 122% | 70 | 130 | 0% | |
| 1,2-Dichlorobenzene | A | ppbv | 11.09 | 11.09 | | 9.7 | 0 | 0 | 0.208 | 1 | 50 | 114% | 70 | 130 | 0% | |
| 1,2-Dichloroethane | A | ppbv | 11.34 | 11.34 | | 9.7 | 0 | 0 | 0.196 | 1 | 50 | 117% | 70 | 130 | 0% | |
| 1,2-Dichloropropane | A | ppbv | 11.92 | 11.92 | | 9.8 | 0 | 0 | 0.224 | 1 | 50 | 122% | 70 | 130 | 0% | |
| 1,3,5-Trimethylbenzene | A | ppbv | 11.5 | 11.5 | | 9.7 | 0 | 0 | 0.24 | 1 | 50 | 119% | 70 | 130 | 0% | |
| 1,3-Butadiene | A | ppbv | 10.68 | 10.68 | | 9.8 | 0 | 0 | 0.152 | 1 | 50 | 109% | 70 | 130 | 0% | |
| 1,3-Dichlorobenzene | A | ppbv | 11.29 | 11.29 | | 9.7 | 0 | 0 | 0.202 | 1 | 50 | 116% | 70 | 130 | 0% | |

| Seq No | Sample ID | Test Code | Sample Typ | File ID | Analysis Date | DF | Batch ID | Prep Date | SPKref | RPDref | pmoist |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1081112 | ICV VOA1 122012 | EPA_TO15 | ICV | .1\DATA\122012F | 12/21/2012 4:58: | 1 | R54847 | | 0 | 0 | |

| Analyte | T | Units | RAW | Final | Text | Spike | SPKref | RPDref | MDL | PQL | UQL | %REC | LOW | HIGH | %RPD | Q |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,4-Dichlorobenzene | A | ppbv | 11.15 | 11.15 | | 9.6 | 0 | 0 | 0.194 | 1 | 50 | 116% | 70 | 130 | 0% | |
| 1,4-Dioxane | A | ppbv | 11.71 | 11.71 | | 9.6 | 0 | 0 | 0.128 | 1 | 50 | 122% | 70 | 130 | 0% | |
| 2-Butanone | A | ppbv | 11.68 | 11.68 | | 9.9 | 0 | 0 | 0.287 | 1 | 50 | 118% | 70 | 130 | 0% | |
| 2-Hexanone | A | ppbv | 11.79 | 11.79 | | 9.8 | 0 | 0 | 0.135 | 1 | 50 | 120% | 70 | 130 | 0% | |
| 2-Propanol | A | ppbv | 11.17 | 11.17 | | 10.1 | 0 | 0 | 0.329 | 1 | 50 | 111% | 70 | 130 | 0% | |
| 4-Methyl-2-pentanone | A | ppbv | 11.93 | 11.93 | | 10 | 0 | 0 | 0.157 | 1 | 50 | 119% | 70 | 130 | 0% | |
| Acetone | A | ppbv | 11.24 | 11.24 | | 10 | 0 | 0 | 0.43 | 1 | 50 | 112% | 70 | 130 | 0% | |
| Benzene | A | ppbv | 11.47 | 11.47 | | 9.6 | 0 | 0 | 0.126 | 1 | 50 | 119% | 70 | 130 | 0% | |
| Benzyl chloride | A | ppbv | 11.77 | 11.77 | | 9.7 | 0 | 0 | 0.155 | 1 | 50 | 121% | 70 | 130 | 0% | |
| Bromodichloromethane | A | ppbv | 11.64 | 11.64 | | 9.6 | 0 | 0 | 0.156 | 1 | 50 | 121% | 70 | 130 | 0% | |
| Bromoform | A | ppbv | 11.55 | 11.55 | | 9.6 | 0 | 0 | 0.197 | 1 | 50 | 120% | 70 | 130 | 0% | |
| Bromomethane | A | ppbv | 11.2 | 11.2 | | 9.3 | 0 | 0 | 0.075 | 1 | 50 | 120% | 70 | 130 | 0% | |
| Carbon disulfide | A | ppbv | 11.2 | 11.2 | | 9.7 | 0 | 0 | 0.093 | 1 | 50 | 115% | 70 | 130 | 0% | |
| Carbon tetrachloride | A | ppbv | 11.05 | 11.05 | | 9.5 | 0 | 0 | 0.114 | 1 | 50 | 116% | 70 | 130 | 0% | |
| Chlorobenzene | A | ppbv | 11.99 | 11.99 | | 9.9 | 0 | 0 | 0.275 | 1 | 50 | 121% | 70 | 130 | 0% | |
| Chlorodibromomethane | A | ppbv | 11.81 | 11.81 | | 9.2 | 0 | 0 | 0.165 | 1 | 50 | 128% | 70 | 130 | 0% | |
| Chloroethane | A | ppbv | 10.83 | 10.83 | | 9.8 | 0 | 0 | 0.063 | 1 | 50 | 111% | 70 | 130 | 0% | |
| Chloroform | A | ppbv | 11.43 | 11.43 | | 9.4 | 0 | 0 | 0.126 | 1 | 50 | 122% | 70 | 130 | 0% | |
| Chloromethane | A | ppbv | 10.23 | 10.23 | | 9.8 | 0 | 0 | 0.104 | 1 | 50 | 104% | 70 | 130 | 0% | |
| cis-1,2-Dichloroethene | A | ppbv | 11.64 | 11.64 | | 9.8 | 0 | 0 | 0.107 | 1 | 50 | 119% | 70 | 130 | 0% | |
| cis-1,3-dichloropropene | A | ppbv | 11.58 | 11.58 | | 9.5 | 0 | 0 | 0.166 | 1 | 50 | 122% | 70 | 130 | 0% | |
| Cyclohexane | A | ppbv | 11.72 | 11.72 | | 9.8 | 0 | 0 | 0.684 | 2 | 50 | 120% | 70 | 130 | 0% | |
| Dichlorodifluoromethane | A | ppbv | 10.12 | 10.12 | | 9.2 | 0 | 0 | 0.086 | 1 | 50 | 110% | 70 | 130 | 0% | |
| Ethanol | A | ppbv | 9.67 | 9.67 | | 9.2 | 0 | 0 | 1.962 | 5 | 50 | 105% | 70 | 130 | 0% | |
| Ethyl acetate | A | ppbv | 11.19 | 11.19 | | 9.8 | 0 | 0 | 0.157 | 1 | 50 | 114% | 70 | 130 | 0% | |
| Ethylbenzene | A | ppbv | 11.93 | 11.93 | | 9.8 | 0 | 0 | 0.737 | 2 | 50 | 122% | 70 | 130 | 0% | |
| Heptane | A | ppbv | 11.91 | 11.91 | | 9.9 | 0 | 0 | 0.249 | 1 | 50 | 120% | 70 | 130 | 0% | |
| Hexachlorobutadiene | A | ppbv | 10.28 | 10.28 | | 9.4 | 0 | 0 | 0.374 | 2 | 50 | 109% | 70 | 130 | 0% | |
| m,p-Xylene | A | ppbv | 23.68 | 23.68 | | 19.2 | 0 | 0 | 0.524 | 2 | 100 | 123% | 70 | 130 | 0% | |
| Methylene chloride | A | ppbv | 10.96 | 10.96 | | 10 | 0 | 0 | 2.077 | 5 | 50 | 110% | 70 | 130 | 0% | |
| n-Hexane | A | ppbv | 11.58 | 11.58 | | 10.1 | 0 | 0 | 0.692 | 2 | 50 | 115% | 70 | 130 | 0% | |
| Naphthalene | A | ppbv | 10.44 | 10.44 | | 9.2 | 0 | 0 | 0.247 | 1 | 50 | 113% | 70 | 130 | 0% | |
| o-Xylene | A | ppbv | 12.15 | 12.15 | | 10 | 0 | 0 | 0.258 | 1 | 50 | 122% | 70 | 130 | 0% | |
| Propylene | A | ppbv | 10.66 | 10.66 | | 10.2 | 0 | 0 | 0.075 | 1 | 50 | 105% | 70 | 130 | 0% | |

| Seq No | Sample ID | Test Code | Sample Typ | File ID | Analysis Date | DF | Batch ID | Prep Date | SPKref | RPDref | pmoist |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1081112 | ICV VOA1 122012 | EPA_TO15 | ICV | .1\DATA\122012F | 12/21/2012 4:58: | 1 | R54847 | | 0 | 0 | |

| Analyte | T | Units | RAW | Final | Text | Spike | SPKref | RPDref | MDL | PQL | UQL | %REC | LOW | HIGH | %RPD | Q |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Styrene | A | ppbv | 12.28 | 12.28 | | 9.8 | 0 | 0 | 0.263 | 1 | 50 | 125% | 70 | 130 | 0% | |
| tert-Butyl Methyl Ether | A | ppbv | 11.94 | 11.94 | | 9.9 | 0 | 0 | 0.228 | 1 | 50 | 121% | 70 | 130 | 0% | |
| Tetrachloroethene | A | ppbv | 11.45 | 11.45 | | 9.6 | 0 | 0 | 0.148 | 1 | 50 | 119% | 70 | 130 | 0% | |
| Tetrahydrofuran | A | ppbv | 11.72 | 11.72 | | 10 | 0 | 0 | 0.201 | 1 | 50 | 117% | 70 | 130 | 0% | |
| Toluene | A | ppbv | 11.93 | 11.93 | | 9.8 | 0 | 0 | 0.158 | 1 | 50 | 122% | 70 | 130 | 0% | |
| trans-1,2-Dichloroethene | A | ppbv | 11.27 | 11.27 | | 9.8 | 0 | 0 | 0.117 | 1 | 50 | 115% | 70 | 130 | 0% | |
| trans-1,3-dichloropropene | A | ppbv | 11.08 | 11.08 | | 9.1 | 0 | 0 | 0.171 | 1 | 50 | 122% | 70 | 130 | 0% | |
| Trichloroethene | A | ppbv | 11.45 | 11.45 | | 9.6 | 0 | 0 | 0.119 | 1 | 50 | 119% | 70 | 130 | 0% | |
| Trichlorofluoromethane | A | ppbv | 10.65 | 10.65 | | 9.6 | 0 | 0 | 0.148 | 1 | 50 | 111% | 70 | 130 | 0% | |
| Vinyl acetate | A | ppbv | 12.01 | 12.01 | | 9.9 | 0 | 0 | 0.266 | 1 | 50 | 121% | 70 | 130 | 0% | |
| Vinyl chloride | A | ppbv | 10.34 | 10.34 | | 9.4 | 0 | 0 | 0.072 | 1 | 50 | 110% | 70 | 130 | 0% | |
| Xylenes, Total | C | ppbv | 35.83 | 35.83 | | 29.2 | 0 | 0 | 0.782 | 3 | 150 | 123% | 70 | 130 | 0% | |
| 1,4-Difluorobenzene | I | ppbv | 12.5 | 12.5 | | 12.5 | 0 | 0 | 0 | 0 | 0 | 100% | | | 0% | |
| Bromochloromethane | I | ppbv | 12.5 | 12.5 | | 12.5 | 0 | 0 | 0 | 0 | 0 | 100% | | | 0% | |
| Chlorobenzene-d5 | I | ppbv | 12.5 | 12.5 | | 12.5 | 0 | 0 | 0 | 0 | 0 | 100% | | | 0% | |
| 4-Bromofluorobenzene | S | ppbv | 12.35 | 12.35 | | 12.5 | 0 | 0 | 0 | 0 | 0 | 99% | 70 | 130 | 0% | |

| Seq No | Sample ID | Test Code | Sample Typ | File ID | Analysis Date | DF | Batch ID | Prep Date | SPKref | RPDref | pmoist |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1081113 | RLVS VOA1 122012 | EPA_TO15 | RLVS | .1\DATA\122012F | 12/21/2012 5:41: | 1 | R54847 | | 0 | 0 | |

| Analyte | T | Units | RAW | Final | Text | Spike | SPKref | RPDref | MDL | PQL | UQL | %REC | LOW | HIGH | %RPD | Q |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | A | ppbv | 1.02 | 1.02 | | 0.996 | 0 | 0 | 0.107 | 1 | 50 | 102% | 70 | 130 | 0% | |
| 1,1,2,2-Tetrachloroethane | A | ppbv | 1.21 | 1.21 | | 1 | 0 | 0 | 0.211 | 1 | 50 | 121% | 70 | 130 | 0% | |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | A | ppbv | 1.06 | 1.06 | | 0.98 | 0 | 0 | 0.108 | 1 | 50 | 108% | 70 | 130 | 0% | |
| 1,1,2-Trichloroethane | A | ppbv | 1.12 | 1.12 | | 0.98 | 0 | 0 | 0.2 | 1 | 50 | 114% | 70 | 130 | 0% | |
| 1,1-Dichloroethane | A | ppbv | 1.03 | 1.03 | | 0.97 | 0 | 0 | 0.111 | 1 | 50 | 106% | 70 | 130 | 0% | |
| 1,1-Dichloroethene | A | ppbv | 1.01 | 1.01 | | 0.99 | 0 | 0 | 0.097 | 1 | 50 | 102% | 70 | 130 | 0% | |
| 1,2,4-Trichlorobenzene | A | ppbv | 1.25 | 1.25 | | 0.91 | 0 | 0 | 0.271 | 1 | 50 | 137% | 70 | 130 | 0% | S |
| 1,2,4-Trimethylbenzene | A | ppbv | 1.13 | 1.13 | | 0.98 | 0 | 0 | 0.245 | 1 | 50 | 115% | 70 | 130 | 0% | |
| 1,2-Dibromoethane | A | ppbv | 1.05 | 1.05 | | 0.96 | 0 | 0 | 0.186 | 1 | 50 | 109% | 70 | 130 | 0% | |
| 1,2-Dichlorobenzene | A | ppbv | 1.12 | 1.12 | | 0.97 | 0 | 0 | 0.208 | 1 | 50 | 115% | 70 | 130 | 0% | |
| 1,2-Dichloroethane | A | ppbv | 1.04 | 1.04 | | 0.97 | 0 | 0 | 0.196 | 1 | 50 | 107% | 70 | 130 | 0% | |
| 1,2-Dichloropropane | A | ppbv | 1.11 | 1.11 | | 0.98 | 0 | 0 | 0.224 | 1 | 50 | 113% | 70 | 130 | 0% | |

# Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\122012B\12201211.D  Vial: 2
Acq On : 21 Dec 2012 4:58 am  Operator: RACHEL HILL
Sample : ICV VOA1 122012  Inst : VOA 1
Misc : ICV EPA_TO15  Multiplr: 1.00
MS Integration Params: CLME.P

Method : C:\HPCHEM\1\METHODS\122012V1.M (RTE Integrator)
Title : TO15 ppbv
Last Update : Fri Dec 21 12:12:59 2012
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 200%

| | | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|---|
| 1 | I | Bromochloromethane | 1.000 | 1.000 | 0.0 | 110 | 0.00 |
| 2 | T | Propylene | 1.126 | 1.177 | -4.5 | 107 | 0.00 |
| 3 | T | Dichlorodifluoromethane | 3.845 | 4.231 | -10.0 | 110 | 0.00 |
| 4 | T | 1,2-Dichloro-1,2,2,2-tetraf | 2.599 | 2.889 | -11.2 | 109 | 0.00 |
| 5 | T | Chloromethane | 1.530 | 1.647 | -7.6 | 108 | 0.00 |
| 6 | T | Vinyl chloride | 1.825 | 2.007 | -10.0 | 108 | 0.00 |
| 7 | T | 1,3-Butadiene | 0.930 | 1.014 | -9.0 | 105 | 0.00 |
| 8 | T | Bromomethane | 1.376 | 1.658 | -20.5 | 111 | 0.00 |
| 9 | T | Chloroethane | 0.915 | 1.077 | -17.7 | 111 | 0.00 |
| 10 | T | Trichlorofluoromethane | 3.671 | 4.073 | -11.0 | 110 | 0.00 |
| 11 | T | Ethanol | 0.469 | 0.492 | -4.9 | 112 | 0.01 |
| 12 | T | Freon113 | 2.495 | 2.938 | -17.8 | 110 | 0.00 |
| 13 | T | 1,1-Dichloroethene | 2.300 | 2.631 | -14.4 | 110 | 0.00 |
| 14 | T | Acetone | 1.984 | 2.230 | -12.4 | 106 | 0.00 |
| 15 | T | Carbon disulfide | 3.443 | 3.977 | -15.5 | 113 | 0.00 |
| 16 | T | 2-Propanol | 2.035 | 2.251 | -10.6 | 109 | 0.00 |
| 17 | T | Methylene chloride | 1.618 | 1.774 | -9.6 | 106 | 0.00 |
| 18 | T | tert-Butyl Methyl Ether | 3.323 | 4.006 | -20.6 | 110 | 0.00 |
| 19 | T | trans-1,2-Dichloroethene | 2.107 | 2.423 | -15.0 | 109 | 0.00 |
| 20 | T | n-Hexane | 2.482 | 2.845 | -14.6 | 107 | 0.00 |
| 21 | T | 1,1-Dichloroethane | 2.670 | 3.127 | -17.1 | 109 | 0.00 |
| 22 | T | Vinyl acetate | 3.100 | 3.761 | -21.3 | 105 | 0.00 |
| 23 | T | cis-1,2-Dichloroethene | 1.350 | 1.603 | -18.7 | 111 | 0.00 |
| 24 | T | 2-Butanone | 1.983 | 2.340 | -18.0 | 103 | 0.00 |
| 25 | T | Ethyl acetate | 2.687 | 3.067 | -14.1 | 101 | 0.00 |
| 26 | T | Tetrahydrofuran | 1.233 | 1.445 | -17.2 | 104 | 0.00 |
| 27 | T | Chloroform | 2.441 | 2.849 | -16.7 | 108 | 0.00 |
| 28 | T | 1,1,1-Trichloroethane | 2.570 | 3.001 | -16.8 | 108 | 0.00 |
| 29 | T | Cyclohexane | 2.396 | 2.866 | -19.6 | 106 | 0.00 |
| 30 | T | Carbon tetrachloride | 2.747 | 3.196 | -16.3 | 109 | 0.00 |
| 31 | T | Benzene | 3.893 | 4.653 | -19.5 | 109 | 0.00 |
| 32 | T | 1,2-Dichloroethane | 1.751 | 2.048 | -17.0 | 106 | 0.00 |
| 33 | I | 1,4-Difluorobenzene | 1.000 | 1.000 | 0.0 | 112 | 0.00 |
| 34 | T | Heptane | 0.554 | 0.666 | -20.2 | 103 | 0.00 |
| 35 | T | Trichloroethene | 0.445 | 0.531 | -19.3 | 110 | 0.00 |
| 36 | T | 1,2-Dichloropropane | 0.428 | 0.520 | -21.5 | 110 | 0.00 |
| 37 | T | 1,4-Dioxane | 0.201 | 0.245 | -21.9 | 117 | 0.00 |
| 38 | T | Bromodichloromethane | 0.676 | 0.819 | -21.2 | 110 | 0.00 |
| 39 | T | cis-1,3-Dichloropropene | 0.584 | 0.712 | -21.9 | 110 | 0.00 |
| 40 | T | 4-Methyl-2-pentanone | 0.322 | 0.385 | -19.6 | 109 | 0.00 |
| 41 | T | Toluene | 1.140 | 1.388 | -21.8 | 110 | 0.00 |
| 42 | T | trans-1,3-Dichloropropene | 0.529 | 0.644 | -21.7 | 110 | 0.00 |
| 43 | T | 1,1,2-Trichloroethane | 0.397 | 0.476 | -19.9 | 109 | 0.00 |
| 44 | T | Tetrachloroethene | 0.561 | 0.669 | -19.3 | 109 | 0.00 |
| 45 | T | 2-Hexanone | 0.537 | 0.645 | -20.1 | 105 | 0.00 |
| 46 | T | Chlorodibromomethane | 0.645 | 0.777 | -20.5 | 107 | 0.00 |
| 47 | T | 1,2-Dibromoethane | 0.583 | 0.712 | -22.1 | 109 | 0.00 |
| 48 | I | Chlorobenzene-d5 | 1.000 | 1.000 | 0.0 | 110 | 0.00 |
| 49 | T | Chlorobenzene | 1.014 | 1.228 | -21.1 | 108 | 0.00 |
| 50 | T | Ethylbenzene | 1.662 | 2.023 | -21.7 | 108 | 0.00 |
| 51 | T | m,p-Xylene | 1.214 | 1.497 | -23.3 | 106 | 0.00 |
| 52 | T | o-Xylene | 1.279 | 1.554 | -21.5 | 107 | 0.00 |
| 53 | T | Styrene | 0.928 | 1.162 | -25.2 | 108 | 0.00 |
| 54 | T | Bromoform | 0.705 | 0.848 | -20.3 | 107 | 0.00 |
| 55 | S | 4-Bromofluorobenzene | 0.609 | 0.602 | 1.1 | 109 | 0.00 |

(#) = Out of Range

Data File : C:\HPCHEM\1\DATA\122012B\12201211.D Vial: 2
Acq On : 21 Dec 2012 4:58 am Operator: RACHEL HILL
Sample : ICV VOA1 122012 Inst : VOA 1
Misc : ICV EPA_TO15 Multiplr: 1.00
MS Integration Params: CLME.P

Method : C:\HPCHEM\1\METHODS\122012V1.M (RTE Integrator)
Title : TO15 ppbv
Last Update : Fri Dec 21 12:12:59 2012
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 200%

| | | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|---|
| 56 | T | 1,1,2,2-Tetrachloroethane | 0.872 | 1.039 | -19.2 | 106 | 0.00 |
| 57 | T | 4-Ethyltoluene | 1.629 | 1.944 | -19.3 | 107 | 0.00 |
| 58 | T | 1,3,5-Trimethylbenzene | 1.377 | 1.633 | -18.6 | 106 | 0.00 |
| 59 | T | 1,2,4-Trimethylbenzene | 1.285 | 1.518 | -18.1 | 106 | 0.00 |
| 60 | T | 1,3-Dichlorobenzene | 0.746 | 0.869 | -16.5 | 107 | 0.00 |
| 61 | T | 1,4-Dichlorobenzene | 0.707 | 0.822 | -16.3 | 107 | 0.00 |
| 62 | T | Benzyl chloride | 0.865 | 1.050 | -21.4 | 107 | 0.00 |
| 63 | T | 1,2-Dichlorobenzene | 0.638 | 0.729 | -14.3 | 106 | 0.00 |
| 64 | T | 1,2,4-Trichlorobenzene | 0.201 | 0.223 | -10.9 | 112 | 0.00 |
| 65 | T | Hexachlorobutadiene | 0.359 | 0.392 | -9.2 | 110 | 0.00 |
| 66 | | Naphthalene | 0.361 | 0.410 | -13.6 | 117 | 0.00 |

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\122012B\12201211.D Vial: 2
Acq On : 21 Dec 2012 4:58 am Operator: RACHEL HILL
Sample : ICV VOA1 122012 Inst : VOA 1
Misc : ICV EPA_TO15 Multiplr: 1.00
MS Integration Params: CLME.P
Quant Time: Dec 26 9:08 2012 Quant Results File: 122012V1.RES

Quant Method : C:\HPCHEM\1\METHODS\122012V1.M (RTE Integrator)
Title : TO15 ppbv
Last Update : Fri Dec 21 12:12:59 2012
Response via : Initial Calibration
DataAcq Meth : 122012V1

| Internal Standards | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 1) Bromochloromethane | 10.52 | 130 | 211510 | 12.50 | ppbv | 0.00 |
| 33) 1,4-Difluorobenzene | 11.62 | 114 | 822114 | 12.50 | ppbv | 0.00 |
| 48) Chlorobenzene-d5 | 15.47 | 117 | 661201 | 12.50 | ppbv | 0.00 |
| System Monitoring Compounds | | | | | | |
| 55) 4-Bromofluorobenzene | 17.12 | 95 | 397813 | 12.35 | ppbv | 0.00 |
| Spiked Amount 12.500 | Range 70 - 113 | | Recovery = 98.80% | | | |
| Target Compounds | | | | | | Qvalue |
| 2) Propylene | 5.44 | 41 | 203107 | 10.66 | ppbv | 99 |
| 3) Dichlorodifluoromethane | 5.52 | 85 | 658606 | 10.12 | ppbv | 99 |
| 4) 1,2-Dichloro-1,2,2,2-tetra | 5.77 | 135 | 464320 | 10.56 | ppbv # | 70 |
| 5) Chloromethane | 5.94 | 50 | 264778 | 10.23 | ppbv | 98 |
| 6) Vinyl chloride | 6.15 | 62 | 319286 | 10.34 | ppbv # | 96 |
| 7) 1,3-Butadiene | 6.20 | 39 | 168084 | 10.68 | ppbv # | 58 |
| 8) Bromomethane | 6.77 | 94 | 260889 | 11.20 | ppbv | 100 |
| 9) Chloroethane | 6.93 | 64 | 167630 | 10.83 | ppbv | 97 |
| 10) Trichlorofluoromethane | 7.26 | 101 | 661684 | 10.65 | ppbv | 99 |
| 11) Ethanol | 7.51 | 45 | 76642 | 9.67 | ppbv | 99 |
| 12) Freon113 | 7.92 | 101 | 487265 | 11.54 | ppbv | 90 |
| 13) 1,1-Dichloroethene | 8.02 | 61 | 440721 | 11.32 | ppbv | 89 |
| 14) Acetone | 8.12 | 43 | 377309 | 11.24 | ppbv # | 85 |
| 15) Carbon disulfide | 8.39 | 76 | 652723 | 11.20 | ppbv # | 100 |
| 16) 2-Propanol | 8.17 | 45 | 384775 | 11.17 | ppbv # | 1 |
| 17) Methylene chloride | 8.69 | 49 | 300181 | 10.96 | ppbv | 93 |
| 18) tert-Butyl Methyl Ether | 8.89 | 73 | 671118 | 11.94 | ppbv | 93 |
| 19) trans-1,2-Dichloroethene | 8.96 | 61 | 401805 | 11.27 | ppbv | 85 |
| 20) n-Hexane | 9.15 | 57 | 486270 | 11.58 | ppbv # | 81 |
| 21) 1,1-Dichloroethane | 9.53 | 63 | 513297 | 11.36 | ppbv | 96 |
| 22) Vinyl acetate | 9.46 | 43 | 629955 | 12.01 | ppbv | 99 |
| 23) cis-1,2-Dichloroethene | 10.21 | 96 | 265865 | 11.64 | ppbv # | 85 |
| 24) 2-Butanone | 10.18 | 43 | 391932 | 11.68 | ppbv # | 95 |
| 25) Ethyl acetate | 10.13 | 43 | 508632 | 11.19 | ppbv # | 99 |
| 26) Tetrahydrofuran | 10.52 | 42 | 244512 | 11.72 | ppbv | 96 |
| 27) Chloroform | 10.54 | 83 | 472370 | 11.43 | ppbv | 100 |
| 28) 1,1,1-Trichloroethane | 10.78 | 97 | 487535 | 11.21 | ppbv | 95 |
| 29) Cyclohexane | 10.79 | 56 | 475196 | 11.72 | ppbv # | 79 |
| 30) Carbon tetrachloride | 10.95 | 117 | 513674 | 11.05 | ppbv | 99 |
| 31) Benzene | 11.23 | 78 | 755824 | 11.47 | ppbv | 97 |
| 32) 1,2-Dichloroethane | 11.31 | 62 | 336120 | 11.34 | ppbv | 97 |
| 34) Heptane | 11.28 | 43 | 433932 | 11.91 | ppbv # | 90 |
| 35) Trichloroethene | 11.96 | 130 | 334956 | 11.45 | ppbv | 96 |
| 36) 1,2-Dichloropropane | 12.32 | 63 | 335411 | 11.92 | ppbv | 95 |
| 37) 1,4-Dioxane | 12.40 | 88 | 154817 | 11.71 | ppbv # | 87 |
| 38) Bromodichloromethane | 12.60 | 83 | 517329 | 11.64 | ppbv | 99 |
| 39) cis-1,3-Dichloropropene | 13.15 | 75 | 445138 | 11.58 | ppbv | 98 |
| 40) 4-Methyl-2-pentanone | 13.26 | 58 | 252922 | 11.93 | ppbv # | 91 |
| 41) Toluene | 13.56 | 91 | 894475 | 11.93 | ppbv | 99 |
| 42) trans-1,3-Dichloropropene | 13.87 | 75 | 385707 | 11.08 | ppbv | 98 |
| 43) 1,1,2-Trichloroethane | 14.14 | 97 | 306570 | 11.75 | ppbv | 98 |
| 44) Tetrachloroethene | 14.26 | 166 | 422389 | 11.45 | ppbv | 98 |
| 45) 2-Hexanone | 14.34 | 43 | 415863 | 11.79 | ppbv | 78 |
| 46) Chlorodibromomethane | 14.68 | 129 | 500690 | 11.81 | ppbv | 98 |
| 47) 1,2-Dibromoethane | 14.92 | 107 | 449327 | 11.72 | ppbv | 99 |
| 49) Chlorobenzene | 15.51 | 112 | 643250 | 11.99 | ppbv | 97 |
| 50) Ethylbenzene | 15.55 | 91 | 1048740 | 11.93 | ppbv | 97 |
| 51) m,p-Xylene | 15.71 | 91 | 1520339 | 23.68 | ppbv | 95 |
| 52) o-Xylene | 16.30 | 91 | 822161 | 12.15 | ppbv | 95 |

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\122012B\12201211.D Vial: 2
Acq On : 21 Dec 2012 4:58 am Operator: RACHEL HILL
Sample : ICV VOA1 122012 Inst : VOA 1
Misc : ICV EPA_TO15 Multiplr: 1.00
MS Integration Params: CLME.P
Quant Time: Dec 26 9:08 2012 Quant Results File: 122012V1.RES

Quant Method : C:\HPCHEM\1\METHODS\122012V1.M (RTE Integrator)
Title : TO15 ppbv
Last Update : Fri Dec 21 12:12:59 2012
Response via : Initial Calibration
DataAcq Meth : 122012V1

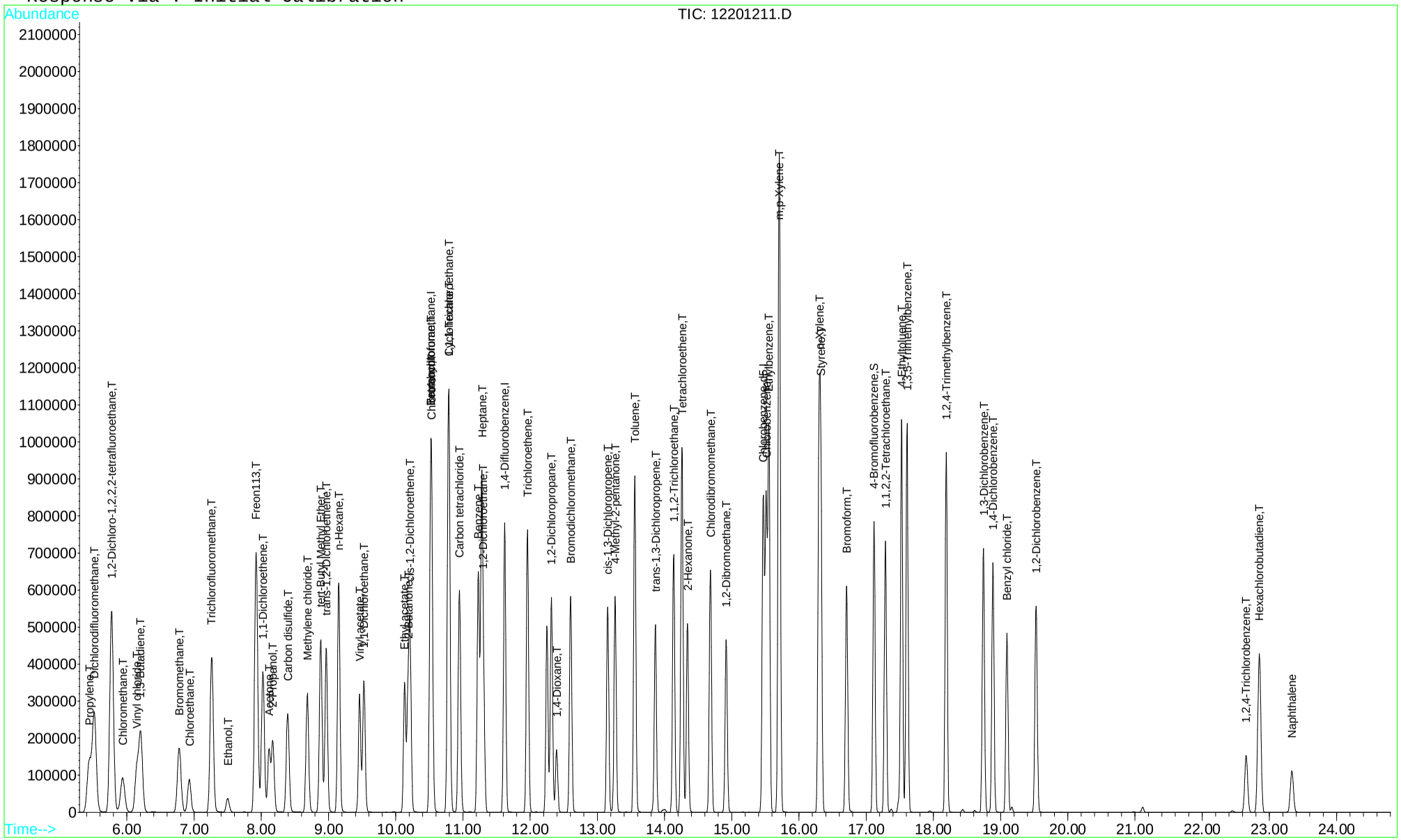
| | Compound | R.T. | QIon | Response | Conc | Unit | Qvalue |
|---|---|---|---|---|---|---|---|
| 53) | Styrene | 16.33 | 104 | 602601 | 12.28 | ppbv | 98 |
| 54) | Bromoform | 16.71 | 173 | 430853 | 11.55 | ppbv | 99 |
| 56) | 1,1,2,2-Tetrachloroethane | 17.29 | 83 | 549675 | 11.91 | ppbv | 99 |
| 57) | 4-Ethyltoluene | 17.53 | 105 | 1007510 | 11.69 | ppbv | 98 |
| 58) | 1,3,5-Trimethylbenzene | 17.61 | 105 | 837941 | 11.50 | ppbv | 98 |
| 59) | 1,2,4-Trimethylbenzene | 18.19 | 105 | 786966 | 11.58 | ppbv | 99 |
| 60) | 1,3-Dichlorobenzene | 18.75 | 146 | 445636 | 11.29 | ppbv | 98 |
| 61) | 1,4-Dichlorobenzene | 18.89 | 146 | 417304 | 11.15 | ppbv | 98 |
| 62) | Benzyl chloride | 19.10 | 91 | 538556 | 11.77 | ppbv | 99 |
| 63) | 1,2-Dichlorobenzene | 19.53 | 146 | 374067 | 11.09 | ppbv | 97 |
| 64) | 1,2,4-Trichlorobenzene | 22.66 | 180 | 107184 | 10.08 | ppbv | 98 |
| 65) | Hexachlorobutadiene | 22.86 | 225 | 195053 | 10.28 | ppbv | 99 |
| 66) | Naphthalene | 23.33 | 128 | 199657 | 10.44 | ppbv | 99 |

(#) = qualifier out of range (m) = manual integration

# Quantitation Report

Data File : C:\HPCHEM\1\DATA\122012B\12201211.D  Vial: 2
Acq On : 21 Dec 2012 4:58 am  Operator: RACHEL HILL
Sample : ICV VOA1 122012  Inst : VOA 1
Misc : ICV EPA_TO15  Multiplr: 1.00
MS Integration Params: CLME.P
Quant Time: Dec 26 9:08 2012  Quant Results File: 122012V1.RES

Method : C:\HPCHEM\1\METHODS\122012V1.M (RTE Integrator)
Title : TO15 ppbv
Last Update : Fri Dec 21 12:12:59 2012
Response via : Initial Calibration



# Injection Log

Directory: C:\HPCHEM\1\DATA\122612

| Line | Vial | FileName | Multiplier | SampleName | Misc Info | Injected |
|---|---|---|---|---|---|---|
| 1 | 1 | 12261201.d | 1. | BFB VOA1 122612 | TUNE BFB_TUNE | 26 Dec 2012 09:20 |
| 2 | 2 | 12261202.d | 1. | CCV VOA1 122612 | CCV EPA_TO15 | 26 Dec 2012 10:35 |
| 3 | 3 | 12261203.d | 1. | RLVS VOA1 122612 | RLVS EPA_TO15 | 26 Dec 2012 11:22 |
| 4 | 4 | 12261204.d | 1. | MBLK/DBV42 CC VOA1 122612 | DATA NOT USED | 26 Dec 2012 12:11 |
| 5 | 5 | 12261205.d | 1. | MBLK/DBV37 CC VOA1 122612 | MBLK EPA_TO15 | 26 Dec 2012 14:16 |
| 6 | 6 | 12261206.d | 1600. | 1212373-045A | SAMP EPA_TO15 | 26 Dec 2012 14:59 |
| 7 | 7 | 12261207.d | 8000. | 1212373-004A | DATA NOT USED | 26 Dec 2012 15:41 |
| 8 | 3 | 12261208.d | 800. | 1212373-011A | SAMP EPA_TO15 | 26 Dec 2012 16:27 |
| 9 | 3 | 12261209.d | 800. | 1212373-011A | DATA NOT USED | 26 Dec 2012 17:11 |
| 10 | 4 | 12261210.d | 1. | 1212437-042A | SAMP EPA_TO15 | 26 Dec 2012 18:00 |
| 11 | 6 | 12261211.d | 400. | 1212437-029A | SAMP EPA_TO15 | 26 Dec 2012 18:49 |
| 12 | 7 | 12261212.d | 40. | 1212437-030A | SAMP EPA_TO15 | 26 Dec 2012 19:31 |
| 13 | 8 | 12261213.d | 40. | 1212437-031A | SAMP EPA_TO15 | 26 Dec 2012 20:12 |
| 14 | 9 | 12261214.d | 40. | 1212437-032A | SAMP EPA_TO15 | 26 Dec 2012 20:54 |
| 15 | 10 | 12261215.d | 40. | 1212437-033A | SAMP EPA_TO15 | 26 Dec 2012 21:36 |
| 16 | 11 | 12261216.d | 800. | 1212437-034A | SAMP EPA_TO15 | 26 Dec 2012 22:21 |
| 17 | 11 | 12261217.d | 800. | 1212437-034ADUP | DUP EPA_TO15 | 26 Dec 2012 23:06 |
| 18 | 12 | 12261218.d | 40. | 1212437-006A | SAMP EPA_TO15 | 26 Dec 2012 23:47 |
| 19 | 13 | 12261219.d | 400. | 1212437-012A | DATA NOT USED | 27 Dec 2012 00:36 |
| 20 | 14 | 12261220.d | 40. | 1212437-008A | SAMP EPA_TO15 | 27 Dec 2012 01:18 |
| 21 | 15 | 12261221.d | 40. | 1212437-007A | SAMP EPA_TO15 | 27 Dec 2012 02:00 |
| 22 | 16 | 12261222.d | 400. | 1212437-013A | DATA NOT USED | 27 Dec 2012 02:48 |
| 23 | 17 | 12261223.d | 40. | 1212437-009A | SAMP EPA_TO15 | 27 Dec 2012 03:30 |
| 24 | 18 | 12261224.d | 40. | 1212437-014A | SAMP EPA_TO15 | 27 Dec 2012 04:11 |
| 25 | 3 | 12261225.d | 1. | RLVS2 VOA1 122612 | RLVS EPA_TO15 | 27 Dec 2012 04:54 |

# RTI Laboratories

# ANALYTICAL RUN Summary

*03-Jan-13*

**RunNo** 54892

| Seq No | Sample ID | Test Code | Sample Typ | File ID | Analysis Date | DF | Batch ID | Prep Date | SPKref | RPDref | pmoist |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1082101 | BFB VOA1 122612 | BFB_TUNE | TUNE | \\1\DATA\122612\ | 12/26/2012 9:20: | 1 | R54892 | | 0 | 0 | |

| Analyte | T | Units | RAW | Final | Text | Spike | SPKref | RPDref | MDL | PQL | UQL | %REC | LOW | HIGH | %RPD | Q |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 173 | M | | 0.6 | 0.6 | | 100 | 0 | 0 | 0 | 0 | 0 | 1% | 0 | 2 | 0% | |
| 174 | M | | 80.9 | 80.9 | | 100 | 0 | 0 | 0 | 0 | 0 | 81% | 50 | 200 | 0% | |
| 175 | M | | 7.2 | 7.2 | | 100 | 0 | 0 | 0 | 0 | 0 | 7% | 4 | 9 | 0% | |
| 176 | M | | 96.1 | 96.1 | | 100 | 0 | 0 | 0 | 0 | 0 | 96% | 93 | 101 | 0% | |
| 177 | M | | 6.4 | 6.4 | | 100 | 0 | 0 | 0 | 0 | 0 | 6% | 5 | 9 | 0% | |
| 50 | M | | 18.4 | 18.4 | | 100 | 0 | 0 | 0 | 0 | 0 | 18% | 8 | 40 | 0% | |
| 75 | M | | 45.7 | 45.7 | | 100 | 0 | 0 | 0 | 0 | 0 | 46% | 30 | 66 | 0% | |
| 95 | M | | 100 | 100 | | 100 | 0 | 0 | 0 | 0 | 0 | 100% | 100 | 100 | 0% | |
| 96 | M | | 6.7 | 6.7 | | 100 | 0 | 0 | 0 | 0 | 0 | 7% | 5 | 9 | 0% | |

| Seq No | Sample ID | Test Code | Sample Typ | File ID | Analysis Date | DF | Batch ID | Prep Date | SPKref | RPDref | pmoist |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1082102 | CCV VOA1 122612 | EPA_TO15 | CCV | \\1\DATA\122612\ | 12/26/2012 10:3 | 1 | R54892 | | 0 | 0 | |

| Analyte | T | Units | RAW | Final | Text | Spike | SPKref | RPDref | MDL | PQL | UQL | %REC | LOW | HIGH | %RPD | Q |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | A | ppbv | 10.62 | 10.62 | | 9.6 | 0 | 0 | 0.107 | 1 | 50 | 111% | 70 | 130 | 0% | |
| 1,1,2,2-Tetrachloroethane | A | ppbv | 11.24 | 11.24 | | 10 | 0 | 0 | 0.211 | 1 | 50 | 112% | 70 | 130 | 0% | |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | A | ppbv | 10.69 | 10.69 | | 9.8 | 0 | 0 | 0.108 | 1 | 50 | 109% | 70 | 130 | 0% | |
| 1,1,2-Trichloroethane | A | ppbv | 11.01 | 11.01 | | 9.8 | 0 | 0 | 0.2 | 1 | 50 | 112% | 70 | 130 | 0% | |
| 1,1-Dichloroethane | A | ppbv | 10.54 | 10.54 | | 9.7 | 0 | 0 | 0.111 | 1 | 50 | 109% | 70 | 130 | 0% | |
| 1,1-Dichloroethene | A | ppbv | 10.6 | 10.6 | | 9.9 | 0 | 0 | 0.097 | 1 | 50 | 107% | 70 | 130 | 0% | |
| 1,2,4-Trichlorobenzene | A | ppbv | 9.61 | 9.61 | | 9.1 | 0 | 0 | 0.271 | 1 | 50 | 106% | 70 | 130 | 0% | |
| 1,2,4-Trimethylbenzene | A | ppbv | 10.96 | 10.96 | | 9.8 | 0 | 0 | 0.245 | 1 | 50 | 112% | 70 | 130 | 0% | |
| 1,2-Dibromoethane | A | ppbv | 10.83 | 10.83 | | 9.6 | 0 | 0 | 0.186 | 1 | 50 | 113% | 70 | 130 | 0% | |
| 1,2-Dichlorobenzene | A | ppbv | 10.44 | 10.44 | | 9.7 | 0 | 0 | 0.208 | 1 | 50 | 108% | 70 | 130 | 0% | |
| 1,2-Dichloroethane | A | ppbv | 10.74 | 10.74 | | 9.7 | 0 | 0 | 0.196 | 1 | 50 | 111% | 70 | 130 | 0% | |
| 1,2-Dichloropropane | A | ppbv | 11.08 | 11.08 | | 9.8 | 0 | 0 | 0.224 | 1 | 50 | 113% | 70 | 130 | 0% | |
| 1,3,5-Trimethylbenzene | A | ppbv | 10.93 | 10.93 | | 9.7 | 0 | 0 | 0.24 | 1 | 50 | 113% | 70 | 130 | 0% | |
| 1,3-Butadiene | A | ppbv | 11.47 | 11.47 | | 9.8 | 0 | 0 | 0.152 | 1 | 50 | 117% | 70 | 130 | 0% | |
| 1,3-Dichlorobenzene | A | ppbv | 10.43 | 10.43 | | 9.7 | 0 | 0 | 0.202 | 1 | 50 | 108% | 70 | 130 | 0% | |

| Seq No | Sample ID | Test Code | Sample Typ | File ID | Analysis Date | DF | Batch ID | Prep Date | SPKref | RPDref | pmoist |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1082102 | CCV VOA1 122612 | EPA_TO15 | CCV | \1\DATA\122612\ | 12/26/2012 10:3 | 1 | R54892 | | 0 | 0 | |

| Analyte | T | Units | RAW | Final | Text | Spike | SPKref | RPDref | MDL | PQL | UQL | %REC | LOW | HIGH | %RPD | Q |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,4-Dichlorobenzene | A | ppbv | 10.31 | 10.31 | | 9.6 | 0 | 0 | 0.194 | 1 | 50 | 107% | 70 | 130 | 0% | |
| 1,4-Dioxane | A | ppbv | 10.39 | 10.39 | | 9.6 | 0 | 0 | 0.128 | 1 | 50 | 108% | 70 | 130 | 0% | |
| 2-Butanone | A | ppbv | 10.94 | 10.94 | | 9.9 | 0 | 0 | 0.287 | 1 | 50 | 111% | 70 | 130 | 0% | |
| 2-Hexanone | A | ppbv | 11.3 | 11.3 | | 9.8 | 0 | 0 | 0.135 | 1 | 50 | 115% | 70 | 130 | 0% | |
| 2-Propanol | A | ppbv | 10.67 | 10.67 | | 10.1 | 0 | 0 | 0.329 | 1 | 50 | 106% | 70 | 130 | 0% | |
| 4-Methyl-2-pentanone | A | ppbv | 11 | 11 | | 10 | 0 | 0 | 0.157 | 1 | 50 | 110% | 70 | 130 | 0% | |
| Acetone | A | ppbv | 10.87 | 10.87 | | 10 | 0 | 0 | 0.43 | 1 | 50 | 109% | 70 | 130 | 0% | |
| Benzene | A | ppbv | 10.28 | 10.28 | | 9.6 | 0 | 0 | 0.126 | 1 | 50 | 107% | 70 | 130 | 0% | |
| Benzyl chloride | A | ppbv | 11.08 | 11.08 | | 9.7 | 0 | 0 | 0.155 | 1 | 50 | 114% | 70 | 130 | 0% | |
| Bromodichloromethane | A | ppbv | 10.99 | 10.99 | | 9.6 | 0 | 0 | 0.156 | 1 | 50 | 114% | 70 | 130 | 0% | |
| Bromoform | A | ppbv | 11.01 | 11.01 | | 9.6 | 0 | 0 | 0.197 | 1 | 50 | 115% | 70 | 130 | 0% | |
| Bromomethane | A | ppbv | 10.93 | 10.93 | | 9.3 | 0 | 0 | 0.075 | 1 | 50 | 118% | 70 | 130 | 0% | |
| Carbon disulfide | A | ppbv | 10.16 | 10.16 | | 9.7 | 0 | 0 | 0.093 | 1 | 50 | 105% | 70 | 130 | 0% | |
| Carbon tetrachloride | A | ppbv | 10.4 | 10.4 | | 9.5 | 0 | 0 | 0.114 | 1 | 50 | 109% | 70 | 130 | 0% | |
| Chlorobenzene | A | ppbv | 11.21 | 11.21 | | 9.9 | 0 | 0 | 0.275 | 1 | 50 | 113% | 70 | 130 | 0% | |
| Chlorodibromomethane | A | ppbv | 11.23 | 11.23 | | 9.2 | 0 | 0 | 0.165 | 1 | 50 | 122% | 70 | 130 | 0% | |
| Chloroethane | A | ppbv | 10.06 | 10.06 | | 9.8 | 0 | 0 | 0.063 | 1 | 50 | 103% | 70 | 130 | 0% | |
| Chloroform | A | ppbv | 10.85 | 10.85 | | 9.4 | 0 | 0 | 0.126 | 1 | 50 | 115% | 70 | 130 | 0% | |
| Chloromethane | A | ppbv | 10.13 | 10.13 | | 9.8 | 0 | 0 | 0.104 | 1 | 50 | 103% | 70 | 130 | 0% | |
| cis-1,2-Dichloroethene | A | ppbv | 10.66 | 10.66 | | 9.8 | 0 | 0 | 0.107 | 1 | 50 | 109% | 70 | 130 | 0% | |
| cis-1,3-dichloropropene | A | ppbv | 10.77 | 10.77 | | 9.5 | 0 | 0 | 0.166 | 1 | 50 | 113% | 70 | 130 | 0% | |
| Cyclohexane | A | ppbv | 11.17 | 11.17 | | 9.8 | 0 | 0 | 0.684 | 2 | 50 | 114% | 70 | 130 | 0% | |
| Dichlorodifluoromethane | A | ppbv | 10 | 10 | | 9.2 | 0 | 0 | 0.086 | 1 | 50 | 109% | 70 | 130 | 0% | |
| Ethanol | A | ppbv | 8.99 | 8.99 | | 9.2 | 0 | 0 | 1.962 | 5 | 50 | 98% | 70 | 130 | 0% | |
| Ethyl acetate | A | ppbv | 10.46 | 10.46 | | 9.8 | 0 | 0 | 0.157 | 1 | 50 | 107% | 70 | 130 | 0% | |
| Ethylbenzene | A | ppbv | 11.32 | 11.32 | | 9.8 | 0 | 0 | 0.737 | 2 | 50 | 116% | 70 | 130 | 0% | |
| Heptane | A | ppbv | 12.1 | 12.1 | | 9.9 | 0 | 0 | 0.249 | 1 | 50 | 122% | 70 | 130 | 0% | |
| Hexachlorobutadiene | A | ppbv | 10.2 | 10.2 | | 9.4 | 0 | 0 | 0.374 | 2 | 50 | 109% | 70 | 130 | 0% | |
| m,p-Xylene | A | ppbv | 22.94 | 22.94 | | 19.2 | 0 | 0 | 0.524 | 2 | 100 | 119% | 70 | 130 | 0% | |
| Methylene chloride | A | ppbv | 10.5 | 10.5 | | 10 | 0 | 0 | 2.077 | 5 | 50 | 105% | 70 | 130 | 0% | |
| n-Hexane | A | ppbv | 10.84 | 10.84 | | 10.1 | 0 | 0 | 0.692 | 2 | 50 | 107% | 70 | 130 | 0% | |
| Naphthalene | A | ppbv | 10.05 | 10.05 | | 9.2 | 0 | 0 | 0.247 | 1 | 50 | 109% | 70 | 130 | 0% | |
| o-Xylene | A | ppbv | 11.6 | 11.6 | | 10 | 0 | 0 | 0.258 | 1 | 50 | 116% | 70 | 130 | 0% | |
| Propylene | A | ppbv | 10.38 | 10.38 | | 10.2 | 0 | 0 | 0.075 | 1 | 50 | 102% | 70 | 130 | 0% | |

| Seq No | Sample ID | Test Code | Sample Typ | File ID | Analysis Date | DF | Batch ID | Prep Date | SPKref | RPDref | pmoist |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1082102 | CCV VOA1 122612 | EPA_TO15 | CCV | [\1\DATA\122612`12/26/2012 10:3 | | 1 | R54892 | | 0 | 0 | |

| Analyte | T | Units | RAW | Final | Text | Spike | SPKref | RPDref | MDL | PQL | UQL | %REC | LOW | HIGH | %RPD | Q |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Styrene | A | ppbv | 11.68 | 11.68 | | 9.8 | 0 | 0 | 0.263 | 1 | 50 | 119% | 70 | 130 | 0% | |
| tert-Butyl Methyl Ether | A | ppbv | 10.72 | 10.72 | | 9.9 | 0 | 0 | 0.228 | 1 | 50 | 108% | 70 | 130 | 0% | |
| Tetrachloroethene | A | ppbv | 10.98 | 10.98 | | 9.6 | 0 | 0 | 0.148 | 1 | 50 | 114% | 70 | 130 | 0% | |
| Tetrahydrofuran | A | ppbv | 11.4 | 11.4 | | 10 | 0 | 0 | 0.201 | 1 | 50 | 114% | 70 | 130 | 0% | |
| Toluene | A | ppbv | 11.12 | 11.12 | | 9.8 | 0 | 0 | 0.158 | 1 | 50 | 113% | 70 | 130 | 0% | |
| trans-1,2-Dichloroethene | A | ppbv | 10.58 | 10.58 | | 9.8 | 0 | 0 | 0.117 | 1 | 50 | 108% | 70 | 130 | 0% | |
| trans-1,3-dichloropropene | A | ppbv | 10.32 | 10.32 | | 9.1 | 0 | 0 | 0.171 | 1 | 50 | 113% | 70 | 130 | 0% | |
| Trichloroethene | A | ppbv | 10.95 | 10.95 | | 9.6 | 0 | 0 | 0.119 | 1 | 50 | 114% | 70 | 130 | 0% | |
| Trichlorofluoromethane | A | ppbv | 10.13 | 10.13 | | 9.6 | 0 | 0 | 0.148 | 1 | 50 | 106% | 70 | 130 | 0% | |
| Vinyl acetate | A | ppbv | 11.17 | 11.17 | | 9.9 | 0 | 0 | 0.266 | 1 | 50 | 113% | 70 | 130 | 0% | |
| Vinyl chloride | A | ppbv | 10.6 | 10.6 | | 9.4 | 0 | 0 | 0.072 | 1 | 50 | 113% | 70 | 130 | 0% | |
| Xylenes, Total | C | ppbv | 34.54 | 34.54 | | 29.2 | 0 | 0 | 0.782 | 3 | 150 | 118% | 70 | 130 | 0% | |
| 1,4-Difluorobenzene | I | ppbv | 12.5 | 12.5 | | 12.5 | 0 | 0 | 0 | 0 | 0 | 100% | | | 0% | |
| Bromochloromethane | I | ppbv | 12.5 | 12.5 | | 12.5 | 0 | 0 | 0 | 0 | 0 | 100% | | | 0% | |
| Chlorobenzene-d5 | I | ppbv | 12.5 | 12.5 | | 12.5 | 0 | 0 | 0 | 0 | 0 | 100% | | | 0% | |
| 4-Bromofluorobenzene | S | ppbv | 12.25 | 12.25 | | 12.5 | 0 | 0 | 0 | 0 | 0 | 98% | 70 | 130 | 0% | |

| Seq No | Sample ID | Test Code | Sample Typ | File ID | Analysis Date | DF | Batch ID | Prep Date | SPKref | RPDref | pmoist |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1082103 | RLVS VOA1 122612 | EPA_TO15 | RLVS | [\1\DATA\122612`12/26/2012 11:2 | | 1 | R54892 | | 0 | 0 | |

| Analyte | T | Units | RAW | Final | Text | Spike | SPKref | RPDref | MDL | PQL | UQL | %REC | LOW | HIGH | %RPD | Q |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | A | ppbv | 0.97 | 0.97 | | 0.996 | 0 | 0 | 0.107 | 1 | 50 | 97% | 70 | 130 | 0% | |
| 1,1,2,2-Tetrachloroethane | A | ppbv | 1.12 | 1.12 | | 1 | 0 | 0 | 0.211 | 1 | 50 | 112% | 70 | 130 | 0% | |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | A | ppbv | 0.99 | 0.99 | | 0.98 | 0 | 0 | 0.108 | 1 | 50 | 101% | 70 | 130 | 0% | |
| 1,1,2-Trichloroethane | A | ppbv | 1.01 | 1.01 | | 0.98 | 0 | 0 | 0.2 | 1 | 50 | 103% | 70 | 130 | 0% | |
| 1,1-Dichloroethane | A | ppbv | 0.95 | 0.95 | | 0.97 | 0 | 0 | 0.111 | 1 | 50 | 98% | 70 | 130 | 0% | |
| 1,1-Dichloroethene | A | ppbv | 0.96 | 0.96 | | 0.99 | 0 | 0 | 0.097 | 1 | 50 | 97% | 70 | 130 | 0% | |
| 1,2,4-Trichlorobenzene | A | ppbv | 1.12 | 1.12 | | 0.91 | 0 | 0 | 0.271 | 1 | 50 | 123% | 70 | 130 | 0% | |
| 1,2,4-Trimethylbenzene | A | ppbv | 1.06 | 1.06 | | 0.98 | 0 | 0 | 0.245 | 1 | 50 | 108% | 70 | 130 | 0% | |
| 1,2-Dibromoethane | A | ppbv | 0.95 | 0.95 | | 0.96 | 0 | 0 | 0.186 | 1 | 50 | 99% | 70 | 130 | 0% | |
| 1,2-Dichlorobenzene | A | ppbv | 1.06 | 1.06 | | 0.97 | 0 | 0 | 0.208 | 1 | 50 | 109% | 70 | 130 | 0% | |
| 1,2-Dichloroethane | A | ppbv | 1.01 | 1.01 | | 0.97 | 0 | 0 | 0.196 | 1 | 50 | 104% | 70 | 130 | 0% | |
| 1,2-Dichloropropane | A | ppbv | 1.02 | 1.02 | | 0.98 | 0 | 0 | 0.224 | 1 | 50 | 104% | 70 | 130 | 0% | |

# Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\122612\12261202.D  Vial: 2
Acq On : 26 Dec 2012 10:35 am  Operator: RACHEL HILL
Sample : CCV VOA1 122612  Inst : VOA 1
Misc : CCV EPA_TO15  Multiplr: 1.00
MS Integration Params: CLME.P

Method : C:\HPCHEM\1\METHODS\122012V1.M (RTE Integrator)
Title : TO15 ppbv
Last Update : Fri Dec 21 12:12:59 2012
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 200%

| | | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|---|
| 1 | I | Bromochloromethane | 1.000 | 1.000 | 0.0 | 115 | 0.00 |
| 2 | T | Propylene | 1.126 | 1.146 | -1.8 | 109 | -0.01 |
| 3 | T | Dichlorodifluoromethane | 3.845 | 4.180 | -8.7 | 114 | 0.00 |
| 4 | T | 1,2-Dichloro-1,2,2,2-tetraf | 2.599 | 2.822 | -8.6 | 111 | 0.00 |
| 5 | T | Chloromethane | 1.530 | 1.631 | -6.6 | 112 | 0.00 |
| 6 | T | Vinyl chloride | 1.825 | 2.058 | -12.8 | 115 | 0.00 |
| 7 | T | 1,3-Butadiene | 0.930 | 1.089 | -17.1 | 118 | 0.00 |
| 8 | T | Bromomethane | 1.376 | 1.618 | -17.6 | 114 | 0.00 |
| 9 | T | Chloroethane | 0.915 | 1.001 | -9.4 | 108 | 0.00 |
| 10 | T | Trichlorofluoromethane | 3.671 | 3.875 | -5.6 | 109 | 0.00 |
| 11 | T | Ethanol | 0.469 | 0.458 | 2.3 | 109 | 0.00 |
| 12 | T | Freon113 | 2.495 | 2.721 | -9.1 | 107 | 0.00 |
| 13 | T | 1,1-Dichloroethene | 2.300 | 2.462 | -7.0 | 108 | 0.00 |
| 14 | T | Acetone | 1.984 | 2.156 | -8.7 | 107 | 0.00 |
| 15 | T | Carbon disulfide | 3.443 | 3.605 | -4.7 | 107 | 0.00 |
| 16 | T | 2-Propanol | 2.035 | 2.151 | -5.7 | 109 | 0.00 |
| 17 | T | Methylene chloride | 1.618 | 1.699 | -5.0 | 106 | 0.00 |
| 18 | T | tert-Butyl Methyl Ether | 3.323 | 3.596 | -8.2 | 104 | 0.00 |
| 19 | T | trans-1,2-Dichloroethene | 2.107 | 2.276 | -8.0 | 107 | 0.00 |
| 20 | T | n-Hexane | 2.482 | 2.663 | -7.3 | 105 | 0.00 |
| 21 | T | 1,1-Dichloroethane | 2.670 | 2.902 | -8.7 | 106 | 0.00 |
| 22 | T | Vinyl acetate | 3.100 | 3.500 | -12.9 | 102 | 0.00 |
| 23 | T | cis-1,2-Dichloroethene | 1.350 | 1.469 | -8.8 | 106 | 0.00 |
| 24 | T | 2-Butanone | 1.983 | 2.192 | -10.5 | 100 | 0.00 |
| 25 | T | Ethyl acetate | 2.687 | 2.868 | -6.7 | 99 | 0.00 |
| 26 | T | Tetrahydrofuran | 1.233 | 1.405 | -13.9 | 106 | 0.00 |
| 27 | T | Chloroform | 2.441 | 2.704 | -10.8 | 108 | 0.00 |
| 28 | T | 1,1,1-Trichloroethane | 2.570 | 2.843 | -10.6 | 107 | 0.00 |
| 29 | T | Cyclohexane | 2.396 | 2.732 | -14.0 | 105 | 0.00 |
| 30 | T | Carbon tetrachloride | 2.747 | 3.006 | -9.4 | 107 | 0.00 |
| 31 | T | Benzene | 3.893 | 4.169 | -7.1 | 102 | 0.00 |
| 32 | T | 1,2-Dichloroethane | 1.751 | 1.940 | -10.8 | 105 | 0.00 |
| 33 | I | 1,4-Difluorobenzene | 1.000 | 1.000 | 0.0 | 114 | 0.00 |
| 34 | T | Heptane | 0.554 | 0.677 | -22.2 | 106 | 0.00 |
| 35 | T | Trichloroethene | 0.445 | 0.507 | -13.9 | 106 | 0.00 |
| 36 | T | 1,2-Dichloropropane | 0.428 | 0.484 | -13.1 | 103 | 0.00 |
| 37 | T | 1,4-Dioxane | 0.201 | 0.218 | -8.5 | 105 | 0.00 |
| 38 | T | Bromodichloromethane | 0.676 | 0.774 | -14.5 | 105 | 0.00 |
| 39 | T | cis-1,3-Dichloropropene | 0.584 | 0.663 | -13.5 | 104 | 0.00 |
| 40 | T | 4-Methyl-2-pentanone | 0.322 | 0.354 | -9.9 | 101 | 0.00 |
| 41 | T | Toluene | 1.140 | 1.293 | -13.4 | 104 | 0.00 |
| 42 | T | trans-1,3-Dichloropropene | 0.529 | 0.600 | -13.4 | 104 | 0.00 |
| 43 | T | 1,1,2-Trichloroethane | 0.397 | 0.446 | -12.3 | 104 | 0.00 |
| 44 | T | Tetrachloroethene | 0.561 | 0.641 | -14.3 | 105 | 0.00 |
| 45 | T | 2-Hexanone | 0.537 | 0.619 | -15.3 | 102 | 0.00 |
| 46 | T | Chlorodibromomethane | 0.645 | 0.739 | -14.6 | 103 | 0.00 |
| 47 | T | 1,2-Dibromoethane | 0.583 | 0.658 | -12.9 | 102 | 0.00 |
| 48 | I | Chlorobenzene-d5 | 1.000 | 1.000 | 0.0 | 113 | 0.00 |
| 49 | T | Chlorobenzene | 1.014 | 1.148 | -13.2 | 103 | 0.00 |
| 50 | T | Ethylbenzene | 1.662 | 1.919 | -15.5 | 104 | 0.00 |
| 51 | T | m,p-Xylene | 1.214 | 1.450 | -19.4 | 105 | 0.00 |
| 52 | T | o-Xylene | 1.279 | 1.484 | -16.0 | 104 | 0.00 |
| 53 | T | Styrene | 0.928 | 1.105 | -19.1 | 105 | 0.00 |
| 54 | T | Bromoform | 0.705 | 0.809 | -14.8 | 104 | 0.00 |
| 55 | S | 4-Bromofluorobenzene | 0.609 | 0.597 | 2.0 | 110 | 0.00 |

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\122612\12261202.D Vial: 2
Acq On : 26 Dec 2012 10:35 am Operator: RACHEL HILL
Sample : CCV VOA1 122612 Inst : VOA 1
Misc : CCV EPA_TO15 Multiplr: 1.00
MS Integration Params: CLME.P

Method : C:\HPCHEM\1\METHODS\122012V1.M (RTE Integrator)
Title : TO15 ppbv
Last Update : Fri Dec 21 12:12:59 2012
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 200%

| | | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|---|
| 56 | T | 1,1,2,2-Tetrachloroethane | 0.872 | 0.980 | -12.4 | 102 | 0.00 |
| 57 | T | 4-Ethyltoluene | 1.629 | 1.830 | -12.3 | 102 | 0.00 |
| 58 | T | 1,3,5-Trimethylbenzene | 1.377 | 1.552 | -12.7 | 103 | 0.00 |
| 59 | T | 1,2,4-Trimethylbenzene | 1.285 | 1.436 | -11.8 | 103 | 0.00 |
| 60 | T | 1,3-Dichlorobenzene | 0.746 | 0.802 | -7.5 | 101 | 0.00 |
| 61 | T | 1,4-Dichlorobenzene | 0.707 | 0.759 | -7.4 | 101 | 0.00 |
| 62 | T | Benzyl chloride | 0.865 | 0.988 | -14.2 | 103 | 0.00 |
| 63 | T | 1,2-Dichlorobenzene | 0.638 | 0.687 | -7.7 | 102 | 0.00 |
| 64 | T | 1,2,4-Trichlorobenzene | 0.201 | 0.212 | -5.5 | 109 | 0.00 |
| 65 | T | Hexachlorobutadiene | 0.359 | 0.389 | -8.4 | 111 | 0.00 |
| 66 | | Naphthalene | 0.361 | 0.395 | -9.4 | 115 | 0.00 |

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\122612\12261202.D Vial: 2
Acq On : 26 Dec 2012 10:35 am Operator: RACHEL HILL
Sample : CCV VOA1 122612 Inst : VOA 1
Misc : CCV EPA_TO15 Multiplr: 1.00
MS Integration Params: CLME.P
Quant Time: Dec 26 11:00 2012 Quant Results File: 122012V1.RES

Quant Method : C:\HPCHEM\1\METHODS\122012V1.M (RTE Integrator)
Title : TO15 ppbv
Last Update : Fri Dec 21 12:12:59 2012
Response via : Initial Calibration
DataAcq Meth : 122012V1

| Internal Standards | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 1) Bromochloromethane | 10.52 | 130 | 221242 | 12.50 | ppbv | 0.00 |
| 33) 1,4-Difluorobenzene | 11.62 | 114 | 831314 | 12.50 | ppbv | 0.00 |
| 48) Chlorobenzene-d5 | 15.47 | 117 | 674620 | 12.50 | ppbv | 0.00 |

System Monitoring Compounds

| | | | | | | |
|---|---|---|---|---|---|---|
| 55) 4-Bromofluorobenzene | 17.12 | 95 | 402796 | 12.25 | ppbv | 0.00 |

Spiked Amount 12.500 Range 70 - 113 Recovery = 98.00%

| Target Compounds | | | | | | Qvalue |
|---|---|---|---|---|---|---|
| 2) Propylene | 5.43 | 41 | 206942 | 10.38 | ppbv | 99 |
| 3) Dichlorodifluoromethane | 5.51 | 85 | 680566 | 10.00 | ppbv | 99 |
| 4) 1,2-Dichloro-1,2,2,2-tetra | 5.77 | 135 | 474492 | 10.32 | ppbv # | 70 |
| 5) Chloromethane | 5.93 | 50 | 274243 | 10.13 | ppbv | 99 |
| 6) Vinyl chloride | 6.15 | 62 | 342318 | 10.60 | ppbv # | 95 |
| 7) 1,3-Butadiene | 6.20 | 39 | 188964 | 11.47 | ppbv # | 62 |
| 8) Bromomethane | 6.78 | 94 | 266274 | 10.93 | ppbv | 99 |
| 9) Chloroethane | 6.93 | 64 | 162993 | 10.06 | ppbv | 98 |
| 10) Trichlorofluoromethane | 7.26 | 101 | 658404 | 10.13 | ppbv | 98 |
| 11) Ethanol | 7.50 | 45 | 74544 | 8.99 | ppbv | 99 |
| 12) Freon113 | 7.92 | 101 | 471952 | 10.69 | ppbv | 89 |
| 13) 1,1-Dichloroethene | 8.02 | 61 | 431423 | 10.60 | ppbv # | 87 |
| 14) Acetone | 8.12 | 43 | 381662 | 10.87 | ppbv # | 90 |
| 15) Carbon disulfide | 8.39 | 76 | 618959 | 10.16 | ppbv # | 100 |
| 16) 2-Propanol | 8.17 | 45 | 384485 | 10.67 | ppbv # | 1 |
| 17) Methylene chloride | 8.68 | 49 | 300796 | 10.50 | ppbv | 89 |
| 18) tert-Butyl Methyl Ether | 8.88 | 73 | 630191 | 10.72 | ppbv # | 94 |
| 19) trans-1,2-Dichloroethene | 8.96 | 61 | 394782 | 10.58 | ppbv # | 83 |
| 20) n-Hexane | 9.15 | 57 | 476038 | 10.84 | ppbv # | 83 |
| 21) 1,1-Dichloroethane | 9.53 | 63 | 498194 | 10.54 | ppbv # | 96 |
| 22) Vinyl acetate | 9.46 | 43 | 613235 | 11.17 | ppbv | 99 |
| 23) cis-1,2-Dichloroethene | 10.21 | 96 | 254719 | 10.66 | ppbv # | 82 |
| 24) 2-Butanone | 10.18 | 43 | 384027 | 10.94 | ppbv # | 98 |
| 25) Ethyl acetate | 10.13 | 43 | 497384 | 10.46 | ppbv # | 99 |
| 26) Tetrahydrofuran | 10.52 | 42 | 248757 | 11.40 | ppbv | 99 |
| 27) Chloroform | 10.54 | 83 | 468935 | 10.85 | ppbv | 100 |
| 28) 1,1,1-Trichloroethane | 10.78 | 97 | 483070 | 10.62 | ppbv # | 94 |
| 29) Cyclohexane | 10.79 | 56 | 473855 | 11.17 | ppbv # | 80 |
| 30) Carbon tetrachloride | 10.94 | 117 | 505480 | 10.40 | ppbv | 98 |
| 31) Benzene | 11.23 | 78 | 708310 | 10.28 | ppbv | 96 |
| 32) 1,2-Dichloroethane | 11.31 | 62 | 332990 | 10.74 | ppbv # | 96 |
| 34) Heptane | 11.28 | 43 | 445455 | 12.10 | ppbv # | 92 |
| 35) Trichloroethene | 11.96 | 130 | 323808 | 10.95 | ppbv | 95 |
| 36) 1,2-Dichloropropane | 12.32 | 63 | 315271 | 11.08 | ppbv | 95 |
| 37) 1,4-Dioxane | 12.39 | 88 | 138971 | 10.39 | ppbv # | 86 |
| 38) Bromodichloromethane | 12.60 | 83 | 493919 | 10.99 | ppbv | 99 |
| 39) cis-1,3-Dichloropropene | 13.15 | 75 | 418721 | 10.77 | ppbv | 98 |
| 40) 4-Methyl-2-pentanone | 13.26 | 58 | 235728 | 11.00 | ppbv # | 91 |
| 41) Toluene | 13.55 | 91 | 842666 | 11.12 | ppbv | 99 |
| 42) trans-1,3-Dichloropropene | 13.86 | 75 | 362993 | 10.32 | ppbv | 98 |
| 43) 1,1,2-Trichloroethane | 14.14 | 97 | 290407 | 11.01 | ppbv | 98 |
| 44) Tetrachloroethene | 14.26 | 166 | 409343 | 10.98 | ppbv | 98 |
| 45) 2-Hexanone | 14.34 | 43 | 403315 | 11.30 | ppbv | 82 |
| 46) Chlorodibromomethane | 14.68 | 129 | 481374 | 11.23 | ppbv | 99 |
| 47) 1,2-Dibromoethane | 14.91 | 107 | 420130 | 10.83 | ppbv | 100 |
| 49) Chlorobenzene | 15.51 | 112 | 613326 | 11.21 | ppbv | 95 |
| 50) Ethylbenzene | 15.55 | 91 | 1015156 | 11.32 | ppbv | 96 |
| 51) m,p-Xylene | 15.70 | 91 | 1502902 | 22.94 | ppbv | 95 |
| 52) o-Xylene | 16.30 | 91 | 800883 | 11.60 | ppbv # | 94 |

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\122612\12261202.D Vial: 2
Acq On : 26 Dec 2012 10:35 am Operator: RACHEL HILL
Sample : CCV VOA1 122612 Inst : VOA 1
Misc : CCV EPA_TO15 Multiplr: 1.00
MS Integration Params: CLME.P
Quant Time: Dec 26 11:00 2012 Quant Results File: 122012V1.RES

Quant Method : C:\HPCHEM\1\METHODS\122012V1.M (RTE Integrator)
Title : TO15 ppbv
Last Update : Fri Dec 21 12:12:59 2012
Response via : Initial Calibration
DataAcq Meth : 122012V1

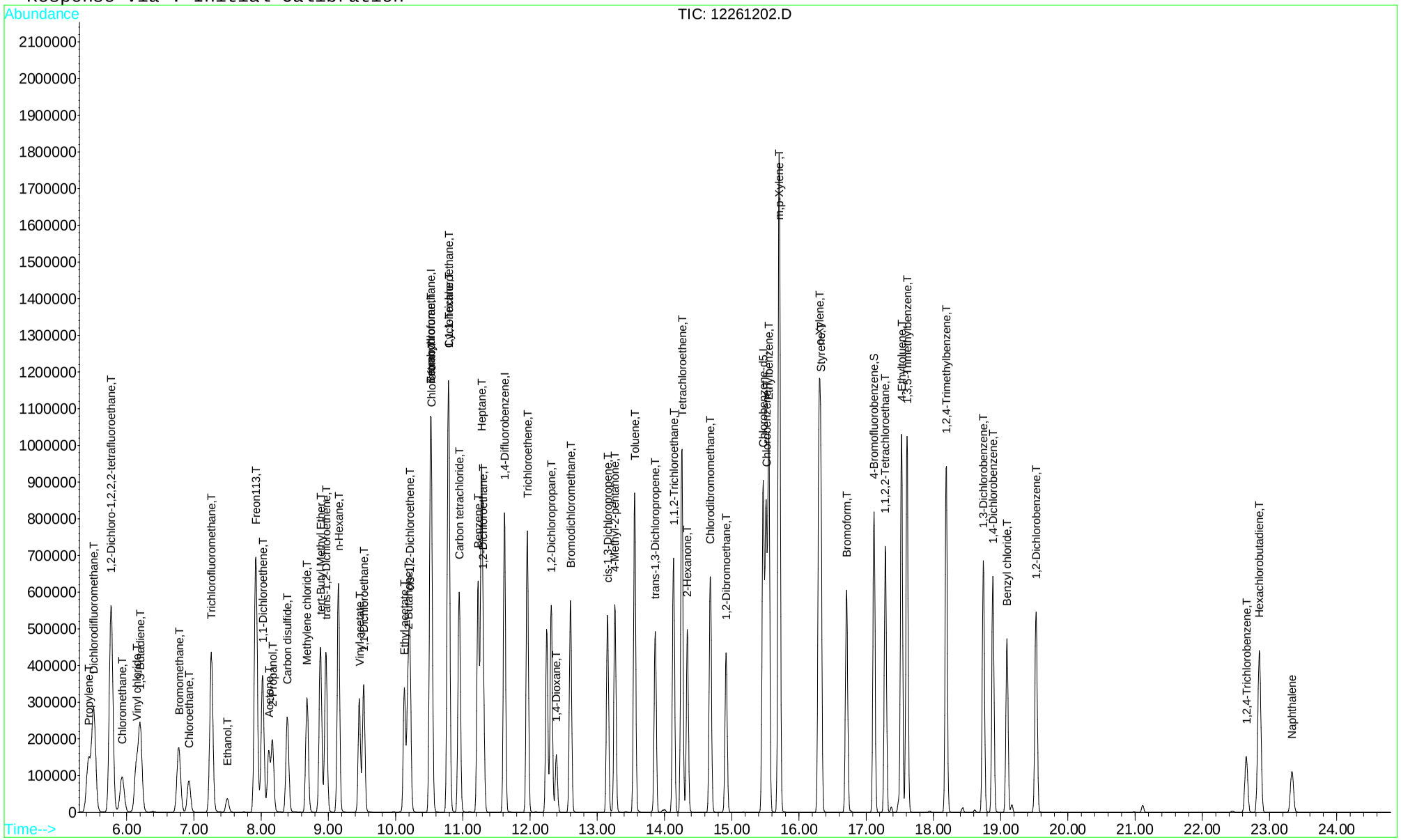
| | Compound | R.T. | QIon | Response | Conc | Unit | Qvalue |
|---|---|---|---|---|---|---|---|
| 53) | Styrene | 16.33 | 104 | 584599 | 11.68 | ppbv | 97 |
| 54) | Bromoform | 16.71 | 173 | 419205 | 11.01 | ppbv | 98 |
| 56) | 1,1,2,2-Tetrachloroethane | 17.28 | 83 | 529093 | 11.24 | ppbv | 99 |
| 57) | 4-Ethyltoluene | 17.52 | 105 | 967859 | 11.01 | ppbv | 97 |
| 58) | 1,3,5-Trimethylbenzene | 17.61 | 105 | 812462 | 10.93 | ppbv | 97 |
| 59) | 1,2,4-Trimethylbenzene | 18.19 | 105 | 759599 | 10.96 | ppbv | 98 |
| 60) | 1,3-Dichlorobenzene | 18.74 | 146 | 419877 | 10.43 | ppbv | 97 |
| 61) | 1,4-Dichlorobenzene | 18.88 | 146 | 393406 | 10.31 | ppbv | 97 |
| 62) | Benzyl chloride | 19.09 | 91 | 517409 | 11.08 | ppbv | 99 |
| 63) | 1,2-Dichlorobenzene | 19.53 | 146 | 359484 | 10.44 | ppbv | 98 |
| 64) | 1,2,4-Trichlorobenzene | 22.66 | 180 | 104285 | 9.61 | ppbv | 97 |
| 65) | Hexachlorobutadiene | 22.85 | 225 | 197444 | 10.20 | ppbv | 99 |
| 66) | Naphthalene | 23.34 | 128 | 196027 | 10.05 | ppbv | 99 |

(#) = qualifier out of range (m) = manual integration

# Quantitation Report

Data File : C:\HPCHEM\1\DATA\122612\12261202.D  Vial: 2
Acq On : 26 Dec 2012 10:35 am  Operator: RACHEL HILL
Sample : CCV VOA1 122612  Inst : VOA 1
Misc : CCV EPA_TO15  Multiplr: 1.00
MS Integration Params: CLME.P
Quant Time: Dec 26 11:00 2012  Quant Results File: 122012V1.RES

Method : C:\HPCHEM\1\METHODS\122012V1.M (RTE Integrator)
Title : TO15 ppbv
Last Update : Fri Dec 21 12:12:59 2012
Response via : Initial Calibration



# Injection Log

Directory: C:\HPCHEM\1\DATA\123112

| Line | Vial | FileName | Multiplier | SampleName | Misc Info | Injected |
|---|---|---|---|---|---|---|
| 1 | 1 | 12311201.d | 1. | BFB VOA1 123112 | TUNE BFB_TUNE | 1 Jan 2013 02:03 |
| 2 | 2 | 12311202.d | 1. | 1ppb VOA1 123112 | DATA NOT USED | 1 Jan 2013 02:47 |
| 3 | 3 | 12311203.d | 1. | 1ppb VOA1 123112 | ICAL2EPA_TO15 | 1 Jan 2013 03:31 |
| 4 | 4 | 12311204.d | 1. | 10ppb VOA1 123112 | ICAL4EPA_TO15 | 1 Jan 2013 04:13 |
| 5 | 5 | 12311205.d | 1. | 12ppb VOA1 123112 | ICAL5EPA_TO15 | 1 Jan 2013 04:56 |
| 6 | 6 | 12311206.d | 1. | 15ppb VOA1 123112 | ICAL6EPA_TO15 | 1 Jan 2013 05:40 |
| 7 | 7 | 12311207.d | 1. | 20ppb VOA1 123112 | ICAL7EPA_TO15 | 1 Jan 2013 06:23 |
| 8 | 8 | 12311208.d | 1. | 30ppb VOA1 123112 | ICAL8EPA_TO15 | 1 Jan 2013 07:07 |
| 9 | 9 | 12311209.d | 1. | 50ppb VOA1 123112 | ICAL9EPA_TO15 | 1 Jan 2013 07:53 |
| 10 | 1 | 12311210.d | 1. | BFB2 VOA1 123112 | TUNE BFB_TUNE | 1 Jan 2013 08:35 |
| 11 | 2 | 12311211.d | 1. | ICV VOA1 123112 | ICV EPA_TO15 | 1 Jan 2013 09:18 |
| 12 | 3 | 12311212.d | 1. | RLVS VOA1 123112 | RLVS EPA_TO15 | 1 Jan 2013 10:02 |
| 13 | 4 | 12311213.d | 1. | MBLK/DBV54 CC VOA1 123112 | DATA NOT USED | 1 Jan 2013 12:23 |
| 14 | 5 | 12311214.d | 1. | MBLK/DBV118 CC VOA1 123112 | DATA NOT USED | 1 Jan 2013 13:10 |
| 15 | 6 | 12311215.d | 1. | MBLK/DBV118 CC VOA1 123112 | MBLK EPA_TO15 | 1 Jan 2013 13:57 |
| 16 | 1 | 12311216.d | 400. | 1212373-004A | DATA NOT USED | 1 Jan 2013 14:45 |
| 17 | 2 | 12311217.d | 400. | cleaning blank | DATA NOT USED | 1 Jan 2013 15:34 |
| 18 | 2 | 12311218.d | 40. | 1212437-012A | SAMP EPA_TO15 | 1 Jan 2013 16:16 |
| 19 | 3 | 12311219.d | 40. | 1212437-013A | SAMP EPA_TO15 | 1 Jan 2013 16:58 |
| 20 | 4 | 12311220.d | 400. | 1212437-010A | SAMP EPA_TO15 | 1 Jan 2013 17:46 |
| 21 | 6 | 12311221.d | 40. | 1212437-015A | SAMP EPA_TO15 | 1 Jan 2013 18:28 |
| 22 | 7 | 12311222.d | 40. | 1212437-016A | SAMP EPA_TO15 | 1 Jan 2013 19:10 |
| 23 | 2 | 12311223.d | 400. | 1212373-004A | DATA NOT USED | 1 Jan 2013 19:58 |
| 24 | 8 | 12311224.d | 400. | 1212437-009A | SAMP EPA_TO15 | 1 Jan 2013 20:47 |
| 25 | 9 | 12311225.d | 1600. | 1212373-004A | SAMP EPA_TO15 | 1 Jan 2013 21:30 |
| 26 | 10 | 12311226.d | 8000. | 1212373-004A | SAMP EPA_TO15 | 1 Jan 2013 22:12 |
| 27 | 9 | 12311227.d | 800. | 1212437-011A | SAMP EPA_TO15 | 1 Jan 2013 23:00 |
| 28 | 9 | 12311228.d | 800. | 1212437-011A | DATA NOT USED | 1 Jan 2013 23:48 |
| 29 | 10 | 12311229.d | 800. | 1212437-017A | DATA NOT USED | 2 Jan 2013 00:36 |
| 30 | 10 | 12311230.d | 8000. | 1212437-017A | SAMP EPA_TO15 | 2 Jan 2013 01:23 |
| 31 | 11 | 12311231.d | 800. | 1212437-035A | SAMP EPA_TO15 | 2 Jan 2013 02:07 |
| 32 | 11 | 12311232.d | 800. | 1212437-035ADUP | DUP EPA_TO15 | 2 Jan 2013 02:52 |
| 33 | 12 | 12311233.d | 8000. | 1212437-018A | SAMP EPA_TO15 | 2 Jan 2013 03:34 |
| 34 | 13 | 12311234.d | 800. | 1212437037A | SAMP EPA_TO15 | 2 Jan 2013 04:19 |
| 35 | 14 | 12311235.d | 800. | 1212437-036A | SAMP EPA_TO15 | 2 Jan 2013 05:04 |
| 36 | 15 | 12311236.d | 1600. | 1212437-038A | SAMP EPA_TO15 | 2 Jan 2013 05:47 |
| 37 | 16 | 12311237.d | 1600. | 1212437-039A | SAMP EPA_TO15 | 2 Jan 2013 06:30 |
| 38 | 3 | 12311238.d | 400. | 1212437-019A | SAMP EPA_TO15 | 2 Jan 2013 07:19 |
| 39 | 4 | 12311239.d | 800. | 1212437-040A | SAMP EPA_TO15 | 2 Jan 2013 08:04 |
| 40 | 3 | 12311240.d | 1. | RLVS2 VOA1 123112 | RLVS EPA_TO15 | 2 Jan 2013 09:30 |

# RTI Laboratories

# ANALYTICAL RUN Summary

*03-Jan-13*

**RunNo** 55020

| Seq No | Sample ID | Test Code | Sample Typ | File ID | Analysis Date | DF | Batch ID | Prep Date | SPKref | RPDref | pmoist |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1084682 | BFB2 VOA1 123112 | BFB_TUNE | TUNE | \\1\DATA\123112\ | 1/1/2013 8:35:00 | 1 | R55020 | | 0 | 0 | |

| Analyte | T | Units | RAW | Final | Text | Spike | SPKref | RPDref | MDL | PQL | UQL | %REC | LOW | HIGH | %RPD | Q |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 173 | M | | 0.6 | 0.6 | | 100 | 0 | 0 | 0 | 0 | 0 | 1% | 0 | 2 | 0% | |
| 174 | M | | 82.4 | 82.4 | | 100 | 0 | 0 | 0 | 0 | 0 | 82% | 50 | 200 | 0% | |
| 175 | M | | 7.2 | 7.2 | | 100 | 0 | 0 | 0 | 0 | 0 | 7% | 4 | 9 | 0% | |
| 176 | M | | 97.1 | 97.1 | | 100 | 0 | 0 | 0 | 0 | 0 | 97% | 93 | 101 | 0% | |
| 177 | M | | 6.7 | 6.7 | | 100 | 0 | 0 | 0 | 0 | 0 | 7% | 5 | 9 | 0% | |
| 50 | M | | 18.5 | 18.5 | | 100 | 0 | 0 | 0 | 0 | 0 | 19% | 8 | 40 | 0% | |
| 75 | M | | 42.3 | 42.3 | | 100 | 0 | 0 | 0 | 0 | 0 | 42% | 30 | 66 | 0% | |
| 95 | M | | 100 | 100 | | 100 | 0 | 0 | 0 | 0 | 0 | 100% | 100 | 100 | 0% | |
| 96 | M | | 6.9 | 6.9 | | 100 | 0 | 0 | 0 | 0 | 0 | 7% | 5 | 9 | 0% | |

| Seq No | Sample ID | Test Code | Sample Typ | File ID | Analysis Date | DF | Batch ID | Prep Date | SPKref | RPDref | pmoist |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1084683 | ICV VOA1 123112 | EPA_TO15 | ICV | \\1\DATA\123112\ | 1/1/2013 9:18:00 | 1 | R55020 | | 0 | 0 | |

| Analyte | T | Units | RAW | Final | Text | Spike | SPKref | RPDref | MDL | PQL | UQL | %REC | LOW | HIGH | %RPD | Q |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | A | ppbv | 9.81 | 9.81 | | 9.6 | 0 | 0 | 0.107 | 1 | 50 | 102% | 70 | 130 | 0% | |
| 1,1,2,2-Tetrachloroethane | A | ppbv | 9.91 | 9.91 | | 10 | 0 | 0 | 0.211 | 1 | 50 | 99% | 70 | 130 | 0% | |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | A | ppbv | 9.88 | 9.88 | | 9.8 | 0 | 0 | 0.108 | 1 | 50 | 101% | 70 | 130 | 0% | |
| 1,1,2-Trichloroethane | A | ppbv | 9.47 | 9.47 | | 9.8 | 0 | 0 | 0.2 | 1 | 50 | 97% | 70 | 130 | 0% | |
| 1,1-Dichloroethane | A | ppbv | 9.41 | 9.41 | | 9.7 | 0 | 0 | 0.111 | 1 | 50 | 97% | 70 | 130 | 0% | |
| 1,1-Dichloroethene | A | ppbv | 9.79 | 9.79 | | 9.9 | 0 | 0 | 0.097 | 1 | 50 | 99% | 70 | 130 | 0% | |
| 1,2,4-Trichlorobenzene | A | ppbv | 8.67 | 8.67 | | 9.1 | 0 | 0 | 0.271 | 1 | 50 | 95% | 70 | 130 | 0% | |
| 1,2,4-Trimethylbenzene | A | ppbv | 10.01 | 10.01 | | 9.8 | 0 | 0 | 0.245 | 1 | 50 | 102% | 70 | 130 | 0% | |
| 1,2-Dibromoethane | A | ppbv | 9.35 | 9.35 | | 9.6 | 0 | 0 | 0.186 | 1 | 50 | 97% | 70 | 130 | 0% | |
| 1,2-Dichlorobenzene | A | ppbv | 9.23 | 9.23 | | 9.7 | 0 | 0 | 0.208 | 1 | 50 | 95% | 70 | 130 | 0% | |
| 1,2-Dichloroethane | A | ppbv | 9.8 | 9.8 | | 9.7 | 0 | 0 | 0.196 | 1 | 50 | 101% | 70 | 130 | 0% | |
| 1,2-Dichloropropane | A | ppbv | 9.68 | 9.68 | | 9.8 | 0 | 0 | 0.224 | 1 | 50 | 99% | 70 | 130 | 0% | |
| 1,3,5-Trimethylbenzene | A | ppbv | 9.87 | 9.87 | | 9.7 | 0 | 0 | 0.24 | 1 | 50 | 102% | 70 | 130 | 0% | |
| 1,3-Butadiene | A | ppbv | 9.04 | 9.04 | | 9.8 | 0 | 0 | 0.152 | 1 | 50 | 92% | 70 | 130 | 0% | |
| 1,3-Dichlorobenzene | A | ppbv | 9.45 | 9.45 | | 9.7 | 0 | 0 | 0.202 | 1 | 50 | 97% | 70 | 130 | 0% | |

| Seq No | Sample ID | Test Code | Sample Typ | File ID | Analysis Date | DF | Batch ID | Prep Date | SPKref | RPDref | pmoist |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1084683 | ICV VOA1 123112 | EPA_TO15 | ICV | \\1\DATA\123112\ | 1/1/2013 9:18:00 | 1 | R55020 | | 0 | 0 | |

| Analyte | T | Units | RAW | Final | Text | Spike | SPKref | RPDref | MDL | PQL | UQL | %REC | LOW | HIGH | %RPD | Q |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,4-Dichlorobenzene | A | ppbv | 9.43 | 9.43 | | 9.6 | 0 | 0 | 0.194 | 1 | 50 | 98% | 70 | 130 | 0% | |
| 1,4-Dioxane | A | ppbv | 10 | 10 | | 9.6 | 0 | 0 | 0.128 | 1 | 50 | 104% | 70 | 130 | 0% | |
| 2-Butanone | A | ppbv | 9.52 | 9.52 | | 9.9 | 0 | 0 | 0.287 | 1 | 50 | 96% | 70 | 130 | 0% | |
| 2-Hexanone | A | ppbv | 10.8 | 10.8 | | 9.8 | 0 | 0 | 0.135 | 1 | 50 | 110% | 70 | 130 | 0% | |
| 2-Propanol | A | ppbv | 10.31 | 10.31 | | 10.1 | 0 | 0 | 0.329 | 1 | 50 | 102% | 70 | 130 | 0% | |
| 4-Methyl-2-pentanone | A | ppbv | 10.48 | 10.48 | | 10 | 0 | 0 | 0.157 | 1 | 50 | 105% | 70 | 130 | 0% | |
| Acetone | A | ppbv | 10.03 | 10.03 | | 10 | 0 | 0 | 0.43 | 1 | 50 | 100% | 70 | 130 | 0% | |
| Benzene | A | ppbv | 9.3 | 9.3 | | 9.6 | 0 | 0 | 0.126 | 1 | 50 | 97% | 70 | 130 | 0% | |
| Benzyl chloride | A | ppbv | 9.97 | 9.97 | | 9.7 | 0 | 0 | 0.155 | 1 | 50 | 103% | 70 | 130 | 0% | |
| Bromodichloromethane | A | ppbv | 9.79 | 9.79 | | 9.6 | 0 | 0 | 0.156 | 1 | 50 | 102% | 70 | 130 | 0% | |
| Bromoform | A | ppbv | 10.21 | 10.21 | | 9.6 | 0 | 0 | 0.197 | 1 | 50 | 106% | 70 | 130 | 0% | |
| Bromomethane | A | ppbv | 9.24 | 9.24 | | 9.3 | 0 | 0 | 0.075 | 1 | 50 | 99% | 70 | 130 | 0% | |
| Carbon disulfide | A | ppbv | 10.33 | 10.33 | | 9.7 | 0 | 0 | 0.093 | 1 | 50 | 106% | 70 | 130 | 0% | |
| Carbon tetrachloride | A | ppbv | 9.51 | 9.51 | | 9.5 | 0 | 0 | 0.114 | 1 | 50 | 100% | 70 | 130 | 0% | |
| Chlorobenzene | A | ppbv | 10.04 | 10.04 | | 9.9 | 0 | 0 | 0.275 | 1 | 50 | 101% | 70 | 130 | 0% | |
| Chlorodibromomethane | A | ppbv | 9.97 | 9.97 | | 9.2 | 0 | 0 | 0.165 | 1 | 50 | 108% | 70 | 130 | 0% | |
| Chloroethane | A | ppbv | 8.54 | 8.54 | | 9.8 | 0 | 0 | 0.063 | 1 | 50 | 87% | 70 | 130 | 0% | |
| Chloroform | A | ppbv | 9.69 | 9.69 | | 9.4 | 0 | 0 | 0.126 | 1 | 50 | 103% | 70 | 130 | 0% | |
| Chloromethane | A | ppbv | 8.67 | 8.67 | | 9.8 | 0 | 0 | 0.104 | 1 | 50 | 88% | 70 | 130 | 0% | |
| cis-1,2-Dichloroethene | A | ppbv | 9.39 | 9.39 | | 9.8 | 0 | 0 | 0.107 | 1 | 50 | 96% | 70 | 130 | 0% | |
| cis-1,3-dichloropropene | A | ppbv | 8.85 | 8.85 | | 9.5 | 0 | 0 | 0.166 | 1 | 50 | 93% | 70 | 130 | 0% | |
| Cyclohexane | A | ppbv | 10.14 | 10.14 | | 9.8 | 0 | 0 | 0.684 | 2 | 50 | 103% | 70 | 130 | 0% | |
| Dichlorodifluoromethane | A | ppbv | 8.37 | 8.37 | | 9.2 | 0 | 0 | 0.086 | 1 | 50 | 91% | 70 | 130 | 0% | |
| Ethanol | A | ppbv | 8.21 | 8.21 | | 9.2 | 0 | 0 | 1.962 | 5 | 50 | 89% | 70 | 130 | 0% | |
| Ethyl acetate | A | ppbv | 10.19 | 10.19 | | 9.8 | 0 | 0 | 0.157 | 1 | 50 | 104% | 70 | 130 | 0% | |
| Ethylbenzene | A | ppbv | 10.09 | 10.09 | | 9.8 | 0 | 0 | 0.737 | 2 | 50 | 103% | 70 | 130 | 0% | |
| Heptane | A | ppbv | 9.98 | 9.98 | | 9.9 | 0 | 0 | 0.249 | 1 | 50 | 101% | 70 | 130 | 0% | |
| Hexachlorobutadiene | A | ppbv | 8.39 | 8.39 | | 9.4 | 0 | 0 | 0.374 | 2 | 50 | 89% | 70 | 130 | 0% | |
| m,p-Xylene | A | ppbv | 21.88 | 21.88 | | 19.2 | 0 | 0 | 0.524 | 2 | 100 | 114% | 70 | 130 | 0% | |
| Methylene chloride | A | ppbv | 9.39 | 9.39 | | 10 | 0 | 0 | 2.077 | 5 | 50 | 94% | 70 | 130 | 0% | |
| n-Hexane | A | ppbv | 10.04 | 10.04 | | 10.1 | 0 | 0 | 0.692 | 2 | 50 | 99% | 70 | 130 | 0% | |
| Naphthalene | A | ppbv | 8.71 | 8.71 | | 9.2 | 0 | 0 | 0.247 | 1 | 50 | 95% | 70 | 130 | 0% | |
| o-Xylene | A | ppbv | 10.55 | 10.55 | | 10 | 0 | 0 | 0.258 | 1 | 50 | 106% | 70 | 130 | 0% | |
| Propylene | A | ppbv | 8.66 | 8.66 | | 10.2 | 0 | 0 | 0.075 | 1 | 50 | 85% | 70 | 130 | 0% | |

| Seq No | Sample ID | Test Code | Sample Typ | File ID | Analysis Date | DF | Batch ID | Prep Date | SPKref | RPDref | pmoist |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1084683 | ICV VOA1 123112 | EPA_TO15 | ICV | [\1\DATA\123112`1/1/2013 9:18:00 | | 1 | R55020 | | 0 | 0 | |

| Analyte | T | Units | RAW | Final | Text | Spike | SPKref | RPDref | MDL | PQL | UQL | %REC | LOW | HIGH | %RPD | Q |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Styrene | A | ppbv | 10.5 | 10.5 | | 9.8 | 0 | 0 | 0.263 | 1 | 50 | 107% | 70 | 130 | 0% | |
| tert-Butyl Methyl Ether | A | ppbv | 10.01 | 10.01 | | 9.9 | 0 | 0 | 0.228 | 1 | 50 | 101% | 70 | 130 | 0% | |
| Tetrachloroethene | A | ppbv | 9.83 | 9.83 | | 9.6 | 0 | 0 | 0.148 | 1 | 50 | 102% | 70 | 130 | 0% | |
| Tetrahydrofuran | A | ppbv | 10.15 | 10.15 | | 10 | 0 | 0 | 0.201 | 1 | 50 | 102% | 70 | 130 | 0% | |
| Toluene | A | ppbv | 10.62 | 10.62 | | 9.8 | 0 | 0 | 0.158 | 1 | 50 | 108% | 70 | 130 | 0% | |
| trans-1,2-Dichloroethene | A | ppbv | 10.08 | 10.08 | | 9.8 | 0 | 0 | 0.117 | 1 | 50 | 103% | 70 | 130 | 0% | |
| trans-1,3-dichloropropene | A | ppbv | 9.61 | 9.61 | | 9.1 | 0 | 0 | 0.171 | 1 | 50 | 106% | 70 | 130 | 0% | |
| Trichloroethene | A | ppbv | 9.35 | 9.35 | | 9.6 | 0 | 0 | 0.119 | 1 | 50 | 97% | 70 | 130 | 0% | |
| Trichlorofluoromethane | A | ppbv | 8.88 | 8.88 | | 9.6 | 0 | 0 | 0.148 | 1 | 50 | 93% | 70 | 130 | 0% | |
| Vinyl acetate | A | ppbv | 10.35 | 10.35 | | 9.9 | 0 | 0 | 0.266 | 1 | 50 | 105% | 70 | 130 | 0% | |
| Vinyl chloride | A | ppbv | 8.68 | 8.68 | | 9.4 | 0 | 0 | 0.072 | 1 | 50 | 92% | 70 | 130 | 0% | |
| Xylenes, Total | C | ppbv | 32.43 | 32.43 | | 29.2 | 0 | 0 | 0.782 | 3 | 150 | 111% | 70 | 130 | 0% | |
| 1,4-Difluorobenzene | I | ppbv | 12.5 | 12.5 | | 12.5 | 0 | 0 | 0 | 0 | 0 | 100% | | | 0% | |
| Bromochloromethane | I | ppbv | 12.5 | 12.5 | | 12.5 | 0 | 0 | 0 | 0 | 0 | 100% | | | 0% | |
| Chlorobenzene-d5 | I | ppbv | 12.5 | 12.5 | | 12.5 | 0 | 0 | 0 | 0 | 0 | 100% | | | 0% | |
| 4-Bromofluorobenzene | S | ppbv | 12.25 | 12.25 | | 12.5 | 0 | 0 | 0 | 0 | 0 | 98% | 70 | 130 | 0% | |

| Seq No | Sample ID | Test Code | Sample Typ | File ID | Analysis Date | DF | Batch ID | Prep Date | SPKref | RPDref | pmoist |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1084684 | RLVS VOA1 123112 | EPA_TO15 | RLVS | [\1\DATA\123112`1/1/2013 10:02:0 | | 1 | R55020 | | 0 | 0 | |

| Analyte | T | Units | RAW | Final | Text | Spike | SPKref | RPDref | MDL | PQL | UQL | %REC | LOW | HIGH | %RPD | Q |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | A | ppbv | 0.89 | 0.89 | | 0.996 | 0 | 0 | 0.107 | 1 | 50 | 89% | 70 | 130 | 0% | |
| 1,1,2,2-Tetrachloroethane | A | ppbv | 0.89 | 0.89 | | 1 | 0 | 0 | 0.211 | 1 | 50 | 89% | 70 | 130 | 0% | |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | A | ppbv | 0.87 | 0.87 | | 0.98 | 0 | 0 | 0.108 | 1 | 50 | 89% | 70 | 130 | 0% | |
| 1,1,2-Trichloroethane | A | ppbv | 0.8 | 0.8 | | 0.98 | 0 | 0 | 0.2 | 1 | 50 | 82% | 70 | 130 | 0% | |
| 1,1-Dichloroethane | A | ppbv | 0.91 | 0.91 | | 0.97 | 0 | 0 | 0.111 | 1 | 50 | 94% | 70 | 130 | 0% | |
| 1,1-Dichloroethene | A | ppbv | 0.9 | 0.9 | | 0.99 | 0 | 0 | 0.097 | 1 | 50 | 91% | 70 | 130 | 0% | |
| 1,2,4-Trichlorobenzene | A | ppbv | 1.03 | 1.03 | | 0.91 | 0 | 0 | 0.271 | 1 | 50 | 113% | 70 | 130 | 0% | |
| 1,2,4-Trimethylbenzene | A | ppbv | 0.88 | 0.88 | | 0.98 | 0 | 0 | 0.245 | 1 | 50 | 90% | 70 | 130 | 0% | |
| 1,2-Dibromoethane | A | ppbv | 0.77 | 0.77 | | 0.96 | 0 | 0 | 0.186 | 1 | 50 | 80% | 70 | 130 | 0% | |
| 1,2-Dichlorobenzene | A | ppbv | 0.85 | 0.85 | | 0.97 | 0 | 0 | 0.208 | 1 | 50 | 88% | 70 | 130 | 0% | |
| 1,2-Dichloroethane | A | ppbv | 0.95 | 0.95 | | 0.97 | 0 | 0 | 0.196 | 1 | 50 | 98% | 70 | 130 | 0% | |
| 1,2-Dichloropropane | A | ppbv | 0.84 | 0.84 | | 0.98 | 0 | 0 | 0.224 | 1 | 50 | 86% | 70 | 130 | 0% | |

# Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\123112\12311211.D  Vial: 2
Acq On : 1 Jan 2013 9:18 am  Operator: RACHEL HILL
Sample : ICV VOA1 123112  Inst : VOA 1
Misc : ICV EPA_TO15  Multiplr: 1.00
MS Integration Params: CLME.P

Method : C:\HPCHEM\1\METHODS\123112V1.M (RTE Integrator)
Title : TO15 ppbv
Last Update : Wed Jan 02 08:58:32 2013
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 200%

| | | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|---|
| 1 | I | Bromochloromethane | 1.000 | 1.000 | 0.0 | 104 | 0.00 |
| 2 | T | Propylene | 1.433 | 1.216 | 15.1 | 83 | 0.00 |
| 3 | T | Dichlorodifluoromethane | 3.616 | 3.291 | 9.0 | 87 | 0.00 |
| 4 | T | 1,2-Dichloro-1,2,2,2-tetraf | 2.564 | 2.337 | 8.9 | 85 | 0.00 |
| 5 | T | Chloromethane | 1.430 | 1.305 | 8.7 | 85 | 0.00 |
| 6 | T | Vinyl chloride | 1.725 | 1.593 | 7.7 | 84 | 0.00 |
| 7 | T | 1,3-Butadiene | 1.292 | 1.192 | 7.7 | 85 | 0.00 |
| 8 | T | Bromomethane | 1.397 | 1.388 | 0.6 | 94 | 0.00 |
| 9 | T | Chloroethane | 0.857 | 0.796 | 7.1 | 87 | 0.00 |
| 10 | T | Trichlorofluoromethane | 3.317 | 3.068 | 7.5 | 88 | 0.00 |
| 11 | T | Ethanol | 0.503 | 0.449 | 10.7 | 90 | 0.00 |
| 12 | T | Freon113 | 2.412 | 2.430 | -0.7 | 92 | 0.00 |
| 13 | T | 1,1-Dichloroethene | 2.082 | 2.059 | 1.1 | 91 | 0.00 |
| 14 | T | Acetone | 2.319 | 2.326 | -0.3 | 93 | 0.00 |
| 15 | T | Carbon disulfide | 3.321 | 3.538 | -6.5 | 100 | 0.00 |
| 16 | T | 2-Propanol | 2.237 | 2.284 | -2.1 | 96 | 0.00 |
| 17 | T | Methylene chloride | 1.578 | 1.481 | 6.1 | 88 | 0.00 |
| 18 | T | tert-Butyl Methyl Ether | 3.286 | 3.324 | -1.2 | 90 | 0.00 |
| 19 | T | trans-1,2-Dichloroethene | 1.922 | 1.977 | -2.9 | 93 | 0.00 |
| 20 | T | n-Hexane | 2.224 | 2.212 | 0.5 | 90 | 0.00 |
| 21 | T | 1,1-Dichloroethane | 2.414 | 2.341 | 3.0 | 87 | 0.00 |
| 22 | T | Vinyl acetate | 3.538 | 3.698 | -4.5 | 89 | 0.00 |
| 23 | T | cis-1,2-Dichloroethene | 1.342 | 1.287 | 4.1 | 88 | 0.00 |
| 24 | T | 2-Butanone | 2.376 | 2.285 | 3.8 | 85 | 0.00 |
| 25 | T | Ethyl acetate | 3.088 | 3.213 | -4.0 | 90 | 0.00 |
| 26 | T | Tetrahydrofuran | 1.541 | 1.564 | -1.5 | 90 | 0.00 |
| 27 | T | Chloroform | 2.403 | 2.375 | 1.2 | 87 | 0.00 |
| 28 | T | 1,1,1-Trichloroethane | 2.405 | 2.457 | -2.2 | 88 | 0.00 |
| 29 | T | Cyclohexane | 2.236 | 2.312 | -3.4 | 90 | 0.00 |
| 30 | T | Carbon tetrachloride | 2.471 | 2.474 | -0.1 | 89 | 0.00 |
| 31 | T | Benzene | 3.884 | 3.764 | 3.1 | 87 | 0.00 |
| 32 | T | 1,2-Dichloroethane | 1.550 | 1.567 | -1.1 | 87 | 0.00 |
| 33 | I | 1,4-Difluorobenzene | 1.000 | 1.000 | 0.0 | 106 | 0.00 |
| 34 | T | Heptane | 0.753 | 0.760 | -0.9 | 87 | 0.00 |
| 35 | T | Trichloroethene | 0.506 | 0.493 | 2.6 | 86 | 0.00 |
| 36 | T | 1,2-Dichloropropane | 0.439 | 0.433 | 1.4 | 87 | 0.00 |
| 37 | T | 1,4-Dioxane | 0.224 | 0.233 | -4.0 | 96 | 0.00 |
| 38 | T | Bromodichloromethane | 0.744 | 0.759 | -2.0 | 90 | 0.00 |
| 39 | T | cis-1,3-Dichloropropene | 0.654 | 0.609 | 6.9 | 83 | 0.00 |
| 40 | T | 4-Methyl-2-pentanone | 0.332 | 0.348 | -4.8 | 94 | 0.00 |
| 41 | T | Toluene | 1.279 | 1.386 | -8.4 | 96 | 0.00 |
| 42 | T | trans-1,3-Dichloropropene | 0.585 | 0.618 | -5.6 | 93 | 0.00 |
| 43 | T | 1,1,2-Trichloroethane | 0.450 | 0.435 | 3.3 | 86 | 0.00 |
| 44 | T | Tetrachloroethene | 0.622 | 0.637 | -2.4 | 88 | 0.00 |
| 45 | T | 2-Hexanone | 0.709 | 0.781 | -10.2 | 95 | 0.00 |
| 46 | T | Chlorodibromomethane | 0.706 | 0.718 | -1.7 | 88 | 0.00 |
| 47 | T | 1,2-Dibromoethane | 0.655 | 0.638 | 2.6 | 86 | 0.00 |
| 48 | I | Chlorobenzene-d5 | 1.000 | 1.000 | 0.0 | 104 | 0.00 |
| 49 | T | Chlorobenzene | 1.101 | 1.117 | -1.5 | 87 | 0.00 |
| 50 | T | Ethylbenzene | 1.791 | 1.844 | -3.0 | 86 | 0.00 |
| 51 | T | m,p-Xylene | 1.278 | 1.456 | -13.9 | 89 | 0.00 |
| 52 | T | o-Xylene | 1.402 | 1.480 | -5.6 | 87 | 0.00 |
| 53 | T | Styrene | 1.054 | 1.130 | -7.2 | 87 | 0.00 |
| 54 | T | Bromoform | 0.724 | 0.771 | -6.5 | 87 | 0.00 |
| 55 | S | 4-Bromofluorobenzene | 0.622 | 0.610 | 1.9 | 102 | 0.00 |

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\123112\12311211.D Vial: 2
Acq On : 1 Jan 2013 9:18 am Operator: RACHEL HILL
Sample : ICV VOA1 123112 Inst : VOA 1
Misc : ICV EPA_TO15 Multiplr: 1.00
MS Integration Params: CLME.P

Method : C:\HPCHEM\1\METHODS\123112V1.M (RTE Integrator)
Title : TO15 ppbv
Last Update : Wed Jan 02 08:58:32 2013
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 200%

| | | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|---|
| 56 | T | 1,1,2,2-Tetrachloroethane | 0.953 | 0.944 | 0.9 | 85 | 0.00 |
| 57 | T | 4-Ethyltoluene | 1.784 | 1.820 | -2.0 | 86 | 0.00 |
| 58 | T | 1,3,5-Trimethylbenzene | 1.497 | 1.524 | -1.8 | 86 | 0.00 |
| 59 | T | 1,2,4-Trimethylbenzene | 1.414 | 1.444 | -2.1 | 87 | 0.00 |
| 60 | T | 1,3-Dichlorobenzene | 0.811 | 0.790 | 2.6 | 86 | 0.00 |
| 61 | T | 1,4-Dichlorobenzene | 0.761 | 0.748 | 1.7 | 87 | 0.00 |
| 62 | T | Benzyl chloride | 0.925 | 0.950 | -2.7 | 87 | 0.00 |
| 63 | T | 1,2-Dichlorobenzene | 0.680 | 0.647 | 4.9 | 85 | 0.00 |
| 64 | T | 1,2,4-Trichlorobenzene | 0.215 | 0.205 | 4.7 | 92 | 0.00 |
| 65 | T | Hexachlorobutadiene | 0.393 | 0.351 | 10.7 | 88 | 0.00 |
| 66 | | Naphthalene | 0.380 | 0.360 | 5.3 | 93 | 0.00 |

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\123112\12311211.D Vial: 2
Acq On : 1 Jan 2013 9:18 am Operator: RACHEL HILL
Sample : ICV VOA1 123112 Inst : VOA 1
Misc : ICV EPA_TO15 Multiplr: 1.00
MS Integration Params: CLME.P
Quant Time: Jan 2 8:59 2013 Quant Results File: 123112V1.RES

Quant Method : C:\HPCHEM\1\METHODS\123112V1.M (RTE Integrator)
Title : TO15 ppbv
Last Update : Wed Jan 02 08:58:32 2013
Response via : Initial Calibration
DataAcq Meth : 123112V1

| Internal Standards | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 1) Bromochloromethane | 10.53 | 130 | 230827 | 12.50 | ppbv | 0.00 |
| 33) 1,4-Difluorobenzene | 11.62 | 114 | 803439 | 12.50 | ppbv | 0.00 |
| 48) Chlorobenzene-d5 | 15.47 | 117 | 658965 | 12.50 | ppbv | 0.00 |

System Monitoring Compounds

| | | | | | | |
|---|---|---|---|---|---|---|
| 55) 4-Bromofluorobenzene | 17.12 | 95 | 401790 | 12.25 | ppbv | 0.00 |

Spiked Amount 12.500 Range 70 - 113 Recovery = 98.00%

| Target Compounds | | | | | | Qvalue |
|---|---|---|---|---|---|---|
| 2) Propylene | 5.44 | 41 | 229001 | 8.66 | ppbv | 97 |
| 3) Dichlorodifluoromethane | 5.51 | 85 | 559026 | 8.37 | ppbv | 99 |
| 4) 1,2-Dichloro-1,2,2,2-tetra | 5.77 | 135 | 409949 | 8.66 | ppbv # | 73 |
| 5) Chloromethane | 5.93 | 50 | 228999 | 8.67 | ppbv | 99 |
| 6) Vinyl chloride | 6.15 | 62 | 276499 | 8.68 | ppbv | 99 |
| 7) 1,3-Butadiene | 6.21 | 39 | 215645 | 9.04 | ppbv | 99 |
| 8) Bromomethane | 6.78 | 94 | 238324 | 9.24 | ppbv | 99 |
| 9) Chloroethane | 6.92 | 64 | 135154 | 8.54 | ppbv | 100 |
| 10) Trichlorofluoromethane | 7.26 | 101 | 543802 | 8.88 | ppbv | 99 |
| 11) Ethanol | 7.50 | 45 | 76295 | 8.21 | ppbv | 99 |
| 12) Freon113 | 7.92 | 101 | 439843 | 9.88 | ppbv | 92 |
| 13) 1,1-Dichloroethene | 8.03 | 61 | 376368 | 9.79 | ppbv | 90 |
| 14) Acetone | 8.12 | 43 | 429546 | 10.03 | ppbv # | 94 |
| 15) Carbon disulfide | 8.39 | 76 | 633724 | 10.33 | ppbv # | 99 |
| 16) 2-Propanol | 8.17 | 45 | 425921 | 10.31 | ppbv # | 1 |
| 17) Methylene chloride | 8.69 | 49 | 273543 | 9.39 | ppbv | 89 |
| 18) tert-Butyl Methyl Ether | 8.88 | 73 | 607636 | 10.01 | ppbv | 93 |
| 19) trans-1,2-Dichloroethene | 8.97 | 61 | 357837 | 10.08 | ppbv | 86 |
| 20) n-Hexane | 9.16 | 57 | 412467 | 10.04 | ppbv | 97 |
| 21) 1,1-Dichloroethane | 9.53 | 63 | 419314 | 9.41 | ppbv | 98 |
| 22) Vinyl acetate | 9.46 | 43 | 676021 | 10.35 | ppbv | 97 |
| 23) cis-1,2-Dichloroethene | 10.21 | 96 | 232848 | 9.39 | ppbv | 87 |
| 24) 2-Butanone | 10.18 | 43 | 417817 | 9.52 | ppbv | 96 |
| 25) Ethyl acetate | 10.13 | 43 | 581388 | 10.19 | ppbv # | 100 |
| 26) Tetrahydrofuran | 10.52 | 42 | 288800 | 10.15 | ppbv | 94 |
| 27) Chloroform | 10.54 | 83 | 429871 | 9.69 | ppbv | 100 |
| 28) 1,1,1-Trichloroethane | 10.79 | 97 | 435610 | 9.81 | ppbv | 97 |
| 29) Cyclohexane | 10.79 | 56 | 418455 | 10.14 | ppbv | 93 |
| 30) Carbon tetrachloride | 10.95 | 117 | 434059 | 9.51 | ppbv | 99 |
| 31) Benzene | 11.23 | 78 | 667187 | 9.30 | ppbv | 97 |
| 32) 1,2-Dichloroethane | 11.31 | 62 | 280685 | 9.80 | ppbv | 98 |
| 34) Heptane | 11.28 | 43 | 483310 | 9.98 | ppbv | 95 |
| 35) Trichloroethene | 11.96 | 130 | 304367 | 9.35 | ppbv | 97 |
| 36) 1,2-Dichloropropane | 12.32 | 63 | 272809 | 9.68 | ppbv | 97 |
| 37) 1,4-Dioxane | 12.40 | 88 | 144041 | 10.00 | ppbv | 88 |
| 38) Bromodichloromethane | 12.60 | 83 | 468162 | 9.79 | ppbv | 99 |
| 39) cis-1,3-Dichloropropene | 13.16 | 75 | 372085 | 8.85 | ppbv | 99 |
| 40) 4-Methyl-2-pentanone | 13.27 | 58 | 223616 | 10.48 | ppbv | 95 |
| 41) Toluene | 13.56 | 91 | 872995 | 10.62 | ppbv | 99 |
| 42) trans-1,3-Dichloropropene | 13.87 | 75 | 361623 | 9.61 | ppbv | 99 |
| 43) 1,1,2-Trichloroethane | 14.14 | 97 | 273947 | 9.47 | ppbv | 98 |
| 44) Tetrachloroethene | 14.26 | 166 | 393203 | 9.83 | ppbv | 98 |
| 45) 2-Hexanone | 14.34 | 43 | 492203 | 10.80 | ppbv | 99 |
| 46) Chlorodibromomethane | 14.68 | 129 | 452225 | 9.97 | ppbv | 99 |
| 47) 1,2-Dibromoethane | 14.92 | 107 | 393646 | 9.35 | ppbv | 99 |
| 49) Chlorobenzene | 15.52 | 112 | 582793 | 10.04 | ppbv | 94 |
| 50) Ethylbenzene | 15.55 | 91 | 952561 | 10.09 | ppbv | 97 |
| 51) m,p-Xylene | 15.71 | 91 | 1473650 | 21.88 | ppbv | 97 |
| 52) o-Xylene | 16.30 | 91 | 780106 | 10.55 | ppbv | 96 |

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\123112\12311211.D Vial: 2
Acq On : 1 Jan 2013 9:18 am Operator: RACHEL HILL
Sample : ICV VOA1 123112 Inst : VOA 1
Misc : ICV EPA_TO15 Multiplr: 1.00
MS Integration Params: CLME.P
Quant Time: Jan 2 8:59 2013 Quant Results File: 123112V1.RES

Quant Method : C:\HPCHEM\1\METHODS\123112V1.M (RTE Integrator)
Title : TO15 ppbv
Last Update : Wed Jan 02 08:58:32 2013
Response via : Initial Calibration
DataAcq Meth : 123112V1

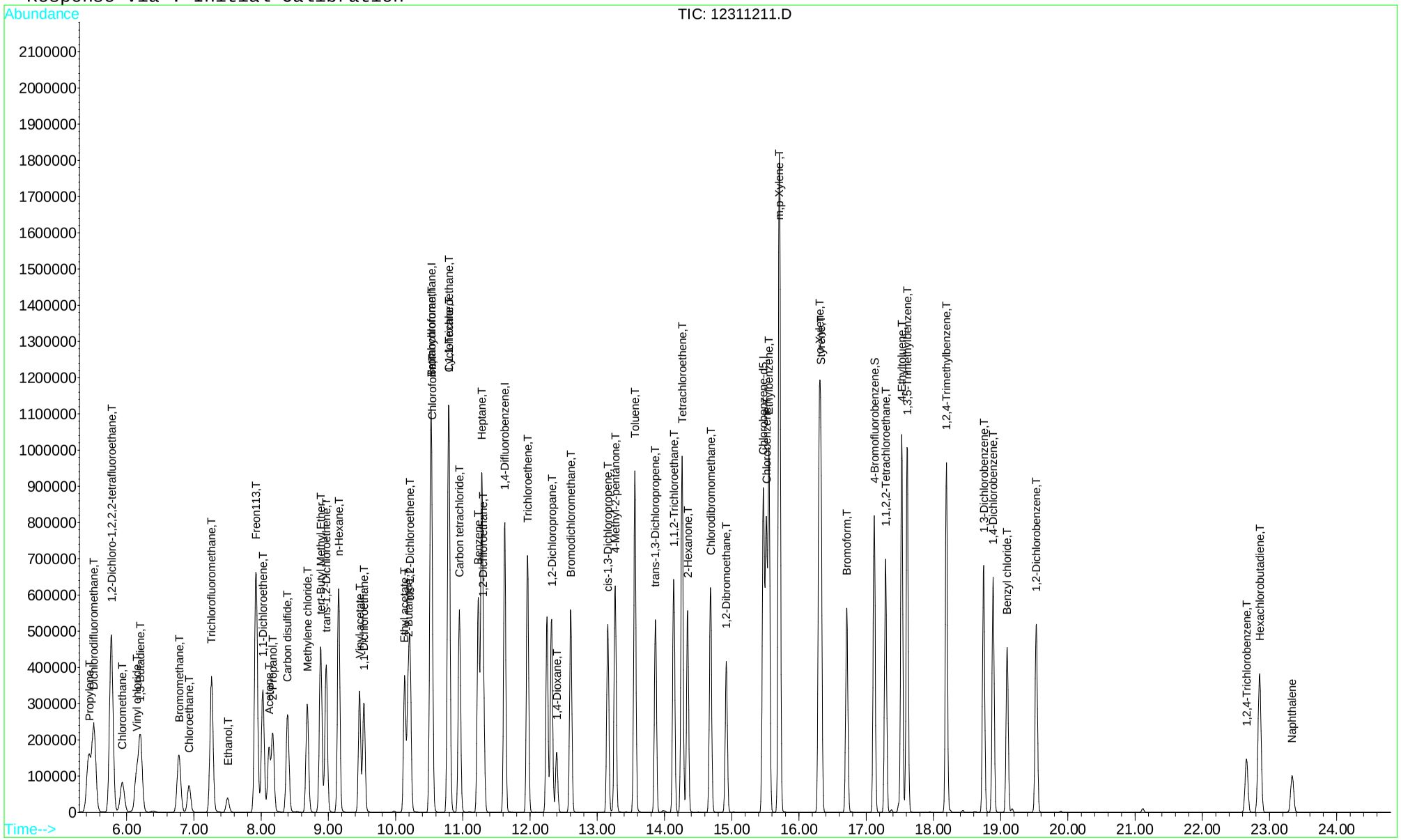
| | Compound | R.T. | QIon | Response | Conc | Unit | Qvalue |
|---|---|---|---|---|---|---|---|
| 53) | Styrene | 16.33 | 104 | 583652 | 10.50 | ppbv | 98 |
| 54) | Bromoform | 16.71 | 173 | 389954 | 10.21 | ppbv | 99 |
| 56) | 1,1,2,2-Tetrachloroethane | 17.29 | 83 | 497558 | 9.91 | ppbv | 99 |
| 57) | 4-Ethyltoluene | 17.53 | 105 | 940405 | 10.00 | ppbv | 97 |
| 58) | 1,3,5-Trimethylbenzene | 17.61 | 105 | 779092 | 9.87 | ppbv | 96 |
| 59) | 1,2,4-Trimethylbenzene | 18.19 | 105 | 746041 | 10.01 | ppbv | 97 |
| 60) | 1,3-Dichlorobenzene | 18.75 | 146 | 403944 | 9.45 | ppbv | 98 |
| 61) | 1,4-Dichlorobenzene | 18.89 | 146 | 378339 | 9.43 | ppbv | 97 |
| 62) | Benzyl chloride | 19.10 | 91 | 485933 | 9.97 | ppbv | 98 |
| 63) | 1,2-Dichlorobenzene | 19.53 | 146 | 331094 | 9.23 | ppbv | 98 |
| 64) | 1,2,4-Trichlorobenzene | 22.65 | 180 | 98244 | 8.67 | ppbv | 98 |
| 65) | Hexachlorobutadiene | 22.85 | 225 | 173740 | 8.39 | ppbv | 99 |
| 66) | Naphthalene | 23.33 | 128 | 174733 | 8.71 | ppbv | 100 |

(#) = qualifier out of range (m) = manual integration

# Quantitation Report

Data File : C:\HPCHEM\1\DATA\123112\12311211.D  Vial: 2
Acq On : 1 Jan 2013 9:18 am  Operator: RACHEL HILL
Sample : ICV VOA1 123112  Inst : VOA 1
Misc : ICV EPA_TO15  Multiplr: 1.00
MS Integration Params: CLME.P
Quant Time: Jan 2 8:59 2013  Quant Results File: 123112V1.RES

Method : C:\HPCHEM\1\METHODS\123112V1.M (RTE Integrator)
Title : TO15 ppbv
Last Update : Wed Jan 02 08:58:32 2013
Response via : Initial Calibration



Response Factor Report VOA 1

Method : C:\HPCHEM\1\METHODS\112812V1.M (RTE Integrator)
Title : TO15 ppbv
Last Update : Thu Nov 29 10:50:07 2012
Response via : Initial Calibration

Calibration Files
2 =11281203.D 4 =11281204.D 5 =11281205.D
6 =11281206.D 7 =11281207.D 8 =11281208.D

| | | Compound | 2 | 4 | 5 | 6 | 7 | 8 | Avg | %RSD |
|---|---|---|---|---|---|---|---|---|---|---|
| 1) | I | Bromochloromethane | ----------ISTD---------- | | | | | | | |
| 2) | T | Propylene | 1.721 | 1.640 | 1.499 | 1.387 | 1.306 | 1.220 | 1.422 | 14.55 |
| 3) | T | Dichlorodifluoromet | 4.464 | 5.016 | 4.644 | 4.332 | 4.096 | 3.830 | 4.303 | 10.53 |
| 4) | T | 1,2-Dichloro-1,2,2, | 2.863 | 3.216 | 3.024 | 2.834 | 2.687 | 2.518 | 2.793 | 10.04 |
| 5) | T | Chloromethane | 1.888 | 2.031 | 1.855 | 1.734 | 1.626 | 1.509 | 1.728 | 12.21 |
| 6) | T | Vinyl chloride | 2.073 | 2.435 | 2.297 | 2.225 | 2.075 | 1.930 | 2.126 | 9.68 |
| 7) | T | 1,3-Butadiene | 1.238 | 1.469 | 1.365 | 1.299 | 1.189 | 1.080 | 1.234 | 13.17 |
| 8) | T | Bromomethane | 1.623 | 1.820 | 1.695 | 1.598 | 1.557 | 1.466 | 1.588 | 9.50 |
| 9) | T | Chloroethane | 0.956 | 1.130 | 1.073 | 0.994 | 0.956 | 0.926 | 0.988 | 8.72 |
| 10) | T | Trichlorofluorometh | 4.746 | 4.590 | 4.324 | 3.993 | 3.768 | 3.510 | 4.039 | 13.29 |
| 11) | T | Ethanol | 0.542 | 0.547 | 0.543 | 0.522 | 0.498 | 0.426 | 0.500 | 10.83 |
| 12) | T | Freon113 | 2.907 | 3.154 | 2.980 | 2.800 | 2.661 | 2.380 | 2.723 | 12.66 |
| 13) | T | 1,1-Dichloroethene | 2.611 | 2.968 | 2.750 | 2.551 | 2.431 | 2.209 | 2.517 | 11.96 |
| 14) | T | Acetone | 2.933 | 2.826 | 2.678 | 2.475 | 2.319 | 1.861 | 2.403 | 19.37 |
| 15) | T | Carbon disulfide | 3.820 | 4.102 | 3.849 | 3.573 | 3.375 | 3.183 | 3.567 | 10.63 |
| 16) | T | 2-Propanol | 2.293 | 2.747 | 2.624 | 2.461 | 2.332 | 2.031 | 2.345 | 12.66 |
| 17) | T | Methylene chloride | 2.359 | 2.197 | 2.031 | 1.885 | 1.761 | 1.545 | 1.891 | 17.51 |
| 18) | T | tert-Butyl Methyl E | 3.762 | 4.134 | 3.913 | 3.684 | 3.517 | 2.819 | 3.502 | 15.62 |
| 19) | T | trans-1,2-Dichloroe | 2.408 | 2.646 | 2.495 | 2.345 | 2.220 | 1.964 | 2.279 | 12.28 |
| 20) | T | n-Hexane | 2.870 | 3.163 | 3.023 | 2.814 | 2.690 | 2.382 | 2.742 | 12.00 |
| 21) | T | 1,1-Dichloroethane | 3.093 | 3.369 | 3.178 | 2.947 | 2.839 | 2.387 | 2.869 | 14.15 |
| 22) | T | Vinyl acetate | 2.893 | 4.544 | 4.306 | 3.964 | 3.766 | 2.956 | 3.601 | 20.11 |
| 23) | T | cis-1,2-Dichloroeth | 1.531 | 1.686 | 1.584 | 1.493 | 1.420 | 1.241 | 1.449 | 12.45 |
| 24) | T | 2-Butanone | 2.518 | 2.957 | 2.778 | 2.685 | 2.450 | 1.986 | 2.457 | 16.88 |
| 25) | T | Ethyl acetate | 2.943 | 3.759 | 3.608 | 3.427 | 3.101 | 2.659 | 3.135 | 15.60 |
| 26) | T | Tetrahydrofuran | 1.514 | 1.943 | 1.834 | 1.695 | 1.577 | 1.275 | 1.562 | 19.23 |
| 27) | T | Chloroform | 2.893 | 3.268 | 3.085 | 2.898 | 2.730 | 2.327 | 2.762 | 14.62 |
| 28) | T | 1,1,1-Trichloroetha | 3.103 | 3.459 | 3.279 | 3.068 | 2.891 | 2.474 | 2.932 | 14.73 |
| 29) | T | Cyclohexane | 2.950 | 3.454 | 3.233 | 3.029 | 2.827 | 2.408 | 2.831 | 18.39 |
| 30) | T | Carbon tetrachlorid | 2.975 | 3.621 | 3.391 | 3.166 | 2.993 | 2.605 | 3.022 | 14.03 |
| 31) | T | Benzene | 4.423 | 4.814 | 4.521 | 4.228 | 4.028 | 3.359 | 4.074 | 15.11 |
| 32) | T | 1,2-Dichloroethane | 2.192 | 2.434 | 2.297 | 2.114 | 2.000 | 1.640 | 2.025 | 16.92 |
| 33) | I | 1,4-Difluorobenzene | ----------ISTD---------- | | | | | | | |
| 34) | T | Heptane | 0.789 | 0.961 | 0.918 | 0.829 | 0.774 | 0.643 | 0.771 | 21.36 |
| 35) | T | Trichloroethene | 0.533 | 0.626 | 0.609 | 0.567 | 0.533 | 0.475 | 0.537 | 13.70 |
| 36) | T | 1,2-Dichloropropane | 0.512 | 0.597 | 0.582 | 0.531 | 0.510 | 0.430 | 0.507 | 15.10 |
| 37) | T | 1,4-Dioxane | 0.192 | 0.262 | 0.270 | 0.252 | 0.238 | 0.204 | 0.229 | 14.87 |
| 38) | T | Bromodichloromethan | 0.806 | 0.985 | 0.951 | 0.872 | 0.827 | 0.714 | 0.826 | 15.28 |
| 39) | T | cis-1,3-Dichloropro | 0.612 | 0.812 | 0.789 | 0.724 | 0.696 | 0.599 | 0.681 | 15.10 |
| 40) | T | 4-Methyl-2-pentanon | 0.316 | 0.474 | 0.469 | 0.430 | 0.418 | 0.364 | 0.400 | 15.99 |
| 41) | T | Toluene | 1.398 | 1.636 | 1.578 | 1.447 | 1.385 | 1.174 | 1.376 | 15.84 |
| 42) | T | trans-1,3-Dichlorop | 0.506 | 0.759 | 0.739 | 0.683 | 0.651 | 0.560 | 0.630 | 16.69 |
| 43) | T | 1,1,2-Trichloroetha | 0.478 | 0.563 | 0.544 | 0.504 | 0.480 | 0.417 | 0.480 | 14.15 |
| 44) | T | Tetrachloroethene | 0.657 | 0.787 | 0.774 | 0.722 | 0.688 | 0.608 | 0.677 | 14.74 |
| 45) | T | 2-Hexanone | 0.518 | 0.915 | 0.902 | 0.827 | 0.779 | 0.656 | 0.738 | 21.52 |
| 46) | T | Chlorodibromomethan | 0.736 | 0.967 | 0.930 | 0.858 | 0.816 | 0.709 | 0.803 | 15.86 |
| 47) | T | 1,2-Dibromoethane | 0.652 | 0.849 | 0.821 | 0.746 | 0.709 | 0.608 | 0.702 | 16.26 |
| 48) | I | Chlorobenzene-d5 | ----------ISTD---------- | | | | | | | |
| 49) | T | Chlorobenzene | 1.245 | 1.418 | 1.368 | 1.270 | 1.215 | 1.039 | 1.205 | 15.56 |
| 50) | T | Ethylbenzene | 2.122 | 2.381 | 2.311 | 2.125 | 2.007 | 1.681 | 2.002 | 17.71 |
| 51) | T | m,p-Xylene | 1.691 | 1.921 | 1.876 | 1.676 | 1.518 | 1.190 | 1.538 | 24.23 |
| 52) | T | o-Xylene | 1.650 | 1.900 | 1.847 | 1.698 | 1.599 | 1.326 | 1.584 | 18.53 |
| 53) | T | Styrene | 1.004 | 1.410 | 1.378 | 1.277 | 1.208 | 1.007 | 1.155 | 19.35 |
| 54) | T | Bromoform | 0.712 | 1.002 | 0.982 | 0.918 | 0.871 | 0.765 | 0.845 | 15.82 |
| 55) | S | 4-Bromofluorobenzen | 0.590 | 0.608 | 0.611 | 0.614 | 0.604 | 0.605 | 0.608 | 1.81 |
| 56) | T | 1,1,2,2-Tetrachloro | 1.056 | 1.223 | 1.193 | 1.102 | 1.034 | 0.908 | 1.042 | 15.13 |
| 57) | T | 4-Ethyltoluene | 1.936 | 2.324 | 2.256 | 2.093 | 1.962 | 1.683 | 1.949 | 16.72 |

(#) = Out of Range ### Number of calibration levels exceeded format ###

Method : C:\HPCHEM\1\METHODS\112812V1.M (RTE Integrator)
Title : TO15 ppbv
Last Update : Thu Nov 29 10:50:07 2012
Response via : Initial Calibration

Calibration Files
2 =11281203.D 4 =11281204.D 5 =11281205.D
6 =11281206.D 7 =11281207.D 8 =11281208.D

| | | Compound | 2 | 4 | 5 | 6 | 7 | 8 | Avg | %RSD |
|---|---|---|---|---|---|---|---|---|---|---|
| 58) | T | 1,3,5-Trimethylbenz | 1.700 | 1.990 | 1.942 | 1.773 | 1.654 | 1.415 | 1.664 | 17.36 |
| 59) | T | 1,2,4-Trimethylbenz | 1.459 | 1.842 | 1.794 | 1.674 | 1.565 | 1.361 | 1.549 | 15.91 |
| 60) | T | 1,3-Dichlorobenzene | 0.780 | 1.000 | 0.977 | 0.917 | 0.857 | 0.770 | 0.858 | 13.07 |
| 61) | T | 1,4-Dichlorobenzene | 0.690 | 0.942 | 0.923 | 0.874 | 0.807 | 0.734 | 0.807 | 13.60 |
| 62) | T | Benzyl chloride | 0.448 | 1.239 | 1.220 | 1.152 | 1.068 | 0.984 | 1.005 | 27.06 |
| 63) | T | 1,2-Dichlorobenzene | 0.658 | 0.845 | 0.829 | 0.776 | 0.710 | 0.663 | 0.727 | 12.54 |
| 64) | T | 1,2,4-Trichlorobenz | 0.165 | 0.242 | 0.249 | 0.249 | 0.215 | 0.254 | 0.228 | 13.79 |
| 65) | T | Hexachlorobutadiene | 0.398 | 0.425 | 0.439 | 0.426 | 0.364 | 0.473 | 0.412 | 9.79 |
| 66) | | Naphthalene | 0.239 | 0.460 | 0.474 | 0.475 | 0.398 | 0.525 | 0.427 | 21.69 |

(#) = Out of Range ### Number of calibration levels exceeded format ###

Compound List Report VOA 1

Method : C:\HPCHEM\1\METHODS\112812V1.M (RTE Integrator)
Title : TO15 ppbv
Last Update : Thu Nov 29 10:50:07 2012
Response via : Initial Calibration
Total Cpnds : 66

| PK# | | Compound Name | QIon | Exp_RT | Rel_RT | Cal | #Qual | A/H | ID |
|---|---|---|---|---|---|---|---|---|---|
| 1 | I | Bromochloromethane | 130 | 10.52 | 1.000 | A | 2 | A | B |
| 2 | T | Propylene | 41 | 5.43 | 0.517 | A | 2 | A | B |
| 3 | T | Dichlorodifluoromethane | 85 | 5.51 | 0.524 | A | 3 | A | B |
| 4 | T | 1,2-Dichloro-1,2,2,2-tetrafluo | 135 | 5.76 | 0.548 | A | 2 | A | B |
| 5 | T | Chloromethane | 50 | 5.93 | 0.564 | A | 3 | A | B |
| 6 | T | Vinyl chloride | 62 | 6.14 | 0.584 | A | 2 | A | B |
| 7 | T | 1,3-Butadiene | 39 | 6.20 | 0.589 | A | 2 | A | B |
| 8 | T | Bromomethane | 94 | 6.77 | 0.644 | A | 3 | A | B |
| 9 | T | Chloroethane | 64 | 6.92 | 0.658 | A | 3 | A | B |
| 10 | T | Trichlorofluoromethane | 101 | 7.25 | 0.690 | A | 3 | A | B |
| 11 | T | Ethanol | 45 | 7.49 | 0.713 | A | 2 | A | B |
| 12 | T | Freon113 | 101 | 7.92 | 0.753 | A | 2 | A | B |
| 13 | T | 1,1-Dichloroethene | 61 | 8.02 | 0.762 | A | 2 | A | B |
| 14 | T | Acetone | 43 | 8.11 | 0.771 | A | 2 | A | B |
| 15 | T | Carbon disulfide | 76 | 8.39 | 0.798 | A | 3 | A | B |
| 16 | T | 2-Propanol | 45 | 8.16 | 0.776 | A | 2 | A | B |
| 17 | T | Methylene chloride | 49 | 8.68 | 0.825 | A | 2 | A | B |
| 18 | T | tert-Butyl Methyl Ether | 73 | 8.88 | 0.844 | A | 2 | A | B |
| 19 | T | trans-1,2-Dichloroethene | 61 | 8.96 | 0.852 | A | 2 | A | B |
| 20 | T | n-Hexane | 57 | 9.15 | 0.870 | A | 3 | A | B |
| 21 | T | 1,1-Dichloroethane | 63 | 9.52 | 0.906 | A | 3 | A | B |
| 22 | T | Vinyl acetate | 43 | 9.45 | 0.899 | A | 2 | A | B |
| 23 | T | cis-1,2-Dichloroethene | 96 | 10.20 | 0.970 | A | 3 | A | B |
| 24 | T | 2-Butanone | 43 | 10.18 | 0.968 | A | 2 | A | B |
| 25 | T | Ethyl acetate | 43 | 10.12 | 0.963 | A | 3 | A | B |
| 26 | T | Tetrahydrofuran | 42 | 10.52 | 1.000 | A | 2 | A | B |
| 27 | T | Chloroform | 83 | 10.53 | 1.001 | A | 2 | A | B |
| 28 | T | 1,1,1-Trichloroethane | 97 | 10.78 | 1.025 | A | 3 | A | B |
| 29 | T | Cyclohexane | 56 | 10.79 | 1.026 | A | 2 | A | B |
| 30 | T | Carbon tetrachloride | 117 | 10.94 | 1.040 | A | 3 | A | B |
| 31 | T | Benzene | 78 | 11.22 | 1.067 | A | 3 | A | B |
| 32 | T | 1,2-Dichloroethane | 62 | 11.30 | 1.075 | A | 3 | A | B |
| 33 | I | 1,4-Difluorobenzene | 114 | 11.61 | 1.000 | A | 2 | A | B |
| 34 | T | Heptane | 43 | 11.27 | 0.971 | A | 3 | A | B |
| 35 | T | Trichloroethene | 130 | 11.96 | 1.030 | A | 3 | A | B |
| 36 | T | 1,2-Dichloropropane | 63 | 12.31 | 1.060 | A | 3 | A | B |
| 37 | T | 1,4-Dioxane | 88 | 12.39 | 1.067 | A | 2 | A | B |
| 38 | T | Bromodichloromethane | 83 | 12.60 | 1.085 | A | 2 | A | B |
| 39 | T | cis-1,3-Dichloropropene | 75 | 13.15 | 1.132 | A | 2 | A | B |
| 40 | T | 4-Methyl-2-pentanone | 58 | 13.26 | 1.142 | A | 3 | A | B |
| 41 | T | Toluene | 91 | 13.55 | 1.167 | A | 2 | A | B |
| 42 | T | trans-1,3-Dichloropropene | 75 | 13.86 | 1.193 | A | 3 | A | B |
| 43 | T | 1,1,2-Trichloroethane | 97 | 14.13 | 1.217 | A | 3 | A | B |
| 44 | T | Tetrachloroethene | 166 | 14.26 | 1.227 | A | 3 | A | B |
| 45 | T | 2-Hexanone | 43 | 14.33 | 1.234 | A | 2 | A | B |
| 46 | T | Chlorodibromomethane | 129 | 14.67 | 1.263 | A | 2 | A | B |
| 47 | T | 1,2-Dibromoethane | 107 | 14.91 | 1.284 | A | 2 | A | B |
| 48 | I | Chlorobenzene-d5 | 117 | 15.46 | 1.000 | A | 2 | A | B |
| 49 | T | Chlorobenzene | 112 | 15.51 | 1.003 | A | 3 | A | B |
| 50 | T | Ethylbenzene | 91 | 15.55 | 1.005 | A | 2 | A | B |
| 51 | T | m,p-Xylene | 91 | 15.70 | 1.016 | A | 2 | A | B |
| 52 | T | o-Xylene | 91 | 16.30 | 1.054 | A | 2 | A | B |
| 53 | T | Styrene | 104 | 16.32 | 1.055 | A | 3 | A | B |
| 54 | T | Bromoform | 173 | 16.70 | 1.080 | A | 3 | A | B |
| 55 | S | 4-Bromofluorobenzene | 95 | 17.11 | 1.107 | A | 2 | A | B |
| 56 | T | 1,1,2,2-Tetrachloroethane | 83 | 17.28 | 1.118 | A | 2 | A | B |
| 57 | T | 4-Ethyltoluene | 105 | 17.52 | 1.133 | A | 1 | A | B |
| 58 | T | 1,3,5-Trimethylbenzene | 105 | 17.60 | 1.138 | A | 2 | A | B |
| 59 | T | 1,2,4-Trimethylbenzene | 105 | 18.19 | 1.176 | A | 2 | A | B |
| 60 | T | 1,3-Dichlorobenzene | 146 | 18.74 | 1.212 | A | 3 | A | B |
| 61 | T | 1,4-Dichlorobenzene | 146 | 18.88 | 1.221 | A | 3 | A | B |
| 62 | T | Benzyl chloride | 91 | 19.09 | 1.234 | A | 2 | A | B |
| 63 | T | 1,2-Dichlorobenzene | 146 | 19.52 | 1.262 | A | 3 | A | B |
| 64 | T | 1,2,4-Trichlorobenzene | 180 | 22.65 | 1.465 | A | 3 | A | B |
| 65 | T | Hexachlorobutadiene | 225 | 22.85 | 1.478 | A | 2 | A | B |
| 66 | | Naphthalene | 128 | 23.33 | 1.509 | A | 2 | A | B |

```
Cal A = Average L = Linear LO = Linear w/origin Q = Quad QO = Quad w/origin
#Qual = number of qualifiers
  A/H = Area or Height
ID  R = R.T.  B = R.T. & Q  Q = Qvalue L = Largest  A = All
-----------------------------------------------------------------------
          112812V1.M     Fri Nov 30 09:14:35 2012
```

# Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\112812\11281211.D  Vial: 11
Acq On : 29 Nov 2012 1:52 am  Operator: RACHEL HILL
Sample : ICV VOA1 112812  Inst : VOA 1
Misc : ICV EPA_TO15  Multiplr: 1.00
MS Integration Params: CLME.P

Method : C:\HPCHEM\1\METHODS\112812V1.M (RTE Integrator)
Title : TO15 ppbv
Last Update : Thu Nov 29 10:50:07 2012
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 200%

| | | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|---|
| 1 | I | Bromochloromethane | 1.000 | 1.000 | 0.0 | 134 | 0.00 |
| 2 | T | Propylene | 1.422 | 1.254 | 11.8 | 103 | 0.00 |
| 3 | T | Dichlorodifluoromethane | 4.303 | 4.089 | 5.0 | 109 | 0.00 |
| 4 | T | 1,2-Dichloro-1,2,2,2-tetraf | 2.793 | 2.698 | 3.4 | 113 | 0.00 |
| 5 | T | Chloromethane | 1.728 | 1.601 | 7.3 | 106 | 0.00 |
| 6 | T | Vinyl chloride | 2.126 | 2.056 | 3.3 | 113 | 0.00 |
| 7 | T | 1,3-Butadiene | 1.234 | 1.179 | 4.5 | 108 | 0.00 |
| 8 | T | Bromomethane | 1.588 | 1.608 | -1.3 | 119 | 0.00 |
| 9 | T | Chloroethane | 0.988 | 0.996 | -0.8 | 118 | 0.00 |
| 10 | T | Trichlorofluoromethane | 4.039 | 3.922 | 2.9 | 115 | 0.00 |
| 11 | T | Ethanol | 0.500 | 0.498 | 0.4 | 122 | 0.00 |
| 12 | T | Freon113 | 2.723 | 2.804 | -3.0 | 119 | 0.00 |
| 13 | T | 1,1-Dichloroethene | 2.517 | 2.602 | -3.4 | 118 | 0.00 |
| 14 | T | Acetone | 2.403 | 2.510 | -4.5 | 119 | 0.00 |
| 15 | T | Carbon disulfide | 3.567 | 4.055 | -13.7 | 133 | 0.00 |
| 16 | T | 2-Propanol | 2.345 | 2.537 | -8.2 | 124 | 0.00 |
| 17 | T | Methylene chloride | 1.891 | 1.795 | 5.1 | 110 | 0.00 |
| 18 | T | tert-Butyl Methyl Ether | 3.502 | 3.829 | -9.3 | 124 | 0.00 |
| 19 | T | trans-1,2-Dichloroethene | 2.279 | 2.430 | -6.6 | 123 | 0.00 |
| 20 | T | n-Hexane | 2.742 | 2.792 | -1.8 | 119 | 0.00 |
| 21 | T | 1,1-Dichloroethane | 2.869 | 2.927 | -2.0 | 117 | 0.00 |
| 22 | T | Vinyl acetate | 3.601 | 3.900 | -8.3 | 115 | 0.00 |
| 23 | T | cis-1,2-Dichloroethene | 1.449 | 1.479 | -2.1 | 118 | 0.00 |
| 24 | T | 2-Butanone | 2.457 | 2.459 | -0.1 | 112 | 0.00 |
| 25 | T | Ethyl acetate | 3.135 | 3.407 | -8.7 | 122 | 0.00 |
| 26 | T | Tetrahydrofuran | 1.562 | 1.618 | -3.6 | 112 | 0.00 |
| 27 | T | Chloroform | 2.762 | 2.783 | -0.8 | 114 | 0.00 |
| 28 | T | 1,1,1-Trichloroethane | 2.932 | 2.959 | -0.9 | 115 | 0.00 |
| 29 | T | Cyclohexane | 2.831 | 2.929 | -3.5 | 114 | 0.00 |
| 30 | T | Carbon tetrachloride | 3.022 | 3.101 | -2.6 | 115 | 0.00 |
| 31 | T | Benzene | 4.074 | 4.224 | -3.7 | 118 | 0.00 |
| 32 | T | 1,2-Dichloroethane | 2.025 | 2.084 | -2.9 | 115 | 0.00 |
| 33 | I | 1,4-Difluorobenzene | 1.000 | 1.000 | 0.0 | 134 | 0.00 |
| 34 | T | Heptane | 0.771 | 0.793 | -2.9 | 111 | 0.00 |
| 35 | T | Trichloroethene | 0.537 | 0.543 | -1.1 | 117 | 0.00 |
| 36 | T | 1,2-Dichloropropane | 0.507 | 0.524 | -3.4 | 118 | 0.00 |
| 37 | T | 1,4-Dioxane | 0.229 | 0.253 | -10.5 | 130 | 0.00 |
| 38 | T | Bromodichloromethane | 0.826 | 0.871 | -5.4 | 119 | 0.00 |
| 39 | T | cis-1,3-Dichloropropene | 0.681 | 0.685 | -0.6 | 113 | 0.00 |
| 40 | T | 4-Methyl-2-pentanone | 0.400 | 0.431 | -7.7 | 122 | 0.00 |
| 41 | T | Toluene | 1.376 | 1.551 | -12.7 | 127 | 0.00 |
| 42 | T | trans-1,3-Dichloropropene | 0.630 | 0.711 | -12.9 | 126 | 0.00 |
| 43 | T | 1,1,2-Trichloroethane | 0.480 | 0.482 | -0.4 | 115 | 0.00 |
| 44 | T | Tetrachloroethene | 0.677 | 0.706 | -4.3 | 121 | 0.00 |
| 45 | T | 2-Hexanone | 0.738 | 0.807 | -9.3 | 119 | 0.00 |
| 46 | T | Chlorodibromomethane | 0.803 | 0.826 | -2.9 | 115 | 0.00 |
| 47 | T | 1,2-Dibromoethane | 0.702 | 0.722 | -2.8 | 114 | 0.00 |
| 48 | I | Chlorobenzene-d5 | 1.000 | 1.000 | 0.0 | 130 | 0.00 |
| 49 | T | Chlorobenzene | 1.205 | 1.258 | -4.4 | 115 | 0.00 |
| 50 | T | Ethylbenzene | 2.002 | 2.092 | -4.5 | 114 | 0.00 |
| 51 | T | m,p-Xylene | 1.538 | 1.669 | -8.5 | 113 | 0.00 |
| 52 | T | o-Xylene | 1.584 | 1.680 | -6.1 | 115 | 0.00 |
| 53 | T | Styrene | 1.155 | 1.245 | -7.8 | 115 | 0.00 |
| 54 | T | Bromoform | 0.845 | 0.888 | -5.1 | 115 | 0.00 |
| 55 | S | 4-Bromofluorobenzene | 0.608 | 0.613 | -0.8 | 131 | 0.00 |

(#) = Out of Range

Data File : C:\HPCHEM\1\DATA\112812\11281211.D Vial: 11
Acq On : 29 Nov 2012 1:52 am Operator: RACHEL HILL
Sample : ICV VOA1 112812 Inst : VOA 1
Misc : ICV EPA_TO15 Multiplr: 1.00
MS Integration Params: CLME.P

Method : C:\HPCHEM\1\METHODS\112812V1.M (RTE Integrator)
Title : TO15 ppbv
Last Update : Thu Nov 29 10:50:07 2012
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 200%

| | | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|---|
| 56 | T | 1,1,2,2-Tetrachloroethane | 1.042 | 1.057 | -1.4 | 112 | 0.00 |
| 57 | T | 4-Ethyltoluene | 1.949 | 2.046 | -5.0 | 114 | 0.00 |
| 58 | T | 1,3,5-Trimethylbenzene | 1.664 | 1.730 | -4.0 | 113 | 0.00 |
| 59 | T | 1,2,4-Trimethylbenzene | 1.549 | 1.635 | -5.6 | 115 | 0.00 |
| 60 | T | 1,3-Dichlorobenzene | 0.858 | 0.900 | -4.9 | 117 | 0.00 |
| 61 | T | 1,4-Dichlorobenzene | 0.807 | 0.856 | -6.1 | 118 | 0.00 |
| 62 | T | Benzyl chloride | 1.005 | 1.110 | -10.4 | 116 | 0.00 |
| 63 | T | 1,2-Dichlorobenzene | 0.727 | 0.749 | -3.0 | 115 | 0.00 |
| 64 | T | 1,2,4-Trichlorobenzene | 0.228 | 0.241 | -5.7 | 129 | 0.00 |
| 65 | T | Hexachlorobutadiene | 0.412 | 0.396 | 3.9 | 121 | 0.00 |
| 66 | | Naphthalene | 0.427 | 0.433 | -1.4 | 122 | 0.00 |

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\112812\11281211.D Vial: 11
Acq On : 29 Nov 2012 1:52 am Operator: RACHEL HILL
Sample : ICV VOA1 112812 Inst : VOA 1
Misc : ICV EPA_TO15 Multiplr: 1.00
MS Integration Params: CLME.P
Quant Time: Nov 30 9:01 2012 Quant Results File: 112812V1.RES

Quant Method : C:\HPCHEM\1\METHODS\112812V1.M (RTE Integrator)
Title : TO15 ppbv
Last Update : Thu Nov 29 10:50:07 2012
Response via : Initial Calibration
DataAcq Meth : 112812V1

| Internal Standards | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 1) Bromochloromethane | 10.51 | 130 | 249572 | 12.50 | ppbv | 0.00 |
| 33) 1,4-Difluorobenzene | 11.62 | 114 | 885435 | 12.50 | ppbv | 0.00 |
| 48) Chlorobenzene-d5 | 15.46 | 117 | 727069 | 12.50 | ppbv | 0.00 |

System Monitoring Compounds

| | | | | | | |
|---|---|---|---|---|---|---|
| 55) 4-Bromofluorobenzene | 17.12 | 95 | 445576 | 12.59 | ppbv | 0.00 |

Spiked Amount 12.500 Range 70 - 113 Recovery = 100.72%

| Target Compounds | | | | | | Qvalue |
|---|---|---|---|---|---|---|
| 2) Propylene | 5.43 | 41 | 255410 | 8.99 | ppbv | 100 |
| 3) Dichlorodifluoromethane | 5.51 | 85 | 751136 | 8.74 | ppbv | 99 |
| 4) 1,2-Dichloro-1,2,2,2-tetra | 5.77 | 135 | 511665 | 9.17 | ppbv # | 71 |
| 5) Chloromethane | 5.93 | 50 | 303718 | 8.80 | ppbv | 99 |
| 6) Vinyl chloride | 6.14 | 62 | 385959 | 9.09 | ppbv | 96 |
| 7) 1,3-Butadiene | 6.20 | 39 | 230782 | 9.37 | ppbv # | 68 |
| 8) Bromomethane | 6.77 | 94 | 298491 | 9.42 | ppbv | 99 |
| 9) Chloroethane | 6.92 | 64 | 182969 | 9.27 | ppbv | 99 |
| 10) Trichlorofluoromethane | 7.26 | 101 | 751664 | 9.32 | ppbv | 99 |
| 11) Ethanol | 7.50 | 45 | 91497 | 9.16 | ppbv # | 92 |
| 12) Freon113 | 7.92 | 101 | 548682 | 10.09 | ppbv | 89 |
| 13) 1,1-Dichloroethene | 8.02 | 61 | 514257 | 10.23 | ppbv # | 86 |
| 14) Acetone | 8.11 | 43 | 501163 | 10.45 | ppbv # | 92 |
| 15) Carbon disulfide | 8.39 | 76 | 785237 | 11.02 | ppbv # | 100 |
| 16) 2-Propanol | 8.17 | 45 | 511544 | 10.93 | ppbv # | 1 |
| 17) Methylene chloride | 8.68 | 49 | 358462 | 9.50 | ppbv | 85 |
| 18) tert-Butyl Methyl Ether | 8.88 | 73 | 756798 | 10.82 | ppbv # | 93 |
| 19) trans-1,2-Dichloroethene | 8.96 | 61 | 475503 | 10.45 | ppbv # | 82 |
| 20) n-Hexane | 9.15 | 57 | 563085 | 10.28 | ppbv # | 86 |
| 21) 1,1-Dichloroethane | 9.52 | 63 | 566795 | 9.89 | ppbv # | 96 |
| 22) Vinyl acetate | 9.46 | 43 | 770835 | 10.72 | ppbv | 98 |
| 23) cis-1,2-Dichloroethene | 10.21 | 96 | 289314 | 10.00 | ppbv # | 80 |
| 24) 2-Butanone | 10.17 | 43 | 486090 | 9.91 | ppbv # | 97 |
| 25) Ethyl acetate | 10.13 | 43 | 666638 | 10.65 | ppbv # | 100 |
| 26) Tetrahydrofuran | 10.51 | 42 | 323022 | 10.36 | ppbv | 98 |
| 27) Chloroform | 10.54 | 83 | 544497 | 9.87 | ppbv | 100 |
| 28) 1,1,1-Trichloroethane | 10.78 | 97 | 567246 | 9.69 | ppbv # | 94 |
| 29) Cyclohexane | 10.79 | 56 | 573067 | 10.14 | ppbv # | 80 |
| 30) Carbon tetrachloride | 10.94 | 117 | 588177 | 9.75 | ppbv | 98 |
| 31) Benzene | 11.23 | 78 | 809684 | 9.96 | ppbv | 94 |
| 32) 1,2-Dichloroethane | 11.30 | 62 | 403546 | 9.98 | ppbv # | 96 |
| 34) Heptane | 11.27 | 43 | 555900 | 10.18 | ppbv # | 91 |
| 35) Trichloroethene | 11.96 | 130 | 369555 | 9.72 | ppbv | 96 |
| 36) 1,2-Dichloropropane | 12.31 | 63 | 363417 | 10.12 | ppbv | 95 |
| 37) 1,4-Dioxane | 12.39 | 88 | 171850 | 10.57 | ppbv # | 84 |
| 38) Bromodichloromethane | 12.60 | 83 | 592426 | 10.12 | ppbv | 99 |
| 39) cis-1,3-Dichloropropene | 13.15 | 75 | 461122 | 9.56 | ppbv | 98 |
| 40) 4-Methyl-2-pentanone | 13.26 | 58 | 305072 | 10.76 | ppbv # | 91 |
| 41) Toluene | 13.55 | 91 | 1076726 | 11.05 | ppbv | 99 |
| 42) trans-1,3-Dichloropropene | 13.86 | 75 | 458257 | 10.27 | ppbv | 98 |
| 43) 1,1,2-Trichloroethane | 14.13 | 97 | 334672 | 9.85 | ppbv | 98 |
| 44) Tetrachloroethene | 14.25 | 166 | 480310 | 10.02 | ppbv | 98 |
| 45) 2-Hexanone | 14.34 | 43 | 560323 | 10.72 | ppbv | 86 |
| 46) Chlorodibromomethane | 14.68 | 129 | 573262 | 10.07 | ppbv | 99 |
| 47) 1,2-Dibromoethane | 14.91 | 107 | 490684 | 9.87 | ppbv | 99 |
| 49) Chlorobenzene | 15.51 | 112 | 724327 | 10.33 | ppbv # | 95 |
| 50) Ethylbenzene | 15.55 | 91 | 1192722 | 10.24 | ppbv | 95 |
| 51) m,p-Xylene | 15.70 | 91 | 1864280 | 20.83 | ppbv | 94 |
| 52) o-Xylene | 16.29 | 91 | 977471 | 10.61 | ppbv # | 93 |

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\112812\11281211.D Vial: 11
Acq On : 29 Nov 2012 1:52 am Operator: RACHEL HILL
Sample : ICV VOA1 112812 Inst : VOA 1
Misc : ICV EPA_TO15 Multiplr: 1.00
MS Integration Params: CLME.P
Quant Time: Nov 30 9:01 2012 Quant Results File: 112812V1.RES

Quant Method : C:\HPCHEM\1\METHODS\112812V1.M (RTE Integrator)
Title : TO15 ppbv
Last Update : Thu Nov 29 10:50:07 2012
Response via : Initial Calibration
DataAcq Meth : 112812V1

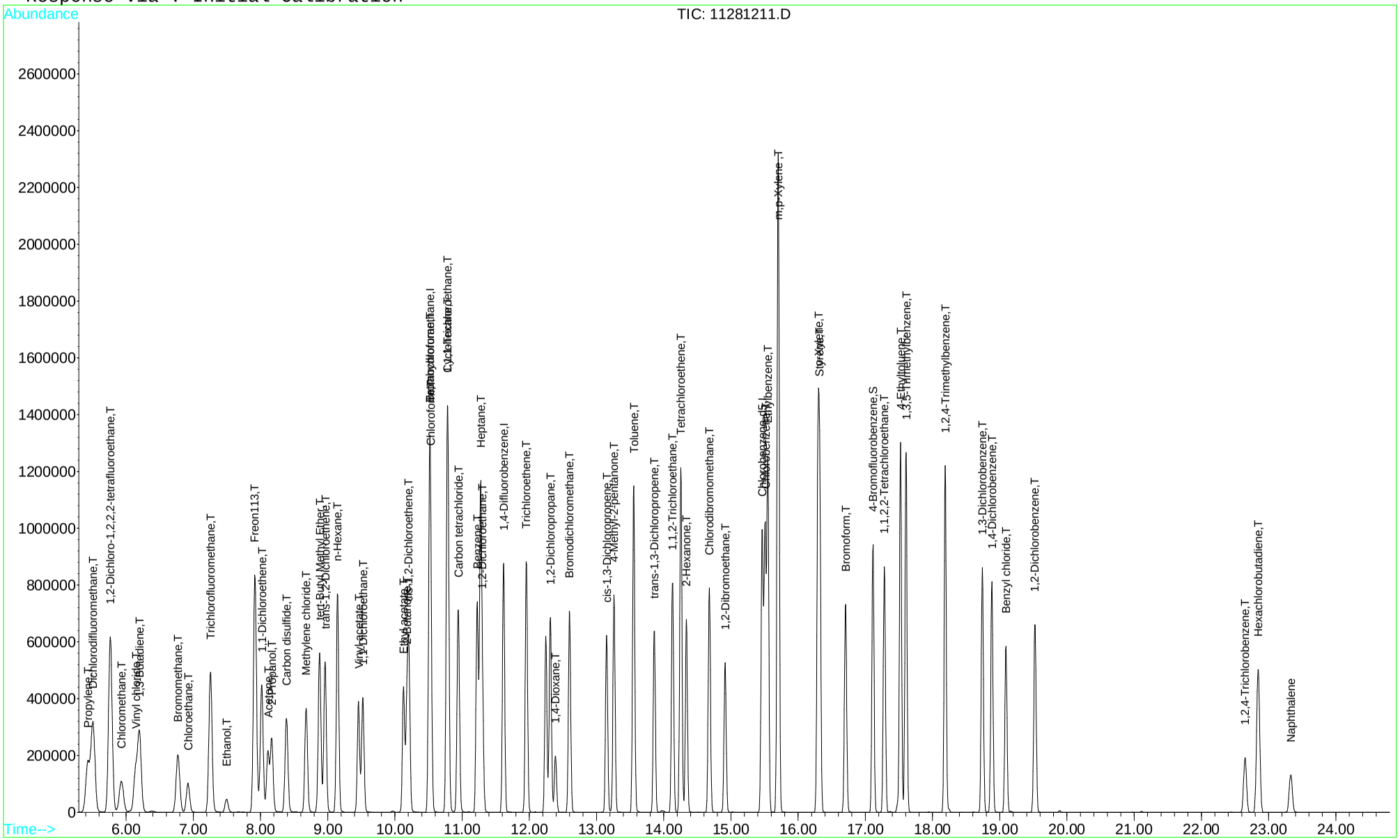
| | Compound | R.T. | QIon | Response | Conc | Unit | Qvalue |
|---|---|---|---|---|---|---|---|
| 53) | Styrene | 16.32 | 104 | 709439 | 10.56 | ppbv | 97 |
| 54) | Bromoform | 16.71 | 173 | 495703 | 10.09 | ppbv | 98 |
| 56) | 1,1,2,2-Tetrachloroethane | 17.28 | 83 | 614820 | 10.15 | ppbv | 99 |
| 57) | 4-Ethyltoluene | 17.52 | 105 | 1166019 | 10.28 | ppbv | 97 |
| 58) | 1,3,5-Trimethylbenzene | 17.61 | 105 | 976082 | 10.09 | ppbv | 97 |
| 59) | 1,2,4-Trimethylbenzene | 18.19 | 105 | 931803 | 10.34 | ppbv | 98 |
| 60) | 1,3-Dichlorobenzene | 18.74 | 146 | 507777 | 10.18 | ppbv | 97 |
| 61) | 1,4-Dichlorobenzene | 18.88 | 146 | 477737 | 10.18 | ppbv | 97 |
| 62) | Benzyl chloride | 19.09 | 91 | 626263 | 10.71 | ppbv | 99 |
| 63) | 1,2-Dichlorobenzene | 19.53 | 146 | 422531 | 9.99 | ppbv | 97 |
| 64) | 1,2,4-Trichlorobenzene | 22.65 | 180 | 127569 | 9.63 | ppbv | 97 |
| 65) | Hexachlorobutadiene | 22.85 | 225 | 216550 | 9.03 | ppbv | 99 |
| 66) | Naphthalene | 23.33 | 128 | 231705 | 9.32 | ppbv | 100 |

(#) = qualifier out of range (m) = manual integration

# Quantitation Report

Data File : C:\HPCHEM\1\DATA\112812\11281211.D  Vial: 11
Acq On : 29 Nov 2012 1:52 am  Operator: RACHEL HILL
Sample : ICV VOA1 112812  Inst : VOA 1
Misc : ICV EPA_TO15  Multiplr: 1.00
MS Integration Params: CLME.P
Quant Time: Nov 30 9:01 2012  Quant Results File: 112812V1.RES

Method : C:\HPCHEM\1\METHODS\112812V1.M (RTE Integrator)
Title : TO15 ppbv
Last Update : Thu Nov 29 10:50:07 2012
Response via : Initial Calibration



Response Factor Report VOA 1

Method : C:\HPCHEM\1\METHODS\122012V1.M (RTE Integrator)
Title : TO15 ppbv
Last Update : Fri Dec 21 12:12:59 2012
Response via : Initial Calibration

Calibration Files
2 =12201203.D 4 =12201204.D 5 =12201205.D
6 =12201206.D 7 =12201207.D 8 =12201208.D

| | | Compound | 2 | 4 | 5 | 6 | 7 | 8 | Avg | %RSD |
|---|---|---|---|---|---|---|---|---|---|---|
| 1) | I | Bromochloromethane | ----------ISTD---------- | | | | | | | |
| 2) | T | Propylene | 1.194 | 1.215 | 1.135 | 1.112 | 1.107 | 1.027 | 1.126 | 5.62 |
| 3) | T | Dichlorodifluoromet | 3.444 | 4.227 | 4.022 | 3.953 | 3.921 | 3.606 | 3.845 | 6.91 |
| 4) | T | 1,2-Dichloro-1,2,2, | 2.382 | 2.928 | 2.760 | 2.690 | 2.651 | 2.390 | 2.599 | 8.30 |
| 5) | T | Chloromethane | 1.425 | 1.683 | 1.626 | 1.562 | 1.542 | 1.400 | 1.530 | 6.81 |
| 6) | T | Vinyl chloride | 1.632 | 2.054 | 1.938 | 1.887 | 1.850 | 1.688 | 1.825 | 8.26 |
| 7) | T | 1,3-Butadiene | 0.873 | 1.065 | 1.001 | 0.960 | 0.936 | 0.847 | 0.930 | 9.21 |
| 8) | T | Bromomethane | 1.249 | 1.639 | 1.514 | 1.420 | 1.348 | 1.243 | 1.376 | 11.42 |
| 9) | T | Chloroethane | 0.822 | 1.067 | 1.018 | 0.987 | 0.952 | 0.775 | 0.915 | 13.05 |
| 10) | T | Trichlorofluorometh | 3.865 | 4.090 | 3.889 | 3.762 | 3.657 | 3.290 | 3.671 | 9.28 |
| 11) | T | Ethanol | 0.617 | 0.485 | 0.480 | 0.447 | 0.441 | 0.388 | 0.469 | 15.63 |
| 12) | T | Freon113 | 2.342 | 2.943 | 2.772 | 2.660 | 2.512 | 2.170 | 2.495 | 12.87 |
| 13) | T | 1,1-Dichloroethene | 2.134 | 2.630 | 2.492 | 2.410 | 2.319 | 2.051 | 2.300 | 9.77 |
| 14) | T | Acetone | 2.268 | 2.312 | 2.194 | 2.043 | 1.897 | 1.569 | 1.984 | 15.42 |
| 15) | T | Carbon disulfide | 3.115 | 3.878 | 3.701 | 3.561 | 3.498 | 3.144 | 3.443 | 8.60 |
| 16) | T | 2-Propanol | 2.138 | 2.283 | 2.187 | 2.059 | 1.992 | 1.752 | 2.035 | 9.37 |
| 17) | T | Methylene chloride | 1.743 | 1.848 | 1.736 | 1.658 | 1.579 | 1.372 | 1.618 | 11.23 |
| 18) | T | tert-Butyl Methyl E | 3.170 | 3.996 | 3.839 | 3.546 | 3.277 | 2.708 | 3.323 | 15.22 |
| 19) | T | trans-1,2-Dichloroe | 1.962 | 2.453 | 2.330 | 2.229 | 2.119 | 1.828 | 2.107 | 11.61 |
| 20) | T | n-Hexane | 2.350 | 2.923 | 2.765 | 2.621 | 2.489 | 2.134 | 2.482 | 12.60 |
| 21) | T | 1,1-Dichloroethane | 2.514 | 3.162 | 3.028 | 2.821 | 2.649 | 2.256 | 2.670 | 13.27 |
| 22) | T | Vinyl acetate | 2.295 | 3.947 | 3.729 | 3.447 | 3.151 | 2.573 | 3.100 | 20.63 |
| 23) | T | cis-1,2-Dichloroeth | 1.283 | 1.591 | 1.507 | 1.428 | 1.347 | 1.159 | 1.350 | 12.66 |
| 24) | T | 2-Butanone | 2.002 | 2.514 | 2.250 | 2.124 | 1.892 | 1.546 | 1.983 | 17.92 |
| 25) | T | Ethyl acetate | 2.332 | 3.335 | 3.114 | 2.849 | 2.691 | 2.231 | 2.687 | 16.28 |
| 26) | T | Tetrahydrofuran | 1.233 | 1.532 | 1.436 | 1.319 | 1.213 | 0.992 | 1.233 | 18.30 |
| 27) | T | Chloroform | 2.424 | 2.895 | 2.746 | 2.550 | 2.417 | 2.049 | 2.441 | 13.50 |
| 28) | T | 1,1,1-Trichloroetha | 2.474 | 3.069 | 2.883 | 2.713 | 2.551 | 2.172 | 2.570 | 13.54 |
| 29) | T | Cyclohexane | 2.429 | 2.992 | 2.753 | 2.598 | 2.393 | 1.959 | 2.396 | 19.22 |
| 30) | T | Carbon tetrachlorid | 2.410 | 3.234 | 3.061 | 2.921 | 2.801 | 2.411 | 2.747 | 12.62 |
| 31) | T | Benzene | 3.794 | 4.689 | 4.463 | 4.134 | 3.855 | 3.190 | 3.893 | 15.23 |
| 32) | T | 1,2-Dichloroethane | 1.680 | 2.121 | 2.013 | 1.850 | 1.728 | 1.434 | 1.751 | 15.16 |
| 33) | I | 1,4-Difluorobenzene | ----------ISTD---------- | | | | | | | |
| 34) | T | Heptane | 0.620 | 0.724 | 0.643 | 0.598 | 0.552 | 0.417 | 0.554 | 25.06 |
| 35) | T | Trichloroethene | 0.453 | 0.541 | 0.504 | 0.473 | 0.450 | 0.365 | 0.445 | 16.97 |
| 36) | T | 1,2-Dichloropropane | 0.433 | 0.533 | 0.493 | 0.461 | 0.427 | 0.340 | 0.428 | 18.83 |
| 37) | T | 1,4-Dioxane | 0.193 | 0.235 | 0.226 | 0.217 | 0.205 | 0.170 | 0.201 | 13.95 |
| 38) | T | Bromodichloromethan | 0.666 | 0.836 | 0.784 | 0.727 | 0.680 | 0.543 | 0.676 | 18.18 |
| 39) | T | cis-1,3-Dichloropro | 0.536 | 0.727 | 0.678 | 0.632 | 0.600 | 0.479 | 0.584 | 17.98 |
| 40) | T | 4-Methyl-2-pentanon | 0.294 | 0.397 | 0.373 | 0.346 | 0.330 | 0.268 | 0.322 | 16.91 |
| 41) | T | Toluene | 1.212 | 1.418 | 1.311 | 1.214 | 1.133 | 0.896 | 1.140 | 19.52 |
| 42) | T | trans-1,3-Dichlorop | 0.458 | 0.656 | 0.613 | 0.573 | 0.548 | 0.443 | 0.529 | 17.57 |
| 43) | T | 1,1,2-Trichloroetha | 0.397 | 0.488 | 0.456 | 0.425 | 0.402 | 0.320 | 0.397 | 17.93 |
| 44) | T | Tetrachloroethene | 0.593 | 0.691 | 0.640 | 0.596 | 0.567 | 0.450 | 0.561 | 18.90 |
| 45) | T | 2-Hexanone | 0.443 | 0.691 | 0.641 | 0.589 | 0.554 | 0.439 | 0.537 | 20.83 |
| 46) | T | Chlorodibromomethan | 0.603 | 0.813 | 0.744 | 0.694 | 0.658 | 0.527 | 0.645 | 18.48 |
| 47) | T | 1,2-Dibromoethane | 0.564 | 0.735 | 0.680 | 0.628 | 0.591 | 0.466 | 0.583 | 19.23 |
| 48) | I | Chlorobenzene-d5 | ----------ISTD---------- | | | | | | | |
| 49) | T | Chlorobenzene | 1.068 | 1.256 | 1.177 | 1.080 | 1.005 | 0.807 | 1.014 | 19.36 |
| 50) | T | Ethylbenzene | 1.835 | 2.075 | 1.936 | 1.772 | 1.621 | 1.288 | 1.662 | 21.04 |
| 51) | T | m,p-Xylene | 1.443 | 1.554 | 1.435 | 1.283 | 1.148 | 0.889 | 1.214 | 25.02 |
| 52) | T | o-Xylene | 1.406 | 1.604 | 1.489 | 1.353 | 1.256 | 0.991 | 1.279 | 21.07 |
| 53) | T | Styrene | 0.868 | 1.188 | 1.116 | 1.010 | 0.939 | 0.744 | 0.928 | 21.40 |
| 54) | T | Bromoform | 0.629 | 0.876 | 0.821 | 0.764 | 0.723 | 0.589 | 0.705 | 17.77 |
| 55) | S | 4-Bromofluorobenzen | 0.583 | 0.610 | 0.608 | 0.613 | 0.612 | 0.609 | 0.609 | 2.17 |
| 56) | T | 1,1,2,2-Tetrachloro | 0.927 | 1.080 | 1.015 | 0.922 | 0.857 | 0.695 | 0.872 | 19.27 |
| 57) | T | 4-Ethyltoluene | 1.761 | 2.011 | 1.888 | 1.731 | 1.587 | 1.285 | 1.629 | 19.45 |

(#) = Out of Range ### Number of calibration levels exceeded format ###

Method : C:\HPCHEM\1\METHODS\122012V1.M (RTE Integrator)
Title : TO15 ppbv
Last Update : Fri Dec 21 12:12:59 2012
Response via : Initial Calibration

Calibration Files
2 =12201203.D 4 =12201204.D 5 =12201205.D
6 =12201206.D 7 =12201207.D 8 =12201208.D

| | | Compound | 2 | 4 | 5 | 6 | 7 | 8 | Avg | %RSD |
|---|---|---|---|---|---|---|---|---|---|---|
| 58) | T | 1,3,5-Trimethylbenz | 1.541 | 1.698 | 1.593 | 1.449 | 1.328 | 1.075 | 1.377 | 19.96 |
| 59) | T | 1,2,4-Trimethylbenz | 1.335 | 1.574 | 1.483 | 1.367 | 1.270 | 1.040 | 1.285 | 18.07 |
| 60) | T | 1,3-Dichlorobenzene | 0.750 | 0.896 | 0.861 | 0.783 | 0.740 | 0.622 | 0.746 | 15.71 |
| 61) | T | 1,4-Dichlorobenzene | 0.691 | 0.848 | 0.814 | 0.751 | 0.702 | 0.595 | 0.707 | 15.38 |
| 62) | T | Benzyl chloride | 0.476 | 1.083 | 1.058 | 0.976 | 0.918 | 0.790 | 0.865 | 24.49 |
| 63) | T | 1,2-Dichlorobenzene | 0.655 | 0.761 | 0.724 | 0.667 | 0.629 | 0.528 | 0.638 | 14.97 |
| 64) | T | 1,2,4-Trichlorobenz | 0.202 | 0.220 | 0.215 | 0.204 | 0.197 | 0.175 | 0.201 | 7.18 |
| 65) | T | Hexachlorobutadiene | 0.463 | 0.394 | 0.377 | 0.359 | 0.330 | 0.287 | 0.359 | 16.88 |
| 66) | | Naphthalene | 0.317 | 0.387 | 0.389 | 0.379 | 0.359 | 0.323 | 0.361 | 8.26 |

(#) = Out of Range ### Number of calibration levels exceeded format ###

Compound List Report VOA 1

Method : C:\HPCHEM\1\METHODS\122012V1.M (RTE Integrator)
Title : TO15 ppbv
Last Update : Fri Dec 21 12:12:59 2012
Response via : Initial Calibration
Total Cpnds : 66

| PK# | | Compound Name | QIon | Exp_RT | Rel_RT | Cal | #Qual | A/H | ID |
|---|---|---|---|---|---|---|---|---|---|
| 1 | I | Bromochloromethane | 130 | 10.52 | 1.000 | A | 2 | A | B |
| 2 | T | Propylene | 41 | 5.44 | 0.517 | A | 2 | A | B |
| 3 | T | Dichlorodifluoromethane | 85 | 5.51 | 0.524 | A | 3 | A | B |
| 4 | T | 1,2-Dichloro-1,2,2,2-tetrafluo | 135 | 5.77 | 0.549 | A | 2 | A | B |
| 5 | T | Chloromethane | 50 | 5.93 | 0.564 | A | 3 | A | B |
| 6 | T | Vinyl chloride | 62 | 6.14 | 0.584 | A | 2 | A | B |
| 7 | T | 1,3-Butadiene | 39 | 6.21 | 0.590 | A | 2 | A | B |
| 8 | T | Bromomethane | 94 | 6.77 | 0.644 | A | 3 | A | B |
| 9 | T | Chloroethane | 64 | 6.93 | 0.658 | A | 3 | A | B |
| 10 | T | Trichlorofluoromethane | 101 | 7.26 | 0.690 | A | 3 | A | B |
| 11 | T | Ethanol | 45 | 7.49 | 0.712 | A | 2 | A | B |
| 12 | T | Freon113 | 101 | 7.92 | 0.753 | A | 2 | A | B |
| 13 | T | 1,1-Dichloroethene | 61 | 8.03 | 0.763 | A | 2 | A | B |
| 14 | T | Acetone | 43 | 8.12 | 0.771 | A | 2 | A | B |
| 15 | T | Carbon disulfide | 76 | 8.39 | 0.798 | A | 3 | A | B |
| 16 | T | 2-Propanol | 45 | 8.17 | 0.776 | A | 2 | A | B |
| 17 | T | Methylene chloride | 49 | 8.69 | 0.826 | A | 2 | A | B |
| 18 | T | tert-Butyl Methyl Ether | 73 | 8.88 | 0.844 | A | 2 | A | B |
| 19 | T | trans-1,2-Dichloroethene | 61 | 8.96 | 0.852 | A | 2 | A | B |
| 20 | T | n-Hexane | 57 | 9.15 | 0.870 | A | 3 | A | B |
| 21 | T | 1,1-Dichloroethane | 63 | 9.53 | 0.906 | A | 3 | A | B |
| 22 | T | Vinyl acetate | 43 | 9.46 | 0.900 | A | 2 | A | B |
| 23 | T | cis-1,2-Dichloroethene | 96 | 10.21 | 0.971 | A | 3 | A | B |
| 24 | T | 2-Butanone | 43 | 10.18 | 0.968 | A | 2 | A | B |
| 25 | T | Ethyl acetate | 43 | 10.13 | 0.963 | A | 3 | A | B |
| 26 | T | Tetrahydrofuran | 42 | 10.52 | 1.000 | A | 2 | A | B |
| 27 | T | Chloroform | 83 | 10.54 | 1.001 | A | 2 | A | B |
| 28 | T | 1,1,1-Trichloroethane | 97 | 10.78 | 1.025 | A | 3 | A | B |
| 29 | T | Cyclohexane | 56 | 10.79 | 1.026 | A | 2 | A | B |
| 30 | T | Carbon tetrachloride | 117 | 10.95 | 1.041 | A | 3 | A | B |
| 31 | T | Benzene | 78 | 11.23 | 1.067 | A | 3 | A | B |
| 32 | T | 1,2-Dichloroethane | 62 | 11.31 | 1.075 | A | 3 | A | B |
| 33 | I | 1,4-Difluorobenzene | 114 | 11.62 | 1.000 | A | 2 | A | B |
| 34 | T | Heptane | 43 | 11.28 | 0.971 | A | 3 | A | B |
| 35 | T | Trichloroethene | 130 | 11.96 | 1.029 | A | 3 | A | B |
| 36 | T | 1,2-Dichloropropane | 63 | 12.32 | 1.060 | A | 3 | A | B |
| 37 | T | 1,4-Dioxane | 88 | 12.39 | 1.067 | A | 2 | A | B |
| 38 | T | Bromodichloromethane | 83 | 12.60 | 1.085 | A | 2 | A | B |
| 39 | T | cis-1,3-Dichloropropene | 75 | 13.15 | 1.132 | A | 2 | A | B |
| 40 | T | 4-Methyl-2-pentanone | 58 | 13.27 | 1.142 | A | 3 | A | B |
| 41 | T | Toluene | 91 | 13.56 | 1.167 | A | 2 | A | B |
| 42 | T | trans-1,3-Dichloropropene | 75 | 13.86 | 1.193 | A | 3 | A | B |
| 43 | T | 1,1,2-Trichloroethane | 97 | 14.14 | 1.217 | A | 3 | A | B |
| 44 | T | Tetrachloroethene | 166 | 14.26 | 1.227 | A | 3 | A | B |
| 45 | T | 2-Hexanone | 43 | 14.34 | 1.234 | A | 2 | A | B |
| 46 | T | Chlorodibromomethane | 129 | 14.68 | 1.264 | A | 2 | A | B |
| 47 | T | 1,2-Dibromoethane | 107 | 14.91 | 1.284 | A | 2 | A | B |
| 48 | I | Chlorobenzene-d5 | 117 | 15.47 | 1.000 | A | 2 | A | B |
| 49 | T | Chlorobenzene | 112 | 15.51 | 1.003 | A | 3 | A | B |
| 50 | T | Ethylbenzene | 91 | 15.55 | 1.005 | A | 2 | A | B |
| 51 | T | m,p-Xylene | 91 | 15.70 | 1.015 | A | 2 | A | B |
| 52 | T | o-Xylene | 91 | 16.30 | 1.054 | A | 2 | A | B |
| 53 | T | Styrene | 104 | 16.33 | 1.055 | A | 3 | A | B |
| 54 | T | Bromoform | 173 | 16.71 | 1.080 | A | 3 | A | B |
| 55 | S | 4-Bromofluorobenzene | 95 | 17.12 | 1.107 | A | 2 | A | B |
| 56 | T | 1,1,2,2-Tetrachloroethane | 83 | 17.28 | 1.117 | A | 2 | A | B |
| 57 | T | 4-Ethyltoluene | 105 | 17.53 | 1.133 | A | 1 | A | B |
| 58 | T | 1,3,5-Trimethylbenzene | 105 | 17.61 | 1.138 | A | 2 | A | B |
| 59 | T | 1,2,4-Trimethylbenzene | 105 | 18.19 | 1.176 | A | 2 | A | B |
| 60 | T | 1,3-Dichlorobenzene | 146 | 18.74 | 1.212 | A | 3 | A | B |
| 61 | T | 1,4-Dichlorobenzene | 146 | 18.88 | 1.221 | A | 3 | A | B |
| 62 | T | Benzyl chloride | 91 | 19.09 | 1.234 | A | 2 | A | B |
| 63 | T | 1,2-Dichlorobenzene | 146 | 19.53 | 1.262 | A | 3 | A | B |
| 64 | T | 1,2,4-Trichlorobenzene | 180 | 22.66 | 1.465 | A | 3 | A | B |
| 65 | T | Hexachlorobutadiene | 225 | 22.85 | 1.477 | A | 2 | A | B |
| 66 | | Naphthalene | 128 | 23.34 | 1.509 | A | 2 | A | B |

```
Cal A = Average L = Linear LO = Linear w/origin Q = Quad QO = Quad w/origin
#Qual = number of qualifiers
  A/H = Area or Height
ID  R = R.T.  B = R.T. & Q  Q = Qvalue L = Largest  A = All
-----------------------------------------------------------------------
          122012V1.M     Wed Dec 26 09:19:10 2012
```

# Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\122012B\12201211.D  Vial: 2
Acq On : 21 Dec 2012 4:58 am  Operator: RACHEL HILL
Sample : ICV VOA1 122012  Inst : VOA 1
Misc : ICV EPA_TO15  Multiplr: 1.00
MS Integration Params: CLME.P

Method : C:\HPCHEM\1\METHODS\122012V1.M (RTE Integrator)
Title : TO15 ppbv
Last Update : Fri Dec 21 12:12:59 2012
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 200%

| | | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|---|
| 1 | I | Bromochloromethane | 1.000 | 1.000 | 0.0 | 110 | 0.00 |
| 2 | T | Propylene | 1.126 | 1.177 | -4.5 | 107 | 0.00 |
| 3 | T | Dichlorodifluoromethane | 3.845 | 4.231 | -10.0 | 110 | 0.00 |
| 4 | T | 1,2-Dichloro-1,2,2,2-tetraf | 2.599 | 2.889 | -11.2 | 109 | 0.00 |
| 5 | T | Chloromethane | 1.530 | 1.647 | -7.6 | 108 | 0.00 |
| 6 | T | Vinyl chloride | 1.825 | 2.007 | -10.0 | 108 | 0.00 |
| 7 | T | 1,3-Butadiene | 0.930 | 1.014 | -9.0 | 105 | 0.00 |
| 8 | T | Bromomethane | 1.376 | 1.658 | -20.5 | 111 | 0.00 |
| 9 | T | Chloroethane | 0.915 | 1.077 | -17.7 | 111 | 0.00 |
| 10 | T | Trichlorofluoromethane | 3.671 | 4.073 | -11.0 | 110 | 0.00 |
| 11 | T | Ethanol | 0.469 | 0.492 | -4.9 | 112 | 0.01 |
| 12 | T | Freon113 | 2.495 | 2.938 | -17.8 | 110 | 0.00 |
| 13 | T | 1,1-Dichloroethene | 2.300 | 2.631 | -14.4 | 110 | 0.00 |
| 14 | T | Acetone | 1.984 | 2.230 | -12.4 | 106 | 0.00 |
| 15 | T | Carbon disulfide | 3.443 | 3.977 | -15.5 | 113 | 0.00 |
| 16 | T | 2-Propanol | 2.035 | 2.251 | -10.6 | 109 | 0.00 |
| 17 | T | Methylene chloride | 1.618 | 1.774 | -9.6 | 106 | 0.00 |
| 18 | T | tert-Butyl Methyl Ether | 3.323 | 4.006 | -20.6 | 110 | 0.00 |
| 19 | T | trans-1,2-Dichloroethene | 2.107 | 2.423 | -15.0 | 109 | 0.00 |
| 20 | T | n-Hexane | 2.482 | 2.845 | -14.6 | 107 | 0.00 |
| 21 | T | 1,1-Dichloroethane | 2.670 | 3.127 | -17.1 | 109 | 0.00 |
| 22 | T | Vinyl acetate | 3.100 | 3.761 | -21.3 | 105 | 0.00 |
| 23 | T | cis-1,2-Dichloroethene | 1.350 | 1.603 | -18.7 | 111 | 0.00 |
| 24 | T | 2-Butanone | 1.983 | 2.340 | -18.0 | 103 | 0.00 |
| 25 | T | Ethyl acetate | 2.687 | 3.067 | -14.1 | 101 | 0.00 |
| 26 | T | Tetrahydrofuran | 1.233 | 1.445 | -17.2 | 104 | 0.00 |
| 27 | T | Chloroform | 2.441 | 2.849 | -16.7 | 108 | 0.00 |
| 28 | T | 1,1,1-Trichloroethane | 2.570 | 3.001 | -16.8 | 108 | 0.00 |
| 29 | T | Cyclohexane | 2.396 | 2.866 | -19.6 | 106 | 0.00 |
| 30 | T | Carbon tetrachloride | 2.747 | 3.196 | -16.3 | 109 | 0.00 |
| 31 | T | Benzene | 3.893 | 4.653 | -19.5 | 109 | 0.00 |
| 32 | T | 1,2-Dichloroethane | 1.751 | 2.048 | -17.0 | 106 | 0.00 |
| 33 | I | 1,4-Difluorobenzene | 1.000 | 1.000 | 0.0 | 112 | 0.00 |
| 34 | T | Heptane | 0.554 | 0.666 | -20.2 | 103 | 0.00 |
| 35 | T | Trichloroethene | 0.445 | 0.531 | -19.3 | 110 | 0.00 |
| 36 | T | 1,2-Dichloropropane | 0.428 | 0.520 | -21.5 | 110 | 0.00 |
| 37 | T | 1,4-Dioxane | 0.201 | 0.245 | -21.9 | 117 | 0.00 |
| 38 | T | Bromodichloromethane | 0.676 | 0.819 | -21.2 | 110 | 0.00 |
| 39 | T | cis-1,3-Dichloropropene | 0.584 | 0.712 | -21.9 | 110 | 0.00 |
| 40 | T | 4-Methyl-2-pentanone | 0.322 | 0.385 | -19.6 | 109 | 0.00 |
| 41 | T | Toluene | 1.140 | 1.388 | -21.8 | 110 | 0.00 |
| 42 | T | trans-1,3-Dichloropropene | 0.529 | 0.644 | -21.7 | 110 | 0.00 |
| 43 | T | 1,1,2-Trichloroethane | 0.397 | 0.476 | -19.9 | 109 | 0.00 |
| 44 | T | Tetrachloroethene | 0.561 | 0.669 | -19.3 | 109 | 0.00 |
| 45 | T | 2-Hexanone | 0.537 | 0.645 | -20.1 | 105 | 0.00 |
| 46 | T | Chlorodibromomethane | 0.645 | 0.777 | -20.5 | 107 | 0.00 |
| 47 | T | 1,2-Dibromoethane | 0.583 | 0.712 | -22.1 | 109 | 0.00 |
| 48 | I | Chlorobenzene-d5 | 1.000 | 1.000 | 0.0 | 110 | 0.00 |
| 49 | T | Chlorobenzene | 1.014 | 1.228 | -21.1 | 108 | 0.00 |
| 50 | T | Ethylbenzene | 1.662 | 2.023 | -21.7 | 108 | 0.00 |
| 51 | T | m,p-Xylene | 1.214 | 1.497 | -23.3 | 106 | 0.00 |
| 52 | T | o-Xylene | 1.279 | 1.554 | -21.5 | 107 | 0.00 |
| 53 | T | Styrene | 0.928 | 1.162 | -25.2 | 108 | 0.00 |
| 54 | T | Bromoform | 0.705 | 0.848 | -20.3 | 107 | 0.00 |
| 55 | S | 4-Bromofluorobenzene | 0.609 | 0.602 | 1.1 | 109 | 0.00 |

(#) = Out of Range

Data File : C:\HPCHEM\1\DATA\122012B\12201211.D Vial: 2
Acq On : 21 Dec 2012 4:58 am Operator: RACHEL HILL
Sample : ICV VOA1 122012 Inst : VOA 1
Misc : ICV EPA_TO15 Multiplr: 1.00
MS Integration Params: CLME.P

Method : C:\HPCHEM\1\METHODS\122012V1.M (RTE Integrator)
Title : TO15 ppbv
Last Update : Fri Dec 21 12:12:59 2012
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 200%

| | | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|---|
| 56 | T | 1,1,2,2-Tetrachloroethane | 0.872 | 1.039 | -19.2 | 106 | 0.00 |
| 57 | T | 4-Ethyltoluene | 1.629 | 1.944 | -19.3 | 107 | 0.00 |
| 58 | T | 1,3,5-Trimethylbenzene | 1.377 | 1.633 | -18.6 | 106 | 0.00 |
| 59 | T | 1,2,4-Trimethylbenzene | 1.285 | 1.518 | -18.1 | 106 | 0.00 |
| 60 | T | 1,3-Dichlorobenzene | 0.746 | 0.869 | -16.5 | 107 | 0.00 |
| 61 | T | 1,4-Dichlorobenzene | 0.707 | 0.822 | -16.3 | 107 | 0.00 |
| 62 | T | Benzyl chloride | 0.865 | 1.050 | -21.4 | 107 | 0.00 |
| 63 | T | 1,2-Dichlorobenzene | 0.638 | 0.729 | -14.3 | 106 | 0.00 |
| 64 | T | 1,2,4-Trichlorobenzene | 0.201 | 0.223 | -10.9 | 112 | 0.00 |
| 65 | T | Hexachlorobutadiene | 0.359 | 0.392 | -9.2 | 110 | 0.00 |
| 66 | | Naphthalene | 0.361 | 0.410 | -13.6 | 117 | 0.00 |

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\122012B\12201211.D Vial: 2
Acq On : 21 Dec 2012 4:58 am Operator: RACHEL HILL
Sample : ICV VOA1 122012 Inst : VOA 1
Misc : ICV EPA_TO15 Multiplr: 1.00
MS Integration Params: CLME.P
Quant Time: Dec 26 9:08 2012 Quant Results File: 122012V1.RES

Quant Method : C:\HPCHEM\1\METHODS\122012V1.M (RTE Integrator)
Title : TO15 ppbv
Last Update : Fri Dec 21 12:12:59 2012
Response via : Initial Calibration
DataAcq Meth : 122012V1

| Internal Standards | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 1) Bromochloromethane | 10.52 | 130 | 211510 | 12.50 | ppbv | 0.00 |
| 33) 1,4-Difluorobenzene | 11.62 | 114 | 822114 | 12.50 | ppbv | 0.00 |
| 48) Chlorobenzene-d5 | 15.47 | 117 | 661201 | 12.50 | ppbv | 0.00 |

System Monitoring Compounds

| | | | | | | |
|---|---|---|---|---|---|---|
| 55) 4-Bromofluorobenzene | 17.12 | 95 | 397813 | 12.35 | ppbv | 0.00 |

Spiked Amount 12.500 Range 70 - 113 Recovery = 98.80%

| Target Compounds | | | | | | Qvalue |
|---|---|---|---|---|---|---|
| 2) Propylene | 5.44 | 41 | 203107 | 10.66 | ppbv | 99 |
| 3) Dichlorodifluoromethane | 5.52 | 85 | 658606 | 10.12 | ppbv | 99 |
| 4) 1,2-Dichloro-1,2,2,2-tetra | 5.77 | 135 | 464320 | 10.56 | ppbv # | 70 |
| 5) Chloromethane | 5.94 | 50 | 264778 | 10.23 | ppbv | 98 |
| 6) Vinyl chloride | 6.15 | 62 | 319286 | 10.34 | ppbv # | 96 |
| 7) 1,3-Butadiene | 6.20 | 39 | 168084 | 10.68 | ppbv # | 58 |
| 8) Bromomethane | 6.77 | 94 | 260889 | 11.20 | ppbv | 100 |
| 9) Chloroethane | 6.93 | 64 | 167630 | 10.83 | ppbv | 97 |
| 10) Trichlorofluoromethane | 7.26 | 101 | 661684 | 10.65 | ppbv | 99 |
| 11) Ethanol | 7.51 | 45 | 76642 | 9.67 | ppbv | 99 |
| 12) Freon113 | 7.92 | 101 | 487265 | 11.54 | ppbv | 90 |
| 13) 1,1-Dichloroethene | 8.02 | 61 | 440721 | 11.32 | ppbv | 89 |
| 14) Acetone | 8.12 | 43 | 377309 | 11.24 | ppbv # | 85 |
| 15) Carbon disulfide | 8.39 | 76 | 652723 | 11.20 | ppbv # | 100 |
| 16) 2-Propanol | 8.17 | 45 | 384775 | 11.17 | ppbv # | 1 |
| 17) Methylene chloride | 8.69 | 49 | 300181 | 10.96 | ppbv | 93 |
| 18) tert-Butyl Methyl Ether | 8.89 | 73 | 671118 | 11.94 | ppbv | 93 |
| 19) trans-1,2-Dichloroethene | 8.96 | 61 | 401805 | 11.27 | ppbv | 85 |
| 20) n-Hexane | 9.15 | 57 | 486270 | 11.58 | ppbv # | 81 |
| 21) 1,1-Dichloroethane | 9.53 | 63 | 513297 | 11.36 | ppbv | 96 |
| 22) Vinyl acetate | 9.46 | 43 | 629955 | 12.01 | ppbv | 99 |
| 23) cis-1,2-Dichloroethene | 10.21 | 96 | 265865 | 11.64 | ppbv # | 85 |
| 24) 2-Butanone | 10.18 | 43 | 391932 | 11.68 | ppbv # | 95 |
| 25) Ethyl acetate | 10.13 | 43 | 508632 | 11.19 | ppbv # | 99 |
| 26) Tetrahydrofuran | 10.52 | 42 | 244512 | 11.72 | ppbv | 96 |
| 27) Chloroform | 10.54 | 83 | 472370 | 11.43 | ppbv | 100 |
| 28) 1,1,1-Trichloroethane | 10.78 | 97 | 487535 | 11.21 | ppbv | 95 |
| 29) Cyclohexane | 10.79 | 56 | 475196 | 11.72 | ppbv # | 79 |
| 30) Carbon tetrachloride | 10.95 | 117 | 513674 | 11.05 | ppbv | 99 |
| 31) Benzene | 11.23 | 78 | 755824 | 11.47 | ppbv | 97 |
| 32) 1,2-Dichloroethane | 11.31 | 62 | 336120 | 11.34 | ppbv | 97 |
| 34) Heptane | 11.28 | 43 | 433932 | 11.91 | ppbv # | 90 |
| 35) Trichloroethene | 11.96 | 130 | 334956 | 11.45 | ppbv | 96 |
| 36) 1,2-Dichloropropane | 12.32 | 63 | 335411 | 11.92 | ppbv | 95 |
| 37) 1,4-Dioxane | 12.40 | 88 | 154817 | 11.71 | ppbv # | 87 |
| 38) Bromodichloromethane | 12.60 | 83 | 517329 | 11.64 | ppbv | 99 |
| 39) cis-1,3-Dichloropropene | 13.15 | 75 | 445138 | 11.58 | ppbv | 98 |
| 40) 4-Methyl-2-pentanone | 13.26 | 58 | 252922 | 11.93 | ppbv # | 91 |
| 41) Toluene | 13.56 | 91 | 894475 | 11.93 | ppbv | 99 |
| 42) trans-1,3-Dichloropropene | 13.87 | 75 | 385707 | 11.08 | ppbv | 98 |
| 43) 1,1,2-Trichloroethane | 14.14 | 97 | 306570 | 11.75 | ppbv | 98 |
| 44) Tetrachloroethene | 14.26 | 166 | 422389 | 11.45 | ppbv | 98 |
| 45) 2-Hexanone | 14.34 | 43 | 415863 | 11.79 | ppbv | 78 |
| 46) Chlorodibromomethane | 14.68 | 129 | 500690 | 11.81 | ppbv | 98 |
| 47) 1,2-Dibromoethane | 14.92 | 107 | 449327 | 11.72 | ppbv | 99 |
| 49) Chlorobenzene | 15.51 | 112 | 643250 | 11.99 | ppbv | 97 |
| 50) Ethylbenzene | 15.55 | 91 | 1048740 | 11.93 | ppbv | 97 |
| 51) m,p-Xylene | 15.71 | 91 | 1520339 | 23.68 | ppbv | 95 |
| 52) o-Xylene | 16.30 | 91 | 822161 | 12.15 | ppbv | 95 |

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\122012B\12201211.D Vial: 2
Acq On : 21 Dec 2012 4:58 am Operator: RACHEL HILL
Sample : ICV VOA1 122012 Inst : VOA 1
Misc : ICV EPA_TO15 Multiplr: 1.00
MS Integration Params: CLME.P
Quant Time: Dec 26 9:08 2012 Quant Results File: 122012V1.RES

Quant Method : C:\HPCHEM\1\METHODS\122012V1.M (RTE Integrator)
Title : TO15 ppbv
Last Update : Fri Dec 21 12:12:59 2012
Response via : Initial Calibration
DataAcq Meth : 122012V1

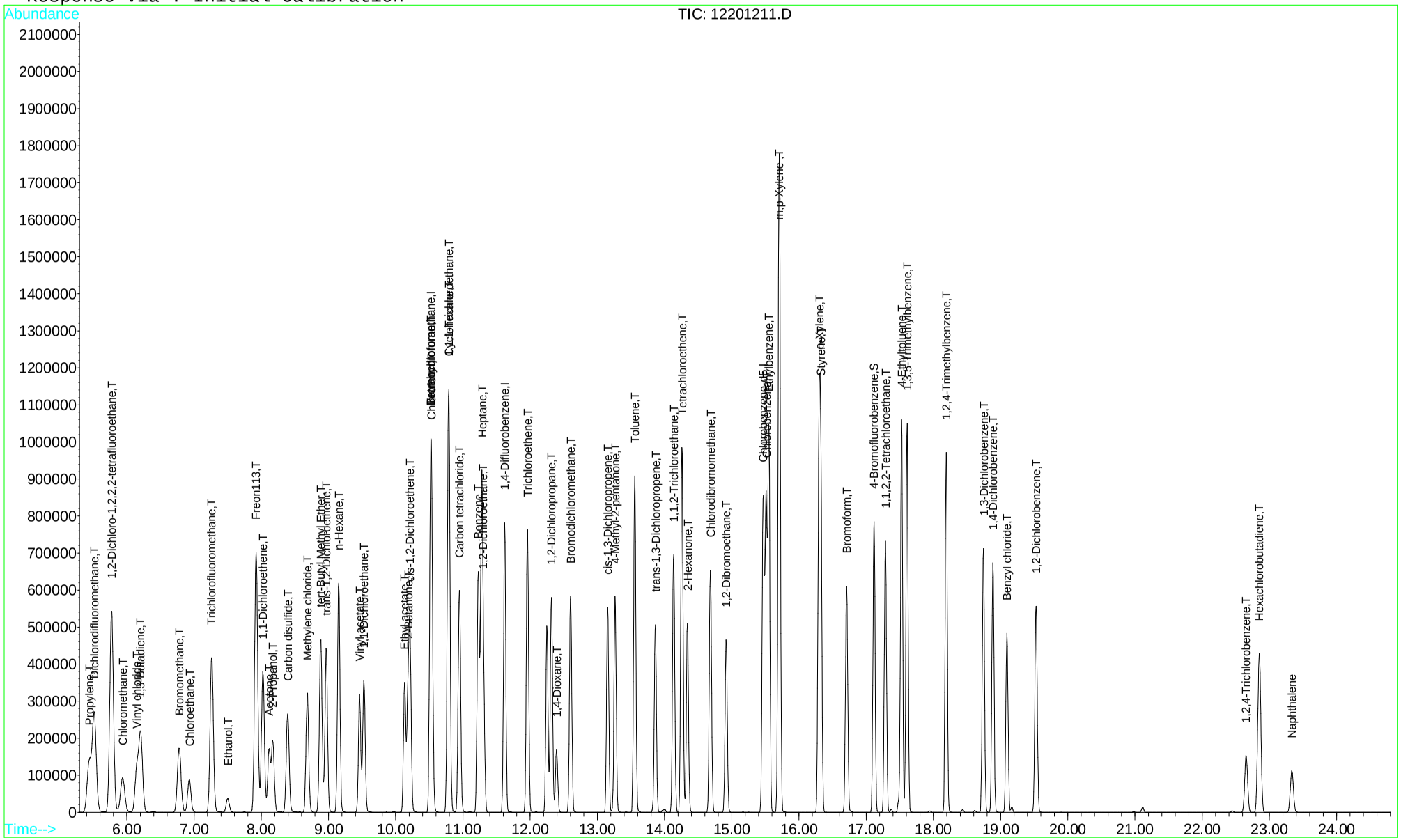
| | Compound | R.T. | QIon | Response | Conc | Unit | Qvalue |
|---|---|---|---|---|---|---|---|
| 53) | Styrene | 16.33 | 104 | 602601 | 12.28 | ppbv | 98 |
| 54) | Bromoform | 16.71 | 173 | 430853 | 11.55 | ppbv | 99 |
| 56) | 1,1,2,2-Tetrachloroethane | 17.29 | 83 | 549675 | 11.91 | ppbv | 99 |
| 57) | 4-Ethyltoluene | 17.53 | 105 | 1007510 | 11.69 | ppbv | 98 |
| 58) | 1,3,5-Trimethylbenzene | 17.61 | 105 | 837941 | 11.50 | ppbv | 98 |
| 59) | 1,2,4-Trimethylbenzene | 18.19 | 105 | 786966 | 11.58 | ppbv | 99 |
| 60) | 1,3-Dichlorobenzene | 18.75 | 146 | 445636 | 11.29 | ppbv | 98 |
| 61) | 1,4-Dichlorobenzene | 18.89 | 146 | 417304 | 11.15 | ppbv | 98 |
| 62) | Benzyl chloride | 19.10 | 91 | 538556 | 11.77 | ppbv | 99 |
| 63) | 1,2-Dichlorobenzene | 19.53 | 146 | 374067 | 11.09 | ppbv | 97 |
| 64) | 1,2,4-Trichlorobenzene | 22.66 | 180 | 107184 | 10.08 | ppbv | 98 |
| 65) | Hexachlorobutadiene | 22.86 | 225 | 195053 | 10.28 | ppbv | 99 |
| 66) | Naphthalene | 23.33 | 128 | 199657 | 10.44 | ppbv | 99 |

(#) = qualifier out of range (m) = manual integration

# Quantitation Report

Data File : C:\HPCHEM\1\DATA\122012B\12201211.D  Vial: 2
Acq On : 21 Dec 2012 4:58 am  Operator: RACHEL HILL
Sample : ICV VOA1 122012  Inst : VOA 1
Misc : ICV EPA_TO15  Multiplr: 1.00
MS Integration Params: CLME.P
Quant Time: Dec 26 9:08 2012  Quant Results File: 122012V1.RES

Method : C:\HPCHEM\1\METHODS\122012V1.M (RTE Integrator)
Title : TO15 ppbv
Last Update : Fri Dec 21 12:12:59 2012
Response via : Initial Calibration



Response Factor Report VOA 1

Method : C:\HPCHEM\1\METHODS\123112V1.M (RTE Integrator)
Title : TO15 ppbv
Last Update : Wed Jan 02 08:58:32 2013
Response via : Initial Calibration

Calibration Files
2 =12311203.D 4 =12311204.D 5 =12311205.D
6 =12311206.D 7 =12311207.D 8 =12311208.D

| | | Compound | 2 | 4 | 5 | 6 | 7 | 8 | Avg | %RSD |
|---|---|---|---|---|---|---|---|---|---|---|
| 1) | I | Bromochloromethane | ----------ISTD---------- | | | | | | | |
| 2) | T | Propylene | 1.677 | 1.525 | 1.494 | 1.361 | 1.273 | 1.323 | 1.433 | 9.79 |
| 3) | T | Dichlorodifluoromet | 3.101 | 3.958 | 3.928 | 3.631 | 3.414 | 3.578 | 3.616 | 8.21 |
| 4) | T | 1,2-Dichloro-1,2,2, | 2.210 | 2.854 | 2.820 | 2.589 | 2.461 | 2.530 | 2.564 | 8.62 |
| 5) | T | Chloromethane | 1.419 | 1.602 | 1.567 | 1.397 | 1.311 | 1.341 | 1.430 | 7.82 |
| 6) | T | Vinyl chloride | 1.566 | 1.966 | 1.895 | 1.752 | 1.614 | 1.641 | 1.725 | 8.86 |
| 7) | T | 1,3-Butadiene | 1.293 | 1.454 | 1.412 | 1.301 | 1.189 | 1.198 | 1.292 | 8.37 |
| 8) | T | Bromomethane | 1.245 | 1.542 | 1.523 | 1.435 | 1.391 | 1.343 | 1.397 | 7.93 |
| 9) | T | Chloroethane | 0.750 | 0.955 | 0.952 | 0.883 | 0.814 | 0.866 | 0.857 | 9.43 |
| 10) | T | Trichlorofluorometh | 3.295 | 3.626 | 3.636 | 3.368 | 3.080 | 3.154 | 3.317 | 7.26 |
| 11) | T | Ethanol | 0.670 | 0.519 | 0.526 | 0.479 | 0.424 | 0.446 | 0.503 | 16.33 |
| 12) | T | Freon113 | 2.183 | 2.757 | 2.755 | 2.581 | 2.276 | 2.261 | 2.412 | 11.70 |
| 13) | T | 1,1-Dichloroethene | 1.928 | 2.353 | 2.324 | 2.162 | 1.938 | 1.964 | 2.082 | 9.35 |
| 14) | T | Acetone | 2.715 | 2.611 | 2.578 | 2.348 | 1.995 | 2.022 | 2.319 | 13.94 |
| 15) | T | Carbon disulfide | 3.039 | 3.687 | 3.634 | 3.366 | 3.102 | 3.179 | 3.321 | 7.66 |
| 16) | T | 2-Propanol | 2.511 | 2.479 | 2.437 | 2.216 | 1.977 | 2.023 | 2.237 | 10.60 |
| 17) | T | Methylene chloride | 1.799 | 1.745 | 1.715 | 1.579 | 1.390 | 1.410 | 1.578 | 11.22 |
| 18) | T | tert-Butyl Methyl E | 3.169 | 3.837 | 3.775 | 3.432 | 2.918 | 2.995 | 3.286 | 12.22 |
| 19) | T | trans-1,2-Dichloroe | 1.832 | 2.212 | 2.156 | 2.003 | 1.756 | 1.776 | 1.922 | 10.52 |
| 20) | T | n-Hexane | 2.163 | 2.557 | 2.510 | 2.306 | 2.021 | 2.043 | 2.224 | 10.76 |
| 21) | T | 1,1-Dichloroethane | 2.352 | 2.802 | 2.754 | 2.500 | 2.169 | 2.195 | 2.414 | 11.57 |
| 22) | T | Vinyl acetate | 2.676 | 4.338 | 4.263 | 3.840 | 3.236 | 3.276 | 3.538 | 17.58 |
| 23) | T | cis-1,2-Dichloroeth | 1.207 | 1.524 | 1.510 | 1.399 | 1.248 | 1.282 | 1.342 | 10.02 |
| 24) | T | 2-Butanone | 2.173 | 2.818 | 2.814 | 2.570 | 2.236 | 2.053 | 2.376 | 14.96 |
| 25) | T | Ethyl acetate | 2.713 | 3.706 | 3.641 | 3.281 | 2.785 | 2.821 | 3.088 | 14.49 |
| 26) | T | Tetrahydrofuran | 1.493 | 1.805 | 1.784 | 1.616 | 1.391 | 1.396 | 1.541 | 12.86 |
| 27) | T | Chloroform | 2.295 | 2.845 | 2.794 | 2.540 | 2.217 | 2.168 | 2.403 | 13.82 |
| 28) | T | 1,1,1-Trichloroetha | 2.270 | 2.918 | 2.879 | 2.595 | 2.235 | 2.110 | 2.405 | 16.88 |
| 29) | T | Cyclohexane | 2.262 | 2.669 | 2.599 | 2.361 | 2.034 | 1.960 | 2.236 | 15.00 |
| 30) | T | Carbon tetrachlorid | 2.151 | 2.898 | 2.888 | 2.650 | 2.336 | 2.306 | 2.471 | 13.79 |
| 31) | T | Benzene | 3.714 | 4.526 | 4.475 | 4.058 | 3.497 | 3.566 | 3.884 | 12.23 |
| 32) | T | 1,2-Dichloroethane | 1.563 | 1.880 | 1.832 | 1.631 | 1.384 | 1.345 | 1.550 | 16.13 |
| 33) | I | 1,4-Difluorobenzene | ----------ISTD---------- | | | | | | | |
| 34) | T | Heptane | 0.746 | 0.932 | 0.914 | 0.807 | 0.697 | 0.661 | 0.753 | 19.44 |
| 35) | T | Trichloroethene | 0.441 | 0.607 | 0.611 | 0.552 | 0.493 | 0.476 | 0.506 | 17.86 |
| 36) | T | 1,2-Dichloropropane | 0.406 | 0.531 | 0.528 | 0.475 | 0.407 | 0.400 | 0.439 | 17.25 |
| 37) | T | 1,4-Dioxane | 0.186 | 0.260 | 0.265 | 0.240 | 0.211 | 0.217 | 0.224 | 14.02 |
| 38) | T | Bromodichloromethan | 0.641 | 0.897 | 0.906 | 0.815 | 0.710 | 0.696 | 0.744 | 18.09 |
| 39) | T | cis-1,3-Dichloropro | 0.542 | 0.785 | 0.792 | 0.712 | 0.621 | 0.619 | 0.654 | 17.21 |
| 40) | T | 4-Methyl-2-pentanon | 0.274 | 0.394 | 0.399 | 0.361 | 0.315 | 0.316 | 0.332 | 16.31 |
| 41) | T | Toluene | 1.168 | 1.537 | 1.545 | 1.397 | 1.209 | 1.180 | 1.279 | 17.71 |
| 42) | T | trans-1,3-Dichlorop | 0.451 | 0.704 | 0.714 | 0.638 | 0.563 | 0.563 | 0.585 | 18.07 |
| 43) | T | 1,1,2-Trichloroetha | 0.386 | 0.536 | 0.540 | 0.490 | 0.430 | 0.428 | 0.450 | 16.82 |
| 44) | T | Tetrachloroethene | 0.573 | 0.774 | 0.775 | 0.695 | 0.603 | 0.544 | 0.622 | 22.19 |
| 45) | T | 2-Hexanone | 0.562 | 0.871 | 0.873 | 0.778 | 0.670 | 0.663 | 0.709 | 19.05 |
| 46) | T | Chlorodibromomethan | 0.586 | 0.869 | 0.878 | 0.791 | 0.693 | 0.649 | 0.706 | 21.21 |
| 47) | T | 1,2-Dibromoethane | 0.545 | 0.792 | 0.803 | 0.716 | 0.630 | 0.619 | 0.655 | 18.63 |
| 48) | I | Chlorobenzene-d5 | ----------ISTD---------- | | | | | | | |
| 49) | T | Chlorobenzene | 1.003 | 1.344 | 1.345 | 1.204 | 1.067 | 0.998 | 1.101 | 19.58 |
| 50) | T | Ethylbenzene | 1.756 | 2.226 | 2.207 | 1.968 | 1.703 | 1.554 | 1.791 | 21.69 |
| 51) | T | m,p-Xylene | 1.397 | 1.703 | 1.641 | 1.412 | 1.163 | 0.970 | 1.278 | 29.23 |
| 52) | T | o-Xylene | 1.401 | 1.775 | 1.744 | 1.549 | 1.330 | 1.175 | 1.402 | 23.45 |
| 53) | T | Styrene | 0.869 | 1.350 | 1.334 | 1.197 | 1.042 | 0.924 | 1.054 | 24.22 |
| 54) | T | Bromoform | 0.595 | 0.922 | 0.918 | 0.827 | 0.716 | 0.633 | 0.724 | 24.04 |
| 55) | S | 4-Bromofluorobenzen | 0.604 | 0.624 | 0.620 | 0.626 | 0.626 | 0.625 | 0.622 | 1.36 |
| 56) | T | 1,1,2,2-Tetrachloro | 0.891 | 1.154 | 1.146 | 1.033 | 0.919 | 0.861 | 0.953 | 18.18 |
| 57) | T | 4-Ethyltoluene | 1.718 | 2.198 | 2.167 | 1.963 | 1.717 | 1.563 | 1.784 | 20.38 |

(#) = Out of Range ### Number of calibration levels exceeded format ###

Method : C:\HPCHEM\1\METHODS\123112V1.M (RTE Integrator)
Title : TO15 ppbv
Last Update : Wed Jan 02 08:58:32 2013
Response via : Initial Calibration

Calibration Files
2 =12311203.D 4 =12311204.D 5 =12311205.D
6 =12311206.D 7 =12311207.D 8 =12311208.D

| | | Compound | 2 | 4 | 5 | 6 | 7 | 8 | Avg | %RSD |
|---|---|---|---|---|---|---|---|---|---|---|
| 58) | T | 1,3,5-Trimethylbenz | 1.517 | 1.857 | 1.825 | 1.631 | 1.429 | 1.284 | 1.497 | 21.43 |
| 59) | T | 1,2,4-Trimethylbenz | 1.319 | 1.736 | 1.700 | 1.560 | 1.367 | 1.266 | 1.414 | 19.42 |
| 60) | T | 1,3-Dichlorobenzene | 0.704 | 0.964 | 0.955 | 0.868 | 0.795 | 0.771 | 0.811 | 15.65 |
| 61) | T | 1,4-Dichlorobenzene | 0.642 | 0.897 | 0.892 | 0.821 | 0.748 | 0.730 | 0.761 | 15.38 |
| 62) | T | Benzyl chloride | 0.471 | 1.142 | 1.129 | 1.031 | 0.944 | 0.935 | 0.925 | 24.87 |
| 63) | T | 1,2-Dichlorobenzene | 0.609 | 0.792 | 0.782 | 0.722 | 0.654 | 0.645 | 0.680 | 12.97 |
| 64) | T | 1,2,4-Trichlorobenz | 0.205 | 0.232 | 0.238 | 0.232 | 0.190 | 0.196 | 0.215 | 8.91 |
| 65) | T | Hexachlorobutadiene | 0.466 | 0.415 | 0.425 | 0.454 | 0.340 | 0.341 | 0.393 | 15.89 |
| 66) | | Naphthalene | 0.348 | 0.406 | 0.424 | 0.440 | 0.335 | 0.339 | 0.380 | 11.30 |

(#) = Out of Range ### Number of calibration levels exceeded format ###

Compound List Report VOA 1

Method : C:\HPCHEM\1\METHODS\123112V1.M (RTE Integrator)
Title : TO15 ppbv
Last Update : Wed Jan 02 08:58:32 2013
Response via : Initial Calibration
Total Cpnds : 66

| PK# | | Compound Name | QIon | Exp_RT | Rel_RT | Cal | #Qual | A/H | ID |
|---|---|---|---|---|---|---|---|---|---|
| 1 | I | Bromochloromethane | 130 | 10.52 | 1.000 | A | 2 | A | B |
| 2 | T | Propylene | 41 | 5.44 | 0.517 | A | 2 | A | B |
| 3 | T | Dichlorodifluoromethane | 85 | 5.51 | 0.524 | A | 3 | A | B |
| 4 | T | 1,2-Dichloro-1,2,2,2-tetrafluo | 135 | 5.77 | 0.549 | A | 2 | A | B |
| 5 | T | Chloromethane | 50 | 5.94 | 0.564 | A | 3 | A | B |
| 6 | T | Vinyl chloride | 62 | 6.15 | 0.585 | A | 2 | A | B |
| 7 | T | 1,3-Butadiene | 39 | 6.20 | 0.589 | A | 2 | A | B |
| 8 | T | Bromomethane | 94 | 6.78 | 0.644 | A | 3 | A | B |
| 9 | T | Chloroethane | 64 | 6.93 | 0.659 | A | 3 | A | B |
| 10 | T | Trichlorofluoromethane | 101 | 7.27 | 0.690 | A | 3 | A | B |
| 11 | T | Ethanol | 45 | 7.50 | 0.713 | A | 2 | A | B |
| 12 | T | Freon113 | 101 | 7.92 | 0.753 | A | 2 | A | B |
| 13 | T | 1,1-Dichloroethene | 61 | 8.02 | 0.762 | A | 2 | A | B |
| 14 | T | Acetone | 43 | 8.12 | 0.771 | A | 2 | A | B |
| 15 | T | Carbon disulfide | 76 | 8.39 | 0.798 | A | 3 | A | B |
| 16 | T | 2-Propanol | 45 | 8.18 | 0.777 | A | 2 | A | B |
| 17 | T | Methylene chloride | 49 | 8.69 | 0.826 | A | 2 | A | B |
| 18 | T | tert-Butyl Methyl Ether | 73 | 8.89 | 0.844 | A | 2 | A | B |
| 19 | T | trans-1,2-Dichloroethene | 61 | 8.96 | 0.852 | A | 2 | A | B |
| 20 | T | n-Hexane | 57 | 9.15 | 0.870 | A | 3 | A | B |
| 21 | T | 1,1-Dichloroethane | 63 | 9.53 | 0.906 | A | 3 | A | B |
| 22 | T | Vinyl acetate | 43 | 9.47 | 0.900 | A | 2 | A | B |
| 23 | T | cis-1,2-Dichloroethene | 96 | 10.21 | 0.971 | A | 3 | A | B |
| 24 | T | 2-Butanone | 43 | 10.18 | 0.968 | A | 2 | A | B |
| 25 | T | Ethyl acetate | 43 | 10.14 | 0.963 | A | 3 | A | B |
| 26 | T | Tetrahydrofuran | 42 | 10.52 | 1.000 | A | 2 | A | B |
| 27 | T | Chloroform | 83 | 10.54 | 1.001 | A | 2 | A | B |
| 28 | T | 1,1,1-Trichloroethane | 97 | 10.79 | 1.025 | A | 3 | A | B |
| 29 | T | Cyclohexane | 56 | 10.80 | 1.026 | A | 2 | A | B |
| 30 | T | Carbon tetrachloride | 117 | 10.95 | 1.041 | A | 3 | A | B |
| 31 | T | Benzene | 78 | 11.23 | 1.067 | A | 3 | A | B |
| 32 | T | 1,2-Dichloroethane | 62 | 11.31 | 1.075 | A | 3 | A | B |
| 33 | I | 1,4-Difluorobenzene | 114 | 11.62 | 1.000 | A | 2 | A | B |
| 34 | T | Heptane | 43 | 11.28 | 0.971 | A | 3 | A | B |
| 35 | T | Trichloroethene | 130 | 11.96 | 1.029 | A | 3 | A | B |
| 36 | T | 1,2-Dichloropropane | 63 | 12.32 | 1.060 | A | 3 | A | B |
| 37 | T | 1,4-Dioxane | 88 | 12.40 | 1.067 | A | 2 | A | B |
| 38 | T | Bromodichloromethane | 83 | 12.60 | 1.085 | A | 2 | A | B |
| 39 | T | cis-1,3-Dichloropropene | 75 | 13.15 | 1.132 | A | 2 | A | B |
| 40 | T | 4-Methyl-2-pentanone | 58 | 13.27 | 1.142 | A | 3 | A | B |
| 41 | T | Toluene | 91 | 13.56 | 1.167 | A | 2 | A | B |
| 42 | T | trans-1,3-Dichloropropene | 75 | 13.87 | 1.193 | A | 3 | A | B |
| 43 | T | 1,1,2-Trichloroethane | 97 | 14.14 | 1.216 | A | 3 | A | B |
| 44 | T | Tetrachloroethene | 166 | 14.26 | 1.227 | A | 3 | A | B |
| 45 | T | 2-Hexanone | 43 | 14.34 | 1.234 | A | 2 | A | B |
| 46 | T | Chlorodibromomethane | 129 | 14.69 | 1.264 | A | 2 | A | B |
| 47 | T | 1,2-Dibromoethane | 107 | 14.92 | 1.284 | A | 2 | A | B |
| 48 | I | Chlorobenzene-d5 | 117 | 15.47 | 1.000 | A | 2 | A | B |
| 49 | T | Chlorobenzene | 112 | 15.51 | 1.003 | A | 3 | A | B |
| 50 | T | Ethylbenzene | 91 | 15.55 | 1.005 | A | 2 | A | B |
| 51 | T | m,p-Xylene | 91 | 15.71 | 1.016 | A | 2 | A | B |
| 52 | T | o-Xylene | 91 | 16.30 | 1.054 | A | 2 | A | B |
| 53 | T | Styrene | 104 | 16.33 | 1.055 | A | 3 | A | B |
| 54 | T | Bromoform | 173 | 16.71 | 1.080 | A | 3 | A | B |
| 55 | S | 4-Bromofluorobenzene | 95 | 17.12 | 1.106 | A | 2 | A | B |
| 56 | T | 1,1,2,2-Tetrachloroethane | 83 | 17.29 | 1.118 | A | 2 | A | B |
| 57 | T | 4-Ethyltoluene | 105 | 17.53 | 1.133 | A | 1 | A | B |
| 58 | T | 1,3,5-Trimethylbenzene | 105 | 17.61 | 1.138 | A | 2 | A | B |
| 59 | T | 1,2,4-Trimethylbenzene | 105 | 18.20 | 1.176 | A | 2 | A | B |
| 60 | T | 1,3-Dichlorobenzene | 146 | 18.75 | 1.212 | A | 3 | A | B |
| 61 | T | 1,4-Dichlorobenzene | 146 | 18.89 | 1.221 | A | 3 | A | B |
| 62 | T | Benzyl chloride | 91 | 19.10 | 1.234 | A | 2 | A | B |
| 63 | T | 1,2-Dichlorobenzene | 146 | 19.53 | 1.262 | A | 3 | A | B |
| 64 | T | 1,2,4-Trichlorobenzene | 180 | 22.66 | 1.464 | A | 3 | A | B |
| 65 | T | Hexachlorobutadiene | 225 | 22.86 | 1.477 | A | 2 | A | B |
| 66 | | Naphthalene | 128 | 23.34 | 1.508 | A | 2 | A | B |

```
Cal A = Average L = Linear LO = Linear w/origin Q = Quad QO = Quad w/origin
#Qual = number of qualifiers
  A/H = Area or Height
ID  R = R.T.  B = R.T. & Q  Q = Qvalue L = Largest  A = All
-----------------------------------------------------------------------
          123112V1.M     Wed Jan 02 09:25:37 2013
```

# Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\123112\12311211.D  Vial: 2
Acq On  :  1 Jan 2013  9:18 am  Operator: RACHEL HILL
Sample  : ICV VOA1 123112  Inst  : VOA 1
Misc  : ICV  EPA_TO15  Multiplr: 1.00
MS Integration Params: CLME.P

Method  : C:\HPCHEM\1\METHODS\123112V1.M (RTE Integrator)
Title  : TO15 ppbv
Last Update  : Wed Jan 02 08:58:32 2013
Response via : Multiple Level Calibration

Min. RRF  :  0.000  Min. Rel. Area :  50%  Max. R.T. Dev  0.50min
Max. RRF Dev :  30%  Max. Rel. Area : 200%

| | | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|---|
| 1 | I | Bromochloromethane | 1.000 | 1.000 | 0.0 | 104 | 0.00 |
| 2 | T | Propylene | 1.433 | 1.216 | 15.1 | 83 | 0.00 |
| 3 | T | Dichlorodifluoromethane | 3.616 | 3.291 | 9.0 | 87 | 0.00 |
| 4 | T | 1,2-Dichloro-1,2,2,2-tetraf | 2.564 | 2.337 | 8.9 | 85 | 0.00 |
| 5 | T | Chloromethane | 1.430 | 1.305 | 8.7 | 85 | 0.00 |
| 6 | T | Vinyl chloride | 1.725 | 1.593 | 7.7 | 84 | 0.00 |
| 7 | T | 1,3-Butadiene | 1.292 | 1.192 | 7.7 | 85 | 0.00 |
| 8 | T | Bromomethane | 1.397 | 1.388 | 0.6 | 94 | 0.00 |
| 9 | T | Chloroethane | 0.857 | 0.796 | 7.1 | 87 | 0.00 |
| 10 | T | Trichlorofluoromethane | 3.317 | 3.068 | 7.5 | 88 | 0.00 |
| 11 | T | Ethanol | 0.503 | 0.449 | 10.7 | 90 | 0.00 |
| 12 | T | Freon113 | 2.412 | 2.430 | -0.7 | 92 | 0.00 |
| 13 | T | 1,1-Dichloroethene | 2.082 | 2.059 | 1.1 | 91 | 0.00 |
| 14 | T | Acetone | 2.319 | 2.326 | -0.3 | 93 | 0.00 |
| 15 | T | Carbon disulfide | 3.321 | 3.538 | -6.5 | 100 | 0.00 |
| 16 | T | 2-Propanol | 2.237 | 2.284 | -2.1 | 96 | 0.00 |
| 17 | T | Methylene chloride | 1.578 | 1.481 | 6.1 | 88 | 0.00 |
| 18 | T | tert-Butyl Methyl Ether | 3.286 | 3.324 | -1.2 | 90 | 0.00 |
| 19 | T | trans-1,2-Dichloroethene | 1.922 | 1.977 | -2.9 | 93 | 0.00 |
| 20 | T | n-Hexane | 2.224 | 2.212 | 0.5 | 90 | 0.00 |
| 21 | T | 1,1-Dichloroethane | 2.414 | 2.341 | 3.0 | 87 | 0.00 |
| 22 | T | Vinyl acetate | 3.538 | 3.698 | -4.5 | 89 | 0.00 |
| 23 | T | cis-1,2-Dichloroethene | 1.342 | 1.287 | 4.1 | 88 | 0.00 |
| 24 | T | 2-Butanone | 2.376 | 2.285 | 3.8 | 85 | 0.00 |
| 25 | T | Ethyl acetate | 3.088 | 3.213 | -4.0 | 90 | 0.00 |
| 26 | T | Tetrahydrofuran | 1.541 | 1.564 | -1.5 | 90 | 0.00 |
| 27 | T | Chloroform | 2.403 | 2.375 | 1.2 | 87 | 0.00 |
| 28 | T | 1,1,1-Trichloroethane | 2.405 | 2.457 | -2.2 | 88 | 0.00 |
| 29 | T | Cyclohexane | 2.236 | 2.312 | -3.4 | 90 | 0.00 |
| 30 | T | Carbon tetrachloride | 2.471 | 2.474 | -0.1 | 89 | 0.00 |
| 31 | T | Benzene | 3.884 | 3.764 | 3.1 | 87 | 0.00 |
| 32 | T | 1,2-Dichloroethane | 1.550 | 1.567 | -1.1 | 87 | 0.00 |
| 33 | I | 1,4-Difluorobenzene | 1.000 | 1.000 | 0.0 | 106 | 0.00 |
| 34 | T | Heptane | 0.753 | 0.760 | -0.9 | 87 | 0.00 |
| 35 | T | Trichloroethene | 0.506 | 0.493 | 2.6 | 86 | 0.00 |
| 36 | T | 1,2-Dichloropropane | 0.439 | 0.433 | 1.4 | 87 | 0.00 |
| 37 | T | 1,4-Dioxane | 0.224 | 0.233 | -4.0 | 96 | 0.00 |
| 38 | T | Bromodichloromethane | 0.744 | 0.759 | -2.0 | 90 | 0.00 |
| 39 | T | cis-1,3-Dichloropropene | 0.654 | 0.609 | 6.9 | 83 | 0.00 |
| 40 | T | 4-Methyl-2-pentanone | 0.332 | 0.348 | -4.8 | 94 | 0.00 |
| 41 | T | Toluene | 1.279 | 1.386 | -8.4 | 96 | 0.00 |
| 42 | T | trans-1,3-Dichloropropene | 0.585 | 0.618 | -5.6 | 93 | 0.00 |
| 43 | T | 1,1,2-Trichloroethane | 0.450 | 0.435 | 3.3 | 86 | 0.00 |
| 44 | T | Tetrachloroethene | 0.622 | 0.637 | -2.4 | 88 | 0.00 |
| 45 | T | 2-Hexanone | 0.709 | 0.781 | -10.2 | 95 | 0.00 |
| 46 | T | Chlorodibromomethane | 0.706 | 0.718 | -1.7 | 88 | 0.00 |
| 47 | T | 1,2-Dibromoethane | 0.655 | 0.638 | 2.6 | 86 | 0.00 |
| 48 | I | Chlorobenzene-d5 | 1.000 | 1.000 | 0.0 | 104 | 0.00 |
| 49 | T | Chlorobenzene | 1.101 | 1.117 | -1.5 | 87 | 0.00 |
| 50 | T | Ethylbenzene | 1.791 | 1.844 | -3.0 | 86 | 0.00 |
| 51 | T | m,p-Xylene | 1.278 | 1.456 | -13.9 | 89 | 0.00 |
| 52 | T | o-Xylene | 1.402 | 1.480 | -5.6 | 87 | 0.00 |
| 53 | T | Styrene | 1.054 | 1.130 | -7.2 | 87 | 0.00 |
| 54 | T | Bromoform | 0.724 | 0.771 | -6.5 | 87 | 0.00 |
| 55 | S | 4-Bromofluorobenzene | 0.622 | 0.610 | 1.9 | 102 | 0.00 |

(#) = Out of Range

Data File : C:\HPCHEM\1\DATA\123112\12311211.D Vial: 2
Acq On : 1 Jan 2013 9:18 am Operator: RACHEL HILL
Sample : ICV VOA1 123112 Inst : VOA 1
Misc : ICV EPA_TO15 Multiplr: 1.00
MS Integration Params: CLME.P

Method : C:\HPCHEM\1\METHODS\123112V1.M (RTE Integrator)
Title : TO15 ppbv
Last Update : Wed Jan 02 08:58:32 2013
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 200%

| | | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|---|
| 56 | T | 1,1,2,2-Tetrachloroethane | 0.953 | 0.944 | 0.9 | 85 | 0.00 |
| 57 | T | 4-Ethyltoluene | 1.784 | 1.820 | -2.0 | 86 | 0.00 |
| 58 | T | 1,3,5-Trimethylbenzene | 1.497 | 1.524 | -1.8 | 86 | 0.00 |
| 59 | T | 1,2,4-Trimethylbenzene | 1.414 | 1.444 | -2.1 | 87 | 0.00 |
| 60 | T | 1,3-Dichlorobenzene | 0.811 | 0.790 | 2.6 | 86 | 0.00 |
| 61 | T | 1,4-Dichlorobenzene | 0.761 | 0.748 | 1.7 | 87 | 0.00 |
| 62 | T | Benzyl chloride | 0.925 | 0.950 | -2.7 | 87 | 0.00 |
| 63 | T | 1,2-Dichlorobenzene | 0.680 | 0.647 | 4.9 | 85 | 0.00 |
| 64 | T | 1,2,4-Trichlorobenzene | 0.215 | 0.205 | 4.7 | 92 | 0.00 |
| 65 | T | Hexachlorobutadiene | 0.393 | 0.351 | 10.7 | 88 | 0.00 |
| 66 | | Naphthalene | 0.380 | 0.360 | 5.3 | 93 | 0.00 |

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\123112\12311211.D Vial: 2
Acq On : 1 Jan 2013 9:18 am Operator: RACHEL HILL
Sample : ICV VOA1 123112 Inst : VOA 1
Misc : ICV EPA_TO15 Multiplr: 1.00
MS Integration Params: CLME.P
Quant Time: Jan 2 8:59 2013 Quant Results File: 123112V1.RES

Quant Method : C:\HPCHEM\1\METHODS\123112V1.M (RTE Integrator)
Title : TO15 ppbv
Last Update : Wed Jan 02 08:58:32 2013
Response via : Initial Calibration
DataAcq Meth : 123112V1

| Internal Standards | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 1) Bromochloromethane | 10.53 | 130 | 230827 | 12.50 | ppbv | 0.00 |
| 33) 1,4-Difluorobenzene | 11.62 | 114 | 803439 | 12.50 | ppbv | 0.00 |
| 48) Chlorobenzene-d5 | 15.47 | 117 | 658965 | 12.50 | ppbv | 0.00 |

System Monitoring Compounds

| | | | | | | |
|---|---|---|---|---|---|---|
| 55) 4-Bromofluorobenzene | 17.12 | 95 | 401790 | 12.25 | ppbv | 0.00 |

Spiked Amount 12.500 Range 70 - 113 Recovery = 98.00%

| Target Compounds | | | | | | Qvalue |
|---|---|---|---|---|---|---|
| 2) Propylene | 5.44 | 41 | 229001 | 8.66 | ppbv | 97 |
| 3) Dichlorodifluoromethane | 5.51 | 85 | 559026 | 8.37 | ppbv | 99 |
| 4) 1,2-Dichloro-1,2,2,2-tetra | 5.77 | 135 | 409949 | 8.66 | ppbv # | 73 |
| 5) Chloromethane | 5.93 | 50 | 228999 | 8.67 | ppbv | 99 |
| 6) Vinyl chloride | 6.15 | 62 | 276499 | 8.68 | ppbv | 99 |
| 7) 1,3-Butadiene | 6.21 | 39 | 215645 | 9.04 | ppbv | 99 |
| 8) Bromomethane | 6.78 | 94 | 238324 | 9.24 | ppbv | 99 |
| 9) Chloroethane | 6.92 | 64 | 135154 | 8.54 | ppbv | 100 |
| 10) Trichlorofluoromethane | 7.26 | 101 | 543802 | 8.88 | ppbv | 99 |
| 11) Ethanol | 7.50 | 45 | 76295 | 8.21 | ppbv | 99 |
| 12) Freon113 | 7.92 | 101 | 439843 | 9.88 | ppbv | 92 |
| 13) 1,1-Dichloroethene | 8.03 | 61 | 376368 | 9.79 | ppbv | 90 |
| 14) Acetone | 8.12 | 43 | 429546 | 10.03 | ppbv # | 94 |
| 15) Carbon disulfide | 8.39 | 76 | 633724 | 10.33 | ppbv # | 99 |
| 16) 2-Propanol | 8.17 | 45 | 425921 | 10.31 | ppbv # | 1 |
| 17) Methylene chloride | 8.69 | 49 | 273543 | 9.39 | ppbv | 89 |
| 18) tert-Butyl Methyl Ether | 8.88 | 73 | 607636 | 10.01 | ppbv | 93 |
| 19) trans-1,2-Dichloroethene | 8.97 | 61 | 357837 | 10.08 | ppbv | 86 |
| 20) n-Hexane | 9.16 | 57 | 412467 | 10.04 | ppbv | 97 |
| 21) 1,1-Dichloroethane | 9.53 | 63 | 419314 | 9.41 | ppbv | 98 |
| 22) Vinyl acetate | 9.46 | 43 | 676021 | 10.35 | ppbv | 97 |
| 23) cis-1,2-Dichloroethene | 10.21 | 96 | 232848 | 9.39 | ppbv | 87 |
| 24) 2-Butanone | 10.18 | 43 | 417817 | 9.52 | ppbv | 96 |
| 25) Ethyl acetate | 10.13 | 43 | 581388 | 10.19 | ppbv # | 100 |
| 26) Tetrahydrofuran | 10.52 | 42 | 288800 | 10.15 | ppbv | 94 |
| 27) Chloroform | 10.54 | 83 | 429871 | 9.69 | ppbv | 100 |
| 28) 1,1,1-Trichloroethane | 10.79 | 97 | 435610 | 9.81 | ppbv | 97 |
| 29) Cyclohexane | 10.79 | 56 | 418455 | 10.14 | ppbv | 93 |
| 30) Carbon tetrachloride | 10.95 | 117 | 434059 | 9.51 | ppbv | 99 |
| 31) Benzene | 11.23 | 78 | 667187 | 9.30 | ppbv | 97 |
| 32) 1,2-Dichloroethane | 11.31 | 62 | 280685 | 9.80 | ppbv | 98 |
| 34) Heptane | 11.28 | 43 | 483310 | 9.98 | ppbv | 95 |
| 35) Trichloroethene | 11.96 | 130 | 304367 | 9.35 | ppbv | 97 |
| 36) 1,2-Dichloropropane | 12.32 | 63 | 272809 | 9.68 | ppbv | 97 |
| 37) 1,4-Dioxane | 12.40 | 88 | 144041 | 10.00 | ppbv | 88 |
| 38) Bromodichloromethane | 12.60 | 83 | 468162 | 9.79 | ppbv | 99 |
| 39) cis-1,3-Dichloropropene | 13.16 | 75 | 372085 | 8.85 | ppbv | 99 |
| 40) 4-Methyl-2-pentanone | 13.27 | 58 | 223616 | 10.48 | ppbv | 95 |
| 41) Toluene | 13.56 | 91 | 872995 | 10.62 | ppbv | 99 |
| 42) trans-1,3-Dichloropropene | 13.87 | 75 | 361623 | 9.61 | ppbv | 99 |
| 43) 1,1,2-Trichloroethane | 14.14 | 97 | 273947 | 9.47 | ppbv | 98 |
| 44) Tetrachloroethene | 14.26 | 166 | 393203 | 9.83 | ppbv | 98 |
| 45) 2-Hexanone | 14.34 | 43 | 492203 | 10.80 | ppbv | 99 |
| 46) Chlorodibromomethane | 14.68 | 129 | 452225 | 9.97 | ppbv | 99 |
| 47) 1,2-Dibromoethane | 14.92 | 107 | 393646 | 9.35 | ppbv | 99 |
| 49) Chlorobenzene | 15.52 | 112 | 582793 | 10.04 | ppbv | 94 |
| 50) Ethylbenzene | 15.55 | 91 | 952561 | 10.09 | ppbv | 97 |
| 51) m,p-Xylene | 15.71 | 91 | 1473650 | 21.88 | ppbv | 97 |
| 52) o-Xylene | 16.30 | 91 | 780106 | 10.55 | ppbv | 96 |

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\123112\12311211.D Vial: 2
Acq On : 1 Jan 2013 9:18 am Operator: RACHEL HILL
Sample : ICV VOA1 123112 Inst : VOA 1
Misc : ICV EPA_TO15 Multiplr: 1.00
MS Integration Params: CLME.P
Quant Time: Jan 2 8:59 2013 Quant Results File: 123112V1.RES

Quant Method : C:\HPCHEM\1\METHODS\123112V1.M (RTE Integrator)
Title : TO15 ppbv
Last Update : Wed Jan 02 08:58:32 2013
Response via : Initial Calibration
DataAcq Meth : 123112V1

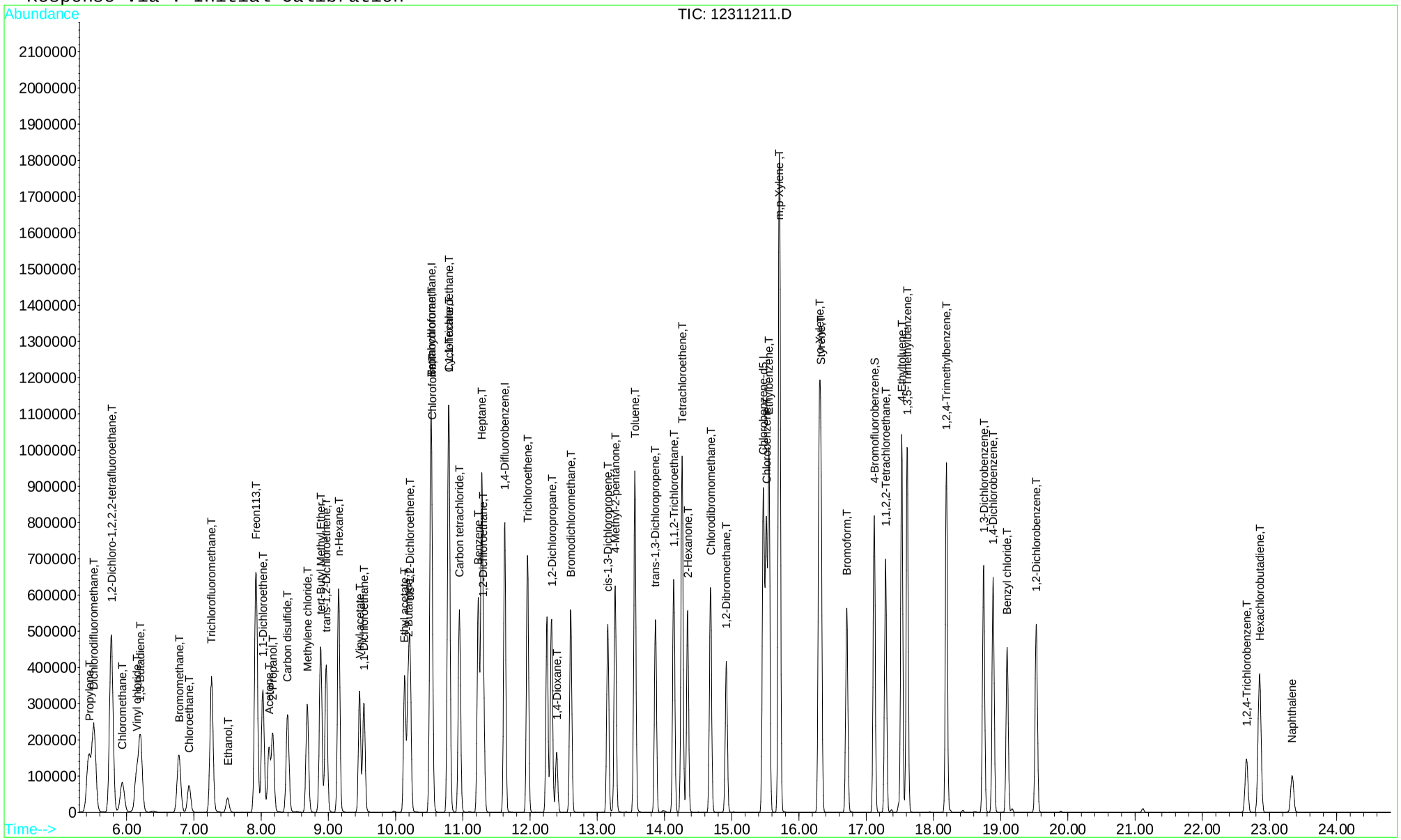
| | Compound | R.T. | QIon | Response | Conc | Unit | Qvalue |
|---|---|---|---|---|---|---|---|
| 53) | Styrene | 16.33 | 104 | 583652 | 10.50 | ppbv | 98 |
| 54) | Bromoform | 16.71 | 173 | 389954 | 10.21 | ppbv | 99 |
| 56) | 1,1,2,2-Tetrachloroethane | 17.29 | 83 | 497558 | 9.91 | ppbv | 99 |
| 57) | 4-Ethyltoluene | 17.53 | 105 | 940405 | 10.00 | ppbv | 97 |
| 58) | 1,3,5-Trimethylbenzene | 17.61 | 105 | 779092 | 9.87 | ppbv | 96 |
| 59) | 1,2,4-Trimethylbenzene | 18.19 | 105 | 746041 | 10.01 | ppbv | 97 |
| 60) | 1,3-Dichlorobenzene | 18.75 | 146 | 403944 | 9.45 | ppbv | 98 |
| 61) | 1,4-Dichlorobenzene | 18.89 | 146 | 378339 | 9.43 | ppbv | 97 |
| 62) | Benzyl chloride | 19.10 | 91 | 485933 | 9.97 | ppbv | 98 |
| 63) | 1,2-Dichlorobenzene | 19.53 | 146 | 331094 | 9.23 | ppbv | 98 |
| 64) | 1,2,4-Trichlorobenzene | 22.65 | 180 | 98244 | 8.67 | ppbv | 98 |
| 65) | Hexachlorobutadiene | 22.85 | 225 | 173740 | 8.39 | ppbv | 99 |
| 66) | Naphthalene | 23.33 | 128 | 174733 | 8.71 | ppbv | 100 |

(#) = qualifier out of range (m) = manual integration

# Quantitation Report

Data File : C:\HPCHEM\1\DATA\123112\12311211.D  Vial: 2
Acq On : 1 Jan 2013 9:18 am  Operator: RACHEL HILL
Sample : ICV VOA1 123112  Inst : VOA 1
Misc : ICV EPA_TO15  Multiplr: 1.00
MS Integration Params: CLME.P
Quant Time: Jan 2 8:59 2013  Quant Results File: 123112V1.RES

Method : C:\HPCHEM\1\METHODS\123112V1.M (RTE Integrator)
Title : TO15 ppbv
Last Update : Wed Jan 02 08:58:32 2013
Response via : Initial Calibration



# Injection Log

Directory: C:\HPCHEM\1\DATA\010313B

| Line | Vial | FileName | Multiplier | SampleName | Misc Info | Injected |
|---|---|---|---|---|---|---|
| 1 | 1 | 01031301.d | 1. | BFB VOA9 123112 | TUNE BFB_TUNE | 3 Jan 2013 21:58 |
| 2 | 2 | 01031302.d | 1. | ICAL1 VOA9 123112 | DATA NOT USED | 3 Jan 2013 23:20 |
| 3 | 3 | 01031303.d | 1. | ICAL1 VOA9 123112 | ICAL1MA_APH | 4 Jan 2013 00:03 |
| 4 | 4 | 01031304.d | 1. | ICAL2 VOA9 123112 | ICAL2MA_APH | 4 Jan 2013 00:45 |
| 5 | 5 | 01031305.d | 1. | ICAL3 VOA9 123112 | ICAL3MA_APH | 4 Jan 2013 01:28 |
| 6 | 6 | 01031306.d | 1. | ICAL4 VOA9 123112 | ICAL4MA_APH | 4 Jan 2013 02:11 |
| 7 | 7 | 01031307.d | 1. | ICAL5 VOA9 123112 | ICAL5MA_APH | 4 Jan 2013 02:55 |
| 8 | 8 | 01031308.d | 1. | ICAL6 VOA9 123112 | ICAL6MA_APH | 4 Jan 2013 03:39 |
| 9 | 9 | 01031309.d | 1. | ICAL7 VOA9 123112 | ICAL7MA_APH | 4 Jan 2013 04:24 |
| 10 | 2 | 01031310.d | 1. | BFB2 VOA9 123112 | TUNE BFB_TUNE | 4 Jan 2013 05:06 |
| 11 | 2 | 01031311.d | 1. | ICV VOA9 123112 | data not used | 4 Jan 2013 05:49 |
| 12 | 3 | 01031312.d | 1. | RLVS VOA9 123112 | data not used | 4 Jan 2013 06:32 |
| 13 | 4 | 01031313.d | 1. | ICV VOA9 123112 | ICV MA_APH | 4 Jan 2013 07:14 |
| 14 | 5 | 01031314.d | 1. | RLVS VOA9 123112 | RLVS MA_APH | 4 Jan 2013 07:57 |
| 15 | 4 | 01031315.d | 1. | MBLK VOA9 123112 | MBLK MA_APH | 4 Jan 2013 08:46 |
| 16 | 5 | 01031316.d | 800. | 1212373-023A | SAMP MA_APH | 4 Jan 2013 09:31 |
| 17 | 6 | 01031317.d | 800. | 1212373-024A | SAMP MA_APH | 4 Jan 2013 10:16 |
| 18 | 7 | 01031318.d | 400. | 1212437-023A | SAMP MA_APH | 4 Jan 2013 11:06 |
| 19 | 8 | 01031319.d | 80000. | 1212437-003A | data not used | 4 Jan 2013 11:48 |
| 20 | 9 | 01031320.d | 80000. | 1212437-004A | data not used | 4 Jan 2013 12:31 |
| 21 | 10 | 01031321.d | 160000. | 1212437-005A | SAMP MA_APH | 4 Jan 2013 13:13 |
| 22 | 11 | 01031322.d | 8000. | 1212437-025A | SAMP MA_APH | 4 Jan 2013 13:56 |
| 23 | 12 | 01031323.d | 400. | 1212722-057A | SAMP MA_APH | 4 Jan 2013 14:45 |
| 24 | 13 | 01031324.d | 160000. | 1212437-004A | SAMP MA_APH | 4 Jan 2013 15:27 |
| 25 | 14 | 01031325.d | 160000. | 1212437-003A | SAMP MA_APH | 4 Jan 2013 16:10 |
| 26 | 13 | 01031326.d | 800. | 1212722-059A | data not used | 4 Jan 2013 16:55 |
| 27 | 9 | 01031327.d | 800. | 1212722-059A | data not used | 4 Jan 2013 17:40 |
| 28 | 10 | 01031328.d | 200. | 1212722-061A | SAMP MA_APH | 4 Jan 2013 18:29 |
| 29 | 11 | 01031329.d | 200. | 1212722-064A | SAMP MA_APH | 4 Jan 2013 19:18 |
| 30 | 12 | 01031330.d | 400. | 1212722-065A | SAMP MA_APH | 4 Jan 2013 20:06 |
| 31 | 21 | 01031331.d | 400. | 1212722-066A | data not used | 4 Jan 2013 20:55 |
| 32 | 22 | 01031332.d | 400. | 1212722-068A | SAMP MA_APH | 4 Jan 2013 21:44 |
| 33 | 23 | 01031333.d | 400. | 1212722-067A | data not used | 4 Jan 2013 22:32 |
| 34 | 24 | 01031334.d | 400. | 1212722-069A | data not used | 4 Jan 2013 23:21 |
| 35 | 25 | 01031335.d | 800. | 1212722-004A | SAMP MA_APH | 5 Jan 2013 00:06 |
| 36 | 25 | 01031336.d | 800. | 1212722-004ADUP | DUP MA_APH | 5 Jan 2013 00:52 |
| 37 | 26 | 01031337.d | 400. | 1212722-070A | data not used | 5 Jan 2013 01:40 |
| 38 | 27 | 01031338.d | 800. | 1212722-005A | SAMP MA_APH | 5 Jan 2013 02:25 |
| 39 | 28 | 01031339.d | 800. | 1212722-006A | SAMP MA_APH | 5 Jan 2013 03:11 |
| 40 | 29 | 01031340.d | 1600. | 1212722-007A | data not used | 5 Jan 2013 03:54 |
| 41 | 1 | 01031341.d | 1. | RLVS VOA9 123112 | data not used | 5 Jan 2013 04:37 |
| 42 | 2 | 01031342.d | 1. | RLVS VOA9 123112 | RLVS MA_APH | 5 Jan 2013 08:34 |

# RTI Laboratories

# ANALYTICAL RUN Summary

*09-Jan-13*

**RunNo** 55111

| Seq No | Sample ID | Test Code | Sample Typ | File ID | Analysis Date | DF | Batch ID | Prep Date | SPKref | RPDref | pmoist |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1086441 | BFB2 VOA9 010313 | BFB_TUNE | TUNE | .1\DATA\010313 | E1/4/2013 5:06:00 | 1 | R55111 | | 0 | 0 | |

| Analyte | T | Units | RAW | Final | Text | Spike | SPKref | RPDref | MDL | PQL | UQL | %REC | LOW | HIGH | %RPD | Q |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 173 | M | | 0 | 0 | | 100 | 0 | 0 | 0 | 0 | 0 | 0% | 0 | 2 | 0% | |
| 174 | M | | 64.5 | 64.5 | | 100 | 0 | 0 | 0 | 0 | 0 | 65% | 50 | 200 | 0% | |
| 175 | M | | 7.6 | 7.6 | | 100 | 0 | 0 | 0 | 0 | 0 | 8% | 4 | 9 | 0% | |
| 176 | M | | 96.1 | 96.1 | | 100 | 0 | 0 | 0 | 0 | 0 | 96% | 93 | 101 | 0% | |
| 177 | M | | 6.6 | 6.6 | | 100 | 0 | 0 | 0 | 0 | 0 | 7% | 5 | 9 | 0% | |
| 50 | M | | 20 | 20 | | 100 | 0 | 0 | 0 | 0 | 0 | 20% | 8 | 40 | 0% | |
| 75 | M | | 41.6 | 41.6 | | 100 | 0 | 0 | 0 | 0 | 0 | 42% | 30 | 66 | 0% | |
| 95 | M | | 100 | 100 | | 100 | 0 | 0 | 0 | 0 | 0 | 100% | 100 | 100 | 0% | |
| 96 | M | | 6.7 | 6.7 | | 100 | 0 | 0 | 0 | 0 | 0 | 7% | 5 | 9 | 0% | |

| Seq No | Sample ID | Test Code | Sample Typ | File ID | Analysis Date | DF | Batch ID | Prep Date | SPKref | RPDref | pmoist |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1086442 | ICV VOA9 010313 | MA_APH | ICV | .1\DATA\010313 | E1/4/2013 7:14:00 | 1 | R55111 | | 0 | 0 | |

| Analyte | T | Units | RAW | Final | Text | Spike | SPKref | RPDref | MDL | PQL | UQL | %REC | LOW | HIGH | %RPD | Q |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| C5-C8 Aliphatic | A | µg/m³ | | 0 | | 0 | 0 | 0 | 0 | 0 | 0 | 0% | 0 | 0 | 0% | |
| C5-C8 Aliphatic HC - TOTAL | A | µg/m³ | 264.63 | 264.63 | | 234 | 0 | 0 | 0 | 0 | 0 | 113% | 70 | 130 | 0% | |
| C5-C8 Aliphatic Hydrocarbons | A | µg/m³ | | 0 | | 0 | 0 | 0 | 29.876 | 117 | 1170 | 0% | 0 | 0 | 0% | U |
| C9-C10 Aromatic HC - TOTAL | A | µg/m³ | 308.21 | 308.21 | | 266 | 0 | 0 | 0 | 0 | 0 | 116% | 70 | 130 | 0% | |
| C9-C10 Aromatic Hydrocarbons | A | µg/m³ | | 0 | | 0 | 0 | 0 | 35.658 | 133 | 1330 | 0% | 0 | 0 | 0% | U |
| C9-C12 Aliphatic | A | µg/m³ | | 0 | | 0 | 0 | 0 | 0 | 0 | 0 | 0% | 0 | 0 | 0% | |
| C9-C12 Aliphatic HC - TOTAL | A | µg/m³ | 443.86 | 443.86 | | 378 | 0 | 0 | 0 | 0 | 0 | 117% | 70 | 130 | 0% | |
| C9-C12 Aliphatic Hydrocarbons | A | µg/m³ | | 0 | | 0 | 0 | 0 | 25.766 | 189 | 1890 | 0% | 0 | 0 | 0% | U |
| C9-C12 Aliphatic-Aromatic Hydrocarbons | A | µg/m³ | | 0 | | 0 | 0 | 0 | 0 | 0 | 0 | 0% | 0 | 0 | 0% | |
| non C5-C8 - TOTAL | A | µg/m³ | | 0 | | 0 | 0 | 0 | 0 | 0 | 0 | 0% | 0 | 0 | 0% | |
| non C9-C12 - TOTAL | A | µg/m³ | | 0 | | 0 | 0 | 0 | 0 | 0 | 0 | 0% | 0 | 0 | 0% | |
| Chlorobenzene-d5 | I | ppbv | 12.5 | 12.5 | | 12.5 | 0 | 0 | 0 | 0 | 0 | 100% | 80 | 120 | 0% | |
| 4-Bromofluorobenzene | S | µg/m³ | 86.9 | 86.9 | | 89.5 | 0 | 0 | 0 | 0 | 0 | 97% | 70 | 130 | 0% | |

# Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\010313B\01031313.D  Vial: 4
Acq On : 4 Jan 2013 7:14 am  Operator: RACHEL HILL
Sample : ICV VOA9 123112  Inst : GC/MS Ins
Misc : ICV MA_APH  Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\HPCHEM\1\METHODS\010313V9.M (RTE Integrator)
Title : MASS APH
Last Update : Fri Jan 04 10:58:14 2013
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 150%

| | | Compound | Amount | Calc. | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|---|
| 1 | L1 | C5-C8 Aliphatic HC | 29.200 | 31.315 | -7.2 | 99 | 0.00 |
| 2 | L1 | C5-C8 Aliphatic HC {2} | 36.400 | 41.377 | -13.7 | 104 | 0.00 |
| 3 | L1 | C5-C8 Aliphatic HC {3} | 41.800 | 47.310 | -13.2 | 104 | 0.00 |
| 4 | L1 | C5-C8 Aliphatic HC {4} | 35.400 | 40.582 | -14.6 | 104 | 0.00 |
| 5 | L1 | C5-C8 Aliphatic HC {5} | 42.200 | 48.095 | -14.0 | 103 | 0.00 |
| 6 | L1 | C5-C8 Aliphatic HC {6} | 49.000 | 56.339 | -15.0 | 103 | 0.00 |
| 7 | L1 | C5-C8 Aliphatic HC - TOTAL | 234.000 | 264.632 | -13.1 | 103 | 0.00 |
| 8 | L1 | C9-C12 Aliphatic HC | 54.600 | 63.630 | -16.5 | 103 | 0.00 |
| 9 | L1 | C9-C12 Aliphatic HC {2} | 54.600 | 59.367 | -8.7 | 107 | 0.00 |
| 10 | L1 | C9-C12 Aliphatic HC {3} | 61.200 | 71.572 | -16.9 | 103 | 0.00 |
| 11 | L1 | C9-C12 Aliphatic HC {4} | 60.800 | 71.986 | -18.4 | 105 | 0.00 |
| 12 | L1 | C9-C12 Aliphatic HC {5} | 70.000 | 84.261 | -20.4 | 106 | 0.00 |
| 13 | L1 | C9-C12 Aliphatic HC {6} | 77.000 | 94.227 | -22.4 | 104 | 0.00 |
| 14 | L1 | C9-C12 Aliphatic HC - TOTAL | 378.000 | 443.860 | -17.4 | 104 | 0.00 |
| 15 | L1 | C9-C10 Aromatic HC | 51.700 | 59.757 | -15.6 | 104 | 0.00 |
| 16 | L1 | C9-C10 Aromatic HC {2} | 51.200 | 58.397 | -14.1 | 101 | 0.00 |
| 17 | L1 | C9-C10 Aromatic HC {3} | 52.200 | 60.464 | -15.8 | 104 | 0.00 |
| 18 | L1 | C9-C10 Aromatic HC {4} | 58.700 | 67.777 | -15.5 | 102 | 0.00 |
| 19 | L1 | C9-C10 Aromatic HC {5} | 52.600 | 60.816 | -15.6 | 103 | 0.00 |
| 20 | L1 | C9-C10 Aromatic HC {6} | 58.700 | 68.812 | -17.2 | 104 | 0.00 |
| 21 | L1 | C9-C10 Aromatic HC - TOTAL | 266.000 | 308.212 | -15.9 | 103 | 0.00 |
| 22 | | C5-C8 Aliphatic | 234.000 | 0.000 | 100.0# | 0 | -6.85# |
| 23 | L1 | non C5-C8 | 22.800 | 0.000 | 100.0# | 0 | -6.21# |
| 24 | L1 | non C5-C8 {2} | 36.800 | 0.000 | 100.0# | 0 | -9.01# |
| 25 | L1 | non C5-C8 {3} | 66.100 | 0.000 | 100.0# | 0 | -10.74# |
| 26 | L1 | non C5-C8 {4} | 32.500 | 0.000 | 100.0# | 0 | -11.52# |
| 27 | L1 | non C5-C8 {5} | 58.400 | 0.000 | 100.0# | 0 | -11.96# |
| 28 | L1 | non C5-C8 {6} | 39.200 | 0.000 | 100.0# | 0 | -14.07# |
| 29 | L1 | non C5-C8 - TOTAL | 256.000 | 0.000 | 100.0# | 0 | -6.21# |
| 30 | | C9-C12 Aliphatic | 378.000 | 0.000 | 100.0# | 0 | -16.21# |
| 31 | L1 | non C9-C12 | 60.100 | 0.000 | 100.0# | 0 | -16.18# |
| 32 | L1 | non C9-C12 {2} | 45.600 | 0.000 | 100.0# | 0 | -16.28# |
| 33 | L1 | non C9-C12 {3} | 46.000 | 0.000 | 100.0# | 0 | -16.46# |
| 34 | L1 | non C9-C12 {4} | 45.100 | 0.000 | 100.0# | 0 | -17.11# |
| 35 | L1 | non C9-C12 {5} | 89.500 | 0.000 | 100.0# | 0 | -18.01# |
| 36 | L1 | non C9-C12 - TOTAL | 340.600 | 0.000 | 100.0# | 0 | -16.46# |
| 37 | L1 | C9-C10 Aromatic | 266.000 | 0.000 | 100.0# | 0 | -17.04# |
| 38 | L1 | C9-C10 Aromatic {2} | 266.000 | 0.000 | 100.0# | 0 | -17.04# |
| 39 | L1 | C9-C10 Aromatic - TOTAL | 266.000 | 0.000 | 100.0# | 0 | -17.04# |
| 40 | I | Chlorobenzene-d5 | 12.500 | 12.500 | 0.0 | 104 | 0.00 |
| 41 | S | 4-Bromofluorobenzene | 89.500 | 86.903 | 2.9 | 103 | 0.00 |

(#) = Out of Range  SPCC's out = 0  CCC's out = 0

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\010313B\01031313.D Vial: 4
Acq On : 4 Jan 2013 7:14 am Operator: RACHEL HILL
Sample : ICV VOA9 123112 Inst : GC/MS Ins
Misc : ICV MA_APH Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jan 4 11:52 2013 Quant Results File: 010313V9.RES

Quant Method : C:\HPCHEM\1\METHODS\010313V9.M (RTE Integrator)
Title : MASS APH
Last Update : Fri Jan 04 10:58:14 2013
Response via : Initial Calibration
DataAcq Meth : 010313V9

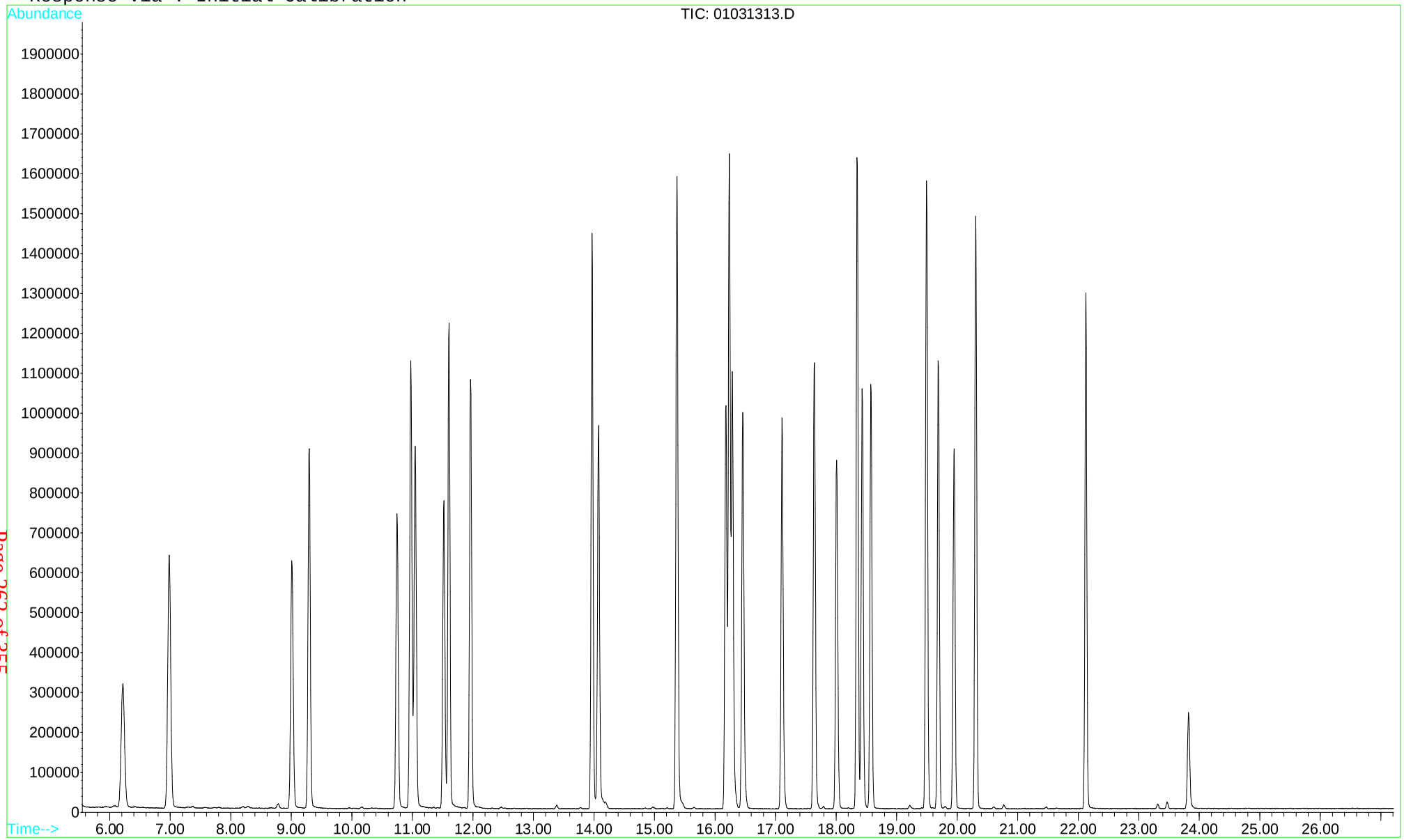
| Internal Standards | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 40) Chlorobenzene-d5 | 16.18 | 117 | 800438 | 12.50 | ug/m3 | 0.00 |
| System Monitoring Compounds | | | | | | |
| 41) 4-Bromofluorobenzene | 18.01 | 95 | 512722 | 86.90 | ug/m3 | 0.00 |
| Spiked Amount 89.500 | Range 70 - 130 | | Recovery = 97.09% | | | |
| Target Compounds | | | | | | Qvalue |
| 1) C5-C8 Aliphatic HC | 6.98 | TIC | 2205175 | 31.32 | ug/m3 | 100 |
| 2) C5-C8 Aliphatic HC {2} | 9.30 | TIC | 2370610 | 41.38 | ug/m3 | 100 |
| 3) C5-C8 Aliphatic HC {3} | 10.97 | TIC | 2975771 | 47.31 | ug/m3 | 100 |
| 4) C5-C8 Aliphatic HC {4} | 11.05 | TIC | 2392824 | 40.58 | ug/m3 | 100 |
| 5) C5-C8 Aliphatic HC {5} | 11.61 | TIC | 2878364 | 48.10 | ug/m3 | 100 |
| 6) C5-C8 Aliphatic HC {6} | 13.97 | TIC | 3249722 | 56.34 | ug/m3 | 100 |
| 7) C5-C8 Aliphatic HC - TOTAL | 6.98 | TIC | 16072466m | 264.63 | ug/m3 | |
| 8) C9-C12 Aliphatic HC | 15.37 | TIC | 3880223 | 63.63 | ug/m3 | 100 |
| 9) C9-C12 Aliphatic HC {2} | 16.24 | TIC | 2303613m | 59.37 | ug/m3 | |
| 10) C9-C12 Aliphatic HC {3} | 18.35 | TIC | 3676401 | 71.57 | ug/m3 | 100 |
| 11) C9-C12 Aliphatic HC {4} | 19.49 | TIC | 3694421 | 71.99 | ug/m3 | 100 |
| 12) C9-C12 Aliphatic HC {5} | 20.31 | TIC | 3308236 | 84.26 | ug/m3 | 100 |
| 13) C9-C12 Aliphatic HC {6} | 22.13 | TIC | 2791257 | 94.23 | ug/m3 | 100 |
| 14) C9-C12 Aliphatic HC - TOTA | 15.37 | TIC | 19654151m | 443.86 | ug/m3 | |
| 15) C9-C10 Aromatic HC | 17.64 | 120 | 293193 | 59.76 | ug/m3 | 100 |
| 16) C9-C10 Aromatic HC {2} | 18.43 | 120 | 297529 | 58.40 | ug/m3 | 100 |
| 17) C9-C10 Aromatic HC {3} | 18.57 | 120 | 442668 | 60.46 | ug/m3 | 100 |
| 18) C9-C10 Aromatic HC {4} | 19.69 | 120 | 95658 | 67.78 | ug/m3 | 100 |
| 19) C9-C10 Aromatic HC {5} | 19.95 | 120 | 333020 | 60.82 | ug/m3 | 100 |
| 20) C9-C10 Aromatic HC {6} | 19.69 | 134 | 260150 | 68.81 | ug/m3 | 100 |
| 21) C9-C10 Aromatic HC - TOTAL | 18.01 | TIC | 1722218m | 308.21 | ug/m3 | |

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\010313B\01031313.D  Vial: 4
Acq On : 4 Jan 2013 7:14 am  Operator: RACHEL HILL
Sample : ICV VOA9 123112  Inst : GC/MS Ins
Misc : ICV MA_APH  Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jan 4 11:52 2013  Quant Results File: 010313V9.RES

Method : C:\HPCHEM\1\METHODS\010313V9.M (RTE Integrator)
Title : MASS APH
Last Update : Fri Jan 04 10:58:14 2013
Response via : Initial Calibration



# Injection Log

Directory: C:\HPCHEM\1\DATA\121812

| Line | Vial | FileName | Multiplier | SampleName | Misc Info | Injected |
|---|---|---|---|---|---|---|
| 1 | 1 | 12181201.d | 1. | BFB VOA9 121812 | DATA NOT USED | 18 Dec 2012 10:03 |
| 2 | 2 | 12181202.d | 1. | BFB VOA9 121812 | TUNE BFB_TUNE | 18 Dec 2012 10:47 |
| 3 | 2 | 12181203.d | 1. | CCV VOA9 121812 | CCV MA_APH | 18 Dec 2012 11:33 |
| 4 | 3 | 12181204.d | 1. | RLVS VOA9 121812 | RLVS MA_APH | 18 Dec 2012 12:19 |
| 5 | 4 | 12181205.d | 1. | MBLK VOA9 121812 | MBLK MA_APH | 18 Dec 2012 14:15 |
| 6 | 5 | 12181206.d | 200. | 1212185-061A | SAMP MA_APH | 18 Dec 2012 15:04 |
| 7 | 6 | 12181207.d | 400. | 1212185-062A | SAMP MA_APH | 18 Dec 2012 15:53 |
| 8 | 13 | 12181208.d | 800. | 1212185-064A | SAMP MA_APH | 18 Dec 2012 16:38 |
| 9 | 13 | 12181209.d | 800. | 1212185-064ADUP | DUP MA_APH | 18 Dec 2012 17:24 |
| 10 | 14 | 12181210.d | 160000. | 1212185-001A | SAMP MA_APH | 18 Dec 2012 18:07 |
| 11 | 15 | 12181211.d | 8000. | 1212185-035A | SAMP MA_APH | 18 Dec 2012 18:52 |
| 12 | 16 | 12181212.d | 8000. | 1212185-056A | SAMP MA_APH | 18 Dec 2012 19:38 |
| 13 | 17 | 12181213.d | 8000. | 1212185-036A | DATA NOT USED | 18 Dec 2012 20:22 |
| 14 | 18 | 12181214.d | 8000. | 1212185-057A | SAMP MA_APH | 18 Dec 2012 21:08 |
| 15 | 19 | 12181215.d | 800. | 1212185-037A | SAMP MA_APH | 18 Dec 2012 21:54 |
| 16 | 19 | 12181216.d | 800. | 1212185-037A | DATA NOT USED | 18 Dec 2012 22:39 |
| 17 | 10 | 12181217.d | 400. | 1212373-016A | DATA NOT USED | 18 Dec 2012 23:28 |
| 18 | 11 | 12181218.d | 8000. | 1212373-012A | SAMP MA_APH | 19 Dec 2012 00:14 |
| 19 | 12 | 12181219.d | 8000. | 1212373-013A | DATA NOT USED | 19 Dec 2012 00:59 |
| 20 | 21 | 12181220.d | 8000. | 1212373-014A | DATA NOT USED | 19 Dec 2012 01:44 |
| 21 | 22 | 12181221.d | 40. | 1212373-019A | SAMP MA_APH | 19 Dec 2012 02:29 |
| 22 | 23 | 12181222.d | 80000. | 1212373-015A | SAMP MA_APH | 19 Dec 2012 03:14 |
| 23 | 24 | 12181223.d | 40. | 1212373-020A | SAMP MA_APH | 19 Dec 2012 03:58 |
| 24 | 25 | 12181224.d | 20000. | 1212373-021A | SAMP MA_APH | 19 Dec 2012 04:42 |
| 25 | 26 | 12181225.d | 8000. | 1212373-042A | SAMP MA_APH | 19 Dec 2012 05:27 |
| 26 | 27 | 12181226.d | 800. | 1212373-043A | SAMP MA_APH | 19 Dec 2012 06:12 |
| 27 | 27 | 12181227.d | 400. | 1212373-043A | DATA NOT USED | 19 Dec 2012 06:57 |
| 28 | 28 | 12181228.d | 400. | 1212373-022A | SAMP MA_APH | 19 Dec 2012 07:46 |
| 29 | 29 | 12181229.d | 8000. | 1212373-023A | SAMP MA_APH | 19 Dec 2012 08:35 |
| 30 | 3 | 12181230.d | 1. | RLVS2 VOA9 121812 | DATA NOT USED | 19 Dec 2012 09:20 |
| 31 | 4 | 12181231.d | 1. | RLVS2 VOA9 121812 | RLVS MA_APH | 19 Dec 2012 10:14 |

# RTI Laboratories

# ANALYTICAL RUN Summary

*02-Jan-13*

**RunNo** 54762

| Seq No | Sample ID | Test Code | Sample Typ | File ID | Analysis Date | DF | Batch ID | Prep Date | SPKref | RPDref | pmoist |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1079171 | BFB VOA9 121812 | BFB_TUNE | TUNE | \\1\DATA\121812\ | 12/18/2012 10:4 | 1 | R54762 | | 0 | 0 | |

| Analyte | T | Units | RAW | Final | Text | Spike | SPKref | RPDref | MDL | PQL | UQL | %REC | LOW | HIGH | %RPD | Q |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 173 | M | | 0 | 0 | | 100 | 0 | 0 | 0 | 0 | 0 | 0% | 0 | 2 | 0% | |
| 174 | M | | 60.5 | 60.5 | | 100 | 0 | 0 | 0 | 0 | 0 | 61% | 50 | 200 | 0% | |
| 175 | M | | 7.3 | 7.3 | | 100 | 0 | 0 | 0 | 0 | 0 | 7% | 4 | 9 | 0% | |
| 176 | M | | 100.9 | 100.9 | | 100 | 0 | 0 | 0 | 0 | 0 | 101% | 93 | 101 | 0% | |
| 177 | M | | 6.5 | 6.5 | | 100 | 0 | 0 | 0 | 0 | 0 | 7% | 5 | 9 | 0% | |
| 50 | M | | 21.2 | 21.2 | | 100 | 0 | 0 | 0 | 0 | 0 | 21% | 8 | 40 | 0% | |
| 75 | M | | 41.5 | 41.5 | | 100 | 0 | 0 | 0 | 0 | 0 | 42% | 30 | 66 | 0% | |
| 95 | M | | 100 | 100 | | 100 | 0 | 0 | 0 | 0 | 0 | 100% | 100 | 100 | 0% | |
| 96 | M | | 6.5 | 6.5 | | 100 | 0 | 0 | 0 | 0 | 0 | 7% | 5 | 9 | 0% | |

| Seq No | Sample ID | Test Code | Sample Typ | File ID | Analysis Date | DF | Batch ID | Prep Date | SPKref | RPDref | pmoist |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1079172 | CCV VOA9 121812 | MA_APH | CCV | \\1\DATA\121812\ | 12/18/2012 11:3 | 1 | R54762 | | 0 | 0 | |

| Analyte | T | Units | RAW | Final | Text | Spike | SPKref | RPDref | MDL | PQL | UQL | %REC | LOW | HIGH | %RPD | Q |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| C5-C8 Aliphatic | A | µg/m³ | | 0 | | 0 | 0 | 0 | 0 | 0 | 0 | 0% | 0 | 0 | 0% | |
| C5-C8 Aliphatic HC - TOTAL | A | µg/m³ | 235.48 | 235.48 | | 234 | 0 | 0 | 0 | 0 | 0 | 101% | 70 | 130 | 0% | |
| C5-C8 Aliphatic Hydrocarbons | A | µg/m³ | | 0 | | 0 | 0 | 0 | 29.876 | 117 | 1170 | 0% | 0 | 0 | 0% | U |
| C9-C10 Aromatic HC - TOTAL | A | µg/m³ | 228.02 | 228.02 | | 266 | 0 | 0 | 0 | 0 | 0 | 86% | 70 | 130 | 0% | |
| C9-C10 Aromatic Hydrocarbons | A | µg/m³ | | 0 | | 0 | 0 | 0 | 35.658 | 133 | 1330 | 0% | 0 | 0 | 0% | U |
| C9-C12 Aliphatic | A | µg/m³ | | 0 | | 0 | 0 | 0 | 0 | 0 | 0 | 0% | 0 | 0 | 0% | |
| C9-C12 Aliphatic HC - TOTAL | A | µg/m³ | 399.32 | 399.32 | | 378 | 0 | 0 | 0 | 0 | 0 | 106% | 70 | 130 | 0% | |
| C9-C12 Aliphatic Hydrocarbons | A | µg/m³ | | 0 | | 0 | 0 | 0 | 25.766 | 189 | 1890 | 0% | 0 | 0 | 0% | U |
| C9-C12 Aliphatic-Aromatic Hydrocarbons | A | µg/m³ | | 0 | | 0 | 0 | 0 | 0 | 0 | 0 | 0% | 0 | 0 | 0% | |
| non C5-C8 - TOTAL | A | µg/m³ | | 0 | | 0 | 0 | 0 | 0 | 0 | 0 | 0% | 0 | 0 | 0% | |
| non C9-C12 - TOTAL | A | µg/m³ | | 0 | | 0 | 0 | 0 | 0 | 0 | 0 | 0% | 0 | 0 | 0% | |
| Chlorobenzene-d5 | I | ppbv | 12.5 | 12.5 | | 12.5 | 0 | 0 | 0 | 0 | 0 | 100% | 80 | 120 | 0% | |
| 4-Bromofluorobenzene | S | µg/m³ | 96.71 | 96.71 | | 89.5 | 0 | 0 | 0 | 0 | 0 | 108% | 70 | 130 | 0% | |

# Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\121812\12181203.D  Vial: 2
Acq On : 18 Dec 2012 11:33 am  Operator: RACHEL HILL
Sample : CCV VOA9 121812  Inst : GC/MS Ins
Misc : CCV MA_APH  Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\HPCHEM\1\METHODS\121112V9.M (RTE Integrator)
Title : MASS APH
Last Update : Wed Dec 12 13:10:52 2012
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 150%

| | | Compound | Amount | Calc. | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|---|
| 1 | L1 | C5-C8 Aliphatic HC | 29.200 | 28.492 | 2.4 | 92 | 0.00 |
| 2 | L1 | C5-C8 Aliphatic HC {2} | 36.400 | 37.191 | -2.2 | 90 | 0.00 |
| 3 | L1 | C5-C8 Aliphatic HC {3} | 41.800 | 42.625 | -2.0 | 89 | 0.00 |
| 4 | L1 | C5-C8 Aliphatic HC {4} | 35.400 | 34.643 | 2.1 | 87 | 0.00 |
| 5 | L1 | C5-C8 Aliphatic HC {5} | 42.200 | 43.312 | -2.6 | 90 | 0.00 |
| 6 | L1 | C5-C8 Aliphatic HC {6} | 49.000 | 49.261 | -0.5 | 87 | 0.00 |
| 7 | L1 | C5-C8 Aliphatic HC - TOTAL | 234.000 | 235.477 | -0.6 | 89 | 0.00 |
| 8 | L1 | C9-C12 Aliphatic HC | 54.600 | 55.700 | -2.0 | 88 | 0.00 |
| 9 | L1 | C9-C12 Aliphatic HC {2} | 54.600 | 58.637 | -7.4 | 98 | 0.00 |
| 10 | L1 | C9-C12 Aliphatic HC {3} | 61.200 | 64.335 | -5.1 | 91 | 0.00 |
| 11 | L1 | C9-C12 Aliphatic HC {4} | 60.800 | 62.699 | -3.1 | 90 | 0.00 |
| 12 | L1 | C9-C12 Aliphatic HC {5} | 70.000 | 75.862 | -8.4 | 92 | 0.00 |
| 13 | L1 | C9-C12 Aliphatic HC {6} | 77.000 | 84.655 | -9.9 | 90 | 0.00 |
| 14 | L1 | C9-C12 Aliphatic HC - TOTAL | 378.000 | 399.324 | -5.6 | 91 | 0.00 |
| 15 | L1 | C9-C10 Aromatic HC | 51.700 | 44.477 | 14.0 | 74 | 0.00 |
| 16 | L1 | C9-C10 Aromatic HC {2} | 51.200 | 43.427 | 15.2 | 73 | 0.00 |
| 17 | L1 | C9-C10 Aromatic HC {3} | 52.200 | 44.979 | 13.8 | 74 | 0.00 |
| 18 | L1 | C9-C10 Aromatic HC {4} | 58.700 | 50.840 | 13.4 | 75 | 0.00 |
| 19 | L1 | C9-C10 Aromatic HC {5} | 52.600 | 44.733 | 15.0 | 74 | 0.00 |
| 20 | L1 | C9-C10 Aromatic HC {6} | 58.700 | 49.917 | 15.0 | 72 | 0.00 |
| 21 | L1 | C9-C10 Aromatic HC - TOTAL | 266.000 | 228.025 | 14.3 | 74 | 0.00 |
| 22 | | C5-C8 Aliphatic | 234.000 | 0.000 | 100.0# | 0 | -6.94# |
| 23 | L1 | non C5-C8 | 22.800 | 0.000 | 100.0# | 0 | -6.26# |
| 24 | L1 | non C5-C8 {2} | 36.800 | 0.000 | 100.0# | 0 | -9.15# |
| 25 | L1 | non C5-C8 {3} | 66.100 | 0.000 | 100.0# | 0 | -10.92# |
| 26 | L1 | non C5-C8 {4} | 32.500 | 0.000 | 100.0# | 0 | -11.70# |
| 27 | L1 | non C5-C8 {5} | 58.400 | 0.000 | 100.0# | 0 | -12.15# |
| 28 | L1 | non C5-C8 {6} | 39.200 | 0.000 | 100.0# | 0 | -14.28# |
| 29 | L1 | non C5-C8 - TOTAL | 256.000 | 0.000 | 100.0# | 0 | -6.26# |
| 30 | | C9-C12 Aliphatic | 378.000 | 0.000 | 100.0# | 0 | -16.42# |
| 31 | L1 | non C9-C12 | 60.100 | 0.000 | 100.0# | 0 | -16.39# |
| 32 | L1 | non C9-C12 {2} | 45.600 | 0.000 | 100.0# | 0 | -16.49# |
| 33 | L1 | non C9-C12 {3} | 46.000 | 0.000 | 100.0# | 0 | -16.67# |
| 34 | L1 | non C9-C12 {4} | 45.100 | 0.000 | 100.0# | 0 | -17.31# |
| 35 | L1 | non C9-C12 {5} | 89.500 | 0.000 | 100.0# | 0 | -18.22# |
| 36 | L1 | non C9-C12 - TOTAL | 340.600 | 0.000 | 100.0# | 0 | -16.67# |
| 37 | L1 | C9-C10 Aromatic | 266.000 | 0.000 | 100.0# | 0 | -17.30# |
| 38 | L1 | C9-C10 Aromatic {2} | 266.000 | 0.000 | 100.0# | 0 | -17.30# |
| 39 | L1 | C9-C10 Aromatic - TOTAL | 266.000 | 0.000 | 100.0# | 0 | -17.30# |
| 40 | I | Chlorobenzene-d5 | 12.500 | 12.500 | 0.0 | 69 | 0.00 |
| 41 | S | 4-Bromofluorobenzene | 89.500 | 96.707 | -8.1 | 77 | 0.00 |

(#) = Out of Range  SPCC's out = 0  CCC's out = 0

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\121812\12181203.D Vial: 2
Acq On : 18 Dec 2012 11:33 am Operator: RACHEL HILL
Sample : CCV VOA9 121812 Inst : GC/MS Ins
Misc : CCV MA_APH Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Dec 20 9:14 2012 Quant Results File: 121112V9.RES

Quant Method : C:\HPCHEM\1\METHODS\121112V9.M (RTE Integrator)
Title : MASS APH
Last Update : Wed Dec 12 13:10:52 2012
Response via : Initial Calibration
DataAcq Meth : 121112V9

| Internal Standards | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 40) Chlorobenzene-d5 | 16.39 | 117 | 678789 | 12.50 | ug/m3 | 0.00 |

System Monitoring Compounds

| | | | | | | |
|---|---|---|---|---|---|---|
| 41) 4-Bromofluorobenzene | 18.22 | 95 | 440086 | 96.71 | ug/m3 | 0.00 |

Spiked Amount 89.500 Range 70 - 130 Recovery = 108.06%

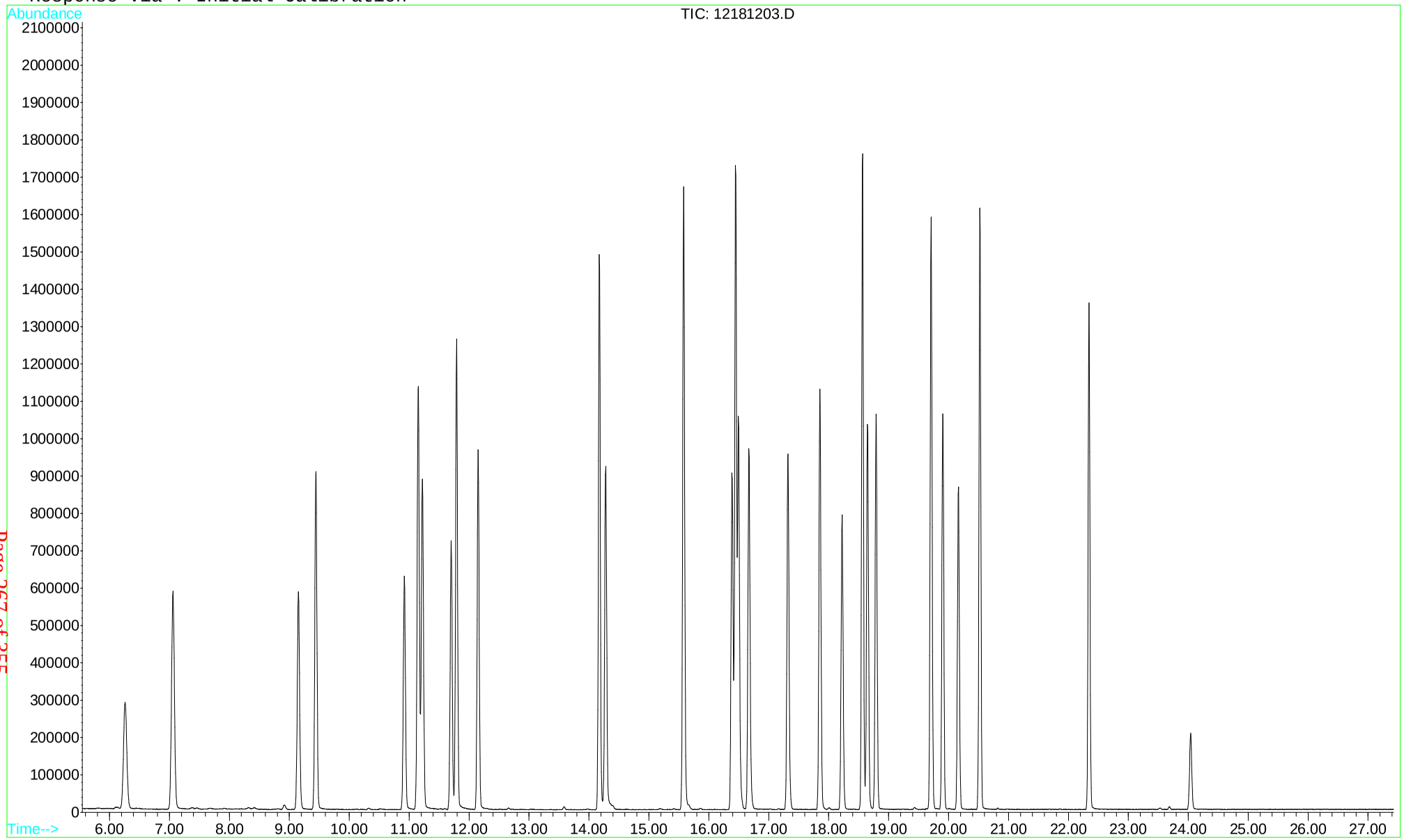
| Target Compounds | | | | | | Qvalue |
|---|---|---|---|---|---|---|
| 1) C5-C8 Aliphatic HC | 7.06 | TIC | 1988298 | 28.49 | ug/m3 | 100 |
| 2) C5-C8 Aliphatic HC {2} | 9.45 | TIC | 2301233 | 37.19 | ug/m3 | 100 |
| 3) C5-C8 Aliphatic HC {3} | 11.15 | TIC | 2966245 | 42.63 | ug/m3 | 100 |
| 4) C5-C8 Aliphatic HC {4} | 11.22 | TIC | 2183835 | 34.64 | ug/m3 | 100 |
| 5) C5-C8 Aliphatic HC {5} | 11.79 | TIC | 2858667 | 43.31 | ug/m3 | 100 |
| 6) C5-C8 Aliphatic HC {6} | 14.17 | TIC | 3226503 | 49.26 | ug/m3 | 100 |
| 7) C5-C8 Aliphatic HC - TOTAL | 7.06 | TIC | 15524781m | 235.48 | ug/m3 | |
| 8) C9-C12 Aliphatic HC | 15.58 | TIC | 3851334 | 55.70 | ug/m3 | 100 |
| 9) C9-C12 Aliphatic HC {2} | 16.44 | TIC | 2733598m | 58.64 | ug/m3 | |
| 10) C9-C12 Aliphatic HC {3} | 18.57 | TIC | 3736100 | 64.34 | ug/m3 | 100 |
| 11) C9-C12 Aliphatic HC {4} | 19.71 | TIC | 3541960 | 62.70 | ug/m3 | 100 |
| 12) C9-C12 Aliphatic HC {5} | 20.52 | TIC | 3404640 | 75.86 | ug/m3 | 100 |
| 13) C9-C12 Aliphatic HC {6} | 22.34 | TIC | 2749980 | 84.66 | ug/m3 | 100 |
| 14) C9-C12 Aliphatic HC - TOTA | 15.58 | TIC | 20017612m | 399.32 | ug/m3 | |
| 15) C9-C10 Aromatic HC | 17.85 | 120 | 259273 | 44.48 | ug/m3 | 100 |
| 16) C9-C10 Aromatic HC {2} | 18.65 | 120 | 261509 | 43.43 | ug/m3 | 100 |
| 17) C9-C10 Aromatic HC {3} | 18.79 | 120 | 386101 | 44.98 | ug/m3 | 100 |
| 18) C9-C10 Aromatic HC {4} | 19.90 | 120 | 82420 | 50.84 | ug/m3 | 100 |
| 19) C9-C10 Aromatic HC {5} | 20.17 | 120 | 285402 | 44.73 | ug/m3 | 100 |
| 20) C9-C10 Aromatic HC {6} | 19.90 | 134 | 217736 | 49.92 | ug/m3 | 100 |
| 21) C9-C10 Aromatic HC - TOTAL | 17.85 | TIC | 1492441m | 228.02 | ug/m3 | |

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\121812\12181203.D  Vial: 2
Acq On : 18 Dec 2012 11:33 am  Operator: RACHEL HILL
Sample : CCV VOA9 121812  Inst : GC/MS Ins
Misc : CCV MA_APH  Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Dec 20 9:14 2012  Quant Results File: 121112V9.RES

Method : C:\HPCHEM\1\METHODS\121112V9.M (RTE Integrator)
Title : MASS APH
Last Update : Wed Dec 12 13:10:52 2012
Response via : Initial Calibration



# Injection Log

Directory: C:\HPCHEM\1\DATA\121912

| Line | Vial | FileName | Multiplier | SampleName | Misc Info | Injected |
|---|---|---|---|---|---|---|
| 1 | 1 | 12191201.d | 1. | BFB VOA9 121912 | TUNE BFB_TUNE | 19 Dec 2012 22:23 |
| 2 | 2 | 12191202.d | 1. | ICAL1 VOA9 121912 | DATA NOT USED | 19 Dec 2012 23:08 |
| 3 | 3 | 12191203.d | 1. | ICAL1 VOA9 121912 | ICAL1MA_APH | 19 Dec 2012 23:51 |
| 4 | 4 | 12191204.d | 1. | ICAL2 VOA9 121912 | ICAL2MA_APH | 20 Dec 2012 00:34 |
| 5 | 5 | 12191205.d | 1. | ICAL3 VOA9 121912 | ICAL3MA_APH | 20 Dec 2012 01:18 |
| 6 | 6 | 12191206.d | 1. | ICAL4 VOA9 121912 | ICAL4MA_APH | 20 Dec 2012 02:00 |
| 7 | 7 | 12191207.d | 1. | ICAL5 VOA9 121912 | ICAL5MA_APH | 20 Dec 2012 02:44 |
| 8 | 8 | 12191208.d | 1. | ICAL6 VOA9 121912 | ICAL6MA_APH | 20 Dec 2012 03:28 |
| 9 | 9 | 12191209.d | 1. | ICAL7 VOA9 121912 | ICAL7MA_APH | 20 Dec 2012 04:13 |
| 10 | 2 | 12191210.d | 1. | BFB VOA9 121912 | TUNE BFB_TUNE | 20 Dec 2012 04:59 |
| 11 | 2 | 12191211.d | 1. | ICV VOA9 121912 | ICV MA_APH | 20 Dec 2012 05:42 |
| 12 | 3 | 12191212.d | 1. | RLVS VOA9 121912 | RLVS MA_APH | 20 Dec 2012 06:25 |
| 13 | 4 | 12191213.d | 1. | MBLK VOA9 121912 | MBLK MA_APH | 20 Dec 2012 10:31 |
| 14 | 5 | 12191214.d | 400. | 1212373-017A | DATA NOT USED | 20 Dec 2012 11:20 |
| 15 | 6 | 12191215.d | 400. | 1212373-018A | DATA NOT USED | 20 Dec 2012 12:08 |
| 16 | 7 | 12191216.d | 400. | 1212373-016A | SAMP MA_APH | 20 Dec 2012 12:57 |
| 17 | 8 | 12191217.d | 20000. | 1212373-013A | SAMP MA_APH | 20 Dec 2012 13:44 |
| 18 | 9 | 12191218.d | 20000. | 1212373-014A | SAMP MA_APH | 20 Dec 2012 14:32 |
| 19 | 10 | 12191219.d | 8000. | 1212373-024A | DATA NOT USED | 20 Dec 2012 15:21 |
| 20 | 21 | 12191220.d | 8000. | 1212185-036A | DATA NOT USED | 20 Dec 2012 16:07 |
| 21 | 12 | 12191221.d | 400. | 1212373-025A | SAMP MA_APH | 20 Dec 2012 16:55 |
| 22 | 13 | 12191222.d | 800. | 1212185-036A | SAMP MA_APH | 20 Dec 2012 17:41 |
| 23 | 13 | 12191223.d | 400. | 1212373-026A | SAMP MA_APH | 20 Dec 2012 18:30 |
| 24 | 14 | 12191224.d | 8000. | 1212373-044A | SAMP MA_APH | 20 Dec 2012 19:19 |
| 25 | 15 | 12191225.d | 8000. | 1212373-045A | SAMP MA_APH | 20 Dec 2012 20:07 |
| 26 | 16 | 12191226.d | 8000. | 1212373-027A | SAMP MA_APH | 20 Dec 2012 20:53 |
| 27 | 17 | 12191227.d | 800. | 1212373-046A | SAMP MA_APH | 20 Dec 2012 21:40 |
| 28 | 17 | 12191228.d | 800. | 1212373-046ADUP | DUP MA_APH | 20 Dec 2012 22:26 |
| 29 | 18 | 12191229.d | 800. | 1212373-047A | SAMP MA_APH | 20 Dec 2012 23:12 |
| 30 | 19 | 12191230.d | 8000. | 1212373-028A | SAMP MA_APH | 21 Dec 2012 00:00 |
| 31 | 10 | 12191231.d | 800. | 1212373-048A | SAMP MA_APH | 21 Dec 2012 00:48 |
| 32 | 10 | 12191232.d | 800. | 1212373-048A | DATA NOT USED | 21 Dec 2012 01:34 |
| 33 | 11 | 12191233.d | 800. | 1212373-029A | SAMP MA_APH | 21 Dec 2012 02:21 |
| 34 | 12 | 12191234.d | 800. | 1212373-030A | SAMP MA_APH | 21 Dec 2012 03:10 |
| 35 | 22 | 12191235.d | 400. | 1212373-031A | SAMP MA_APH | 21 Dec 2012 03:58 |
| 36 | 3 | 12191239.d | 1. | RLVS VOA9 121912 | RLVS MA_APH | 21 Dec 2012 04:46 |

# RTI Laboratories

# ANALYTICAL RUN Summary

*03-Jan-13*

**RunNo** 54799

| Seq No | Sample ID | Test Code | Sample Typ | File ID | Analysis Date | DF | Batch ID | Prep Date | SPKref | RPDref | pmoist |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1080235 | BFB VOA9 121912 | BFB_TUNE | TUNE | \\1\DATA\121912\ | 12/20/2012 4:59: | 1 | R54799 | | 0 | 0 | |

| Analyte | T | Units | RAW | Final | Text | Spike | SPKref | RPDref | MDL | PQL | UQL | %REC | LOW | HIGH | %RPD | Q |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 173 | M | | 0 | 0 | | 100 | 0 | 0 | 0 | 0 | 0 | 0% | 0 | 2 | 0% | |
| 174 | M | | 54.4 | 54.4 | | 100 | 0 | 0 | 0 | 0 | 0 | 54% | 50 | 200 | 0% | |
| 175 | M | | 7.8 | 7.8 | | 100 | 0 | 0 | 0 | 0 | 0 | 8% | 4 | 9 | 0% | |
| 176 | M | | 99.9 | 99.9 | | 100 | 0 | 0 | 0 | 0 | 0 | 100% | 93 | 101 | 0% | |
| 177 | M | | 6.6 | 6.6 | | 100 | 0 | 0 | 0 | 0 | 0 | 7% | 5 | 9 | 0% | |
| 50 | M | | 20.2 | 20.2 | | 100 | 0 | 0 | 0 | 0 | 0 | 20% | 8 | 40 | 0% | |
| 75 | M | | 40.6 | 40.6 | | 100 | 0 | 0 | 0 | 0 | 0 | 41% | 30 | 66 | 0% | |
| 95 | M | | 100 | 100 | | 100 | 0 | 0 | 0 | 0 | 0 | 100% | 100 | 100 | 0% | |
| 96 | M | | 6.6 | 6.6 | | 100 | 0 | 0 | 0 | 0 | 0 | 7% | 5 | 9 | 0% | |

| Seq No | Sample ID | Test Code | Sample Typ | File ID | Analysis Date | DF | Batch ID | Prep Date | SPKref | RPDref | pmoist |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1080236 | ICV VOA9 121912 | MA_APH | ICV | \\1\DATA\121912\ | 12/20/2012 5:42: | 1 | R54799 | | 0 | 0 | |

| Analyte | T | Units | RAW | Final | Text | Spike | SPKref | RPDref | MDL | PQL | UQL | %REC | LOW | HIGH | %RPD | Q |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| C5-C8 Aliphatic | A | µg/m³ | | 0 | | 0 | 0 | 0 | 0 | 0 | 0 | 0% | 0 | 0 | 0% | |
| C5-C8 Aliphatic HC - TOTAL | A | µg/m³ | 268.66 | 268.66 | | 234 | 0 | 0 | 0 | 0 | 0 | 115% | 70 | 130 | 0% | |
| C5-C8 Aliphatic Hydrocarbons | A | µg/m³ | | 0 | | 0 | 0 | 0 | 29.876 | 117 | 1170 | 0% | 0 | 0 | 0% | U |
| C9-C10 Aromatic HC - TOTAL | A | µg/m³ | 309.85 | 309.85 | | 266 | 0 | 0 | 0 | 0 | 0 | 116% | 70 | 130 | 0% | |
| C9-C10 Aromatic Hydrocarbons | A | µg/m³ | | 0 | | 0 | 0 | 0 | 35.658 | 133 | 1330 | 0% | 0 | 0 | 0% | U |
| C9-C12 Aliphatic | A | µg/m³ | | 0 | | 0 | 0 | 0 | 0 | 0 | 0 | 0% | 0 | 0 | 0% | |
| C9-C12 Aliphatic HC - TOTAL | A | µg/m³ | 446.12 | 446.12 | | 378 | 0 | 0 | 0 | 0 | 0 | 118% | 70 | 130 | 0% | |
| C9-C12 Aliphatic Hydrocarbons | A | µg/m³ | | 0 | | 0 | 0 | 0 | 25.766 | 189 | 1890 | 0% | 0 | 0 | 0% | U |
| C9-C12 Aliphatic-Aromatic Hydrocarbons | A | µg/m³ | | 0 | | 0 | 0 | 0 | 0 | 0 | 0 | 0% | 0 | 0 | 0% | |
| non C5-C8 - TOTAL | A | µg/m³ | | 0 | | 0 | 0 | 0 | 0 | 0 | 0 | 0% | 0 | 0 | 0% | |
| non C9-C12 - TOTAL | A | µg/m³ | | 0 | | 0 | 0 | 0 | 0 | 0 | 0 | 0% | 0 | 0 | 0% | |
| Chlorobenzene-d5 | I | ppbv | 12.5 | 12.5 | | 12.5 | 0 | 0 | 0 | 0 | 0 | 100% | 80 | 120 | 0% | |
| 4-Bromofluorobenzene | S | µg/m³ | 87.52 | 87.52 | | 89.5 | 0 | 0 | 0 | 0 | 0 | 98% | 70 | 130 | 0% | |

# Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\121912\12191211.D  Vial: 2
Acq On : 20 Dec 2012 5:42 am  Operator: RACHEL HILL
Sample : ICV VOA9 121912  Inst : GC/MS Ins
Misc : ICV MA_APH  Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\HPCHEM\1\METHODS\121912V9.M (RTE Integrator)
Title : MASS APH
Last Update : Fri Dec 21 09:13:14 2012
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 150%

| | | Compound | Amount | Calc. | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|---|
| 1 | L1 | C5-C8 Aliphatic HC | 29.200 | 32.253 | -10.5 | 102 | 0.00 |
| 2 | L1 | C5-C8 Aliphatic HC {2} | 36.400 | 42.253 | -16.1 | 101 | 0.00 |
| 3 | L1 | C5-C8 Aliphatic HC {3} | 41.800 | 48.273 | -15.5 | 99 | 0.00 |
| 4 | L1 | C5-C8 Aliphatic HC {4} | 35.400 | 40.784 | -15.2 | 101 | 0.00 |
| 5 | L1 | C5-C8 Aliphatic HC {5} | 42.200 | 48.494 | -14.9 | 99 | 0.00 |
| 6 | L1 | C5-C8 Aliphatic HC {6} | 49.000 | 56.756 | -15.8 | 99 | 0.00 |
| 7 | L1 | C5-C8 Aliphatic HC - TOTAL | 234.000 | 268.655 | -14.8 | 100 | 0.00 |
| 8 | L1 | C9-C12 Aliphatic HC | 54.600 | 63.862 | -17.0 | 99 | 0.00 |
| 9 | L1 | C9-C12 Aliphatic HC {2} | 54.600 | 60.213 | -10.3 | 96 | 0.00 |
| 10 | L1 | C9-C12 Aliphatic HC {3} | 61.200 | 72.775 | -18.9 | 100 | 0.00 |
| 11 | L1 | C9-C12 Aliphatic HC {4} | 60.800 | 72.355 | -19.0 | 101 | 0.00 |
| 12 | L1 | C9-C12 Aliphatic HC {5} | 70.000 | 83.141 | -18.8 | 95 | 0.00 |
| 13 | L1 | C9-C12 Aliphatic HC {6} | 77.000 | 95.808 | -24.4 | 96 | 0.00 |
| 14 | L1 | C9-C12 Aliphatic HC - TOTAL | 378.000 | 446.119 | -18.0 | 98 | 0.00 |
| 15 | L1 | C9-C10 Aromatic HC | 51.700 | 60.111 | -16.3 | 101 | 0.00 |
| 16 | L1 | C9-C10 Aromatic HC {2} | 51.200 | 59.086 | -15.4 | 100 | 0.00 |
| 17 | L1 | C9-C10 Aromatic HC {3} | 52.200 | 60.538 | -16.0 | 99 | 0.00 |
| 18 | L1 | C9-C10 Aromatic HC {4} | 58.700 | 68.853 | -17.3 | 100 | 0.00 |
| 19 | L1 | C9-C10 Aromatic HC {5} | 52.600 | 61.030 | -16.0 | 101 | 0.00 |
| 20 | L1 | C9-C10 Aromatic HC {6} | 58.700 | 69.028 | -17.6 | 101 | 0.00 |
| 21 | L1 | C9-C10 Aromatic HC - TOTAL | 266.000 | 309.848 | -16.5 | 100 | 0.00 |
| 22 | | C5-C8 Aliphatic | 234.000 | 0.000 | 100.0# | 0 | -6.95# |
| 23 | L1 | non C5-C8 | 22.800 | 0.000 | 100.0# | 0 | -6.27# |
| 24 | L1 | non C5-C8 {2} | 36.800 | 0.000 | 100.0# | 0 | -9.15# |
| 25 | L1 | non C5-C8 {3} | 66.100 | 0.000 | 100.0# | 0 | -10.92# |
| 26 | L1 | non C5-C8 {4} | 32.500 | 0.000 | 100.0# | 0 | -11.70# |
| 27 | L1 | non C5-C8 {5} | 58.400 | 0.000 | 100.0# | 0 | -12.15# |
| 28 | L1 | non C5-C8 {6} | 39.200 | 0.000 | 100.0# | 0 | -14.28# |
| 29 | L1 | non C5-C8 - TOTAL | 256.000 | 0.000 | 100.0# | 0 | -6.27# |
| 30 | | C9-C12 Aliphatic | 378.000 | 0.000 | 100.0# | 0 | -16.41# |
| 31 | L1 | non C9-C12 | 60.100 | 0.000 | 100.0# | 0 | -16.39# |
| 32 | L1 | non C9-C12 {2} | 45.600 | 0.000 | 100.0# | 0 | -16.49# |
| 33 | L1 | non C9-C12 {3} | 46.000 | 0.000 | 100.0# | 0 | -16.67# |
| 34 | L1 | non C9-C12 {4} | 45.100 | 0.000 | 100.0# | 0 | -17.32# |
| 35 | L1 | non C9-C12 {5} | 89.500 | 0.000 | 100.0# | 0 | -18.23# |
| 36 | L1 | non C9-C12 - TOTAL | 340.600 | 0.000 | 100.0# | 0 | -16.67# |
| 37 | L1 | C9-C10 Aromatic | 266.000 | 0.000 | 100.0# | 0 | -17.40# |
| 38 | L1 | C9-C10 Aromatic {2} | 266.000 | 0.000 | 100.0# | 0 | -17.40# |
| 39 | L1 | C9-C10 Aromatic - TOTAL | 266.000 | 0.000 | 100.0# | 0 | -17.40# |
| 40 | I | Chlorobenzene-d5 | 12.500 | 12.500 | 0.0 | 107 | 0.00 |
| 41 | S | 4-Bromofluorobenzene | 89.500 | 87.524 | 2.2 | 107 | 0.00 |

(#) = Out of Range  SPCC's out = 0  CCC's out = 0

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\121912\12191211.D Vial: 2
Acq On : 20 Dec 2012 5:42 am Operator: RACHEL HILL
Sample : ICV VOA9 121912 Inst : GC/MS Ins
Misc : ICV MA_APH Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Dec 21 9:21 2012 Quant Results File: 121912V9.RES

Quant Method : C:\HPCHEM\1\METHODS\121912V9.M (RTE Integrator)
Title : MASS APH
Last Update : Fri Dec 21 09:13:14 2012
Response via : Initial Calibration
DataAcq Meth : 121912V9

| Internal Standards | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 40) Chlorobenzene-d5 | 16.39 | 117 | 805193 | 12.50 | ug/m3 | 0.00 |

System Monitoring Compounds

| | | | | | | |
|---|---|---|---|---|---|---|
| 41) 4-Bromofluorobenzene | 18.22 | 95 | 527709 | 87.52 | ug/m3 | 0.00 |

Spiked Amount 89.500 Range 70 - 130 Recovery = 97.79%

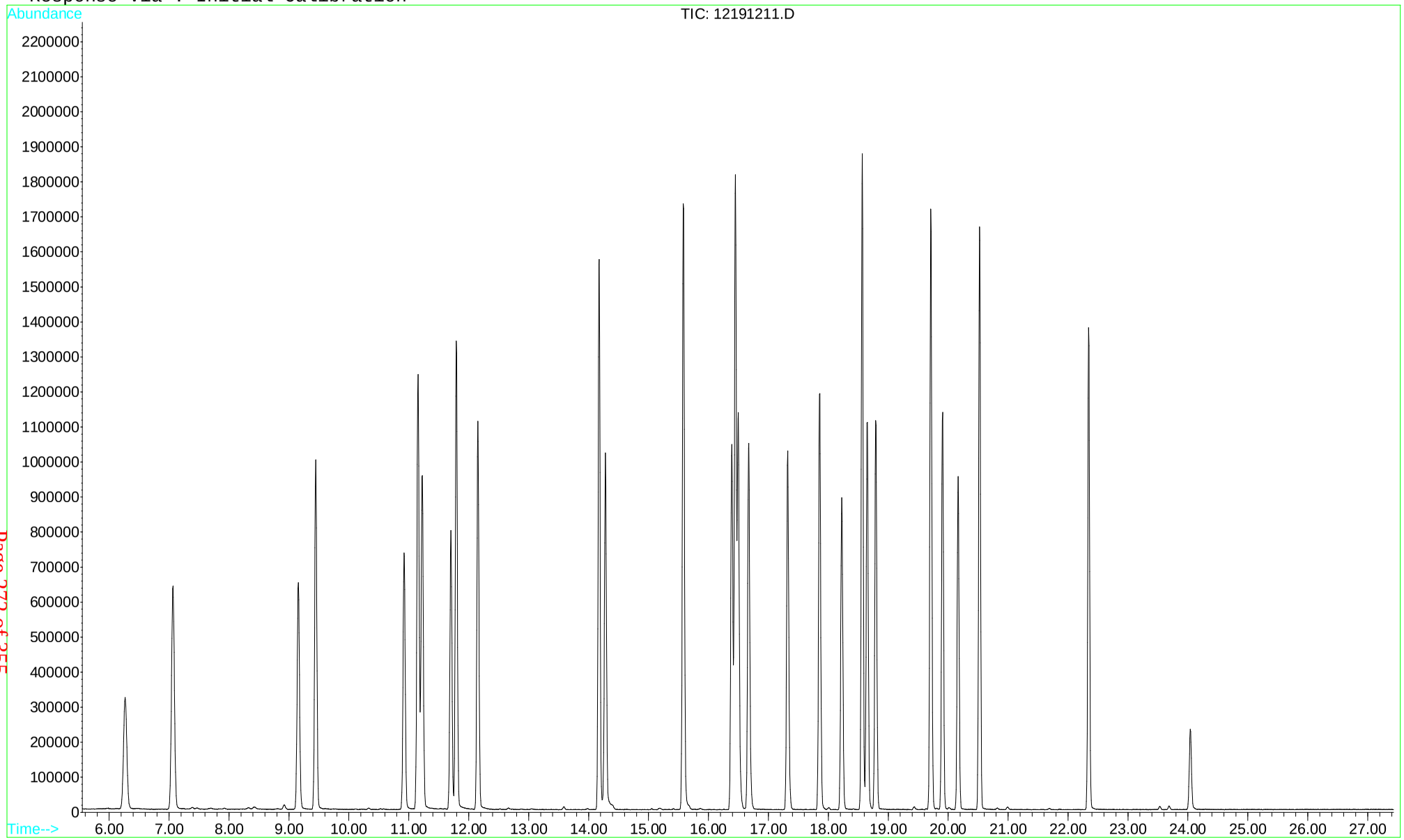
| Target Compounds | | | | | | Qvalue |
|---|---|---|---|---|---|---|
| 1) C5-C8 Aliphatic HC | 7.07 | TIC | 2192327 | 32.25 | ug/m3 | 100 |
| 2) C5-C8 Aliphatic HC {2} | 9.45 | TIC | 2535442 | 42.25 | ug/m3 | 100 |
| 3) C5-C8 Aliphatic HC {3} | 11.15 | TIC | 3236618 | 48.27 | ug/m3 | 100 |
| 4) C5-C8 Aliphatic HC {4} | 11.23 | TIC | 2475227 | 40.78 | ug/m3 | 100 |
| 5) C5-C8 Aliphatic HC {5} | 11.79 | TIC | 3100020 | 48.49 | ug/m3 | 100 |
| 6) C5-C8 Aliphatic HC {6} | 14.18 | TIC | 3498500 | 56.76 | ug/m3 | 100 |
| 7) C5-C8 Aliphatic HC - TOTAL | 7.07 | TIC | 17038134m | 268.66 | ug/m3 | |
| 8) C9-C12 Aliphatic HC | 15.58 | TIC | 4162743 | 63.86 | ug/m3 | 100 |
| 9) C9-C12 Aliphatic HC {2} | 16.45 | TIC | 2829883m | 60.21 | ug/m3 | |
| 10) C9-C12 Aliphatic HC {3} | 18.57 | TIC | 4071799 | 72.77 | ug/m3 | 100 |
| 11) C9-C12 Aliphatic HC {4} | 19.71 | TIC | 3892802 | 72.36 | ug/m3 | 100 |
| 12) C9-C12 Aliphatic HC {5} | 20.52 | TIC | 3550347 | 83.14 | ug/m3 | 100 |
| 13) C9-C12 Aliphatic HC {6} | 22.34 | TIC | 2870879 | 95.81 | ug/m3 | 100 |
| 14) C9-C12 Aliphatic HC - TOTA | 15.58 | TIC | 21378453m | 446.12 | ug/m3 | |
| 15) C9-C10 Aromatic HC | 17.86 | 120 | 280283 | 60.11 | ug/m3 | 100 |
| 16) C9-C10 Aromatic HC {2} | 18.65 | 120 | 283667 | 59.09 | ug/m3 | 100 |
| 17) C9-C10 Aromatic HC {3} | 18.79 | 120 | 414924 | 60.54 | ug/m3 | 100 |
| 18) C9-C10 Aromatic HC {4} | 19.91 | 120 | 91473 | 68.85 | ug/m3 | 100 |
| 19) C9-C10 Aromatic HC {5} | 20.17 | 120 | 313680 | 61.03 | ug/m3 | 100 |
| 20) C9-C10 Aromatic HC {6} | 19.91 | 134 | 234006 | 69.03 | ug/m3 | 100 |
| 21) C9-C10 Aromatic HC - TOTAL | 17.86 | TIC | 1618033m | 309.85 | ug/m3 | |

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\121912\12191211.D  Vial: 2
Acq On : 20 Dec 2012 5:42 am  Operator: RACHEL HILL
Sample : ICV VOA9 121912  Inst : GC/MS Ins
Misc : ICV MA_APH  Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Dec 21 9:21 2012  Quant Results File: 121912V9.RES

Method : C:\HPCHEM\1\METHODS\121912V9.M (RTE Integrator)
Title : MASS APH
Last Update : Fri Dec 21 09:13:14 2012
Response via : Initial Calibration



# Injection Log

Directory: C:\HPCHEM\1\DATA\122112

| Line | Vial | FileName | Multiplier | SampleName | Misc Info | Injected |
|---|---|---|---|---|---|---|
| 1 | 2 | 12211201.d | 1. | BFB VOA9 122112 | TUNE BFB_TUNE | 21 Dec 2012 08:44 |
| 2 | 2 | 12211202.d | 1. | CCV VOA9 122112 | CCV MA_APH | 21 Dec 2012 09:31 |
| 3 | 3 | 12211203.d | 1. | RLVS VOA9 122112 | RLVS MA_APH | 21 Dec 2012 10:20 |
| 4 | 4 | 12211204.d | 1. | MBLK VOA9 122112 | MBLK MA_APH | 21 Dec 2012 11:21 |
| 5 | 5 | 12211205.d | 8000. | 1212373-035A | SAMP MA_APH | 21 Dec 2012 12:06 |
| 6 | 6 | 12211206.d | 800. | 1212373-036A | SAMP MA_APH | 21 Dec 2012 12:53 |
| 7 | 7 | 12211207.d | 800. | 1212373-036ADUP | DUP MA_APH | 21 Dec 2012 13:42 |
| 8 | 7 | 12211208.d | 800. | 1212373-037A | SAMP MA_APH | 21 Dec 2012 14:27 |
| 9 | 8 | 12211209.d | 40. | 1212373-017A | SAMP MA_APH | 21 Dec 2012 15:13 |
| 10 | 15 | 12211210.d | 40. | 1212373-018A | SAMP MA_APH | 21 Dec 2012 16:01 |
| 11 | 16 | 12211211.d | 800. | 1212373-024A | SAMP MA_APH | 21 Dec 2012 16:51 |
| 12 | 17 | 12211212.d | 800. | 1212373-038A | SAMP MA_APH | 21 Dec 2012 17:38 |
| 13 | 18 | 12211213.d | 800. | 1212373-039A | SAMP MA_APH | 21 Dec 2012 18:27 |
| 14 | 19 | 12211214.d | 800. | 1212373-033A | DATA NOT USED | 21 Dec 2012 19:15 |
| 15 | 10 | 12211215.d | 8000. | 1212373-034A | DATA NOT USED | 21 Dec 2012 20:02 |
| 16 | 11 | 12211216.d | 800. | 1212373-040A | SAMP MA_APH | 21 Dec 2012 20:50 |
| 17 | 12 | 12211217.d | 400. | 1212373-041A | SAMP MA_APH | 21 Dec 2012 21:39 |
| 18 | 21 | 12211218.d | 400. | 1212373-006A | SAMP MA_APH | 21 Dec 2012 22:28 |
| 19 | 22 | 12211219.d | 400. | 1212373-007A | SAMP MA_APH | 21 Dec 2012 23:17 |
| 20 | 23 | 12211220.d | 40. | 1212373-032A | SAMP MA_APH | 22 Dec 2012 00:06 |
| 21 | 24 | 12211221.d | 400. | 1212437-029A | SAMP MA_APH | 22 Dec 2012 00:55 |
| 22 | 25 | 12211222.d | 400. | 1212437-030A | SAMP MA_APH | 22 Dec 2012 01:44 |
| 23 | 26 | 12211223.d | 400. | 1212437-031A | SAMP MA_APH | 22 Dec 2012 02:33 |
| 24 | 27 | 12211224.d | 400. | 1212437-032A | SAMP MA_APH | 22 Dec 2012 03:21 |
| 25 | 28 | 12211225.d | 400. | 1212437-033A | SAMP MA_APH | 22 Dec 2012 04:10 |
| 26 | 29 | 12211226.d | 400. | 1212437-034A | DATA NOT USED | 22 Dec 2012 04:59 |
| 27 | 30 | 12211227.d | 400. | 1212437-006A | SAMP MA_APH | 22 Dec 2012 05:48 |
| 28 | 31 | 12211228.d | 400. | 1212437-007A | SAMP MA_APH | 22 Dec 2012 06:36 |
| 29 | 32 | 12211229.d | 400. | 1212437-008A | DATA NOT USED | 22 Dec 2012 07:26 |
| 30 | 3 | 12211230.d | 1. | RLVS2 VOA9 122112 | RLVS MA_APH | 22 Dec 2012 08:11 |

# RTI Laboratories

# ANALYTICAL RUN Summary

*03-Jan-13*

**RunNo** 54855

| Seq No | Sample ID | Test Code | Sample Typ | File ID | Analysis Date | DF | Batch ID | Prep Date | SPKref | RPDref | pmoist |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1081389 | BFB VOA9 122112 | BFB_TUNE | TUNE | \\1\DATA\122112\ | 12/21/2012 8:44: | 1 | R54855 | | 0 | 0 | |

| Analyte | T | Units | RAW | Final | Text | Spike | SPKref | RPDref | MDL | PQL | UQL | %REC | LOW | HIGH | %RPD | Q |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 173 | M | | 0 | 0 | | 100 | 0 | 0 | 0 | 0 | 0 | 0% | 0 | 2 | 0% | |
| 174 | M | | 56.3 | 56.3 | | 100 | 0 | 0 | 0 | 0 | 0 | 56% | 50 | 200 | 0% | |
| 175 | M | | 7.5 | 7.5 | | 100 | 0 | 0 | 0 | 0 | 0 | 8% | 4 | 9 | 0% | |
| 176 | M | | 100.6 | 100.6 | | 100 | 0 | 0 | 0 | 0 | 0 | 101% | 93 | 101 | 0% | |
| 177 | M | | 6.2 | 6.2 | | 100 | 0 | 0 | 0 | 0 | 0 | 6% | 5 | 9 | 0% | |
| 50 | M | | 20.1 | 20.1 | | 100 | 0 | 0 | 0 | 0 | 0 | 20% | 8 | 40 | 0% | |
| 75 | M | | 40 | 40 | | 100 | 0 | 0 | 0 | 0 | 0 | 40% | 30 | 66 | 0% | |
| 95 | M | | 100 | 100 | | 100 | 0 | 0 | 0 | 0 | 0 | 100% | 100 | 100 | 0% | |
| 96 | M | | 6.5 | 6.5 | | 100 | 0 | 0 | 0 | 0 | 0 | 7% | 5 | 9 | 0% | |

| Seq No | Sample ID | Test Code | Sample Typ | File ID | Analysis Date | DF | Batch ID | Prep Date | SPKref | RPDref | pmoist |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1081390 | CCV VOA9 122112 | MA_APH | CCV | \\1\DATA\122112\ | 12/21/2012 9:31: | 1 | R54855 | | 0 | 0 | |

| Analyte | T | Units | RAW | Final | Text | Spike | SPKref | RPDref | MDL | PQL | UQL | %REC | LOW | HIGH | %RPD | Q |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| C5-C8 Aliphatic | A | µg/m³ | | 0 | | 0 | 0 | 0 | 0 | 0 | 0 | 0% | 0 | 0 | 0% | |
| C5-C8 Aliphatic HC - TOTAL | A | µg/m³ | 262.44 | 262.44 | | 234 | 0 | 0 | 0 | 0 | 0 | 112% | 70 | 130 | 0% | |
| C5-C8 Aliphatic Hydrocarbons | A | µg/m³ | | 0 | | 0 | 0 | 0 | 29.876 | 117 | 1170 | 0% | 0 | 0 | 0% | U |
| C9-C10 Aromatic HC - TOTAL | A | µg/m³ | 292.45 | 292.45 | | 266 | 0 | 0 | 0 | 0 | 0 | 110% | 70 | 130 | 0% | |
| C9-C10 Aromatic Hydrocarbons | A | µg/m³ | | 0 | | 0 | 0 | 0 | 35.658 | 133 | 1330 | 0% | 0 | 0 | 0% | U |
| C9-C12 Aliphatic | A | µg/m³ | | 0 | | 0 | 0 | 0 | 0 | 0 | 0 | 0% | 0 | 0 | 0% | |
| C9-C12 Aliphatic HC - TOTAL | A | µg/m³ | 411.66 | 411.66 | | 378 | 0 | 0 | 0 | 0 | 0 | 109% | 70 | 130 | 0% | |
| C9-C12 Aliphatic Hydrocarbons | A | µg/m³ | | 0 | | 0 | 0 | 0 | 25.766 | 189 | 1890 | 0% | 0 | 0 | 0% | U |
| C9-C12 Aliphatic-Aromatic Hydrocarbons | A | µg/m³ | | 0 | | 0 | 0 | 0 | 0 | 0 | 0 | 0% | 0 | 0 | 0% | |
| non C5-C8 - TOTAL | A | µg/m³ | | 0 | | 0 | 0 | 0 | 0 | 0 | 0 | 0% | 0 | 0 | 0% | |
| non C9-C12 - TOTAL | A | µg/m³ | | 0 | | 0 | 0 | 0 | 0 | 0 | 0 | 0% | 0 | 0 | 0% | |
| Chlorobenzene-d5 | I | ppbv | 12.5 | 12.5 | | 12.5 | 0 | 0 | 0 | 0 | 0 | 100% | 80 | 120 | 0% | |
| 4-Bromofluorobenzene | S | µg/m³ | 89.62 | 89.62 | | 89.5 | 0 | 0 | 0 | 0 | 0 | 100% | 70 | 130 | 0% | |

# Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\122112\12211202.D  Vial: 2
Acq On : 21 Dec 2012 9:31 am  Operator: RACHEL HILL
Sample : CCV VOA9 122112  Inst : GC/MS Ins
Misc : CCV MA_APH  Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\HPCHEM\1\METHODS\121912V9.M (RTE Integrator)
Title : MASS APH
Last Update : Fri Dec 21 09:13:14 2012
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 150%

| | | Compound | Amount | Calc. | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|---|
| 1 | L1 | C5-C8 Aliphatic HC | 29.200 | 32.845 | -12.5 | 104 | 0.00 |
| 2 | L1 | C5-C8 Aliphatic HC {2} | 36.400 | 40.562 | -11.4 | 97 | 0.00 |
| 3 | L1 | C5-C8 Aliphatic HC {3} | 41.800 | 46.643 | -11.6 | 96 | 0.00 |
| 4 | L1 | C5-C8 Aliphatic HC {4} | 35.400 | 39.732 | -12.2 | 99 | 0.00 |
| 5 | L1 | C5-C8 Aliphatic HC {5} | 42.200 | 47.479 | -12.5 | 97 | 0.00 |
| 6 | L1 | C5-C8 Aliphatic HC {6} | 49.000 | 55.211 | -12.7 | 96 | 0.00 |
| 7 | L1 | C5-C8 Aliphatic HC - TOTAL | 234.000 | 262.435 | -12.2 | 98 | 0.00 |
| 8 | L1 | C9-C12 Aliphatic HC | 54.600 | 61.168 | -12.0 | 94 | 0.00 |
| 9 | L1 | C9-C12 Aliphatic HC {2} | 54.600 | 56.891 | -4.2 | 91 | 0.00 |
| 10 | L1 | C9-C12 Aliphatic HC {3} | 61.200 | 68.380 | -11.7 | 94 | 0.00 |
| 11 | L1 | C9-C12 Aliphatic HC {4} | 60.800 | 67.286 | -10.7 | 94 | 0.00 |
| 12 | L1 | C9-C12 Aliphatic HC {5} | 70.000 | 73.746 | -5.4 | 84 | 0.00 |
| 13 | L1 | C9-C12 Aliphatic HC {6} | 77.000 | 82.461 | -7.1 | 82 | 0.00 |
| 14 | L1 | C9-C12 Aliphatic HC - TOTAL | 378.000 | 411.657 | -8.9 | 90 | 0.00 |
| 15 | L1 | C9-C10 Aromatic HC | 51.700 | 56.199 | -8.7 | 94 | 0.00 |
| 16 | L1 | C9-C10 Aromatic HC {2} | 51.200 | 55.994 | -9.4 | 95 | 0.00 |
| 17 | L1 | C9-C10 Aromatic HC {3} | 52.200 | 57.736 | -10.6 | 95 | 0.00 |
| 18 | L1 | C9-C10 Aromatic HC {4} | 58.700 | 64.293 | -9.5 | 94 | 0.00 |
| 19 | L1 | C9-C10 Aromatic HC {5} | 52.600 | 57.249 | -8.8 | 95 | 0.00 |
| 20 | L1 | C9-C10 Aromatic HC {6} | 58.700 | 65.176 | -11.0 | 95 | 0.00 |
| 21 | L1 | C9-C10 Aromatic HC - TOTAL | 266.000 | 292.452 | -9.9 | 95 | 0.00 |
| 22 | | C5-C8 Aliphatic | 234.000 | 0.000 | 100.0# | 0 | -6.95# |
| 23 | L1 | non C5-C8 | 22.800 | 0.000 | 100.0# | 0 | -6.27# |
| 24 | L1 | non C5-C8 {2} | 36.800 | 0.000 | 100.0# | 0 | -9.15# |
| 25 | L1 | non C5-C8 {3} | 66.100 | 0.000 | 100.0# | 0 | -10.92# |
| 26 | L1 | non C5-C8 {4} | 32.500 | 0.000 | 100.0# | 0 | -11.70# |
| 27 | L1 | non C5-C8 {5} | 58.400 | 0.000 | 100.0# | 0 | -12.15# |
| 28 | L1 | non C5-C8 {6} | 39.200 | 0.000 | 100.0# | 0 | -14.28# |
| 29 | L1 | non C5-C8 - TOTAL | 256.000 | 0.000 | 100.0# | 0 | -6.27# |
| 30 | | C9-C12 Aliphatic | 378.000 | 0.000 | 100.0# | 0 | -16.41# |
| 31 | L1 | non C9-C12 | 60.100 | 0.000 | 100.0# | 0 | -16.39# |
| 32 | L1 | non C9-C12 {2} | 45.600 | 0.000 | 100.0# | 0 | -16.49# |
| 33 | L1 | non C9-C12 {3} | 46.000 | 0.000 | 100.0# | 0 | -16.67# |
| 34 | L1 | non C9-C12 {4} | 45.100 | 0.000 | 100.0# | 0 | -17.32# |
| 35 | L1 | non C9-C12 {5} | 89.500 | 0.000 | 100.0# | 0 | -18.23# |
| 36 | L1 | non C9-C12 - TOTAL | 340.600 | 0.000 | 100.0# | 0 | -16.67# |
| 37 | L1 | C9-C10 Aromatic | 266.000 | 0.000 | 100.0# | 0 | -17.40# |
| 38 | L1 | C9-C10 Aromatic {2} | 266.000 | 0.000 | 100.0# | 0 | -17.40# |
| 39 | L1 | C9-C10 Aromatic - TOTAL | 266.000 | 0.000 | 100.0# | 0 | -17.40# |
| 40 | I | Chlorobenzene-d5 | 12.500 | 12.500 | 0.0 | 104 | 0.00 |
| 41 | S | 4-Bromofluorobenzene | 89.500 | 89.616 | -0.1 | 106 | 0.00 |

(#) = Out of Range  SPCC's out = 0  CCC's out = 0

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\122112\12211202.D Vial: 2
Acq On : 21 Dec 2012 9:31 am Operator: RACHEL HILL
Sample : CCV VOA9 122112 Inst : GC/MS Ins
Misc : CCV MA_APH Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Dec 21 14:42 2012 Quant Results File: 121912V9.RES

Quant Method : C:\HPCHEM\1\METHODS\121912V9.M (RTE Integrator)
Title : MASS APH
Last Update : Fri Dec 21 09:13:14 2012
Response via : Initial Calibration
DataAcq Meth : 121912V9

| Internal Standards | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 40) Chlorobenzene-d5 | 16.39 | 117 | 781016 | 12.50 | ug/m3 | 0.00 |

System Monitoring Compounds

| | | | | | | |
|---|---|---|---|---|---|---|
| 41) 4-Bromofluorobenzene | 18.23 | 95 | 524095 | 89.62 | ug/m3 | 0.00 |

Spiked Amount 89.500 Range 70 - 130 Recovery = 100.13%

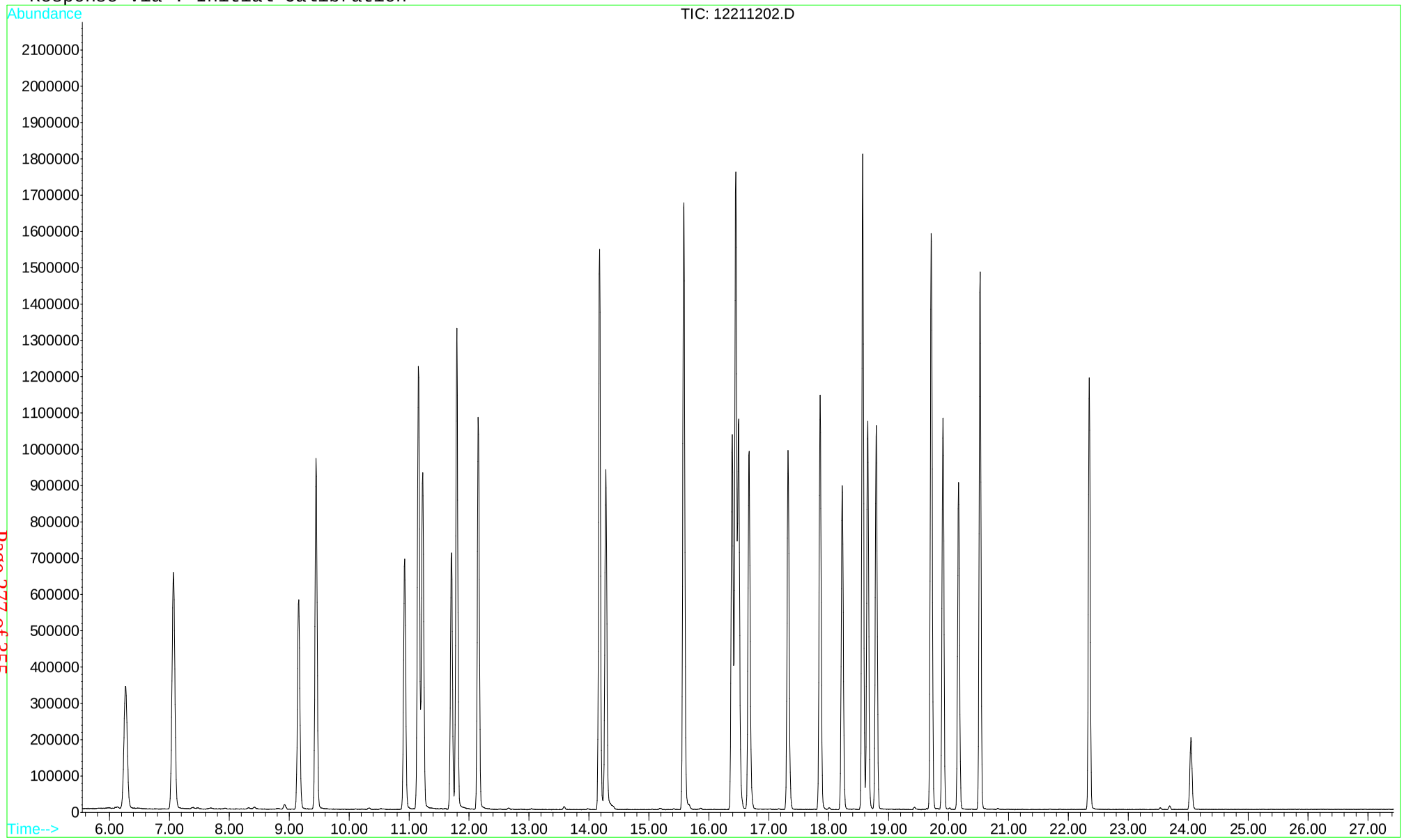
| Target Compounds | | | | | | Qvalue |
|---|---|---|---|---|---|---|
| 1) C5-C8 Aliphatic HC | 7.07 | TIC | 2232575 | 32.84 | ug/m3 | 100 |
| 2) C5-C8 Aliphatic HC {2} | 9.45 | TIC | 2433993 | 40.56 | ug/m3 | 100 |
| 3) C5-C8 Aliphatic HC {3} | 11.15 | TIC | 3127327 | 46.64 | ug/m3 | 100 |
| 4) C5-C8 Aliphatic HC {4} | 11.23 | TIC | 2411399 | 39.73 | ug/m3 | 100 |
| 5) C5-C8 Aliphatic HC {5} | 11.80 | TIC | 3035148 | 47.48 | ug/m3 | 100 |
| 6) C5-C8 Aliphatic HC {6} | 14.18 | TIC | 3403217 | 55.21 | ug/m3 | 100 |
| 7) C5-C8 Aliphatic HC - TOTAL | 7.07 | TIC | 16643659m | 262.44 | ug/m3 | |
| 8) C9-C12 Aliphatic HC | 15.59 | TIC | 3987142 | 61.17 | ug/m3 | 100 |
| 9) C9-C12 Aliphatic HC {2} | 16.45 | TIC | 2673734m | 56.89 | ug/m3 | |
| 10) C9-C12 Aliphatic HC {3} | 18.57 | TIC | 3825928 | 68.38 | ug/m3 | 100 |
| 11) C9-C12 Aliphatic HC {4} | 19.71 | TIC | 3620078 | 67.29 | ug/m3 | 100 |
| 12) C9-C12 Aliphatic HC {5} | 20.53 | TIC | 3149152 | 73.75 | ug/m3 | 100 |
| 13) C9-C12 Aliphatic HC {6} | 22.35 | TIC | 2470937 | 82.46 | ug/m3 | 100 |
| 14) C9-C12 Aliphatic HC - TOTA | 15.59 | TIC | 19726971m | 411.66 | ug/m3 | |
| 15) C9-C10 Aromatic HC | 17.86 | 120 | 262044 | 56.20 | ug/m3 | 100 |
| 16) C9-C10 Aromatic HC {2} | 18.65 | 120 | 268822 | 55.99 | ug/m3 | 100 |
| 17) C9-C10 Aromatic HC {3} | 18.80 | 120 | 395717 | 57.74 | ug/m3 | 100 |
| 18) C9-C10 Aromatic HC {4} | 19.91 | 120 | 85415 | 64.29 | ug/m3 | 100 |
| 19) C9-C10 Aromatic HC {5} | 20.17 | 120 | 294245 | 57.25 | ug/m3 | 100 |
| 20) C9-C10 Aromatic HC {6} | 19.91 | 134 | 220947 | 65.18 | ug/m3 | 100 |
| 21) C9-C10 Aromatic HC - TOTAL | 17.86 | TIC | 1527190m | 292.45 | ug/m3 | |

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\122112\12211202.D Vial: 2
Acq On : 21 Dec 2012 9:31 am Operator: RACHEL HILL
Sample : CCV VOA9 122112 Inst : GC/MS Ins
Misc : CCV MA_APH Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Dec 21 14:42 2012 Quant Results File: 121912V9.RES

Method : C:\HPCHEM\1\METHODS\121912V9.M (RTE Integrator)
Title : MASS APH
Last Update : Fri Dec 21 09:13:14 2012
Response via : Initial Calibration



# Injection Log

Directory: C:\HPCHEM\1\DATA\122812

| Line | Vial | FileName | Multiplier | SampleName | Misc Info | Injected |
|---|---|---|---|---|---|---|
| 1 | 1 | 12281201.d | 1. | BFB VOA9 122812 | TUNE BFB_TUNE | 28 Dec 2012 12:05 |
| 2 | 2 | 12281202.d | 1. | ICAL1 VOA9 122812 | DATA NOT USED | 28 Dec 2012 12:49 |
| 3 | 3 | 12281203.d | 1. | ICAL1 VOA9 122812 | ICAL1MA_APH | 28 Dec 2012 13:33 |
| 4 | 4 | 12281204.d | 1. | ICAL2 VOA9 122812 | ICAL2MA_APH | 28 Dec 2012 14:19 |
| 5 | 5 | 12281205.d | 1. | ICAL3 VOA9 122812 | ICAL3MA_APH | 28 Dec 2012 15:05 |
| 6 | 6 | 12281206.d | 1. | ICAL4 VOA9 122812 | ICAL4MA_APH | 28 Dec 2012 15:51 |
| 7 | 7 | 12281207.d | 1. | ICAL5 VOA9 122812 | ICAL5MA_APH | 28 Dec 2012 16:37 |
| 8 | 8 | 12281208.d | 1. | ICAL6 VOA9 122812 | ICAL6MA_APH | 28 Dec 2012 17:24 |
| 9 | 9 | 12281209.d | 1. | ICAL7 VOA9 122812 | ICAL7MA_APH | 28 Dec 2012 18:10 |
| 10 | 2 | 12281210.d | 1. | BFB2 VOA9 122812 | TUNE BFB_TUNE | 28 Dec 2012 18:58 |
| 11 | 2 | 12281211.d | 1. | ICV VOA9 122812 | ICV MA_APH | 28 Dec 2012 19:45 |
| 12 | 3 | 12281212.d | 1. | RLVS VOA9 122812 | DATA NOT USED | 28 Dec 2012 20:33 |
| 13 | 4 | 12281213.d | 1. | RLVS VOA9 122812 | RLVS MA_APH | 28 Dec 2012 21:20 |
| 14 | 4 | 12281214.d | 1. | MBLK VOA9 122812 | MBLK MA_APH | 28 Dec 2012 22:10 |
| 15 | 11 | 12281215.d | 1600. | 1212373-033A | SAMP MA_APH | 28 Dec 2012 22:57 |
| 16 | 11 | 12281216.d | 1600. | 1212373-033ADUP | DUP MA_APH | 28 Dec 2012 23:45 |
| 17 | 12 | 12281217.d | 40000. | 1212373-034A | SAMP MA_APH | 29 Dec 2012 00:34 |
| 18 | 13 | 12281218.d | 1600. | 1212373-001A | SAMP MA_APH | 29 Dec 2012 01:22 |
| 19 | 14 | 12281219.d | 400. | 1212373-008A | SAMP MA_APH | 29 Dec 2012 02:11 |
| 20 | 15 | 12281220.d | 80000. | 1212373-002A | SAMP MA_APH | 29 Dec 2012 02:59 |
| 21 | 16 | 12281221.d | 80000. | 1212373-003A | SAMP MA_APH | 29 Dec 2012 03:47 |
| 22 | 17 | 12281222.d | 400. | 1212373-004A | SAMP MA_APH | 29 Dec 2012 04:36 |
| 23 | 18 | 12281223.d | 400. | 1212373-009A | SAMP MA_APH | 29 Dec 2012 05:25 |
| 24 | 19 | 12281224.d | 8000. | 1212373-010A | SAMP MA_APH | 29 Dec 2012 06:13 |
| 25 | 10 | 12281225.d | 800. | 1212373-005A | SAMP MA_APH | 29 Dec 2012 07:01 |
| 26 | 10 | 12281226.d | 800. | 1212373-005A | DATA NOT USED | 29 Dec 2012 07:49 |
| 27 | 11 | 12281227.d | 20000. | 1212373-011A | SAMP MA_APH | 29 Dec 2012 08:38 |
| 28 | 12 | 12281228.d | 8000. | 1212437-034A | SAMP MA_APH | 29 Dec 2012 09:24 |
| 29 | 21 | 12281229.d | 400. | 1212437-012A | SAMP MA_APH | 29 Dec 2012 10:13 |
| 30 | 22 | 12281230.d | 400. | 1212437-008A | SAMP MA_APH | 29 Dec 2012 11:02 |
| 31 | 23 | 12281231.d | 400. | 1212437-013A | SAMP MA_APH | 29 Dec 2012 11:51 |
| 32 | 24 | 12281232.d | 800. | 1212437-009A | SAMP MA_APH | 29 Dec 2012 12:41 |
| 33 | 24 | 12281233.d | 800. | 1212437-009A | DATA NOT USED | 29 Dec 2012 13:31 |
| 34 | 25 | 12281234.d | 400. | 1212437-014A | SAMP MA_APH | 29 Dec 2012 14:19 |
| 35 | 26 | 12281235.d | 800. | 1212437-011A | DATA NOT USED | 29 Dec 2012 15:09 |
| 36 | 27 | 12281236.d | 8000. | 1212437-017A | DATA NOT USED | 29 Dec 2012 15:58 |
| 37 | 28 | 12281237.d | 8000. | RLVS2 122812 VOA9 | SAMP MA_APH | 29 Dec 2012 16:49 |

# RTI Laboratories

# ANALYTICAL RUN Summary

*09-Jan-13*

**RunNo** 55005

| Seq No | Sample ID | Test Code | Sample Typ | File ID | Analysis Date | DF | Batch ID | Prep Date | SPKref | RPDref | pmoist |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1084443 | BFB2 VOA9 122812 | BFB_TUNE | TUNE | \\1\DATA\122812\ | 12/28/2012 6:58: | 1 | R55005 | | 0 | 0 | |

| Analyte | T | Units | RAW | Final | Text | Spike | SPKref | RPDref | MDL | PQL | UQL | %REC | LOW | HIGH | %RPD | Q |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 173 | M | | 0 | 0 | | 100 | 0 | 0 | 0 | 0 | 0 | 0% | 0 | 2 | 0% | |
| 174 | M | | 64.5 | 64.5 | | 100 | 0 | 0 | 0 | 0 | 0 | 65% | 50 | 200 | 0% | |
| 175 | M | | 7.7 | 7.7 | | 100 | 0 | 0 | 0 | 0 | 0 | 8% | 4 | 9 | 0% | |
| 176 | M | | 96.3 | 96.3 | | 100 | 0 | 0 | 0 | 0 | 0 | 96% | 93 | 101 | 0% | |
| 177 | M | | 6.7 | 6.7 | | 100 | 0 | 0 | 0 | 0 | 0 | 7% | 5 | 9 | 0% | |
| 50 | M | | 22 | 22 | | 100 | 0 | 0 | 0 | 0 | 0 | 22% | 8 | 40 | 0% | |
| 75 | M | | 44.6 | 44.6 | | 100 | 0 | 0 | 0 | 0 | 0 | 45% | 30 | 66 | 0% | |
| 95 | M | | 100 | 100 | | 100 | 0 | 0 | 0 | 0 | 0 | 100% | 100 | 100 | 0% | |
| 96 | M | | 6.6 | 6.6 | | 100 | 0 | 0 | 0 | 0 | 0 | 7% | 5 | 9 | 0% | |

| Seq No | Sample ID | Test Code | Sample Typ | File ID | Analysis Date | DF | Batch ID | Prep Date | SPKref | RPDref | pmoist |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1084455 | ICV VOA9 122812 | MA_APH | ICV | \\1\DATA\122812\ | 12/28/2012 7:45: | 1 | R55005 | | 0 | 0 | |

| Analyte | T | Units | RAW | Final | Text | Spike | SPKref | RPDref | MDL | PQL | UQL | %REC | LOW | HIGH | %RPD | Q |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| C5-C8 Aliphatic | A | µg/m³ | | 0 | | 0 | 0 | 0 | 0 | 0 | 0 | 0% | 0 | 0 | 0% | |
| C5-C8 Aliphatic HC - TOTAL | A | µg/m³ | 260.58 | 260.58 | | 234 | 0 | 0 | 0 | 0 | 0 | 111% | 70 | 130 | 0% | |
| C5-C8 Aliphatic Hydrocarbons | A | µg/m³ | | 0 | | 0 | 0 | 0 | 29.876 | 117 | 1170 | 0% | 0 | 0 | 0% | U |
| C9-C10 Aromatic HC - TOTAL | A | µg/m³ | 294.36 | 294.36 | | 266 | 0 | 0 | 0 | 0 | 0 | 111% | 70 | 130 | 0% | |
| C9-C10 Aromatic Hydrocarbons | A | µg/m³ | | 0 | | 0 | 0 | 0 | 35.658 | 133 | 1330 | 0% | 0 | 0 | 0% | U |
| C9-C12 Aliphatic | A | µg/m³ | | 0 | | 0 | 0 | 0 | 0 | 0 | 0 | 0% | 0 | 0 | 0% | |
| C9-C12 Aliphatic HC - TOTAL | A | µg/m³ | 422.88 | 422.88 | | 378 | 0 | 0 | 0 | 0 | 0 | 112% | 70 | 130 | 0% | |
| C9-C12 Aliphatic Hydrocarbons | A | µg/m³ | | 0 | | 0 | 0 | 0 | 25.766 | 189 | 1890 | 0% | 0 | 0 | 0% | U |
| C9-C12 Aliphatic-Aromatic Hydrocarbons | A | µg/m³ | | 0 | | 0 | 0 | 0 | 0 | 0 | 0 | 0% | 0 | 0 | 0% | |
| non C5-C8 - TOTAL | A | µg/m³ | | 0 | | 0 | 0 | 0 | 0 | 0 | 0 | 0% | 0 | 0 | 0% | |
| non C9-C12 - TOTAL | A | µg/m³ | | 0 | | 0 | 0 | 0 | 0 | 0 | 0 | 0% | 0 | 0 | 0% | |
| Chlorobenzene-d5 | I | ppbv | 12.5 | 12.5 | | 12.5 | 0 | 0 | 0 | 0 | 0 | 100% | 80 | 120 | 0% | |
| 4-Bromofluorobenzene | S | µg/m³ | 88.47 | 88.47 | | 89.5 | 0 | 0 | 0 | 0 | 0 | 99% | 70 | 130 | 0% | |

# Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\122812\12281211.D  Vial: 2
Acq On : 28 Dec 2012 7:45 pm  Operator: RACHEL HILL
Sample : ICV VOA9 122812  Inst : GC/MS Ins
Misc : ICV MA_APH  Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\HPCHEM\1\METHODS\122812V9.M (RTE Integrator)
Title : MASS APH
Last Update : Mon Dec 31 11:27:24 2012
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 150%

| | | Compound | Amount | Calc. | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|---|
| 1 | L1 | C5-C8 Aliphatic HC | 29.200 | 34.041 | -16.6 | 110 | 0.00 |
| 2 | L1 | C5-C8 Aliphatic HC {2} | 36.400 | 40.613 | -11.6 | 106 | 0.00 |
| 3 | L1 | C5-C8 Aliphatic HC {3} | 41.800 | 45.439 | -8.7 | 101 | 0.00 |
| 4 | L1 | C5-C8 Aliphatic HC {4} | 35.400 | 38.989 | -10.1 | 106 | 0.00 |
| 5 | L1 | C5-C8 Aliphatic HC {5} | 42.200 | 46.536 | -10.3 | 103 | 0.00 |
| 6 | L1 | C5-C8 Aliphatic HC {6} | 49.000 | 54.806 | -11.8 | 104 | 0.00 |
| 7 | L1 | C5-C8 Aliphatic HC - TOTAL | 234.000 | 260.581 | -11.4 | 105 | 0.00 |
| 8 | L1 | C9-C12 Aliphatic HC | 54.600 | 61.085 | -11.9 | 104 | 0.00 |
| 9 | L1 | C9-C12 Aliphatic HC {2} | 54.600 | 53.508 | 2.0 | 107 | 0.00 |
| 10 | L1 | C9-C12 Aliphatic HC {3} | 61.200 | 69.177 | -13.0 | 103 | 0.00 |
| 11 | L1 | C9-C12 Aliphatic HC {4} | 60.800 | 68.949 | -13.4 | 104 | 0.00 |
| 12 | L1 | C9-C12 Aliphatic HC {5} | 70.000 | 79.780 | -14.0 | 103 | 0.00 |
| 13 | L1 | C9-C12 Aliphatic HC {6} | 77.000 | 91.604 | -19.0 | 102 | 0.00 |
| 14 | L1 | C9-C12 Aliphatic HC - TOTAL | 378.000 | 422.880 | -11.9 | 104 | 0.00 |
| 15 | L1 | C9-C10 Aromatic HC | 51.700 | 56.412 | -9.1 | 101 | 0.00 |
| 16 | L1 | C9-C10 Aromatic HC {2} | 51.200 | 56.141 | -9.7 | 101 | 0.00 |
| 17 | L1 | C9-C10 Aromatic HC {3} | 52.200 | 57.735 | -10.6 | 102 | 0.00 |
| 18 | L1 | C9-C10 Aromatic HC {4} | 58.700 | 66.094 | -12.6 | 102 | 0.00 |
| 19 | L1 | C9-C10 Aromatic HC {5} | 52.600 | 58.249 | -10.7 | 102 | 0.00 |
| 20 | L1 | C9-C10 Aromatic HC {6} | 58.700 | 65.351 | -11.3 | 102 | 0.00 |
| 21 | L1 | C9-C10 Aromatic HC - TOTAL | 266.000 | 294.358 | -10.7 | 102 | 0.00 |
| 22 | | C5-C8 Aliphatic | 234.000 | 0.000 | 100.0# | 0 | -6.85# |
| 23 | L1 | non C5-C8 | 22.800 | 0.000 | 100.0# | 0 | -6.21# |
| 24 | L1 | non C5-C8 {2} | 36.800 | 0.000 | 100.0# | 0 | -9.01# |
| 25 | L1 | non C5-C8 {3} | 66.100 | 0.000 | 100.0# | 0 | -10.74# |
| 26 | L1 | non C5-C8 {4} | 32.500 | 0.000 | 100.0# | 0 | -11.52# |
| 27 | L1 | non C5-C8 {5} | 58.400 | 0.000 | 100.0# | 0 | -11.96# |
| 28 | L1 | non C5-C8 {6} | 39.200 | 0.000 | 100.0# | 0 | -14.07# |
| 29 | L1 | non C5-C8 - TOTAL | 256.000 | 0.000 | 100.0# | 0 | -6.21# |
| 30 | | C9-C12 Aliphatic | 378.000 | 0.000 | 100.0# | 0 | -16.21# |
| 31 | L1 | non C9-C12 | 60.100 | 0.000 | 100.0# | 0 | -16.18# |
| 32 | L1 | non C9-C12 {2} | 45.600 | 0.000 | 100.0# | 0 | -16.28# |
| 33 | L1 | non C9-C12 {3} | 46.000 | 0.000 | 100.0# | 0 | -16.46# |
| 34 | L1 | non C9-C12 {4} | 45.100 | 0.000 | 100.0# | 0 | -17.11# |
| 35 | L1 | non C9-C12 {5} | 89.500 | 0.000 | 100.0# | 0 | -18.01# |
| 36 | L1 | non C9-C12 - TOTAL | 340.600 | 0.000 | 100.0# | 0 | -16.46# |
| 37 | L1 | C9-C10 Aromatic | 266.000 | 0.000 | 100.0# | 0 | -17.04# |
| 38 | L1 | C9-C10 Aromatic {2} | 266.000 | 0.000 | 100.0# | 0 | -17.04# |
| 39 | L1 | C9-C10 Aromatic - TOTAL | 266.000 | 0.000 | 100.0# | 0 | -17.04# |
| 40 | I | Chlorobenzene-d5 | 12.500 | 12.500 | 0.0 | 104 | 0.00 |
| 41 | S | 4-Bromofluorobenzene | 89.500 | 88.474 | 1.1 | 103 | 0.00 |

(#) = Out of Range  SPCC's out = 0  CCC's out = 0

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\122812\12281211.D Vial: 2
Acq On : 28 Dec 2012 7:45 pm Operator: RACHEL HILL
Sample : ICV VOA9 122812 Inst : GC/MS Ins
Misc : ICV MA_APH Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Dec 31 11:30 2012 Quant Results File: 122812V9.RES

Quant Method : C:\HPCHEM\1\METHODS\122812V9.M (RTE Integrator)
Title : MASS APH
Last Update : Mon Dec 31 11:27:24 2012
Response via : Initial Calibration
DataAcq Meth : 122812V9

| Internal Standards | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 40) Chlorobenzene-d5 | 16.18 | 117 | 830046 | 12.50 | ug/m3 | 0.00 |

System Monitoring Compounds

| | | | | | | |
|---|---|---|---|---|---|---|
| 41) 4-Bromofluorobenzene | 18.01 | 95 | 547826 | 88.47 | ug/m3 | 0.00 |

Spiked Amount 89.500 Range 70 - 130 Recovery = 98.85%

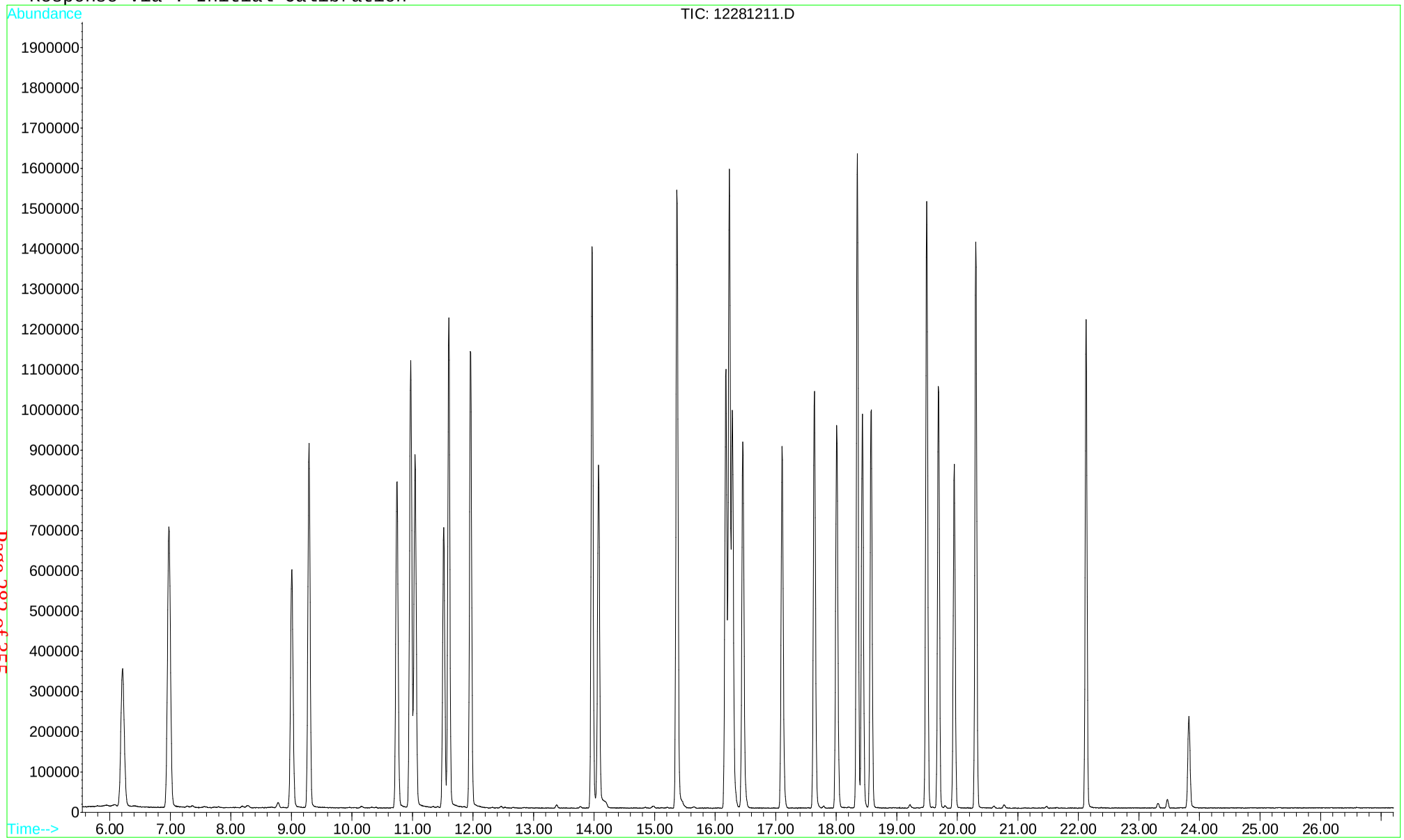
| Target Compounds | | | | | | Qvalue |
|---|---|---|---|---|---|---|
| 1) C5-C8 Aliphatic HC | 6.98 | TIC | 2435980 | 34.04 | ug/m3 | 100 |
| 2) C5-C8 Aliphatic HC {2} | 9.29 | TIC | 2361238 | 40.61 | ug/m3 | 100 |
| 3) C5-C8 Aliphatic HC {3} | 10.97 | TIC | 2937164 | 45.44 | ug/m3 | 100 |
| 4) C5-C8 Aliphatic HC {4} | 11.04 | TIC | 2316798 | 38.99 | ug/m3 | 100 |
| 5) C5-C8 Aliphatic HC {5} | 11.60 | TIC | 2834131 | 46.54 | ug/m3 | 100 |
| 6) C5-C8 Aliphatic HC {6} | 13.97 | TIC | 3207714 | 54.81 | ug/m3 | 100 |
| 7) C5-C8 Aliphatic HC - TOTAL | 6.98 | TIC | 16093025m | 260.58 | ug/m3 | |
| 8) C9-C12 Aliphatic HC | 15.37 | TIC | 3793075 | 61.09 | ug/m3 | 100 |
| 9) C9-C12 Aliphatic HC {2} | 16.23 | TIC | 2125030m | 53.51 | ug/m3 | |
| 10) C9-C12 Aliphatic HC {3} | 18.35 | TIC | 3616532 | 69.18 | ug/m3 | 100 |
| 11) C9-C12 Aliphatic HC {4} | 19.49 | TIC | 3531938 | 68.95 | ug/m3 | 100 |
| 12) C9-C12 Aliphatic HC {5} | 20.30 | TIC | 3092924 | 79.78 | ug/m3 | 100 |
| 13) C9-C12 Aliphatic HC {6} | 22.13 | TIC | 2603138 | 91.60 | ug/m3 | 100 |
| 14) C9-C12 Aliphatic HC - TOTA | 15.37 | TIC | 18762637m | 422.88 | ug/m3 | |
| 15) C9-C10 Aromatic HC | 17.64 | 120 | 268611 | 56.41 | ug/m3 | 100 |
| 16) C9-C10 Aromatic HC {2} | 18.43 | 120 | 278555 | 56.14 | ug/m3 | 100 |
| 17) C9-C10 Aromatic HC {3} | 18.58 | 120 | 413527 | 57.73 | ug/m3 | 100 |
| 18) C9-C10 Aromatic HC {4} | 19.69 | 120 | 90001 | 66.09 | ug/m3 | 100 |
| 19) C9-C10 Aromatic HC {5} | 19.95 | 120 | 311397 | 58.25 | ug/m3 | 100 |
| 20) C9-C10 Aromatic HC {6} | 19.69 | 134 | 237090 | 65.35 | ug/m3 | 100 |
| 21) C9-C10 Aromatic HC - TOTAL | 18.01 | TIC | 1599181m | 294.36 | ug/m3 | |

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\122812\12281211.D  Vial: 2
Acq On : 28 Dec 2012 7:45 pm  Operator: RACHEL HILL
Sample : ICV VOA9 122812  Inst : GC/MS Ins
Misc : ICV MA_APH  Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Dec 31 11:30 2012  Quant Results File: 122812V9.RES

Method : C:\HPCHEM\1\METHODS\122812V9.M (RTE Integrator)
Title : MASS APH
Last Update : Mon Dec 31 11:27:24 2012
Response via : Initial Calibration



Response Factor Report GC/MS Ins

Method : C:\HPCHEM\1\METHODS\121112V9.M (RTE Integrator)
Title : MASS APH
Last Update : Wed Dec 12 13:10:52 2012
Response via : Initial Calibration

Calibration Files
1 =12111203.D 2 =12111204.D 3 =12111205.D
4 =12111206.D 5 =12111207.D 6 =12111208.D

| | | Compound | 1 | 2 | 3 | 4 | 5 | 6 | Avg | | %RSD |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1) | L1 | C5-C8 Aliphatic HC | 7.684 | 7.417 | 7.077 | 7.129 | 6.790 | 6.596 | 6.978 | E4 | 7.35 |
| 2) | L1 | C5-C8 Aliphatic HC | 7.326 | 7.026 | 6.125 | 6.233 | 5.995 | 5.679 | 6.188 | E4 | 13.01 |
| 3) | L1 | C5-C8 Aliphatic HC | 8.387 | 8.018 | 6.919 | 7.056 | 6.725 | 6.275 | 6.959 | E4 | 14.77 |
| 4) | L1 | C5-C8 Aliphatic HC | 7.439 | 7.131 | 6.274 | 6.281 | 6.086 | 5.754 | 6.304 | E4 | 12.33 |
| 5) | L1 | C5-C8 Aliphatic HC | 7.890 | 7.551 | 6.629 | 6.705 | 6.411 | 5.921 | 6.600 | E4 | 14.30 |
| 6) | L1 | C5-C8 Aliphatic HC | 7.877 | 7.564 | 6.779 | 6.637 | 6.356 | 5.786 | 6.550 | E4 | 15.72 |
| 7) | L1 | C5-C8 Aliphatic HC | 7.794 | 7.475 | 6.631 | 6.677 | 6.394 | 5.973 | 6.593 | E4 | 13.25 |
| 8) | L1 | C9-C12 Aliphatic HC | 8.463 | 7.998 | 7.118 | 7.052 | 6.730 | 6.006 | 6.914 | E4 | 16.73 |
| 9) | L1 | C9-C12 Aliphatic HC | 3.901 | 5.091 | 4.584 | 4.882 | 4.916 | 4.963 | 4.662 | E4 | 9.21 |
| 10) | L1 | C9-C12 Aliphatic HC | 7.031 | 6.744 | 6.087 | 5.950 | 5.699 | 4.987 | 5.807 | E4 | 17.07 |
| 11) | L1 | C9-C12 Aliphatic HC | 6.916 | 6.494 | 5.821 | 5.766 | 5.396 | 4.827 | 5.649 | E4 | 15.93 |
| 12) | L1 | C9-C12 Aliphatic HC | 5.307 | 5.264 | 4.649 | 4.712 | 4.456 | 3.637 | 4.488 | E4 | 16.47 |
| 13) | L1 | C9-C12 Aliphatic HC | 3.388 | 3.957 | 3.333 | 3.488 | 3.360 | 2.718 | 3.248 | E4 | 15.13 |
| 14) | L1 | C9-C12 Aliphatic HC | 5.709 | 5.808 | 5.152 | 5.197 | 4.981 | 4.394 | 5.013 | E4 | 13.88 |
| 15) | L1 | C9-C10 Aromatic HC | 6.978 | 6.766 | 5.963 | 5.932 | 5.630 | 5.172 | 5.829 | E3 | 15.41 |
| 16) | L1 | C9-C10 Aromatic HC | 6.949 | 6.966 | 6.187 | 6.125 | 5.902 | 5.377 | 6.022 | E3 | 13.75 |
| 17) | L1 | C9-C10 Aromatic HC | 1.001 | 1.001 | 0.885 | 0.881 | 0.836 | 0.757 | 0.858 | E4 | 14.82 |
| 18) | L1 | C9-C10 Aromatic HC | 1.813 | 1.870 | 1.700 | 1.670 | 1.598 | 1.447 | 1.621 | E3 | 13.23 |
| 19) | L1 | C9-C10 Aromatic HC | 6.980 | 7.378 | 6.566 | 6.591 | 6.243 | 5.796 | 6.380 | E3 | 11.83 |
| 20) | L1 | C9-C10 Aromatic HC | 4.965 | 5.122 | 4.597 | 4.490 | 4.228 | 3.822 | 4.362 | E3 | 14.58 |
| 21) | L1 | C9-C10 Aromatic HC | 7.535 | 7.622 | 6.754 | 6.696 | 6.357 | 5.829 | 6.545 | E3 | 14.05 |
| 22) | | C5-C8 Aliphatic | 7.794 | 7.475 | 6.631 | 6.677 | 6.394 | 5.973 | 6.593 | E4 | 13.25 |
| 23) | L1 | non C5-C8 | 5.430 | 5.265 | 5.030 | 5.089 | 4.865 | 4.807 | 5.015 | E4 | 5.53 |
| 24) | L1 | non C5-C8 {2} | 4.893 | 5.192 | 4.268 | 4.463 | 4.380 | 4.147 | 4.399 | E4 | 12.63 |
| 25) | L1 | non C5-C8 {3} | 3.377 | 3.528 | 3.482 | 3.543 | 3.473 | 3.483 | 3.482 | E4 | 1.53 |
| 26) | L1 | non C5-C8 {4} | 6.847 | 6.710 | 5.414 | 5.537 | 5.561 | 5.178 | 5.661 | E4 | 15.24 |
| 27) | L1 | non C5-C8 {5} | 4.504 | 4.888 | 4.936 | 5.171 | 4.743 | 4.739 | 4.836 | E4 | 4.26 |
| 28) | L1 | non C5-C8 {6} | 6.915 | 7.015 | 5.922 | 5.925 | 5.846 | 5.359 | 5.933 | E4 | 14.41 |
| 29) | L1 | non C5-C8 - TOTAL | 4.660 | 5.167 | 4.730 | 4.905 | 4.831 | 4.690 | 4.741 | E4 | 6.20 |
| 30) | | C9-C12 Aliphatic | 5.709 | 5.808 | 5.152 | 5.197 | 4.981 | 4.394 | 5.013 | E4 | 13.88 |
| 31) | L1 | non C9-C12 | 4.472 | 4.558 | 4.880 | 4.878 | 4.496 | 4.592 | 4.642 | E4 | 3.66 |
| 32) | L1 | non C9-C12 {2} | 6.171 | 5.998 | 4.771 | 5.237 | 4.576 | 5.946 | 5.407 | E4 | 11.73 |
| 33) | L1 | non C9-C12 {3} | 6.402 | 6.259 | 5.475 | 5.465 | 5.259 | 4.817 | 5.406 | E4 | 14.41 |
| 34) | L1 | non C9-C12 {4} | 6.186 | 6.058 | 5.318 | 5.314 | 5.118 | 4.656 | 5.243 | E4 | 14.25 |
| 35) | L1 | non C9-C12 {5} | 2.584 | 2.717 | 2.827 | 2.960 | 2.712 | 2.773 | 2.784 | E4 | 4.63 |
| 36) | L1 | non C9-C12 - TOTAL | 3.782 | 3.969 | 3.678 | 3.782 | 3.522 | 3.639 | 3.659 | E4 | 6.33 |
| 37) | L1 | C9-C10 Aromatic | 7.535 | 7.622 | 6.754 | 6.696 | 6.357 | 5.829 | 6.545 | E3 | 14.05 |
| 38) | L1 | C9-C10 Aromatic {2} | 7.535 | 7.622 | 6.754 | 6.696 | 6.357 | 5.829 | 6.545 | E3 | 14.05 |
| 39) | L1 | C9-C10 Aromatic - T | 7.535 | 7.622 | 6.754 | 6.696 | 6.357 | 5.829 | 6.545 | E3 | 14.05 |
| 40) | I | Chlorobenzene-d5 | ----------ISTD---------- | | | | | | | | |
| 41) | S | 4-Bromofluorobenzen | 0.081 | 0.082 | 0.083 | 0.084 | 0.084 | 0.086 | 0.084 | | 2.70 |

(#) = Out of Range ### Number of calibration levels exceeded format ###

Compound List Report GC/MS Ins

Method : C:\HPCHEM\1\METHODS\121112V9.M (RTE Integrator)
Title : MASS APH
Last Update : Wed Dec 12 13:10:52 2012
Response via : Initial Calibration
Total Cpnds : 41

| PK# | | Compound Name | QIon | Exp_RT | Rel_RT | Cal | #Qual | A/H | ID |
|---|---|---|---|---|---|---|---|---|---|
| 1 | L1 | C5-C8 Aliphatic HC | TIC | 7.06 | 1.000 | A | 0 | A | B |
| 2 | L1 | C5-C8 Aliphatic HC {2} | TIC | 9.44 | 1.000 | A | 0 | A | B |
| 3 | L1 | C5-C8 Aliphatic HC {3} | TIC | 11.15 | 1.000 | A | 0 | A | B |
| 4 | L1 | C5-C8 Aliphatic HC {4} | TIC | 11.22 | 1.000 | A | 0 | A | B |
| 5 | L1 | C5-C8 Aliphatic HC {5} | TIC | 11.79 | 1.000 | A | 0 | A | B |
| 6 | L1 | C5-C8 Aliphatic HC {6} | TIC | 14.18 | 1.000 | A | 0 | A | B |
| 7 | L1 | C5-C8 Aliphatic HC - TOTAL | TIC | 7.06 | 1.000 | A | 0 | A | B |
| 8 | L1 | C9-C12 Aliphatic HC | TIC | 15.58 | 1.000 | A | 0 | A | B |
| 9 | L1 | C9-C12 Aliphatic HC {2} | TIC | 16.44 | 1.000 | A | 0 | A | B |
| 10 | L1 | C9-C12 Aliphatic HC {3} | TIC | 18.56 | 1.000 | A | 0 | A | B |
| 11 | L1 | C9-C12 Aliphatic HC {4} | TIC | 19.71 | 1.000 | A | 0 | A | B |
| 12 | L1 | C9-C12 Aliphatic HC {5} | TIC | 20.52 | 1.000 | A | 0 | A | B |
| 13 | L1 | C9-C12 Aliphatic HC {6} | TIC | 22.34 | 1.000 | A | 0 | A | B |
| 14 | L1 | C9-C12 Aliphatic HC - TOTAL | TIC | 15.58 | 1.000 | A | 0 | A | B |
| 15 | L1 | C9-C10 Aromatic HC | 120 | 17.85 | 1.000 | A | 0 | A | B |
| 16 | L1 | C9-C10 Aromatic HC {2} | 120 | 18.64 | 1.000 | A | 0 | A | B |
| 17 | L1 | C9-C10 Aromatic HC {3} | 120 | 18.79 | 1.000 | A | 0 | A | B |
| 18 | L1 | C9-C10 Aromatic HC {4} | 120 | 19.91 | 1.000 | A | 0 | A | B |
| 19 | L1 | C9-C10 Aromatic HC {5} | 120 | 20.16 | 1.000 | A | 0 | A | B |
| 20 | L1 | C9-C10 Aromatic HC {6} | 134 | 19.90 | 1.000 | A | 0 | A | B |
| 21 | L1 | C9-C10 Aromatic HC - TOTAL | TIC | 17.85 | 1.000 | A | 0 | A | B |
| 22 | | C5-C8 Aliphatic | TIC | 6.94 | 1.000 | A | 0 | A | B |
| 23 | L1 | non C5-C8 | TIC | 6.26 | 1.000 | A | 0 | A | B |
| 24 | L1 | non C5-C8 {2} | TIC | 9.15 | 1.000 | A | 0 | A | B |
| 25 | L1 | non C5-C8 {3} | TIC | 10.92 | 1.000 | A | 0 | A | B |
| 26 | L1 | non C5-C8 {4} | TIC | 11.70 | 1.000 | A | 0 | A | B |
| 27 | L1 | non C5-C8 {5} | TIC | 12.15 | 1.000 | A | 0 | A | B |
| 28 | L1 | non C5-C8 {6} | TIC | 14.28 | 1.000 | A | 0 | A | B |
| 29 | L1 | non C5-C8 - TOTAL | TIC | 6.26 | 1.000 | A | 0 | A | B |
| 30 | | C9-C12 Aliphatic | TIC | 16.42 | 1.000 | A | 0 | A | B |
| 31 | L1 | non C9-C12 | TIC | 16.39 | 1.000 | A | 0 | A | B |
| 32 | L1 | non C9-C12 {2} | TIC | 16.49 | 1.000 | A | 0 | A | B |
| 33 | L1 | non C9-C12 {3} | TIC | 16.67 | 1.000 | A | 0 | A | B |
| 34 | L1 | non C9-C12 {4} | TIC | 17.31 | 1.000 | A | 0 | A | B |
| 35 | L1 | non C9-C12 {5} | TIC | 18.22 | 1.000 | A | 0 | A | B |
| 36 | L1 | non C9-C12 - TOTAL | TIC | 16.67 | 1.000 | A | 0 | A | B |
| 37 | L1 | C9-C10 Aromatic | 120 | 17.30 | 1.000 | A | 0 | A | B |
| 38 | L1 | C9-C10 Aromatic {2} | 134 | 17.30 | 1.000 | A | 0 | A | B |
| 39 | L1 | C9-C10 Aromatic - TOTAL | 134 | 17.30 | 1.000 | A | 1 | A | B |
| 40 | I | Chlorobenzene-d5 | 117 | 16.39 | 1.000 | A | 2 | A | B |
| 41 | S | 4-Bromofluorobenzene | 95 | 18.22 | 1.112 | A | 2 | A | B |

Cal A = Average L = Linear LO = Linear w/origin Q = Quad QO = Quad w/origin
#Qual = number of qualifiers
A/H = Area or Height
ID R = R.T. B = R.T. & Q Q = Qvalue L = Largest A = All

121112V9.M Wed Dec 12 14:57:32 2012

# Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\121112\12111211.D  Vial: 2
Acq On : 11 Dec 2012 5:06 pm  Operator: RACHEL HILL
Sample : ICV VOA9 121112  Inst : GC/MS Ins
Misc : ICV MA_APH  Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\HPCHEM\1\METHODS\121112V9.M (RTE Integrator)
Title : MASS APH
Last Update : Wed Dec 12 13:10:52 2012
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 150%

| | | Compound | Amount | Calc. | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|---|
| 1 | L1 | C5-C8 Aliphatic HC | 29.200 | 32.800 | -12.3 | 106 | 0.00 |
| 2 | L1 | C5-C8 Aliphatic HC {2} | 36.400 | 42.053 | -15.5 | 102 | 0.00 |
| 3 | L1 | C5-C8 Aliphatic HC {3} | 41.800 | 47.104 | -12.7 | 98 | 0.00 |
| 4 | L1 | C5-C8 Aliphatic HC {4} | 35.400 | 41.967 | -18.6 | 105 | 0.00 |
| 5 | L1 | C5-C8 Aliphatic HC {5} | 42.200 | 49.051 | -16.2 | 102 | 0.00 |
| 6 | L1 | C5-C8 Aliphatic HC {6} | 49.000 | 56.698 | -15.7 | 100 | 0.00 |
| 7 | L1 | C5-C8 Aliphatic HC - TOTAL | 234.000 | 269.463 | -15.2 | 102 | 0.00 |
| 8 | L1 | C9-C12 Aliphatic HC | 54.600 | 63.361 | -16.0 | 100 | 0.00 |
| 9 | L1 | C9-C12 Aliphatic HC {2} | 54.600 | 61.437 | -12.5 | 103 | 0.00 |
| 10 | L1 | C9-C12 Aliphatic HC {3} | 61.200 | 73.919 | -20.8 | 104 | 0.00 |
| 11 | L1 | C9-C12 Aliphatic HC {4} | 60.800 | 73.310 | -20.6 | 105 | 0.00 |
| 12 | L1 | C9-C12 Aliphatic HC {5} | 70.000 | 87.782 | -25.4 | 107 | 0.00 |
| 13 | L1 | C9-C12 Aliphatic HC {6} | 77.000 | 95.474 | -24.0 | 102 | 0.00 |
| 14 | L1 | C9-C12 Aliphatic HC - TOTAL | 378.000 | 453.239 | -19.9 | 103 | 0.00 |
| 15 | L1 | C9-C10 Aromatic HC | 51.700 | 59.320 | -14.7 | 99 | 0.00 |
| 16 | L1 | C9-C10 Aromatic HC {2} | 51.200 | 59.018 | -15.3 | 100 | 0.00 |
| 17 | L1 | C9-C10 Aromatic HC {3} | 52.200 | 60.293 | -15.5 | 99 | 0.00 |
| 18 | L1 | C9-C10 Aromatic HC {4} | 58.700 | 69.608 | -18.6 | 103 | 0.00 |
| 19 | L1 | C9-C10 Aromatic HC {5} | 52.600 | 61.147 | -16.2 | 101 | 0.00 |
| 20 | L1 | C9-C10 Aromatic HC {6} | 58.700 | 68.829 | -17.3 | 100 | 0.00 |
| 21 | L1 | C9-C10 Aromatic HC - TOTAL | 266.000 | 308.925 | -16.1 | 100 | 0.00 |
| 22 | | C5-C8 Aliphatic | 234.000 | 0.000 | 100.0# | 0 | -6.94# |
| 23 | L1 | non C5-C8 | 22.800 | 0.000 | 100.0# | 0 | -6.26# |
| 24 | L1 | non C5-C8 {2} | 36.800 | 0.000 | 100.0# | 0 | -9.15# |
| 25 | L1 | non C5-C8 {3} | 66.100 | 0.000 | 100.0# | 0 | -10.92# |
| 26 | L1 | non C5-C8 {4} | 32.500 | 0.000 | 100.0# | 0 | -11.70# |
| 27 | L1 | non C5-C8 {5} | 58.400 | 0.000 | 100.0# | 0 | -12.15# |
| 28 | L1 | non C5-C8 {6} | 39.200 | 0.000 | 100.0# | 0 | -14.28# |
| 29 | L1 | non C5-C8 - TOTAL | 256.000 | 0.000 | 100.0# | 0 | -6.26# |
| 30 | | C9-C12 Aliphatic | 378.000 | 0.000 | 100.0# | 0 | -16.42# |
| 31 | L1 | non C9-C12 | 60.100 | 0.000 | 100.0# | 0 | -16.39# |
| 32 | L1 | non C9-C12 {2} | 45.600 | 0.000 | 100.0# | 0 | -16.49# |
| 33 | L1 | non C9-C12 {3} | 46.000 | 0.000 | 100.0# | 0 | -16.67# |
| 34 | L1 | non C9-C12 {4} | 45.100 | 0.000 | 100.0# | 0 | -17.31# |
| 35 | L1 | non C9-C12 {5} | 89.500 | 0.000 | 100.0# | 0 | -18.22# |
| 36 | L1 | non C9-C12 - TOTAL | 340.600 | 0.000 | 100.0# | 0 | -16.67# |
| 37 | L1 | C9-C10 Aromatic | 266.000 | 0.000 | 100.0# | 0 | -17.30# |
| 38 | L1 | C9-C10 Aromatic {2} | 266.000 | 0.000 | 100.0# | 0 | -17.30# |
| 39 | L1 | C9-C10 Aromatic - TOTAL | 266.000 | 0.000 | 100.0# | 0 | -17.30# |
| 40 | I | Chlorobenzene-d5 | 12.500 | 12.500 | 0.0 | 100 | 0.00 |
| 41 | S | 4-Bromofluorobenzene | 89.500 | 90.346 | -0.9 | 103 | 0.00 |

(#) = Out of Range  SPCC's out = 0  CCC's out = 0

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\121112\12111211.D Vial: 2
Acq On : 11 Dec 2012 5:06 pm Operator: RACHEL HILL
Sample : ICV VOA9 121112 Inst : GC/MS Ins
Misc : ICV MA_APH Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Dec 12 13:13 2012 Quant Results File: 121112V9.RES

Quant Method : C:\HPCHEM\1\METHODS\121112V9.M (RTE Integrator)
Title : MASS APH
Last Update : Wed Dec 12 13:10:52 2012
Response via : Initial Calibration
DataAcq Meth : 121112V9

| Internal Standards | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 40) Chlorobenzene-d5 | 16.39 | 117 | 974237 | 12.50 | ug/m3 | 0.00 |

System Monitoring Compounds

| | | | | | | |
|---|---|---|---|---|---|---|
| 41) 4-Bromofluorobenzene | 18.22 | 95 | 590090 | 90.35 | ug/m3 | 0.00 |

Spiked Amount 89.500 Range 70 - 130 Recovery = 100.95%

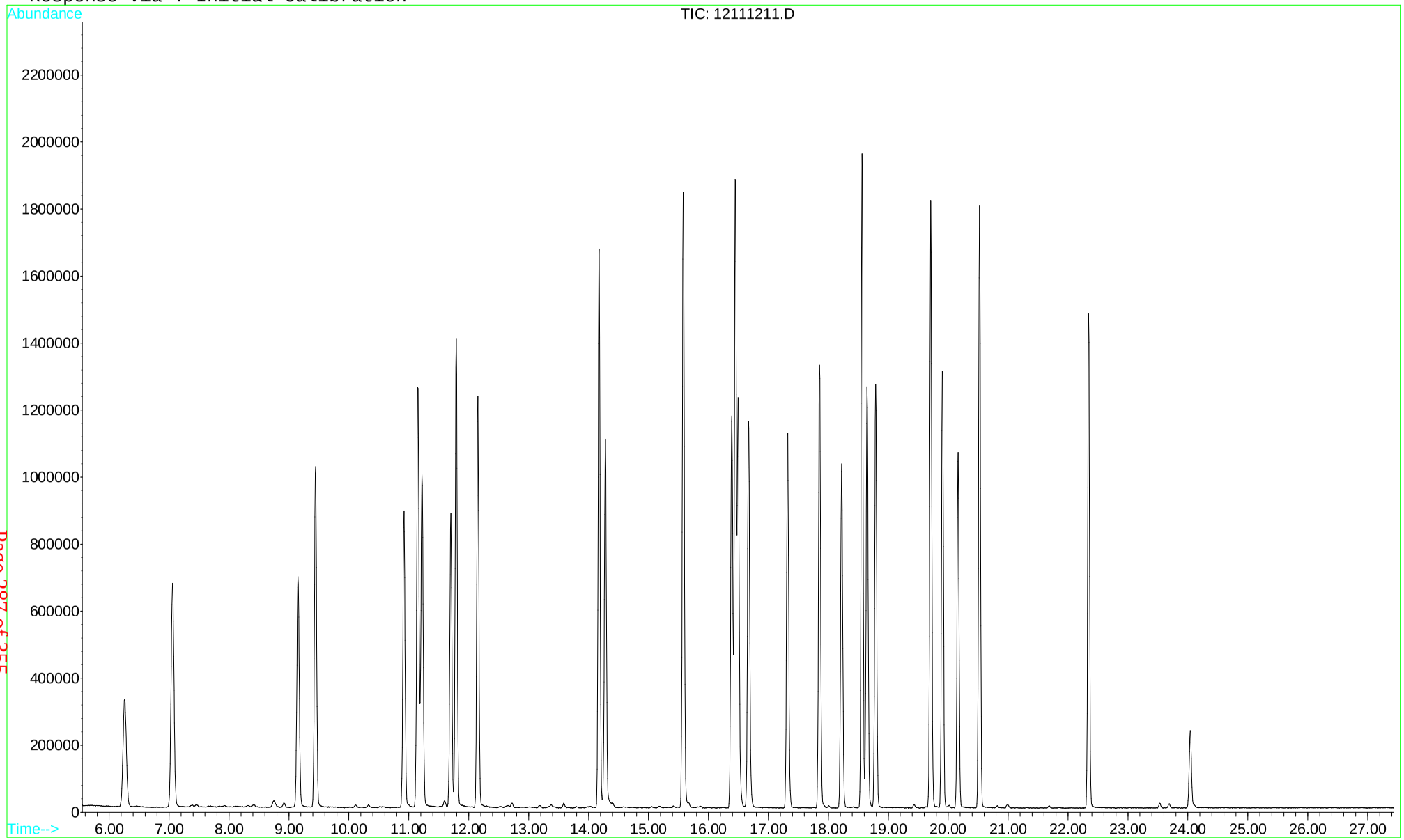
| Target Compounds | | | | | | Qvalue |
|---|---|---|---|---|---|---|
| 1) C5-C8 Aliphatic HC | 7.06 | TIC | 2288920 | 32.80 | ug/m3 | 100 |
| 2) C5-C8 Aliphatic HC {2} | 9.45 | TIC | 2602068 | 42.05 | ug/m3 | 100 |
| 3) C5-C8 Aliphatic HC {3} | 11.15 | TIC | 3277873 | 47.10 | ug/m3 | 100 |
| 4) C5-C8 Aliphatic HC {4} | 11.22 | TIC | 2645524 | 41.97 | ug/m3 | 100 |
| 5) C5-C8 Aliphatic HC {5} | 11.79 | TIC | 3237437 | 49.05 | ug/m3 | 100 |
| 6) C5-C8 Aliphatic HC {6} | 14.18 | TIC | 3713605 | 56.70 | ug/m3 | 100 |
| 7) C5-C8 Aliphatic HC - TOTAL | 7.06 | TIC | 17765427m | 269.46 | ug/m3 | |
| 8) C9-C12 Aliphatic HC | 15.58 | TIC | 4381081 | 63.36 | ug/m3 | 100 |
| 9) C9-C12 Aliphatic HC {2} | 16.45 | TIC | 2864148m | 61.44 | ug/m3 | |
| 10) C9-C12 Aliphatic HC {3} | 18.56 | TIC | 4292642 | 73.92 | ug/m3 | 100 |
| 11) C9-C12 Aliphatic HC {4} | 19.71 | TIC | 4141395 | 73.31 | ug/m3 | 100 |
| 12) C9-C12 Aliphatic HC {5} | 20.52 | TIC | 3939624 | 87.78 | ug/m3 | 100 |
| 13) C9-C12 Aliphatic HC {6} | 22.34 | TIC | 3101427 | 95.47 | ug/m3 | 100 |
| 14) C9-C12 Aliphatic HC - TOTA | 15.58 | TIC | 22720317m | 453.24 | ug/m3 | |
| 15) C9-C10 Aromatic HC | 17.85 | 120 | 345802 | 59.32 | ug/m3 | 100 |
| 16) C9-C10 Aromatic HC {2} | 18.65 | 120 | 355395 | 59.02 | ug/m3 | 100 |
| 17) C9-C10 Aromatic HC {3} | 18.79 | 120 | 517550 | 60.29 | ug/m3 | 100 |
| 18) C9-C10 Aromatic HC {4} | 19.91 | 120 | 112845 | 69.61 | ug/m3 | 100 |
| 19) C9-C10 Aromatic HC {5} | 20.17 | 120 | 390124 | 61.15 | ug/m3 | 100 |
| 20) C9-C10 Aromatic HC {6} | 19.90 | 134 | 300228 | 68.83 | ug/m3 | 100 |
| 21) C9-C10 Aromatic HC - TOTAL | 17.85 | TIC | 2021944m | 308.93 | ug/m3 | |

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\121112\12111211.D  Vial: 2
Acq On : 11 Dec 2012 5:06 pm  Operator: RACHEL HILL
Sample : ICV VOA9 121112  Inst : GC/MS Ins
Misc : ICV MA_APH  Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Dec 12 13:13 2012  Quant Results File: 121112V9.RES

Method : C:\HPCHEM\1\METHODS\121112V9.M (RTE Integrator)
Title : MASS APH
Last Update : Wed Dec 12 13:10:52 2012
Response via : Initial Calibration



Response Factor Report GC/MS Ins

Method : C:\HPCHEM\1\METHODS\121912V9.M (RTE Integrator)
Title : MASS APH
Last Update : Fri Dec 21 09:13:14 2012
Response via : Initial Calibration

Calibration Files
1 =12191203.D 2 =12191204.D 3 =12191205.D
4 =12191206.D 5 =12191207.D 6 =12191208.D

| | | Compound | 1 | 2 | 3 | 4 | 5 | 6 | Avg | %RSD |
|---|---|---|---|---|---|---|---|---|---|---|
| 1) | L1 | C5-C8 Aliphatic HC | 7.261 | 7.325 | 7.181 | 6.877 | 6.587 | 6.297 | 6.797 E4 | 7.35 |
| 2) | L1 | C5-C8 Aliphatic HC | 6.435 | 6.899 | 6.598 | 6.133 | 5.709 | 5.320 | 6.001 E4 | 11.99 |
| 3) | L1 | C5-C8 Aliphatic HC | 7.162 | 7.800 | 7.373 | 6.841 | 6.392 | 5.937 | 6.705 E4 | 12.46 |
| 4) | L1 | C5-C8 Aliphatic HC | 6.522 | 6.893 | 6.651 | 6.174 | 5.722 | 5.428 | 6.069 E4 | 11.09 |
| 5) | L1 | C5-C8 Aliphatic HC | 6.883 | 7.387 | 7.047 | 6.516 | 6.130 | 5.662 | 6.393 E4 | 12.59 |
| 6) | L1 | C5-C8 Aliphatic HC | 6.876 | 7.226 | 6.832 | 6.328 | 5.801 | 5.391 | 6.164 E4 | 14.80 |
| 7) | L1 | C5-C8 Aliphatic HC | 6.854 | 7.269 | 6.943 | 6.476 | 6.043 | 5.641 | 6.342 E4 | 11.97 |
| 8) | L1 | C9-C12 Aliphatic HC | 7.273 | 7.733 | 7.215 | 6.716 | 6.166 | 5.670 | 6.518 E4 | 15.56 |
| 9) | L1 | C9-C12 Aliphatic HC | 3.556 | 5.380 | 5.221 | 4.964 | 4.804 | 4.840 | 4.700 E4 | 13.63 |
| 10) | L1 | C9-C12 Aliphatic HC | 6.104 | 6.671 | 6.295 | 5.874 | 5.293 | 4.876 | 5.595 E4 | 16.26 |
| 11) | L1 | C9-C12 Aliphatic HC | 5.970 | 6.349 | 5.917 | 5.610 | 5.036 | 4.643 | 5.380 E4 | 14.86 |
| 12) | L1 | C9-C12 Aliphatic HC | 4.333 | 5.346 | 4.733 | 4.605 | 4.198 | 3.566 | 4.270 E4 | 17.45 |
| 13) | L1 | C9-C12 Aliphatic HC | 2.814 | 3.893 | 3.561 | 3.329 | 2.757 | 2.330 | 2.996 E4 | 20.50 |
| 14) | L1 | C9-C12 Aliphatic HC | 4.888 | 5.778 | 5.369 | 5.070 | 4.590 | 4.188 | 4.792 E4 | 14.94 |
| 15) | L1 | C9-C10 Aromatic HC | 4.905 | 5.383 | 5.107 | 4.819 | 4.419 | 4.212 | 4.663 E3 | 11.80 |
| 16) | L1 | C9-C10 Aromatic HC | 4.834 | 5.546 | 5.215 | 4.976 | 4.580 | 4.453 | 4.801 E3 | 10.64 |
| 17) | L1 | C9-C10 Aromatic HC | 6.941 | 7.997 | 7.435 | 7.102 | 6.554 | 6.304 | 6.854 E3 | 11.25 |
| 18) | L1 | C9-C10 Aromatic HC | 1.279 | 1.554 | 1.460 | 1.402 | 1.271 | 1.237 | 1.329 E3 | 11.58 |
| 19) | L1 | C9-C10 Aromatic HC | 4.905 | 5.909 | 5.575 | 5.348 | 4.968 | 4.892 | 5.140 E3 | 9.88 |
| 20) | L1 | C9-C10 Aromatic HC | 3.246 | 3.964 | 3.723 | 3.572 | 3.259 | 3.157 | 3.390 E3 | 11.45 |
| 21) | L1 | C9-C10 Aromatic HC | 5.214 | 6.069 | 5.685 | 5.421 | 4.982 | 4.845 | 5.222 E3 | 10.93 |
| 22) | | C5-C8 Aliphatic | 6.854 | 7.269 | 6.943 | 6.476 | 6.043 | 5.641 | 6.342 E4 | 11.97 |
| 23) | L1 | non C5-C8 | 5.154 | 5.251 | 5.195 | 5.100 | 4.986 | 4.784 | 5.024 E4 | 4.22 |
| 24) | L1 | non C5-C8 {2} | 3.942 | 4.744 | 4.537 | 4.169 | 3.805 | 3.488 | 3.984 E4 | 13.80 |
| 25) | L1 | non C5-C8 {3} | 2.684 | 2.621 | 2.737 | 2.797 | 2.794 | 2.864 | 2.782 E4 | 4.25 |
| 26) | L1 | non C5-C8 {4} | 5.394 | 5.999 | 5.624 | 4.979 | 4.549 | 4.241 | 4.964 E4 | 15.13 |
| 27) | L1 | non C5-C8 {5} | 4.228 | 4.162 | 4.317 | 4.419 | 4.465 | 4.550 | 4.416 E4 | 4.67 |
| 28) | L1 | non C5-C8 {6} | 5.584 | 6.332 | 5.987 | 5.382 | 5.015 | 4.686 | 5.325 E4 | 13.51 |
| 29) | L1 | non C5-C8 - TOTAL | 3.963 | 4.507 | 4.525 | 4.382 | 4.240 | 4.116 | 4.240 E4 | 5.69 |
| 30) | | C9-C12 Aliphatic | 4.888 | 5.778 | 5.369 | 5.070 | 4.590 | 4.188 | 4.792 E4 | 14.94 |
| 31) | L1 | non C9-C12 | 4.092 | 3.889 | 4.025 | 4.175 | 4.265 | 4.465 | 4.229 E4 | 6.48 |
| 32) | L1 | non C9-C12 {2} | 4.788 | 5.555 | 4.670 | 4.440 | 3.914 | 5.798 | 4.874 E4 | 13.20 |
| 33) | L1 | non C9-C12 {3} | 5.223 | 5.658 | 5.385 | 5.037 | 4.609 | 4.386 | 4.891 E4 | 12.41 |
| 34) | L1 | non C9-C12 {4} | 5.070 | 5.540 | 5.212 | 4.874 | 4.482 | 4.274 | 4.760 E4 | 12.21 |
| 35) | L1 | non C9-C12 {5} | 2.378 | 2.317 | 2.413 | 2.527 | 2.528 | 2.692 | 2.526 E4 | 7.16 |
| 36) | L1 | non C9-C12 - TOTAL | 3.272 | 3.536 | 3.403 | 3.336 | 3.132 | 3.436 | 3.318 E4 | 4.73 |
| 37) | L1 | C9-C10 Aromatic | 5.214 | 6.069 | 5.685 | 5.421 | 4.982 | 4.845 | 5.222 E3 | 10.93 |
| 38) | L1 | C9-C10 Aromatic {2} | 5.214 | 6.069 | 5.685 | 5.421 | 4.982 | 4.845 | 5.222 E3 | 10.93 |
| 39) | L1 | C9-C10 Aromatic - T | 5.214 | 6.069 | 5.685 | 5.421 | 4.982 | 4.845 | 5.222 E3 | 10.93 |
| 40) | I | Chlorobenzene-d5 | ----------ISTD---------- | | | | | | | |
| 41) | S | 4-Bromofluorobenzen | 0.092 | 0.092 | 0.093 | 0.094 | 0.093 | 0.096 | 0.094 | 1.79 |

(#) = Out of Range ### Number of calibration levels exceeded format ###

Compound List Report GC/MS Ins

Method : C:\HPCHEM\1\METHODS\121912V9.M (RTE Integrator)
Title : MASS APH
Last Update : Fri Dec 21 09:13:14 2012
Response via : Initial Calibration
Total Cpnds : 41

| PK# | | Compound Name | QIon | Exp_RT | Rel_RT | Cal | #Qual | A/H | ID |
|---|---|---|---|---|---|---|---|---|---|
| 1 | L1 | C5-C8 Aliphatic HC | TIC | 7.07 | 1.000 | A | 0 | A | B |
| 2 | L1 | C5-C8 Aliphatic HC {2} | TIC | 9.45 | 1.000 | A | 0 | A | B |
| 3 | L1 | C5-C8 Aliphatic HC {3} | TIC | 11.16 | 1.000 | A | 0 | A | B |
| 4 | L1 | C5-C8 Aliphatic HC {4} | TIC | 11.23 | 1.000 | A | 0 | A | B |
| 5 | L1 | C5-C8 Aliphatic HC {5} | TIC | 11.80 | 1.000 | A | 0 | A | B |
| 6 | L1 | C5-C8 Aliphatic HC {6} | TIC | 14.18 | 1.000 | A | 0 | A | B |
| 7 | L1 | C5-C8 Aliphatic HC - TOTAL | TIC | 7.07 | 1.000 | A | 0 | A | B |
| 8 | L1 | C9-C12 Aliphatic HC | TIC | 15.59 | 1.000 | A | 0 | A | B |
| 9 | L1 | C9-C12 Aliphatic HC {2} | TIC | 16.46 | 1.000 | A | 0 | A | B |
| 10 | L1 | C9-C12 Aliphatic HC {3} | TIC | 18.57 | 1.000 | A | 0 | A | B |
| 11 | L1 | C9-C12 Aliphatic HC {4} | TIC | 19.72 | 1.000 | A | 0 | A | B |
| 12 | L1 | C9-C12 Aliphatic HC {5} | TIC | 20.53 | 1.000 | A | 0 | A | B |
| 13 | L1 | C9-C12 Aliphatic HC {6} | TIC | 22.34 | 1.000 | A | 0 | A | B |
| 14 | L1 | C9-C12 Aliphatic HC - TOTAL | TIC | 15.59 | 1.000 | A | 0 | A | B |
| 15 | L1 | C9-C10 Aromatic HC | 120 | 17.86 | 1.000 | A | 0 | A | B |
| 16 | L1 | C9-C10 Aromatic HC {2} | 120 | 18.65 | 1.000 | A | 0 | A | B |
| 17 | L1 | C9-C10 Aromatic HC {3} | 120 | 18.80 | 1.000 | A | 0 | A | B |
| 18 | L1 | C9-C10 Aromatic HC {4} | 120 | 19.91 | 1.000 | A | 0 | A | B |
| 19 | L1 | C9-C10 Aromatic HC {5} | 120 | 20.17 | 1.000 | A | 0 | A | B |
| 20 | L1 | C9-C10 Aromatic HC {6} | 134 | 19.91 | 1.000 | A | 0 | A | B |
| 21 | L1 | C9-C10 Aromatic HC - TOTAL | TIC | 17.86 | 1.000 | A | 0 | A | B |
| 22 | | C5-C8 Aliphatic | TIC | 6.95 | 1.000 | A | 0 | A | B |
| 23 | L1 | non C5-C8 | TIC | 6.27 | 1.000 | A | 0 | A | B |
| 24 | L1 | non C5-C8 {2} | TIC | 9.15 | 1.000 | A | 0 | A | B |
| 25 | L1 | non C5-C8 {3} | TIC | 10.92 | 1.000 | A | 0 | A | B |
| 26 | L1 | non C5-C8 {4} | TIC | 11.70 | 1.000 | A | 0 | A | B |
| 27 | L1 | non C5-C8 {5} | TIC | 12.15 | 1.000 | A | 0 | A | B |
| 28 | L1 | non C5-C8 {6} | TIC | 14.28 | 1.000 | A | 0 | A | B |
| 29 | L1 | non C5-C8 - TOTAL | TIC | 6.27 | 1.000 | A | 0 | A | B |
| 30 | | C9-C12 Aliphatic | TIC | 16.41 | 1.000 | A | 0 | A | B |
| 31 | L1 | non C9-C12 | TIC | 16.39 | 1.000 | A | 0 | A | B |
| 32 | L1 | non C9-C12 {2} | TIC | 16.49 | 1.000 | A | 0 | A | B |
| 33 | L1 | non C9-C12 {3} | TIC | 16.67 | 1.000 | A | 0 | A | B |
| 34 | L1 | non C9-C12 {4} | TIC | 17.32 | 1.000 | A | 0 | A | B |
| 35 | L1 | non C9-C12 {5} | TIC | 18.23 | 1.000 | A | 0 | A | B |
| 36 | L1 | non C9-C12 - TOTAL | TIC | 16.67 | 1.000 | A | 0 | A | B |
| 37 | L1 | C9-C10 Aromatic | 120 | 17.40 | 1.000 | A | 0 | A | B |
| 38 | L1 | C9-C10 Aromatic {2} | 134 | 17.40 | 1.000 | A | 0 | A | B |
| 39 | L1 | C9-C10 Aromatic - TOTAL | 134 | 17.40 | 1.000 | A | 1 | A | B |
| 40 | I | Chlorobenzene-d5 | 117 | 16.39 | 1.000 | A | 2 | A | B |
| 41 | S | 4-Bromofluorobenzene | 95 | 18.23 | 1.112 | A | 2 | A | B |

Cal A = Average L = Linear LO = Linear w/origin Q = Quad QO = Quad w/origin
#Qual = number of qualifiers
A/H = Area or Height
ID R = R.T. B = R.T. & Q Q = Qvalue L = Largest A = All

121912V9.M Fri Dec 21 09:40:42 2012

# Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\121912\12191211.D  Vial: 2
Acq On : 20 Dec 2012 5:42 am  Operator: RACHEL HILL
Sample : ICV VOA9 121912  Inst : GC/MS Ins
Misc : ICV MA_APH  Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\HPCHEM\1\METHODS\121912V9.M (RTE Integrator)
Title : MASS APH
Last Update : Fri Dec 21 09:13:14 2012
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 150%

| | | Compound | Amount | Calc. | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|---|
| 1 | L1 | C5-C8 Aliphatic HC | 29.200 | 32.253 | -10.5 | 102 | 0.00 |
| 2 | L1 | C5-C8 Aliphatic HC {2} | 36.400 | 42.253 | -16.1 | 101 | 0.00 |
| 3 | L1 | C5-C8 Aliphatic HC {3} | 41.800 | 48.273 | -15.5 | 99 | 0.00 |
| 4 | L1 | C5-C8 Aliphatic HC {4} | 35.400 | 40.784 | -15.2 | 101 | 0.00 |
| 5 | L1 | C5-C8 Aliphatic HC {5} | 42.200 | 48.494 | -14.9 | 99 | 0.00 |
| 6 | L1 | C5-C8 Aliphatic HC {6} | 49.000 | 56.756 | -15.8 | 99 | 0.00 |
| 7 | L1 | C5-C8 Aliphatic HC - TOTAL | 234.000 | 268.655 | -14.8 | 100 | 0.00 |
| 8 | L1 | C9-C12 Aliphatic HC | 54.600 | 63.862 | -17.0 | 99 | 0.00 |
| 9 | L1 | C9-C12 Aliphatic HC {2} | 54.600 | 60.213 | -10.3 | 96 | 0.00 |
| 10 | L1 | C9-C12 Aliphatic HC {3} | 61.200 | 72.775 | -18.9 | 100 | 0.00 |
| 11 | L1 | C9-C12 Aliphatic HC {4} | 60.800 | 72.355 | -19.0 | 101 | 0.00 |
| 12 | L1 | C9-C12 Aliphatic HC {5} | 70.000 | 83.141 | -18.8 | 95 | 0.00 |
| 13 | L1 | C9-C12 Aliphatic HC {6} | 77.000 | 95.808 | -24.4 | 96 | 0.00 |
| 14 | L1 | C9-C12 Aliphatic HC - TOTAL | 378.000 | 446.119 | -18.0 | 98 | 0.00 |
| 15 | L1 | C9-C10 Aromatic HC | 51.700 | 60.111 | -16.3 | 101 | 0.00 |
| 16 | L1 | C9-C10 Aromatic HC {2} | 51.200 | 59.086 | -15.4 | 100 | 0.00 |
| 17 | L1 | C9-C10 Aromatic HC {3} | 52.200 | 60.538 | -16.0 | 99 | 0.00 |
| 18 | L1 | C9-C10 Aromatic HC {4} | 58.700 | 68.853 | -17.3 | 100 | 0.00 |
| 19 | L1 | C9-C10 Aromatic HC {5} | 52.600 | 61.030 | -16.0 | 101 | 0.00 |
| 20 | L1 | C9-C10 Aromatic HC {6} | 58.700 | 69.028 | -17.6 | 101 | 0.00 |
| 21 | L1 | C9-C10 Aromatic HC - TOTAL | 266.000 | 309.848 | -16.5 | 100 | 0.00 |
| 22 | | C5-C8 Aliphatic | 234.000 | 0.000 | 100.0# | 0 | -6.95# |
| 23 | L1 | non C5-C8 | 22.800 | 0.000 | 100.0# | 0 | -6.27# |
| 24 | L1 | non C5-C8 {2} | 36.800 | 0.000 | 100.0# | 0 | -9.15# |
| 25 | L1 | non C5-C8 {3} | 66.100 | 0.000 | 100.0# | 0 | -10.92# |
| 26 | L1 | non C5-C8 {4} | 32.500 | 0.000 | 100.0# | 0 | -11.70# |
| 27 | L1 | non C5-C8 {5} | 58.400 | 0.000 | 100.0# | 0 | -12.15# |
| 28 | L1 | non C5-C8 {6} | 39.200 | 0.000 | 100.0# | 0 | -14.28# |
| 29 | L1 | non C5-C8 - TOTAL | 256.000 | 0.000 | 100.0# | 0 | -6.27# |
| 30 | | C9-C12 Aliphatic | 378.000 | 0.000 | 100.0# | 0 | -16.41# |
| 31 | L1 | non C9-C12 | 60.100 | 0.000 | 100.0# | 0 | -16.39# |
| 32 | L1 | non C9-C12 {2} | 45.600 | 0.000 | 100.0# | 0 | -16.49# |
| 33 | L1 | non C9-C12 {3} | 46.000 | 0.000 | 100.0# | 0 | -16.67# |
| 34 | L1 | non C9-C12 {4} | 45.100 | 0.000 | 100.0# | 0 | -17.32# |
| 35 | L1 | non C9-C12 {5} | 89.500 | 0.000 | 100.0# | 0 | -18.23# |
| 36 | L1 | non C9-C12 - TOTAL | 340.600 | 0.000 | 100.0# | 0 | -16.67# |
| 37 | L1 | C9-C10 Aromatic | 266.000 | 0.000 | 100.0# | 0 | -17.40# |
| 38 | L1 | C9-C10 Aromatic {2} | 266.000 | 0.000 | 100.0# | 0 | -17.40# |
| 39 | L1 | C9-C10 Aromatic - TOTAL | 266.000 | 0.000 | 100.0# | 0 | -17.40# |
| 40 | I | Chlorobenzene-d5 | 12.500 | 12.500 | 0.0 | 107 | 0.00 |
| 41 | S | 4-Bromofluorobenzene | 89.500 | 87.524 | 2.2 | 107 | 0.00 |

(#) = Out of Range  SPCC's out = 0  CCC's out = 0

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\121912\12191211.D Vial: 2
Acq On : 20 Dec 2012 5:42 am Operator: RACHEL HILL
Sample : ICV VOA9 121912 Inst : GC/MS Ins
Misc : ICV MA_APH Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Dec 21 9:21 2012 Quant Results File: 121912V9.RES

Quant Method : C:\HPCHEM\1\METHODS\121912V9.M (RTE Integrator)
Title : MASS APH
Last Update : Fri Dec 21 09:13:14 2012
Response via : Initial Calibration
DataAcq Meth : 121912V9

| Internal Standards | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 40) Chlorobenzene-d5 | 16.39 | 117 | 805193 | 12.50 | ug/m3 | 0.00 |

System Monitoring Compounds

| | | | | | | |
|---|---|---|---|---|---|---|
| 41) 4-Bromofluorobenzene | 18.22 | 95 | 527709 | 87.52 | ug/m3 | 0.00 |

Spiked Amount 89.500 Range 70 - 130 Recovery = 97.79%

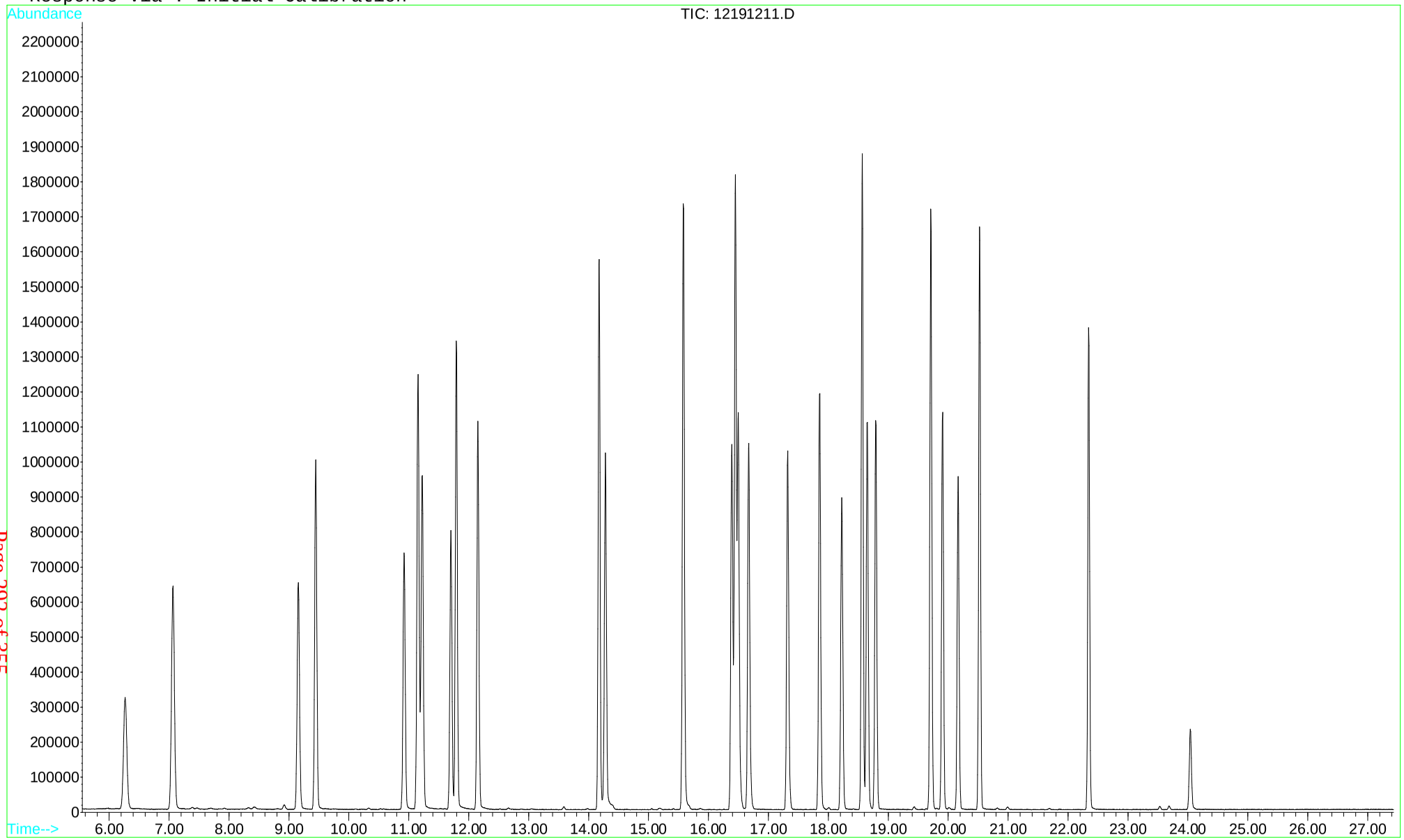
| Target Compounds | | | | | | Qvalue |
|---|---|---|---|---|---|---|
| 1) C5-C8 Aliphatic HC | 7.07 | TIC | 2192327 | 32.25 | ug/m3 | 100 |
| 2) C5-C8 Aliphatic HC {2} | 9.45 | TIC | 2535442 | 42.25 | ug/m3 | 100 |
| 3) C5-C8 Aliphatic HC {3} | 11.15 | TIC | 3236618 | 48.27 | ug/m3 | 100 |
| 4) C5-C8 Aliphatic HC {4} | 11.23 | TIC | 2475227 | 40.78 | ug/m3 | 100 |
| 5) C5-C8 Aliphatic HC {5} | 11.79 | TIC | 3100020 | 48.49 | ug/m3 | 100 |
| 6) C5-C8 Aliphatic HC {6} | 14.18 | TIC | 3498500 | 56.76 | ug/m3 | 100 |
| 7) C5-C8 Aliphatic HC - TOTAL | 7.07 | TIC | 17038134m | 268.66 | ug/m3 | |
| 8) C9-C12 Aliphatic HC | 15.58 | TIC | 4162743 | 63.86 | ug/m3 | 100 |
| 9) C9-C12 Aliphatic HC {2} | 16.45 | TIC | 2829883m | 60.21 | ug/m3 | |
| 10) C9-C12 Aliphatic HC {3} | 18.57 | TIC | 4071799 | 72.77 | ug/m3 | 100 |
| 11) C9-C12 Aliphatic HC {4} | 19.71 | TIC | 3892802 | 72.36 | ug/m3 | 100 |
| 12) C9-C12 Aliphatic HC {5} | 20.52 | TIC | 3550347 | 83.14 | ug/m3 | 100 |
| 13) C9-C12 Aliphatic HC {6} | 22.34 | TIC | 2870879 | 95.81 | ug/m3 | 100 |
| 14) C9-C12 Aliphatic HC - TOTA | 15.58 | TIC | 21378453m | 446.12 | ug/m3 | |
| 15) C9-C10 Aromatic HC | 17.86 | 120 | 280283 | 60.11 | ug/m3 | 100 |
| 16) C9-C10 Aromatic HC {2} | 18.65 | 120 | 283667 | 59.09 | ug/m3 | 100 |
| 17) C9-C10 Aromatic HC {3} | 18.79 | 120 | 414924 | 60.54 | ug/m3 | 100 |
| 18) C9-C10 Aromatic HC {4} | 19.91 | 120 | 91473 | 68.85 | ug/m3 | 100 |
| 19) C9-C10 Aromatic HC {5} | 20.17 | 120 | 313680 | 61.03 | ug/m3 | 100 |
| 20) C9-C10 Aromatic HC {6} | 19.91 | 134 | 234006 | 69.03 | ug/m3 | 100 |
| 21) C9-C10 Aromatic HC - TOTAL | 17.86 | TIC | 1618033m | 309.85 | ug/m3 | |

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\121912\12191211.D Vial: 2
Acq On : 20 Dec 2012 5:42 am Operator: RACHEL HILL
Sample : ICV VOA9 121912 Inst : GC/MS Ins
Misc : ICV MA_APH Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Dec 21 9:21 2012 Quant Results File: 121912V9.RES

Method : C:\HPCHEM\1\METHODS\121912V9.M (RTE Integrator)
Title : MASS APH
Last Update : Fri Dec 21 09:13:14 2012
Response via : Initial Calibration



Response Factor Report GC/MS Ins

Method : C:\HPCHEM\1\METHODS\122812V9.M (RTE Integrator)
Title : MASS APH
Last Update : Mon Dec 31 11:27:24 2012
Response via : Initial Calibration

Calibration Files
1 =12281203.D 2 =12281204.D 3 =12281205.D
4 =12281206.D 5 =12281207.D 6 =12281208.D

| | | Compound | 1 | 2 | 3 | 4 | 5 | 6 | Avg | | %RSD |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1) | L1 | C5-C8 Aliphatic HC | 7.496 | 7.566 | 7.469 | 7.513 | 7.143 | 6.727 | 7.156 | E4 | 7.33 |
| 2) | L1 | C5-C8 Aliphatic HC | 6.526 | 6.096 | 5.979 | 6.371 | 5.662 | 5.208 | 5.814 | E4 | 10.49 |
| 3) | L1 | C5-C8 Aliphatic HC | 7.149 | 6.945 | 6.732 | 7.029 | 6.379 | 5.830 | 6.464 | E4 | 11.19 |
| 4) | L1 | C5-C8 Aliphatic HC | 6.661 | 6.183 | 6.032 | 6.459 | 5.771 | 5.393 | 5.942 | E4 | 9.46 |
| 5) | L1 | C5-C8 Aliphatic HC | 6.844 | 6.530 | 6.377 | 6.699 | 5.933 | 5.397 | 6.090 | E4 | 12.09 |
| 6) | L1 | C5-C8 Aliphatic HC | 6.723 | 6.311 | 6.189 | 6.394 | 5.653 | 5.155 | 5.853 | E4 | 13.25 |
| 7) | L1 | C5-C8 Aliphatic HC | 6.877 | 6.567 | 6.419 | 6.716 | 6.043 | 5.556 | 6.176 | E4 | 10.78 |
| 8) | L1 | C9-C12 Aliphatic HC | 7.307 | 6.697 | 6.524 | 6.784 | 6.033 | 5.380 | 6.209 | E4 | 14.32 |
| 9) | L1 | C9-C12 Aliphatic HC | 3.550 | 3.644 | 3.833 | 4.552 | 4.255 | 4.095 | 3.971 | E4 | 8.89 |
| 10) | L1 | C9-C12 Aliphatic HC | 6.109 | 5.733 | 5.571 | 5.737 | 5.032 | 4.476 | 5.228 | E4 | 14.98 |
| 11) | L1 | C9-C12 Aliphatic HC | 6.094 | 5.599 | 5.376 | 5.557 | 4.858 | 4.422 | 5.123 | E4 | 14.60 |
| 12) | L1 | C9-C12 Aliphatic HC | 4.490 | 4.295 | 4.067 | 4.330 | 3.685 | 3.279 | 3.877 | E4 | 14.78 |
| 13) | L1 | C9-C12 Aliphatic HC | 3.069 | 3.309 | 3.169 | 3.299 | 2.644 | 2.229 | 2.842 | E4 | 17.29 |
| 14) | L1 | C9-C12 Aliphatic HC | 4.993 | 4.792 | 4.660 | 4.933 | 4.302 | 3.865 | 4.437 | E4 | 12.79 |
| 15) | L1 | C9-C10 Aromatic HC | 5.367 | 5.132 | 4.974 | 5.283 | 4.647 | 4.171 | 4.762 | E3 | 12.70 |
| 16) | L1 | C9-C10 Aromatic HC | 5.431 | 5.370 | 5.188 | 5.485 | 4.870 | 4.408 | 4.962 | E3 | 11.60 |
| 17) | L1 | C9-C10 Aromatic HC | 8.042 | 7.761 | 7.425 | 7.950 | 7.014 | 6.307 | 7.163 | E3 | 12.61 |
| 18) | L1 | C9-C10 Aromatic HC | 1.441 | 1.499 | 1.436 | 1.495 | 1.346 | 1.221 | 1.362 | E3 | 11.21 |
| 19) | L1 | C9-C10 Aromatic HC | 5.618 | 5.821 | 5.616 | 5.907 | 5.251 | 4.808 | 5.346 | E3 | 10.46 |
| 20) | L1 | C9-C10 Aromatic HC | 3.856 | 3.967 | 3.812 | 4.016 | 3.594 | 3.240 | 3.628 | E3 | 11.35 |
| 21) | L1 | C9-C10 Aromatic HC | 5.947 | 5.911 | 5.674 | 6.002 | 5.317 | 4.827 | 5.433 | E3 | 11.71 |
| 22) | | C5-C8 Aliphatic | 6.877 | 6.567 | 6.419 | 6.716 | 6.043 | 5.556 | 6.176 | E4 | 10.78 |
| 23) | L1 | non C5-C8 | 5.408 | 5.488 | 5.431 | 5.557 | 5.287 | 5.066 | 5.286 | E4 | 5.32 |
| 24) | L1 | non C5-C8 {2} | 4.376 | 4.470 | 4.215 | 4.762 | 4.076 | 3.691 | 4.173 | E4 | 9.92 |
| 25) | L1 | non C5-C8 {3} | 3.006 | 3.078 | 3.201 | 3.159 | 3.184 | 3.209 | 3.152 | E4 | 2.57 |
| 26) | L1 | non C5-C8 {4} | 5.727 | 5.123 | 4.921 | 5.627 | 4.828 | 4.395 | 4.980 | E4 | 11.33 |
| 27) | L1 | non C5-C8 {5} | 4.412 | 4.529 | 4.718 | 4.623 | 4.666 | 4.655 | 4.611 | E4 | 2.29 |
| 28) | L1 | non C5-C8 {6} | 5.574 | 5.358 | 5.192 | 5.676 | 5.009 | 4.551 | 5.081 | E4 | 10.58 |
| 29) | L1 | non C5-C8 - TOTAL | 4.217 | 4.430 | 4.460 | 4.796 | 4.470 | 4.249 | 4.390 | E4 | 5.15 |
| 30) | | C9-C12 Aliphatic | 4.993 | 4.792 | 4.660 | 4.933 | 4.302 | 3.865 | 4.437 | E4 | 12.79 |
| 31) | L1 | non C9-C12 | 4.114 | 4.188 | 4.399 | 4.294 | 4.418 | 4.384 | 4.301 | E4 | 2.66 |
| 32) | L1 | non C9-C12 {2} | 4.947 | 4.844 | 4.757 | 4.531 | 3.954 | 4.906 | 4.654 | E4 | 7.35 |
| 33) | L1 | non C9-C12 {3} | 5.279 | 4.962 | 4.831 | 5.150 | 4.615 | 4.211 | 4.701 | E4 | 10.91 |
| 34) | L1 | non C9-C12 {4} | 5.083 | 4.849 | 4.727 | 4.985 | 4.483 | 4.072 | 4.563 | E4 | 10.89 |
| 35) | L1 | non C9-C12 {5} | 2.493 | 2.604 | 2.702 | 2.646 | 2.735 | 2.742 | 2.677 | E4 | 3.99 |
| 36) | L1 | non C9-C12 - TOTAL | 3.341 | 3.384 | 3.393 | 3.426 | 3.192 | 3.194 | 3.273 | E4 | 4.85 |
| 37) | L1 | C9-C10 Aromatic | 5.947 | 5.911 | 5.674 | 6.002 | 5.317 | 4.827 | 5.433 | E3 | 11.71 |
| 38) | L1 | C9-C10 Aromatic {2} | 5.947 | 5.911 | 5.674 | 6.002 | 5.317 | 4.827 | 5.433 | E3 | 11.71 |
| 39) | L1 | C9-C10 Aromatic - T | 5.947 | 5.911 | 5.674 | 6.002 | 5.317 | 4.827 | 5.433 | E3 | 11.71 |
| 40) | I | Chlorobenzene-d5 | ----------ISTD---------- | | | | | | | | |
| 41) | S | 4-Bromofluorobenzen | 0.092 | 0.093 | 0.092 | 0.093 | 0.094 | 0.094 | 0.093 | | 1.43 |

(#) = Out of Range ### Number of calibration levels exceeded format ###

Compound List Report GC/MS Ins

Method : C:\HPCHEM\1\METHODS\122812V9.M (RTE Integrator)
Title : MASS APH
Last Update : Mon Dec 31 11:27:24 2012
Response via : Initial Calibration
Total Cpnds : 41

| PK# | | Compound Name | QIon | Exp_RT | Rel_RT | Cal | #Qual | A/H | ID |
|---|---|---|---|---|---|---|---|---|---|
| 1 | L1 | C5-C8 Aliphatic HC | TIC | 6.98 | 1.000 | A | 0 | A | B |
| 2 | L1 | C5-C8 Aliphatic HC {2} | TIC | 9.29 | 1.000 | A | 0 | A | B |
| 3 | L1 | C5-C8 Aliphatic HC {3} | TIC | 10.97 | 1.000 | A | 0 | A | B |
| 4 | L1 | C5-C8 Aliphatic HC {4} | TIC | 11.04 | 1.000 | A | 0 | A | B |
| 5 | L1 | C5-C8 Aliphatic HC {5} | TIC | 11.60 | 1.000 | A | 0 | A | B |
| 6 | L1 | C5-C8 Aliphatic HC {6} | TIC | 13.97 | 1.000 | A | 0 | A | B |
| 7 | L1 | C5-C8 Aliphatic HC - TOTAL | TIC | 6.98 | 1.000 | A | 0 | A | B |
| 8 | L1 | C9-C12 Aliphatic HC | TIC | 15.37 | 1.000 | A | 0 | A | B |
| 9 | L1 | C9-C12 Aliphatic HC {2} | TIC | 16.23 | 1.000 | A | 0 | A | B |
| 10 | L1 | C9-C12 Aliphatic HC {3} | TIC | 18.34 | 1.000 | A | 0 | A | B |
| 11 | L1 | C9-C12 Aliphatic HC {4} | TIC | 19.49 | 1.000 | A | 0 | A | B |
| 12 | L1 | C9-C12 Aliphatic HC {5} | TIC | 20.31 | 1.000 | A | 0 | A | B |
| 13 | L1 | C9-C12 Aliphatic HC {6} | TIC | 22.12 | 1.000 | A | 0 | A | B |
| 14 | L1 | C9-C12 Aliphatic HC - TOTAL | TIC | 15.37 | 1.000 | A | 0 | A | B |
| 15 | L1 | C9-C10 Aromatic HC | 120 | 17.63 | 1.000 | A | 0 | A | B |
| 16 | L1 | C9-C10 Aromatic HC {2} | 120 | 18.43 | 1.000 | A | 0 | A | B |
| 17 | L1 | C9-C10 Aromatic HC {3} | 120 | 18.57 | 1.000 | A | 0 | A | B |
| 18 | L1 | C9-C10 Aromatic HC {4} | 120 | 19.69 | 1.000 | A | 0 | A | B |
| 19 | L1 | C9-C10 Aromatic HC {5} | 120 | 19.94 | 1.000 | A | 0 | A | B |
| 20 | L1 | C9-C10 Aromatic HC {6} | 134 | 19.69 | 1.000 | A | 0 | A | B |
| 21 | L1 | C9-C10 Aromatic HC - TOTAL | TIC | 18.01 | 1.000 | A | 0 | A | B |
| 22 | | C5-C8 Aliphatic | TIC | 6.85 | 1.000 | A | 0 | A | B |
| 23 | L1 | non C5-C8 | TIC | 6.21 | 1.000 | A | 0 | A | B |
| 24 | L1 | non C5-C8 {2} | TIC | 9.01 | 1.000 | A | 0 | A | B |
| 25 | L1 | non C5-C8 {3} | TIC | 10.74 | 1.000 | A | 0 | A | B |
| 26 | L1 | non C5-C8 {4} | TIC | 11.52 | 1.000 | A | 0 | A | B |
| 27 | L1 | non C5-C8 {5} | TIC | 11.96 | 1.000 | A | 0 | A | B |
| 28 | L1 | non C5-C8 {6} | TIC | 14.07 | 1.000 | A | 0 | A | B |
| 29 | L1 | non C5-C8 - TOTAL | TIC | 6.21 | 1.000 | A | 0 | A | B |
| 30 | | C9-C12 Aliphatic | TIC | 16.21 | 1.000 | A | 0 | A | B |
| 31 | L1 | non C9-C12 | TIC | 16.18 | 1.000 | A | 0 | A | B |
| 32 | L1 | non C9-C12 {2} | TIC | 16.28 | 1.000 | A | 0 | A | B |
| 33 | L1 | non C9-C12 {3} | TIC | 16.46 | 1.000 | A | 0 | A | B |
| 34 | L1 | non C9-C12 {4} | TIC | 17.11 | 1.000 | A | 0 | A | B |
| 35 | L1 | non C9-C12 {5} | TIC | 18.01 | 1.000 | A | 0 | A | B |
| 36 | L1 | non C9-C12 - TOTAL | TIC | 16.46 | 1.000 | A | 0 | A | B |
| 37 | L1 | C9-C10 Aromatic | 120 | 17.04 | 1.000 | A | 0 | A | B |
| 38 | L1 | C9-C10 Aromatic {2} | 134 | 17.04 | 1.000 | A | 0 | A | B |
| 39 | L1 | C9-C10 Aromatic - TOTAL | 134 | 17.04 | 1.000 | A | 1 | A | B |
| 40 | I | Chlorobenzene-d5 | 117 | 16.18 | 1.000 | A | 2 | A | B |
| 41 | S | 4-Bromofluorobenzene | 95 | 18.01 | 1.113 | A | 2 | A | B |

Cal A = Average L = Linear LO = Linear w/origin Q = Quad QO = Quad w/origin
#Qual = number of qualifiers
A/H = Area or Height
ID R = R.T. B = R.T. & Q Q = Qvalue L = Largest A = All

122812V9.M Mon Dec 31 14:55:26 2012

# Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\122812\12281211.D  Vial: 2
Acq On : 28 Dec 2012 7:45 pm  Operator: RACHEL HILL
Sample : ICV VOA9 122812  Inst : GC/MS Ins
Misc : ICV MA_APH  Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\HPCHEM\1\METHODS\122812V9.M (RTE Integrator)
Title : MASS APH
Last Update : Mon Dec 31 11:27:24 2012
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 150%

| | | Compound | Amount | Calc. | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|---|
| 1 | L1 | C5-C8 Aliphatic HC | 29.200 | 34.041 | -16.6 | 110 | 0.00 |
| 2 | L1 | C5-C8 Aliphatic HC {2} | 36.400 | 40.613 | -11.6 | 106 | 0.00 |
| 3 | L1 | C5-C8 Aliphatic HC {3} | 41.800 | 45.439 | -8.7 | 101 | 0.00 |
| 4 | L1 | C5-C8 Aliphatic HC {4} | 35.400 | 38.989 | -10.1 | 106 | 0.00 |
| 5 | L1 | C5-C8 Aliphatic HC {5} | 42.200 | 46.536 | -10.3 | 103 | 0.00 |
| 6 | L1 | C5-C8 Aliphatic HC {6} | 49.000 | 54.806 | -11.8 | 104 | 0.00 |
| 7 | L1 | C5-C8 Aliphatic HC - TOTAL | 234.000 | 260.581 | -11.4 | 105 | 0.00 |
| 8 | L1 | C9-C12 Aliphatic HC | 54.600 | 61.085 | -11.9 | 104 | 0.00 |
| 9 | L1 | C9-C12 Aliphatic HC {2} | 54.600 | 53.508 | 2.0 | 107 | 0.00 |
| 10 | L1 | C9-C12 Aliphatic HC {3} | 61.200 | 69.177 | -13.0 | 103 | 0.00 |
| 11 | L1 | C9-C12 Aliphatic HC {4} | 60.800 | 68.949 | -13.4 | 104 | 0.00 |
| 12 | L1 | C9-C12 Aliphatic HC {5} | 70.000 | 79.780 | -14.0 | 103 | 0.00 |
| 13 | L1 | C9-C12 Aliphatic HC {6} | 77.000 | 91.604 | -19.0 | 102 | 0.00 |
| 14 | L1 | C9-C12 Aliphatic HC - TOTAL | 378.000 | 422.880 | -11.9 | 104 | 0.00 |
| 15 | L1 | C9-C10 Aromatic HC | 51.700 | 56.412 | -9.1 | 101 | 0.00 |
| 16 | L1 | C9-C10 Aromatic HC {2} | 51.200 | 56.141 | -9.7 | 101 | 0.00 |
| 17 | L1 | C9-C10 Aromatic HC {3} | 52.200 | 57.735 | -10.6 | 102 | 0.00 |
| 18 | L1 | C9-C10 Aromatic HC {4} | 58.700 | 66.094 | -12.6 | 102 | 0.00 |
| 19 | L1 | C9-C10 Aromatic HC {5} | 52.600 | 58.249 | -10.7 | 102 | 0.00 |
| 20 | L1 | C9-C10 Aromatic HC {6} | 58.700 | 65.351 | -11.3 | 102 | 0.00 |
| 21 | L1 | C9-C10 Aromatic HC - TOTAL | 266.000 | 294.358 | -10.7 | 102 | 0.00 |
| 22 | | C5-C8 Aliphatic | 234.000 | 0.000 | 100.0# | 0 | -6.85# |
| 23 | L1 | non C5-C8 | 22.800 | 0.000 | 100.0# | 0 | -6.21# |
| 24 | L1 | non C5-C8 {2} | 36.800 | 0.000 | 100.0# | 0 | -9.01# |
| 25 | L1 | non C5-C8 {3} | 66.100 | 0.000 | 100.0# | 0 | -10.74# |
| 26 | L1 | non C5-C8 {4} | 32.500 | 0.000 | 100.0# | 0 | -11.52# |
| 27 | L1 | non C5-C8 {5} | 58.400 | 0.000 | 100.0# | 0 | -11.96# |
| 28 | L1 | non C5-C8 {6} | 39.200 | 0.000 | 100.0# | 0 | -14.07# |
| 29 | L1 | non C5-C8 - TOTAL | 256.000 | 0.000 | 100.0# | 0 | -6.21# |
| 30 | | C9-C12 Aliphatic | 378.000 | 0.000 | 100.0# | 0 | -16.21# |
| 31 | L1 | non C9-C12 | 60.100 | 0.000 | 100.0# | 0 | -16.18# |
| 32 | L1 | non C9-C12 {2} | 45.600 | 0.000 | 100.0# | 0 | -16.28# |
| 33 | L1 | non C9-C12 {3} | 46.000 | 0.000 | 100.0# | 0 | -16.46# |
| 34 | L1 | non C9-C12 {4} | 45.100 | 0.000 | 100.0# | 0 | -17.11# |
| 35 | L1 | non C9-C12 {5} | 89.500 | 0.000 | 100.0# | 0 | -18.01# |
| 36 | L1 | non C9-C12 - TOTAL | 340.600 | 0.000 | 100.0# | 0 | -16.46# |
| 37 | L1 | C9-C10 Aromatic | 266.000 | 0.000 | 100.0# | 0 | -17.04# |
| 38 | L1 | C9-C10 Aromatic {2} | 266.000 | 0.000 | 100.0# | 0 | -17.04# |
| 39 | L1 | C9-C10 Aromatic - TOTAL | 266.000 | 0.000 | 100.0# | 0 | -17.04# |
| 40 | I | Chlorobenzene-d5 | 12.500 | 12.500 | 0.0 | 104 | 0.00 |
| 41 | S | 4-Bromofluorobenzene | 89.500 | 88.474 | 1.1 | 103 | 0.00 |

(#) = Out of Range  SPCC's out = 0  CCC's out = 0

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\122812\12281211.D Vial: 2
Acq On : 28 Dec 2012 7:45 pm Operator: RACHEL HILL
Sample : ICV VOA9 122812 Inst : GC/MS Ins
Misc : ICV MA_APH Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Dec 31 11:30 2012 Quant Results File: 122812V9.RES

Quant Method : C:\HPCHEM\1\METHODS\122812V9.M (RTE Integrator)
Title : MASS APH
Last Update : Mon Dec 31 11:27:24 2012
Response via : Initial Calibration
DataAcq Meth : 122812V9

| Internal Standards | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 40) Chlorobenzene-d5 | 16.18 | 117 | 830046 | 12.50 | ug/m3 | 0.00 |

System Monitoring Compounds

| | | | | | | |
|---|---|---|---|---|---|---|
| 41) 4-Bromofluorobenzene | 18.01 | 95 | 547826 | 88.47 | ug/m3 | 0.00 |

Spiked Amount 89.500 Range 70 - 130 Recovery = 98.85%

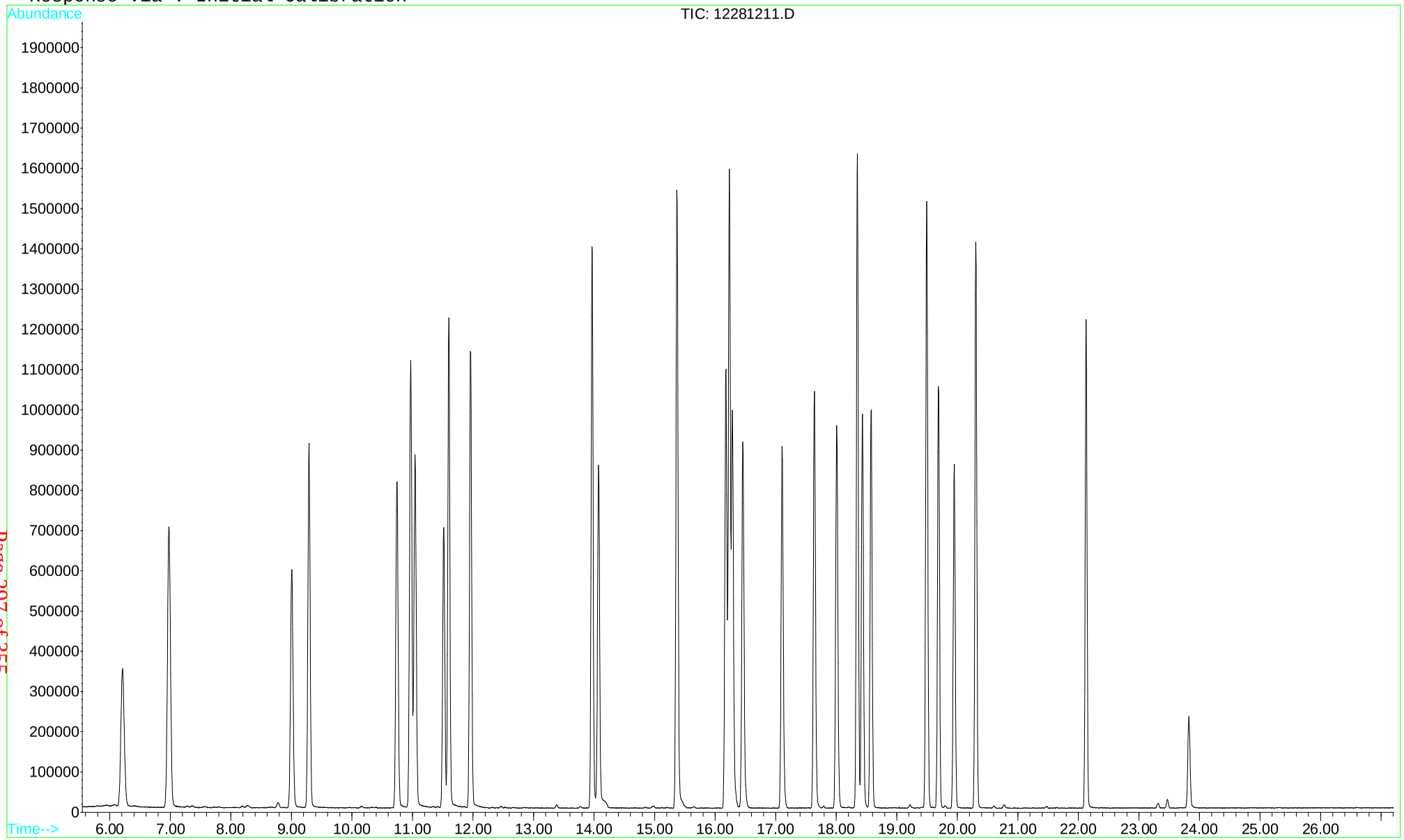
| Target Compounds | | | | | | Qvalue |
|---|---|---|---|---|---|---|
| 1) C5-C8 Aliphatic HC | 6.98 | TIC | 2435980 | 34.04 | ug/m3 | 100 |
| 2) C5-C8 Aliphatic HC {2} | 9.29 | TIC | 2361238 | 40.61 | ug/m3 | 100 |
| 3) C5-C8 Aliphatic HC {3} | 10.97 | TIC | 2937164 | 45.44 | ug/m3 | 100 |
| 4) C5-C8 Aliphatic HC {4} | 11.04 | TIC | 2316798 | 38.99 | ug/m3 | 100 |
| 5) C5-C8 Aliphatic HC {5} | 11.60 | TIC | 2834131 | 46.54 | ug/m3 | 100 |
| 6) C5-C8 Aliphatic HC {6} | 13.97 | TIC | 3207714 | 54.81 | ug/m3 | 100 |
| 7) C5-C8 Aliphatic HC - TOTAL | 6.98 | TIC | 16093025m | 260.58 | ug/m3 | |
| 8) C9-C12 Aliphatic HC | 15.37 | TIC | 3793075 | 61.09 | ug/m3 | 100 |
| 9) C9-C12 Aliphatic HC {2} | 16.23 | TIC | 2125030m | 53.51 | ug/m3 | |
| 10) C9-C12 Aliphatic HC {3} | 18.35 | TIC | 3616532 | 69.18 | ug/m3 | 100 |
| 11) C9-C12 Aliphatic HC {4} | 19.49 | TIC | 3531938 | 68.95 | ug/m3 | 100 |
| 12) C9-C12 Aliphatic HC {5} | 20.30 | TIC | 3092924 | 79.78 | ug/m3 | 100 |
| 13) C9-C12 Aliphatic HC {6} | 22.13 | TIC | 2603138 | 91.60 | ug/m3 | 100 |
| 14) C9-C12 Aliphatic HC - TOTA | 15.37 | TIC | 18762637m | 422.88 | ug/m3 | |
| 15) C9-C10 Aromatic HC | 17.64 | 120 | 268611 | 56.41 | ug/m3 | 100 |
| 16) C9-C10 Aromatic HC {2} | 18.43 | 120 | 278555 | 56.14 | ug/m3 | 100 |
| 17) C9-C10 Aromatic HC {3} | 18.58 | 120 | 413527 | 57.73 | ug/m3 | 100 |
| 18) C9-C10 Aromatic HC {4} | 19.69 | 120 | 90001 | 66.09 | ug/m3 | 100 |
| 19) C9-C10 Aromatic HC {5} | 19.95 | 120 | 311397 | 58.25 | ug/m3 | 100 |
| 20) C9-C10 Aromatic HC {6} | 19.69 | 134 | 237090 | 65.35 | ug/m3 | 100 |
| 21) C9-C10 Aromatic HC - TOTAL | 18.01 | TIC | 1599181m | 294.36 | ug/m3 | |

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\122812\12281211.D  Vial: 2
Acq On : 28 Dec 2012 7:45 pm  Operator: RACHEL HILL
Sample : ICV VOA9 122812  Inst : GC/MS Ins
Misc : ICV MA_APH  Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Dec 31 11:30 2012  Quant Results File: 122812V9.RES

Method : C:\HPCHEM\1\METHODS\122812V9.M (RTE Integrator)
Title : MASS APH
Last Update : Mon Dec 31 11:27:24 2012
Response via : Initial Calibration



Response Factor Report GC/MS Ins

Method : C:\HPCHEM\1\METHODS\010313V9.M (RTE Integrator)
Title : MASS APH
Last Update : Fri Jan 04 10:58:14 2013
Response via : Initial Calibration

Calibration Files
1 =01031303.D 2 =01031304.D 3 =01031305.D
4 =01031306.D 5 =01031307.D 6 =01031308.D

| | | Compound | 1 | 2 | 3 | 4 | 5 | 6 | Avg | %RSD |
|---|---|---|---|---|---|---|---|---|---|---|
| 1) | L1 | C5-C8 Aliphatic HC | 7.677 | 7.596 | 7.451 | 7.278 | 6.915 | 6.485 | 7.042 E4 | 9.32 |
| 2) | L1 | C5-C8 Aliphatic HC | 6.315 | 6.270 | 5.989 | 6.166 | 5.434 | 5.172 | 5.729 E4 | 10.65 |
| 3) | L1 | C5-C8 Aliphatic HC | 6.974 | 6.868 | 6.681 | 6.687 | 5.953 | 5.695 | 6.290 E4 | 10.92 |
| 4) | L1 | C5-C8 Aliphatic HC | 6.511 | 6.480 | 6.045 | 6.395 | 5.659 | 5.258 | 5.896 E4 | 10.72 |
| 5) | L1 | C5-C8 Aliphatic HC | 6.606 | 6.604 | 6.319 | 6.486 | 5.744 | 5.326 | 5.985 E4 | 11.84 |
| 6) | L1 | C5-C8 Aliphatic HC | 6.535 | 6.466 | 6.126 | 6.190 | 5.495 | 5.059 | 5.768 E4 | 13.34 |
| 7) | L1 | C5-C8 Aliphatic HC | 6.731 | 6.675 | 6.387 | 6.503 | 5.819 | 5.443 | 6.074 E4 | 11.22 |
| 8) | L1 | C9-C12 Aliphatic HC | 7.004 | 6.887 | 6.433 | 6.604 | 5.772 | 5.279 | 6.098 E4 | 14.24 |
| 9) | L1 | C9-C12 Aliphatic HC | 3.171 | 3.960 | 3.725 | 4.422 | 3.987 | 4.160 | 3.880 E4 | 10.19 |
| 10) | L1 | C9-C12 Aliphatic HC | 5.780 | 5.833 | 5.494 | 5.600 | 4.912 | 4.417 | 5.137 E4 | 14.41 |
| 11) | L1 | C9-C12 Aliphatic HC | 5.924 | 5.811 | 5.473 | 5.529 | 4.820 | 4.392 | 5.132 E4 | 14.55 |
| 12) | L1 | C9-C12 Aliphatic HC | 4.244 | 4.475 | 4.153 | 4.344 | 3.746 | 3.366 | 3.926 E4 | 13.02 |
| 13) | L1 | C9-C12 Aliphatic HC | 2.905 | 3.473 | 3.250 | 3.397 | 2.914 | 2.478 | 2.962 E4 | 15.03 |
| 14) | L1 | C9-C12 Aliphatic HC | 4.735 | 4.982 | 4.667 | 4.884 | 4.266 | 3.912 | 4.428 E4 | 12.13 |
| 15) | L1 | C9-C10 Aromatic HC | 5.396 | 5.444 | 5.241 | 5.308 | 4.658 | 4.345 | 4.906 E3 | 12.02 |
| 16) | L1 | C9-C10 Aromatic HC | 5.426 | 5.736 | 5.355 | 5.504 | 4.860 | 4.586 | 5.095 E3 | 10.98 |
| 17) | L1 | C9-C10 Aromatic HC | 7.921 | 8.193 | 7.728 | 7.951 | 6.990 | 6.529 | 7.321 E3 | 11.61 |
| 18) | L1 | C9-C10 Aromatic HC | 1.416 | 1.598 | 1.519 | 1.530 | 1.372 | 1.282 | 1.411 E3 | 10.84 |
| 19) | L1 | C9-C10 Aromatic HC | 5.540 | 6.163 | 5.854 | 5.902 | 5.301 | 4.968 | 5.476 E3 | 10.14 |
| 20) | L1 | C9-C10 Aromatic HC | 3.871 | 4.281 | 4.088 | 4.127 | 3.642 | 3.399 | 3.781 E3 | 11.64 |
| 21) | L1 | C9-C10 Aromatic HC | 5.910 | 6.286 | 5.943 | 6.042 | 5.339 | 5.018 | 5.588 E3 | 11.16 |
| 22) | | C5-C8 Aliphatic | 6.731 | 6.675 | 6.387 | 6.503 | 5.819 | 5.443 | 6.074 E4 | 11.22 |
| 23) | L1 | non C5-C8 | 5.449 | 5.447 | 5.312 | 5.162 | 4.987 | 4.778 | 5.089 E4 | 7.08 |
| 24) | L1 | non C5-C8 {2} | 4.238 | 4.664 | 4.487 | 4.641 | 3.958 | 3.834 | 4.209 E4 | 9.69 |
| 25) | L1 | non C5-C8 {3} | 2.864 | 2.889 | 2.893 | 2.921 | 2.941 | 2.955 | 2.923 E4 | 1.56 |
| 26) | L1 | non C5-C8 {4} | 5.708 | 5.619 | 5.234 | 5.727 | 4.662 | 4.570 | 5.115 E4 | 11.79 |
| 27) | L1 | non C5-C8 {5} | 4.302 | 4.324 | 4.333 | 4.362 | 4.456 | 4.501 | 4.394 E4 | 1.88 |
| 28) | L1 | non C5-C8 {6} | 5.576 | 5.874 | 5.483 | 5.841 | 4.955 | 4.705 | 5.261 E4 | 11.02 |
| 29) | L1 | non C5-C8 - TOTAL | 4.121 | 4.501 | 4.431 | 4.682 | 4.300 | 4.262 | 4.342 E4 | 4.85 |
| 30) | | C9-C12 Aliphatic | 4.735 | 4.982 | 4.667 | 4.884 | 4.266 | 3.912 | 4.428 E4 | 12.13 |
| 31) | L1 | non C9-C12 | 3.892 | 3.906 | 4.213 | 4.140 | 4.199 | 4.204 | 4.100 E4 | 3.42 |
| 32) | L1 | non C9-C12 {2} | 5.041 | 5.236 | 4.597 | 4.970 | 4.294 | 3.785 | 4.628 E4 | 10.82 |
| 33) | L1 | non C9-C12 {3} | 5.294 | 5.368 | 5.087 | 5.276 | 4.536 | 4.321 | 4.838 E4 | 11.41 |
| 34) | L1 | non C9-C12 {4} | 5.101 | 5.167 | 4.937 | 5.066 | 4.423 | 4.201 | 4.679 E4 | 11.05 |
| 35) | L1 | non C9-C12 {5} | 2.370 | 2.377 | 2.459 | 2.430 | 2.500 | 2.586 | 2.474 E4 | 3.68 |
| 36) | L1 | non C9-C12 - TOTAL | 3.253 | 3.424 | 3.350 | 3.462 | 3.162 | 2.992 | 3.231 E4 | 6.10 |
| 37) | L1 | C9-C10 Aromatic | 5.910 | 6.286 | 5.943 | 6.042 | 5.339 | 5.018 | 5.588 E3 | 11.16 |
| 38) | L1 | C9-C10 Aromatic {2} | 5.910 | 6.286 | 5.943 | 6.042 | 5.339 | 5.018 | 5.588 E3 | 11.16 |
| 39) | L1 | C9-C10 Aromatic - T | 5.910 | 6.286 | 5.943 | 6.042 | 5.339 | 5.018 | 5.588 E3 | 11.16 |
| 40) | I | Chlorobenzene-d5 | ----------ISTD---------- | | | | | | | |
| 41) | S | 4-Bromofluorobenzen | 0.091 | 0.090 | 0.092 | 0.091 | 0.092 | 0.094 | 0.092 | 1.92 |

(#) = Out of Range ### Number of calibration levels exceeded format ###

Compound List Report GC/MS Ins

Method : C:\HPCHEM\1\METHODS\010313V9.M (RTE Integrator)
Title : MASS APH
Last Update : Fri Jan 04 10:58:14 2013
Response via : Initial Calibration
Total Cpnds : 41

| PK# | | Compound Name | QIon | Exp_RT | Rel_RT | Cal | #Qual | A/H | ID |
|---|---|---|---|---|---|---|---|---|---|
| 1 | L1 | C5-C8 Aliphatic HC | TIC | 6.98 | 1.000 | A | 0 | A | B |
| 2 | L1 | C5-C8 Aliphatic HC {2} | TIC | 9.29 | 1.000 | A | 0 | A | B |
| 3 | L1 | C5-C8 Aliphatic HC {3} | TIC | 10.97 | 1.000 | A | 0 | A | B |
| 4 | L1 | C5-C8 Aliphatic HC {4} | TIC | 11.04 | 1.000 | A | 0 | A | B |
| 5 | L1 | C5-C8 Aliphatic HC {5} | TIC | 11.60 | 1.000 | A | 0 | A | B |
| 6 | L1 | C5-C8 Aliphatic HC {6} | TIC | 13.97 | 1.000 | A | 0 | A | B |
| 7 | L1 | C5-C8 Aliphatic HC - TOTAL | TIC | 6.98 | 1.000 | A | 0 | A | B |
| 8 | L1 | C9-C12 Aliphatic HC | TIC | 15.37 | 1.000 | A | 0 | A | B |
| 9 | L1 | C9-C12 Aliphatic HC {2} | TIC | 16.23 | 1.000 | A | 0 | A | B |
| 10 | L1 | C9-C12 Aliphatic HC {3} | TIC | 18.34 | 1.000 | A | 0 | A | B |
| 11 | L1 | C9-C12 Aliphatic HC {4} | TIC | 19.49 | 1.000 | A | 0 | A | B |
| 12 | L1 | C9-C12 Aliphatic HC {5} | TIC | 20.31 | 1.000 | A | 0 | A | B |
| 13 | L1 | C9-C12 Aliphatic HC {6} | TIC | 22.12 | 1.000 | A | 0 | A | B |
| 14 | L1 | C9-C12 Aliphatic HC - TOTAL | TIC | 15.37 | 1.000 | A | 0 | A | B |
| 15 | L1 | C9-C10 Aromatic HC | 120 | 17.63 | 1.000 | A | 0 | A | B |
| 16 | L1 | C9-C10 Aromatic HC {2} | 120 | 18.43 | 1.000 | A | 0 | A | B |
| 17 | L1 | C9-C10 Aromatic HC {3} | 120 | 18.57 | 1.000 | A | 0 | A | B |
| 18 | L1 | C9-C10 Aromatic HC {4} | 120 | 19.69 | 1.000 | A | 0 | A | B |
| 19 | L1 | C9-C10 Aromatic HC {5} | 120 | 19.94 | 1.000 | A | 0 | A | B |
| 20 | L1 | C9-C10 Aromatic HC {6} | 134 | 19.69 | 1.000 | A | 0 | A | B |
| 21 | L1 | C9-C10 Aromatic HC - TOTAL | TIC | 18.01 | 1.000 | A | 0 | A | B |
| 22 | | C5-C8 Aliphatic | TIC | 6.85 | 1.000 | A | 0 | A | B |
| 23 | L1 | non C5-C8 | TIC | 6.21 | 1.000 | A | 0 | A | B |
| 24 | L1 | non C5-C8 {2} | TIC | 9.01 | 1.000 | A | 0 | A | B |
| 25 | L1 | non C5-C8 {3} | TIC | 10.74 | 1.000 | A | 0 | A | B |
| 26 | L1 | non C5-C8 {4} | TIC | 11.52 | 1.000 | A | 0 | A | B |
| 27 | L1 | non C5-C8 {5} | TIC | 11.96 | 1.000 | A | 0 | A | B |
| 28 | L1 | non C5-C8 {6} | TIC | 14.07 | 1.000 | A | 0 | A | B |
| 29 | L1 | non C5-C8 - TOTAL | TIC | 6.21 | 1.000 | A | 0 | A | B |
| 30 | | C9-C12 Aliphatic | TIC | 16.21 | 1.000 | A | 0 | A | B |
| 31 | L1 | non C9-C12 | TIC | 16.18 | 1.000 | A | 0 | A | B |
| 32 | L1 | non C9-C12 {2} | TIC | 16.28 | 1.000 | A | 0 | A | B |
| 33 | L1 | non C9-C12 {3} | TIC | 16.46 | 1.000 | A | 0 | A | B |
| 34 | L1 | non C9-C12 {4} | TIC | 17.11 | 1.000 | A | 0 | A | B |
| 35 | L1 | non C9-C12 {5} | TIC | 18.01 | 1.000 | A | 0 | A | B |
| 36 | L1 | non C9-C12 - TOTAL | TIC | 16.46 | 1.000 | A | 0 | A | B |
| 37 | L1 | C9-C10 Aromatic | 120 | 17.04 | 1.000 | A | 0 | A | B |
| 38 | L1 | C9-C10 Aromatic {2} | 134 | 17.04 | 1.000 | A | 0 | A | B |
| 39 | L1 | C9-C10 Aromatic - TOTAL | 134 | 17.04 | 1.000 | A | 1 | A | B |
| 40 | I | Chlorobenzene-d5 | 117 | 16.18 | 1.000 | A | 2 | A | B |
| 41 | S | 4-Bromofluorobenzene | 95 | 18.01 | 1.113 | A | 2 | A | B |

Cal A = Average L = Linear LO = Linear w/origin Q = Quad QO = Quad w/origin
#Qual = number of qualifiers
A/H = Area or Height
ID R = R.T. B = R.T. & Q Q = Qvalue L = Largest A = All

010313V9.M Fri Jan 04 12:00:39 2013

# Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\010313B\01031313.D  Vial: 4
Acq On : 4 Jan 2013 7:14 am  Operator: RACHEL HILL
Sample : ICV VOA9 123112  Inst : GC/MS Ins
Misc : ICV MA_APH  Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\HPCHEM\1\METHODS\010313V9.M (RTE Integrator)
Title : MASS APH
Last Update : Fri Jan 04 10:58:14 2013
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 150%

| | | Compound | Amount | Calc. | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|---|
| 1 | L1 | C5-C8 Aliphatic HC | 29.200 | 31.315 | -7.2 | 99 | 0.00 |
| 2 | L1 | C5-C8 Aliphatic HC {2} | 36.400 | 41.377 | -13.7 | 104 | 0.00 |
| 3 | L1 | C5-C8 Aliphatic HC {3} | 41.800 | 47.310 | -13.2 | 104 | 0.00 |
| 4 | L1 | C5-C8 Aliphatic HC {4} | 35.400 | 40.582 | -14.6 | 104 | 0.00 |
| 5 | L1 | C5-C8 Aliphatic HC {5} | 42.200 | 48.095 | -14.0 | 103 | 0.00 |
| 6 | L1 | C5-C8 Aliphatic HC {6} | 49.000 | 56.339 | -15.0 | 103 | 0.00 |
| 7 | L1 | C5-C8 Aliphatic HC - TOTAL | 234.000 | 264.632 | -13.1 | 103 | 0.00 |
| 8 | L1 | C9-C12 Aliphatic HC | 54.600 | 63.630 | -16.5 | 103 | 0.00 |
| 9 | L1 | C9-C12 Aliphatic HC {2} | 54.600 | 59.367 | -8.7 | 107 | 0.00 |
| 10 | L1 | C9-C12 Aliphatic HC {3} | 61.200 | 71.572 | -16.9 | 103 | 0.00 |
| 11 | L1 | C9-C12 Aliphatic HC {4} | 60.800 | 71.986 | -18.4 | 105 | 0.00 |
| 12 | L1 | C9-C12 Aliphatic HC {5} | 70.000 | 84.261 | -20.4 | 106 | 0.00 |
| 13 | L1 | C9-C12 Aliphatic HC {6} | 77.000 | 94.227 | -22.4 | 104 | 0.00 |
| 14 | L1 | C9-C12 Aliphatic HC - TOTAL | 378.000 | 443.860 | -17.4 | 104 | 0.00 |
| 15 | L1 | C9-C10 Aromatic HC | 51.700 | 59.757 | -15.6 | 104 | 0.00 |
| 16 | L1 | C9-C10 Aromatic HC {2} | 51.200 | 58.397 | -14.1 | 101 | 0.00 |
| 17 | L1 | C9-C10 Aromatic HC {3} | 52.200 | 60.464 | -15.8 | 104 | 0.00 |
| 18 | L1 | C9-C10 Aromatic HC {4} | 58.700 | 67.777 | -15.5 | 102 | 0.00 |
| 19 | L1 | C9-C10 Aromatic HC {5} | 52.600 | 60.816 | -15.6 | 103 | 0.00 |
| 20 | L1 | C9-C10 Aromatic HC {6} | 58.700 | 68.812 | -17.2 | 104 | 0.00 |
| 21 | L1 | C9-C10 Aromatic HC - TOTAL | 266.000 | 308.212 | -15.9 | 103 | 0.00 |
| 22 | | C5-C8 Aliphatic | 234.000 | 0.000 | 100.0# | 0 | -6.85# |
| 23 | L1 | non C5-C8 | 22.800 | 0.000 | 100.0# | 0 | -6.21# |
| 24 | L1 | non C5-C8 {2} | 36.800 | 0.000 | 100.0# | 0 | -9.01# |
| 25 | L1 | non C5-C8 {3} | 66.100 | 0.000 | 100.0# | 0 | -10.74# |
| 26 | L1 | non C5-C8 {4} | 32.500 | 0.000 | 100.0# | 0 | -11.52# |
| 27 | L1 | non C5-C8 {5} | 58.400 | 0.000 | 100.0# | 0 | -11.96# |
| 28 | L1 | non C5-C8 {6} | 39.200 | 0.000 | 100.0# | 0 | -14.07# |
| 29 | L1 | non C5-C8 - TOTAL | 256.000 | 0.000 | 100.0# | 0 | -6.21# |
| 30 | | C9-C12 Aliphatic | 378.000 | 0.000 | 100.0# | 0 | -16.21# |
| 31 | L1 | non C9-C12 | 60.100 | 0.000 | 100.0# | 0 | -16.18# |
| 32 | L1 | non C9-C12 {2} | 45.600 | 0.000 | 100.0# | 0 | -16.28# |
| 33 | L1 | non C9-C12 {3} | 46.000 | 0.000 | 100.0# | 0 | -16.46# |
| 34 | L1 | non C9-C12 {4} | 45.100 | 0.000 | 100.0# | 0 | -17.11# |
| 35 | L1 | non C9-C12 {5} | 89.500 | 0.000 | 100.0# | 0 | -18.01# |
| 36 | L1 | non C9-C12 - TOTAL | 340.600 | 0.000 | 100.0# | 0 | -16.46# |
| 37 | L1 | C9-C10 Aromatic | 266.000 | 0.000 | 100.0# | 0 | -17.04# |
| 38 | L1 | C9-C10 Aromatic {2} | 266.000 | 0.000 | 100.0# | 0 | -17.04# |
| 39 | L1 | C9-C10 Aromatic - TOTAL | 266.000 | 0.000 | 100.0# | 0 | -17.04# |
| 40 | I | Chlorobenzene-d5 | 12.500 | 12.500 | 0.0 | 104 | 0.00 |
| 41 | S | 4-Bromofluorobenzene | 89.500 | 86.903 | 2.9 | 103 | 0.00 |

(#) = Out of Range  SPCC's out = 0  CCC's out = 0

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\010313B\01031313.D Vial: 4
Acq On : 4 Jan 2013 7:14 am Operator: RACHEL HILL
Sample : ICV VOA9 123112 Inst : GC/MS Ins
Misc : ICV MA_APH Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jan 4 11:52 2013 Quant Results File: 010313V9.RES

Quant Method : C:\HPCHEM\1\METHODS\010313V9.M (RTE Integrator)
Title : MASS APH
Last Update : Fri Jan 04 10:58:14 2013
Response via : Initial Calibration
DataAcq Meth : 010313V9

| Internal Standards | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 40) Chlorobenzene-d5 | 16.18 | 117 | 800438 | 12.50 | ug/m3 | 0.00 |

System Monitoring Compounds
41) 4-Bromofluorobenzene 18.01 95 512722 86.90 ug/m3 0.00
Spiked Amount 89.500 Range 70 - 130 Recovery = 97.09%

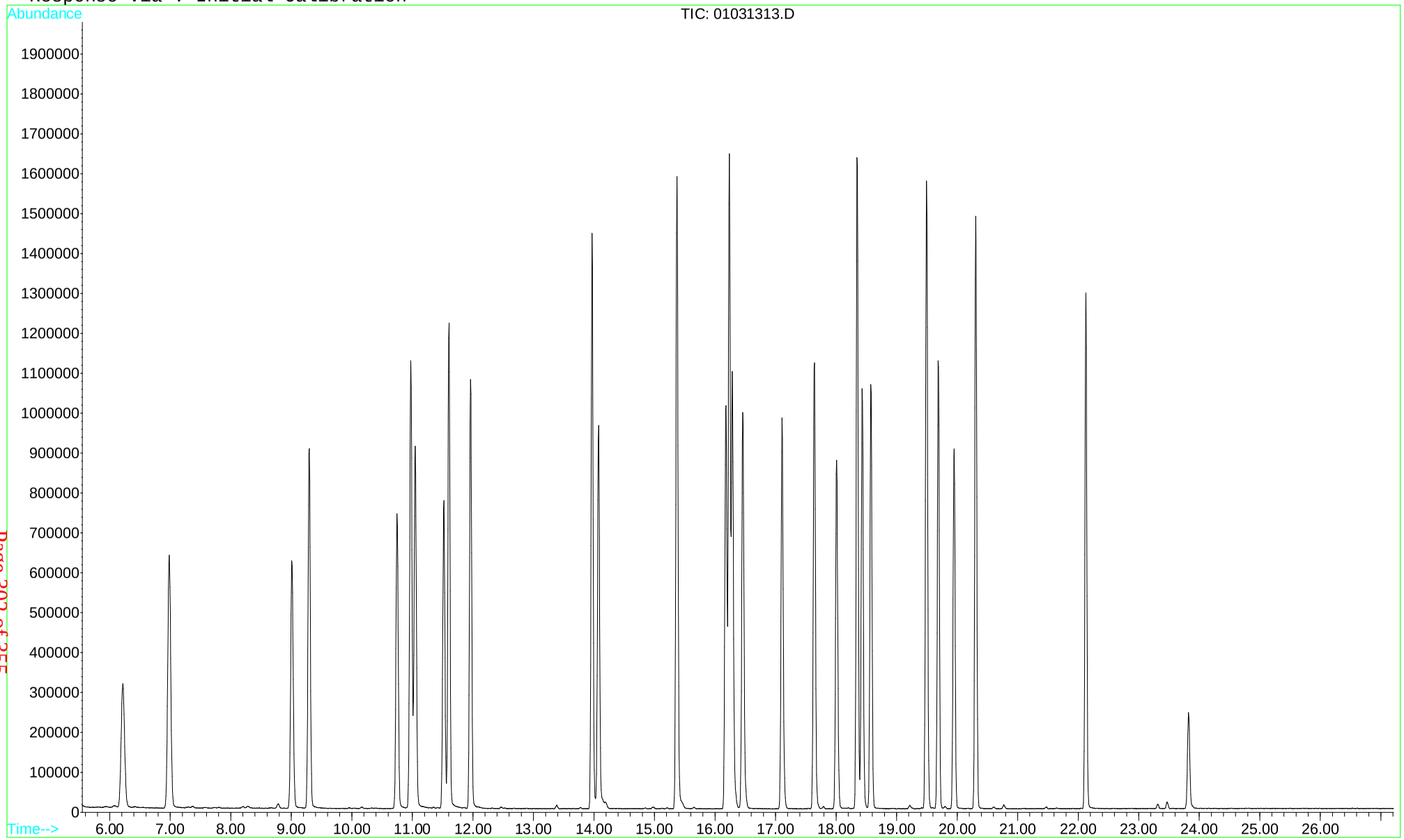
| Target Compounds | | | | | | Qvalue |
|---|---|---|---|---|---|---|
| 1) C5-C8 Aliphatic HC | 6.98 | TIC | 2205175 | 31.32 | ug/m3 | 100 |
| 2) C5-C8 Aliphatic HC {2} | 9.30 | TIC | 2370610 | 41.38 | ug/m3 | 100 |
| 3) C5-C8 Aliphatic HC {3} | 10.97 | TIC | 2975771 | 47.31 | ug/m3 | 100 |
| 4) C5-C8 Aliphatic HC {4} | 11.05 | TIC | 2392824 | 40.58 | ug/m3 | 100 |
| 5) C5-C8 Aliphatic HC {5} | 11.61 | TIC | 2878364 | 48.10 | ug/m3 | 100 |
| 6) C5-C8 Aliphatic HC {6} | 13.97 | TIC | 3249722 | 56.34 | ug/m3 | 100 |
| 7) C5-C8 Aliphatic HC - TOTAL | 6.98 | TIC | 16072466m | 264.63 | ug/m3 | |
| 8) C9-C12 Aliphatic HC | 15.37 | TIC | 3880223 | 63.63 | ug/m3 | 100 |
| 9) C9-C12 Aliphatic HC {2} | 16.24 | TIC | 2303613m | 59.37 | ug/m3 | |
| 10) C9-C12 Aliphatic HC {3} | 18.35 | TIC | 3676401 | 71.57 | ug/m3 | 100 |
| 11) C9-C12 Aliphatic HC {4} | 19.49 | TIC | 3694421 | 71.99 | ug/m3 | 100 |
| 12) C9-C12 Aliphatic HC {5} | 20.31 | TIC | 3308236 | 84.26 | ug/m3 | 100 |
| 13) C9-C12 Aliphatic HC {6} | 22.13 | TIC | 2791257 | 94.23 | ug/m3 | 100 |
| 14) C9-C12 Aliphatic HC - TOTA | 15.37 | TIC | 19654151m | 443.86 | ug/m3 | |
| 15) C9-C10 Aromatic HC | 17.64 | 120 | 293193 | 59.76 | ug/m3 | 100 |
| 16) C9-C10 Aromatic HC {2} | 18.43 | 120 | 297529 | 58.40 | ug/m3 | 100 |
| 17) C9-C10 Aromatic HC {3} | 18.57 | 120 | 442668 | 60.46 | ug/m3 | 100 |
| 18) C9-C10 Aromatic HC {4} | 19.69 | 120 | 95658 | 67.78 | ug/m3 | 100 |
| 19) C9-C10 Aromatic HC {5} | 19.95 | 120 | 333020 | 60.82 | ug/m3 | 100 |
| 20) C9-C10 Aromatic HC {6} | 19.69 | 134 | 260150 | 68.81 | ug/m3 | 100 |
| 21) C9-C10 Aromatic HC - TOTAL | 18.01 | TIC | 1722218m | 308.21 | ug/m3 | |

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\010313B\01031313.D Vial: 4
Acq On : 4 Jan 2013 7:14 am Operator: RACHEL HILL
Sample : ICV VOA9 123112 Inst : GC/MS Ins
Misc : ICV MA_APH Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jan 4 11:52 2013 Quant Results File: 010313V9.RES

Method : C:\HPCHEM\1\METHODS\010313V9.M (RTE Integrator)
Title : MASS APH
Last Update : Fri Jan 04 10:58:14 2013
Response via : Initial Calibration



# Injection Log

Directory: C:\HPCHEM\2\DATA\122612

| Line | Vial | FileName | Multiplier | SampleName | Misc Info | Injected |
|---|---|---|---|---|---|---|
| 1 | 1 | 12261201.d | 1. | MBLK-122612 TCD-A | | 26 Dec 2012 11:00 |
| 2 | 1 | 12261202.d | 1. | CCV-122612 TCD-A | | 26 Dec 2012 11:16 |
| 3 | 1 | 12261203.d | 1. | LCS-122612 TCD | | 26 Dec 2012 11:30 |
| 4 | 1 | 12261204.d | 1. | CRQL-122612 TCD-A | | 26 Dec 2012 11:44 |
| 5 | 1 | 12261205.d | 1. | 1212373-001B | | 26 Dec 2012 12:01 |
| 6 | 1 | 12261206.d | 1. | 1212373-002B | | 26 Dec 2012 12:17 |
| 7 | 1 | 12261207.d | 1. | 1212373-003B | | 26 Dec 2012 12:32 |
| 8 | 1 | 12261208.d | 1. | 1212373-004B | | 26 Dec 2012 12:47 |
| 9 | 1 | 12261209.d | 1. | 1212373-005B | | 26 Dec 2012 13:01 |
| 10 | 1 | 12261210.d | 1. | 1212373-006B | | 26 Dec 2012 13:23 |
| 11 | 1 | 12261211.d | 1. | 1212373-007B | | 26 Dec 2012 14:15 |
| 12 | 1 | 12261212.d | 1. | 1212373-008B | | 26 Dec 2012 14:30 |
| 13 | 1 | 12261213.d | 1. | 1212373-009B | | 26 Dec 2012 14:45 |
| 14 | 1 | 12261214.d | 1. | 1212373-010B | | 26 Dec 2012 15:01 |
| 15 | 1 | 12261215.d | 1. | 1212373-010BDUP | | 26 Dec 2012 15:15 |
| 16 | 1 | 12261216.d | 1. | CCV-122612 TCD-B | | 26 Dec 2012 15:30 |
| 17 | 1 | 12261217.d | 1. | 1212373-011B | | 26 Dec 2012 15:46 |
| 18 | 1 | 12261218.d | 1. | 1212373-012B | | 26 Dec 2012 16:01 |
| 19 | 1 | 12261219.d | 1. | 1212373-013B | | 26 Dec 2012 16:24 |
| 20 | 1 | 12261220.d | 1. | 1212373-014B | | 26 Dec 2012 16:39 |
| 21 | 1 | 12261221.d | 1. | 1212373-015B | | 26 Dec 2012 16:57 |
| 22 | 1 | 12261222.d | 1. | 1212373-016B | | 26 Dec 2012 17:12 |
| 23 | 2 | 12261223.d | 1. | 1212373-017B | | 26 Dec 2012 17:28 |
| 24 | 3 | 12261224.d | 1. | 1212373-018B | | 26 Dec 2012 17:43 |
| 25 | 4 | 12261225.d | 1. | 1212373-018BDUP | | 26 Dec 2012 17:57 |
| 26 | 1 | 12261226.d | 1. | CCV-122612 TCD-C | | 26 Dec 2012 18:12 |
| 27 | 1 | 12261227.d | 1. | CRQL-122612 TCD-B | | 26 Dec 2012 18:29 |

# RTI Laboratories

# ANALYTICAL RUN Summary

*03-Jan-13*

**RunNo** 54890

| Seq No | Sample ID | Test Code | Sample Typ | File ID | Analysis Date | DF | Batch ID | Prep Date | SPKref | RPDref | pmoist |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1081971 | MBLK-122612 TCD-A | ASTM-D2504 | MBLK | ıTA\122612\1226 | 12/26/2012 11:0 | 1 | R54890 | | 0 | 0 | |

| Analyte | T | Units | RAW | Final | Text | Spike | SPKref | RPDref | MDL | PQL | UQL | %REC | LOW | HIGH | %RPD | Q |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Carbon dioxide | A | % v/v | 0 | 0 | | 0 | 0 | 0 | 0.025 | 0.1 | 0 | 0% | 0 | 0 | 0% | U |
| Carbon Monoxide | A | % v/v | 0 | 0 | | 0 | 0 | 0 | 0.025 | 0.1 | 0 | 0% | 0 | 0 | 0% | U |
| Ethane | A | % v/v | | 0 | | 0 | 0 | 0 | 0.025 | 0.5 | 0 | 0% | 0 | 0 | 0% | U |
| Hydrogen | A | % v/v | | 0 | | 0 | 0 | 0 | 0.025 | 0.5 | 0 | 0% | 0 | 0 | 0% | U |
| Methane | A | % v/v | 0 | 0 | | 0 | 0 | 0 | 0.025 | 0.5 | 0 | 0% | 0 | 0 | 0% | U |
| Nitrogen | A | % v/v | 0 | 0 | | 0 | 0 | 0 | 0.025 | 0.1 | 0 | 0% | 0 | 0 | 0% | U |
| Oxygen | A | % v/v | 0 | 0 | | 0 | 0 | 0 | 0.025 | 0.1 | 0 | 0% | 0 | 0 | 0% | U |

| Seq No | Sample ID | Test Code | Sample Typ | File ID | Analysis Date | DF | Batch ID | Prep Date | SPKref | RPDref | pmoist |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1081972 | CCV-122612 TCD-A | ASTM-D2504 | CCV | ıTA\122612\1226 | 12/26/2012 11:1 | 1 | R54890 | | 0 | 0 | |

| Analyte | T | Units | RAW | Final | Text | Spike | SPKref | RPDref | MDL | PQL | UQL | %REC | LOW | HIGH | %RPD | Q |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Carbon dioxide | A | % v/v | 2.504 | 2.504 | | 2.5 | 0 | 0 | 0.025 | 0.1 | 0 | 100% | 85 | 115 | 0% | |
| Carbon Monoxide | A | % v/v | 2.633 | 2.633 | | 2.5 | 0 | 0 | 0.025 | 0.1 | 0 | 105% | 85 | 115 | 0% | |
| Ethane | A | % v/v | | 0 | | 0 | 0 | 0 | 0.025 | 0.5 | 0 | 0% | 85 | 115 | 0% | U |
| Hydrogen | A | % v/v | | 0 | | 0 | 0 | 0 | 0.025 | 0.5 | 0 | 0% | 85 | 115 | 0% | U |
| Methane | A | % v/v | 2.023 | 2.023 | | 2 | 0 | 0 | 0.025 | 0.5 | 0 | 101% | 85 | 115 | 0% | |
| Nitrogen | A | % v/v | 2.668 | 2.668 | | 2.5 | 0 | 0 | 0.025 | 0.1 | 0 | 107% | 85 | 115 | 0% | |
| Oxygen | A | % v/v | 2.55 | 2.55 | | 2.5 | 0 | 0 | 0.025 | 0.1 | 0 | 102% | 85 | 115 | 0% | |

| Seq No | Sample ID | Test Code | Sample Typ | File ID | Analysis Date | DF | Batch ID | Prep Date | SPKref | RPDref | pmoist |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1081973 | LCS-122612 TCD | ASTM-D2504 | LCS | ıTA\122612\1226 | 12/26/2012 11:3 | 1 | R54890 | | 0 | 1E+06 | |

| Analyte | T | Units | RAW | Final | Text | Spike | SPKref | RPDref | MDL | PQL | UQL | %REC | LOW | HIGH | %RPD | Q |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Carbon dioxide | A | % v/v | 2.491 | 2.491 | | 2.5 | 0 | 2.504 | 0.025 | 0.1 | 0 | 100% | 70 | 130 | 1% | |
| Carbon Monoxide | A | % v/v | 2.626 | 2.626 | | 2.5 | 0 | 2.633 | 0.025 | 0.1 | 0 | 105% | 70 | 130 | 0% | |
| Ethane | A | % v/v | | 0 | | 0 | 0 | 0 | 0.025 | 0.5 | 0 | 0% | 70 | 130 | 0% | U |
| Hydrogen | A | % v/v | | 0 | | 0 | 0 | 0 | 0.025 | 0.5 | 0 | 0% | 70 | 130 | 0% | U |

| Seq No | Sample ID | Test Code | Sample Typ | File ID | Analysis Date | DF | Batch ID | Prep Date | SPKref | RPDref | pmoist |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1081986 | CCV-122612 TCD-B | ASTM-D2504 | CCV | ıTA\122612\1226 | 12/26/2012 3:30: | 1 | R54890 | | 0 | 0 | |

| Analyte | T | Units | RAW | Final | Text | Spike | SPKref | RPDref | MDL | PQL | UQL | %REC | LOW | HIGH | %RPD | Q |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Carbon dioxide | A | % v/v | 2.442 | 2.442 | | 2.5 | 0 | 0 | 0.025 | 0.1 | 0 | 98% | 85 | 115 | 0% | |
| Carbon Monoxide | A | % v/v | 2.599 | 2.599 | | 2.5 | 0 | 0 | 0.025 | 0.1 | 0 | 104% | 85 | 115 | 0% | |
| Ethane | A | % v/v | | 0 | | 0 | 0 | 0 | 0.025 | 0.5 | 0 | 0% | 85 | 115 | 0% | U |
| Hydrogen | A | % v/v | | 0 | | 0 | 0 | 0 | 0.025 | 0.5 | 0 | 0% | 85 | 115 | 0% | U |
| Methane | A | % v/v | 1.897 | 1.897 | | 2 | 0 | 0 | 0.025 | 0.5 | 0 | 95% | 85 | 115 | 0% | |
| Nitrogen | A | % v/v | 2.77 | 2.77 | | 2.5 | 0 | 0 | 0.025 | 0.1 | 0 | 111% | 85 | 115 | 0% | |
| Oxygen | A | % v/v | 2.559 | 2.559 | | 2.5 | 0 | 0 | 0.025 | 0.1 | 0 | 102% | 85 | 115 | 0% | |

| Seq No | Sample ID | Test Code | Sample Typ | File ID | Analysis Date | DF | Batch ID | Prep Date | SPKref | RPDref | pmoist |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1081987 | 1212373-011B (Container-01 of 01) | ASTM-D2504 | SAMP | ıTA\122612\1226 | 12/26/2012 3:46: | 1 | R54890 | | 0 | 0 | |

| Analyte | T | Units | RAW | Final | Text | Spike | SPKref | RPDref | MDL | PQL | UQL | %REC | LOW | HIGH | %RPD | Q |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Carbon dioxide | A | % v/v | 1.453 | 1.453 | | 0 | 0 | 0 | 0.025 | 0.1 | 0 | 0% | 0 | 0 | 0% | |
| Carbon Monoxide | A | % v/v | 0 | 0 | | 0 | 0 | 0 | 0.025 | 0.1 | 0 | 0% | 0 | 0 | 0% | U |
| Ethane | A | % v/v | | 0 | | 0 | 0 | 0 | 0.025 | 0.5 | 0 | 0% | 0 | 0 | 0% | U |
| Hydrogen | A | % v/v | | 0 | | 0 | 0 | 0 | 0.025 | 0.5 | 0 | 0% | 0 | 0 | 0% | U |
| Methane | A | % v/v | 0 | 0 | | 0 | 0 | 0 | 0.025 | 0.5 | 0 | 0% | 0 | 0 | 0% | U |
| Nitrogen | A | % v/v | 83.272 | 83.272 | | 0 | 0 | 0 | 0.025 | 0.1 | 0 | 0% | 0 | 0 | 0% | |
| Oxygen | A | % v/v | 14.959 | 14.959 | | 0 | 0 | 0 | 0.025 | 0.1 | 0 | 0% | 0 | 0 | 0% | |

| Seq No | Sample ID | Test Code | Sample Typ | File ID | Analysis Date | DF | Batch ID | Prep Date | SPKref | RPDref | pmoist |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1081988 | 1212373-012B (Container-01 of 01) | ASTM-D2504 | SAMP | ıTA\122612\1226 | 12/26/2012 4:01: | 1 | R54890 | | 0 | 0 | |

| Analyte | T | Units | RAW | Final | Text | Spike | SPKref | RPDref | MDL | PQL | UQL | %REC | LOW | HIGH | %RPD | Q |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Carbon dioxide | A | % v/v | 1.338 | 1.338 | | 0 | 0 | 0 | 0.025 | 0.1 | 0 | 0% | 0 | 0 | 0% | |
| Carbon Monoxide | A | % v/v | 0 | 0 | | 0 | 0 | 0 | 0.025 | 0.1 | 0 | 0% | 0 | 0 | 0% | U |
| Ethane | A | % v/v | | 0 | | 0 | 0 | 0 | 0.025 | 0.5 | 0 | 0% | 0 | 0 | 0% | U |
| Hydrogen | A | % v/v | | 0 | | 0 | 0 | 0 | 0.025 | 0.5 | 0 | 0% | 0 | 0 | 0% | U |
| Methane | A | % v/v | 0 | 0 | | 0 | 0 | 0 | 0.025 | 0.5 | 0 | 0% | 0 | 0 | 0% | U |
| Nitrogen | A | % v/v | 81.033 | 81.033 | | 0 | 0 | 0 | 0.025 | 0.1 | 0 | 0% | 0 | 0 | 0% | |

| Seq No | Sample ID | Test Code | Sample Typ | File ID | Analysis Date | DF | Batch ID | Prep Date | SPKref | RPDref | pmoist |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1081996 | CCV-122612 TCD-C | ASTM-D2504 | CCV | ıTA\122612\1226 | 12/26/2012 6:12: | 1 | R54890 | | 0 | 0 | |

| Analyte | T | Units | RAW | Final | Text | Spike | SPKref | RPDref | MDL | PQL | UQL | %REC | LOW | HIGH | %RPD | Q |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Carbon dioxide | A | % v/v | 2.491 | 2.491 | | 2.5 | 0 | 0 | 0.025 | 0.1 | 0 | 100% | 85 | 115 | 0% | |
| Carbon Monoxide | A | % v/v | 2.617 | 2.617 | | 2.5 | 0 | 0 | 0.025 | 0.1 | 0 | 105% | 85 | 115 | 0% | |
| Ethane | A | % v/v | | 0 | | 0 | 0 | 0 | 0.025 | 0.5 | 0 | 0% | 85 | 115 | 0% | U |
| Hydrogen | A | % v/v | | 0 | | 0 | 0 | 0 | 0.025 | 0.5 | 0 | 0% | 85 | 115 | 0% | U |
| Methane | A | % v/v | 2.011 | 2.011 | | 2 | 0 | 0 | 0.025 | 0.5 | 0 | 101% | 85 | 115 | 0% | |
| Nitrogen | A | % v/v | 2.743 | 2.743 | | 2.5 | 0 | 0 | 0.025 | 0.1 | 0 | 110% | 85 | 115 | 0% | |
| Oxygen | A | % v/v | 2.568 | 2.568 | | 2.5 | 0 | 0 | 0.025 | 0.1 | 0 | 103% | 85 | 115 | 0% | |

| Seq No | Sample ID | Test Code | Sample Typ | File ID | Analysis Date | DF | Batch ID | Prep Date | SPKref | RPDref | pmoist |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1081997 | CRQL-122612 TCD-B | ASTM-D2504 | CRQL | ıTA\122612\1226 | 12/26/2012 6:29: | 1 | R54890 | | 0 | 0 | |

| Analyte | T | Units | RAW | Final | Text | Spike | SPKref | RPDref | MDL | PQL | UQL | %REC | LOW | HIGH | %RPD | Q |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Carbon dioxide | A | % v/v | 0.29 | 0.29 | | 0.3 | 0 | 0 | 0.025 | 0.1 | 0 | 97% | 80 | 120 | 0% | |
| Carbon Monoxide | A | % v/v | 0.139 | 0.139 | | 0.14 | 0 | 0 | 0.025 | 0.1 | 0 | 99% | 80 | 120 | 0% | |
| Ethane | A | % v/v | | 0 | | 0 | 0 | 0 | 0.025 | 0.5 | 0 | 0% | 80 | 120 | 0% | U |
| Hydrogen | A | % v/v | | 0 | | 0 | 0 | 0 | 0.025 | 0.5 | 0 | 0% | 80 | 120 | 0% | U |
| Methane | A | % v/v | 0.083 | 0.083 | | 0.09 | 0 | 0 | 0.025 | 0.5 | 0 | 92% | 80 | 120 | 0% | |
| Nitrogen | A | % v/v | 1.365 | 1.365 | | 1.39 | 0 | 0 | 0.025 | 0.1 | 0 | 98% | 80 | 120 | 0% | |
| Oxygen | A | % v/v | 0.076 | 0.076 | | 0.08 | 0 | 0 | 0.025 | 0.1 | 0 | 95% | 80 | 120 | 0% | |

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\2\DATA\122612\12261202.D Vial: 1
Acq On : 26 Dec 2012 11:16 am Operator:
Sample : CCV-122612 TCD-A Inst : GC/TCD
Misc : Multiplr: 1.00
IntFile : AUTOINT1.E

Method : C:\HPCHEM\2\METHODS\062512.M (Chemstation Integrator)
Title :
Last Update : Thu Oct 04 10:15:53 2012
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 15% Max. Rel. Area : 150%

| | Compound | Amount | Calc. | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|
| 1 | Oxygen | 2.500 | 2.550 | -2.0 | 0 | 0.05 |
| 2 | Nitrogen | 2.500 | 2.668 | -6.7 | 0 | 0.04 |
| 3 | Carbon Monoxide | 2.500 | 2.633 | -5.3 | 0 | 0.06 |
| 4 | Methane | 2.000 | 2.023 | -1.2 | 0 | 0.06 |
| 5 | Carbon dioxide | 2.500 | 2.504 | -0.2 | 0 | 0.08 |

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Evaluate Continuing Calibration Report - Not Founds

```
Data File : C:\HPCHEM\2\DATA\122612\12261202.D          Vial: 1
Acq On    : 26 Dec 2012  11:16 am                   Operator:
Sample    : CCV-122612 TCD-A                        Inst    : GC/TCD
Misc      :                                         Multiplr: 1.00
IntFile   : AUTOINT1.E

Method       : C:\HPCHEM\2\METHODS\062512.M (Chemstation Integrator)
Title        :
Last Update  : Thu Oct 04 10:15:53 2012
Response via : Multiple Level Calibration

Min. RRF     :   0.000  Min. Rel. Area :  50%  Max. R.T. Dev  0.50min
Max. RRF Dev :  15%     Max. Rel. Area : 150%

    Compound                      Amount  Calc.      %Dev  Area% Dev(min)
 ---------------------------------------------------------------------------
```

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\2\DATA\122612\12261202.D Vial: 1
Acq On : 26 Dec 2012 11:16 am Operator:
Sample : CCV-122612 TCD-A Inst : GC/TCD
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Dec 26 16:44 2012 Quant Results File: 062512.RES

Quant Method : C:\HPCHEM\2\METHODS\062512.M (Chemstation Integrator)
Title :
Last Update : Wed Dec 26 11:29:42 2012
Response via : Initial Calibration
DataAcq Meth : TCD.M

Volume Inj. :
Signal Phase :
Signal Info :

| | Compound | R.T. | Response | Conc Units |
|---|---|---|---|---|
| | Target Compounds | | | |
| 1) | Oxygen | 2.15 | 382077 | 2.550 % v/v |
| 2) | Nitrogen | 2.34 | 464106 | 2.668 % v/v |
| 3) | Carbon Monoxide | 3.04f | 428767 | 2.633 % v/v |
| 4) | Methane | 5.66f | 289893 | 2.023 % v/v |
| 5) | Carbon dioxide | 9.26f | 518362 | 2.504 % v/v |

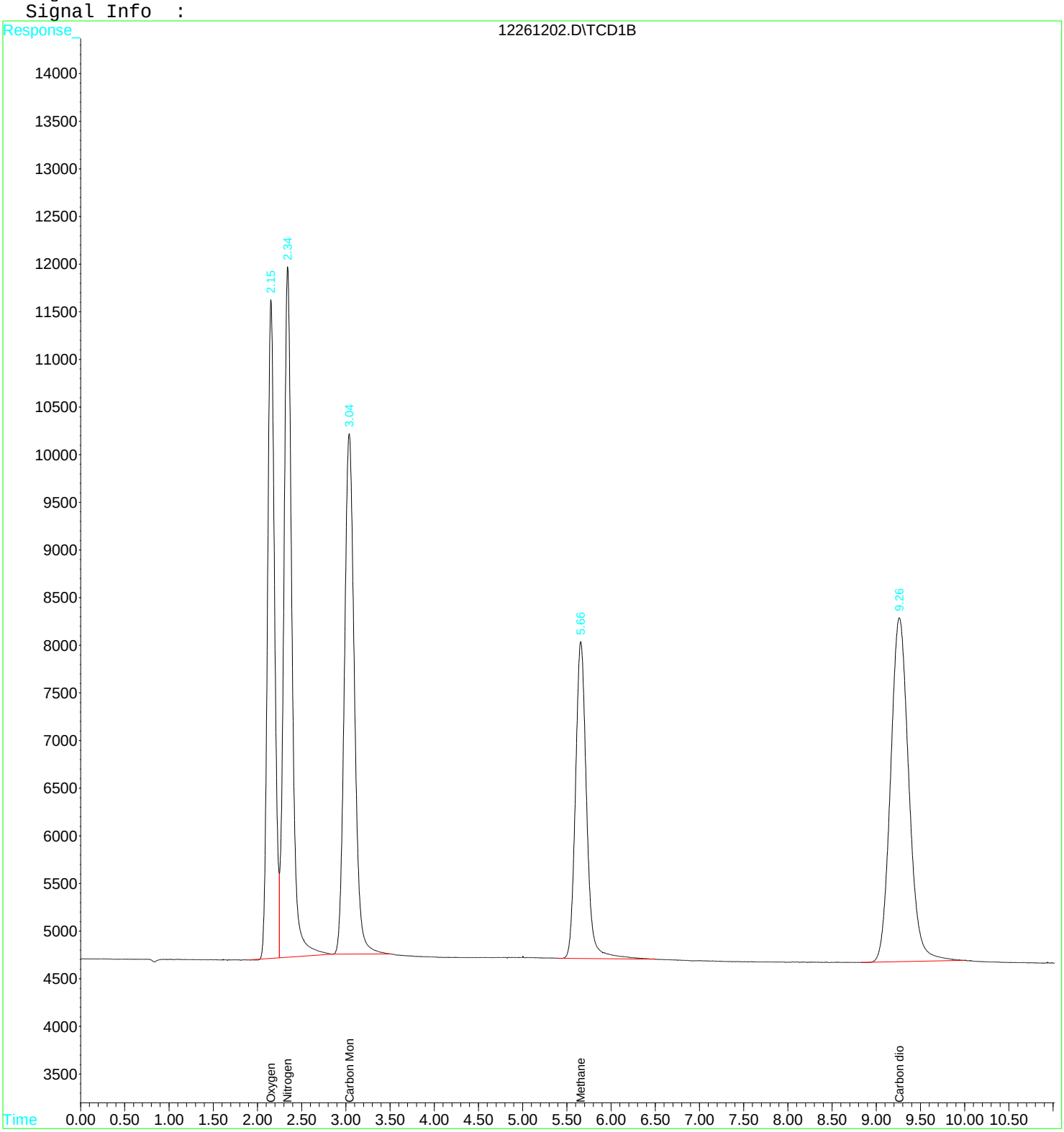
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\2\DATA\122612\12261202.D Vial: 1
Acq On : 26 Dec 2012 11:16 am Operator:
Sample : CCV-122612 TCD-A Inst : GC/TCD
Misc : Multiplr: 1.00
IntFile : AUTOINT1.E
Quant Time: Dec 26 16:44 2012 Quant Results File: 062512.RES

Quant Method : C:\HPCHEM\2\METHODS\062512.M (Chemstation Integrator)
Title :
Last Update : Wed Dec 26 11:29:42 2012
Response via : Multiple Level Calibration
DataAcq Meth : TCD.M

Volume Inj. :
Signal Phase :
Signal Info :



# Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\2\DATA\122612\12261216.D  Vial: 1
Acq On : 26 Dec 2012 3:30 pm  Operator:
Sample : CCV-122612 TCD-B  Inst : GC/TCD
Misc :  Multiplr: 1.00
IntFile : AUTOINT1.E

Method : C:\HPCHEM\2\METHODS\062512.M (Chemstation Integrator)
Title :
Last Update : Thu Oct 04 10:15:53 2012
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 15% Max. Rel. Area : 150%

| | Compound | Amount | Calc. | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|
| 1 | Oxygen | 2.500 | 2.559 | -2.4 | 0 | 0.04 |
| 2 | Nitrogen | 2.500 | 2.770 | -10.8 | 0 | 0.03 |
| 3 | Carbon Monoxide | 2.500 | 2.599 | -4.0 | 0 | 0.05 |
| 4 | Methane | 2.000 | 1.897 | 5.1 | 0 | 0.05 |
| 5 | Carbon dioxide | 2.500 | 2.442 | 2.3 | 0 | 0.08 |

(#) = Out of Range  SPCC's out = 0  CCC's out = 0

Evaluate Continuing Calibration Report - Not Founds

```
Data File : C:\HPCHEM\2\DATA\122612\12261216.D          Vial: 1
Acq On    : 26 Dec 2012   3:30 pm                   Operator:
Sample    : CCV-122612 TCD-B                        Inst    : GC/TCD
Misc      :                                         Multiplr: 1.00
IntFile   : AUTOINT1.E

Method       : C:\HPCHEM\2\METHODS\062512.M (Chemstation Integrator)
Title        :
Last Update  : Thu Oct 04 10:15:53 2012
Response via : Multiple Level Calibration

Min. RRF     :   0.000  Min. Rel. Area :  50%  Max. R.T. Dev  0.50min
Max. RRF Dev :  15%     Max. Rel. Area : 150%

    Compound                      Amount  Calc.      %Dev  Area% Dev(min)
 ---------------------------------------------------------------------------
```

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\2\DATA\122612\12261216.D Vial: 1
Acq On : 26 Dec 2012 3:30 pm Operator:
Sample : CCV-122612 TCD-B Inst : GC/TCD
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Dec 26 15:43 2012 Quant Results File: 062512.RES

Quant Method : C:\HPCHEM\2\METHODS\062512.M (Chemstation Integrator)
Title :
Last Update : Wed Dec 26 11:29:42 2012
Response via : Initial Calibration
DataAcq Meth : TCD.M

Volume Inj. :
Signal Phase :
Signal Info :

| | Compound | R.T. | Response | Conc | Units |
|---|---|---|---|---|---|
| | Target Compounds | | | | |
| 1) | Oxygen | 2.14 | 383481 | 2.559 | % v/v |
| 2) | Nitrogen | 2.33 | 481894 | 2.770 | % v/v |
| 3) | Carbon Monoxide | 3.03 | 423164 | 2.599 | % v/v |
| 4) | Methane | 5.65f | 271817 | 1.897 | % v/v |
| 5) | Carbon dioxide | 9.26f | 505434 | 2.442 | % v/v |

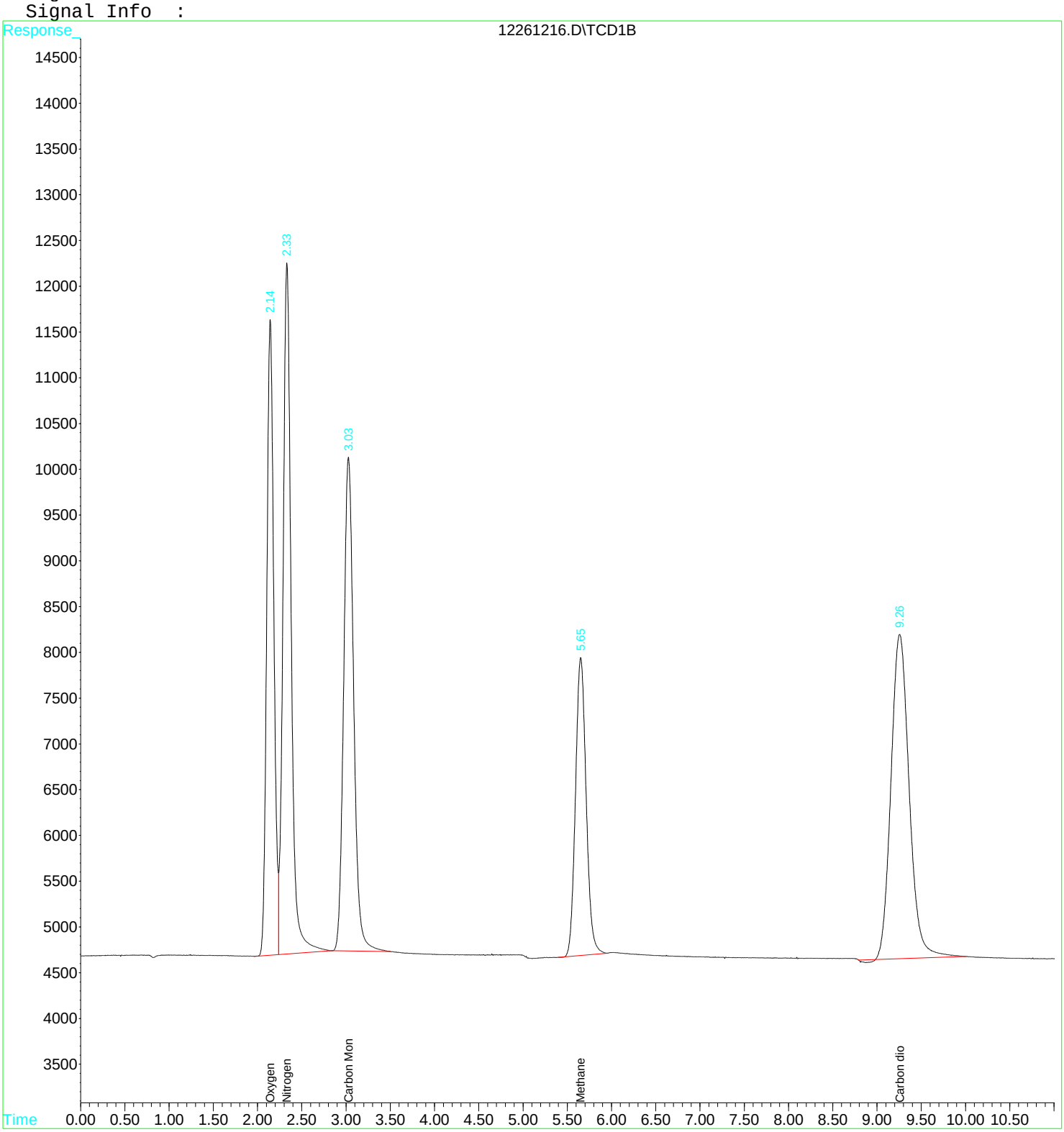
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\2\DATA\122612\12261216.D Vial: 1
Acq On : 26 Dec 2012 3:30 pm Operator:
Sample : CCV-122612 TCD-B Inst : GC/TCD
Misc : Multiplr: 1.00
IntFile : AUTOINT1.E
Quant Time: Dec 26 15:43 2012 Quant Results File: 062512.RES

Quant Method : C:\HPCHEM\2\METHODS\062512.M (Chemstation Integrator)
Title :
Last Update : Wed Dec 26 11:29:42 2012
Response via : Multiple Level Calibration
DataAcq Meth : TCD.M

Volume Inj. :
Signal Phase :
Signal Info :



# Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\2\DATA\122612\12261226.D  Vial: 1
Acq On : 26 Dec 2012 6:12 pm  Operator:
Sample : CCV-122612 TCD-C  Inst : GC/TCD
Misc :  Multiplr: 1.00
IntFile : AUTOINT1.E

Method : C:\HPCHEM\2\METHODS\062512.M (Chemstation Integrator)
Title :
Last Update : Thu Oct 04 10:15:53 2012
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 15% Max. Rel. Area : 150%

| | Compound | Amount | Calc. | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|
| 1 | Oxygen | 2.500 | 2.568 | -2.7 | 0 | 0.05 |
| 2 | Nitrogen | 2.500 | 2.743 | -9.7 | 0 | 0.04 |
| 3 | Carbon Monoxide | 2.500 | 2.617 | -4.7 | 0 | 0.06 |
| 4 | Methane | 2.000 | 2.011 | -0.6 | 0 | 0.06 |
| 5 | Carbon dioxide | 2.500 | 2.491 | 0.4 | 0 | 0.08 |

Evaluate Continuing Calibration Report - Not Founds

```
Data File : C:\HPCHEM\2\DATA\122612\12261226.D          Vial: 1
Acq On    : 26 Dec 2012   6:12 pm                   Operator:
Sample    : CCV-122612 TCD-C                        Inst    : GC/TCD
Misc      :                                         Multiplr: 1.00
IntFile   : AUTOINT1.E

Method       : C:\HPCHEM\2\METHODS\062512.M (Chemstation Integrator)
Title        :
Last Update  : Thu Oct 04 10:15:53 2012
Response via : Multiple Level Calibration

Min. RRF     :   0.000  Min. Rel. Area :  50%  Max. R.T. Dev  0.50min
Max. RRF Dev :  15%     Max. Rel. Area : 150%

    Compound                      Amount  Calc.      %Dev  Area% Dev(min)
 ---------------------------------------------------------------------------
```

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\2\DATA\122612\12261226.D Vial: 1
Acq On : 26 Dec 2012 6:12 pm Operator:
Sample : CCV-122612 TCD-C Inst : GC/TCD
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Dec 26 18:28 2012 Quant Results File: 062512.RES

Quant Method : C:\HPCHEM\2\METHODS\062512.M (Chemstation Integrator)
Title :
Last Update : Wed Dec 26 11:29:42 2012
Response via : Initial Calibration
DataAcq Meth : TCD.M

Volume Inj. :
Signal Phase :
Signal Info :

| | Compound | R.T. | Response | Conc Units |
|---|---|---|---|---|
| | Target Compounds | | | |
| 1) | Oxygen | 2.15 | 384699 | 2.568 % v/v |
| 2) | Nitrogen | 2.34 | 477181 | 2.743 % v/v |
| 3) | Carbon Monoxide | 3.04f | 426153 | 2.617 % v/v |
| 4) | Methane | 5.66f | 288132 | 2.011 % v/v |
| 5) | Carbon dioxide | 9.26f | 515705 | 2.491 % v/v |

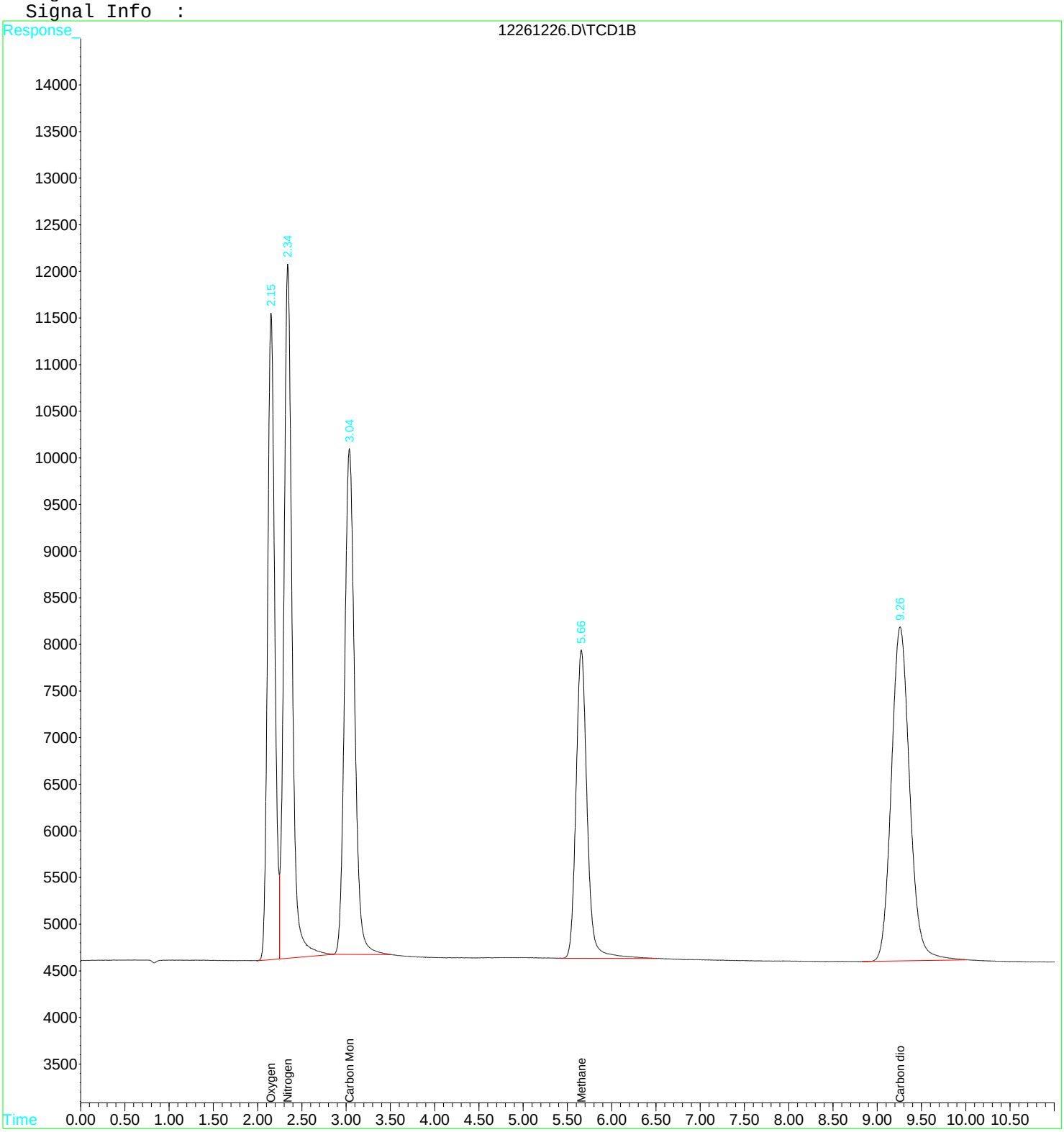
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\2\DATA\122612\12261226.D Vial: 1
Acq On : 26 Dec 2012 6:12 pm Operator:
Sample : CCV-122612 TCD-C Inst : GC/TCD
Misc : Multiplr: 1.00
IntFile : AUTOINT1.E
Quant Time: Dec 26 18:28 2012 Quant Results File: 062512.RES

Quant Method : C:\HPCHEM\2\METHODS\062512.M (Chemstation Integrator)
Title :
Last Update : Wed Dec 26 11:29:42 2012
Response via : Multiple Level Calibration
DataAcq Meth : TCD.M

Volume Inj. :
Signal Phase :
Signal Info :



# Injection Log

Directory: C:\HPCHEM\2\DATA\122812

| Line | Vial | FileName | Multiplier | SampleName | Misc Info | Injected |
|---|---|---|---|---|---|---|
| 1 | 1 | 12281201.d | 1. | MBLK-122812 TCD-A | | 28 Dec 2012 10:29 |
| 2 | 1 | 12281202.d | 1. | CCV-122812 TCD-A | | 28 Dec 2012 11:04 |
| 3 | 2 | 12281203.d | 1. | LCS-122812 TCD | | 28 Dec 2012 11:23 |
| 4 | 1 | 12281204.d | 1. | CRQL-122812 TCD-A | | 28 Dec 2012 11:40 |
| 5 | 2 | 12281205.d | 1. | 1212373-019B | | 28 Dec 2012 12:10 |
| 6 | 1 | 12281206.d | 1. | 1212373-020B | | 28 Dec 2012 12:28 |
| 7 | 1 | 12281207.d | 1. | 1212373-041B | | 28 Dec 2012 12:46 |
| 8 | 1 | 12281208.d | 1. | 1212373-042B | | 28 Dec 2012 13:06 |
| 9 | 1 | 12281209.d | 1. | 1212373-043B | | 28 Dec 2012 13:30 |
| 10 | 1 | 12281210.d | 1. | 1212373-044B | | 28 Dec 2012 13:54 |
| 11 | 1 | 12281211.d | 1. | 1212373-045B | | 28 Dec 2012 14:10 |
| 12 | 1 | 12281212.d | 1. | 1212373-046B | | 28 Dec 2012 14:28 |
| 13 | 1 | 12281213.d | 1. | 1212373-047B | | 28 Dec 2012 14:45 |
| 14 | 1 | 12281214.d | 1. | 1212373-048B | | 28 Dec 2012 14:59 |
| 15 | 1 | 12281215.d | 1. | 1212373-048BDUP | | 28 Dec 2012 15:17 |
| 16 | 1 | 12281216.d | 1. | CCV-122612 TCD-B | | 28 Dec 2012 15:33 |
| 17 | 1 | 12281217.d | 1. | 1212373-021B | | 28 Dec 2012 15:51 |
| 18 | 1 | 12281218.d | 1. | 1212373-022B | | 28 Dec 2012 16:05 |
| 19 | 1 | 12281219.d | 1. | 1212373-023B | | 28 Dec 2012 16:19 |
| 20 | 1 | 12281220.d | 1. | 1212373-024B | | 28 Dec 2012 16:33 |
| 21 | 1 | 12281221.d | 1. | 1212373-025B | | 28 Dec 2012 16:48 |
| 22 | 1 | 12281222.d | 1. | 1212373-026B | | 28 Dec 2012 17:17 |
| 23 | 2 | 12281223.d | 1. | 1212373-027B | | 28 Dec 2012 17:31 |
| 24 | 3 | 12281224.d | 1. | 1212373-028B | | 28 Dec 2012 17:47 |
| 25 | 4 | 12281225.d | 1. | 1212373-029B | | 28 Dec 2012 18:02 |
| 26 | 5 | 12281226.d | 1. | 1212373-030B | | 28 Dec 2012 18:17 |
| 27 | 4 | 12281227.d | 1. | 1212373-030BDUP | | 28 Dec 2012 18:32 |
| 28 | 1 | 12281228.d | 1. | CCV-122612 TCD-C | | 28 Dec 2012 18:46 |
| 29 | 1 | 12281229.d | 1. | CRQL-122612 TCD-B | | 28 Dec 2012 19:00 |

# RTI Laboratories

# ANALYTICAL RUN Summary

*03-Jan-13*

**RunNo** 54981

| Seq No | Sample ID | Test Code | Sample Typ | File ID | Analysis Date | DF | Batch ID | Prep Date | SPKref | RPDref | pmoist |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1083916 | MBLK-122812 TCD-A | ASTM-D2504 | MBLK | ıTA\122812\1228 | 12/28/2012 10:2 | 1 | R54981 | | 0 | 0 | |

| Analyte | T | Units | RAW | Final | Text | Spike | SPKref | RPDref | MDL | PQL | UQL | %REC | LOW | HIGH | %RPD | Q |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Carbon dioxide | A | % v/v | 0 | 0 | | 0 | 0 | 0 | 0.025 | 0.1 | 0 | 0% | 0 | 0 | 0% | U |
| Carbon Monoxide | A | % v/v | 0 | 0 | | 0 | 0 | 0 | 0.025 | 0.1 | 0 | 0% | 0 | 0 | 0% | U |
| Ethane | A | % v/v | | 0 | | 0 | 0 | 0 | 0.025 | 0.5 | 0 | 0% | 0 | 0 | 0% | U |
| Hydrogen | A | % v/v | | 0 | | 0 | 0 | 0 | 0.025 | 0.5 | 0 | 0% | 0 | 0 | 0% | U |
| Methane | A | % v/v | 0 | 0 | | 0 | 0 | 0 | 0.025 | 0.5 | 0 | 0% | 0 | 0 | 0% | U |
| Nitrogen | A | % v/v | 0.032 | 0.032 | | 0 | 0 | 0 | 0.025 | 0.1 | 0 | 0% | 0 | 0 | 0% | J |
| Oxygen | A | % v/v | 0.01 | 0 | | 0 | 0 | 0 | 0.025 | 0.1 | 0 | 0% | 0 | 0 | 0% | U |

| Seq No | Sample ID | Test Code | Sample Typ | File ID | Analysis Date | DF | Batch ID | Prep Date | SPKref | RPDref | pmoist |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1083917 | CCV-122812 TCD-A | ASTM-D2504 | CCV | ıTA\122812\1228 | 12/28/2012 11:0 | 1 | R54981 | | 0 | 0 | |

| Analyte | T | Units | RAW | Final | Text | Spike | SPKref | RPDref | MDL | PQL | UQL | %REC | LOW | HIGH | %RPD | Q |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Carbon dioxide | A | % v/v | 2.584 | 2.584 | | 2.5 | 0 | 0 | 0.025 | 0.1 | 0 | 103% | 85 | 115 | 0% | |
| Carbon Monoxide | A | % v/v | 2.696 | 2.696 | | 2.5 | 0 | 0 | 0.025 | 0.1 | 0 | 108% | 85 | 115 | 0% | |
| Ethane | A | % v/v | | 0 | | 0 | 0 | 0 | 0.025 | 0.5 | 0 | 0% | 85 | 115 | 0% | U |
| Hydrogen | A | % v/v | | 0 | | 0 | 0 | 0 | 0.025 | 0.5 | 0 | 0% | 85 | 115 | 0% | U |
| Methane | A | % v/v | 2.087 | 2.087 | | 2 | 0 | 0 | 0.025 | 0.5 | 0 | 104% | 85 | 115 | 0% | |
| Nitrogen | A | % v/v | 2.781 | 2.781 | | 2.5 | 0 | 0 | 0.025 | 0.1 | 0 | 111% | 85 | 115 | 0% | |
| Oxygen | A | % v/v | 2.69 | 2.69 | | 2.5 | 0 | 0 | 0.025 | 0.1 | 0 | 108% | 85 | 115 | 0% | |

| Seq No | Sample ID | Test Code | Sample Typ | File ID | Analysis Date | DF | Batch ID | Prep Date | SPKref | RPDref | pmoist |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1083918 | LCS-122812 TCD | ASTM-D2504 | LCS | ıTA\122812\1228 | 12/28/2012 11:2 | 1 | R54981 | | 0 | 1E+06 | |

| Analyte | T | Units | RAW | Final | Text | Spike | SPKref | RPDref | MDL | PQL | UQL | %REC | LOW | HIGH | %RPD | Q |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Carbon dioxide | A | % v/v | 2.595 | 2.595 | | 2.5 | 0 | 2.584 | 0.025 | 0.1 | 0 | 104% | 70 | 130 | 0% | |
| Carbon Monoxide | A | % v/v | 2.729 | 2.729 | | 2.5 | 0 | 2.696 | 0.025 | 0.1 | 0 | 109% | 70 | 130 | 1% | |
| Ethane | A | % v/v | | 0 | | 0 | 0 | 0 | 0.025 | 0.5 | 0 | 0% | 70 | 130 | 0% | U |
| Hydrogen | A | % v/v | | 0 | | 0 | 0 | 0 | 0.025 | 0.5 | 0 | 0% | 70 | 130 | 0% | U |

| Seq No | Sample ID | Test Code | Sample Typ | File ID | Analysis Date | DF | Batch ID | Prep Date | SPKref | RPDref | pmoist |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1083931 | CCV-122612 TCD-B | ASTM-D2504 | CCV | ıTA\122812\1228 | 12/28/2012 3:33: | 1 | R54981 | | 0 | 0 | |

| Analyte | T | Units | RAW | Final | Text | Spike | SPKref | RPDref | MDL | PQL | UQL | %REC | LOW | HIGH | %RPD | Q |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Carbon dioxide | A | % v/v | 2.577 | 2.577 | | 2.5 | 0 | 0 | 0.025 | 0.1 | 0 | 103% | 85 | 115 | 0% | |
| Carbon Monoxide | A | % v/v | 2.67 | 2.67 | | 2.5 | 0 | 0 | 0.025 | 0.1 | 0 | 107% | 85 | 115 | 0% | |
| Ethane | A | % v/v | | 0 | | 0 | 0 | 0 | 0.025 | 0.5 | 0 | 0% | 85 | 115 | 0% | U |
| Hydrogen | A | % v/v | | 0 | | 0 | 0 | 0 | 0.025 | 0.5 | 0 | 0% | 85 | 115 | 0% | U |
| Methane | A | % v/v | 2.02 | 2.02 | | 2 | 0 | 0 | 0.025 | 0.5 | 0 | 101% | 85 | 115 | 0% | |
| Nitrogen | A | % v/v | 2.77 | 2.77 | | 2.5 | 0 | 0 | 0.025 | 0.1 | 0 | 111% | 85 | 115 | 0% | |
| Oxygen | A | % v/v | 2.708 | 2.708 | | 2.5 | 0 | 0 | 0.025 | 0.1 | 0 | 108% | 85 | 115 | 0% | |

| Seq No | Sample ID | Test Code | Sample Typ | File ID | Analysis Date | DF | Batch ID | Prep Date | SPKref | RPDref | pmoist |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1083932 | 1212373-021B (Container-01 of 01) | ASTM-D2504 | SAMP | ıTA\122812\1228 | 12/28/2012 3:51: | 1 | R54981 | | 0 | 0 | |

| Analyte | T | Units | RAW | Final | Text | Spike | SPKref | RPDref | MDL | PQL | UQL | %REC | LOW | HIGH | %RPD | Q |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Carbon dioxide | A | % v/v | 0.433 | 0.433 | | 0 | 0 | 0 | 0.025 | 0.1 | 0 | 0% | 0 | 0 | 0% | |
| Carbon Monoxide | A | % v/v | 0 | 0 | | 0 | 0 | 0 | 0.025 | 0.1 | 0 | 0% | 0 | 0 | 0% | U |
| Ethane | A | % v/v | | 0 | | 0 | 0 | 0 | 0.025 | 0.5 | 0 | 0% | 0 | 0 | 0% | U |
| Hydrogen | A | % v/v | | 0 | | 0 | 0 | 0 | 0.025 | 0.5 | 0 | 0% | 0 | 0 | 0% | U |
| Methane | A | % v/v | 0 | 0 | | 0 | 0 | 0 | 0.025 | 0.5 | 0 | 0% | 0 | 0 | 0% | U |
| Nitrogen | A | % v/v | 84.258 | 84.258 | | 0 | 0 | 0 | 0.025 | 0.1 | 0 | 0% | 0 | 0 | 0% | |
| Oxygen | A | % v/v | 19.643 | 19.643 | | 0 | 0 | 0 | 0.025 | 0.1 | 0 | 0% | 0 | 0 | 0% | |

| Seq No | Sample ID | Test Code | Sample Typ | File ID | Analysis Date | DF | Batch ID | Prep Date | SPKref | RPDref | pmoist |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1083933 | 1212373-022B (Container-01 of 01) | ASTM-D2504 | SAMP | ıTA\122812\1228 | 12/28/2012 4:05: | 1 | R54981 | | 0 | 0 | |

| Analyte | T | Units | RAW | Final | Text | Spike | SPKref | RPDref | MDL | PQL | UQL | %REC | LOW | HIGH | %RPD | Q |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Carbon dioxide | A | % v/v | 1.101 | 1.101 | | 0 | 0 | 0 | 0.025 | 0.1 | 0 | 0% | 0 | 0 | 0% | |
| Carbon Monoxide | A | % v/v | 0 | 0 | | 0 | 0 | 0 | 0.025 | 0.1 | 0 | 0% | 0 | 0 | 0% | U |
| Ethane | A | % v/v | | 0 | | 0 | 0 | 0 | 0.025 | 0.5 | 0 | 0% | 0 | 0 | 0% | U |
| Hydrogen | A | % v/v | | 0 | | 0 | 0 | 0 | 0.025 | 0.5 | 0 | 0% | 0 | 0 | 0% | U |
| Methane | A | % v/v | 0 | 0 | | 0 | 0 | 0 | 0.025 | 0.5 | 0 | 0% | 0 | 0 | 0% | U |
| Nitrogen | A | % v/v | 81.696 | 81.696 | | 0 | 0 | 0 | 0.025 | 0.1 | 0 | 0% | 0 | 0 | 0% | |

| Seq No | Sample ID | Test Code | Sample Typ | File ID | Analysis Date | DF | Batch ID | Prep Date | SPKref | RPDref | pmoist |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1083944 | 1212373-030B (Container-01 of 01) | ASTM-D2504 | SAMP | ıTA\122812\1228 | 12/28/2012 6:17: | 1 | R54981 | | 0 | 0 | |

| Analyte | T | Units | RAW | Final | Text | Spike | SPKref | RPDref | MDL | PQL | UQL | %REC | LOW | HIGH | %RPD | Q |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Carbon dioxide | A | % v/v | 0.549 | 0.549 | | 0 | 0 | 0 | 0.025 | 0.1 | 0 | 0% | 0 | 0 | 0% | |
| Carbon Monoxide | A | % v/v | 0 | 0 | | 0 | 0 | 0 | 0.025 | 0.1 | 0 | 0% | 0 | 0 | 0% | U |
| Ethane | A | % v/v | | 0 | | 0 | 0 | 0 | 0.025 | 0.5 | 0 | 0% | 0 | 0 | 0% | U |
| Hydrogen | A | % v/v | | 0 | | 0 | 0 | 0 | 0.025 | 0.5 | 0 | 0% | 0 | 0 | 0% | U |
| Methane | A | % v/v | 0 | 0 | | 0 | 0 | 0 | 0.025 | 0.5 | 0 | 0% | 0 | 0 | 0% | U |
| Nitrogen | A | % v/v | 82.132 | 82.132 | | 0 | 0 | 0 | 0.025 | 0.1 | 0 | 0% | 0 | 0 | 0% | |
| Oxygen | A | % v/v | 21.353 | 21.353 | | 0 | 0 | 0 | 0.025 | 0.1 | 0 | 0% | 0 | 0 | 0% | |

| Seq No | Sample ID | Test Code | Sample Typ | File ID | Analysis Date | DF | Batch ID | Prep Date | SPKref | RPDref | pmoist |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1083945 | 1212373-030BDUP | ASTM-D2504 | DUP | ıTA\122812\1228 | 12/28/2012 6:32: | 1 | R54981 | | 0 | 1E+06 | |

| Analyte | T | Units | RAW | Final | Text | Spike | SPKref | RPDref | MDL | PQL | UQL | %REC | LOW | HIGH | %RPD | Q |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Carbon dioxide | A | % v/v | 0.551 | 0.551 | | 0 | 0 | 0.549 | 0.025 | 0.1 | 0 | 0% | 0 | 0 | 0% | |
| Carbon Monoxide | A | % v/v | 0 | 0 | | 0 | 0 | 0 | 0.025 | 0.1 | 0 | 0% | 0 | 0 | 0% | U |
| Ethane | A | % v/v | | 0 | | 0 | 0 | 0 | 0.025 | 0.5 | 0 | 0% | 0 | 0 | 0% | U |
| Hydrogen | A | % v/v | | 0 | | 0 | 0 | 0 | 0.025 | 0.5 | 0 | 0% | 0 | 0 | 0% | U |
| Methane | A | % v/v | 0 | 0 | | 0 | 0 | 0 | 0.025 | 0.5 | 0 | 0% | 0 | 0 | 0% | U |
| Nitrogen | A | % v/v | 82.045 | 82.045 | | 0 | 0 | 82.132 | 0.025 | 0.1 | 0 | 0% | 0 | 0 | 0% | |
| Oxygen | A | % v/v | 21.352 | 21.352 | | 0 | 0 | 21.353 | 0.025 | 0.1 | 0 | 0% | 0 | 0 | 0% | |

| Seq No | Sample ID | Test Code | Sample Typ | File ID | Analysis Date | DF | Batch ID | Prep Date | SPKref | RPDref | pmoist |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1083946 | CCV-122612 TCD-C | ASTM-D2504 | CCV | ıTA\122812\1228 | 12/28/2012 6:46: | 1 | R54981 | | 0 | 0 | |

| Analyte | T | Units | RAW | Final | Text | Spike | SPKref | RPDref | MDL | PQL | UQL | %REC | LOW | HIGH | %RPD | Q |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Carbon dioxide | A | % v/v | 2.572 | 2.572 | | 2.5 | 0 | 0 | 0.025 | 0.1 | 0 | 103% | 85 | 115 | 0% | |
| Carbon Monoxide | A | % v/v | 2.671 | 2.671 | | 2.5 | 0 | 0 | 0.025 | 0.1 | 0 | 107% | 85 | 115 | 0% | |
| Ethane | A | % v/v | | 0 | | 0 | 0 | 0 | 0.025 | 0.5 | 0 | 0% | 85 | 115 | 0% | U |
| Hydrogen | A | % v/v | | 0 | | 0 | 0 | 0 | 0.025 | 0.5 | 0 | 0% | 85 | 115 | 0% | U |
| Methane | A | % v/v | 2.073 | 2.073 | | 2 | 0 | 0 | 0.025 | 0.5 | 0 | 104% | 85 | 115 | 0% | |
| Nitrogen | A | % v/v | 2.726 | 2.726 | | 2.5 | 0 | 0 | 0.025 | 0.1 | 0 | 109% | 85 | 115 | 0% | |
| Oxygen | A | % v/v | 2.655 | 2.655 | | 2.5 | 0 | 0 | 0.025 | 0.1 | 0 | 106% | 85 | 115 | 0% | |

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\2\DATA\122812\12281202.D  Vial: 1
Acq On : 28 Dec 2012 11:04 am  Operator:
Sample : CCV-122812 TCD-A  Inst : GC/TCD
Misc :  Multiplr: 1.00
IntFile : AUTOINT1.E

Method : C:\HPCHEM\2\METHODS\062512.M (Chemstation Integrator)
Title :
Last Update : Thu Oct 04 10:15:53 2012
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 15% Max. Rel. Area : 150%

| | Compound | Amount | Calc. | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|
| 1 | Oxygen | 2.500 | 2.690 | -7.6 | 0 | 0.05 |
| 2 | Nitrogen | 2.500 | 2.781 | -11.2 | 0 | 0.04 |
| 3 | Carbon Monoxide | 2.500 | 2.696 | -7.8 | 0 | 0.05 |
| 4 | Methane | 2.000 | 2.087 | -4.4 | 0 | 0.05 |
| 5 | Carbon dioxide | 2.500 | 2.584 | -3.4 | 0 | 0.06 |

Evaluate Continuing Calibration Report - Not Founds

```
Data File : C:\HPCHEM\2\DATA\122812\12281202.D          Vial: 1
Acq On    : 28 Dec 2012  11:04 am                   Operator:
Sample    : CCV-122812 TCD-A                        Inst    : GC/TCD
Misc      :                                         Multiplr: 1.00
IntFile   : AUTOINT1.E

Method       : C:\HPCHEM\2\METHODS\062512.M (Chemstation Integrator)
Title        :
Last Update  : Thu Oct 04 10:15:53 2012
Response via : Multiple Level Calibration

Min. RRF     :   0.000  Min. Rel. Area :  50%  Max. R.T. Dev  0.50min
Max. RRF Dev :  15%     Max. Rel. Area : 150%

    Compound                      Amount  Calc.      %Dev  Area% Dev(min)
 ---------------------------------------------------------------------------
```

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\2\DATA\122812\12281202.D Vial: 1
Acq On : 28 Dec 2012 11:04 am Operator:
Sample : CCV-122812 TCD-A Inst : GC/TCD
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Dec 28 11:23 2012 Quant Results File: 122712.RES

Quant Method : C:\HPCHEM\2\METHODS\122712.M (Chemstation Integrator)
Title :
Last Update : Thu Dec 27 18:13:53 2012
Response via : Initial Calibration
DataAcq Meth : TCD.M

Volume Inj. :
Signal Phase :
Signal Info :

| | Compound | R.T. | Response | Conc Units |
|---|---|---|---|---|
| | Target Compounds | | | |
| 1) | Oxygen | 2.15 | 386743 | 2.690 % v/v |
| 2) | Nitrogen | 2.34 | 472003 | 2.781 % v/v |
| 3) | Carbon Monoxide | 3.03f | 433726 | 2.696 % v/v |
| 4) | Methane | 5.65 | 292282 | 2.087 % v/v |
| 5) | Carbon dioxide | 9.24f | 522991 | 2.584 % v/v |

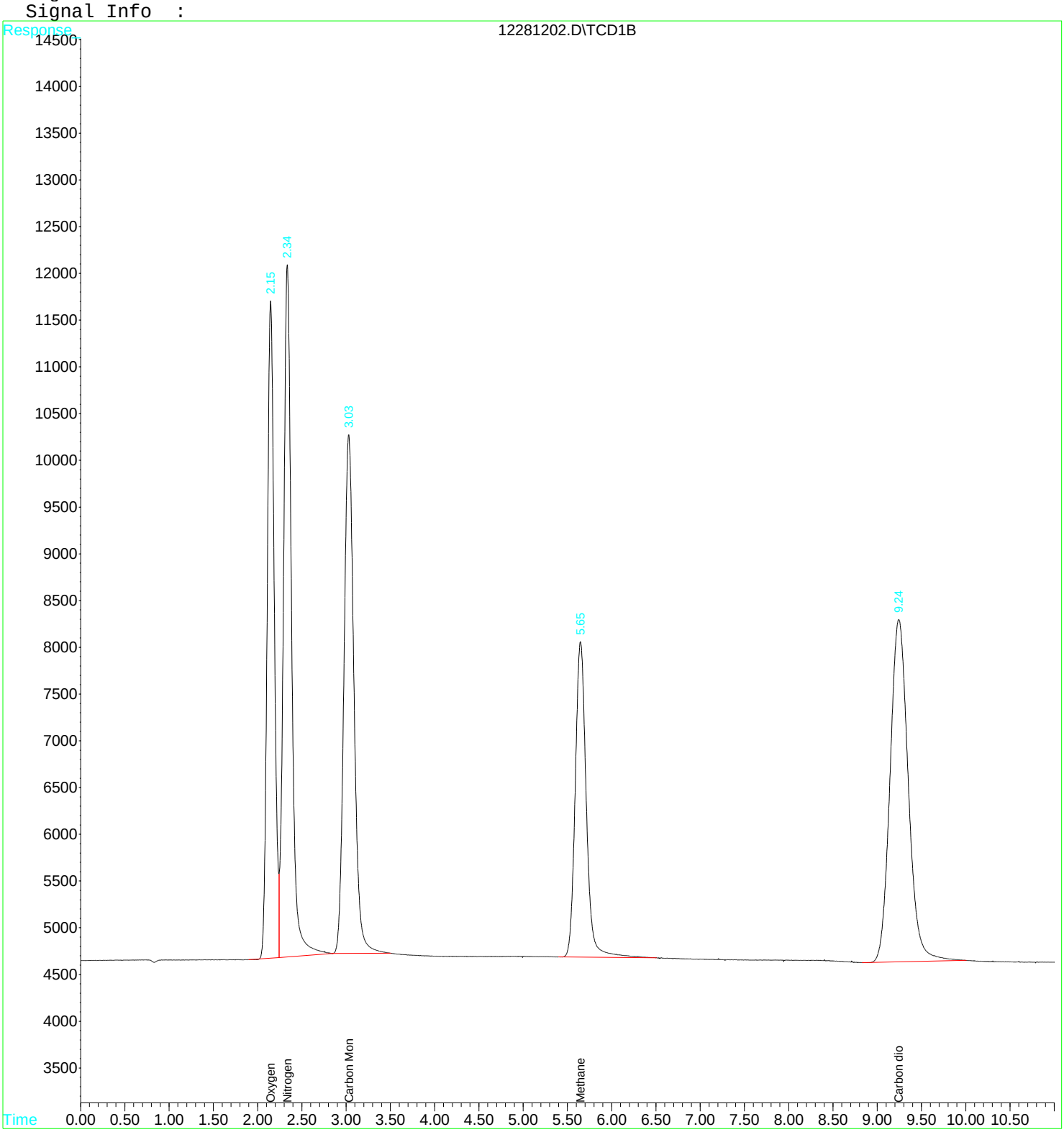
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\2\DATA\122812\12281202.D Vial: 1
Acq On : 28 Dec 2012 11:04 am Operator:
Sample : CCV-122812 TCD-A Inst : GC/TCD
Misc : Multiplr: 1.00
IntFile : AUTOINT1.E
Quant Time: Dec 28 11:23 2012 Quant Results File: 122712.RES

Quant Method : C:\HPCHEM\2\METHODS\122712.M (Chemstation Integrator)
Title :
Last Update : Thu Dec 27 18:13:53 2012
Response via : Multiple Level Calibration
DataAcq Meth : TCD.M

Volume Inj. :
Signal Phase :
Signal Info :



Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\2\DATA\122812\12281216.D Vial: 1
Acq On : 28 Dec 2012 3:33 pm Operator:
Sample : CCV-122612 TCD-B Inst : GC/TCD
Misc : Multiplr: 1.00
IntFile : AUTOINT1.E

Method : C:\HPCHEM\2\METHODS\062512.M (Chemstation Integrator)
Title :
Last Update : Thu Oct 04 10:15:53 2012
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 15% Max. Rel. Area : 150%

| | Compound | Amount | Calc. | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|
| 1 | Oxygen | 2.500 | 2.708 | -8.3 | 0 | 0.04 |
| 2 | Nitrogen | 2.500 | 2.770 | -10.8 | 0 | 0.03 |
| 3 | Carbon Monoxide | 2.500 | 2.670 | -6.8 | 0 | 0.04 |
| 4 | Methane | 2.000 | 2.020 | -1.0 | 0 | 0.05 |
| 5 | Carbon dioxide | 2.500 | 2.577 | -3.1 | 0 | 0.06 |

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Evaluate Continuing Calibration Report - Not Founds

```
Data File : C:\HPCHEM\2\DATA\122812\12281216.D          Vial: 1
Acq On    : 28 Dec 2012   3:33 pm                   Operator:
Sample    : CCV-122612 TCD-B                        Inst    : GC/TCD
Misc      :                                         Multiplr: 1.00
IntFile   : AUTOINT1.E

Method       : C:\HPCHEM\2\METHODS\062512.M (Chemstation Integrator)
Title        :
Last Update  : Thu Oct 04 10:15:53 2012
Response via : Multiple Level Calibration

Min. RRF     :   0.000  Min. Rel. Area :  50%  Max. R.T. Dev  0.50min
Max. RRF Dev :  15%     Max. Rel. Area : 150%

    Compound                      Amount  Calc.      %Dev  Area% Dev(min)
 ---------------------------------------------------------------------------
```

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\2\DATA\122812\12281216.D Vial: 1
Acq On : 28 Dec 2012 3:33 pm Operator:
Sample : CCV-122612 TCD-B Inst : GC/TCD
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Dec 28 15:49 2012 Quant Results File: 122712.RES

Quant Method : C:\HPCHEM\2\METHODS\122712.M (Chemstation Integrator)
Title :
Last Update : Thu Dec 27 18:13:53 2012
Response via : Initial Calibration
DataAcq Meth : TCD.M

Volume Inj. :
Signal Phase :
Signal Info :

| | Compound | R.T. | Response | Conc Units |
|---|---|---|---|---|
| | Target Compounds | | | |
| 1) | Oxygen | 2.14 | 389318 | 2.708 % v/v |
| 2) | Nitrogen | 2.33 | 470051 | 2.770 % v/v |
| 3) | Carbon Monoxide | 3.02 | 429632 | 2.670 % v/v |
| 4) | Methane | 5.65 | 282951 | 2.020 % v/v |
| 5) | Carbon dioxide | 9.24f | 521685 | 2.577 % v/v |

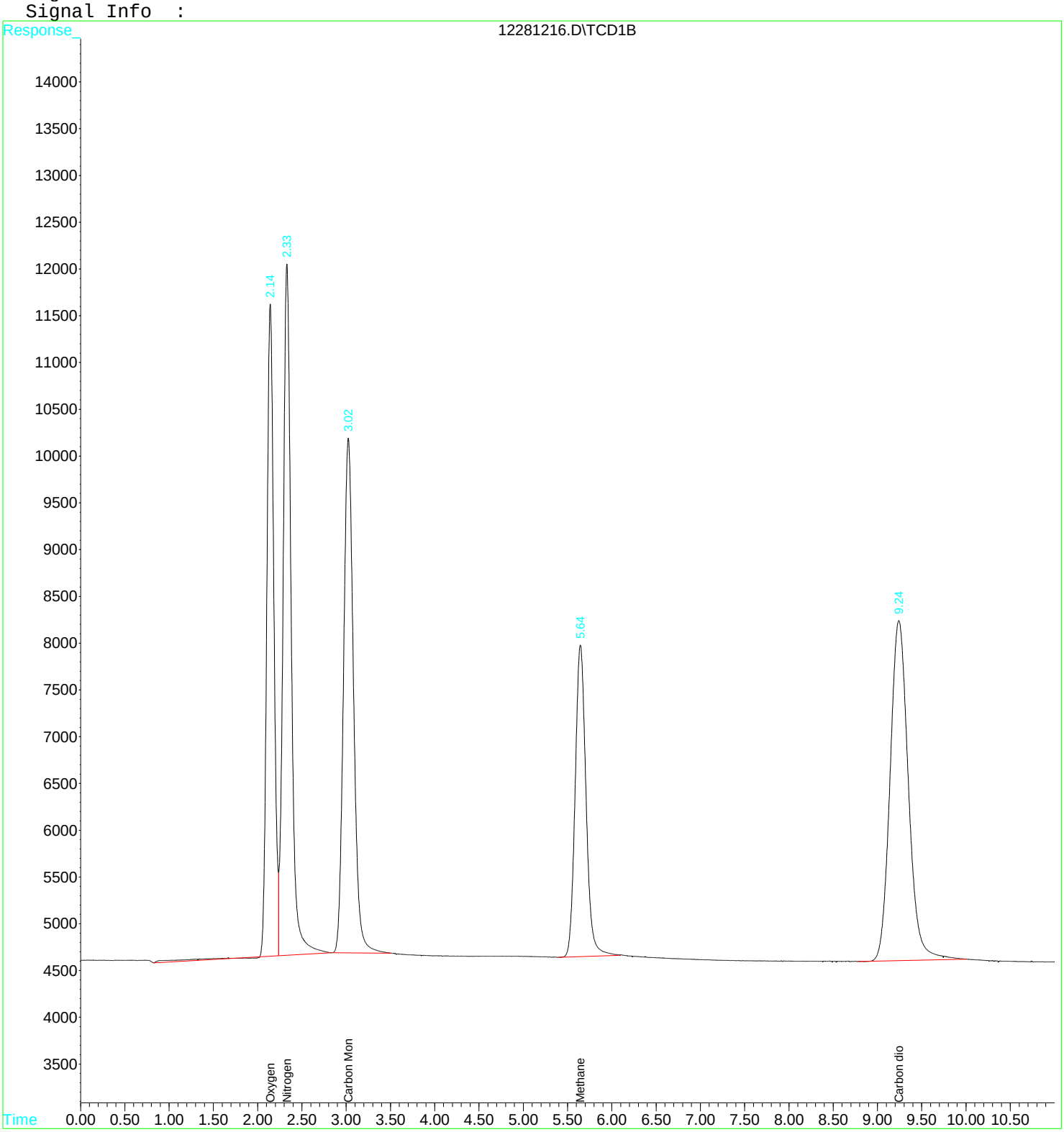
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\2\DATA\122812\12281216.D Vial: 1
Acq On : 28 Dec 2012 3:33 pm Operator:
Sample : CCV-122612 TCD-B Inst : GC/TCD
Misc : Multiplr: 1.00
IntFile : AUTOINT1.E
Quant Time: Dec 28 15:49 2012 Quant Results File: 122712.RES

Quant Method : C:\HPCHEM\2\METHODS\122712.M (Chemstation Integrator)
Title :
Last Update : Thu Dec 27 18:13:53 2012
Response via : Multiple Level Calibration
DataAcq Meth : TCD.M

Volume Inj. :
Signal Phase :
Signal Info :



# Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\2\DATA\122812\12281228.D  Vial: 1
Acq On : 28 Dec 2012 6:46 pm  Operator:
Sample : CCV-122612 TCD-C  Inst : GC/TCD
Misc :  Multiplr: 1.00
IntFile : AUTOINT1.E

Method : C:\HPCHEM\2\METHODS\062512.M (Chemstation Integrator)
Title :
Last Update : Thu Oct 04 10:15:53 2012
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 15% Max. Rel. Area : 150%

| | Compound | Amount | Calc. | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|
| 1 | Oxygen | 2.500 | 2.655 | -6.2 | 0 | 0.04 |
| 2 | Nitrogen | 2.500 | 2.726 | -9.0 | 0 | 0.03 |
| 3 | Carbon Monoxide | 2.500 | 2.671 | -6.8 | 0 | 0.05 |
| 4 | Methane | 2.000 | 2.073 | -3.6 | 0 | 0.05 |
| 5 | Carbon dioxide | 2.500 | 2.572 | -2.9 | 0 | 0.06 |

Evaluate Continuing Calibration Report - Not Founds

```
Data File : C:\HPCHEM\2\DATA\122812\12281228.D          Vial: 1
Acq On    : 28 Dec 2012   6:46 pm                   Operator:
Sample    : CCV-122612 TCD-C                        Inst    : GC/TCD
Misc      :                                         Multiplr: 1.00
IntFile   : AUTOINT1.E

Method       : C:\HPCHEM\2\METHODS\062512.M (Chemstation Integrator)
Title        :
Last Update  : Thu Oct 04 10:15:53 2012
Response via : Multiple Level Calibration

Min. RRF     :   0.000  Min. Rel. Area :  50%  Max. R.T. Dev  0.50min
Max. RRF Dev :  15%     Max. Rel. Area : 150%

    Compound                      Amount  Calc.      %Dev  Area% Dev(min)
 ---------------------------------------------------------------------------
```

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\2\DATA\122812\12281228.D Vial: 1
Acq On : 28 Dec 2012 6:46 pm Operator:
Sample : CCV-122612 TCD-C Inst : GC/TCD
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Dec 28 18:58 2012 Quant Results File: 122712.RES

Quant Method : C:\HPCHEM\2\METHODS\122712.M (Chemstation Integrator)
Title :
Last Update : Thu Dec 27 18:13:53 2012
Response via : Initial Calibration
DataAcq Meth : TCD.M

Volume Inj. :
Signal Phase :
Signal Info :

| | Compound | R.T. | Response | Conc Units |
|---|---|---|---|---|
| | Target Compounds | | | |
| 1) | Oxygen | 2.14 | 381640 | 2.655 % v/v |
| 2) | Nitrogen | 2.33 | 462694 | 2.726 % v/v |
| 3) | Carbon Monoxide | 3.03 | 429754 | 2.671 % v/v |
| 4) | Methane | 5.65 | 290312 | 2.073 % v/v |
| 5) | Carbon dioxide | 9.24f | 520693 | 2.572 % v/v |

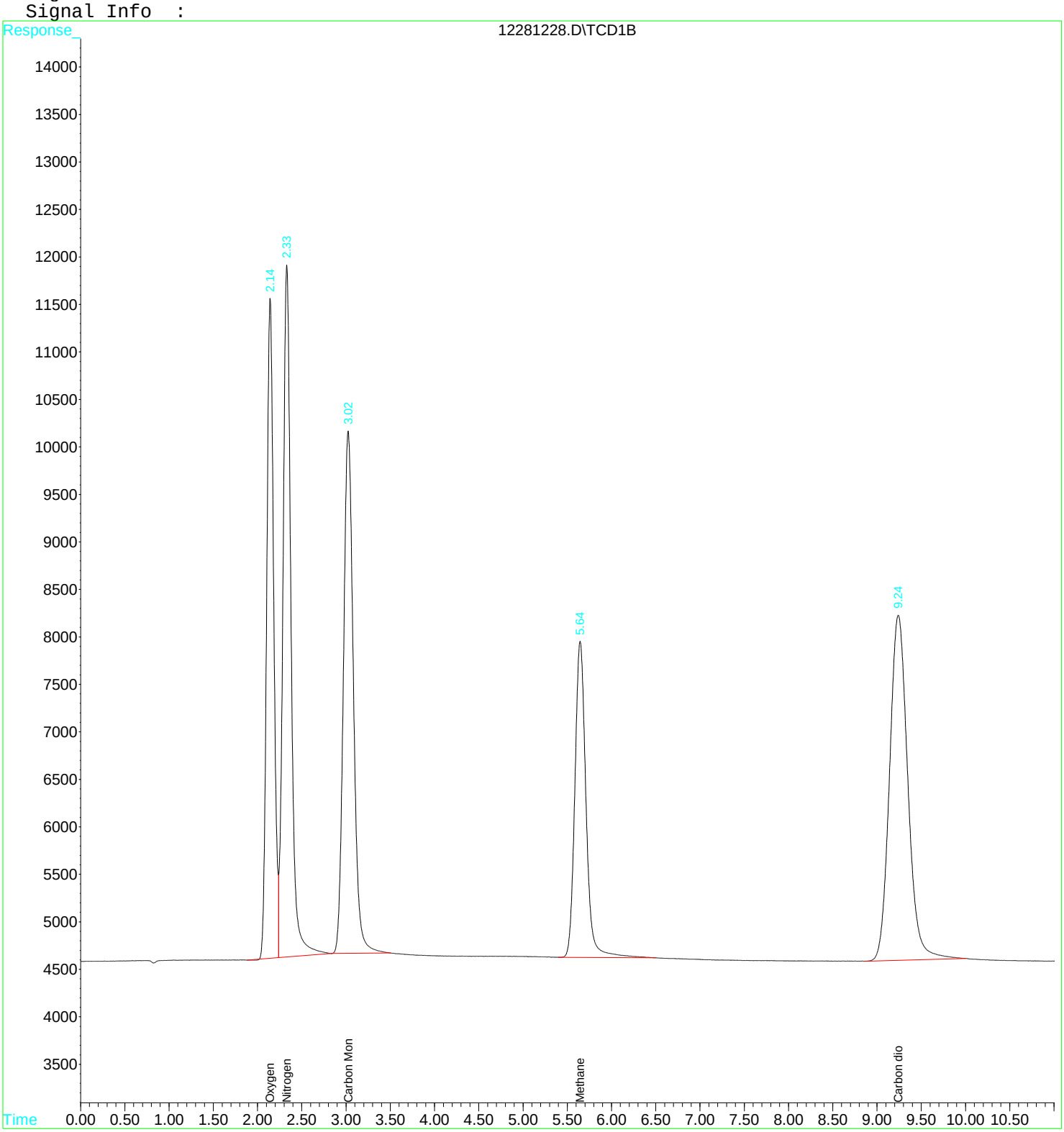
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\2\DATA\122812\12281228.D Vial: 1
Acq On : 28 Dec 2012 6:46 pm Operator:
Sample : CCV-122612 TCD-C Inst : GC/TCD
Misc : Multiplr: 1.00
IntFile : AUTOINT1.E
Quant Time: Dec 28 18:58 2012 Quant Results File: 122712.RES

Quant Method : C:\HPCHEM\2\METHODS\122712.M (Chemstation Integrator)
Title :
Last Update : Thu Dec 27 18:13:53 2012
Response via : Multiple Level Calibration
DataAcq Meth : TCD.M

Volume Inj. :
Signal Phase :
Signal Info :



# Injection Log

Directory: C:\HPCHEM\2\DATA\123112

| Line | Vial | FileName | Multiplier | SampleName | Misc Info | Injected |
|---|---|---|---|---|---|---|
| 1 | 1 | 12311201.d | 1. | MBLK-123112 TCD-A | | 31 Dec 2012 10:42 |
| 2 | 1 | 12311202.d | 1. | CCV-123112 TCD-A | | 31 Dec 2012 10:56 |
| 3 | 1 | 12311203.d | 1. | LCS-123112 TCD | | 31 Dec 2012 11:13 |
| 4 | 1 | 12311204.d | 1. | CRQL-123112 TCD-A | | 31 Dec 2012 11:41 |
| 5 | 2 | 12311205.d | 1. | 1212373-031B | | 31 Dec 2012 12:05 |
| 6 | 1 | 12311206.d | 1. | 1212373-032B | | 31 Dec 2012 12:20 |
| 7 | 1 | 12311207.d | 1. | 1212373-033B | | 31 Dec 2012 12:36 |
| 8 | 1 | 12311208.d | 1. | 1212373-034B | | 31 Dec 2012 12:56 |
| 9 | 1 | 12311209.d | 1. | 1212373-035B | | 31 Dec 2012 13:31 |
| 10 | 1 | 12311210.d | 1. | 1212373-036B | | 31 Dec 2012 13:52 |
| 11 | 1 | 12311211.d | 1. | 1212373-037B | | 31 Dec 2012 14:08 |
| 12 | 1 | 12311212.d | 1. | 1212373-038B | | 31 Dec 2012 14:29 |
| 13 | 1 | 12311213.d | 1. | 1212373-039B | | 31 Dec 2012 14:43 |
| 14 | 1 | 12311214.d | 1. | 1212373-040B | | 31 Dec 2012 15:05 |
| 15 | 1 | 12311215.d | 1. | 1212373-040BDUP | | 31 Dec 2012 15:19 |
| 16 | 1 | 12311216.d | 1. | CCV-123112 TCD-B | | 31 Dec 2012 15:33 |
| 17 | 1 | 12311217.d | 1. | CRQL-122612 TCD-B | | 31 Dec 2012 16:03 |

# RTI Laboratories

# ANALYTICAL RUN Summary

*07-Jan-13*

**RunNo** 55007

| Seq No | Sample ID | Test Code | Sample Typ | File ID | Analysis Date | DF | Batch ID | Prep Date | SPKref | RPDref | pmoist |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1084561 | MBLK-123112 TCD-A | ASTM-D2504 | MBLK | ıTA\123112\1231 | 12/31/2012 10:4 | 1 | R55007 | | 0 | 0 | |

| Analyte | T | Units | RAW | Final | Text | Spike | SPKref | RPDref | MDL | PQL | UQL | %REC | LOW | HIGH | %RPD | Q |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Carbon dioxide | A | % v/v | 0 | 0 | | 0 | 0 | 0 | 0.025 | 0.1 | 0 | 0% | 0 | 0 | 0% | U |
| Carbon Monoxide | A | % v/v | 0 | 0 | | 0 | 0 | 0 | 0.025 | 0.1 | 0 | 0% | 0 | 0 | 0% | U |
| Ethane | A | % v/v | | 0 | | 0 | 0 | 0 | 0.025 | 0.5 | 0 | 0% | 0 | 0 | 0% | U |
| Hydrogen | A | % v/v | | 0 | | 0 | 0 | 0 | 0.025 | 0.5 | 0 | 0% | 0 | 0 | 0% | U |
| Methane | A | % v/v | 0 | 0 | | 0 | 0 | 0 | 0.025 | 0.5 | 0 | 0% | 0 | 0 | 0% | U |
| Nitrogen | A | % v/v | 0 | 0 | | 0 | 0 | 0 | 0.025 | 0.1 | 0 | 0% | 0 | 0 | 0% | U |
| Oxygen | A | % v/v | 0 | 0 | | 0 | 0 | 0 | 0.025 | 0.1 | 0 | 0% | 0 | 0 | 0% | U |

| Seq No | Sample ID | Test Code | Sample Typ | File ID | Analysis Date | DF | Batch ID | Prep Date | SPKref | RPDref | pmoist |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1084562 | CCV-123112 TCD-A | ASTM-D2504 | CCV | ıTA\123112\1231 | 12/31/2012 10:5 | 1 | R55007 | | 0 | 0 | |

| Analyte | T | Units | RAW | Final | Text | Spike | SPKref | RPDref | MDL | PQL | UQL | %REC | LOW | HIGH | %RPD | Q |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Carbon dioxide | A | % v/v | 2.512 | 2.512 | | 2.5 | 0 | 0 | 0.025 | 0.1 | 0 | 100% | 85 | 115 | 0% | |
| Carbon Monoxide | A | % v/v | 2.634 | 2.634 | | 2.5 | 0 | 0 | 0.025 | 0.1 | 0 | 105% | 85 | 115 | 0% | |
| Ethane | A | % v/v | | 0 | | 0 | 0 | 0 | 0.025 | 0.5 | 0 | 0% | 85 | 115 | 0% | U |
| Hydrogen | A | % v/v | | 0 | | 0 | 0 | 0 | 0.025 | 0.5 | 0 | 0% | 85 | 115 | 0% | U |
| Methane | A | % v/v | 2.06 | 2.06 | | 2 | 0 | 0 | 0.025 | 0.5 | 0 | 103% | 85 | 115 | 0% | |
| Nitrogen | A | % v/v | 2.79 | 2.79 | | 2.5 | 0 | 0 | 0.025 | 0.1 | 0 | 112% | 85 | 115 | 0% | |
| Oxygen | A | % v/v | 2.647 | 2.647 | | 2.5 | 0 | 0 | 0.025 | 0.1 | 0 | 106% | 85 | 115 | 0% | |

| Seq No | Sample ID | Test Code | Sample Typ | File ID | Analysis Date | DF | Batch ID | Prep Date | SPKref | RPDref | pmoist |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1084563 | LCS-123112 TCD | ASTM-D2504 | LCS | ıTA\123112\1231 | 12/31/2012 11:1 | 1 | R55007 | | 0 | 1E+06 | |

| Analyte | T | Units | RAW | Final | Text | Spike | SPKref | RPDref | MDL | PQL | UQL | %REC | LOW | HIGH | %RPD | Q |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Carbon dioxide | A | % v/v | 2.45 | 2.45 | | 2.5 | 0 | 2.512 | 0.025 | 0.1 | 0 | 98% | 70 | 130 | 2% | |
| Carbon Monoxide | A | % v/v | 2.624 | 2.624 | | 2.5 | 0 | 2.634 | 0.025 | 0.1 | 0 | 105% | 70 | 130 | 0% | |
| Ethane | A | % v/v | | 0 | | 0 | 0 | 0 | 0.025 | 0.5 | 0 | 0% | 70 | 130 | 0% | U |
| Hydrogen | A | % v/v | | 0 | | 0 | 0 | 0 | 0.025 | 0.5 | 0 | 0% | 70 | 130 | 0% | U |

| Seq No | Sample ID | Test Code | Sample Typ | File ID | Analysis Date | DF | Batch ID | Prep Date | SPKref | RPDref | pmoist |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1084576 | CCV-123112 TCD-B | ASTM-D2504 | CCV | ıTA\123112\1231 | 12/31/2012 3:33: | 1 | R55007 | | 0 | 0 | |

| Analyte | T | Units | RAW | Final | Text | Spike | SPKref | RPDref | MDL | PQL | UQL | %REC | LOW | HIGH | %RPD | Q |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Carbon dioxide | A | % v/v | 2.564 | 2.564 | | 2.5 | 0 | 0 | 0.025 | 0.1 | 0 | 103% | 85 | 115 | 0% | |
| Carbon Monoxide | A | % v/v | 2.655 | 2.655 | | 2.5 | 0 | 0 | 0.025 | 0.1 | 0 | 106% | 85 | 115 | 0% | |
| Ethane | A | % v/v | | 0 | | 0 | 0 | 0 | 0.025 | 0.5 | 0 | 0% | 85 | 115 | 0% | U |
| Hydrogen | A | % v/v | | 0 | | 0 | 0 | 0 | 0.025 | 0.5 | 0 | 0% | 85 | 115 | 0% | U |
| Methane | A | % v/v | 2.061 | 2.061 | | 2 | 0 | 0 | 0.025 | 0.5 | 0 | 103% | 85 | 115 | 0% | |
| Nitrogen | A | % v/v | 2.739 | 2.739 | | 2.5 | 0 | 0 | 0.025 | 0.1 | 0 | 110% | 85 | 115 | 0% | |
| Oxygen | A | % v/v | 2.648 | 2.648 | | 2.5 | 0 | 0 | 0.025 | 0.1 | 0 | 106% | 85 | 115 | 0% | |

| Seq No | Sample ID | Test Code | Sample Typ | File ID | Analysis Date | DF | Batch ID | Prep Date | SPKref | RPDref | pmoist |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1084577 | CRQL-122612 TCD-B | ASTM-D2504 | CRQL | ıTA\123112\1231 | 12/31/2012 4:03: | 1 | R55007 | | 0 | 0 | |

| Analyte | T | Units | RAW | Final | Text | Spike | SPKref | RPDref | MDL | PQL | UQL | %REC | LOW | HIGH | %RPD | Q |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Carbon dioxide | A | % v/v | 0.298 | 0.298 | | 0.3 | 0 | 0 | 0.025 | 0.1 | 0 | 99% | 80 | 120 | 0% | |
| Carbon Monoxide | A | % v/v | 0.139 | 0.139 | | 0.14 | 0 | 0 | 0.025 | 0.1 | 0 | 99% | 80 | 120 | 0% | |
| Ethane | A | % v/v | | 0 | | 0 | 0 | 0 | 0.025 | 0.5 | 0 | 0% | 80 | 120 | 0% | U |
| Hydrogen | A | % v/v | | 0 | | 0 | 0 | 0 | 0.025 | 0.5 | 0 | 0% | 80 | 120 | 0% | U |
| Methane | A | % v/v | 0.091 | 0.091 | | 0.09 | 0 | 0 | 0.025 | 0.5 | 0 | 101% | 80 | 120 | 0% | |
| Nitrogen | A | % v/v | 1.397 | 1.397 | | 1.39 | 0 | 0 | 0.025 | 0.1 | 0 | 101% | 80 | 120 | 0% | |
| Oxygen | A | % v/v | 0.078 | 0.078 | | 0.08 | 0 | 0 | 0.025 | 0.1 | 0 | 98% | 80 | 120 | 0% | |

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\2\DATA\123112\12311202.D  Vial: 1
Acq On : 31 Dec 2012 10:56 am  Operator:
Sample : CCV-123112 TCD-A  Inst : GC/TCD
Misc :  Multiplr: 1.00
IntFile : autoint1.e

Method : C:\HPCHEM\2\METHODS\122712.M (Chemstation Integrator)
Title :
Last Update : Thu Dec 27 18:13:53 2012
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 15% Max. Rel. Area : 150%

| | Compound | Amount | Calc. | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|
| 1 | Oxygen | 2.500 | 2.647 | -5.9 | 0 | 0.03 |
| 2 | Nitrogen | 2.500 | 2.790 | -11.6 | 0 | 0.02 |
| 3 | Carbon Monoxide | 2.500 | 2.634 | -5.4 | 0 | 0.03 |
| 4 | Methane | 2.000 | 2.060 | -3.0 | 0 | 0.03 |
| 5 | Carbon dioxide | 2.500 | 2.512 | -0.5 | 0 | 0.03 |

(#) = Out of Range  SPCC's out = 0  CCC's out = 0
12311202.D 122712.M  Mon Dec 31 16:54:48 2012

Evaluate Continuing Calibration Report - Not Founds

```
Data File : C:\HPCHEM\2\DATA\123112\12311202.D          Vial: 1
Acq On    : 31 Dec 2012  10:56 am                   Operator:
Sample    : CCV-123112 TCD-A                        Inst    : GC/TCD
Misc      :                                         Multiplr: 1.00
IntFile   : autoint1.e

Method       : C:\HPCHEM\2\METHODS\122712.M (Chemstation Integrator)
Title        :
Last Update  : Thu Dec 27 18:13:53 2012
Response via : Multiple Level Calibration

Min. RRF     :   0.000  Min. Rel. Area :  50%  Max. R.T. Dev  0.50min
Max. RRF Dev :  15%     Max. Rel. Area : 150%

    Compound                      Amount  Calc.      %Dev  Area% Dev(min)
 ---------------------------------------------------------------------------
```

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\2\DATA\123112\12311202.D Vial: 1
Acq On : 31 Dec 2012 10:56 am Operator:
Sample : CCV-123112 TCD-A Inst : GC/TCD
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Dec 31 11:10 2012 Quant Results File: 122712.RES

Quant Method : C:\HPCHEM\2\METHODS\122712.M (Chemstation Integrator)
Title :
Last Update : Thu Dec 27 18:13:53 2012
Response via : Initial Calibration
DataAcq Meth : TCD.M

Volume Inj. :
Signal Phase :
Signal Info :

| | Compound | R.T. | Response | Conc Units |
|---|---|---|---|---|
| | Target Compounds | | | |
| 1) | Oxygen | 2.13 | 380452 | 2.647 % v/v |
| 2) | Nitrogen | 2.32 | 473488 | 2.790 % v/v |
| 3) | Carbon Monoxide | 3.01 | 423832 | 2.634 % v/v |
| 4) | Methane | 5.63 | 288534 | 2.060 % v/v |
| 5) | Carbon dioxide | 9.21 | 508497 | 2.512 % v/v |

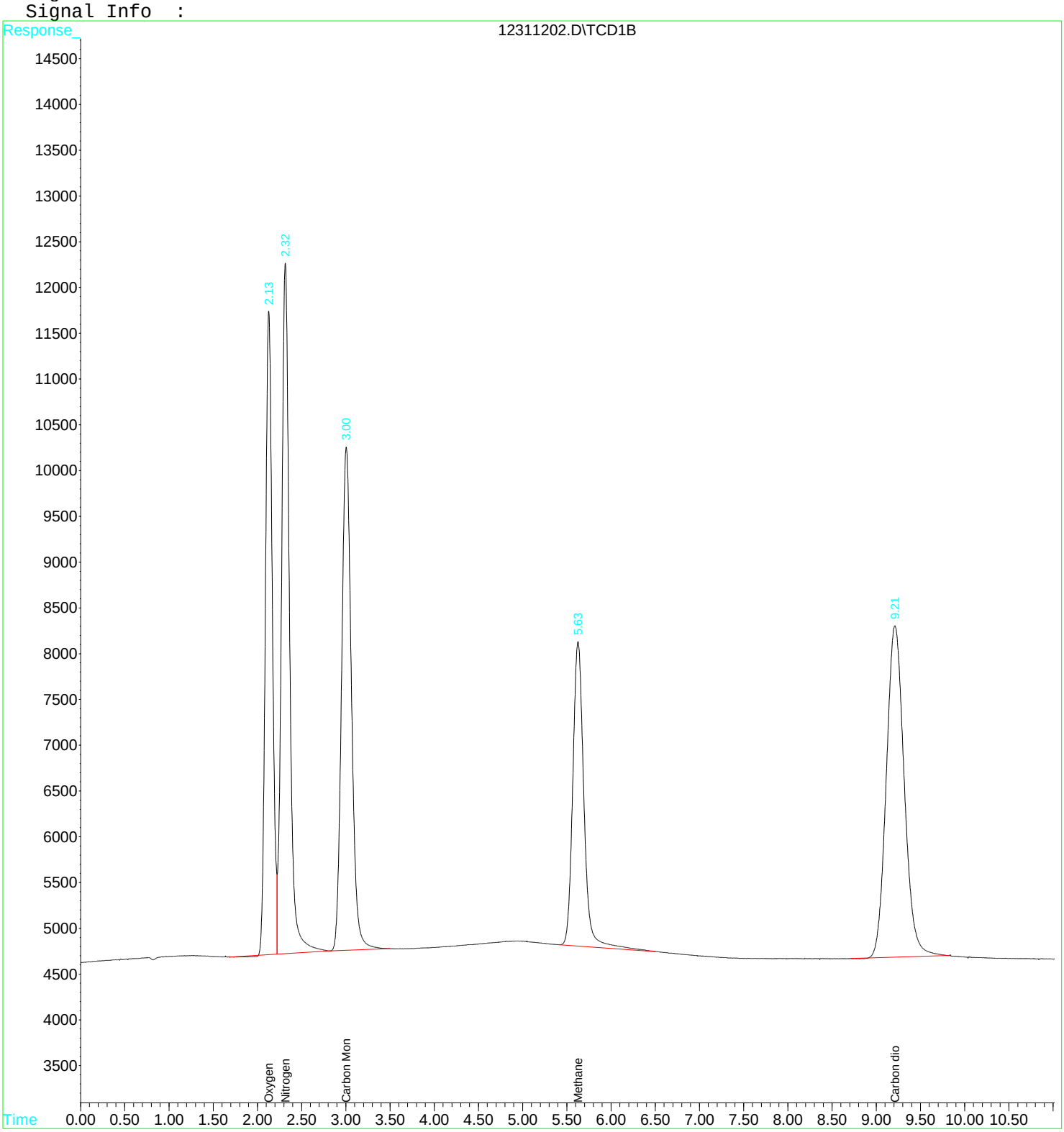
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\2\DATA\123112\12311202.D Vial: 1
Acq On : 31 Dec 2012 10:56 am Operator:
Sample : CCV-123112 TCD-A Inst : GC/TCD
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Dec 31 11:10 2012 Quant Results File: 122712.RES

Quant Method : C:\HPCHEM\2\METHODS\122712.M (Chemstation Integrator)
Title :
Last Update : Thu Dec 27 18:13:53 2012
Response via : Multiple Level Calibration
DataAcq Meth : TCD.M

Volume Inj. :
Signal Phase :
Signal Info :



Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\2\DATA\123112\12311216.D Vial: 1
Acq On : 31 Dec 2012 3:33 pm Operator:
Sample : CCV-123112 TCD-B Inst : GC/TCD
Misc : Multiplr: 1.00
IntFile : autoint1.e

Method : C:\HPCHEM\2\METHODS\122712.M (Chemstation Integrator)
Title :
Last Update : Thu Dec 27 18:13:53 2012
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 15% Max. Rel. Area : 150%

| | Compound | Amount | Calc. | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|
| 1 | Oxygen | 2.500 | 2.648 | -5.9 | 0 | 0.04 |
| 2 | Nitrogen | 2.500 | 2.739 | -9.6 | 0 | 0.03 |
| 3 | Carbon Monoxide | 2.500 | 2.655 | -6.2 | 0 | 0.04 |
| 4 | Methane | 2.000 | 2.061 | -3.0 | 0 | 0.04 |
| 5 | Carbon dioxide | 2.500 | 2.564 | -2.6 | 0 | 0.05 |

Evaluate Continuing Calibration Report - Not Founds

```
Data File : C:\HPCHEM\2\DATA\123112\12311216.D          Vial: 1
Acq On    : 31 Dec 2012   3:33 pm                   Operator:
Sample    : CCV-123112 TCD-B                        Inst    : GC/TCD
Misc      :                                         Multiplr: 1.00
IntFile   : autoint1.e

Method       : C:\HPCHEM\2\METHODS\122712.M (Chemstation Integrator)
Title        :
Last Update  : Thu Dec 27 18:13:53 2012
Response via : Multiple Level Calibration

Min. RRF     :   0.000  Min. Rel. Area :  50%  Max. R.T. Dev  0.50min
Max. RRF Dev :  15%     Max. Rel. Area : 150%

    Compound                      Amount  Calc.      %Dev  Area% Dev(min)
 ---------------------------------------------------------------------------
```

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\2\DATA\123112\12311216.D Vial: 1
Acq On : 31 Dec 2012 3:33 pm Operator:
Sample : CCV-123112 TCD-B Inst : GC/TCD
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Dec 31 16:02 2012 Quant Results File: 122712.RES

Quant Method : C:\HPCHEM\2\METHODS\122712.M (Chemstation Integrator)
Title :
Last Update : Thu Dec 27 18:13:53 2012
Response via : Initial Calibration
DataAcq Meth : TCD.M

Volume Inj. :
Signal Phase :
Signal Info :

| | Compound | R.T. | Response | Conc Units |
|---|---|---|---|---|
| | Target Compounds | | | |
| 1) | Oxygen | 2.14 | 380663 | 2.648 % v/v |
| 2) | Nitrogen | 2.33 | 464847 | 2.739 % v/v |
| 3) | Carbon Monoxide | 3.02 | 427213 | 2.655 % v/v |
| 4) | Methane | 5.64 | 288725 | 2.061 % v/v |
| 5) | Carbon dioxide | 9.23f | 519098 | 2.564 % v/v |

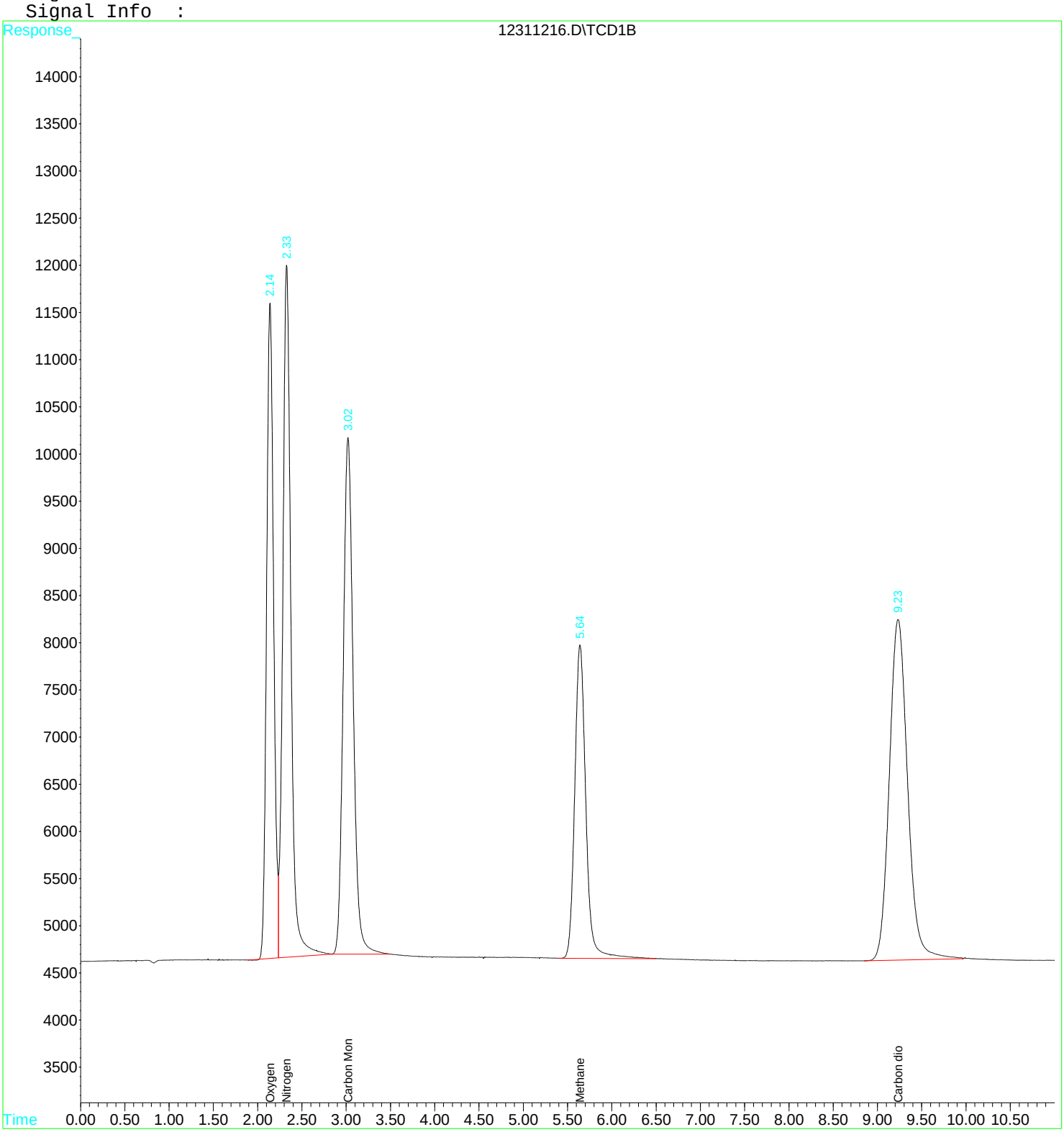
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\2\DATA\123112\12311216.D Vial: 1
Acq On : 31 Dec 2012 3:33 pm Operator:
Sample : CCV-123112 TCD-B Inst : GC/TCD
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Dec 31 16:02 2012 Quant Results File: 122712.RES

Quant Method : C:\HPCHEM\2\METHODS\122712.M (Chemstation Integrator)
Title :
Last Update : Thu Dec 27 18:13:53 2012
Response via : Multiple Level Calibration
DataAcq Meth : TCD.M

Volume Inj. :
Signal Phase :
Signal Info :



Response Factor Report GC/TCD

Method : C:\HPCHEM\2\METHODS\062512.M (Chemstation Integrator)
Title :
Last Update : Tue Jun 26 10:08:21 2012

Calibration Files
1 =06251202.D 2 =06251203.D 3 =06251204.D
4 =06251205.D 5 =06251206.D 6 =06251207.D

| | Compound | 1 | 2 | 3 | 4 | 5 | 6 | Avg | | %RSD |
|---|---|---|---|---|---|---|---|---|---|---|
| 1) | Oxygen | 1.438 | 1.499 | 1.479 | 1.481 | 1.430 | 1.632 | 1.498 | E5 | 4.54 |
| 2) | Nitrogen | 1.776 | 1.733 | 1.737 | 1.720 | 1.663 | 1.790 | 1.739 | E5 | 2.40 |
| 3) | Carbon Monoxide | 1.695 | 1.642 | 1.639 | 1.623 | 1.559 | 1.612 | 1.628 | E5 | 2.72 |
| 4) | Methane | 1.499 | 1.452 | 1.448 | 1.443 | 1.416 | 1.341 | 1.433 | E5 | 3.67 |
| 5) | Carbon dioxide | 2.156 | 2.072 | 2.078 | 2.053 | 1.983 | 2.079 | 2.070 | E5 | 2.68 |

(#) = Out of Range ### Number of calibration levels exceeded format ###

062512.M Tue Jun 26 10:10:16 2012

Compound List Report GC/TCD

Method : C:\HPCHEM\2\METHODS\062512.M (Chemstation Integrator)
Title :
Last Update : Tue Jun 26 10:08:21 2012
Response via : Initial Calibration
Total Cpnds : 5

| PK# | Type | Compound Name | Exp_RT | Rel_RT | Cal | A/H | ID |
|---|---|---|---|---|---|---|---|
| 1 | | Oxygen | 2.21 | 1.000 | A | A | R |
| 2 | | Nitrogen | 2.38 | 1.000 | A | A | R |
| 3 | | Carbon Monoxide | 3.13 | 1.000 | A | A | R |
| 4 | | Methane | 5.75 | 1.000 | A | A | R |
| 5 | | Carbon dioxide | 9.41 | 1.000 | A | A | R |

Cal A = Average L = Linear LO = Linear w/origin Q = Quad QO = Quad w/origin
A/H = Area or Height
ID R = R.T. B = R.T. & Q Q = Qvalue L = Largest A = All

062512.M Tue Jun 26 10:10:22 2012

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\TCD\062512\06251210.D  Vial: 1
Acq On : 25 Jun 2012 5:24 pm  Operator:
Sample : ICV STD 1-2  Inst : GC/TCD
Misc : ICV ASTM-D2504  Multiplr: 1.00
IntFile : autoint1.e

Method : C:\HPCHEM\2\METHODS\062512.M (Chemstation Integrator)
Title :
Last Update : Mon Jun 25 17:07:33 2012
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 15% Max. Rel. Area : 150%

| | Compound | Amount | Calc. | %Dev | Area% | Dev(min) |
|---|---|---|---|---|---|---|
| 1 | Oxygen | 2.500 | 2.613 | -4.5 | 0 | 0.00 |
| 2 | Nitrogen | 2.500 | 2.746 | -9.8 | 0 | 0.02 |
| 3 | Carbon Monoxide | 2.500 | 2.664 | -6.6 | 0 | -0.01 |
| 4 | Methane | 2.000 | 2.139 | -6.9 | 0 | -0.01 |
| 5 | Carbon dioxide | 2.500 | 2.623 | -4.9 | 0 | -0.02 |

(#) = Out of Range  SPCC's out = 0  CCC's out = 0
06251210.D 062512.M  Tue Jun 26 09:54:48 2012

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\TCD\062512\06251210.D Vial: 1
Acq On : 25 Jun 2012 5:24 pm Operator:
Sample : ICV STD 1-2 Inst : GC/TCD
Misc : ICV ASTM-D2504 Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Jun 25 16:36 2012 Quant Results File: 062512.RES

Quant Method : C:\HPCHEM\2\METHODS\062512.M (Chemstation Integrator)
Title :
Last Update : Mon Jun 25 17:07:33 2012
Response via : Initial Calibration
DataAcq Meth : TCD.M

Volume Inj. :
Signal Phase :
Signal Info :

| | Compound | R.T. | Response | Conc | Units |
|---|---|---|---|---|---|
| | Target Compounds | | | | |
| 1) | Oxygen | 2.20 | 391497 | 2.613 | % |
| 2) | Nitrogen | 2.40 | 477577 | 2.746 | % |
| 3) | Carbon Monoxide | 3.11 | 433851 | 2.664 | % |
| 4) | Methane | 5.74 | 306500 | 2.139 | % |
| 5) | Carbon dioxide | 9.39 | 542989 | 2.623 | % |

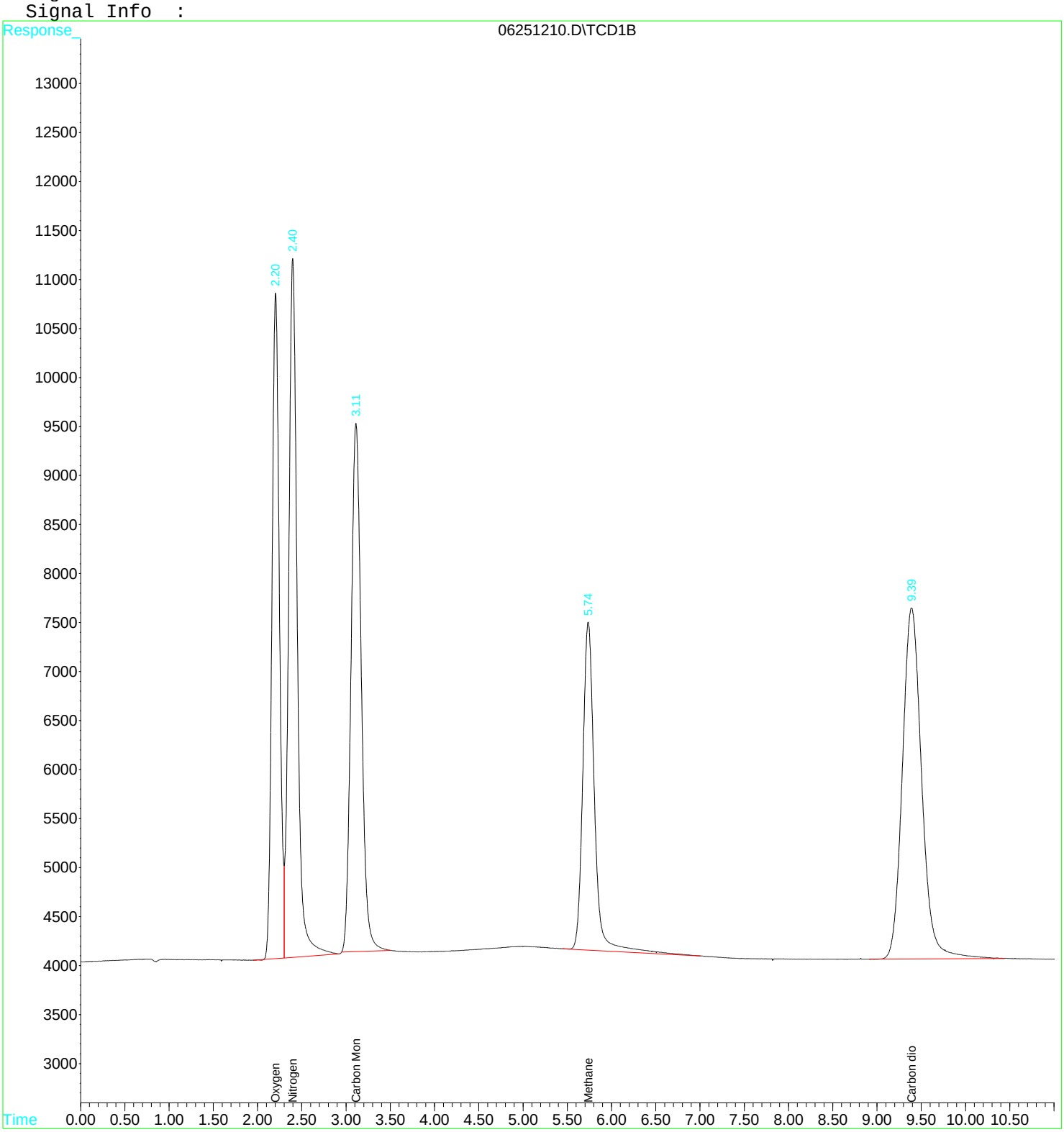
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\TCD\062512\06251210.D Vial: 1
Acq On : 25 Jun 2012 5:24 pm Operator:
Sample : ICV STD 1-2 Inst : GC/TCD
Misc : ICV ASTM-D2504 Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Jun 25 16:36 2012 Quant Results File: 062512.RES

Quant Method : C:\HPCHEM\2\METHODS\062512.M (Chemstation Integrator)
Title :
Last Update : Mon Jun 25 17:07:33 2012
Response via : Multiple Level Calibration
DataAcq Meth : TCD.M

Volume Inj. :
Signal Phase :
Signal Info :



Response Factor Report GC/TCD

Method : C:\HPCHEM\2\METHODS\122712.M (Chemstation Integrator)
Title :
Last Update : Thu Dec 27 18:13:53 2012

Calibration Files
1 =12271202.D 2 =12271203.D 3 =12271204.D
4 =12271205.D 5 =12271206.D 6 =12271207.D

| | Compound | 1 | 2 | 3 | 4 | 5 | 6 | Avg | %RSD |
|---|---|---|---|---|---|---|---|---|---|
| 1) | Oxygen | 1.410 | 1.434 | 1.387 | 1.407 | 1.380 | 1.419 | 1.437 E5 | 5.91 |
| 2) | Nitrogen | 1.726 | 1.705 | 1.684 | 1.662 | 1.628 | 1.708 | 1.697 E5 | 2.65 |
| 3) | Carbon Monoxide | 1.667 | 1.631 | 1.610 | 1.584 | 1.547 | 1.614 | 1.609 E5 | 2.55 |
| 4) | Methane | 1.447 | 1.416 | 1.401 | 1.379 | 1.352 | 1.409 | 1.401 E5 | 2.32 |
| 5) | Carbon dioxide | 2.098 | 2.066 | 2.016 | 1.985 | 1.938 | 2.043 | 2.024 E5 | 2.85 |

(#) = Out of Range ### Number of calibration levels exceeded format ###

122712.M Mon Dec 31 12:30:47 2012

Compound List Report GC/TCD

Method : C:\HPCHEM\2\METHODS\122712.M (Chemstation Integrator)
Title :
Last Update : Thu Dec 27 18:13:53 2012
Response via : Initial Calibration
Total Cpnds : 5

| PK# | Type | Compound Name | Exp_RT | Rel_RT | Cal | A/H | ID |
|---|---|---|---|---|---|---|---|
| 1 | | Oxygen | 2.10 | 1.000 | A | A | R |
| 2 | | Nitrogen | 2.30 | 1.000 | A | A | R |
| 3 | | Carbon Monoxide | 2.98 | 1.000 | A | A | R |
| 4 | | Methane | 5.60 | 1.000 | A | A | R |
| 5 | | Carbon dioxide | 9.18 | 1.000 | A | A | R |

Cal A = Average L = Linear LO = Linear w/origin Q = Quad QO = Quad w/origin
A/H = Area or Height
ID R = R.T. B = R.T. & Q Q = Qvalue L = Largest A = All

122712.M Mon Dec 31 12:30:38 2012

Evaluate Continuing Calibration Report

```
Data File : C:\HPCHEM\2\DATA\122712CA\12271210.D         Vial: 10
Acq On    : 27 Dec 2012   5:55 pm                    Operator:
Sample    : ICV STD 1-2                              Inst    : GC/TCD
Misc      : ICV  ASTM-D2504                          Multiplr: 1.00
IntFile   : autoint1.e

Method       : C:\HPCHEM\2\METHODS\122712.M (Chemstation Integrator)
Title        :
Last Update  : Thu Dec 27 18:13:53 2012
Response via : Multiple Level Calibration

Min. RRF     :   0.000  Min. Rel. Area :  50%  Max. R.T. Dev  0.50min
Max. RRF Dev :  15%     Max. Rel. Area : 150%
```

| | Compound | Amount | Calc. | %Dev | Area% | Dev(Min) |
|---|---|---|---|---|---|---|
| 1 | Oxygen | 2.500 | 2.720 | -8.8 | 0 | 0.04 |
| 2 | Nitrogen | 2.500 | 2.866 | -14.6 | 0 | 0.03 |
| 3 | Carbon Monoxide | 2.500 | 2.697 | -7.9 | 0 | 0.04 |
| 4 | Methane | 2.000 | 2.094 | -4.7 | 0 | 0.04 |
| 5 | Carbon dioxide | 2.500 | 2.595 | -3.8 | 0 | 0.05 |

Evaluate Continuing Calibration Report - Not Founds

```
Data File : C:\HPCHEM\2\DATA\122712CA\12271210.D         Vial: 10
Acq On    : 27 Dec 2012   5:55 pm                    Operator:
Sample    : ICV STD 1-2                              Inst    : GC/TCD
Misc      : ICV  ASTM-D2504                          Multiplr: 1.00
IntFile   : autoint1.e

Method       : C:\HPCHEM\2\METHODS\122712.M (Chemstation Integrator)
Title        :
Last Update  : Thu Dec 27 18:13:53 2012
Response via : Multiple Level Calibration

Min. RRF     :   0.000  Min. Rel. Area :  50%  Max. R.T. Dev  0.50min
Max. RRF Dev :  15%     Max. Rel. Area : 150%
```

| Compound | Amount | Calc. | %Dev | Area% | Dev(Min) |
|---|---|---|---|---|---|

(#) = Out of Range  SPCC's out = 0  CCC's out = 0
09141202.D 122712.M  Mon Dec 31 12:30:21 2012

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\2\DATA\122712CA\12271210.D Vial: 10
Acq On : 27 Dec 2012 5:55 pm Operator:
Sample : ICV STD 1-2 Inst : GC/TCD
Misc : ICV ASTM-D2504 Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Dec 27 18:16 2012 Quant Results File: 122712.RES

Quant Method : C:\HPCHEM\2\METHODS\122712.M (Chemstation Integrator)
Title :
Last Update : Thu Dec 27 18:13:53 2012
Response via : Initial Calibration
DataAcq Meth : TCD.M

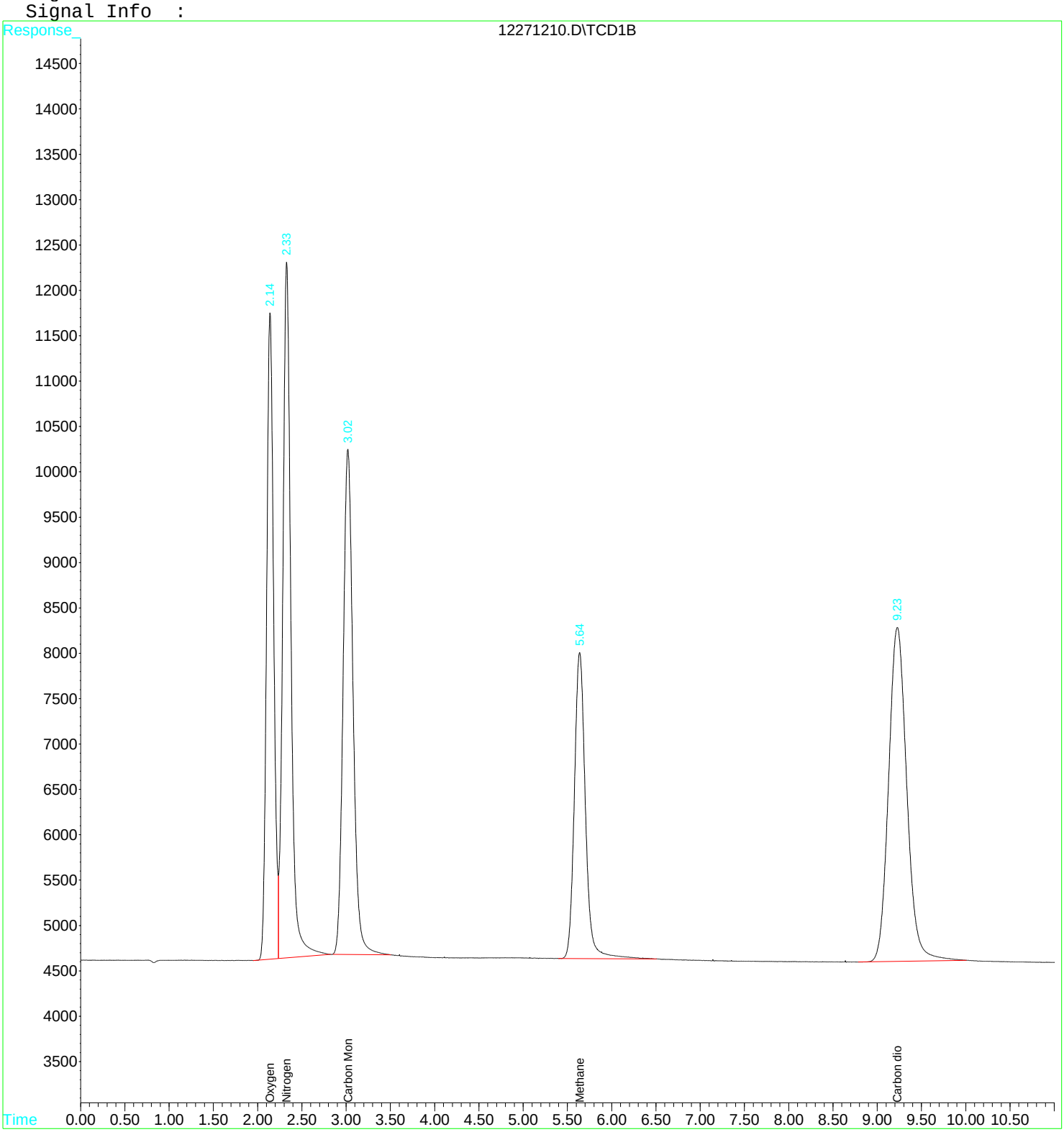
Volume Inj. :
Signal Phase :
Signal Info :

| | Compound | R.T. | Response | Conc Units |
|---|---|---|---|---|
| | Target Compounds | | | |
| 1) | Oxygen | 2.14 | 391029 | 2.720 % v/v |
| 2) | Nitrogen | 2.33 | 486424 | 2.866 % v/v |
| 3) | Carbon Monoxide | 3.02 | 433862 | 2.697 % v/v |
| 4) | Methane | 5.64 | 293278 | 2.094 % v/v |
| 5) | Carbon dioxide | 9.23 | 525284 | 2.595 % v/v |

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\2\DATA\122712CA\12271210.D Vial: 10
Acq On : 27 Dec 2012 5:55 pm Operator:
Sample : ICV STD 1-2 Inst : GC/TCD
Misc : ICV ASTM-D2504 Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Dec 27 18:16 2012 Quant Results File: 122712.RES

Quant Method : C:\HPCHEM\2\METHODS\122712.M (Chemstation Integrator)
Title :
Last Update : Thu Dec 27 18:13:53 2012
Response via : Multiple Level Calibration
DataAcq Meth : TCD.M

Volume Inj. :
Signal Phase :
Signal Info :