RTI LABORATORIES, INC.

# Analytical Report

# Level III Data Package

## Work Order #: 1212959

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: 1/21/2013

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Contract #: W912DY-10-D0014

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# RTI Laboratories, Inc.

**Date:** *18-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:** 1212959

## CASE NARRATIVE

SAMPLE RECEIPT:
Samples were received at the RTI Laboratory, Livonia, MI via commercial delivery on 12/27/2012, consisting of 44 air samples. The air samples were received in good condition, with the exception of the following samples:

- RTI Sample ID 1212959-043A (VA-2201-R): The sample was received with insufficient vacuum (-2.5 inch Hg). Initially, the Chain of Custody did not specify MA_APH analysis to be conducted on client sample ID VA-2201-R. At the client's request, this analysis was to be performed. In addition, though this sample was received with insufficient vacuum, TO15 and MA_APH analysis proceeded, at the request of the client.
- RTI Sample ID 1212959-044A (VA8110-TB): The sample was received with insufficient vacuum (-9 inch Hg), bottle vac number 700. Bottle vac number 764 was used, instead, as the client requested an alternate bottle vac to be utilized for TO15 analysis.

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

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.

**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.

## RTI Laboratories, Inc.

**Date:** *18-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:** 1212959

# CASE NARRATIVE

**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.

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.

Celeste Horkash

Signed:_____for_____ Date:__January 18, 2013____
Charles O'Bryan, Director, Quality Management

# RTI Laboratories - Definitions and Acronyms

**WO#: 1212959**

**Date Reported: 1/17/2013**
**Revision v1**

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

1212959

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# ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

Reference Document No: 140705-SV110



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

Samples Shipment Date: 19 DEC 2012
Lab Destination: RTI Laboratories
Lab Contact: Mike Truchan
Project Contact: Pamela Moss
Carrier/Waybill No.: UPS/2323121555

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

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

1. Relinquished By (Signature/Affiliation) [signature] Date: 12/19/12 Time: 1500
2. Relinquished By (Signature/Affiliation) n/a vmd 27dec12 Date: Time:
3. Relinquished By (Signature/Affiliation) Date: Time:

1. Received By (Signature/Affiliation) Rachel Dean ① Date: 27dec12 Time: 1026
2. Received By (Signature/Affiliation) n/a vmd 27dec12 Date: Time:
3. Received By (Signature/Affiliation) Date: Time:

Comments: * out of criteria of -3"Hg to -7"Hg. RD2 27dec12
** trip blank is out of criteria. RD2 27dec12

① UPS delivery signed for by Kathy Griffin.

| | Sample No | Sample Name | Sample Date | Sample Time | Container | Ctr Qty | Preservative | Requested Testing Program | "Hg Sample Vol | Units | Fil | CID | Condition On Receipt |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | VA1945 | SVMW-01-050-GS-VA1945-REG | 17 DEC 2012 | 09:26 | 1 L BOTTLEVAC | 1 | None Required | Air Phase Petroleum Hydrocarbons by MA DEP, VOCs / TPH by TO-15 | -5.5 | | N | 1155 | |
| | VA1945 | SVMW-01-050-GS-VA1945-REG | 17 DEC 2012 | 09:26 | 1 L Tedlar Bag | 1 | None Required | Fixed Gases by ASTM D2504 | | | N | | good |
| 2 | VA1946 | SVMW-01-100-GS-VA1946-REG | 17 DEC 2012 | 09:50 | 1 L BOTTLEVAC | 1 | None Required | Air Phase Petroleum Hydrocarbons by MA DEP, VOCs / TPH by TO-15 | -5 | | N | 1167 | |
| | VA1946 | SVMW-01-100-GS-VA1946-REG | 17 DEC 2012 | 09:50 | 1 L Tedlar Bag | 1 | None Required | Fixed Gases by ASTM D2504 | | | N | | good |
| dup 3 | VA1947 | SVMW-01-100-GS-VA1947-FD | 17 DEC 2012 | 09:50 | 1 L BOTTLEVAC | 1 | None Required | Air Phase Petroleum Hydrocarbons by MA DEP, VOCs / TPH by TO-15 | -6 | | N | 515 | |
| | VA1947 | SVMW-01-100-GS-VA1947-FD | 17 DEC 2012 | 09:50 | 1 L Tedlar Bag | 1 | None Required | Fixed Gases by ASTM D2504 | | | N | | good |
| 4 | VA1948 | SVMW-01-250-GS-VA1948-REG | 17 DEC 2012 | 10:28 | 1 L BOTTLEVAC | 1 | None Required | Air Phase Petroleum Hydrocarbons by | -5.5 | | N | 1224 | |

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# ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

Reference Document No: 140705-SV110



| | Sample No | Sample Name | Sample Date | Sample Time | Container | | Preservative | Requested Testing Program | "Hg Sample Vol | Units | Fil | CID | Condition On Receipt |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | MA DEP, VOCs / TPH by TO-15 | | | | | |
| 4 | VA1948 | SVMW-01-250-GS-VA1948-REG | 17 DEC 2012 | 10:28 | 1 L Tedlar Bag | 1 | None Required | Fixed Gases by ASTM D2504 | | | N | | good |
| 5 | VA1949 | SVMW-01-300-GS-VA1949-REG | 17 DEC 2012 | 10:56 | 1 L BOTTLEVAC | 1 | None Required | Air Phase Petroleum Hydrocarbons by MA DEP, VOCs / TPH by TO-15 | -5 | | N | 1178 | |
| | VA1949 | SVMW-01-300-GS-VA1949-REG | 17 DEC 2012 | 10:56 | 1 L Tedlar Bag | 1 | None Required | Fixed Gases by ASTM D2504 | | | N | | good |
| 6 | VA1996 | SVMW-13-150-GS-VA1996-REG | 18 DEC 2012 | 12:32 | 1 L BOTTLEVAC | 1 | None Required | Air Phase Petroleum Hydrocarbons by MA DEP, VOCs / TPH by TO-15 | -6 | | N | 746 | |
| | VA1996 | SVMW-13-150-GS-VA1996-REG | 18 DEC 2012 | 12:32 | 1 L Tedlar Bag | 1 | None Required | Fixed Gases by ASTM D2504 | | | N | | good |
| 7 | VA1997 | SVMW-13-250-GS-VA1997-REG | 18 DEC 2012 | 12:56 | 1 L BOTTLEVAC | 1 | None Required | Air Phase Petroleum Hydrocarbons by MA DEP, VOCs / TPH by TO-15 | -6 | | N | 539 | |
| | VA1997 | SVMW-13-250-GS-VA1997-REG | 18 DEC 2012 | 12:56 | 1 L Tedlar Bag | 1 | None Required | Fixed Gases by ASTM D2504 | | | N | | good |
| 8 | VA1998 | SVMW-13-350-GS-VA1998-REG | 18 DEC 2012 | 13:22 | 1 L BOTTLEVAC | 1 | None Required | Air Phase Petroleum Hydrocarbons by MA DEP, VOCs / TPH by TO-15 | -6 | | N | 1217 | |
| | VA1998 | SVMW-13-350-GS-VA1998-REG | 18 DEC 2012 | 13:22 | 1 L Tedlar Bag | 1 | None Required | Fixed Gases by ASTM D2504 | | | N | | good |
| 9 | VA1999 | SVMW-13-450-GS-VA1999-REG | 18 DEC 2012 | 13:50 | 1 L BOTTLEVAC | 1 | None Required | Air Phase Petroleum Hydrocarbons by MA DEP, VOCs / TPH by TO-15 | -5 | | N | 613 | |
| | VA1999 | SVMW-13-450-GS-VA1999-REG | 18 DEC 2012 | 13:50 | 1 L Tedlar Bag | 1 | None Required | Fixed Gases by ASTM D2504 | | | N | | good |
| 10 | VA2005 | SVMW-15-150-GS-VA2005-REG | 18 DEC 2012 | 09:14 | 1 L BOTTLEVAC | 1 | None Required | Air Phase Petroleum Hydrocarbons by MA DEP, VOCs / TPH by TO-15 | -5.5 | | N | 529 | |
| | VA2005 | SVMW-15-150-GS-VA2005-REG | 18 DEC 2012 | 09:14 | 1 L Tedlar Bag | 1 | None Required | Fixed Gases by ASTM D2504 | | | N | | good |
| 11 | VA2006 | SVMW-15-250-GS-VA2006-REG | 18 DEC 2012 | 09:38 | 1 L BOTTLEVAC | 1 | None Required | Air Phase Petroleum Hydrocarbons by MA DEP, VOCs / TPH by TO-15 | -5 | | N | 1213 | |
| | VA2006 | SVMW-15-250-GS-VA2006-REG | 18 DEC 2012 | 09:38 | 1 L Tedlar Bag | 1 | None Required | Fixed Gases by ASTM D2504 | | | N | | good |
| 12 | VA2007 | SVMW-15-350-GS-VA2007-REG | 18 DEC 2012 | 10:06 | 1 L BOTTLEVAC | 1 | None Required | Air Phase Petroleum Hydrocarbons by MA DEP, VOCs / TPH by TO-15 | -5 | | N | 532 | |
| | VA2007 | SVMW-15-350-GS-VA2007-REG | 18 DEC 2012 | 10:06 | 1 L Tedlar Bag | 1 | None Required | Fixed Gases by ASTM D2504 | | | N | | good |
| 13 | VA2008 | SVMW-15-450-GS-VA2008-REG | 18 DEC 2012 | 10:36 | 1 L BOTTLEVAC | 1 | None Required | Air Phase Petroleum Hydrocarbons by MA DEP, VOCs / TPH by TO-15 | -5 | | N | 720 | |
| | VA2008 | SVMW-15-450-GS-VA2008-REG | 18 DEC 2012 | 10:36 | 1 L Tedlar Bag | 1 | None Required | Fixed Gases by ASTM D2504 | | | N | | good |
| 14 | VA2009 | KAFB-106028-150-GS-VA2009-REG | 18 DEC 2012 | 10:43 | 1 L BOTTLEVAC | 1 | None Required | Air Phase Petroleum Hydrocarbons by MA DEP, VOCs / TPH by TO-15 | -6 | | N | 737 | |
| | VA2009 | KAFB-106028-150-GS-VA2009-REG | 18 DEC 2012 | 10:43 | 1 L Tedlar Bag | 1 | None Required | Fixed Gases by ASTM D2504 | | | N | | good |
| 15 | VA2010 | KAFB-106028-250-GS-VA2010-REG | 18 DEC 2012 | 11:08 | 1 L BOTTLEVAC | 1 | None Required | Air Phase Petroleum Hydrocarbons by MA DEP, VOCs / TPH by TO-15 | -6 | | N | 813 | |
| | VA2010 | KAFB-106028-250-GS-VA2010-REG | 18 DEC 2012 | 11:08 | 1 L Tedlar Bag | 1 | None Required | Fixed Gases by ASTM D2504 | | | N | | good |
| 16 | VA2011 | KAFB-106028-350-GS-VA2011-REG | 18 DEC 2012 | 11:42 | 1 L BOTTLEVAC | 1 | None Required | Air Phase Petroleum Hydrocarbons by MA DEP, VOCs / TPH by TO-15 | -6.5 | | N | 668 | |
| | VA2011 | KAFB-106028-350-GS-VA2011-REG | 18 DEC 2012 | 11:42 | 1 L Tedlar Bag | 1 | None Required | Fixed Gases by ASTM D2504 | | | N | | good |
| 17 | VA2012 | KAFB-106028-450-GS-VA2012-REG | 18 DEC 2012 | 12:12 | 1 L BOTTLEVAC | 1 | None Required | Air Phase Petroleum Hydrocarbons by MA DEP, VOCs / TPH by TO-15 | -6.5 | | N | 1166 | |
| | VA2012 | KAFB-106028-450-GS-VA2012-REG | 18 DEC 2012 | 12:12 | 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-SV110



| | Sample No | Sample Name | Sample Date | Sample Time | Container | | Preservative | Requested Testing Program | Sample Vol (" Hg) | Units | Fil | CID | Condition On Receipt |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 18 | VA2013 | KAFB-106028-450-GS-VA2013-FD | 18 DEC 2012 | 12:12 | 1 L BOTTLEVAC | 1 | None Required | Air Phase Petroleum Hydrocarbons by MA DEP, VOCs / TPH by TO-15 | -6 | | N | 828 | |
| | VA2013 | KAFB-106028-450-GS-VA2013-FD | 18 DEC 2012 | 12:12 | 1 L Tedlar Bag | 1 | None Required | Fixed Gases by ASTM D2504 | | | N | | good |
| 19 | VA2014 | SVEW-01-260-GS-VA2014-REG | 17 DEC 2012 | 11:55 | 1 L BOTTLEVAC | 1 | None Required | Air Phase Petroleum Hydrocarbons by MA DEP, VOCs / TPH by TO-15 | -5 | | N | 1184 | |
| | VA2014 | SVEW-01-260-GS-VA2014-REG | 17 DEC 2012 | 11:55 | 1 L Tedlar Bag | 1 | None Required | Fixed Gases by ASTM D2504 | | | N | | good |
| 20 | VA2015 | SVEW-02-060-GS-VA2015-REG | 17 DEC 2012 | 12:35 | 1 L BOTTLEVAC | 1 | None Required | Air Phase Petroleum Hydrocarbons by MA DEP, VOCs / TPH by TO-15 | -5 | | N | 1147 | |
| | VA2015 | SVEW-02-060-GS-VA2015-REG | 17 DEC 2012 | 12:35 | 1 L Tedlar Bag | 1 | None Required | Fixed Gases by ASTM D2504 | | | N | | good |
| 21 | VA2016 | SVEW-03-160-GS-VA2016-REG | 17 DEC 2012 | 13:20 | 1 L BOTTLEVAC | 1 | None Required | Air Phase Petroleum Hydrocarbons by MA DEP, VOCs / TPH by TO-15 | -5 | | N | 754 | |
| | VA2016 | SVEW-03-160-GS-VA2016-REG | 17 DEC 2012 | 13:20 | 1 L Tedlar Bag | 1 | None Required | Fixed Gases by ASTM D2504 | | | N | | good |
| 22 | VA2017 | SVEW-04-313-GS-VA2017-REG | 17 DEC 2012 | 13:43 | 1 L BOTTLEVAC | 1 | None Required | Air Phase Petroleum Hydrocarbons by MA DEP, VOCs / TPH by TO-15 | -5 | | N | 709 | |
| | VA2017 | SVEW-04-313-GS-VA2017-REG | 17 DEC 2012 | 13:43 | 1 L Tedlar Bag | 1 | None Required | Fixed Gases by ASTM D2504 | | | N | | good |
| 23 | VA2018 | SVEW-05-460-GS-VA2018-REG | 17 DEC 2012 | 14:07 | 1 L BOTTLEVAC | 1 | None Required | Air Phase Petroleum Hydrocarbons by MA DEP, VOCs / TPH by TO-15 | -5 | | N | 1159 | |
| | VA2018 | SVEW-05-460-GS-VA2018-REG | 17 DEC 2012 | 14:07 | 1 L Tedlar Bag | 1 | None Required | Fixed Gases by ASTM D2504 | | | N | | good |
| 24 | VA2019 | SVEW-06-060-GS-VA2019-REG | 17 DEC 2012 | 14:42 | 1 L BOTTLEVAC | 1 | None Required | Air Phase Petroleum Hydrocarbons by MA DEP, VOCs / TPH by TO-15 | -5.5 | | N | 748 | |
| | VA2019 | SVEW-06-060-GS-VA2019-REG | 17 DEC 2012 | 14:42 | 1 L Tedlar Bag | 1 | None Required | Fixed Gases by ASTM D2504 | | | N | | good |
| 25 | VA2020 | SVEW-07-160-GS-VA2020-REG | 17 DEC 2012 | 15:06 | 1 L BOTTLEVAC | 1 | None Required | Air Phase Petroleum Hydrocarbons by MA DEP, VOCs / TPH by TO-15 | -6 | | N | 1207 | |
| | VA2020 | SVEW-07-160-GS-VA2020-REG | 17 DEC 2012 | 15:06 | 1 L Tedlar Bag | 1 | None Required | Fixed Gases by ASTM D2504 | | | N | | good |
| 26 | VA2021 | SVEW-08-260-GS-VA2021-REG | 18 DEC 2012 | 08:54 | 1 L BOTTLEVAC | 1 | None Required | Air Phase Petroleum Hydrocarbons by MA DEP, VOCs / TPH by TO-15 | -5.5 | | N | 1229 | |
| | VA2021 | SVEW-08-260-GS-VA2021-REG | 18 DEC 2012 | 08:54 | 1 L Tedlar Bag | 1 | None Required | Fixed Gases by ASTM D2504 | | | N | | good |
| 27 | VA2022 | SVEW-09-460-GS-VA2022-REG | 18 DEC 2012 | 09:20 | 1 L BOTTLEVAC | 1 | None Required | Air Phase Petroleum Hydrocarbons by MA DEP, VOCs / TPH by TO-15 | -5 | | N | 712 | |
| | VA2022 | SVEW-09-460-GS-VA2022-REG | 18 DEC 2012 | 09:20 | 1 L Tedlar Bag | 1 | None Required | Fixed Gases by ASTM D2504 | | | N | | good |
| 28 | VA2025 | SVEW-11-410-GS-VA2025-REG | 18 DEC 2012 | 14:16 | 1 L BOTTLEVAC | 1 | None Required | Air Phase Petroleum Hydrocarbons by MA DEP, VOCs / TPH by TO-15 | -6 | | N | 680 | |
| | VA2025 | SVEW-11-410-GS-VA2025-REG | 18 DEC 2012 | 14:16 | 1 L Tedlar Bag | 1 | None Required | Fixed Gases by ASTM D2504 | | | N | | good |
| 29 | VA2027 | SVEW-13-410-GS-VA2027-REG | 18 DEC 2012 | 11:21 | 1 L BOTTLEVAC | 1 | None Required | Air Phase Petroleum Hydrocarbons by MA DEP, VOCs / TPH by TO-15 | -6 | | N | 660 | |
| | VA2027 | SVEW-13-410-GS-VA2027-REG | 18 DEC 2012 | 11:21 | 1 L Tedlar Bag | 1 | None Required | Fixed Gases by ASTM D2504 | | | N | | good |
| 30 | VA2172 | KAFB-106130-025-GS-VA2172-REG | 17 DEC 2012 | 12:37 | 1 L BOTTLEVAC | 1 | None Required | Air Phase Petroleum Hydrocarbons by MA DEP, VOCs / TPH by TO-15 | -6.5 | | N | 690 | |
| | VA2172 | KAFB-106130-025-GS-VA2172-REG | 17 DEC 2012 | 12:37 | 1 L Tedlar Bag | 1 | None Required | Fixed Gases by ASTM D2504 | | | N | | good |
| 31 | VA2173 | KAFB-106130-050-GS-VA2173-REG | 17 DEC 2012 | 13:06 | 1 L BOTTLEVAC | 1 | None Required | Air Phase Petroleum Hydrocarbons by MA DEP, VOCs / TPH by TO-15 | -6 | | N | 1211 | |
| | VA2173 | KAFB-106130-050-GS-VA2173-REG | 17 DEC 2012 | 13:06 | 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-SV110



| | Sample No | Sample Name | Sample Date | Sample Time | Container | | Preservative | Requested Testing Program | Sample Vol (" Hg) | Units | Fil | CID | Condition On Receipt |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| GWP 32 | VA2174 | KAFB-106130-050-GS-VA2174-FD | 17 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 | 653 | |
| | VA2174 | KAFB-106130-050-GS-VA2174-FD | 17 DEC 2012 | 13:06 | 1 L Tedlar Bag | 1 | None Required | Fixed Gases by ASTM D2504 | | | N | | good |
| 33 | VA2175 | KAFB-106130-150-GS-VA2175-REG | 17 DEC 2012 | 13:57 | 1 L BOTTLEVAC | 1 | None Required | Air Phase Petroleum Hydrocarbons by MA DEP, VOCs / TPH by TO-15 | -6 | | N | 1169 | |
| | VA2175 | KAFB-106130-150-GS-VA2175-REG | 17 DEC 2012 | 13:57 | 1 L Tedlar Bag | 1 | None Required | Fixed Gases by ASTM D2504 | | | N | | good |
| 34 | VA2176 | KAFB-106130-250-GS-VA2176-REG | 17 DEC 2012 | 14:34 | 1 L BOTTLEVAC | 1 | None Required | Air Phase Petroleum Hydrocarbons by MA DEP, VOCs / TPH by TO-15 | -6.5 | | N | 1164 | |
| | VA2176 | KAFB-106130-250-GS-VA2176-REG | 17 DEC 2012 | 14:34 | 1 L Tedlar Bag | 1 | None Required | Fixed Gases by ASTM D2504 | | | N | | good |
| 35 | VA2177 | KAFB-106130-350-GS-VA2177-REG | 17 DEC 2012 | 15:08 | 1 L BOTTLEVAC | 1 | None Required | Air Phase Petroleum Hydrocarbons by MA DEP, VOCs / TPH by TO-15 | -5.5 | | N | 759 | |
| | VA2177 | KAFB-106130-350-GS-VA2177-REG | 17 DEC 2012 | 15:08 | 1 L Tedlar Bag | 1 | None Required | Fixed Gases by ASTM D2504 | | | N | | good |
| 36 | VA2178 | KAFB-106130-450-GS-VA2178-REG | 17 DEC 2012 | 15:46 | 1 L BOTTLEVAC | 1 | None Required | Air Phase Petroleum Hydrocarbons by MA DEP, VOCs / TPH by TO-15 | -6 | | N | 832 | |
| | VA2178 | KAFB-106130-450-GS-VA2178-REG | 17 DEC 2012 | 15:46 | 1 L Tedlar Bag | 1 | None Required | Fixed Gases by ASTM D2504 | | | N | | good |
| 37 | VA2179 | KAFB-106131-025-GS-VA2179-REG | 17 DEC 2012 | 08:44 | 1 L BOTTLEVAC | 1 | None Required | Air Phase Petroleum Hydrocarbons by MA DEP, VOCs / TPH by TO-15 | -5.5 | | N | 703 | |
| | VA2179 | KAFB-106131-025-GS-VA2179-REG | 17 DEC 2012 | 08:44 | 1 L Tedlar Bag | 1 | None Required | Fixed Gases by ASTM D2504 | | | N | | good |
| 38 | VA2180 | KAFB-106131-055-GS-VA2180-REG | 17 DEC 2012 | 09:14 | 1 L BOTTLEVAC | 1 | None Required | Air Phase Petroleum Hydrocarbons by MA DEP, VOCs / TPH by TO-15 | -5.5 | | N | 621 | |
| | VA2180 | KAFB-106131-055-GS-VA2180-REG | 17 DEC 2012 | 09:14 | 1 L Tedlar Bag | 1 | None Required | Fixed Gases by ASTM D2504 | | | N | | good |
| 39 | VA2181 | KAFB-106131-150-GS-VA2181-REG | 17 DEC 2012 | 09:45 | 1 L BOTTLEVAC | 1 | None Required | Air Phase Petroleum Hydrocarbons by MA DEP, VOCs / TPH by TO-15 | -5 | | N | 603 | |
| | VA2181 | KAFB-106131-150-GS-VA2181-REG | 17 DEC 2012 | 09:45 | 1 L Tedlar Bag | 1 | None Required | Fixed Gases by ASTM D2504 | | | N | | good |
| 40 | VA2182 | KAFB-106131-245-GS-VA2182-REG | 18 DEC 2012 | 10:20 | 1 L BOTTLEVAC | 1 | None Required | Air Phase Petroleum Hydrocarbons by MA DEP, VOCs / TPH by TO-15 | -5.5 | | N | 1177 | |
| | VA2182 | KAFB-106131-245-GS-VA2182-REG | 18 DEC 2012 | 10:20 | 1 L Tedlar Bag | 1 | None Required | Fixed Gases by ASTM D2504 | | | N | | good |
| 41 | VA2183 | KAFB-106131-350-GS-VA2183-REG | 17 DEC 2012 | 10:56 | 1 L BOTTLEVAC | 1 | None Required | Air Phase Petroleum Hydrocarbons by MA DEP, VOCs / TPH by TO-15 | -6 | | N | 594 | |
| | VA2183 | KAFB-106131-350-GS-VA2183-REG | 17 DEC 2012 | 10:56 | 1 L Tedlar Bag | 1 | None Required | Fixed Gases by ASTM D2504 | | | N | | good |
| 42 | VA2184 | KAFB-106131-450-GS-VA2184-REG | 17 DEC 2012 | 11:36 | 1 L BOTTLEVAC | 1 | None Required | Air Phase Petroleum Hydrocarbons by MA DEP, VOCs / TPH by TO-15 | -5 | | N | 808 | |
| | VA2184 | KAFB-106131-450-GS-VA2184-REG | 17 DEC 2012 | 11:36 | 1 L Tedlar Bag | 1 | None Required | Fixed Gases by ASTM D2504 | | | N | | good |
| 43 - * | VA2201R | KAFB-106134-170-GS-VA2201R-REG | 19 DEC 2012 | 08:45 | 1 L BOTTLEVAC | 1 | None Required | VOCs / TPH by TO-15 | -2.5 | | N | 776 | |
| ** 44 | VA8110-TB | FIELDQC-AQ-VA8110-TB-TB | 17 DEC 2012 | 08:00 | 1 L BOTTLEVAC | 1 | None Required | VOCs / TPH by TO-15 | -9 | | N | 700 | |

FROM:
DAVID AUBREY
(505) 307-8968
KAFB BFF/SHAW E & I, INC.
5202 RANDOLPH AVE SE
KIRTLAND AFB NM 87117

20 LBS 1 OF 10
DWT: 20,14,12

MI 482 9-02

UPS GROUND
TRACKING #: 1Z 103 35E 03 4291 0286

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-4028

1Z10335E034291 0286

UMU9PQF MILIU175 DEC 27 06:21:27 2012
US 4821 HIP 12.1.6 OKILE810

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

12 amber vac samples RD2 27dec12

WS 15.0.16 HP LaserJet 4 33.0A 10/2012

T - 10 Door : 1249
MI 48150
FSTZ884526 MI 482 9-02

UPS GROUND

1Z10335E0342910286

P14D019 3222076 Dec 21 23:16:54 2012 US

SS1013 HIP 11.1.3 BTLP2844L 6059 N

n label pouch

CUSTODY SEAL
DATE 12/18/12
SIGNATURE

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

FROM:
DAVID AUBREY
(505) 307-8968
KAFB BFF/SHAW E & I, INC.
5202 RANDOLPH AVE SE
KIRTLAND AFB NM 87117

20 LBS 2 OF 10
DWT: 20,14,12

MI 482 9-02

UPS GROUND
TRACKING #: 1Z 103 35E 03 4210 2695

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-4028

1Z10335E034210 2695

UMU9P0F MILIU175 DEC 27 06:17:03 20
US 4821 HIP 12.1.6 OKILE810

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

12 amber vac Samples & duds RD2 27dec12

WS 15.0.16 HP LaserJet 4 33.0A 10/2012

Fold here and place in label pouch

CUSTODY SEAL
DATE 12/19/12
SIGNATURE [illegible]

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) |
| Ref. Number: 1Z10335E0342102695 | 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.

Signature [illegible] Date 12/19/12

Carrier Use Only
Initials DCD
SLIC 8710
Date 12/19/12

Page 1 of 1 — 1 Package

T - 10
FSTZ884526

Door: 1249
MI 48150
MI 482 9-02

UPS GROUND

1Z10335E0342102695

P14D019 3222076 Dec 21 23:16:58 2012 US

**FROM:**
DAVID AUBREY
(505) 307-8968
KAFB BFF/SHAW E & I, INC.
5202 RANDOLPH AVE SE
KIRTLAND AFB NM 87117

8 LBS 3 OF 10
DWT: 15,11,9

**MI 482 9-02**

**UPS GROUND**
TRACKING #: 1Z 103 35E 03 4185 3706

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-4028**
1Z10335E034185 3T96
UMV9P0F MILIV175 DEC 27 06:22:07 2012
US 4821 HIP 12.1.6 OKILEB10

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

WS 15.0.16 HP LaserJet 4 33.0A 10/2012

**CUSTODY SEAL**
DATE 12/19/12
SIGNATURE

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

For Air Shipments ... declare that all of the applicable air transport requirements have been met. ... that the contents of this consignment are fully and accurately described above by ... name and are classified, packaged, marked and labeled/placarded, and are in ... condition for transport according to applicable international and national ... radioactive material acceptable for passenger aircraft. Each material is

Carrier Use Only
Initials

UN3167, Gas, compressed, n.o.s., 2.1, ERG 115, TP1 (08/06) 1 Box x 4L

**T - 10** Door: 1249
MI 48150
**FSTZ884526** MI 482 9-02

4 Amber
2 - Tedlar

UPS GROUND

1Z10335E0341853706

P14D019 3222076 Dec 21 23:12:18 2012 US
6059 N
SS1013 HIP 11.1.3 BTLP2844L

FROM:
DAVID AUBREY
(505) 307-8968
KAFB BFF/SHAW E & I, INC.
5202 RANDOLPH AVE SE
KIRTLAND AFB NM 87117

27 LBS 4 OF 10
DWT: 26,16,14

MI 482 9-02

UPS GROUND
TRACKING #: 1Z 103 35E 03 4111 9312

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-4028

1Z10335E034111 9312

UMU9PQF MILIU175 DEC 27 06:26:10 2012
US 4821 HIP 12.1.6 OKILE810

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

1 - tedlar bag
15 - amber vac samples

RD2
27dec12

WS 15.0.16 HP LaserJet 4 33.0A 10/2012

T - 10 Door : 1249
FSTZ884526 MI 48150
MI 482 9-02

UPS GROUND

1Z10335E0341119312

P14D019 3575507 Dec 21 23:49:35 2012 US

SS1013 HIP 11 1.3 BTLP2844L 6059 N

| 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 | ER Registrant | Passenger Aircraft: XXXX / Cargo Aircraft Only: XXXX |
| 1Z10335E0341119312 | 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: T Nagy Date: 12/19/12

Carrier Use Only
Initials: DWJ
SLIC: 8710
Date: 12/19/12

Page 1 of 1 — 1 Package

CUSTODY SEAL
DATE 12/19/12
SIGNATURE T Nagy

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

FROM:
DAVID AUBREY
(505) 307-8968
KAFB BFF/SHAW E & I, INC.
5202 RANDOLPH AVE SE
KIRTLAND AFB NM 87117

2 LBS 5 OF 10
DWT: 20,14,12

MI 482 9-02

UPS GROUND
TRACKING #: 1Z 103 35E 03 4161 5526

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-4028

1Z10335E034161 5526

UMU9P0F MILIV175 DEC 27 06:21:17 2012
US 4821 HIP 12.1.6 OKILE810

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

25 tedlar bags RD2 27dec12

WS 15.0.16 HP LaserJet 4 33.0A 10/2012

T - 10 Door: 1249
FSTZ884526 MI 48150
MI 482 9-02

UPS GROUND

1Z10335E0341615526

P14D019 3222076 Dec 21 23:09:54 2012 US

SS1013 HIP 11.1.3 BTLP2844L 6059 N

| 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 |
| 1Z10335E0341615526 | 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.
12/19/12

Carrier Use Only
Initials DLD
SLIC 8W3
Date 12/19/12
1 Package

CUSTODY SEAL
DATE 12/19/12
SIGNATURE

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

HSNV7

FROM:
DAVID AUBREY
(505) 307-8968
KAFB BFF/SHAW E & I, INC.
5202 RANDOLPH AVE SE
KIRTLAND AFB NM 87117

2 LBS 6 OF 10
DWT: 20,14,12

MI 482 9-02

UPS GROUND
TRACKING #: 1Z 103 35E 03 4241 8336

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-4028

1Z10335E034241 8336

VMU9P0F MILIV175 DEC 27 06:21:15 2012
US 4821 HIP 12.1.6 OKILEB10

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

24 tedlar bags - RD2
27dec12

WS 15.0.16 HP LaserJet 4 33.0A 10/2012

T - 10 Door: 1249
FSTZ884526 MI 48150
MI 482 9-02

UPS GROUND

1Z10335E0342418336

P14D019 3222076 Dec 21 23:09:35 2012 US

SS1013 HIP 11.1.3 BTLP2844L 6059 N

| 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: XXX; Cargo Aircraft Only: XXX |
| Reference Number: 1Z10335E0342418336 | 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 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.

Signature: T Nol Date: 12/19/12

Carrier Use Only
Initials: DCD
SLIC: 8710
Date: 12/19/12

Page 1 of 1 — 1 Package

CUSTODY SEAL
DATE 12/19/12
SIGNATURE T Nol

QEC
Quality Environmental Co...
800-255-3950 • 304-... 3900

**FROM:**
DAVID AUBREY
(505) 307-8968
KAFB BFF/SHAW E & I, INC.
5202 RANDOLPH AVE SE
KIRTLAND AFB NM 87117

**30 LBS** **7 OF 10**
DWT: 26,16,14

**MI 482 9-02**

**UPS GROUND**
TRACKING #: 1Z 103 35E 03 4056 3745

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

REF 1:140705
REF 2:BB010030

BILLING: P/P

RTI LABORATORIES
31628 GLENDALE ST

LIVONIA MI 48150

P: RED2 S: MPUR I: 3

**DAG – 4028**

1Z10335E034056 3745

UMU9PGF MILIV175 DEC 27 06:42:51 2012
US 4821 HIP 12.1.6 OKILEB10

CUSTODY SEAL
DATE 12/19/12
SIGNATURE T Nolan

Fold here and place in label pouch

18 amber vacs samples & duds - RD2 27dec12

**FROM:**
DAVID AUBREY
(505) 307-8968
KAFB BFF/SHAW E & I, INC.
5202 RANDOLPH AVE SE
KIRTLAND AFB NM 87117

**20 LBS** **8 OF 10**
DWT: 20,14,12

# MI 482 9-02

## UPS GROUND
TRACKING #: 1Z 103 35E 03 4064 7753

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-4028**

1Z10335E034064 7753

UMU9P0F MILIU175 DEC 27 06:37:58 2012
US 4821 HIP/12.1.6 OKILE810

BILLING: P/P

RD2
27dec12

12 amber vacs
-returned-

WS 15.0.16 HP LaserJet 4 33.0A 10/2012

CUSTODY SEAL
DATE 12/19/12
SIGNATURE T Nay

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

**FROM:**
DAVID AUBREY
(505) 307-8968
KAFB BFF/SHAW E & I, INC.
5202 RANDOLPH AVE SE
KIRTLAND AFB NM 87117

**20 LBS** **9 OF 10**
DWT: 20,14,12

**MI 482 9-02**

**UPS GROUND**
TRACKING #: 1Z 103 35E 03 4042 6367

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

REF 1:140705
REF 2:BB010030

BILLING: P/P

WS 15.0.16 HP LaserJet 4 33.0A 10/2012

Fold here and place in label pouch

**CUSTODY SEAL**
**DATE** 12/19/12
**SIGNATURE** T Nagy

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

2 Unused Amb

**FROM:**
DAVID AUBREY
(505) 307-8968
KAFB BFF/SHAW E & I, INC.
5202 RANDOLPH AVE SE
KIRTLAND AFB NM 87117

**11 LBS** **10 OF 10**
DWT: 15,8,4

**MI 482 9-02**

**UPS GROUND**
TRACKING #: 1Z 103 35E 03 4041 5575

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

REF 1:140705
REF 2:BB010030

BILLING: P/P

RTI LABORATORIES
31628 GLENDALE ST

LIVONIA MI 48150

P: RED2 S: MPUR I: 3

**DAG-4028**

1Z10335E034041 5575

UMU9PQF MILIU175 DEC 27 06:37:01 2012
US 4821 HIP 12.1.6 OKILE810

WS 15.0.16 HP LaserJet 4 33.0A 10/2012

...id place in label pouch

**CUSTODY SEAL**
DATE 12/19/12
SIGNATURE T Nagy

800-255-3950

48 Regulators

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: | **1212959** |
| RCPNo: | **1** | Date and Time Received: | **12/27/2012 10:26:00 AM** | Received by: | **Katherine Griffin** |
| Completed By: | | | Reviewed By: | Rachel Dean | |
| Completed Date: | **12/27/2012 4:43:21 PM** | | Reviewed Date: | **12/28/2012 9:45 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 [ ] | No [x] | |
| 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 [ ] | No [x] | |
| 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: | n/a | | |

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: **1212959**

Comment: VA2201R Bottle Vac; out of acceptable criteria of -3" Hg to -7" Hg. Sample also was not marked for MA_APH analysis. Per RTI WO# 1212722; VA2201 required both. Run as such.

VA8110-TB out of acceptable criteria

1 of 10: 1Z 103 35E 03 4291 0286
2 of 10: 1Z 103 35E 03 4210 2695
3 of 10: 1Z 103 35E 03 4185 3706
4 of 10: 1Z 103 35E 03 4111 9312
5 of 10: 1Z 103 35E 03 4161 5526
6 of 10: 1Z 103 35E 03 4241 8336
7 of 10: 1Z 103 35E 03 4056 3745
8 of 10: 1Z 103 35E 03 4064 7753
9 of 10: 1Z 103 35E 03 4042 6367
10 of 10: 1Z 103 35E 03 4041 5575

Client Contacted: Yes [x] No [ ] NA [ ] Person Contacted: Susan, Lisa & David

Contact Mode: Phone [x] Fax: [ ] Email: [x] In Person: [ ]

Date Contacted: **12/27/2012 12:45:00 PM** Contacted By: **Katherine Griffin**

Regarding: insuff. vac on samples and TB & test codes clarify

Client Instructions: Run VA2201R as is. Change TB (700) to another BV (764)

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 |
|---|---|---|---|---|---|---|---|
| 1212959-001A | 1155 | Bottle | -5.5"hg | | | | |
| 1212959-001B | Container-01 of 01 | Bottle | | | | | |
| 1212959-002A | 1167 | Bottle | -5"hg | | | | |
| 1212959-002B | Container-01 of 01 | Bottle | | | | | |
| 1212959-003A | 515 | Bottle | -6"hg | | | | |
| 1212959-003B | Container-01 of 01 | Bottle | | | | | |
| 1212959-004A | 1224 | Bottle | -5.5"hg | | | | |
| 1212959-004B | Container-01 of 01 | Bottle | | | | | |
| 1212959-005A | 1178 | Bottle | -5"hg | | | | |
| 1212959-005B | Container-01 of 01 | Bottle | | | | | |
| 1212959-006A | 746 | Bottle | -6"hg | | | | |
| 1212959-006B | Container-01 of 01 | Bottle | | | | | |
| 1212959-007A | 539 | Bottle | -6"hg | | | | |
| 1212959-007B | Container-01 of 01 | Bottle | | | | | |
| 1212959-008A | 1217 | Bottle | -6"hg | | | | |
| 1212959-008B | Container-01 of 01 | Bottle | | | | | |
| 1212959-009A | 613 | Bottle | -5"hg | | | | |
| 1212959-009B | Container-01 of 01 | Bottle | | | | | |
| 1212959-010A | 529 | Bottle | -5.5"hg | | | | |
| 1212959-010B | Container-01 of 01 | Bottle | | | | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 1212959-011A | 1213 | Bottle | -5"hg | | | | |
| 1212959-011B | Container-01 of 01 | Bottle | | | | | |
| 1212959-012A | 532 | Bottle | -5"hg | | | | |
| 1212959-012B | Container-01 of 01 | Bottle | | | | | |
| 1212959-013A | 720 | Bottle | -5"hg | | | | |
| 1212959-013B | Container-01 of 01 | Bottle | | | | | |
| 1212959-014A | 737 | Bottle | -6"hg | | | | |
| 1212959-014B | Container-01 of 01 | Bottle | | | | | |
| 1212959-015A | 813 | Bottle | -6"hg | | | | |
| 1212959-015B | Container-01 of 01 | Bottle | | | | | |
| 1212959-016A | 668 | Bottle | -6.5"hg | | | | |
| 1212959-016B | Container-01 of 01 | Bottle | | | | | |
| 1212959-017A | 1166 | Bottle | -6.5"hg | | | | |
| 1212959-017B | Container-01 of 01 | Bottle | | | | | |
| 1212959-018A | 828 | Bottle | -6"hg | | | | |
| 1212959-018B | Container-01 of 01 | Bottle | | | | | |
| 1212959-019A | 1184 | Bottle | -5"hg | | | | |
| 1212959-019B | Container-01 of 01 | Bottle | | | | | |
| 1212959-020A | 1147 | Bottle | -5"hg | | | | |
| 1212959-020B | Container-01 of 01 | Bottle | | | | | |
| 1212959-021A | 754 | Bottle | -5"hg | | | | |
| 1212959-021B | Container-01 of 01 | Bottle | | | | | |
| 1212959-022A | 709 | Bottle | -5"hg | | | | |
| 1212959-022B | Container-01 of 01 | Bottle | | | | | |
| 1212959-023A | 1159 | Bottle | -5"hg | | | | |
| 1212959-023B | Container-01 of 01 | Bottle | | | | | |
| 1212959-024A | 748 | Bottle | -5.5"hg | | | | |
| 1212959-024B | Container-01 of 01 | Bottle | | | | | |
| 1212959-025A | 1207 | Bottle | -6"hg | | | | |
| 1212959-025B | Container-01 of 01 | Bottle | | | | | |
| 1212959-026A | 1229 | Bottle | -5.5"hg | | | | |
| 1212959-026B | Container-01 of 01 | Bottle | | | | | |
| 1212959-027A | 712 | Bottle | -5"hg | | | | |
| 1212959-027B | Container-01 of 01 | Bottle | | | | | |
| 1212959-028A | 680 | Bottle | -6"hg | | | | |
| 1212959-028B | Container-01 of 01 | Bottle | | | | | |
| 1212959-029A | 660 | Bottle | -6"hg | | | | |
| 1212959-029B | Container-01 of 01 | Bottle | | | | | |
| 1212959-030A | 690 | Bottle | -6.5"hg | | | | |
| 1212959-030B | Container-01 of 01 | Bottle | | | | | |
| 1212959-031A | 1211 | Bottle | -6"hg | | | | |
| 1212959-031B | Container-01 of 01 | Bottle | | | | | |
| 1212959-032A | 653 | Bottle | -6.5"hg | | | | |
| 1212959-032B | Container-01 of 01 | Bottle | | | | | |
| 1212959-033A | 1169 | Bottle | -6"hg | | | | |
| 1212959-033B | Container-01 of 01 | Bottle | | | | | |
| 1212959-034A | 1164 | Bottle | -6.5"hg | | | | |
| 1212959-034B | Container-01 of 01 | Bottle | | | | | |
| 1212959-035A | 759 | Bottle | -5.5"hg | | | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 1212959-035B | Container-01 of 01 | Bottle | | | | | |
| 1212959-036A | 832 | Bottle | -6"hg | | | | |
| 1212959-036B | Container-01 of 01 | Bottle | | | | | |
| 1212959-037A | 703 | Bottle | -5.5"hg | | | | |
| 1212959-037B | Container-01 of 01 | Bottle | | | | | |
| 1212959-038A | 621 | Bottle | -5.5"hg | | | | |
| 1212959-038B | Container-01 of 01 | Bottle | | | | | |
| 1212959-039A | 603 | Bottle | -5"hg | | | | |
| 1212959-039B | Container-01 of 01 | Bottle | | | | | |
| 1212959-040A | 1177 | Bottle | -5.5hg | | | | |
| 1212959-040B | Container-01 of 01 | Bottle | | | | | |
| 1212959-041A | 594 | Bottle | -6"hg | | | | |
| 1212959-041B | Container-01 of 01 | Bottle | | | | | |
| 1212959-042A | 808 | Bottle | -5"hg | | | | |
| 1212959-042B | Container-01 of 01 | Bottle | | | | | |
| 1212959-043A | 776 | Bottle | -2.5"hg | | | | |
| 1212959-044A | 764 | Bottle | -30"hg | | | | |

# RTI Laboratories - Workorder Sample Summary

**WO#: 1212959**

**Date Reported: 1/17/2013**
**Revision v1**

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

**Project:** Kirtland AFB

| Lab Sample ID | Client Sample ID | Tag No | Date Collected | Date Received | Matrix |
|---|---|---|---|---|---|
| 1212959-001A | VA1945 | | 12/17/2012 9:26 AM | 12/27/2012 10:26 AM | Air |
| 1212959-001B | VA1945 | | 12/17/2012 9:26 AM | 12/27/2012 10:26 AM | Air |
| 1212959-002A | VA1946 | | 12/17/2012 9:50 AM | 12/27/2012 10:26 AM | Air |
| 1212959-002B | VA1946 | | 12/17/2012 9:50 AM | 12/27/2012 10:26 AM | Air |
| 1212959-003A | VA1947 | | 12/17/2012 9:50 AM | 12/27/2012 10:26 AM | Air |
| 1212959-003B | VA1947 | | 12/17/2012 9:50 AM | 12/27/2012 10:26 AM | Air |
| 1212959-004A | VA1948 | | 12/17/2012 10:28 AM | 12/27/2012 10:26 AM | Air |
| 1212959-004B | VA1948 | | 12/17/2012 10:28 AM | 12/27/2012 10:26 AM | Air |
| 1212959-005A | VA1949 | | 12/17/2012 10:56 AM | 12/27/2012 10:26 AM | Air |
| 1212959-005B | VA1949 | | 12/17/2012 10:56 AM | 12/27/2012 10:26 AM | Air |
| 1212959-006A | VA1996 | | 12/18/2012 12:32 PM | 12/27/2012 10:26 AM | Air |
| 1212959-006B | VA1996 | | 12/18/2012 12:32 PM | 12/27/2012 10:26 AM | Air |
| 1212959-007A | VA1997 | | 12/18/2012 12:56 PM | 12/27/2012 10:26 AM | Air |
| 1212959-007B | VA1997 | | 12/18/2012 12:56 PM | 12/27/2012 10:26 AM | Air |
| 1212959-008A | VA1998 | | 12/18/2012 1:22 PM | 12/27/2012 10:26 AM | Air |
| 1212959-008B | VA1998 | | 12/18/2012 1:22 PM | 12/27/2012 10:26 AM | Air |
| 1212959-009A | VA1999 | | 12/18/2012 1:50 PM | 12/27/2012 10:26 AM | Air |
| 1212959-009B | VA1999 | | 12/18/2012 1:50 PM | 12/27/2012 10:26 AM | Air |
| 1212959-010A | VA2005 | | 12/18/2012 9:14 AM | 12/27/2012 10:26 AM | Air |
| 1212959-010B | VA2005 | | 12/18/2012 9:14 AM | 12/27/2012 10:26 AM | Air |
| 1212959-011A | VA2006 | | 12/18/2012 9:38 AM | 12/27/2012 10:26 AM | Air |
| 1212959-011B | VA2006 | | 12/18/2012 9:38 AM | 12/27/2012 10:26 AM | Air |
| 1212959-012A | VA2007 | | 12/18/2012 10:06 AM | 12/27/2012 10:26 AM | Air |
| 1212959-012B | VA2007 | | 12/18/2012 10:06 AM | 12/27/2012 10:26 AM | Air |
| 1212959-013A | VA2008 | | 12/18/2012 10:36 AM | 12/27/2012 10:26 AM | Air |
| 1212959-013B | VA2008 | | 12/18/2012 10:36 AM | 12/27/2012 10:26 AM | Air |
| 1212959-014A | VA2009 | | 12/18/2012 10:43 AM | 12/27/2012 10:26 AM | Air |
| 1212959-014B | VA2009 | | 12/18/2012 10:43 AM | 12/27/2012 10:26 AM | Air |
| 1212959-015A | VA2010 | | 12/18/2012 11:08 AM | 12/27/2012 10:26 AM | Air |
| 1212959-015B | VA2010 | | 12/18/2012 11:08 AM | 12/27/2012 10:26 AM | Air |
| 1212959-016A | VA2011 | | 12/18/2012 11:42 AM | 12/27/2012 10:26 AM | Air |
| 1212959-016B | VA2011 | | 12/18/2012 11:42 AM | 12/27/2012 10:26 AM | Air |
| 1212959-017A | VA2012 | | 12/18/2012 12:12 PM | 12/27/2012 10:26 AM | Air |
| 1212959-017B | VA2012 | | 12/18/2012 12:12 PM | 12/27/2012 10:26 AM | Air |
| 1212959-018A | VA2013 | | 12/18/2012 12:12 PM | 12/27/2012 10:26 AM | Air |
| 1212959-018B | VA2013 | | 12/18/2012 12:12 PM | 12/27/2012 10:26 AM | Air |
| 1212959-019A | VA2014 | | 12/17/2012 11:55 AM | 12/27/2012 10:26 AM | Air |
| 1212959-019B | VA2014 | | 12/17/2012 11:55 AM | 12/27/2012 10:26 AM | Air |
| 1212959-020A | VA2015 | | 12/17/2012 12:35 PM | 12/27/2012 10:26 AM | Air |
| 1212959-020B | VA2015 | | 12/17/2012 12:35 PM | 12/27/2012 10:26 AM | Air |
| 1212959-021A | VA2016 | | 12/17/2012 1:20 PM | 12/27/2012 10:26 AM | Air |
| 1212959-021B | VA2016 | | 12/17/2012 1:20 PM | 12/27/2012 10:26 AM | Air |
| 1212959-022A | VA2017 | | 12/17/2012 1:43 PM | 12/27/2012 10:26 AM | Air |
| 1212959-022B | VA2017 | | 12/17/2012 1:43 PM | 12/27/2012 10:26 AM | Air |
| 1212959-023A | VA2018 | | 12/17/2012 2:07 PM | 12/27/2012 10:26 AM | Air |

# RTI Laboratories - Workorder Sample Summary

**WO#: 1212959**

**Date Reported: 1/17/2013**
**Revision v1**

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

**Project:** Kirtland AFB

| Lab Sample ID | Client Sample ID | Tag No | Date Collected | Date Received | Matrix |
|---|---|---|---|---|---|
| 1212959-023B | VA2018 | | 12/17/2012 2:07 PM | 12/27/2012 10:26 AM | Air |
| 1212959-024A | VA2019 | | 12/17/2012 2:42 PM | 12/27/2012 10:26 AM | Air |
| 1212959-024B | VA2019 | | 12/17/2012 2:42 PM | 12/27/2012 10:26 AM | Air |
| 1212959-025A | VA2020 | | 12/17/2012 3:06 PM | 12/27/2012 10:26 AM | Air |
| 1212959-025B | VA2020 | | 12/17/2012 3:06 PM | 12/27/2012 10:26 AM | Air |
| 1212959-026A | VA2021 | | 12/18/2012 8:54 AM | 12/27/2012 10:26 AM | Air |
| 1212959-026B | VA2021 | | 12/18/2012 8:54 AM | 12/27/2012 10:26 AM | Air |
| 1212959-027A | VA2022 | | 12/18/2012 9:20 AM | 12/27/2012 10:26 AM | Air |
| 1212959-027B | VA2022 | | 12/18/2012 9:20 AM | 12/27/2012 10:26 AM | Air |
| 1212959-028A | VA2025 | | 12/18/2012 2:16 PM | 12/27/2012 10:26 AM | Air |
| 1212959-028B | VA2025 | | 12/18/2012 2:16 PM | 12/27/2012 10:26 AM | Air |
| 1212959-029A | VA2027 | | 12/18/2012 11:21 AM | 12/27/2012 10:26 AM | Air |
| 1212959-029B | VA2027 | | 12/18/2012 11:21 AM | 12/27/2012 10:26 AM | Air |
| 1212959-030A | VA2172 | | 12/17/2012 12:37 PM | 12/27/2012 10:26 AM | Air |
| 1212959-030B | VA2172 | | 12/17/2012 12:37 PM | 12/27/2012 10:26 AM | Air |
| 1212959-031A | VA2173 | | 12/17/2012 1:06 PM | 12/27/2012 10:26 AM | Air |
| 1212959-031B | VA2173 | | 12/17/2012 1:06 PM | 12/27/2012 10:26 AM | Air |
| 1212959-032A | VA2174 | | 12/17/2012 1:06 PM | 12/27/2012 10:26 AM | Air |
| 1212959-032B | VA2174 | | 12/17/2012 1:06 PM | 12/27/2012 10:26 AM | Air |
| 1212959-033A | VA2175 | | 12/17/2012 1:57 PM | 12/27/2012 10:26 AM | Air |
| 1212959-033B | VA2175 | | 12/17/2012 1:57 PM | 12/27/2012 10:26 AM | Air |
| 1212959-034A | VA2176 | | 12/17/2012 2:34 PM | 12/27/2012 10:26 AM | Air |
| 1212959-034B | VA2176 | | 12/17/2012 2:34 PM | 12/27/2012 10:26 AM | Air |
| 1212959-035A | VA2177 | | 12/17/2012 3:08 PM | 12/27/2012 10:26 AM | Air |
| 1212959-035B | VA2177 | | 12/17/2012 3:08 PM | 12/27/2012 10:26 AM | Air |
| 1212959-036A | VA2178 | | 12/17/2012 3:46 PM | 12/27/2012 10:26 AM | Air |
| 1212959-036B | VA2178 | | 12/17/2012 3:46 PM | 12/27/2012 10:26 AM | Air |
| 1212959-037A | VA2179 | | 12/17/2012 8:44 AM | 12/27/2012 10:26 AM | Air |
| 1212959-037B | VA2179 | | 12/17/2012 8:44 AM | 12/27/2012 10:26 AM | Air |
| 1212959-038A | VA2180 | | 12/17/2012 9:14 AM | 12/27/2012 10:26 AM | Air |
| 1212959-038B | VA2180 | | 12/17/2012 9:14 AM | 12/27/2012 10:26 AM | Air |
| 1212959-039A | VA2181 | | 12/17/2012 9:45 AM | 12/27/2012 10:26 AM | Air |
| 1212959-039B | VA2181 | | 12/17/2012 9:45 AM | 12/27/2012 10:26 AM | Air |
| 1212959-040A | VA2182 | | 12/18/2012 10:20 AM | 12/27/2012 10:26 AM | Air |
| 1212959-040B | VA2182 | | 12/18/2012 10:20 AM | 12/27/2012 10:26 AM | Air |
| 1212959-041A | VA2183 | | 12/17/2012 10:56 AM | 12/27/2012 10:26 AM | Air |
| 1212959-041B | VA2183 | | 12/17/2012 10:56 AM | 12/27/2012 10:26 AM | Air |
| 1212959-042A | VA2184 | | 12/17/2012 11:36 AM | 12/27/2012 10:26 AM | Air |
| 1212959-042B | VA2184 | | 12/17/2012 11:36 AM | 12/27/2012 10:26 AM | Air |
| 1212959-043A | VA2201R | | 12/19/2012 8:45 AM | 12/27/2012 10:26 AM | Air |
| 1212959-044A | VA8110-TB | | 12/17/2012 8:00 AM | 12/27/2012 10:26 AM | Air |

# RTI Laboratories - DATES REPORT

**WO#: 1212959**

**Date Reported: 1/17/2013**
**Revision v1**

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

**Project:** Kirtland AFB

| Sample ID | Client Sample ID | Collection Date | Matrix | Test Name | Leachate Date | Prep Date | Analysis Date |
|---|---|---|---|---|---|---|---|
| 1212959-001A | VA1945 | 12/17/2012 9:26 AM | Air | | | | |
| | | | | MA_APH-Air-Phase Petroleum Hydrocarbons | | | 1/10/2013 7:48 PM |
| | | | | EPA_TO15-Volatile Organic Compounds | | | 1/11/2013 6:45 PM |
| 1212959-001B | VA1945 | 12/17/2012 9:26 AM | Air | | | | |
| | | | | ASTM-D2504-Noncondensable Gases and Light Hydrocarbons | | | 1/10/2013 3:56 PM |
| 1212959-002A | VA1946 | 12/17/2012 9:50 AM | Air | | | | |
| | | | | MA_APH-Air-Phase Petroleum Hydrocarbons | | | 1/10/2013 9:16 PM |
| | | | | EPA_TO15-Volatile Organic Compounds | | | 1/11/2013 8:57 PM |
| 1212959-002B | VA1946 | 12/17/2012 9:50 AM | Air | | | | |
| | | | | ASTM-D2504-Noncondensable Gases and Light Hydrocarbons | | | 1/10/2013 4:10 PM |
| 1212959-003A | VA1947 | 12/17/2012 9:50 AM | Air | | | | |
| | | | | MA_APH-Air-Phase Petroleum Hydrocarbons | | | 1/10/2013 9:59 PM |
| | | | | EPA_TO15-Volatile Organic Compounds | | | 1/11/2013 9:39 PM |
| 1212959-003B | VA1947 | 12/17/2012 9:50 AM | Air | | | | |
| | | | | ASTM-D2504-Noncondensable Gases and Light Hydrocarbons | | | 1/10/2013 4:24 PM |
| 1212959-004A | VA1948 | 12/17/2012 10:28 AM | Air | | | | |
| | | | | MA_APH-Air-Phase Petroleum Hydrocarbons | | | 1/11/2013 6:00 PM |
| | | | | EPA_TO15-Volatile Organic Compounds | | | 1/11/2013 10:27 PM |
| 1212959-004B | VA1948 | 12/17/2012 10:28 AM | Air | | | | |
| | | | | ASTM-D2504-Noncondensable Gases and Light Hydrocarbons | | | 1/10/2013 4:38 PM |
| 1212959-005A | VA1949 | 12/17/2012 10:56 AM | Air | | | | |
| | | | | MA_APH-Air-Phase Petroleum Hydrocarbons | | | 1/15/2013 12:01 AM |
| | | | | EPA_TO15-Volatile Organic Compounds | | | 1/14/2013 2:52 PM |
| 1212959-005B | VA1949 | 12/17/2012 10:56 AM | Air | | | | |
| | | | | ASTM-D2504-Noncondensable Gases and Light Hydrocarbons | | | 1/10/2013 4:52 PM |
| 1212959-006A | VA1996 | 12/18/2012 12:32 PM | Air | | | | |
| | | | | MA_APH-Air-Phase Petroleum Hydrocarbons | | | 1/16/2013 7:28 PM |
| | | | | EPA_TO15-Volatile Organic Compounds | | | 1/15/2013 7:04 PM |
| | | | | EPA_TO15-Volatile Organic Compounds | | | 1/16/2013 1:56 PM |

# RTI Laboratories - DATES REPORT

**WO#: 1212959**

**Date Reported: 1/17/2013**
**Revision v1**

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

**Project:** Kirtland AFB

| Sample ID | Client Sample ID | Collection Date | Matrix | Test Name | Leachate Date | Prep Date | Analysis Date |
|---|---|---|---|---|---|---|---|
| 1212959-006B | VA1996 | 12/18/2012 12:32 PM | Air | | | | |
| | | | | ASTM-D2504-Noncondensable Gases and Light Hydrocarbons | | | 1/10/2013 5:07 PM |
| 1212959-007A | VA1997 | 12/18/2012 12:56 PM | Air | | | | |
| | | | | MA_APH-Air-Phase Petroleum Hydrocarbons | | | 1/16/2013 1:06 AM |
| | | | | EPA_TO15-Volatile Organic Compounds | | | 1/15/2013 3:06 PM |
| 1212959-007B | VA1997 | 12/18/2012 12:56 PM | Air | | | | |
| | | | | ASTM-D2504-Noncondensable Gases and Light Hydrocarbons | | | 1/10/2013 5:22 PM |
| 1212959-008A | VA1998 | 12/18/2012 1:22 PM | Air | | | | |
| | | | | MA_APH-Air-Phase Petroleum Hydrocarbons | | | 1/16/2013 2:41 AM |
| | | | | EPA_TO15-Volatile Organic Compounds | | | 1/15/2013 4:42 PM |
| 1212959-008B | VA1998 | 12/18/2012 1:22 PM | Air | | | | |
| | | | | ASTM-D2504-Noncondensable Gases and Light Hydrocarbons | | | 1/10/2013 5:36 PM |
| 1212959-009A | VA1999 | 12/18/2012 1:50 PM | Air | | | | |
| | | | | MA_APH-Air-Phase Petroleum Hydrocarbons | | | 1/16/2013 1:30 PM |
| | | | | EPA_TO15-Volatile Organic Compounds | | | 1/16/2013 10:38 PM |
| 1212959-009B | VA1999 | 12/18/2012 1:50 PM | Air | | | | |
| | | | | ASTM-D2504-Noncondensable Gases and Light Hydrocarbons | | | 1/10/2013 5:50 PM |
| 1212959-010A | VA2005 | 12/18/2012 9:14 AM | Air | | | | |
| | | | | MA_APH-Air-Phase Petroleum Hydrocarbons | | | 1/15/2013 4:35 PM |
| | | | | EPA_TO15-Volatile Organic Compounds | | | 1/15/2013 2:17 PM |
| 1212959-010B | VA2005 | 12/18/2012 9:14 AM | Air | | | | |
| | | | | ASTM-D2504-Noncondensable Gases and Light Hydrocarbons | | | 1/10/2013 6:04 PM |
| 1212959-011A | VA2006 | 12/18/2012 9:38 AM | Air | | | | |
| | | | | MA_APH-Air-Phase Petroleum Hydrocarbons | | | 1/15/2013 1:45 PM |
| | | | | EPA_TO15-Volatile Organic Compounds | | | 1/12/2013 12:42 AM |
| 1212959-011B | VA2006 | 12/18/2012 9:38 AM | Air | | | | |
| | | | | ASTM-D2504-Noncondensable Gases and Light Hydrocarbons | | | 1/11/2013 12:06 PM |

# RTI Laboratories - DATES REPORT

**WO#: 1212959**

**Date Reported: 1/17/2013**
**Revision v1**

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

**Project:** Kirtland AFB

| Sample ID | Client Sample ID | Collection Date | Matrix | Test Name | Leachate Date | Prep Date | Analysis Date |
|---|---|---|---|---|---|---|---|
| 1212959-012A | VA2007 | 12/18/2012 10:06 AM | Air | | | | |
| | | | | MA_APH-Air-Phase Petroleum Hydrocarbons | | | 1/15/2013 3:10 PM |
| | | | | EPA_TO15-Volatile Organic Compounds | | | 1/12/2013 1:24 AM |
| 1212959-012B | VA2007 | 12/18/2012 10:06 AM | Air | | | | |
| | | | | ASTM-D2504-Noncondensable Gases and Light Hydrocarbons | | | 1/11/2013 12:21 PM |
| 1212959-013A | VA2008 | 12/18/2012 10:36 AM | Air | | | | |
| | | | | MA_APH-Air-Phase Petroleum Hydrocarbons | | | 1/15/2013 3:52 PM |
| | | | | EPA_TO15-Volatile Organic Compounds | | | 1/12/2013 2:55 AM |
| | | | | EPA_TO15-Volatile Organic Compounds | | | 1/15/2013 10:01 PM |
| 1212959-013B | VA2008 | 12/18/2012 10:36 AM | Air | | | | |
| | | | | ASTM-D2504-Noncondensable Gases and Light Hydrocarbons | | | 1/11/2013 12:35 PM |
| 1212959-014A | VA2009 | 12/18/2012 10:43 AM | Air | | | | |
| | | | | MA_APH-Air-Phase Petroleum Hydrocarbons | | | 1/16/2013 3:44 PM |
| | | | | EPA_TO15-Volatile Organic Compounds | | | 1/12/2013 3:44 AM |
| 1212959-014B | VA2009 | 12/18/2012 10:43 AM | Air | | | | |
| | | | | ASTM-D2504-Noncondensable Gases and Light Hydrocarbons | | | 1/11/2013 12:50 PM |
| 1212959-015A | VA2010 | 12/18/2012 11:08 AM | Air | | | | |
| | | | | MA_APH-Air-Phase Petroleum Hydrocarbons | | | 1/15/2013 10:42 PM |
| | | | | EPA_TO15-Volatile Organic Compounds | | | 1/12/2013 4:32 AM |
| 1212959-015B | VA2010 | 12/18/2012 11:08 AM | Air | | | | |
| | | | | ASTM-D2504-Noncondensable Gases and Light Hydrocarbons | | | 1/11/2013 1:04 PM |
| 1212959-016A | VA2011 | 12/18/2012 11:42 AM | Air | | | | |
| | | | | MA_APH-Air-Phase Petroleum Hydrocarbons | | | 1/16/2013 2:58 PM |
| | | | | EPA_TO15-Volatile Organic Compounds | | | 1/12/2013 5:21 AM |
| 1212959-016B | VA2011 | 12/18/2012 11:42 AM | Air | | | | |
| | | | | ASTM-D2504-Noncondensable Gases and Light Hydrocarbons | | | 1/11/2013 1:18 PM |
| 1212959-017A | VA2012 | 12/18/2012 12:12 PM | Air | | | | |
| | | | | MA_APH-Air-Phase Petroleum Hydrocarbons | | | 1/17/2013 3:39 AM |
| | | | | EPA_TO15-Volatile Organic Compounds | | | 1/15/2013 1:35 PM |

# RTI Laboratories - DATES REPORT

**WO#: 1212959**

**Date Reported: 1/17/2013**
**Revision v1**

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

**Project:** Kirtland AFB

| Sample ID | Client Sample ID | Collection Date | Matrix | Test Name | Leachate Date | Prep Date | Analysis Date |
|---|---|---|---|---|---|---|---|
| 1212959-017B | VA2012 | 12/18/2012 12:12 PM | Air | | | | |
| | | | | ASTM-D2504-Noncondensable Gases and Light Hydrocarbons | | | 1/11/2013 2:23 PM |
| 1212959-018A | VA2013 | 12/18/2012 12:12 PM | Air | | | | |
| | | | | MA_APH-Air-Phase Petroleum Hydrocarbons | | | 1/17/2013 4:23 AM |
| | | | | EPA_TO15-Volatile Organic Compounds | | | 1/15/2013 6:19 PM |
| | | | | EPA_TO15-Volatile Organic Compounds | | | 1/16/2013 5:30 PM |
| 1212959-018B | VA2013 | 12/18/2012 12:12 PM | Air | | | | |
| | | | | ASTM-D2504-Noncondensable Gases and Light Hydrocarbons | | | 1/11/2013 2:59 PM |
| 1212959-019A | VA2014 | 12/17/2012 11:55 AM | Air | | | | |
| | | | | MA_APH-Air-Phase Petroleum Hydrocarbons | | | 1/15/2013 12:44 AM |
| | | | | EPA_TO15-Volatile Organic Compounds | | | 1/14/2013 6:03 PM |
| 1212959-019B | VA2014 | 12/17/2012 11:55 AM | Air | | | | |
| | | | | ASTM-D2504-Noncondensable Gases and Light Hydrocarbons | | | 1/11/2013 3:13 PM |
| 1212959-020A | VA2015 | 12/17/2012 12:35 PM | Air | | | | |
| | | | | MA_APH-Air-Phase Petroleum Hydrocarbons | | | 1/15/2013 1:27 AM |
| | | | | EPA_TO15-Volatile Organic Compounds | | | 1/14/2013 6:49 PM |
| 1212959-020B | VA2015 | 12/17/2012 12:35 PM | Air | | | | |
| | | | | ASTM-D2504-Noncondensable Gases and Light Hydrocarbons | | | 1/11/2013 3:28 PM |
| 1212959-021A | VA2016 | 12/17/2012 1:20 PM | Air | | | | |
| | | | | MA_APH-Air-Phase Petroleum Hydrocarbons | | | 1/11/2013 10:27 PM |
| | | | | EPA_TO15-Volatile Organic Compounds | | | 1/14/2013 9:06 PM |
| 1212959-021B | VA2016 | 12/17/2012 1:20 PM | Air | | | | |
| | | | | ASTM-D2504-Noncondensable Gases and Light Hydrocarbons | | | 1/11/2013 4:11 PM |
| 1212959-022A | VA2017 | 12/17/2012 1:43 PM | Air | | | | |
| | | | | MA_APH-Air-Phase Petroleum Hydrocarbons | | | 1/15/2013 4:33 AM |
| | | | | EPA_TO15-Volatile Organic Compounds | | | 1/14/2013 9:56 PM |
| 1212959-022B | VA2017 | 12/17/2012 1:43 PM | Air | | | | |
| | | | | ASTM-D2504-Noncondensable Gases and Light Hydrocarbons | | | 1/11/2013 4:25 PM |

# RTI Laboratories - DATES REPORT

**WO#: 1212959**

**Date Reported: 1/17/2013**
**Revision v1**

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

**Project:** Kirtland AFB

| Sample ID | Client Sample ID | Collection Date | Matrix | Test Name | Leachate Date | Prep Date | Analysis Date |
|---|---|---|---|---|---|---|---|
| 1212959-023A | VA2018 | 12/17/2012 2:07 PM | Air | | | | |
| | | | | MA_APH-Air-Phase Petroleum Hydrocarbons | | | 1/15/2013 6:06 AM |
| | | | | EPA_TO15-Volatile Organic Compounds | | | 1/14/2013 11:34 PM |
| 1212959-023B | VA2018 | 12/17/2012 2:07 PM | Air | | | | |
| | | | | ASTM-D2504-Noncondensable Gases and Light Hydrocarbons | | | 1/11/2013 4:40 PM |
| 1212959-024A | VA2019 | 12/17/2012 2:42 PM | Air | | | | |
| | | | | MA_APH-Air-Phase Petroleum Hydrocarbons | | | 1/15/2013 7:37 AM |
| | | | | EPA_TO15-Volatile Organic Compounds | | | 1/15/2013 1:06 AM |
| 1212959-024B | VA2019 | 12/17/2012 2:42 PM | Air | | | | |
| | | | | ASTM-D2504-Noncondensable Gases and Light Hydrocarbons | | | 1/11/2013 4:54 PM |
| 1212959-025A | VA2020 | 12/17/2012 3:06 PM | Air | | | | |
| | | | | MA_APH-Air-Phase Petroleum Hydrocarbons | | | 1/12/2013 3:31 AM |
| | | | | MA_APH-Air-Phase Petroleum Hydrocarbons | | | 1/15/2013 1:00 PM |
| | | | | EPA_TO15-Volatile Organic Compounds | | | 1/15/2013 1:49 AM |
| 1212959-025B | VA2020 | 12/17/2012 3:06 PM | Air | | | | |
| | | | | ASTM-D2504-Noncondensable Gases and Light Hydrocarbons | | | 1/11/2013 5:08 PM |
| 1212959-026A | VA2021 | 12/18/2012 8:54 AM | Air | | | | |
| | | | | MA_APH-Air-Phase Petroleum Hydrocarbons | | | 1/15/2013 9:54 AM |
| | | | | EPA_TO15-Volatile Organic Compounds | | | 1/15/2013 5:35 AM |
| 1212959-026B | VA2021 | 12/18/2012 8:54 AM | Air | | | | |
| | | | | ASTM-D2504-Noncondensable Gases and Light Hydrocarbons | | | 1/11/2013 5:23 PM |
| 1212959-027A | VA2022 | 12/18/2012 9:20 AM | Air | | | | |
| | | | | MA_APH-Air-Phase Petroleum Hydrocarbons | | | 1/15/2013 10:39 AM |
| | | | | EPA_TO15-Volatile Organic Compounds | | | 1/15/2013 12:47 PM |
| 1212959-027B | VA2022 | 12/18/2012 9:20 AM | Air | | | | |
| | | | | ASTM-D2504-Noncondensable Gases and Light Hydrocarbons | | | 1/11/2013 5:37 PM |
| 1212959-028A | VA2025 | 12/18/2012 2:16 PM | Air | | | | |
| | | | | MA_APH-Air-Phase Petroleum Hydrocarbons | | | 1/16/2013 9:42 PM |
| | | | | EPA_TO15-Volatile Organic Compounds | | | 1/15/2013 9:20 PM |

# RTI Laboratories - DATES REPORT

**WO#: 1212959**

**Date Reported: 1/17/2013**
**Revision v1**

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

**Project:** Kirtland AFB

| Sample ID | Client Sample ID | Collection Date | Matrix | Test Name | Leachate Date | Prep Date | Analysis Date |
|---|---|---|---|---|---|---|---|
| 1212959-028A | VA2025 | 12/18/2012 2:16 PM | Air | | | | |
| | | | | EPA_TO15-Volatile Organic Compounds | | | 1/16/2013 6:57 PM |
| 1212959-028B | VA2025 | 12/18/2012 2:16 PM | Air | | | | |
| | | | | ASTM-D2504-Noncondensable Gases and Light Hydrocarbons | | | 1/11/2013 5:52 PM |
| 1212959-029A | VA2027 | 12/18/2012 11:21 AM | Air | | | | |
| | | | | MA_APH-Air-Phase Petroleum Hydrocarbons | | | 1/16/2013 5:13 PM |
| | | | | EPA_TO15-Volatile Organic Compounds | | | 1/15/2013 5:30 PM |
| 1212959-029B | VA2027 | 12/18/2012 11:21 AM | Air | | | | |
| | | | | ASTM-D2504-Noncondensable Gases and Light Hydrocarbons | | | 1/11/2013 6:14 PM |
| 1212959-030A | VA2172 | 12/17/2012 12:37 PM | Air | | | | |
| | | | | MA_APH-Air-Phase Petroleum Hydrocarbons | | | 1/11/2013 9:03 PM |
| | | | | EPA_TO15-Volatile Organic Compounds | | | 1/14/2013 8:24 PM |
| 1212959-030B | VA2172 | 12/17/2012 12:37 PM | Air | | | | |
| | | | | ASTM-D2504-Noncondensable Gases and Light Hydrocarbons | | | 1/14/2013 12:27 PM |
| 1212959-031A | VA2173 | 12/17/2012 1:06 PM | Air | | | | |
| | | | | MA_APH-Air-Phase Petroleum Hydrocarbons | | | 1/15/2013 11:28 AM |
| | | | | EPA_TO15-Volatile Organic Compounds | | | 1/14/2013 4:31 PM |
| 1212959-031B | VA2173 | 12/17/2012 1:06 PM | Air | | | | |
| | | | | ASTM-D2504-Noncondensable Gases and Light Hydrocarbons | | | 1/14/2013 12:47 PM |
| 1212959-032A | VA2174 | 12/17/2012 1:06 PM | Air | | | | |
| | | | | MA_APH-Air-Phase Petroleum Hydrocarbons | | | 1/15/2013 12:18 PM |
| | | | | EPA_TO15-Volatile Organic Compounds | | | 1/14/2013 5:20 PM |
| 1212959-032B | VA2174 | 12/17/2012 1:06 PM | Air | | | | |
| | | | | ASTM-D2504-Noncondensable Gases and Light Hydrocarbons | | | 1/14/2013 1:04 PM |
| 1212959-033A | VA2175 | 12/17/2012 1:57 PM | Air | | | | |
| | | | | MA_APH-Air-Phase Petroleum Hydrocarbons | | | 1/15/2013 5:22 AM |
| | | | | EPA_TO15-Volatile Organic Compounds | | | 1/14/2013 10:45 PM |

# RTI Laboratories - DATES REPORT

**WO#: 1212959**

**Date Reported: 1/17/2013**
**Revision v1**

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

**Project:** Kirtland AFB

| Sample ID | Client Sample ID | Collection Date | Matrix | Test Name | Leachate Date | Prep Date | Analysis Date |
|---|---|---|---|---|---|---|---|
| 1212959-033B | VA2175 | 12/17/2012 1:57 PM | Air | | | | |
| | | | | ASTM-D2504-Noncondensable Gases and Light Hydrocarbons | | | 1/14/2013 1:18 PM |
| 1212959-034A | VA2176 | 12/17/2012 2:34 PM | Air | | | | |
| | | | | MA_APH-Air-Phase Petroleum Hydrocarbons | | | 1/15/2013 6:55 AM |
| | | | | EPA_TO15-Volatile Organic Compounds | | | 1/15/2013 12:23 AM |
| 1212959-034B | VA2176 | 12/17/2012 2:34 PM | Air | | | | |
| | | | | ASTM-D2504-Noncondensable Gases and Light Hydrocarbons | | | 1/14/2013 1:36 PM |
| 1212959-035A | VA2177 | 12/17/2012 3:08 PM | Air | | | | |
| | | | | MA_APH-Air-Phase Petroleum Hydrocarbons | | | 1/15/2013 9:08 AM |
| | | | | EPA_TO15-Volatile Organic Compounds | | | 1/15/2013 3:21 AM |
| 1212959-035B | VA2177 | 12/17/2012 3:08 PM | Air | | | | |
| | | | | ASTM-D2504-Noncondensable Gases and Light Hydrocarbons | | | 1/14/2013 2:01 PM |
| 1212959-036A | VA2178 | 12/17/2012 3:46 PM | Air | | | | |
| | | | | MA_APH-Air-Phase Petroleum Hydrocarbons | | | 1/15/2013 2:28 PM |
| | | | | EPA_TO15-Volatile Organic Compounds | | | 1/15/2013 12:02 PM |
| | | | | EPA_TO15-Volatile Organic Compounds | | | 1/15/2013 10:46 PM |
| 1212959-036B | VA2178 | 12/17/2012 3:46 PM | Air | | | | |
| | | | | ASTM-D2504-Noncondensable Gases and Light Hydrocarbons | | | 1/14/2013 2:24 PM |
| 1212959-037A | VA2179 | 12/17/2012 8:44 AM | Air | | | | |
| | | | | MA_APH-Air-Phase Petroleum Hydrocarbons | | | 1/10/2013 4:41 PM |
| | | | | EPA_TO15-Volatile Organic Compounds | | | 1/11/2013 5:12 PM |
| 1212959-037B | VA2179 | 12/17/2012 8:44 AM | Air | | | | |
| | | | | ASTM-D2504-Noncondensable Gases and Light Hydrocarbons | | | 1/14/2013 2:38 PM |
| 1212959-038A | VA2180 | 12/17/2012 9:14 AM | Air | | | | |
| | | | | MA_APH-Air-Phase Petroleum Hydrocarbons | | | 1/10/2013 5:30 PM |
| | | | | EPA_TO15-Volatile Organic Compounds | | | 1/11/2013 6:00 PM |
| 1212959-038B | VA2180 | 12/17/2012 9:14 AM | Air | | | | |
| | | | | ASTM-D2504-Noncondensable Gases and Light Hydrocarbons | | | 1/14/2013 2:55 PM |

# RTI Laboratories - DATES REPORT

**WO#: 1212959**

**Date Reported: 1/17/2013**
**Revision v1**

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

**Project:** Kirtland AFB

| Sample ID | Client Sample ID | Collection Date | Matrix | Test Name | Leachate Date | Prep Date | Analysis Date |
|---|---|---|---|---|---|---|---|
| 1212959-039A | VA2181 | 12/17/2012 9:45 AM | Air | | | | |
| | | | | MA_APH-Air-Phase Petroleum Hydrocarbons | | | 1/11/2013 5:11 PM |
| | | | | EPA_TO15-Volatile Organic Compounds | | | 1/14/2013 2:10 PM |
| 1212959-039B | VA2181 | 12/17/2012 9:45 AM | Air | | | | |
| | | | | ASTM-D2504-Noncondensable Gases and Light Hydrocarbons | | | 1/14/2013 3:09 PM |
| 1212959-040A | VA2182 | 12/18/2012 10:20 AM | Air | | | | |
| | | | | MA_APH-Air-Phase Petroleum Hydrocarbons | | | 1/15/2013 5:24 PM |
| | | | | EPA_TO15-Volatile Organic Compounds | | | 1/12/2013 2:12 AM |
| 1212959-040B | VA2182 | 12/18/2012 10:20 AM | Air | | | | |
| | | | | ASTM-D2504-Noncondensable Gases and Light Hydrocarbons | | | 1/14/2013 3:53 PM |
| 1212959-041A | VA2183 | 12/17/2012 10:56 AM | Air | | | | |
| | | | | MA_APH-Air-Phase Petroleum Hydrocarbons | | | 1/10/2013 7:02 PM |
| | | | | EPA_TO15-Volatile Organic Compounds | | | 1/11/2013 11:10 PM |
| 1212959-041B | VA2183 | 12/17/2012 10:56 AM | Air | | | | |
| | | | | ASTM-D2504-Noncondensable Gases and Light Hydrocarbons | | | 1/14/2013 4:08 PM |
| 1212959-042A | VA2184 | 12/17/2012 11:36 AM | Air | | | | |
| | | | | MA_APH-Air-Phase Petroleum Hydrocarbons | | | 1/11/2013 1:33 PM |
| | | | | EPA_TO15-Volatile Organic Compounds | | | 1/14/2013 3:41 PM |
| | | | | EPA_TO15-Volatile Organic Compounds | | | 1/15/2013 4:49 AM |
| 1212959-042B | VA2184 | 12/17/2012 11:36 AM | Air | | | | |
| | | | | ASTM-D2504-Noncondensable Gases and Light Hydrocarbons | | | 1/14/2013 4:23 PM |
| 1212959-043A | VA2201R | 12/19/2012 8:45 AM | Air | | | | |
| | | | | MA_APH-Air-Phase Petroleum Hydrocarbons | | | 1/16/2013 2:13 PM |
| | | | | EPA_TO15-Volatile Organic Compounds | | | 1/16/2013 4:37 AM |
| 1212959-044A | VA8110-TB | 12/17/2012 8:00 AM | Air | | | | |
| | | | | EPA_TO15-Volatile Organic Compounds | | | 1/11/2013 4:23 PM |

# RTI Laboratories - Analytical Report

**WO#: 1212959**

**Date Reported: 1/17/2013**
**Revision v1**

| | | | |
|---|---|---|---|
| **Client:** | Shaw Environmental & Infrastructure, Inc | **Collection Date:** | 12/17/2012 9:26:00 AM |
| **Project:** | Kirtland AFB | | |
| **Lab ID:** | 1212959-001 | **Matrix:** | Air |
| **Client Sample ID:** | VA1945 | | |

| Analysis | Result | RL | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **Noncondensable Gases and Light Hydrocarbons** | | **Method: ASTM-D2504** | | | | **Analyst: cr** |
| Carbon dioxide | 6.4 | 0.10 | | % v/v | 1 | 1/10/2013 3:56 PM |
| Carbon Monoxide | ND | 0.10 | U | % v/v | 1 | 1/10/2013 3:56 PM |
| Methane | ND | 0.50 | U | % v/v | 1 | 1/10/2013 3:56 PM |
| Nitrogen | 84 | 0.10 | | % v/v | 1 | 1/10/2013 3:56 PM |
| Oxygen | 13 | 0.10 | | % v/v | 1 | 1/10/2013 3:56 PM |
| **Volatile Organic Compounds** | | **Method: TO-15** | | | | **Analyst: RH3** |
| 1,1,1-Trichloroethane | ND | 800 | U | ppbv | 800 | 1/11/2013 6:45 PM |
| 1,1,2,2-Tetrachloroethane | ND | 800 | U | ppbv | 800 | 1/11/2013 6:45 PM |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ND | 800 | U | ppbv | 800 | 1/11/2013 6:45 PM |
| 1,1,2-Trichloroethane | ND | 800 | U | ppbv | 800 | 1/11/2013 6:45 PM |
| 1,1-Dichloroethane | ND | 800 | U | ppbv | 800 | 1/11/2013 6:45 PM |
| 1,1-Dichloroethene | ND | 800 | U | ppbv | 800 | 1/11/2013 6:45 PM |
| 1,2,4-Trichlorobenzene | ND | 800 | U | ppbv | 800 | 1/11/2013 6:45 PM |
| 1,2,4-Trimethylbenzene | ND | 800 | U | ppbv | 800 | 1/11/2013 6:45 PM |
| 1,2-Dibromoethane | ND | 800 | U | ppbv | 800 | 1/11/2013 6:45 PM |
| 1,2-Dichlorobenzene | ND | 800 | U | ppbv | 800 | 1/11/2013 6:45 PM |
| 1,2-Dichloroethane | ND | 800 | U | ppbv | 800 | 1/11/2013 6:45 PM |
| 1,2-Dichloropropane | ND | 800 | U | ppbv | 800 | 1/11/2013 6:45 PM |
| 1,3,5-Trimethylbenzene | ND | 800 | U | ppbv | 800 | 1/11/2013 6:45 PM |
| 1,3-Butadiene | ND | 800 | U | ppbv | 800 | 1/11/2013 6:45 PM |
| 1,3-Dichlorobenzene | ND | 800 | U | ppbv | 800 | 1/11/2013 6:45 PM |
| 1,4-Dichlorobenzene | ND | 800 | U | ppbv | 800 | 1/11/2013 6:45 PM |
| 2-Butanone | ND | 800 | U | ppbv | 800 | 1/11/2013 6:45 PM |
| 2-Hexanone | ND | 800 | U | ppbv | 800 | 1/11/2013 6:45 PM |
| 4-Methyl-2-pentanone | ND | 800 | U | ppbv | 800 | 1/11/2013 6:45 PM |
| Acetone | 1,800 | 800 | | ppbv | 800 | 1/11/2013 6:45 PM |
| Benzene | 2,100 | 800 | | ppbv | 800 | 1/11/2013 6:45 PM |
| Benzyl chloride | ND | 800 | U | ppbv | 800 | 1/11/2013 6:45 PM |
| Bromodichloromethane | ND | 800 | U | ppbv | 800 | 1/11/2013 6:45 PM |
| Bromoform | ND | 800 | U | ppbv | 800 | 1/11/2013 6:45 PM |
| Bromomethane | ND | 800 | U | ppbv | 800 | 1/11/2013 6:45 PM |
| Carbon disulfide | ND | 800 | U | ppbv | 800 | 1/11/2013 6:45 PM |
| Carbon tetrachloride | ND | 800 | U | ppbv | 800 | 1/11/2013 6:45 PM |
| Chlorobenzene | ND | 800 | U | ppbv | 800 | 1/11/2013 6:45 PM |
| Chlorodibromomethane | ND | 800 | U | ppbv | 800 | 1/11/2013 6:45 PM |
| Chloroethane | ND | 800 | U | ppbv | 800 | 1/11/2013 6:45 PM |
| Chloroform | ND | 800 | U | ppbv | 800 | 1/11/2013 6:45 PM |
| Chloromethane | ND | 800 | U | ppbv | 800 | 1/11/2013 6:45 PM |
| cis-1,2-Dichloroethene | ND | 800 | U | ppbv | 800 | 1/11/2013 6:45 PM |
| cis-1,3-dichloropropene | ND | 800 | U | ppbv | 800 | 1/11/2013 6:45 PM |

# RTI Laboratories - Analytical Report

**WO#: 1212959**

**Date Reported: 1/17/2013**
**Revision v1**

| | | | |
|---|---|---|---|
| **Client:** | Shaw Environmental & Infrastructure, Inc | **Collection Date:** | 12/17/2012 9:26:00 AM |
| **Project:** | Kirtland AFB | | |
| **Lab ID:** | 1212959-001 | **Matrix:** | Air |
| **Client Sample ID:** | VA1945 | | |

| Analysis | Result | RL | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| Cyclohexane | 7,000 | 1,600 | | ppbv | 800 | 1/11/2013 6:45 PM |
| Dichlorodifluoromethane | ND | 800 | U | ppbv | 800 | 1/11/2013 6:45 PM |
| Ethyl acetate | ND | 800 | U | ppbv | 800 | 1/11/2013 6:45 PM |
| Ethylbenzene | 820 | 1,600 | J | ppbv | 800 | 1/11/2013 6:45 PM |
| Heptane | 10,000 | 800 | | ppbv | 800 | 1/11/2013 6:45 PM |
| Hexachlorobutadiene | ND | 1,600 | U | ppbv | 800 | 1/11/2013 6:45 PM |
| m,p-Xylene | 2,200 | 1,600 | | ppbv | 800 | 1/11/2013 6:45 PM |
| Methylene chloride | 6,900 | 4,000 | | ppbv | 800 | 1/11/2013 6:45 PM |
| n-Hexane | 3,500 | 1,600 | | ppbv | 800 | 1/11/2013 6:45 PM |
| Naphthalene | ND | 800 | U | ppbv | 800 | 1/11/2013 6:45 PM |
| o-Xylene | ND | 800 | U | ppbv | 800 | 1/11/2013 6:45 PM |
| Propylene | ND | 800 | U | ppbv | 800 | 1/11/2013 6:45 PM |
| Styrene | ND | 800 | U | ppbv | 800 | 1/11/2013 6:45 PM |
| tert-Butyl Methyl Ether | ND | 800 | U | ppbv | 800 | 1/11/2013 6:45 PM |
| Tetrachloroethene | ND | 800 | U | ppbv | 800 | 1/11/2013 6:45 PM |
| Tetrahydrofuran | ND | 800 | U | ppbv | 800 | 1/11/2013 6:45 PM |
| Toluene | 13,000 | 800 | | ppbv | 800 | 1/11/2013 6:45 PM |
| trans-1,2-Dichloroethene | ND | 800 | U | ppbv | 800 | 1/11/2013 6:45 PM |
| trans-1,3-dichloropropene | ND | 800 | U | ppbv | 800 | 1/11/2013 6:45 PM |
| Trichloroethene | ND | 800 | U | ppbv | 800 | 1/11/2013 6:45 PM |
| Trichlorofluoromethane | ND | 800 | U | ppbv | 800 | 1/11/2013 6:45 PM |
| Vinyl acetate | ND | 800 | U | ppbv | 800 | 1/11/2013 6:45 PM |
| Vinyl chloride | ND | 800 | U | ppbv | 800 | 1/11/2013 6:45 PM |
| Xylenes, Total | 2,200 | 2,400 | J | ppbv | 800 | 1/11/2013 6:45 PM |
| Surr: 4-Bromofluorobenzene | 96.5 | 70-130 | | %REC | 800 | 1/11/2013 6:45 PM |
| **Mass APH Air** | **Method:** | | | | | **Analyst: RH3** |
| **Air-Phase Petroleum Hydrocarbons** | | | | | | |
| C5-C8 Aliphatic Hydrocarbons | 610,000 | 94,000 | | µg/m³ | 800 | 1/10/2013 7:48 PM |
| C9-C10 Aromatic Hydrocarbons | ND | 110,000 | U | µg/m³ | 800 | 1/10/2013 7:48 PM |
| C9-C12 Aliphatic Hydrocarbons | 29,000 | 150,000 | J | µg/m³ | 800 | 1/10/2013 7:48 PM |
| Surr: 4-Bromofluorobenzene | 97.6 | 70-130 | | %REC | 800 | 1/10/2013 7:48 PM |

# RTI Laboratories - Analytical Report

**WO#: 1212959**

**Date Reported: 1/17/2013**
**Revision v1**

| | | | |
|---|---|---|---|
| **Client:** | Shaw Environmental & Infrastructure, Inc | **Collection Date:** | 12/17/2012 9:50:00 AM |
| **Project:** | Kirtland AFB | | |
| **Lab ID:** | 1212959-002 | **Matrix:** | Air |
| **Client Sample ID:** | VA1946 | | |

| Analysis | Result | RL | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **Noncondensable Gases and Light Hydrocarbons** | | **Method: ASTM-D2504** | | | | **Analyst: cr** |
| Carbon dioxide | 9.7 | 0.10 | | % v/v | 1 | 1/10/2013 4:10 PM |
| Carbon Monoxide | ND | 0.10 | U | % v/v | 1 | 1/10/2013 4:10 PM |
| Methane | ND | 0.50 | U | % v/v | 1 | 1/10/2013 4:10 PM |
| Nitrogen | 86 | 0.10 | | % v/v | 1 | 1/10/2013 4:10 PM |
| Oxygen | 8.0 | 0.10 | | % v/v | 1 | 1/10/2013 4:10 PM |
| **Volatile Organic Compounds** | | **Method: TO-15** | | | | **Analyst: RH3** |
| 1,1,1-Trichloroethane | ND | 20,000 | U | ppbv | 20000 | 1/11/2013 8:57 PM |
| 1,1,2,2-Tetrachloroethane | ND | 20,000 | U | ppbv | 20000 | 1/11/2013 8:57 PM |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ND | 20,000 | U | ppbv | 20000 | 1/11/2013 8:57 PM |
| 1,1,2-Trichloroethane | ND | 20,000 | U | ppbv | 20000 | 1/11/2013 8:57 PM |
| 1,1-Dichloroethane | ND | 20,000 | U | ppbv | 20000 | 1/11/2013 8:57 PM |
| 1,1-Dichloroethene | ND | 20,000 | U | ppbv | 20000 | 1/11/2013 8:57 PM |
| 1,2,4-Trichlorobenzene | ND | 20,000 | U | ppbv | 20000 | 1/11/2013 8:57 PM |
| 1,2,4-Trimethylbenzene | ND | 20,000 | U | ppbv | 20000 | 1/11/2013 8:57 PM |
| 1,2-Dibromoethane | ND | 20,000 | U | ppbv | 20000 | 1/11/2013 8:57 PM |
| 1,2-Dichlorobenzene | ND | 20,000 | U | ppbv | 20000 | 1/11/2013 8:57 PM |
| 1,2-Dichloroethane | ND | 20,000 | U | ppbv | 20000 | 1/11/2013 8:57 PM |
| 1,2-Dichloropropane | ND | 20,000 | U | ppbv | 20000 | 1/11/2013 8:57 PM |
| 1,3,5-Trimethylbenzene | ND | 20,000 | U | ppbv | 20000 | 1/11/2013 8:57 PM |
| 1,3-Butadiene | ND | 20,000 | U | ppbv | 20000 | 1/11/2013 8:57 PM |
| 1,3-Dichlorobenzene | ND | 20,000 | U | ppbv | 20000 | 1/11/2013 8:57 PM |
| 1,4-Dichlorobenzene | ND | 20,000 | U | ppbv | 20000 | 1/11/2013 8:57 PM |
| 2-Butanone | ND | 20,000 | U | ppbv | 20000 | 1/11/2013 8:57 PM |
| 2-Hexanone | ND | 20,000 | U | ppbv | 20000 | 1/11/2013 8:57 PM |
| 4-Methyl-2-pentanone | ND | 20,000 | U | ppbv | 20000 | 1/11/2013 8:57 PM |
| Acetone | ND | 20,000 | U | ppbv | 20000 | 1/11/2013 8:57 PM |
| Benzene | 68,000 | 20,000 | | ppbv | 20000 | 1/11/2013 8:57 PM |
| Benzyl chloride | ND | 20,000 | U | ppbv | 20000 | 1/11/2013 8:57 PM |
| Bromodichloromethane | ND | 20,000 | U | ppbv | 20000 | 1/11/2013 8:57 PM |
| Bromoform | ND | 20,000 | U | ppbv | 20000 | 1/11/2013 8:57 PM |
| Bromomethane | ND | 20,000 | U | ppbv | 20000 | 1/11/2013 8:57 PM |
| Carbon disulfide | ND | 20,000 | U | ppbv | 20000 | 1/11/2013 8:57 PM |
| Carbon tetrachloride | ND | 20,000 | U | ppbv | 20000 | 1/11/2013 8:57 PM |
| Chlorobenzene | ND | 20,000 | U | ppbv | 20000 | 1/11/2013 8:57 PM |
| Chlorodibromomethane | ND | 20,000 | U | ppbv | 20000 | 1/11/2013 8:57 PM |
| Chloroethane | ND | 20,000 | U | ppbv | 20000 | 1/11/2013 8:57 PM |
| Chloroform | ND | 20,000 | U | ppbv | 20000 | 1/11/2013 8:57 PM |
| Chloromethane | ND | 20,000 | U | ppbv | 20000 | 1/11/2013 8:57 PM |
| cis-1,2-Dichloroethene | ND | 20,000 | U | ppbv | 20000 | 1/11/2013 8:57 PM |
| cis-1,3-dichloropropene | ND | 20,000 | U | ppbv | 20000 | 1/11/2013 8:57 PM |

# RTI Laboratories - Analytical Report

**WO#: 1212959**

**Date Reported: 1/17/2013**
**Revision v1**

| | | | |
|---|---|---|---|
| **Client:** | Shaw Environmental & Infrastructure, Inc | **Collection Date:** | 12/17/2012 9:50:00 AM |
| **Project:** | Kirtland AFB | | |
| **Lab ID:** | 1212959-002 | **Matrix:** | Air |
| **Client Sample ID:** | VA1946 | | |

| Analysis | Result | RL | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| Cyclohexane | 540,000 | 40,000 | | ppbv | 20000 | 1/11/2013 8:57 PM |
| Dichlorodifluoromethane | ND | 20,000 | U | ppbv | 20000 | 1/11/2013 8:57 PM |
| Ethyl acetate | ND | 20,000 | U | ppbv | 20000 | 1/11/2013 8:57 PM |
| Ethylbenzene | ND | 40,000 | U | ppbv | 20000 | 1/11/2013 8:57 PM |
| Heptane | 220,000 | 20,000 | | ppbv | 20000 | 1/11/2013 8:57 PM |
| Hexachlorobutadiene | ND | 40,000 | U | ppbv | 20000 | 1/11/2013 8:57 PM |
| m,p-Xylene | ND | 40,000 | U | ppbv | 20000 | 1/11/2013 8:57 PM |
| Methylene chloride | ND | 100,000 | U | ppbv | 20000 | 1/11/2013 8:57 PM |
| n-Hexane | 640,000 | 40,000 | | ppbv | 20000 | 1/11/2013 8:57 PM |
| Naphthalene | ND | 20,000 | U | ppbv | 20000 | 1/11/2013 8:57 PM |
| o-Xylene | ND | 20,000 | U | ppbv | 20000 | 1/11/2013 8:57 PM |
| Propylene | ND | 20,000 | U | ppbv | 20000 | 1/11/2013 8:57 PM |
| Styrene | ND | 20,000 | U | ppbv | 20000 | 1/11/2013 8:57 PM |
| tert-Butyl Methyl Ether | ND | 20,000 | U | ppbv | 20000 | 1/11/2013 8:57 PM |
| Tetrachloroethene | ND | 20,000 | U | ppbv | 20000 | 1/11/2013 8:57 PM |
| Tetrahydrofuran | ND | 20,000 | U | ppbv | 20000 | 1/11/2013 8:57 PM |
| Toluene | 50,000 | 20,000 | | ppbv | 20000 | 1/11/2013 8:57 PM |
| trans-1,2-Dichloroethene | ND | 20,000 | U | ppbv | 20000 | 1/11/2013 8:57 PM |
| trans-1,3-dichloropropene | ND | 20,000 | U | ppbv | 20000 | 1/11/2013 8:57 PM |
| Trichloroethene | ND | 20,000 | U | ppbv | 20000 | 1/11/2013 8:57 PM |
| Trichlorofluoromethane | ND | 20,000 | U | ppbv | 20000 | 1/11/2013 8:57 PM |
| Vinyl acetate | ND | 20,000 | U | ppbv | 20000 | 1/11/2013 8:57 PM |
| Vinyl chloride | ND | 20,000 | U | ppbv | 20000 | 1/11/2013 8:57 PM |
| Xylenes, Total | ND | 60,000 | U | ppbv | 20000 | 1/11/2013 8:57 PM |
| Surr: 4-Bromofluorobenzene | 96.3 | 70-130 | | %REC | 20000 | 1/11/2013 8:57 PM |
| **Mass APH Air** | | **Method:** | | | | **Analyst: RH3** |
| **Air-Phase Petroleum Hydrocarbons** | | | | | | |
| C5-C8 Aliphatic Hydrocarbons | 19,000,000 | 2,300,000 | | µg/m³ | 20000 | 1/10/2013 9:16 PM |
| C9-C10 Aromatic Hydrocarbons | ND | 2,700,000 | U | µg/m³ | 20000 | 1/10/2013 9:16 PM |
| C9-C12 Aliphatic Hydrocarbons | ND | 3,800,000 | U | µg/m³ | 20000 | 1/10/2013 9:16 PM |
| Surr: 4-Bromofluorobenzene | 96.3 | 70-130 | | %REC | 20000 | 1/10/2013 9:16 PM |

# RTI Laboratories - Analytical Report

**WO#: 1212959**

**Date Reported: 1/17/2013**
**Revision v1**

| | | | |
|---|---|---|---|
| **Client:** | Shaw Environmental & Infrastructure, Inc | **Collection Date:** | 12/17/2012 9:50:00 AM |
| **Project:** | Kirtland AFB | | |
| **Lab ID:** | 1212959-003 | **Matrix:** | Air |
| **Client Sample ID:** | VA1947 | | |

| Analysis | Result | RL | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **Noncondensable Gases and Light Hydrocarbons** | | **Method: ASTM-D2504** | | | | **Analyst: cr** |
| Carbon dioxide | 9.4 | 0.10 | | % v/v | 1 | 1/10/2013 4:24 PM |
| Carbon Monoxide | ND | 0.10 | U | % v/v | 1 | 1/10/2013 4:24 PM |
| Methane | ND | 0.50 | U | % v/v | 1 | 1/10/2013 4:24 PM |
| Nitrogen | 86 | 0.10 | | % v/v | 1 | 1/10/2013 4:24 PM |
| Oxygen | 8.3 | 0.10 | | % v/v | 1 | 1/10/2013 4:24 PM |
| **Volatile Organic Compounds** | | **Method: TO-15** | | | | **Analyst: RH3** |
| 1,1,1-Trichloroethane | ND | 20,000 | U | ppbv | 20000 | 1/11/2013 9:39 PM |
| 1,1,2,2-Tetrachloroethane | ND | 20,000 | U | ppbv | 20000 | 1/11/2013 9:39 PM |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ND | 20,000 | U | ppbv | 20000 | 1/11/2013 9:39 PM |
| 1,1,2-Trichloroethane | ND | 20,000 | U | ppbv | 20000 | 1/11/2013 9:39 PM |
| 1,1-Dichloroethane | ND | 20,000 | U | ppbv | 20000 | 1/11/2013 9:39 PM |
| 1,1-Dichloroethene | ND | 20,000 | U | ppbv | 20000 | 1/11/2013 9:39 PM |
| 1,2,4-Trichlorobenzene | ND | 20,000 | U | ppbv | 20000 | 1/11/2013 9:39 PM |
| 1,2,4-Trimethylbenzene | ND | 20,000 | U | ppbv | 20000 | 1/11/2013 9:39 PM |
| 1,2-Dibromoethane | ND | 20,000 | U | ppbv | 20000 | 1/11/2013 9:39 PM |
| 1,2-Dichlorobenzene | ND | 20,000 | U | ppbv | 20000 | 1/11/2013 9:39 PM |
| 1,2-Dichloroethane | ND | 20,000 | U | ppbv | 20000 | 1/11/2013 9:39 PM |
| 1,2-Dichloropropane | ND | 20,000 | U | ppbv | 20000 | 1/11/2013 9:39 PM |
| 1,3,5-Trimethylbenzene | ND | 20,000 | U | ppbv | 20000 | 1/11/2013 9:39 PM |
| 1,3-Butadiene | ND | 20,000 | U | ppbv | 20000 | 1/11/2013 9:39 PM |
| 1,3-Dichlorobenzene | ND | 20,000 | U | ppbv | 20000 | 1/11/2013 9:39 PM |
| 1,4-Dichlorobenzene | ND | 20,000 | U | ppbv | 20000 | 1/11/2013 9:39 PM |
| 2-Butanone | ND | 20,000 | U | ppbv | 20000 | 1/11/2013 9:39 PM |
| 2-Hexanone | ND | 20,000 | U | ppbv | 20000 | 1/11/2013 9:39 PM |
| 4-Methyl-2-pentanone | ND | 20,000 | U | ppbv | 20000 | 1/11/2013 9:39 PM |
| Acetone | ND | 20,000 | U | ppbv | 20000 | 1/11/2013 9:39 PM |
| Benzene | 87,000 | 20,000 | | ppbv | 20000 | 1/11/2013 9:39 PM |
| Benzyl chloride | ND | 20,000 | U | ppbv | 20000 | 1/11/2013 9:39 PM |
| Bromodichloromethane | ND | 20,000 | U | ppbv | 20000 | 1/11/2013 9:39 PM |
| Bromoform | ND | 20,000 | U | ppbv | 20000 | 1/11/2013 9:39 PM |
| Bromomethane | ND | 20,000 | U | ppbv | 20000 | 1/11/2013 9:39 PM |
| Carbon disulfide | ND | 20,000 | U | ppbv | 20000 | 1/11/2013 9:39 PM |
| Carbon tetrachloride | ND | 20,000 | U | ppbv | 20000 | 1/11/2013 9:39 PM |
| Chlorobenzene | ND | 20,000 | U | ppbv | 20000 | 1/11/2013 9:39 PM |
| Chlorodibromomethane | ND | 20,000 | U | ppbv | 20000 | 1/11/2013 9:39 PM |
| Chloroethane | ND | 20,000 | U | ppbv | 20000 | 1/11/2013 9:39 PM |
| Chloroform | ND | 20,000 | U | ppbv | 20000 | 1/11/2013 9:39 PM |
| Chloromethane | ND | 20,000 | U | ppbv | 20000 | 1/11/2013 9:39 PM |
| cis-1,2-Dichloroethene | ND | 20,000 | U | ppbv | 20000 | 1/11/2013 9:39 PM |
| cis-1,3-dichloropropene | ND | 20,000 | U | ppbv | 20000 | 1/11/2013 9:39 PM |

# RTI Laboratories - Analytical Report

**WO#: 1212959**

**Date Reported: 1/17/2013**
**Revision v1**

| | | | |
|---|---|---|---|
| **Client:** | Shaw Environmental & Infrastructure, Inc | **Collection Date:** | 12/17/2012 9:50:00 AM |
| **Project:** | Kirtland AFB | | |
| **Lab ID:** | 1212959-003 | **Matrix:** | Air |
| **Client Sample ID:** | VA1947 | | |

| Analysis | Result | RL | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| Cyclohexane | 700,000 | 40,000 | | ppbv | 20000 | 1/11/2013 9:39 PM |
| Dichlorodifluoromethane | ND | 20,000 | U | ppbv | 20000 | 1/11/2013 9:39 PM |
| Ethyl acetate | ND | 20,000 | U | ppbv | 20000 | 1/11/2013 9:39 PM |
| Ethylbenzene | ND | 40,000 | U | ppbv | 20000 | 1/11/2013 9:39 PM |
| Heptane | 290,000 | 20,000 | | ppbv | 20000 | 1/11/2013 9:39 PM |
| Hexachlorobutadiene | ND | 40,000 | U | ppbv | 20000 | 1/11/2013 9:39 PM |
| m,p-Xylene | ND | 40,000 | U | ppbv | 20000 | 1/11/2013 9:39 PM |
| Methylene chloride | ND | 100,000 | U | ppbv | 20000 | 1/11/2013 9:39 PM |
| n-Hexane | 830,000 | 40,000 | | ppbv | 20000 | 1/11/2013 9:39 PM |
| Naphthalene | ND | 20,000 | U | ppbv | 20000 | 1/11/2013 9:39 PM |
| o-Xylene | ND | 20,000 | U | ppbv | 20000 | 1/11/2013 9:39 PM |
| Propylene | ND | 20,000 | U | ppbv | 20000 | 1/11/2013 9:39 PM |
| Styrene | ND | 20,000 | U | ppbv | 20000 | 1/11/2013 9:39 PM |
| tert-Butyl Methyl Ether | ND | 20,000 | U | ppbv | 20000 | 1/11/2013 9:39 PM |
| Tetrachloroethene | ND | 20,000 | U | ppbv | 20000 | 1/11/2013 9:39 PM |
| Tetrahydrofuran | ND | 20,000 | U | ppbv | 20000 | 1/11/2013 9:39 PM |
| Toluene | 67,000 | 20,000 | | ppbv | 20000 | 1/11/2013 9:39 PM |
| trans-1,2-Dichloroethene | ND | 20,000 | U | ppbv | 20000 | 1/11/2013 9:39 PM |
| trans-1,3-dichloropropene | ND | 20,000 | U | ppbv | 20000 | 1/11/2013 9:39 PM |
| Trichloroethene | ND | 20,000 | U | ppbv | 20000 | 1/11/2013 9:39 PM |
| Trichlorofluoromethane | ND | 20,000 | U | ppbv | 20000 | 1/11/2013 9:39 PM |
| Vinyl acetate | ND | 20,000 | U | ppbv | 20000 | 1/11/2013 9:39 PM |
| Vinyl chloride | ND | 20,000 | U | ppbv | 20000 | 1/11/2013 9:39 PM |
| Xylenes, Total | ND | 60,000 | U | ppbv | 20000 | 1/11/2013 9:39 PM |
| Surr: 4-Bromofluorobenzene | 96.7 | 70-130 | | %REC | 20000 | 1/11/2013 9:39 PM |
| **Mass APH Air** | | **Method:** | | | | **Analyst: RH3** |
| **Air-Phase Petroleum Hydrocarbons** | | | | | | |
| C5-C8 Aliphatic Hydrocarbons | 19,000,000 | 2,300,000 | | µg/m³ | 20000 | 1/10/2013 9:59 PM |
| C9-C10 Aromatic Hydrocarbons | ND | 2,700,000 | U | µg/m³ | 20000 | 1/10/2013 9:59 PM |
| C9-C12 Aliphatic Hydrocarbons | ND | 3,800,000 | U | µg/m³ | 20000 | 1/10/2013 9:59 PM |
| Surr: 4-Bromofluorobenzene | 95.9 | 70-130 | | %REC | 20000 | 1/10/2013 9:59 PM |

# RTI Laboratories - Analytical Report

**WO#: 1212959**

**Date Reported: 1/17/2013**
**Revision v1**

| | | | |
|---|---|---|---|
| **Client:** | Shaw Environmental & Infrastructure, Inc | **Collection Date:** | 12/17/2012 10:28:00 AM |
| **Project:** | Kirtland AFB | | |
| **Lab ID:** | 1212959-004 | **Matrix:** | Air |
| **Client Sample ID:** | VA1948 | | |

| Analysis | Result | RL | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **Noncondensable Gases and Light Hydrocarbons** | | **Method: ASTM-D2504** | | | | **Analyst: cr** |
| Carbon dioxide | 0.65 | 0.10 | | % v/v | 1 | 1/10/2013 4:38 PM |
| Carbon Monoxide | ND | 0.10 | U | % v/v | 1 | 1/10/2013 4:38 PM |
| Methane | ND | 0.50 | U | % v/v | 1 | 1/10/2013 4:38 PM |
| Nitrogen | 83 | 0.10 | | % v/v | 1 | 1/10/2013 4:38 PM |
| Oxygen | 21 | 0.10 | | % v/v | 1 | 1/10/2013 4:38 PM |
| **Volatile Organic Compounds** | | **Method: TO-15** | | | | **Analyst: RH3** |
| 1,1,1-Trichloroethane | ND | 400 | U | ppbv | 400 | 1/11/2013 10:27 PM |
| 1,1,2,2-Tetrachloroethane | ND | 400 | U | ppbv | 400 | 1/11/2013 10:27 PM |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ND | 400 | U | ppbv | 400 | 1/11/2013 10:27 PM |
| 1,1,2-Trichloroethane | ND | 400 | U | ppbv | 400 | 1/11/2013 10:27 PM |
| 1,1-Dichloroethane | ND | 400 | U | ppbv | 400 | 1/11/2013 10:27 PM |
| 1,1-Dichloroethene | ND | 400 | U | ppbv | 400 | 1/11/2013 10:27 PM |
| 1,2,4-Trichlorobenzene | ND | 400 | U | ppbv | 400 | 1/11/2013 10:27 PM |
| 1,2,4-Trimethylbenzene | ND | 400 | U | ppbv | 400 | 1/11/2013 10:27 PM |
| 1,2-Dibromoethane | ND | 400 | U | ppbv | 400 | 1/11/2013 10:27 PM |
| 1,2-Dichlorobenzene | ND | 400 | U | ppbv | 400 | 1/11/2013 10:27 PM |
| 1,2-Dichloroethane | ND | 400 | U | ppbv | 400 | 1/11/2013 10:27 PM |
| 1,2-Dichloropropane | ND | 400 | U | ppbv | 400 | 1/11/2013 10:27 PM |
| 1,3,5-Trimethylbenzene | ND | 400 | U | ppbv | 400 | 1/11/2013 10:27 PM |
| 1,3-Butadiene | ND | 400 | U | ppbv | 400 | 1/11/2013 10:27 PM |
| 1,3-Dichlorobenzene | ND | 400 | U | ppbv | 400 | 1/11/2013 10:27 PM |
| 1,4-Dichlorobenzene | ND | 400 | U | ppbv | 400 | 1/11/2013 10:27 PM |
| 2-Butanone | ND | 400 | U | ppbv | 400 | 1/11/2013 10:27 PM |
| 2-Hexanone | ND | 400 | U | ppbv | 400 | 1/11/2013 10:27 PM |
| 4-Methyl-2-pentanone | ND | 400 | U | ppbv | 400 | 1/11/2013 10:27 PM |
| Acetone | 580 | 400 | | ppbv | 400 | 1/11/2013 10:27 PM |
| Benzene | 540 | 400 | | ppbv | 400 | 1/11/2013 10:27 PM |
| Benzyl chloride | ND | 400 | U | ppbv | 400 | 1/11/2013 10:27 PM |
| Bromodichloromethane | ND | 400 | U | ppbv | 400 | 1/11/2013 10:27 PM |
| Bromoform | ND | 400 | U | ppbv | 400 | 1/11/2013 10:27 PM |
| Bromomethane | ND | 400 | U | ppbv | 400 | 1/11/2013 10:27 PM |
| Carbon disulfide | ND | 400 | U | ppbv | 400 | 1/11/2013 10:27 PM |
| Carbon tetrachloride | ND | 400 | U | ppbv | 400 | 1/11/2013 10:27 PM |
| Chlorobenzene | ND | 400 | U | ppbv | 400 | 1/11/2013 10:27 PM |
| Chlorodibromomethane | ND | 400 | U | ppbv | 400 | 1/11/2013 10:27 PM |
| Chloroethane | ND | 400 | U | ppbv | 400 | 1/11/2013 10:27 PM |
| Chloroform | ND | 400 | U | ppbv | 400 | 1/11/2013 10:27 PM |
| Chloromethane | ND | 400 | U | ppbv | 400 | 1/11/2013 10:27 PM |
| cis-1,2-Dichloroethene | ND | 400 | U | ppbv | 400 | 1/11/2013 10:27 PM |
| cis-1,3-dichloropropene | ND | 400 | U | ppbv | 400 | 1/11/2013 10:27 PM |

# RTI Laboratories - Analytical Report

**WO#: 1212959**

**Date Reported: 1/17/2013**
**Revision v1**

| | | | |
|---|---|---|---|
| **Client:** | Shaw Environmental & Infrastructure, Inc | **Collection Date:** | 12/17/2012 10:28:00 AM |
| **Project:** | Kirtland AFB | | |
| **Lab ID:** | 1212959-004 | **Matrix:** | Air |
| **Client Sample ID:** | VA1948 | | |

| Analysis | Result | RL | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| Cyclohexane | 2,200 | 800 | | ppbv | 400 | 1/11/2013 10:27 PM |
| Dichlorodifluoromethane | ND | 400 | U | ppbv | 400 | 1/11/2013 10:27 PM |
| Ethyl acetate | ND | 400 | U | ppbv | 400 | 1/11/2013 10:27 PM |
| Ethylbenzene | ND | 800 | U | ppbv | 400 | 1/11/2013 10:27 PM |
| Heptane | 2,000 | 400 | | ppbv | 400 | 1/11/2013 10:27 PM |
| Hexachlorobutadiene | ND | 800 | U | ppbv | 400 | 1/11/2013 10:27 PM |
| m,p-Xylene | 660 | 800 | J | ppbv | 400 | 1/11/2013 10:27 PM |
| Methylene chloride | ND | 2,000 | U | ppbv | 400 | 1/11/2013 10:27 PM |
| n-Hexane | 1,900 | 800 | | ppbv | 400 | 1/11/2013 10:27 PM |
| Naphthalene | ND | 400 | U | ppbv | 400 | 1/11/2013 10:27 PM |
| o-Xylene | ND | 400 | U | ppbv | 400 | 1/11/2013 10:27 PM |
| Propylene | ND | 400 | U | ppbv | 400 | 1/11/2013 10:27 PM |
| Styrene | ND | 400 | U | ppbv | 400 | 1/11/2013 10:27 PM |
| tert-Butyl Methyl Ether | ND | 400 | U | ppbv | 400 | 1/11/2013 10:27 PM |
| Tetrachloroethene | ND | 400 | U | ppbv | 400 | 1/11/2013 10:27 PM |
| Tetrahydrofuran | ND | 400 | U | ppbv | 400 | 1/11/2013 10:27 PM |
| Toluene | 1,600 | 400 | | ppbv | 400 | 1/11/2013 10:27 PM |
| trans-1,2-Dichloroethene | ND | 400 | U | ppbv | 400 | 1/11/2013 10:27 PM |
| trans-1,3-dichloropropene | ND | 400 | U | ppbv | 400 | 1/11/2013 10:27 PM |
| Trichloroethene | ND | 400 | U | ppbv | 400 | 1/11/2013 10:27 PM |
| Trichlorofluoromethane | ND | 400 | U | ppbv | 400 | 1/11/2013 10:27 PM |
| Vinyl acetate | ND | 400 | U | ppbv | 400 | 1/11/2013 10:27 PM |
| Vinyl chloride | ND | 400 | U | ppbv | 400 | 1/11/2013 10:27 PM |
| Xylenes, Total | 660 | 1,200 | J | ppbv | 400 | 1/11/2013 10:27 PM |
| Surr: 4-Bromofluorobenzene | 94.2 | 70-130 | | %REC | 400 | 1/11/2013 10:27 PM |
| **Mass APH Air** | **Method:** | | | | | **Analyst: RH3** |
| **Air-Phase Petroleum Hydrocarbons** | | | | | | |
| C5-C8 Aliphatic Hydrocarbons | 140,000 | 47,000 | | µg/m³ | 400 | 1/11/2013 6:00 PM |
| C9-C10 Aromatic Hydrocarbons | ND | 53,000 | U | µg/m³ | 400 | 1/11/2013 6:00 PM |
| C9-C12 Aliphatic Hydrocarbons | ND | 76,000 | U | µg/m³ | 400 | 1/11/2013 6:00 PM |
| Surr: 4-Bromofluorobenzene | 96.6 | 70-130 | | %REC | 400 | 1/11/2013 6:00 PM |

# RTI Laboratories - Analytical Report

**WO#: 1212959**

**Date Reported: 1/17/2013**
**Revision v1**

| | | | |
|---|---|---|---|
| **Client:** | Shaw Environmental & Infrastructure, Inc | **Collection Date:** | 12/17/2012 10:56:00 AM |
| **Project:** | Kirtland AFB | | |
| **Lab ID:** | 1212959-005 | **Matrix:** | Air |
| **Client Sample ID:** | VA1949 | | |

| Analysis | Result | RL | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **Noncondensable Gases and Light Hydrocarbons** | | **Method: ASTM-D2504** | | | | **Analyst: cr** |
| Carbon dioxide | 0.50 | 0.10 | | % v/v | 1 | 1/10/2013 4:52 PM |
| Carbon Monoxide | ND | 0.10 | U | % v/v | 1 | 1/10/2013 4:52 PM |
| Methane | ND | 0.50 | U | % v/v | 1 | 1/10/2013 4:52 PM |
| Nitrogen | 83 | 0.10 | | % v/v | 1 | 1/10/2013 4:52 PM |
| Oxygen | 21 | 0.10 | | % v/v | 1 | 1/10/2013 4:52 PM |
| **Volatile Organic Compounds** | | **Method: TO-15** | | | | **Analyst: RH3** |
| 1,1,1-Trichloroethane | ND | 40 | U | ppbv | 40 | 1/14/2013 2:52 PM |
| 1,1,2,2-Tetrachloroethane | ND | 40 | U | ppbv | 40 | 1/14/2013 2:52 PM |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ND | 40 | U | ppbv | 40 | 1/14/2013 2:52 PM |
| 1,1,2-Trichloroethane | ND | 40 | U | ppbv | 40 | 1/14/2013 2:52 PM |
| 1,1-Dichloroethane | ND | 40 | U | ppbv | 40 | 1/14/2013 2:52 PM |
| 1,1-Dichloroethene | ND | 40 | U | ppbv | 40 | 1/14/2013 2:52 PM |
| 1,2,4-Trichlorobenzene | ND | 40 | U | ppbv | 40 | 1/14/2013 2:52 PM |
| 1,2,4-Trimethylbenzene | 44 | 40 | | ppbv | 40 | 1/14/2013 2:52 PM |
| 1,2-Dibromoethane | ND | 40 | U | ppbv | 40 | 1/14/2013 2:52 PM |
| 1,2-Dichlorobenzene | ND | 40 | U | ppbv | 40 | 1/14/2013 2:52 PM |
| 1,2-Dichloroethane | ND | 40 | U | ppbv | 40 | 1/14/2013 2:52 PM |
| 1,2-Dichloropropane | ND | 40 | U | ppbv | 40 | 1/14/2013 2:52 PM |
| 1,3,5-Trimethylbenzene | ND | 40 | U | ppbv | 40 | 1/14/2013 2:52 PM |
| 1,3-Butadiene | ND | 40 | U | ppbv | 40 | 1/14/2013 2:52 PM |
| 1,3-Dichlorobenzene | ND | 40 | U | ppbv | 40 | 1/14/2013 2:52 PM |
| 1,4-Dichlorobenzene | ND | 40 | U | ppbv | 40 | 1/14/2013 2:52 PM |
| 2-Butanone | ND | 40 | U | ppbv | 40 | 1/14/2013 2:52 PM |
| 2-Hexanone | ND | 40 | U | ppbv | 40 | 1/14/2013 2:52 PM |
| 4-Methyl-2-pentanone | ND | 40 | U | ppbv | 40 | 1/14/2013 2:52 PM |
| Acetone | ND | 40 | U | ppbv | 40 | 1/14/2013 2:52 PM |
| Benzene | 160 | 40 | | ppbv | 40 | 1/14/2013 2:52 PM |
| Benzyl chloride | ND | 40 | U | ppbv | 40 | 1/14/2013 2:52 PM |
| Bromodichloromethane | ND | 40 | U | ppbv | 40 | 1/14/2013 2:52 PM |
| Bromoform | ND | 40 | U | ppbv | 40 | 1/14/2013 2:52 PM |
| Bromomethane | ND | 40 | U | ppbv | 40 | 1/14/2013 2:52 PM |
| Carbon disulfide | ND | 40 | U | ppbv | 40 | 1/14/2013 2:52 PM |
| Carbon tetrachloride | ND | 40 | U | ppbv | 40 | 1/14/2013 2:52 PM |
| Chlorobenzene | ND | 40 | U | ppbv | 40 | 1/14/2013 2:52 PM |
| Chlorodibromomethane | ND | 40 | U | ppbv | 40 | 1/14/2013 2:52 PM |
| Chloroethane | ND | 40 | U | ppbv | 40 | 1/14/2013 2:52 PM |
| Chloroform | ND | 40 | U | ppbv | 40 | 1/14/2013 2:52 PM |
| Chloromethane | ND | 40 | U | ppbv | 40 | 1/14/2013 2:52 PM |
| cis-1,2-Dichloroethene | ND | 40 | U | ppbv | 40 | 1/14/2013 2:52 PM |
| cis-1,3-dichloropropene | ND | 40 | U | ppbv | 40 | 1/14/2013 2:52 PM |

# RTI Laboratories - Analytical Report

**WO#: 1212959**

**Date Reported: 1/17/2013**
**Revision v1**

| | | | |
|---|---|---|---|
| **Client:** | Shaw Environmental & Infrastructure, Inc | **Collection Date:** | 12/17/2012 10:56:00 AM |
| **Project:** | Kirtland AFB | | |
| **Lab ID:** | 1212959-005 | **Matrix:** | Air |
| **Client Sample ID:** | VA1949 | | |

| Analysis | Result | RL | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| Cyclohexane | 450 | 80 | | ppbv | 40 | 1/14/2013 2:52 PM |
| Dichlorodifluoromethane | ND | 40 | U | ppbv | 40 | 1/14/2013 2:52 PM |
| Ethyl acetate | ND | 40 | U | ppbv | 40 | 1/14/2013 2:52 PM |
| Ethylbenzene | 73 | 80 | J | ppbv | 40 | 1/14/2013 2:52 PM |
| Heptane | 430 | 40 | | ppbv | 40 | 1/14/2013 2:52 PM |
| Hexachlorobutadiene | ND | 80 | U | ppbv | 40 | 1/14/2013 2:52 PM |
| m,p-Xylene | 250 | 80 | | ppbv | 40 | 1/14/2013 2:52 PM |
| Methylene chloride | ND | 200 | U | ppbv | 40 | 1/14/2013 2:52 PM |
| n-Hexane | 270 | 80 | | ppbv | 40 | 1/14/2013 2:52 PM |
| Naphthalene | ND | 40 | U | ppbv | 40 | 1/14/2013 2:52 PM |
| o-Xylene | 91 | 40 | | ppbv | 40 | 1/14/2013 2:52 PM |
| Propylene | ND | 40 | U | ppbv | 40 | 1/14/2013 2:52 PM |
| Styrene | ND | 40 | U | ppbv | 40 | 1/14/2013 2:52 PM |
| tert-Butyl Methyl Ether | ND | 40 | U | ppbv | 40 | 1/14/2013 2:52 PM |
| Tetrachloroethene | ND | 40 | U | ppbv | 40 | 1/14/2013 2:52 PM |
| Tetrahydrofuran | ND | 40 | U | ppbv | 40 | 1/14/2013 2:52 PM |
| Toluene | 490 | 40 | | ppbv | 40 | 1/14/2013 2:52 PM |
| trans-1,2-Dichloroethene | ND | 40 | U | ppbv | 40 | 1/14/2013 2:52 PM |
| trans-1,3-dichloropropene | ND | 40 | U | ppbv | 40 | 1/14/2013 2:52 PM |
| Trichloroethene | ND | 40 | U | ppbv | 40 | 1/14/2013 2:52 PM |
| Trichlorofluoromethane | ND | 40 | U | ppbv | 40 | 1/14/2013 2:52 PM |
| Vinyl acetate | ND | 40 | U | ppbv | 40 | 1/14/2013 2:52 PM |
| Vinyl chloride | ND | 40 | U | ppbv | 40 | 1/14/2013 2:52 PM |
| Xylenes, Total | 340 | 120 | | ppbv | 40 | 1/14/2013 2:52 PM |
| Surr: 4-Bromofluorobenzene | 97.7 | 70-130 | | %REC | 40 | 1/14/2013 2:52 PM |
| **Mass APH Air** | **Method:** | | | | | **Analyst: RH3** |
| **Air-Phase Petroleum Hydrocarbons** | | | | | | |
| C5-C8 Aliphatic Hydrocarbons | 25,000 | 4,700 | | µg/m³ | 40 | 1/15/2013 12:01 AM |
| C9-C10 Aromatic Hydrocarbons | ND | 5,300 | U | µg/m³ | 40 | 1/15/2013 12:01 AM |
| C9-C12 Aliphatic Hydrocarbons | 8,500 | 7,600 | | µg/m³ | 40 | 1/15/2013 12:01 AM |
| Surr: 4-Bromofluorobenzene | 97.0 | 70-130 | | %REC | 40 | 1/15/2013 12:01 AM |

# RTI Laboratories - Analytical Report

**WO#: 1212959**

**Date Reported: 1/17/2013**
**Revision v1**

| | | | |
|---|---|---|---|
| **Client:** | Shaw Environmental & Infrastructure, Inc | **Collection Date:** | 12/18/2012 12:32:00 PM |
| **Project:** | Kirtland AFB | | |
| **Lab ID:** | 1212959-006 | **Matrix:** | Air |
| **Client Sample ID:** | VA1996 | | |

| Analysis | Result | RL | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **Noncondensable Gases and Light Hydrocarbons** | | **Method: ASTM-D2504** | | | | **Analyst: cr** |
| Carbon dioxide | 1.7 | 0.10 | | % v/v | 1 | 1/10/2013 5:07 PM |
| Carbon Monoxide | ND | 0.10 | U | % v/v | 1 | 1/10/2013 5:07 PM |
| Methane | ND | 0.50 | U | % v/v | 1 | 1/10/2013 5:07 PM |
| Nitrogen | 86 | 0.10 | | % v/v | 1 | 1/10/2013 5:07 PM |
| Oxygen | 17 | 0.10 | | % v/v | 1 | 1/10/2013 5:07 PM |
| **Volatile Organic Compounds** | | **Method: TO-15** | | | | **Analyst: RH3** |
| 1,1,1-Trichloroethane | ND | 800 | U | ppbv | 800 | 1/15/2013 7:04 PM |
| 1,1,2,2-Tetrachloroethane | ND | 800 | U | ppbv | 800 | 1/15/2013 7:04 PM |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ND | 800 | U | ppbv | 800 | 1/15/2013 7:04 PM |
| 1,1,2-Trichloroethane | ND | 800 | U | ppbv | 800 | 1/15/2013 7:04 PM |
| 1,1-Dichloroethane | ND | 800 | U | ppbv | 800 | 1/15/2013 7:04 PM |
| 1,1-Dichloroethene | ND | 800 | U | ppbv | 800 | 1/15/2013 7:04 PM |
| 1,2,4-Trichlorobenzene | ND | 800 | U | ppbv | 800 | 1/15/2013 7:04 PM |
| 1,2,4-Trimethylbenzene | ND | 800 | U | ppbv | 800 | 1/15/2013 7:04 PM |
| 1,2-Dibromoethane | ND | 800 | U | ppbv | 800 | 1/15/2013 7:04 PM |
| 1,2-Dichlorobenzene | ND | 800 | U | ppbv | 800 | 1/15/2013 7:04 PM |
| 1,2-Dichloroethane | ND | 800 | U | ppbv | 800 | 1/15/2013 7:04 PM |
| 1,2-Dichloropropane | ND | 800 | U | ppbv | 800 | 1/15/2013 7:04 PM |
| 1,3,5-Trimethylbenzene | ND | 800 | U | ppbv | 800 | 1/15/2013 7:04 PM |
| 1,3-Butadiene | ND | 800 | U | ppbv | 800 | 1/15/2013 7:04 PM |
| 1,3-Dichlorobenzene | ND | 800 | U | ppbv | 800 | 1/15/2013 7:04 PM |
| 1,4-Dichlorobenzene | ND | 800 | U | ppbv | 800 | 1/15/2013 7:04 PM |
| 2-Butanone | ND | 800 | U | ppbv | 800 | 1/15/2013 7:04 PM |
| 2-Hexanone | ND | 800 | U | ppbv | 800 | 1/15/2013 7:04 PM |
| 4-Methyl-2-pentanone | ND | 800 | U | ppbv | 800 | 1/15/2013 7:04 PM |
| Acetone | ND | 800 | U | ppbv | 800 | 1/15/2013 7:04 PM |
| Benzene | 21,000 | 800 | | ppbv | 800 | 1/15/2013 7:04 PM |
| Benzyl chloride | ND | 800 | U | ppbv | 800 | 1/15/2013 7:04 PM |
| Bromodichloromethane | ND | 800 | U | ppbv | 800 | 1/15/2013 7:04 PM |
| Bromoform | ND | 800 | U | ppbv | 800 | 1/15/2013 7:04 PM |
| Bromomethane | ND | 800 | U | ppbv | 800 | 1/15/2013 7:04 PM |
| Carbon disulfide | ND | 800 | U | ppbv | 800 | 1/15/2013 7:04 PM |
| Carbon tetrachloride | ND | 800 | U | ppbv | 800 | 1/15/2013 7:04 PM |
| Chlorobenzene | ND | 800 | U | ppbv | 800 | 1/15/2013 7:04 PM |
| Chlorodibromomethane | ND | 800 | U | ppbv | 800 | 1/15/2013 7:04 PM |
| Chloroethane | ND | 800 | U | ppbv | 800 | 1/15/2013 7:04 PM |
| Chloroform | ND | 800 | U | ppbv | 800 | 1/15/2013 7:04 PM |
| Chloromethane | ND | 800 | U | ppbv | 800 | 1/15/2013 7:04 PM |
| cis-1,2-Dichloroethene | ND | 800 | U | ppbv | 800 | 1/15/2013 7:04 PM |
| cis-1,3-dichloropropene | ND | 800 | U | ppbv | 800 | 1/15/2013 7:04 PM |

# RTI Laboratories - Analytical Report

**WO#: 1212959**

**Date Reported: 1/17/2013**
**Revision v1**

| | | | |
|---|---|---|---|
| **Client:** | Shaw Environmental & Infrastructure, Inc | **Collection Date:** | 12/18/2012 12:32:00 PM |
| **Project:** | Kirtland AFB | | |
| **Lab ID:** | 1212959-006 | **Matrix:** | Air |
| **Client Sample ID:** | VA1996 | | |

| Analysis | Result | RL | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| Cyclohexane | 130,000 | 16,000 | | ppbv | 8000 | 1/16/2013 1:56 PM |
| Dichlorodifluoromethane | ND | 800 | U | ppbv | 800 | 1/15/2013 7:04 PM |
| Ethyl acetate | ND | 800 | U | ppbv | 800 | 1/15/2013 7:04 PM |
| Ethylbenzene | 1,600 | 1,600 | J | ppbv | 800 | 1/15/2013 7:04 PM |
| Heptane | 21,000 | 800 | | ppbv | 800 | 1/15/2013 7:04 PM |
| Hexachlorobutadiene | ND | 1,600 | U | ppbv | 800 | 1/15/2013 7:04 PM |
| m,p-Xylene | 4,800 | 1,600 | | ppbv | 800 | 1/15/2013 7:04 PM |
| Methylene chloride | ND | 4,000 | U | ppbv | 800 | 1/15/2013 7:04 PM |
| n-Hexane | 34,000 | 1,600 | | ppbv | 800 | 1/15/2013 7:04 PM |
| Naphthalene | ND | 800 | U | ppbv | 800 | 1/15/2013 7:04 PM |
| o-Xylene | 1,300 | 800 | | ppbv | 800 | 1/15/2013 7:04 PM |
| Propylene | ND | 800 | U | ppbv | 800 | 1/15/2013 7:04 PM |
| Styrene | ND | 800 | U | ppbv | 800 | 1/15/2013 7:04 PM |
| tert-Butyl Methyl Ether | ND | 800 | U | ppbv | 800 | 1/15/2013 7:04 PM |
| Tetrachloroethene | ND | 800 | U | ppbv | 800 | 1/15/2013 7:04 PM |
| Tetrahydrofuran | ND | 800 | U | ppbv | 800 | 1/15/2013 7:04 PM |
| Toluene | 38,000 | 800 | | ppbv | 800 | 1/15/2013 7:04 PM |
| trans-1,2-Dichloroethene | ND | 800 | U | ppbv | 800 | 1/15/2013 7:04 PM |
| trans-1,3-dichloropropene | ND | 800 | U | ppbv | 800 | 1/15/2013 7:04 PM |
| Trichloroethene | ND | 800 | U | ppbv | 800 | 1/15/2013 7:04 PM |
| Trichlorofluoromethane | ND | 800 | U | ppbv | 800 | 1/15/2013 7:04 PM |
| Vinyl acetate | ND | 800 | U | ppbv | 800 | 1/15/2013 7:04 PM |
| Vinyl chloride | ND | 800 | U | ppbv | 800 | 1/15/2013 7:04 PM |
| Xylenes, Total | 6,100 | 2,400 | | ppbv | 800 | 1/15/2013 7:04 PM |
| Surr: 4-Bromofluorobenzene | 102 | 70-130 | | %REC | 800 | 1/15/2013 7:04 PM |
| **Mass APH Air** | | **Method:** | | | | **Analyst: RH3** |
| **Air-Phase Petroleum Hydrocarbons** | | | | | | |
| C5-C8 Aliphatic Hydrocarbons | 7,100,000 | 940,000 | | µg/m³ | 8000 | 1/16/2013 7:28 PM |
| C9-C10 Aromatic Hydrocarbons | ND | 1,100,000 | U | µg/m³ | 8000 | 1/16/2013 7:28 PM |
| C9-C12 Aliphatic Hydrocarbons | ND | 1,500,000 | U | µg/m³ | 8000 | 1/16/2013 7:28 PM |
| Surr: 4-Bromofluorobenzene | 94.1 | 70-130 | | %REC | 8000 | 1/16/2013 7:28 PM |

# RTI Laboratories - Analytical Report

**WO#: 1212959**

**Date Reported: 1/17/2013**
**Revision v1**

| | | | |
|---|---|---|---|
| **Client:** | Shaw Environmental & Infrastructure, Inc | **Collection Date:** | 12/18/2012 12:56:00 PM |
| **Project:** | Kirtland AFB | | |
| **Lab ID:** | 1212959-007 | **Matrix:** | Air |
| **Client Sample ID:** | VA1997 | | |

| Analysis | Result | RL | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **Noncondensable Gases and Light Hydrocarbons** | | **Method: ASTM-D2504** | | | | **Analyst: cr** |
| Carbon dioxide | 0.66 | 0.10 | | % v/v | 1 | 1/10/2013 5:22 PM |
| Carbon Monoxide | ND | 0.10 | U | % v/v | 1 | 1/10/2013 5:22 PM |
| Methane | ND | 0.50 | U | % v/v | 1 | 1/10/2013 5:22 PM |
| Nitrogen | 84 | 0.10 | | % v/v | 1 | 1/10/2013 5:22 PM |
| Oxygen | 20 | 0.10 | | % v/v | 1 | 1/10/2013 5:22 PM |
| **Volatile Organic Compounds** | | **Method: TO-15** | | | | **Analyst: RH3** |
| 1,1,1-Trichloroethane | ND | 400 | U | ppbv | 400 | 1/15/2013 3:06 PM |
| 1,1,2,2-Tetrachloroethane | ND | 400 | U | ppbv | 400 | 1/15/2013 3:06 PM |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ND | 400 | U | ppbv | 400 | 1/15/2013 3:06 PM |
| 1,1,2-Trichloroethane | ND | 400 | U | ppbv | 400 | 1/15/2013 3:06 PM |
| 1,1-Dichloroethane | ND | 400 | U | ppbv | 400 | 1/15/2013 3:06 PM |
| 1,1-Dichloroethene | ND | 400 | U | ppbv | 400 | 1/15/2013 3:06 PM |
| 1,2,4-Trichlorobenzene | ND | 400 | U | ppbv | 400 | 1/15/2013 3:06 PM |
| 1,2,4-Trimethylbenzene | ND | 400 | U | ppbv | 400 | 1/15/2013 3:06 PM |
| 1,2-Dibromoethane | ND | 400 | U | ppbv | 400 | 1/15/2013 3:06 PM |
| 1,2-Dichlorobenzene | ND | 400 | U | ppbv | 400 | 1/15/2013 3:06 PM |
| 1,2-Dichloroethane | ND | 400 | U | ppbv | 400 | 1/15/2013 3:06 PM |
| 1,2-Dichloropropane | ND | 400 | U | ppbv | 400 | 1/15/2013 3:06 PM |
| 1,3,5-Trimethylbenzene | ND | 400 | U | ppbv | 400 | 1/15/2013 3:06 PM |
| 1,3-Butadiene | ND | 400 | U | ppbv | 400 | 1/15/2013 3:06 PM |
| 1,3-Dichlorobenzene | ND | 400 | U | ppbv | 400 | 1/15/2013 3:06 PM |
| 1,4-Dichlorobenzene | ND | 400 | U | ppbv | 400 | 1/15/2013 3:06 PM |
| 2-Butanone | ND | 400 | U | ppbv | 400 | 1/15/2013 3:06 PM |
| 2-Hexanone | ND | 400 | U | ppbv | 400 | 1/15/2013 3:06 PM |
| 4-Methyl-2-pentanone | ND | 400 | U | ppbv | 400 | 1/15/2013 3:06 PM |
| Acetone | ND | 400 | U | ppbv | 400 | 1/15/2013 3:06 PM |
| Benzene | 3,600 | 400 | | ppbv | 400 | 1/15/2013 3:06 PM |
| Benzyl chloride | ND | 400 | U | ppbv | 400 | 1/15/2013 3:06 PM |
| Bromodichloromethane | ND | 400 | U | ppbv | 400 | 1/15/2013 3:06 PM |
| Bromoform | ND | 400 | U | ppbv | 400 | 1/15/2013 3:06 PM |
| Bromomethane | ND | 400 | U | ppbv | 400 | 1/15/2013 3:06 PM |
| Carbon disulfide | ND | 400 | U | ppbv | 400 | 1/15/2013 3:06 PM |
| Carbon tetrachloride | ND | 400 | U | ppbv | 400 | 1/15/2013 3:06 PM |
| Chlorobenzene | ND | 400 | U | ppbv | 400 | 1/15/2013 3:06 PM |
| Chlorodibromomethane | ND | 400 | U | ppbv | 400 | 1/15/2013 3:06 PM |
| Chloroethane | ND | 400 | U | ppbv | 400 | 1/15/2013 3:06 PM |
| Chloroform | ND | 400 | U | ppbv | 400 | 1/15/2013 3:06 PM |
| Chloromethane | ND | 400 | U | ppbv | 400 | 1/15/2013 3:06 PM |
| cis-1,2-Dichloroethene | ND | 400 | U | ppbv | 400 | 1/15/2013 3:06 PM |
| cis-1,3-dichloropropene | ND | 400 | U | ppbv | 400 | 1/15/2013 3:06 PM |

# RTI Laboratories - Analytical Report

**WO#: 1212959**

**Date Reported: 1/17/2013**
**Revision v1**

| | | | |
|---|---|---|---|
| **Client:** | Shaw Environmental & Infrastructure, Inc | **Collection Date:** | 12/18/2012 12:56:00 PM |
| **Project:** | Kirtland AFB | | |
| **Lab ID:** | 1212959-007 | **Matrix:** | Air |
| **Client Sample ID:** | VA1997 | | |

| Analysis | Result | RL | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| Cyclohexane | 3,000 | 800 | | ppbv | 400 | 1/15/2013 3:06 PM |
| Dichlorodifluoromethane | ND | 400 | U | ppbv | 400 | 1/15/2013 3:06 PM |
| Ethyl acetate | ND | 400 | U | ppbv | 400 | 1/15/2013 3:06 PM |
| Ethylbenzene | 820 | 800 | | ppbv | 400 | 1/15/2013 3:06 PM |
| Heptane | 2,400 | 400 | | ppbv | 400 | 1/15/2013 3:06 PM |
| Hexachlorobutadiene | ND | 800 | U | ppbv | 400 | 1/15/2013 3:06 PM |
| m,p-Xylene | 2,500 | 800 | | ppbv | 400 | 1/15/2013 3:06 PM |
| Methylene chloride | ND | 2,000 | U | ppbv | 400 | 1/15/2013 3:06 PM |
| n-Hexane | 1,300 | 800 | | ppbv | 400 | 1/15/2013 3:06 PM |
| Naphthalene | ND | 400 | U | ppbv | 400 | 1/15/2013 3:06 PM |
| o-Xylene | 680 | 400 | | ppbv | 400 | 1/15/2013 3:06 PM |
| Propylene | ND | 400 | U | ppbv | 400 | 1/15/2013 3:06 PM |
| Styrene | ND | 400 | U | ppbv | 400 | 1/15/2013 3:06 PM |
| tert-Butyl Methyl Ether | ND | 400 | U | ppbv | 400 | 1/15/2013 3:06 PM |
| Tetrachloroethene | ND | 400 | U | ppbv | 400 | 1/15/2013 3:06 PM |
| Tetrahydrofuran | ND | 400 | U | ppbv | 400 | 1/15/2013 3:06 PM |
| Toluene | 13,000 | 400 | | ppbv | 400 | 1/15/2013 3:06 PM |
| trans-1,2-Dichloroethene | ND | 400 | U | ppbv | 400 | 1/15/2013 3:06 PM |
| trans-1,3-dichloropropene | ND | 400 | U | ppbv | 400 | 1/15/2013 3:06 PM |
| Trichloroethene | ND | 400 | U | ppbv | 400 | 1/15/2013 3:06 PM |
| Trichlorofluoromethane | ND | 400 | U | ppbv | 400 | 1/15/2013 3:06 PM |
| Vinyl acetate | ND | 400 | U | ppbv | 400 | 1/15/2013 3:06 PM |
| Vinyl chloride | ND | 400 | U | ppbv | 400 | 1/15/2013 3:06 PM |
| Xylenes, Total | 3,200 | 1,200 | | ppbv | 400 | 1/15/2013 3:06 PM |
| Surr: 4-Bromofluorobenzene | 96.5 | 70-130 | | %REC | 400 | 1/15/2013 3:06 PM |
| **Mass APH Air** | **Method:** | | | | | **Analyst: RH3** |
| **Air-Phase Petroleum Hydrocarbons** | | | | | | |
| C5-C8 Aliphatic Hydrocarbons | 280,000 | 94,000 | | µg/m³ | 800 | 1/16/2013 1:06 AM |
| C9-C10 Aromatic Hydrocarbons | ND | 110,000 | U | µg/m³ | 800 | 1/16/2013 1:06 AM |
| C9-C12 Aliphatic Hydrocarbons | 73,000 | 150,000 | J | µg/m³ | 800 | 1/16/2013 1:06 AM |
| Surr: 4-Bromofluorobenzene | 97.2 | 70-130 | | %REC | 800 | 1/16/2013 1:06 AM |

# RTI Laboratories - Analytical Report

**WO#: 1212959**

**Date Reported: 1/17/2013**
**Revision v1**

| | | | |
|---|---|---|---|
| **Client:** | Shaw Environmental & Infrastructure, Inc | **Collection Date:** | 12/18/2012 1:22:00 PM |
| **Project:** | Kirtland AFB | | |
| **Lab ID:** | 1212959-008 | **Matrix:** | Air |
| **Client Sample ID:** | VA1998 | | |

| Analysis | Result | RL | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **Noncondensable Gases and Light Hydrocarbons** | | **Method: ASTM-D2504** | | | | **Analyst: cr** |
| Carbon dioxide | 0.79 | 0.10 | | % v/v | 1 | 1/10/2013 5:36 PM |
| Carbon Monoxide | ND | 0.10 | U | % v/v | 1 | 1/10/2013 5:36 PM |
| Methane | ND | 0.50 | U | % v/v | 1 | 1/10/2013 5:36 PM |
| Nitrogen | 83 | 0.10 | | % v/v | 1 | 1/10/2013 5:36 PM |
| Oxygen | 21 | 0.10 | | % v/v | 1 | 1/10/2013 5:36 PM |
| **Volatile Organic Compounds** | | **Method: TO-15** | | | | **Analyst: RH3** |
| 1,1,1-Trichloroethane | ND | 400 | U | ppbv | 400 | 1/15/2013 4:42 PM |
| 1,1,2,2-Tetrachloroethane | ND | 400 | U | ppbv | 400 | 1/15/2013 4:42 PM |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ND | 400 | U | ppbv | 400 | 1/15/2013 4:42 PM |
| 1,1,2-Trichloroethane | ND | 400 | U | ppbv | 400 | 1/15/2013 4:42 PM |
| 1,1-Dichloroethane | ND | 400 | U | ppbv | 400 | 1/15/2013 4:42 PM |
| 1,1-Dichloroethene | ND | 400 | U | ppbv | 400 | 1/15/2013 4:42 PM |
| 1,2,4-Trichlorobenzene | ND | 400 | U | ppbv | 400 | 1/15/2013 4:42 PM |
| 1,2,4-Trimethylbenzene | ND | 400 | U | ppbv | 400 | 1/15/2013 4:42 PM |
| 1,2-Dibromoethane | ND | 400 | U | ppbv | 400 | 1/15/2013 4:42 PM |
| 1,2-Dichlorobenzene | ND | 400 | U | ppbv | 400 | 1/15/2013 4:42 PM |
| 1,2-Dichloroethane | ND | 400 | U | ppbv | 400 | 1/15/2013 4:42 PM |
| 1,2-Dichloropropane | ND | 400 | U | ppbv | 400 | 1/15/2013 4:42 PM |
| 1,3,5-Trimethylbenzene | ND | 400 | U | ppbv | 400 | 1/15/2013 4:42 PM |
| 1,3-Butadiene | ND | 400 | U | ppbv | 400 | 1/15/2013 4:42 PM |
| 1,3-Dichlorobenzene | ND | 400 | U | ppbv | 400 | 1/15/2013 4:42 PM |
| 1,4-Dichlorobenzene | ND | 400 | U | ppbv | 400 | 1/15/2013 4:42 PM |
| 2-Butanone | ND | 400 | U | ppbv | 400 | 1/15/2013 4:42 PM |
| 2-Hexanone | ND | 400 | U | ppbv | 400 | 1/15/2013 4:42 PM |
| 4-Methyl-2-pentanone | ND | 400 | U | ppbv | 400 | 1/15/2013 4:42 PM |
| Acetone | 450 | 400 | | ppbv | 400 | 1/15/2013 4:42 PM |
| Benzene | 2,200 | 400 | | ppbv | 400 | 1/15/2013 4:42 PM |
| Benzyl chloride | ND | 400 | U | ppbv | 400 | 1/15/2013 4:42 PM |
| Bromodichloromethane | ND | 400 | U | ppbv | 400 | 1/15/2013 4:42 PM |
| Bromoform | ND | 400 | U | ppbv | 400 | 1/15/2013 4:42 PM |
| Bromomethane | ND | 400 | U | ppbv | 400 | 1/15/2013 4:42 PM |
| Carbon disulfide | ND | 400 | U | ppbv | 400 | 1/15/2013 4:42 PM |
| Carbon tetrachloride | ND | 400 | U | ppbv | 400 | 1/15/2013 4:42 PM |
| Chlorobenzene | ND | 400 | U | ppbv | 400 | 1/15/2013 4:42 PM |
| Chlorodibromomethane | ND | 400 | U | ppbv | 400 | 1/15/2013 4:42 PM |
| Chloroethane | ND | 400 | U | ppbv | 400 | 1/15/2013 4:42 PM |
| Chloroform | ND | 400 | U | ppbv | 400 | 1/15/2013 4:42 PM |
| Chloromethane | ND | 400 | U | ppbv | 400 | 1/15/2013 4:42 PM |
| cis-1,2-Dichloroethene | ND | 400 | U | ppbv | 400 | 1/15/2013 4:42 PM |
| cis-1,3-dichloropropene | ND | 400 | U | ppbv | 400 | 1/15/2013 4:42 PM |

# RTI Laboratories - Analytical Report

**WO#: 1212959**

**Date Reported: 1/17/2013**
**Revision v1**

| | | | |
|---|---|---|---|
| **Client:** | Shaw Environmental & Infrastructure, Inc | **Collection Date:** | 12/18/2012 1:22:00 PM |
| **Project:** | Kirtland AFB | | |
| **Lab ID:** | 1212959-008 | **Matrix:** | Air |
| **Client Sample ID:** | VA1998 | | |

| Analysis | Result | RL | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| Cyclohexane | 1,700 | 800 | | ppbv | 400 | 1/15/2013 4:42 PM |
| Dichlorodifluoromethane | ND | 400 | U | ppbv | 400 | 1/15/2013 4:42 PM |
| Ethyl acetate | ND | 400 | U | ppbv | 400 | 1/15/2013 4:42 PM |
| Ethylbenzene | 550 | 800 | J | ppbv | 400 | 1/15/2013 4:42 PM |
| Heptane | 1,400 | 400 | | ppbv | 400 | 1/15/2013 4:42 PM |
| Hexachlorobutadiene | ND | 800 | U | ppbv | 400 | 1/15/2013 4:42 PM |
| m,p-Xylene | 1,700 | 800 | | ppbv | 400 | 1/15/2013 4:42 PM |
| Methylene chloride | ND | 2,000 | U | ppbv | 400 | 1/15/2013 4:42 PM |
| n-Hexane | 740 | 800 | J | ppbv | 400 | 1/15/2013 4:42 PM |
| Naphthalene | ND | 400 | U | ppbv | 400 | 1/15/2013 4:42 PM |
| o-Xylene | 470 | 400 | | ppbv | 400 | 1/15/2013 4:42 PM |
| Propylene | ND | 400 | U | ppbv | 400 | 1/15/2013 4:42 PM |
| Styrene | ND | 400 | U | ppbv | 400 | 1/15/2013 4:42 PM |
| tert-Butyl Methyl Ether | ND | 400 | U | ppbv | 400 | 1/15/2013 4:42 PM |
| Tetrachloroethene | ND | 400 | U | ppbv | 400 | 1/15/2013 4:42 PM |
| Tetrahydrofuran | ND | 400 | U | ppbv | 400 | 1/15/2013 4:42 PM |
| Toluene | 8,700 | 400 | | ppbv | 400 | 1/15/2013 4:42 PM |
| trans-1,2-Dichloroethene | ND | 400 | U | ppbv | 400 | 1/15/2013 4:42 PM |
| trans-1,3-dichloropropene | ND | 400 | U | ppbv | 400 | 1/15/2013 4:42 PM |
| Trichloroethene | ND | 400 | U | ppbv | 400 | 1/15/2013 4:42 PM |
| Trichlorofluoromethane | ND | 400 | U | ppbv | 400 | 1/15/2013 4:42 PM |
| Vinyl acetate | ND | 400 | U | ppbv | 400 | 1/15/2013 4:42 PM |
| Vinyl chloride | ND | 400 | U | ppbv | 400 | 1/15/2013 4:42 PM |
| Xylenes, Total | 2,200 | 1,200 | | ppbv | 400 | 1/15/2013 4:42 PM |
| Surr: 4-Bromofluorobenzene | 94.9 | 70-130 | | %REC | 400 | 1/15/2013 4:42 PM |
| **Mass APH Air** | **Method:** | | | | | **Analyst: RH3** |
| **Air-Phase Petroleum Hydrocarbons** | | | | | | |
| C5-C8 Aliphatic Hydrocarbons | 170,000 | 47,000 | | µg/m³ | 400 | 1/16/2013 2:41 AM |
| C9-C10 Aromatic Hydrocarbons | ND | 53,000 | U | µg/m³ | 400 | 1/16/2013 2:41 AM |
| C9-C12 Aliphatic Hydrocarbons | 48,000 | 76,000 | J | µg/m³ | 400 | 1/16/2013 2:41 AM |
| Surr: 4-Bromofluorobenzene | 96.8 | 70-130 | | %REC | 400 | 1/16/2013 2:41 AM |

# RTI Laboratories - Analytical Report

**WO#: 1212959**

**Date Reported: 1/17/2013**
**Revision v1**

| | | | |
|---|---|---|---|
| **Client:** | Shaw Environmental & Infrastructure, Inc | **Collection Date:** | 12/18/2012 1:50:00 PM |
| **Project:** | Kirtland AFB | | |
| **Lab ID:** | 1212959-009 | **Matrix:** | Air |
| **Client Sample ID:** | VA1999 | | |

| Analysis | Result | RL | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **Noncondensable Gases and Light Hydrocarbons** | | **Method: ASTM-D2504** | | | | **Analyst: cr** |
| Carbon dioxide | 0.70 | 0.10 | | % v/v | 1 | 1/10/2013 5:50 PM |
| Carbon Monoxide | ND | 0.10 | U | % v/v | 1 | 1/10/2013 5:50 PM |
| Methane | ND | 0.50 | U | % v/v | 1 | 1/10/2013 5:50 PM |
| Nitrogen | 84 | 0.10 | | % v/v | 1 | 1/10/2013 5:50 PM |
| Oxygen | 20 | 0.10 | | % v/v | 1 | 1/10/2013 5:50 PM |
| **Volatile Organic Compounds** | | **Method: TO-15** | | | | **Analyst: RH3** |
| 1,1,1-Trichloroethane | ND | 800 | U | ppbv | 800 | 1/16/2013 10:38 PM |
| 1,1,2,2-Tetrachloroethane | ND | 800 | U | ppbv | 800 | 1/16/2013 10:38 PM |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ND | 800 | U | ppbv | 800 | 1/16/2013 10:38 PM |
| 1,1,2-Trichloroethane | ND | 800 | U | ppbv | 800 | 1/16/2013 10:38 PM |
| 1,1-Dichloroethane | ND | 800 | U | ppbv | 800 | 1/16/2013 10:38 PM |
| 1,1-Dichloroethene | ND | 800 | U | ppbv | 800 | 1/16/2013 10:38 PM |
| 1,2,4-Trichlorobenzene | ND | 800 | U | ppbv | 800 | 1/16/2013 10:38 PM |
| 1,2,4-Trimethylbenzene | ND | 800 | U | ppbv | 800 | 1/16/2013 10:38 PM |
| 1,2-Dibromoethane | ND | 800 | U | ppbv | 800 | 1/16/2013 10:38 PM |
| 1,2-Dichlorobenzene | ND | 800 | U | ppbv | 800 | 1/16/2013 10:38 PM |
| 1,2-Dichloroethane | ND | 800 | U | ppbv | 800 | 1/16/2013 10:38 PM |
| 1,2-Dichloropropane | ND | 800 | U | ppbv | 800 | 1/16/2013 10:38 PM |
| 1,3,5-Trimethylbenzene | ND | 800 | U | ppbv | 800 | 1/16/2013 10:38 PM |
| 1,3-Butadiene | ND | 800 | U | ppbv | 800 | 1/16/2013 10:38 PM |
| 1,3-Dichlorobenzene | ND | 800 | U | ppbv | 800 | 1/16/2013 10:38 PM |
| 1,4-Dichlorobenzene | ND | 800 | U | ppbv | 800 | 1/16/2013 10:38 PM |
| 2-Butanone | ND | 800 | U | ppbv | 800 | 1/16/2013 10:38 PM |
| 2-Hexanone | ND | 800 | U | ppbv | 800 | 1/16/2013 10:38 PM |
| 4-Methyl-2-pentanone | ND | 800 | U | ppbv | 800 | 1/16/2013 10:38 PM |
| Acetone | ND | 800 | U | ppbv | 800 | 1/16/2013 10:38 PM |
| Benzene | 7,000 | 800 | | ppbv | 800 | 1/16/2013 10:38 PM |
| Benzyl chloride | ND | 800 | U | ppbv | 800 | 1/16/2013 10:38 PM |
| Bromodichloromethane | ND | 800 | U | ppbv | 800 | 1/16/2013 10:38 PM |
| Bromoform | ND | 800 | U | ppbv | 800 | 1/16/2013 10:38 PM |
| Bromomethane | ND | 800 | U | ppbv | 800 | 1/16/2013 10:38 PM |
| Carbon disulfide | ND | 800 | U | ppbv | 800 | 1/16/2013 10:38 PM |
| Carbon tetrachloride | ND | 800 | U | ppbv | 800 | 1/16/2013 10:38 PM |
| Chlorobenzene | ND | 800 | U | ppbv | 800 | 1/16/2013 10:38 PM |
| Chlorodibromomethane | ND | 800 | U | ppbv | 800 | 1/16/2013 10:38 PM |
| Chloroethane | ND | 800 | U | ppbv | 800 | 1/16/2013 10:38 PM |
| Chloroform | ND | 800 | U | ppbv | 800 | 1/16/2013 10:38 PM |
| Chloromethane | ND | 800 | U | ppbv | 800 | 1/16/2013 10:38 PM |
| cis-1,2-Dichloroethene | ND | 800 | U | ppbv | 800 | 1/16/2013 10:38 PM |
| cis-1,3-dichloropropene | ND | 800 | U | ppbv | 800 | 1/16/2013 10:38 PM |

# RTI Laboratories - Analytical Report

**WO#: 1212959**

**Date Reported: 1/17/2013**
**Revision v1**

| | | | |
|---|---|---|---|
| **Client:** | Shaw Environmental & Infrastructure, Inc | **Collection Date:** | 12/18/2012 1:50:00 PM |
| **Project:** | Kirtland AFB | | |
| **Lab ID:** | 1212959-009 | **Matrix:** | Air |
| **Client Sample ID:** | VA1999 | | |

| Analysis | Result | RL | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| Cyclohexane | 3,300 | 1,600 | | ppbv | 800 | 1/16/2013 10:38 PM |
| Dichlorodifluoromethane | ND | 800 | U | ppbv | 800 | 1/16/2013 10:38 PM |
| Ethyl acetate | ND | 800 | U | ppbv | 800 | 1/16/2013 10:38 PM |
| Ethylbenzene | ND | 1,600 | U | ppbv | 800 | 1/16/2013 10:38 PM |
| Heptane | 1,100 | 800 | | ppbv | 800 | 1/16/2013 10:38 PM |
| Hexachlorobutadiene | ND | 1,600 | U | ppbv | 800 | 1/16/2013 10:38 PM |
| m,p-Xylene | 1,200 | 1,600 | J | ppbv | 800 | 1/16/2013 10:38 PM |
| Methylene chloride | ND | 4,000 | U | ppbv | 800 | 1/16/2013 10:38 PM |
| n-Hexane | 1,900 | 1,600 | | ppbv | 800 | 1/16/2013 10:38 PM |
| Naphthalene | ND | 800 | U | ppbv | 800 | 1/16/2013 10:38 PM |
| o-Xylene | ND | 800 | U | ppbv | 800 | 1/16/2013 10:38 PM |
| Propylene | ND | 800 | U | ppbv | 800 | 1/16/2013 10:38 PM |
| Styrene | ND | 800 | U | ppbv | 800 | 1/16/2013 10:38 PM |
| tert-Butyl Methyl Ether | ND | 800 | U | ppbv | 800 | 1/16/2013 10:38 PM |
| Tetrachloroethene | ND | 800 | U | ppbv | 800 | 1/16/2013 10:38 PM |
| Tetrahydrofuran | ND | 800 | U | ppbv | 800 | 1/16/2013 10:38 PM |
| Toluene | 5,700 | 800 | | ppbv | 800 | 1/16/2013 10:38 PM |
| trans-1,2-Dichloroethene | ND | 800 | U | ppbv | 800 | 1/16/2013 10:38 PM |
| trans-1,3-dichloropropene | ND | 800 | U | ppbv | 800 | 1/16/2013 10:38 PM |
| Trichloroethene | ND | 800 | U | ppbv | 800 | 1/16/2013 10:38 PM |
| Trichlorofluoromethane | ND | 800 | U | ppbv | 800 | 1/16/2013 10:38 PM |
| Vinyl acetate | ND | 800 | U | ppbv | 800 | 1/16/2013 10:38 PM |
| Vinyl chloride | ND | 800 | U | ppbv | 800 | 1/16/2013 10:38 PM |
| Xylenes, Total | 1,200 | 2,400 | J | ppbv | 800 | 1/16/2013 10:38 PM |
| Surr: 4-Bromofluorobenzene | 96.1 | 70-130 | | %REC | 800 | 1/16/2013 10:38 PM |
| **Mass APH Air** | **Method:** | | | | | **Analyst: RH3** |
| **Air-Phase Petroleum Hydrocarbons** | | | | | | |
| C5-C8 Aliphatic Hydrocarbons | 550,000 | 94,000 | | µg/m³ | 800 | 1/16/2013 1:30 PM |
| C9-C10 Aromatic Hydrocarbons | ND | 110,000 | U | µg/m³ | 800 | 1/16/2013 1:30 PM |
| C9-C12 Aliphatic Hydrocarbons | ND | 150,000 | U | µg/m³ | 800 | 1/16/2013 1:30 PM |
| Surr: 4-Bromofluorobenzene | 96.1 | 70-130 | | %REC | 800 | 1/16/2013 1:30 PM |

# RTI Laboratories - Analytical Report

**WO#: 1212959**

**Date Reported: 1/17/2013**
**Revision v1**

| | | | |
|---|---|---|---|
| **Client:** | Shaw Environmental & Infrastructure, Inc | **Collection Date:** | 12/18/2012 9:14:00 AM |
| **Project:** | Kirtland AFB | | |
| **Lab ID:** | 1212959-010 | **Matrix:** | Air |
| **Client Sample ID:** | VA2005 | | |

| Analysis | Result | RL | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **Noncondensable Gases and Light Hydrocarbons** | | **Method: ASTM-D2504** | | | | **Analyst: cr** |
| Carbon dioxide | 0.44 | 0.10 | | % v/v | 1 | 1/10/2013 6:04 PM |
| Carbon Monoxide | ND | 0.10 | U | % v/v | 1 | 1/10/2013 6:04 PM |
| Methane | ND | 0.50 | U | % v/v | 1 | 1/10/2013 6:04 PM |
| Nitrogen | 85 | 0.10 | | % v/v | 1 | 1/10/2013 6:04 PM |
| Oxygen | 19 | 0.10 | | % v/v | 1 | 1/10/2013 6:04 PM |
| **Volatile Organic Compounds** | | **Method: TO-15** | | | | **Analyst: RH3** |
| 1,1,1-Trichloroethane | ND | 40 | U | ppbv | 40 | 1/15/2013 2:17 PM |
| 1,1,2,2-Tetrachloroethane | ND | 40 | U | ppbv | 40 | 1/15/2013 2:17 PM |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ND | 40 | U | ppbv | 40 | 1/15/2013 2:17 PM |
| 1,1,2-Trichloroethane | ND | 40 | U | ppbv | 40 | 1/15/2013 2:17 PM |
| 1,1-Dichloroethane | ND | 40 | U | ppbv | 40 | 1/15/2013 2:17 PM |
| 1,1-Dichloroethene | ND | 40 | U | ppbv | 40 | 1/15/2013 2:17 PM |
| 1,2,4-Trichlorobenzene | ND | 40 | U | ppbv | 40 | 1/15/2013 2:17 PM |
| 1,2,4-Trimethylbenzene | ND | 40 | U | ppbv | 40 | 1/15/2013 2:17 PM |
| 1,2-Dibromoethane | ND | 40 | U | ppbv | 40 | 1/15/2013 2:17 PM |
| 1,2-Dichlorobenzene | ND | 40 | U | ppbv | 40 | 1/15/2013 2:17 PM |
| 1,2-Dichloroethane | ND | 40 | U | ppbv | 40 | 1/15/2013 2:17 PM |
| 1,2-Dichloropropane | ND | 40 | U | ppbv | 40 | 1/15/2013 2:17 PM |
| 1,3,5-Trimethylbenzene | ND | 40 | U | ppbv | 40 | 1/15/2013 2:17 PM |
| 1,3-Butadiene | ND | 40 | U | ppbv | 40 | 1/15/2013 2:17 PM |
| 1,3-Dichlorobenzene | ND | 40 | U | ppbv | 40 | 1/15/2013 2:17 PM |
| 1,4-Dichlorobenzene | ND | 40 | U | ppbv | 40 | 1/15/2013 2:17 PM |
| 2-Butanone | ND | 40 | U | ppbv | 40 | 1/15/2013 2:17 PM |
| 2-Hexanone | ND | 40 | U | ppbv | 40 | 1/15/2013 2:17 PM |
| 4-Methyl-2-pentanone | ND | 40 | U | ppbv | 40 | 1/15/2013 2:17 PM |
| Acetone | ND | 40 | U | ppbv | 40 | 1/15/2013 2:17 PM |
| Benzene | 200 | 40 | | ppbv | 40 | 1/15/2013 2:17 PM |
| Benzyl chloride | ND | 40 | U | ppbv | 40 | 1/15/2013 2:17 PM |
| Bromodichloromethane | ND | 40 | U | ppbv | 40 | 1/15/2013 2:17 PM |
| Bromoform | ND | 40 | U | ppbv | 40 | 1/15/2013 2:17 PM |
| Bromomethane | ND | 40 | U | ppbv | 40 | 1/15/2013 2:17 PM |
| Carbon disulfide | ND | 40 | U | ppbv | 40 | 1/15/2013 2:17 PM |
| Carbon tetrachloride | ND | 40 | U | ppbv | 40 | 1/15/2013 2:17 PM |
| Chlorobenzene | ND | 40 | U | ppbv | 40 | 1/15/2013 2:17 PM |
| Chlorodibromomethane | ND | 40 | U | ppbv | 40 | 1/15/2013 2:17 PM |
| Chloroethane | ND | 40 | U | ppbv | 40 | 1/15/2013 2:17 PM |
| Chloroform | ND | 40 | U | ppbv | 40 | 1/15/2013 2:17 PM |
| Chloromethane | ND | 40 | U | ppbv | 40 | 1/15/2013 2:17 PM |
| cis-1,2-Dichloroethene | ND | 40 | U | ppbv | 40 | 1/15/2013 2:17 PM |
| cis-1,3-dichloropropene | ND | 40 | U | ppbv | 40 | 1/15/2013 2:17 PM |

# RTI Laboratories - Analytical Report

**WO#: 1212959**

**Date Reported: 1/17/2013**
**Revision v1**

| | | | |
|---|---|---|---|
| **Client:** | Shaw Environmental & Infrastructure, Inc | **Collection Date:** | 12/18/2012 9:14:00 AM |
| **Project:** | Kirtland AFB | | |
| **Lab ID:** | 1212959-010 | **Matrix:** | Air |
| **Client Sample ID:** | VA2005 | | |

| Analysis | Result | RL | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| Cyclohexane | 170 | 80 | | ppbv | 40 | 1/15/2013 2:17 PM |
| Dichlorodifluoromethane | ND | 40 | U | ppbv | 40 | 1/15/2013 2:17 PM |
| Ethyl acetate | ND | 40 | U | ppbv | 40 | 1/15/2013 2:17 PM |
| Ethylbenzene | ND | 80 | U | ppbv | 40 | 1/15/2013 2:17 PM |
| Heptane | 190 | 40 | | ppbv | 40 | 1/15/2013 2:17 PM |
| Hexachlorobutadiene | ND | 80 | U | ppbv | 40 | 1/15/2013 2:17 PM |
| m,p-Xylene | 67 | 80 | J | ppbv | 40 | 1/15/2013 2:17 PM |
| Methylene chloride | ND | 200 | U | ppbv | 40 | 1/15/2013 2:17 PM |
| n-Hexane | 120 | 80 | | ppbv | 40 | 1/15/2013 2:17 PM |
| Naphthalene | ND | 40 | U | ppbv | 40 | 1/15/2013 2:17 PM |
| o-Xylene | ND | 40 | U | ppbv | 40 | 1/15/2013 2:17 PM |
| Propylene | ND | 40 | U | ppbv | 40 | 1/15/2013 2:17 PM |
| Styrene | ND | 40 | U | ppbv | 40 | 1/15/2013 2:17 PM |
| tert-Butyl Methyl Ether | ND | 40 | U | ppbv | 40 | 1/15/2013 2:17 PM |
| Tetrachloroethene | ND | 40 | U | ppbv | 40 | 1/15/2013 2:17 PM |
| Tetrahydrofuran | ND | 40 | U | ppbv | 40 | 1/15/2013 2:17 PM |
| Toluene | 650 | 40 | | ppbv | 40 | 1/15/2013 2:17 PM |
| trans-1,2-Dichloroethene | ND | 40 | U | ppbv | 40 | 1/15/2013 2:17 PM |
| trans-1,3-dichloropropene | ND | 40 | U | ppbv | 40 | 1/15/2013 2:17 PM |
| Trichloroethene | ND | 40 | U | ppbv | 40 | 1/15/2013 2:17 PM |
| Trichlorofluoromethane | ND | 40 | U | ppbv | 40 | 1/15/2013 2:17 PM |
| Vinyl acetate | ND | 40 | U | ppbv | 40 | 1/15/2013 2:17 PM |
| Vinyl chloride | ND | 40 | U | ppbv | 40 | 1/15/2013 2:17 PM |
| Xylenes, Total | 67 | 120 | J | ppbv | 40 | 1/15/2013 2:17 PM |
| Surr: 4-Bromofluorobenzene | 98.0 | 70-130 | | %REC | 40 | 1/15/2013 2:17 PM |
| **Mass APH Air** | **Method:** | | | | | **Analyst: RH3** |
| **Air-Phase Petroleum Hydrocarbons** | | | | | | |
| C5-C8 Aliphatic Hydrocarbons | 16,000 | 4,700 | | µg/m³ | 40 | 1/15/2013 4:35 PM |
| C9-C10 Aromatic Hydrocarbons | ND | 5,300 | U | µg/m³ | 40 | 1/15/2013 4:35 PM |
| C9-C12 Aliphatic Hydrocarbons | ND | 7,600 | U | µg/m³ | 40 | 1/15/2013 4:35 PM |
| Surr: 4-Bromofluorobenzene | 93.6 | 70-130 | | %REC | 40 | 1/15/2013 4:35 PM |

# RTI Laboratories - Analytical Report

**WO#: 1212959**

**Date Reported: 1/17/2013**
**Revision v1**

| | | | |
|---|---|---|---|
| **Client:** | Shaw Environmental & Infrastructure, Inc | **Collection Date:** | 12/18/2012 9:38:00 AM |
| **Project:** | Kirtland AFB | | |
| **Lab ID:** | 1212959-011 | **Matrix:** | Air |
| **Client Sample ID:** | VA2006 | | |

| Analysis | Result | RL | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **Noncondensable Gases and Light Hydrocarbons** | | **Method: ASTM-D2504** | | | | **Analyst: cr** |
| Carbon dioxide | 0.50 | 0.10 | | % v/v | 1 | 1/11/2013 12:06 PM |
| Carbon Monoxide | ND | 0.10 | U | % v/v | 1 | 1/11/2013 12:06 PM |
| Methane | ND | 0.50 | U | % v/v | 1 | 1/11/2013 12:06 PM |
| Nitrogen | 83 | 0.10 | | % v/v | 1 | 1/11/2013 12:06 PM |
| Oxygen | 19 | 0.10 | | % v/v | 1 | 1/11/2013 12:06 PM |
| **Volatile Organic Compounds** | | **Method: TO-15** | | | | **Analyst: RH3** |
| 1,1,1-Trichloroethane | ND | 400 | U | ppbv | 400 | 1/12/2013 12:42 AM |
| 1,1,2,2-Tetrachloroethane | ND | 400 | U | ppbv | 400 | 1/12/2013 12:42 AM |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ND | 400 | U | ppbv | 400 | 1/12/2013 12:42 AM |
| 1,1,2-Trichloroethane | ND | 400 | U | ppbv | 400 | 1/12/2013 12:42 AM |
| 1,1-Dichloroethane | ND | 400 | U | ppbv | 400 | 1/12/2013 12:42 AM |
| 1,1-Dichloroethene | ND | 400 | U | ppbv | 400 | 1/12/2013 12:42 AM |
| 1,2,4-Trichlorobenzene | ND | 400 | U | ppbv | 400 | 1/12/2013 12:42 AM |
| 1,2,4-Trimethylbenzene | ND | 400 | U | ppbv | 400 | 1/12/2013 12:42 AM |
| 1,2-Dibromoethane | ND | 400 | U | ppbv | 400 | 1/12/2013 12:42 AM |
| 1,2-Dichlorobenzene | ND | 400 | U | ppbv | 400 | 1/12/2013 12:42 AM |
| 1,2-Dichloroethane | ND | 400 | U | ppbv | 400 | 1/12/2013 12:42 AM |
| 1,2-Dichloropropane | ND | 400 | U | ppbv | 400 | 1/12/2013 12:42 AM |
| 1,3,5-Trimethylbenzene | ND | 400 | U | ppbv | 400 | 1/12/2013 12:42 AM |
| 1,3-Butadiene | ND | 400 | U | ppbv | 400 | 1/12/2013 12:42 AM |
| 1,3-Dichlorobenzene | ND | 400 | U | ppbv | 400 | 1/12/2013 12:42 AM |
| 1,4-Dichlorobenzene | ND | 400 | U | ppbv | 400 | 1/12/2013 12:42 AM |
| 2-Butanone | ND | 400 | U | ppbv | 400 | 1/12/2013 12:42 AM |
| 2-Hexanone | ND | 400 | U | ppbv | 400 | 1/12/2013 12:42 AM |
| 4-Methyl-2-pentanone | ND | 400 | U | ppbv | 400 | 1/12/2013 12:42 AM |
| Acetone | 840 | 400 | | ppbv | 400 | 1/12/2013 12:42 AM |
| Benzene | 3,600 | 400 | | ppbv | 400 | 1/12/2013 12:42 AM |
| Benzyl chloride | ND | 400 | U | ppbv | 400 | 1/12/2013 12:42 AM |
| Bromodichloromethane | ND | 400 | U | ppbv | 400 | 1/12/2013 12:42 AM |
| Bromoform | ND | 400 | U | ppbv | 400 | 1/12/2013 12:42 AM |
| Bromomethane | ND | 400 | U | ppbv | 400 | 1/12/2013 12:42 AM |
| Carbon disulfide | ND | 400 | U | ppbv | 400 | 1/12/2013 12:42 AM |
| Carbon tetrachloride | ND | 400 | U | ppbv | 400 | 1/12/2013 12:42 AM |
| Chlorobenzene | ND | 400 | U | ppbv | 400 | 1/12/2013 12:42 AM |
| Chlorodibromomethane | ND | 400 | U | ppbv | 400 | 1/12/2013 12:42 AM |
| Chloroethane | ND | 400 | U | ppbv | 400 | 1/12/2013 12:42 AM |
| Chloroform | ND | 400 | U | ppbv | 400 | 1/12/2013 12:42 AM |
| Chloromethane | ND | 400 | U | ppbv | 400 | 1/12/2013 12:42 AM |
| cis-1,2-Dichloroethene | ND | 400 | U | ppbv | 400 | 1/12/2013 12:42 AM |
| cis-1,3-dichloropropene | ND | 400 | U | ppbv | 400 | 1/12/2013 12:42 AM |

# RTI Laboratories - Analytical Report

**WO#: 1212959**

**Date Reported: 1/17/2013**
**Revision v1**

| | | | |
|---|---|---|---|
| **Client:** | Shaw Environmental & Infrastructure, Inc | **Collection Date:** | 12/18/2012 9:38:00 AM |
| **Project:** | Kirtland AFB | | |
| **Lab ID:** | 1212959-011 | **Matrix:** | Air |
| **Client Sample ID:** | VA2006 | | |

| Analysis | Result | RL | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| Cyclohexane | 6,700 | 800 | | ppbv | 400 | 1/12/2013 12:42 AM |
| Dichlorodifluoromethane | ND | 400 | U | ppbv | 400 | 1/12/2013 12:42 AM |
| Ethyl acetate | ND | 400 | U | ppbv | 400 | 1/12/2013 12:42 AM |
| Ethylbenzene | ND | 800 | U | ppbv | 400 | 1/12/2013 12:42 AM |
| Heptane | 790 | 400 | | ppbv | 400 | 1/12/2013 12:42 AM |
| Hexachlorobutadiene | ND | 800 | U | ppbv | 400 | 1/12/2013 12:42 AM |
| m,p-Xylene | ND | 800 | U | ppbv | 400 | 1/12/2013 12:42 AM |
| Methylene chloride | ND | 2,000 | U | ppbv | 400 | 1/12/2013 12:42 AM |
| n-Hexane | 4,000 | 800 | | ppbv | 400 | 1/12/2013 12:42 AM |
| Naphthalene | ND | 400 | U | ppbv | 400 | 1/12/2013 12:42 AM |
| o-Xylene | ND | 400 | U | ppbv | 400 | 1/12/2013 12:42 AM |
| Propylene | ND | 400 | U | ppbv | 400 | 1/12/2013 12:42 AM |
| Styrene | ND | 400 | U | ppbv | 400 | 1/12/2013 12:42 AM |
| tert-Butyl Methyl Ether | ND | 400 | U | ppbv | 400 | 1/12/2013 12:42 AM |
| Tetrachloroethene | ND | 400 | U | ppbv | 400 | 1/12/2013 12:42 AM |
| Tetrahydrofuran | ND | 400 | U | ppbv | 400 | 1/12/2013 12:42 AM |
| Toluene | 4,100 | 400 | | ppbv | 400 | 1/12/2013 12:42 AM |
| trans-1,2-Dichloroethene | ND | 400 | U | ppbv | 400 | 1/12/2013 12:42 AM |
| trans-1,3-dichloropropene | ND | 400 | U | ppbv | 400 | 1/12/2013 12:42 AM |
| Trichloroethene | ND | 400 | U | ppbv | 400 | 1/12/2013 12:42 AM |
| Trichlorofluoromethane | ND | 400 | U | ppbv | 400 | 1/12/2013 12:42 AM |
| Vinyl acetate | ND | 400 | U | ppbv | 400 | 1/12/2013 12:42 AM |
| Vinyl chloride | ND | 400 | U | ppbv | 400 | 1/12/2013 12:42 AM |
| Xylenes, Total | ND | 1,200 | U | ppbv | 400 | 1/12/2013 12:42 AM |
| Surr: 4-Bromofluorobenzene | 95.1 | 70-130 | | %REC | 400 | 1/12/2013 12:42 AM |
| **Mass APH Air** | **Method:** | | | | | **Analyst: RH3** |
| **Air-Phase Petroleum Hydrocarbons** | | | | | | |
| C5-C8 Aliphatic Hydrocarbons | 830,000 | 94,000 | | µg/m³ | 800 | 1/15/2013 1:45 PM |
| C9-C10 Aromatic Hydrocarbons | ND | 110,000 | U | µg/m³ | 800 | 1/15/2013 1:45 PM |
| C9-C12 Aliphatic Hydrocarbons | ND | 150,000 | U | µg/m³ | 800 | 1/15/2013 1:45 PM |
| Surr: 4-Bromofluorobenzene | 95.6 | 70-130 | | %REC | 800 | 1/15/2013 1:45 PM |

# RTI Laboratories - Analytical Report

**WO#: 1212959**

**Date Reported: 1/17/2013**
**Revision v1**

| | | | |
|---|---|---|---|
| **Client:** | Shaw Environmental & Infrastructure, Inc | **Collection Date:** | 12/18/2012 10:06:00 AM |
| **Project:** | Kirtland AFB | | |
| **Lab ID:** | 1212959-012 | **Matrix:** | Air |
| **Client Sample ID:** | VA2007 | | |

| Analysis | Result | RL | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **Noncondensable Gases and Light Hydrocarbons** | | **Method: ASTM-D2504** | | | | **Analyst: cr** |
| Carbon dioxide | 0.73 | 0.10 | | % v/v | 1 | 1/11/2013 12:21 PM |
| Carbon Monoxide | ND | 0.10 | U | % v/v | 1 | 1/11/2013 12:21 PM |
| Methane | ND | 0.50 | U | % v/v | 1 | 1/11/2013 12:21 PM |
| Nitrogen | 83 | 0.10 | | % v/v | 1 | 1/11/2013 12:21 PM |
| Oxygen | 18 | 0.10 | | % v/v | 1 | 1/11/2013 12:21 PM |
| **Volatile Organic Compounds** | | **Method: TO-15** | | | | **Analyst: RH3** |
| 1,1,1-Trichloroethane | ND | 20,000 | U | ppbv | 20000 | 1/12/2013 1:24 AM |
| 1,1,2,2-Tetrachloroethane | ND | 20,000 | U | ppbv | 20000 | 1/12/2013 1:24 AM |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ND | 20,000 | U | ppbv | 20000 | 1/12/2013 1:24 AM |
| 1,1,2-Trichloroethane | ND | 20,000 | U | ppbv | 20000 | 1/12/2013 1:24 AM |
| 1,1-Dichloroethane | ND | 20,000 | U | ppbv | 20000 | 1/12/2013 1:24 AM |
| 1,1-Dichloroethene | ND | 20,000 | U | ppbv | 20000 | 1/12/2013 1:24 AM |
| 1,2,4-Trichlorobenzene | ND | 20,000 | U | ppbv | 20000 | 1/12/2013 1:24 AM |
| 1,2,4-Trimethylbenzene | ND | 20,000 | U | ppbv | 20000 | 1/12/2013 1:24 AM |
| 1,2-Dibromoethane | ND | 20,000 | U | ppbv | 20000 | 1/12/2013 1:24 AM |
| 1,2-Dichlorobenzene | ND | 20,000 | U | ppbv | 20000 | 1/12/2013 1:24 AM |
| 1,2-Dichloroethane | ND | 20,000 | U | ppbv | 20000 | 1/12/2013 1:24 AM |
| 1,2-Dichloropropane | ND | 20,000 | U | ppbv | 20000 | 1/12/2013 1:24 AM |
| 1,3,5-Trimethylbenzene | ND | 20,000 | U | ppbv | 20000 | 1/12/2013 1:24 AM |
| 1,3-Butadiene | ND | 20,000 | U | ppbv | 20000 | 1/12/2013 1:24 AM |
| 1,3-Dichlorobenzene | ND | 20,000 | U | ppbv | 20000 | 1/12/2013 1:24 AM |
| 1,4-Dichlorobenzene | ND | 20,000 | U | ppbv | 20000 | 1/12/2013 1:24 AM |
| 2-Butanone | ND | 20,000 | U | ppbv | 20000 | 1/12/2013 1:24 AM |
| 2-Hexanone | ND | 20,000 | U | ppbv | 20000 | 1/12/2013 1:24 AM |
| 4-Methyl-2-pentanone | ND | 20,000 | U | ppbv | 20000 | 1/12/2013 1:24 AM |
| Acetone | ND | 20,000 | U | ppbv | 20000 | 1/12/2013 1:24 AM |
| Benzene | 160,000 | 20,000 | | ppbv | 20000 | 1/12/2013 1:24 AM |
| Benzyl chloride | ND | 20,000 | U | ppbv | 20000 | 1/12/2013 1:24 AM |
| Bromodichloromethane | ND | 20,000 | U | ppbv | 20000 | 1/12/2013 1:24 AM |
| Bromoform | ND | 20,000 | U | ppbv | 20000 | 1/12/2013 1:24 AM |
| Bromomethane | ND | 20,000 | U | ppbv | 20000 | 1/12/2013 1:24 AM |
| Carbon disulfide | ND | 20,000 | U | ppbv | 20000 | 1/12/2013 1:24 AM |
| Carbon tetrachloride | ND | 20,000 | U | ppbv | 20000 | 1/12/2013 1:24 AM |
| Chlorobenzene | ND | 20,000 | U | ppbv | 20000 | 1/12/2013 1:24 AM |
| Chlorodibromomethane | ND | 20,000 | U | ppbv | 20000 | 1/12/2013 1:24 AM |
| Chloroethane | ND | 20,000 | U | ppbv | 20000 | 1/12/2013 1:24 AM |
| Chloroform | ND | 20,000 | U | ppbv | 20000 | 1/12/2013 1:24 AM |
| Chloromethane | ND | 20,000 | U | ppbv | 20000 | 1/12/2013 1:24 AM |
| cis-1,2-Dichloroethene | ND | 20,000 | U | ppbv | 20000 | 1/12/2013 1:24 AM |
| cis-1,3-dichloropropene | ND | 20,000 | U | ppbv | 20000 | 1/12/2013 1:24 AM |

# RTI Laboratories - Analytical Report

**WO#: 1212959**

**Date Reported: 1/17/2013**
**Revision v1**

| | | | |
|---|---|---|---|
| **Client:** | Shaw Environmental & Infrastructure, Inc | **Collection Date:** | 12/18/2012 10:06:00 AM |
| **Project:** | Kirtland AFB | | |
| **Lab ID:** | 1212959-012 | **Matrix:** | Air |
| **Client Sample ID:** | VA2007 | | |

| Analysis | Result | RL | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| Cyclohexane | 65,000 | 40,000 | | ppbv | 20000 | 1/12/2013 1:24 AM |
| Dichlorodifluoromethane | ND | 20,000 | U | ppbv | 20000 | 1/12/2013 1:24 AM |
| Ethyl acetate | ND | 20,000 | U | ppbv | 20000 | 1/12/2013 1:24 AM |
| Ethylbenzene | ND | 40,000 | U | ppbv | 20000 | 1/12/2013 1:24 AM |
| Heptane | ND | 20,000 | U | ppbv | 20000 | 1/12/2013 1:24 AM |
| Hexachlorobutadiene | ND | 40,000 | U | ppbv | 20000 | 1/12/2013 1:24 AM |
| m,p-Xylene | ND | 40,000 | U | ppbv | 20000 | 1/12/2013 1:24 AM |
| Methylene chloride | ND | 100,000 | U | ppbv | 20000 | 1/12/2013 1:24 AM |
| n-Hexane | 63,000 | 40,000 | | ppbv | 20000 | 1/12/2013 1:24 AM |
| Naphthalene | ND | 20,000 | U | ppbv | 20000 | 1/12/2013 1:24 AM |
| o-Xylene | ND | 20,000 | U | ppbv | 20000 | 1/12/2013 1:24 AM |
| Propylene | ND | 20,000 | U | ppbv | 20000 | 1/12/2013 1:24 AM |
| Styrene | ND | 20,000 | U | ppbv | 20000 | 1/12/2013 1:24 AM |
| tert-Butyl Methyl Ether | ND | 20,000 | U | ppbv | 20000 | 1/12/2013 1:24 AM |
| Tetrachloroethene | ND | 20,000 | U | ppbv | 20000 | 1/12/2013 1:24 AM |
| Tetrahydrofuran | ND | 20,000 | U | ppbv | 20000 | 1/12/2013 1:24 AM |
| Toluene | 190,000 | 20,000 | | ppbv | 20000 | 1/12/2013 1:24 AM |
| trans-1,2-Dichloroethene | ND | 20,000 | U | ppbv | 20000 | 1/12/2013 1:24 AM |
| trans-1,3-dichloropropene | ND | 20,000 | U | ppbv | 20000 | 1/12/2013 1:24 AM |
| Trichloroethene | ND | 20,000 | U | ppbv | 20000 | 1/12/2013 1:24 AM |
| Trichlorofluoromethane | ND | 20,000 | U | ppbv | 20000 | 1/12/2013 1:24 AM |
| Vinyl acetate | ND | 20,000 | U | ppbv | 20000 | 1/12/2013 1:24 AM |
| Vinyl chloride | ND | 20,000 | U | ppbv | 20000 | 1/12/2013 1:24 AM |
| Xylenes, Total | ND | 60,000 | U | ppbv | 20000 | 1/12/2013 1:24 AM |
| Surr: 4-Bromofluorobenzene | 95.3 | 70-130 | | %REC | 20000 | 1/12/2013 1:24 AM |
| **Mass APH Air** | | **Method:** | | | | **Analyst: RH3** |
| **Air-Phase Petroleum Hydrocarbons** | | | | | | |
| C5-C8 Aliphatic Hydrocarbons | 6,600,000 | 2,300,000 | | µg/m³ | 20000 | 1/15/2013 3:10 PM |
| C9-C10 Aromatic Hydrocarbons | ND | 2,700,000 | U | µg/m³ | 20000 | 1/15/2013 3:10 PM |
| C9-C12 Aliphatic Hydrocarbons | ND | 3,800,000 | U | µg/m³ | 20000 | 1/15/2013 3:10 PM |
| Surr: 4-Bromofluorobenzene | 93.6 | 70-130 | | %REC | 20000 | 1/15/2013 3:10 PM |

# RTI Laboratories - Analytical Report

**WO#: 1212959**

**Date Reported: 1/17/2013**
**Revision v1**

| | | | |
|---|---|---|---|
| **Client:** | Shaw Environmental & Infrastructure, Inc | **Collection Date:** | 12/18/2012 10:36:00 AM |
| **Project:** | Kirtland AFB | | |
| **Lab ID:** | 1212959-013 | **Matrix:** | Air |
| **Client Sample ID:** | VA2008 | | |

| Analysis | Result | RL | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **Noncondensable Gases and Light Hydrocarbons** | | **Method: ASTM-D2504** | | | | **Analyst: cr** |
| Carbon dioxide | 0.67 | 0.10 | | % v/v | 1 | 1/11/2013 12:35 PM |
| Carbon Monoxide | ND | 0.10 | U | % v/v | 1 | 1/11/2013 12:35 PM |
| Methane | ND | 0.50 | U | % v/v | 1 | 1/11/2013 12:35 PM |
| Nitrogen | 83 | 0.10 | | % v/v | 1 | 1/11/2013 12:35 PM |
| Oxygen | 18 | 0.10 | | % v/v | 1 | 1/11/2013 12:35 PM |
| **Volatile Organic Compounds** | | **Method: TO-15** | | | | **Analyst: RH3** |
| 1,1,1-Trichloroethane | ND | 1,600 | U | ppbv | 1600 | 1/12/2013 2:55 AM |
| 1,1,2,2-Tetrachloroethane | ND | 1,600 | U | ppbv | 1600 | 1/12/2013 2:55 AM |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ND | 1,600 | U | ppbv | 1600 | 1/12/2013 2:55 AM |
| 1,1,2-Trichloroethane | ND | 1,600 | U | ppbv | 1600 | 1/12/2013 2:55 AM |
| 1,1-Dichloroethane | ND | 1,600 | U | ppbv | 1600 | 1/12/2013 2:55 AM |
| 1,1-Dichloroethene | ND | 1,600 | U | ppbv | 1600 | 1/12/2013 2:55 AM |
| 1,2,4-Trichlorobenzene | ND | 1,600 | U | ppbv | 1600 | 1/12/2013 2:55 AM |
| 1,2,4-Trimethylbenzene | ND | 1,600 | U | ppbv | 1600 | 1/12/2013 2:55 AM |
| 1,2-Dibromoethane | ND | 1,600 | U | ppbv | 1600 | 1/12/2013 2:55 AM |
| 1,2-Dichlorobenzene | ND | 1,600 | U | ppbv | 1600 | 1/12/2013 2:55 AM |
| 1,2-Dichloroethane | ND | 1,600 | U | ppbv | 1600 | 1/12/2013 2:55 AM |
| 1,2-Dichloropropane | ND | 1,600 | U | ppbv | 1600 | 1/12/2013 2:55 AM |
| 1,3,5-Trimethylbenzene | ND | 1,600 | U | ppbv | 1600 | 1/12/2013 2:55 AM |
| 1,3-Butadiene | ND | 1,600 | U | ppbv | 1600 | 1/12/2013 2:55 AM |
| 1,3-Dichlorobenzene | ND | 1,600 | U | ppbv | 1600 | 1/12/2013 2:55 AM |
| 1,4-Dichlorobenzene | ND | 1,600 | U | ppbv | 1600 | 1/12/2013 2:55 AM |
| 2-Butanone | ND | 1,600 | U | ppbv | 1600 | 1/12/2013 2:55 AM |
| 2-Hexanone | ND | 1,600 | U | ppbv | 1600 | 1/12/2013 2:55 AM |
| 4-Methyl-2-pentanone | ND | 1,600 | U | ppbv | 1600 | 1/12/2013 2:55 AM |
| Acetone | 2,300 | 1,600 | | ppbv | 1600 | 1/12/2013 2:55 AM |
| Benzene | 72,000 | 1,600 | | ppbv | 1600 | 1/12/2013 2:55 AM |
| Benzyl chloride | ND | 1,600 | U | ppbv | 1600 | 1/12/2013 2:55 AM |
| Bromodichloromethane | ND | 1,600 | U | ppbv | 1600 | 1/12/2013 2:55 AM |
| Bromoform | ND | 1,600 | U | ppbv | 1600 | 1/12/2013 2:55 AM |
| Bromomethane | ND | 1,600 | U | ppbv | 1600 | 1/12/2013 2:55 AM |
| Carbon disulfide | ND | 1,600 | U | ppbv | 1600 | 1/12/2013 2:55 AM |
| Carbon tetrachloride | ND | 1,600 | U | ppbv | 1600 | 1/12/2013 2:55 AM |
| Chlorobenzene | ND | 1,600 | U | ppbv | 1600 | 1/12/2013 2:55 AM |
| Chlorodibromomethane | ND | 1,600 | U | ppbv | 1600 | 1/12/2013 2:55 AM |
| Chloroethane | ND | 1,600 | U | ppbv | 1600 | 1/12/2013 2:55 AM |
| Chloroform | ND | 1,600 | U | ppbv | 1600 | 1/12/2013 2:55 AM |
| Chloromethane | ND | 1,600 | U | ppbv | 1600 | 1/12/2013 2:55 AM |
| cis-1,2-Dichloroethene | ND | 1,600 | U | ppbv | 1600 | 1/12/2013 2:55 AM |
| cis-1,3-dichloropropene | ND | 1,600 | U | ppbv | 1600 | 1/12/2013 2:55 AM |

# RTI Laboratories - Analytical Report

**WO#: 1212959**

**Date Reported: 1/17/2013**
**Revision v1**

| | | | |
|---|---|---|---|
| **Client:** | Shaw Environmental & Infrastructure, Inc | **Collection Date:** | 12/18/2012 10:36:00 AM |
| **Project:** | Kirtland AFB | | |
| **Lab ID:** | 1212959-013 | **Matrix:** | Air |
| **Client Sample ID:** | VA2008 | | |

| Analysis | Result | RL | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| Cyclohexane | 27,000 | 3,200 | | ppbv | 1600 | 1/12/2013 2:55 AM |
| Dichlorodifluoromethane | ND | 1,600 | U | ppbv | 1600 | 1/12/2013 2:55 AM |
| Ethyl acetate | ND | 1,600 | U | ppbv | 1600 | 1/12/2013 2:55 AM |
| Ethylbenzene | 2,400 | 3,200 | J | ppbv | 1600 | 1/12/2013 2:55 AM |
| Heptane | 30,000 | 1,600 | | ppbv | 1600 | 1/12/2013 2:55 AM |
| Hexachlorobutadiene | ND | 3,200 | U | ppbv | 1600 | 1/12/2013 2:55 AM |
| m,p-Xylene | 5,700 | 3,200 | | ppbv | 1600 | 1/12/2013 2:55 AM |
| Methylene chloride | ND | 8,000 | U | ppbv | 1600 | 1/12/2013 2:55 AM |
| n-Hexane | 14,000 | 3,200 | | ppbv | 1600 | 1/12/2013 2:55 AM |
| Naphthalene | ND | 1,600 | U | ppbv | 1600 | 1/12/2013 2:55 AM |
| o-Xylene | ND | 1,600 | U | ppbv | 1600 | 1/12/2013 2:55 AM |
| Propylene | 2,100 | 1,600 | | ppbv | 1600 | 1/12/2013 2:55 AM |
| Styrene | ND | 1,600 | U | ppbv | 1600 | 1/12/2013 2:55 AM |
| tert-Butyl Methyl Ether | ND | 1,600 | U | ppbv | 1600 | 1/12/2013 2:55 AM |
| Tetrachloroethene | ND | 1,600 | U | ppbv | 1600 | 1/12/2013 2:55 AM |
| Tetrahydrofuran | ND | 1,600 | U | ppbv | 1600 | 1/12/2013 2:55 AM |
| Toluene | 130,000 | 8,000 | | ppbv | 8000 | 1/15/2013 10:01 PM |
| trans-1,2-Dichloroethene | ND | 1,600 | U | ppbv | 1600 | 1/12/2013 2:55 AM |
| trans-1,3-dichloropropene | ND | 1,600 | U | ppbv | 1600 | 1/12/2013 2:55 AM |
| Trichloroethene | ND | 1,600 | U | ppbv | 1600 | 1/12/2013 2:55 AM |
| Trichlorofluoromethane | ND | 1,600 | U | ppbv | 1600 | 1/12/2013 2:55 AM |
| Vinyl acetate | ND | 1,600 | U | ppbv | 1600 | 1/12/2013 2:55 AM |
| Vinyl chloride | ND | 1,600 | U | ppbv | 1600 | 1/12/2013 2:55 AM |
| Xylenes, Total | 5,700 | 4,800 | | ppbv | 1600 | 1/12/2013 2:55 AM |
| Surr: 4-Bromofluorobenzene | 99.3 | 70-130 | | %REC | 1600 | 1/12/2013 2:55 AM |
| **Mass APH Air** | **Method:** | | | | | **Analyst: RH3** |
| **Air-Phase Petroleum Hydrocarbons** | | | | | | |
| C5-C8 Aliphatic Hydrocarbons | 740,000 | 94,000 | | µg/m³ | 800 | 1/15/2013 3:52 PM |
| C9-C10 Aromatic Hydrocarbons | ND | 110,000 | U | µg/m³ | 800 | 1/15/2013 3:52 PM |
| C9-C12 Aliphatic Hydrocarbons | ND | 150,000 | U | µg/m³ | 800 | 1/15/2013 3:52 PM |
| Surr: 4-Bromofluorobenzene | 93.9 | 70-130 | | %REC | 800 | 1/15/2013 3:52 PM |

# RTI Laboratories - Analytical Report

**WO#: 1212959**

**Date Reported: 1/17/2013**
**Revision v1**

| | | | |
|---|---|---|---|
| **Client:** | Shaw Environmental & Infrastructure, Inc | **Collection Date:** | 12/18/2012 10:43:00 AM |
| **Project:** | Kirtland AFB | | |
| **Lab ID:** | 1212959-014 | **Matrix:** | Air |
| **Client Sample ID:** | VA2009 | | |

| 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 | 1/11/2013 12:50 PM |
| Carbon Monoxide | ND | 0.10 | U | % v/v | 1 | 1/11/2013 12:50 PM |
| Methane | ND | 0.50 | U | % v/v | 1 | 1/11/2013 12:50 PM |
| Nitrogen | 82 | 0.10 | | % v/v | 1 | 1/11/2013 12:50 PM |
| Oxygen | 21 | 0.10 | | % v/v | 1 | 1/11/2013 12:50 PM |
| **Volatile Organic Compounds** | | **Method: TO-15** | | | | **Analyst: RH3** |
| 1,1,1-Trichloroethane | ND | 400 | U | ppbv | 400 | 1/12/2013 3:44 AM |
| 1,1,2,2-Tetrachloroethane | ND | 400 | U | ppbv | 400 | 1/12/2013 3:44 AM |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ND | 400 | U | ppbv | 400 | 1/12/2013 3:44 AM |
| 1,1,2-Trichloroethane | ND | 400 | U | ppbv | 400 | 1/12/2013 3:44 AM |
| 1,1-Dichloroethane | ND | 400 | U | ppbv | 400 | 1/12/2013 3:44 AM |
| 1,1-Dichloroethene | ND | 400 | U | ppbv | 400 | 1/12/2013 3:44 AM |
| 1,2,4-Trichlorobenzene | ND | 400 | U | ppbv | 400 | 1/12/2013 3:44 AM |
| 1,2,4-Trimethylbenzene | ND | 400 | U | ppbv | 400 | 1/12/2013 3:44 AM |
| 1,2-Dibromoethane | ND | 400 | U | ppbv | 400 | 1/12/2013 3:44 AM |
| 1,2-Dichlorobenzene | ND | 400 | U | ppbv | 400 | 1/12/2013 3:44 AM |
| 1,2-Dichloroethane | ND | 400 | U | ppbv | 400 | 1/12/2013 3:44 AM |
| 1,2-Dichloropropane | ND | 400 | U | ppbv | 400 | 1/12/2013 3:44 AM |
| 1,3,5-Trimethylbenzene | ND | 400 | U | ppbv | 400 | 1/12/2013 3:44 AM |
| 1,3-Butadiene | ND | 400 | U | ppbv | 400 | 1/12/2013 3:44 AM |
| 1,3-Dichlorobenzene | ND | 400 | U | ppbv | 400 | 1/12/2013 3:44 AM |
| 1,4-Dichlorobenzene | ND | 400 | U | ppbv | 400 | 1/12/2013 3:44 AM |
| 2-Butanone | ND | 400 | U | ppbv | 400 | 1/12/2013 3:44 AM |
| 2-Hexanone | ND | 400 | U | ppbv | 400 | 1/12/2013 3:44 AM |
| 4-Methyl-2-pentanone | ND | 400 | U | ppbv | 400 | 1/12/2013 3:44 AM |
| Acetone | 1,600 | 400 | | ppbv | 400 | 1/12/2013 3:44 AM |
| Benzene | 1,800 | 400 | | ppbv | 400 | 1/12/2013 3:44 AM |
| Benzyl chloride | ND | 400 | U | ppbv | 400 | 1/12/2013 3:44 AM |
| Bromodichloromethane | ND | 400 | U | ppbv | 400 | 1/12/2013 3:44 AM |
| Bromoform | ND | 400 | U | ppbv | 400 | 1/12/2013 3:44 AM |
| Bromomethane | ND | 400 | U | ppbv | 400 | 1/12/2013 3:44 AM |
| Carbon disulfide | ND | 400 | U | ppbv | 400 | 1/12/2013 3:44 AM |
| Carbon tetrachloride | ND | 400 | U | ppbv | 400 | 1/12/2013 3:44 AM |
| Chlorobenzene | ND | 400 | U | ppbv | 400 | 1/12/2013 3:44 AM |
| Chlorodibromomethane | ND | 400 | U | ppbv | 400 | 1/12/2013 3:44 AM |
| Chloroethane | ND | 400 | U | ppbv | 400 | 1/12/2013 3:44 AM |
| Chloroform | ND | 400 | U | ppbv | 400 | 1/12/2013 3:44 AM |
| Chloromethane | ND | 400 | U | ppbv | 400 | 1/12/2013 3:44 AM |
| cis-1,2-Dichloroethene | ND | 400 | U | ppbv | 400 | 1/12/2013 3:44 AM |
| cis-1,3-dichloropropene | ND | 400 | U | ppbv | 400 | 1/12/2013 3:44 AM |

# RTI Laboratories - Analytical Report

**WO#: 1212959**

**Date Reported: 1/17/2013**
**Revision v1**

| | | | |
|---|---|---|---|
| **Client:** | Shaw Environmental & Infrastructure, Inc | **Collection Date:** | 12/18/2012 10:43:00 AM |
| **Project:** | Kirtland AFB | | |
| **Lab ID:** | 1212959-014 | **Matrix:** | Air |
| **Client Sample ID:** | VA2009 | | |

| Analysis | Result | RL | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| Cyclohexane | 4,100 | 800 | | ppbv | 400 | 1/12/2013 3:44 AM |
| Dichlorodifluoromethane | ND | 400 | U | ppbv | 400 | 1/12/2013 3:44 AM |
| Ethyl acetate | ND | 400 | U | ppbv | 400 | 1/12/2013 3:44 AM |
| Ethylbenzene | 1,400 | 800 | | ppbv | 400 | 1/12/2013 3:44 AM |
| Heptane | 6,200 | 400 | | ppbv | 400 | 1/12/2013 3:44 AM |
| Hexachlorobutadiene | ND | 800 | U | ppbv | 400 | 1/12/2013 3:44 AM |
| m,p-Xylene | 3,900 | 800 | | ppbv | 400 | 1/12/2013 3:44 AM |
| Methylene chloride | ND | 2,000 | U | ppbv | 400 | 1/12/2013 3:44 AM |
| n-Hexane | 1,600 | 800 | | ppbv | 400 | 1/12/2013 3:44 AM |
| Naphthalene | ND | 400 | U | ppbv | 400 | 1/12/2013 3:44 AM |
| o-Xylene | 1,100 | 400 | | ppbv | 400 | 1/12/2013 3:44 AM |
| Propylene | ND | 400 | U | ppbv | 400 | 1/12/2013 3:44 AM |
| Styrene | ND | 400 | U | ppbv | 400 | 1/12/2013 3:44 AM |
| tert-Butyl Methyl Ether | ND | 400 | U | ppbv | 400 | 1/12/2013 3:44 AM |
| Tetrachloroethene | ND | 400 | U | ppbv | 400 | 1/12/2013 3:44 AM |
| Tetrahydrofuran | ND | 400 | U | ppbv | 400 | 1/12/2013 3:44 AM |
| Toluene | 14,000 | 400 | | ppbv | 400 | 1/12/2013 3:44 AM |
| trans-1,2-Dichloroethene | ND | 400 | U | ppbv | 400 | 1/12/2013 3:44 AM |
| trans-1,3-dichloropropene | ND | 400 | U | ppbv | 400 | 1/12/2013 3:44 AM |
| Trichloroethene | ND | 400 | U | ppbv | 400 | 1/12/2013 3:44 AM |
| Trichlorofluoromethane | ND | 400 | U | ppbv | 400 | 1/12/2013 3:44 AM |
| Vinyl acetate | ND | 400 | U | ppbv | 400 | 1/12/2013 3:44 AM |
| Vinyl chloride | ND | 400 | U | ppbv | 400 | 1/12/2013 3:44 AM |
| Xylenes, Total | 5,000 | 1,200 | | ppbv | 400 | 1/12/2013 3:44 AM |
| Surr: 4-Bromofluorobenzene | 94.7 | 70-130 | | %REC | 400 | 1/12/2013 3:44 AM |
| **Mass APH Air** | **Method:** | | | | | **Analyst: RH3** |
| **Air-Phase Petroleum Hydrocarbons** | | | | | | |
| C5-C8 Aliphatic Hydrocarbons | 380,000 | 94,000 | | µg/m³ | 800 | 1/16/2013 3:44 PM |
| C9-C10 Aromatic Hydrocarbons | ND | 110,000 | U | µg/m³ | 800 | 1/16/2013 3:44 PM |
| C9-C12 Aliphatic Hydrocarbons | 54,000 | 150,000 | J | µg/m³ | 800 | 1/16/2013 3:44 PM |
| Surr: 4-Bromofluorobenzene | 97.1 | 70-130 | | %REC | 800 | 1/16/2013 3:44 PM |

# RTI Laboratories - Analytical Report

**WO#: 1212959**

**Date Reported: 1/17/2013**
**Revision v1**

| | | | |
|---|---|---|---|
| **Client:** | Shaw Environmental & Infrastructure, Inc | **Collection Date:** | 12/18/2012 11:08:00 AM |
| **Project:** | Kirtland AFB | | |
| **Lab ID:** | 1212959-015 | **Matrix:** | Air |
| **Client Sample ID:** | VA2010 | | |

| 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 | 1/11/2013 1:04 PM |
| Carbon Monoxide | ND | 0.10 | U | % v/v | 1 | 1/11/2013 1:04 PM |
| Methane | ND | 0.50 | U | % v/v | 1 | 1/11/2013 1:04 PM |
| Nitrogen | 81 | 0.10 | | % v/v | 1 | 1/11/2013 1:04 PM |
| Oxygen | 21 | 0.10 | | % v/v | 1 | 1/11/2013 1:04 PM |
| **Volatile Organic Compounds** | | **Method: TO-15** | | | | **Analyst: RH3** |
| 1,1,1-Trichloroethane | ND | 400 | U | ppbv | 400 | 1/12/2013 4:32 AM |
| 1,1,2,2-Tetrachloroethane | ND | 400 | U | ppbv | 400 | 1/12/2013 4:32 AM |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ND | 400 | U | ppbv | 400 | 1/12/2013 4:32 AM |
| 1,1,2-Trichloroethane | ND | 400 | U | ppbv | 400 | 1/12/2013 4:32 AM |
| 1,1-Dichloroethane | ND | 400 | U | ppbv | 400 | 1/12/2013 4:32 AM |
| 1,1-Dichloroethene | ND | 400 | U | ppbv | 400 | 1/12/2013 4:32 AM |
| 1,2,4-Trichlorobenzene | ND | 400 | U | ppbv | 400 | 1/12/2013 4:32 AM |
| 1,2,4-Trimethylbenzene | ND | 400 | U | ppbv | 400 | 1/12/2013 4:32 AM |
| 1,2-Dibromoethane | ND | 400 | U | ppbv | 400 | 1/12/2013 4:32 AM |
| 1,2-Dichlorobenzene | ND | 400 | U | ppbv | 400 | 1/12/2013 4:32 AM |
| 1,2-Dichloroethane | ND | 400 | U | ppbv | 400 | 1/12/2013 4:32 AM |
| 1,2-Dichloropropane | ND | 400 | U | ppbv | 400 | 1/12/2013 4:32 AM |
| 1,3,5-Trimethylbenzene | ND | 400 | U | ppbv | 400 | 1/12/2013 4:32 AM |
| 1,3-Butadiene | ND | 400 | U | ppbv | 400 | 1/12/2013 4:32 AM |
| 1,3-Dichlorobenzene | ND | 400 | U | ppbv | 400 | 1/12/2013 4:32 AM |
| 1,4-Dichlorobenzene | ND | 400 | U | ppbv | 400 | 1/12/2013 4:32 AM |
| 2-Butanone | ND | 400 | U | ppbv | 400 | 1/12/2013 4:32 AM |
| 2-Hexanone | ND | 400 | U | ppbv | 400 | 1/12/2013 4:32 AM |
| 4-Methyl-2-pentanone | ND | 400 | U | ppbv | 400 | 1/12/2013 4:32 AM |
| Acetone | 1,100 | 400 | | ppbv | 400 | 1/12/2013 4:32 AM |
| Benzene | 1,600 | 400 | | ppbv | 400 | 1/12/2013 4:32 AM |
| Benzyl chloride | ND | 400 | U | ppbv | 400 | 1/12/2013 4:32 AM |
| Bromodichloromethane | ND | 400 | U | ppbv | 400 | 1/12/2013 4:32 AM |
| Bromoform | ND | 400 | U | ppbv | 400 | 1/12/2013 4:32 AM |
| Bromomethane | ND | 400 | U | ppbv | 400 | 1/12/2013 4:32 AM |
| Carbon disulfide | ND | 400 | U | ppbv | 400 | 1/12/2013 4:32 AM |
| Carbon tetrachloride | ND | 400 | U | ppbv | 400 | 1/12/2013 4:32 AM |
| Chlorobenzene | ND | 400 | U | ppbv | 400 | 1/12/2013 4:32 AM |
| Chlorodibromomethane | ND | 400 | U | ppbv | 400 | 1/12/2013 4:32 AM |
| Chloroethane | ND | 400 | U | ppbv | 400 | 1/12/2013 4:32 AM |
| Chloroform | ND | 400 | U | ppbv | 400 | 1/12/2013 4:32 AM |
| Chloromethane | ND | 400 | U | ppbv | 400 | 1/12/2013 4:32 AM |
| cis-1,2-Dichloroethene | ND | 400 | U | ppbv | 400 | 1/12/2013 4:32 AM |
| cis-1,3-dichloropropene | ND | 400 | U | ppbv | 400 | 1/12/2013 4:32 AM |

# RTI Laboratories - Analytical Report

**WO#: 1212959**

**Date Reported: 1/17/2013**
**Revision v1**

| | | | |
|---|---|---|---|
| **Client:** | Shaw Environmental & Infrastructure, Inc | **Collection Date:** | 12/18/2012 11:08:00 AM |
| **Project:** | Kirtland AFB | | |
| **Lab ID:** | 1212959-015 | **Matrix:** | Air |
| **Client Sample ID:** | VA2010 | | |

| Analysis | Result | RL | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| Cyclohexane | 4,100 | 800 | | ppbv | 400 | 1/12/2013 4:32 AM |
| Dichlorodifluoromethane | ND | 400 | U | ppbv | 400 | 1/12/2013 4:32 AM |
| Ethyl acetate | ND | 400 | U | ppbv | 400 | 1/12/2013 4:32 AM |
| Ethylbenzene | 1,500 | 800 | | ppbv | 400 | 1/12/2013 4:32 AM |
| Heptane | 6,000 | 400 | | ppbv | 400 | 1/12/2013 4:32 AM |
| Hexachlorobutadiene | ND | 800 | U | ppbv | 400 | 1/12/2013 4:32 AM |
| m,p-Xylene | 4,100 | 800 | | ppbv | 400 | 1/12/2013 4:32 AM |
| Methylene chloride | 1,100 | 2,000 | J | ppbv | 400 | 1/12/2013 4:32 AM |
| n-Hexane | 1,900 | 800 | | ppbv | 400 | 1/12/2013 4:32 AM |
| Naphthalene | ND | 400 | U | ppbv | 400 | 1/12/2013 4:32 AM |
| o-Xylene | 1,200 | 400 | | ppbv | 400 | 1/12/2013 4:32 AM |
| Propylene | ND | 400 | U | ppbv | 400 | 1/12/2013 4:32 AM |
| Styrene | ND | 400 | U | ppbv | 400 | 1/12/2013 4:32 AM |
| tert-Butyl Methyl Ether | ND | 400 | U | ppbv | 400 | 1/12/2013 4:32 AM |
| Tetrachloroethene | ND | 400 | U | ppbv | 400 | 1/12/2013 4:32 AM |
| Tetrahydrofuran | ND | 400 | U | ppbv | 400 | 1/12/2013 4:32 AM |
| Toluene | 13,000 | 400 | | ppbv | 400 | 1/12/2013 4:32 AM |
| trans-1,2-Dichloroethene | ND | 400 | U | ppbv | 400 | 1/12/2013 4:32 AM |
| trans-1,3-dichloropropene | ND | 400 | U | ppbv | 400 | 1/12/2013 4:32 AM |
| Trichloroethene | ND | 400 | U | ppbv | 400 | 1/12/2013 4:32 AM |
| Trichlorofluoromethane | ND | 400 | U | ppbv | 400 | 1/12/2013 4:32 AM |
| Vinyl acetate | ND | 400 | U | ppbv | 400 | 1/12/2013 4:32 AM |
| Vinyl chloride | ND | 400 | U | ppbv | 400 | 1/12/2013 4:32 AM |
| Xylenes, Total | 5,400 | 1,200 | | ppbv | 400 | 1/12/2013 4:32 AM |
| Surr: 4-Bromofluorobenzene | 93.9 | 70-130 | | %REC | 400 | 1/12/2013 4:32 AM |
| **Mass APH Air** | **Method:** | | | | | **Analyst: RH3** |
| **Air-Phase Petroleum Hydrocarbons** | | | | | | |
| C5-C8 Aliphatic Hydrocarbons | 330,000 | 47,000 | | µg/m³ | 400 | 1/15/2013 10:42 PM |
| C9-C10 Aromatic Hydrocarbons | ND | 53,000 | U | µg/m³ | 400 | 1/15/2013 10:42 PM |
| C9-C12 Aliphatic Hydrocarbons | 62,000 | 76,000 | J | µg/m³ | 400 | 1/15/2013 10:42 PM |
| Surr: 4-Bromofluorobenzene | 96.2 | 70-130 | | %REC | 400 | 1/15/2013 10:42 PM |

# RTI Laboratories - Analytical Report

**WO#: 1212959**

**Date Reported: 1/17/2013**
**Revision v1**

| | | | |
|---|---|---|---|
| **Client:** | Shaw Environmental & Infrastructure, Inc | **Collection Date:** | 12/18/2012 11:42:00 AM |
| **Project:** | Kirtland AFB | | |
| **Lab ID:** | 1212959-016 | **Matrix:** | Air |
| **Client Sample ID:** | VA2011 | | |

| Analysis | Result | RL | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **Noncondensable Gases and Light Hydrocarbons** | | **Method: ASTM-D2504** | | | | **Analyst: cr** |
| Carbon dioxide | 0.083 | 0.10 | J | % v/v | 1 | 1/11/2013 1:18 PM |
| Carbon Monoxide | ND | 0.10 | U | % v/v | 1 | 1/11/2013 1:18 PM |
| Methane | ND | 0.50 | U | % v/v | 1 | 1/11/2013 1:18 PM |
| Nitrogen | 81 | 0.10 | | % v/v | 1 | 1/11/2013 1:18 PM |
| Oxygen | 22 | 0.10 | | % v/v | 1 | 1/11/2013 1:18 PM |
| **Volatile Organic Compounds** | | **Method: TO-15** | | | | **Analyst: RH3** |
| 1,1,1-Trichloroethane | ND | 400 | U | ppbv | 400 | 1/12/2013 5:21 AM |
| 1,1,2,2-Tetrachloroethane | ND | 400 | U | ppbv | 400 | 1/12/2013 5:21 AM |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ND | 400 | U | ppbv | 400 | 1/12/2013 5:21 AM |
| 1,1,2-Trichloroethane | ND | 400 | U | ppbv | 400 | 1/12/2013 5:21 AM |
| 1,1-Dichloroethane | ND | 400 | U | ppbv | 400 | 1/12/2013 5:21 AM |
| 1,1-Dichloroethene | ND | 400 | U | ppbv | 400 | 1/12/2013 5:21 AM |
| 1,2,4-Trichlorobenzene | ND | 400 | U | ppbv | 400 | 1/12/2013 5:21 AM |
| 1,2,4-Trimethylbenzene | ND | 400 | U | ppbv | 400 | 1/12/2013 5:21 AM |
| 1,2-Dibromoethane | ND | 400 | U | ppbv | 400 | 1/12/2013 5:21 AM |
| 1,2-Dichlorobenzene | ND | 400 | U | ppbv | 400 | 1/12/2013 5:21 AM |
| 1,2-Dichloroethane | ND | 400 | U | ppbv | 400 | 1/12/2013 5:21 AM |
| 1,2-Dichloropropane | ND | 400 | U | ppbv | 400 | 1/12/2013 5:21 AM |
| 1,3,5-Trimethylbenzene | ND | 400 | U | ppbv | 400 | 1/12/2013 5:21 AM |
| 1,3-Butadiene | ND | 400 | U | ppbv | 400 | 1/12/2013 5:21 AM |
| 1,3-Dichlorobenzene | ND | 400 | U | ppbv | 400 | 1/12/2013 5:21 AM |
| 1,4-Dichlorobenzene | ND | 400 | U | ppbv | 400 | 1/12/2013 5:21 AM |
| 2-Butanone | ND | 400 | U | ppbv | 400 | 1/12/2013 5:21 AM |
| 2-Hexanone | ND | 400 | U | ppbv | 400 | 1/12/2013 5:21 AM |
| 4-Methyl-2-pentanone | ND | 400 | U | ppbv | 400 | 1/12/2013 5:21 AM |
| Acetone | 930 | 400 | | ppbv | 400 | 1/12/2013 5:21 AM |
| Benzene | 5,400 | 400 | | ppbv | 400 | 1/12/2013 5:21 AM |
| Benzyl chloride | ND | 400 | U | ppbv | 400 | 1/12/2013 5:21 AM |
| Bromodichloromethane | ND | 400 | U | ppbv | 400 | 1/12/2013 5:21 AM |
| Bromoform | ND | 400 | U | ppbv | 400 | 1/12/2013 5:21 AM |
| Bromomethane | ND | 400 | U | ppbv | 400 | 1/12/2013 5:21 AM |
| Carbon disulfide | ND | 400 | U | ppbv | 400 | 1/12/2013 5:21 AM |
| Carbon tetrachloride | ND | 400 | U | ppbv | 400 | 1/12/2013 5:21 AM |
| Chlorobenzene | ND | 400 | U | ppbv | 400 | 1/12/2013 5:21 AM |
| Chlorodibromomethane | ND | 400 | U | ppbv | 400 | 1/12/2013 5:21 AM |
| Chloroethane | ND | 400 | U | ppbv | 400 | 1/12/2013 5:21 AM |
| Chloroform | ND | 400 | U | ppbv | 400 | 1/12/2013 5:21 AM |
| Chloromethane | ND | 400 | U | ppbv | 400 | 1/12/2013 5:21 AM |
| cis-1,2-Dichloroethene | ND | 400 | U | ppbv | 400 | 1/12/2013 5:21 AM |
| cis-1,3-dichloropropene | ND | 400 | U | ppbv | 400 | 1/12/2013 5:21 AM |

# RTI Laboratories - Analytical Report

**WO#: 1212959**

**Date Reported: 1/17/2013**
**Revision v1**

| | | | |
|---|---|---|---|
| **Client:** | Shaw Environmental & Infrastructure, Inc | **Collection Date:** | 12/18/2012 11:42:00 AM |
| **Project:** | Kirtland AFB | | |
| **Lab ID:** | 1212959-016 | **Matrix:** | Air |
| **Client Sample ID:** | VA2011 | | |

| Analysis | Result | RL | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| Cyclohexane | 8,800 | 800 | | ppbv | 400 | 1/12/2013 5:21 AM |
| Dichlorodifluoromethane | ND | 400 | U | ppbv | 400 | 1/12/2013 5:21 AM |
| Ethyl acetate | ND | 400 | U | ppbv | 400 | 1/12/2013 5:21 AM |
| Ethylbenzene | 1,600 | 800 | | ppbv | 400 | 1/12/2013 5:21 AM |
| Heptane | 6,800 | 400 | | ppbv | 400 | 1/12/2013 5:21 AM |
| Hexachlorobutadiene | ND | 800 | U | ppbv | 400 | 1/12/2013 5:21 AM |
| m,p-Xylene | 4,400 | 800 | | ppbv | 400 | 1/12/2013 5:21 AM |
| Methylene chloride | 1,300 | 2,000 | J | ppbv | 400 | 1/12/2013 5:21 AM |
| n-Hexane | 5,400 | 800 | | ppbv | 400 | 1/12/2013 5:21 AM |
| Naphthalene | ND | 400 | U | ppbv | 400 | 1/12/2013 5:21 AM |
| o-Xylene | 1,300 | 400 | | ppbv | 400 | 1/12/2013 5:21 AM |
| Propylene | ND | 400 | U | ppbv | 400 | 1/12/2013 5:21 AM |
| Styrene | ND | 400 | U | ppbv | 400 | 1/12/2013 5:21 AM |
| tert-Butyl Methyl Ether | ND | 400 | U | ppbv | 400 | 1/12/2013 5:21 AM |
| Tetrachloroethene | ND | 400 | U | ppbv | 400 | 1/12/2013 5:21 AM |
| Tetrahydrofuran | ND | 400 | U | ppbv | 400 | 1/12/2013 5:21 AM |
| Toluene | 14,000 | 400 | | ppbv | 400 | 1/12/2013 5:21 AM |
| trans-1,2-Dichloroethene | ND | 400 | U | ppbv | 400 | 1/12/2013 5:21 AM |
| trans-1,3-dichloropropene | ND | 400 | U | ppbv | 400 | 1/12/2013 5:21 AM |
| Trichloroethene | ND | 400 | U | ppbv | 400 | 1/12/2013 5:21 AM |
| Trichlorofluoromethane | ND | 400 | U | ppbv | 400 | 1/12/2013 5:21 AM |
| Vinyl acetate | ND | 400 | U | ppbv | 400 | 1/12/2013 5:21 AM |
| Vinyl chloride | ND | 400 | U | ppbv | 400 | 1/12/2013 5:21 AM |
| Xylenes, Total | 5,700 | 1,200 | | ppbv | 400 | 1/12/2013 5:21 AM |
| Surr: 4-Bromofluorobenzene | 95.4 | 70-130 | | %REC | 400 | 1/12/2013 5:21 AM |
| **Mass APH Air** | **Method:** | | | | | **Analyst: RH3** |
| **Air-Phase Petroleum Hydrocarbons** | | | | | | |
| C5-C8 Aliphatic Hydrocarbons | 550,000 | 94,000 | | µg/m³ | 800 | 1/16/2013 2:58 PM |
| C9-C10 Aromatic Hydrocarbons | ND | 110,000 | U | µg/m³ | 800 | 1/16/2013 2:58 PM |
| C9-C12 Aliphatic Hydrocarbons | 53,000 | 150,000 | J | µg/m³ | 800 | 1/16/2013 2:58 PM |
| Surr: 4-Bromofluorobenzene | 96.9 | 70-130 | | %REC | 800 | 1/16/2013 2:58 PM |

# RTI Laboratories - Analytical Report

**WO#: 1212959**

**Date Reported: 1/17/2013**
**Revision v1**

| | | | |
|---|---|---|---|
| **Client:** | Shaw Environmental & Infrastructure, Inc | **Collection Date:** | 12/18/2012 12:12:00 PM |
| **Project:** | Kirtland AFB | | |
| **Lab ID:** | 1212959-017 | **Matrix:** | Air |
| **Client Sample ID:** | VA2012 | | |

| 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 | 1/11/2013 2:23 PM |
| Carbon Monoxide | ND | 0.10 | U | % v/v | 1 | 1/11/2013 2:23 PM |
| Methane | ND | 0.50 | U | % v/v | 1 | 1/11/2013 2:23 PM |
| Nitrogen | 82 | 0.10 | | % v/v | 1 | 1/11/2013 2:23 PM |
| Oxygen | 22 | 0.10 | | % v/v | 1 | 1/11/2013 2:23 PM |
| **Volatile Organic Compounds** | | **Method: TO-15** | | | | **Analyst: RH3** |
| 1,1,1-Trichloroethane | ND | 400 | U | ppbv | 400 | 1/15/2013 1:35 PM |
| 1,1,2,2-Tetrachloroethane | ND | 400 | U | ppbv | 400 | 1/15/2013 1:35 PM |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ND | 400 | U | ppbv | 400 | 1/15/2013 1:35 PM |
| 1,1,2-Trichloroethane | ND | 400 | U | ppbv | 400 | 1/15/2013 1:35 PM |
| 1,1-Dichloroethane | ND | 400 | U | ppbv | 400 | 1/15/2013 1:35 PM |
| 1,1-Dichloroethene | ND | 400 | U | ppbv | 400 | 1/15/2013 1:35 PM |
| 1,2,4-Trichlorobenzene | ND | 400 | U | ppbv | 400 | 1/15/2013 1:35 PM |
| 1,2,4-Trimethylbenzene | ND | 400 | U | ppbv | 400 | 1/15/2013 1:35 PM |
| 1,2-Dibromoethane | ND | 400 | U | ppbv | 400 | 1/15/2013 1:35 PM |
| 1,2-Dichlorobenzene | ND | 400 | U | ppbv | 400 | 1/15/2013 1:35 PM |
| 1,2-Dichloroethane | ND | 400 | U | ppbv | 400 | 1/15/2013 1:35 PM |
| 1,2-Dichloropropane | ND | 400 | U | ppbv | 400 | 1/15/2013 1:35 PM |
| 1,3,5-Trimethylbenzene | ND | 400 | U | ppbv | 400 | 1/15/2013 1:35 PM |
| 1,3-Butadiene | ND | 400 | U | ppbv | 400 | 1/15/2013 1:35 PM |
| 1,3-Dichlorobenzene | ND | 400 | U | ppbv | 400 | 1/15/2013 1:35 PM |
| 1,4-Dichlorobenzene | ND | 400 | U | ppbv | 400 | 1/15/2013 1:35 PM |
| 2-Butanone | ND | 400 | U | ppbv | 400 | 1/15/2013 1:35 PM |
| 2-Hexanone | ND | 400 | U | ppbv | 400 | 1/15/2013 1:35 PM |
| 4-Methyl-2-pentanone | ND | 400 | U | ppbv | 400 | 1/15/2013 1:35 PM |
| Acetone | 860 | 400 | | ppbv | 400 | 1/15/2013 1:35 PM |
| Benzene | 5,600 | 400 | | ppbv | 400 | 1/15/2013 1:35 PM |
| Benzyl chloride | ND | 400 | U | ppbv | 400 | 1/15/2013 1:35 PM |
| Bromodichloromethane | ND | 400 | U | ppbv | 400 | 1/15/2013 1:35 PM |
| Bromoform | ND | 400 | U | ppbv | 400 | 1/15/2013 1:35 PM |
| Bromomethane | ND | 400 | U | ppbv | 400 | 1/15/2013 1:35 PM |
| Carbon disulfide | ND | 400 | U | ppbv | 400 | 1/15/2013 1:35 PM |
| Carbon tetrachloride | ND | 400 | U | ppbv | 400 | 1/15/2013 1:35 PM |
| Chlorobenzene | ND | 400 | U | ppbv | 400 | 1/15/2013 1:35 PM |
| Chlorodibromomethane | ND | 400 | U | ppbv | 400 | 1/15/2013 1:35 PM |
| Chloroethane | ND | 400 | U | ppbv | 400 | 1/15/2013 1:35 PM |
| Chloroform | ND | 400 | U | ppbv | 400 | 1/15/2013 1:35 PM |
| Chloromethane | ND | 400 | U | ppbv | 400 | 1/15/2013 1:35 PM |
| cis-1,2-Dichloroethene | ND | 400 | U | ppbv | 400 | 1/15/2013 1:35 PM |
| cis-1,3-dichloropropene | ND | 400 | U | ppbv | 400 | 1/15/2013 1:35 PM |

# RTI Laboratories - Analytical Report

**WO#: 1212959**

**Date Reported: 1/17/2013**
**Revision v1**

| | | | |
|---|---|---|---|
| **Client:** | Shaw Environmental & Infrastructure, Inc | **Collection Date:** | 12/18/2012 12:12:00 PM |
| **Project:** | Kirtland AFB | | |
| **Lab ID:** | 1212959-017 | **Matrix:** | Air |
| **Client Sample ID:** | VA2012 | | |

| Analysis | Result | RL | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| Cyclohexane | 10,000 | 800 | | ppbv | 400 | 1/15/2013 1:35 PM |
| Dichlorodifluoromethane | ND | 400 | U | ppbv | 400 | 1/15/2013 1:35 PM |
| Ethyl acetate | ND | 400 | U | ppbv | 400 | 1/15/2013 1:35 PM |
| Ethylbenzene | 1,900 | 800 | | ppbv | 400 | 1/15/2013 1:35 PM |
| Heptane | 8,900 | 400 | | ppbv | 400 | 1/15/2013 1:35 PM |
| Hexachlorobutadiene | ND | 800 | U | ppbv | 400 | 1/15/2013 1:35 PM |
| m,p-Xylene | 5,200 | 800 | | ppbv | 400 | 1/15/2013 1:35 PM |
| Methylene chloride | 900 | 2,000 | J | ppbv | 400 | 1/15/2013 1:35 PM |
| n-Hexane | 5,500 | 800 | | ppbv | 400 | 1/15/2013 1:35 PM |
| Naphthalene | ND | 400 | U | ppbv | 400 | 1/15/2013 1:35 PM |
| o-Xylene | 1,600 | 400 | | ppbv | 400 | 1/15/2013 1:35 PM |
| Propylene | ND | 400 | U | ppbv | 400 | 1/15/2013 1:35 PM |
| Styrene | ND | 400 | U | ppbv | 400 | 1/15/2013 1:35 PM |
| tert-Butyl Methyl Ether | ND | 400 | U | ppbv | 400 | 1/15/2013 1:35 PM |
| Tetrachloroethene | ND | 400 | U | ppbv | 400 | 1/15/2013 1:35 PM |
| Tetrahydrofuran | ND | 400 | U | ppbv | 400 | 1/15/2013 1:35 PM |
| Toluene | 16,000 | 400 | | ppbv | 400 | 1/15/2013 1:35 PM |
| trans-1,2-Dichloroethene | ND | 400 | U | ppbv | 400 | 1/15/2013 1:35 PM |
| trans-1,3-dichloropropene | ND | 400 | U | ppbv | 400 | 1/15/2013 1:35 PM |
| Trichloroethene | ND | 400 | U | ppbv | 400 | 1/15/2013 1:35 PM |
| Trichlorofluoromethane | ND | 400 | U | ppbv | 400 | 1/15/2013 1:35 PM |
| Vinyl acetate | ND | 400 | U | ppbv | 400 | 1/15/2013 1:35 PM |
| Vinyl chloride | ND | 400 | U | ppbv | 400 | 1/15/2013 1:35 PM |
| Xylenes, Total | 6,800 | 1,200 | | ppbv | 400 | 1/15/2013 1:35 PM |
| Surr: 4-Bromofluorobenzene | 97.9 | 70-130 | | %REC | 400 | 1/15/2013 1:35 PM |
| **Mass APH Air** | **Method:** | | | | | **Analyst: RH3** |
| **Air-Phase Petroleum Hydrocarbons** | | | | | | |
| C5-C8 Aliphatic Hydrocarbons | 1,200,000 | 190,000 | | µg/m³ | 1600 | 1/17/2013 3:39 AM |
| C9-C10 Aromatic Hydrocarbons | ND | 210,000 | U | µg/m³ | 1600 | 1/17/2013 3:39 AM |
| C9-C12 Aliphatic Hydrocarbons | 110,000 | 300,000 | J | µg/m³ | 1600 | 1/17/2013 3:39 AM |
| Surr: 4-Bromofluorobenzene | 98.0 | 70-130 | | %REC | 1600 | 1/17/2013 3:39 AM |

# RTI Laboratories - Analytical Report

**WO#: 1212959**

**Date Reported: 1/17/2013**
**Revision v1**

| | | | |
|---|---|---|---|
| **Client:** | Shaw Environmental & Infrastructure, Inc | **Collection Date:** | 12/18/2012 12:12:00 PM |
| **Project:** | Kirtland AFB | | |
| **Lab ID:** | 1212959-018 | **Matrix:** | Air |
| **Client Sample ID:** | VA2013 | | |

| 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 | 1/11/2013 2:59 PM |
| Carbon Monoxide | ND | 0.10 | U | % v/v | 1 | 1/11/2013 2:59 PM |
| Methane | ND | 0.50 | U | % v/v | 1 | 1/11/2013 2:59 PM |
| Nitrogen | 82 | 0.10 | | % v/v | 1 | 1/11/2013 2:59 PM |
| Oxygen | 22 | 0.10 | | % v/v | 1 | 1/11/2013 2:59 PM |
| **Volatile Organic Compounds** | | **Method: TO-15** | | | | **Analyst: RH3** |
| 1,1,1-Trichloroethane | ND | 400 | U | ppbv | 400 | 1/15/2013 6:19 PM |
| 1,1,2,2-Tetrachloroethane | ND | 400 | U | ppbv | 400 | 1/15/2013 6:19 PM |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ND | 400 | U | ppbv | 400 | 1/15/2013 6:19 PM |
| 1,1,2-Trichloroethane | ND | 400 | U | ppbv | 400 | 1/15/2013 6:19 PM |
| 1,1-Dichloroethane | ND | 400 | U | ppbv | 400 | 1/15/2013 6:19 PM |
| 1,1-Dichloroethene | ND | 400 | U | ppbv | 400 | 1/15/2013 6:19 PM |
| 1,2,4-Trichlorobenzene | ND | 400 | U | ppbv | 400 | 1/15/2013 6:19 PM |
| 1,2,4-Trimethylbenzene | 620 | 400 | | ppbv | 400 | 1/15/2013 6:19 PM |
| 1,2-Dibromoethane | ND | 400 | U | ppbv | 400 | 1/15/2013 6:19 PM |
| 1,2-Dichlorobenzene | ND | 400 | U | ppbv | 400 | 1/15/2013 6:19 PM |
| 1,2-Dichloroethane | ND | 400 | U | ppbv | 400 | 1/15/2013 6:19 PM |
| 1,2-Dichloropropane | ND | 400 | U | ppbv | 400 | 1/15/2013 6:19 PM |
| 1,3,5-Trimethylbenzene | ND | 400 | U | ppbv | 400 | 1/15/2013 6:19 PM |
| 1,3-Butadiene | ND | 400 | U | ppbv | 400 | 1/15/2013 6:19 PM |
| 1,3-Dichlorobenzene | ND | 400 | U | ppbv | 400 | 1/15/2013 6:19 PM |
| 1,4-Dichlorobenzene | ND | 400 | U | ppbv | 400 | 1/15/2013 6:19 PM |
| 2-Butanone | 600 | 400 | | ppbv | 400 | 1/15/2013 6:19 PM |
| 2-Hexanone | ND | 400 | U | ppbv | 400 | 1/15/2013 6:19 PM |
| 4-Methyl-2-pentanone | ND | 400 | U | ppbv | 400 | 1/15/2013 6:19 PM |
| Acetone | 1,900 | 400 | | ppbv | 400 | 1/15/2013 6:19 PM |
| Benzene | 8,400 | 400 | | ppbv | 400 | 1/15/2013 6:19 PM |
| Benzyl chloride | ND | 400 | U | ppbv | 400 | 1/15/2013 6:19 PM |
| Bromodichloromethane | ND | 400 | U | ppbv | 400 | 1/15/2013 6:19 PM |
| Bromoform | ND | 400 | U | ppbv | 400 | 1/15/2013 6:19 PM |
| Bromomethane | ND | 400 | U | ppbv | 400 | 1/15/2013 6:19 PM |
| Carbon disulfide | ND | 400 | U | ppbv | 400 | 1/15/2013 6:19 PM |
| Carbon tetrachloride | ND | 400 | U | ppbv | 400 | 1/15/2013 6:19 PM |
| Chlorobenzene | ND | 400 | U | ppbv | 400 | 1/15/2013 6:19 PM |
| Chlorodibromomethane | ND | 400 | U | ppbv | 400 | 1/15/2013 6:19 PM |
| Chloroethane | ND | 400 | U | ppbv | 400 | 1/15/2013 6:19 PM |
| Chloroform | ND | 400 | U | ppbv | 400 | 1/15/2013 6:19 PM |
| Chloromethane | ND | 400 | U | ppbv | 400 | 1/15/2013 6:19 PM |
| cis-1,2-Dichloroethene | ND | 400 | U | ppbv | 400 | 1/15/2013 6:19 PM |
| cis-1,3-dichloropropene | ND | 400 | U | ppbv | 400 | 1/15/2013 6:19 PM |

# RTI Laboratories - Analytical Report

**WO#: 1212959**

**Date Reported: 1/17/2013**
**Revision v1**

| | | | |
|---|---|---|---|
| **Client:** | Shaw Environmental & Infrastructure, Inc | **Collection Date:** | 12/18/2012 12:12:00 PM |
| **Project:** | Kirtland AFB | | |
| **Lab ID:** | 1212959-018 | **Matrix:** | Air |
| **Client Sample ID:** | VA2013 | | |

| Analysis | Result | RL | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| Cyclohexane | 19,000 | 800 | | ppbv | 400 | 1/15/2013 6:19 PM |
| Dichlorodifluoromethane | ND | 400 | U | ppbv | 400 | 1/15/2013 6:19 PM |
| Ethyl acetate | ND | 400 | U | ppbv | 400 | 1/15/2013 6:19 PM |
| Ethylbenzene | 3,800 | 800 | | ppbv | 400 | 1/15/2013 6:19 PM |
| Heptane | 17,000 | 400 | | ppbv | 400 | 1/15/2013 6:19 PM |
| Hexachlorobutadiene | ND | 800 | U | ppbv | 400 | 1/15/2013 6:19 PM |
| m,p-Xylene | 10,000 | 800 | | ppbv | 400 | 1/15/2013 6:19 PM |
| Methylene chloride | 2,000 | 2,000 | | ppbv | 400 | 1/15/2013 6:19 PM |
| n-Hexane | 9,500 | 800 | | ppbv | 400 | 1/15/2013 6:19 PM |
| Naphthalene | ND | 400 | U | ppbv | 400 | 1/15/2013 6:19 PM |
| o-Xylene | 3,300 | 400 | | ppbv | 400 | 1/15/2013 6:19 PM |
| Propylene | ND | 400 | U | ppbv | 400 | 1/15/2013 6:19 PM |
| Styrene | ND | 400 | U | ppbv | 400 | 1/15/2013 6:19 PM |
| tert-Butyl Methyl Ether | ND | 400 | U | ppbv | 400 | 1/15/2013 6:19 PM |
| Tetrachloroethene | ND | 400 | U | ppbv | 400 | 1/15/2013 6:19 PM |
| Tetrahydrofuran | ND | 400 | U | ppbv | 400 | 1/15/2013 6:19 PM |
| Toluene | 93,000 | 8,000 | | ppbv | 8000 | 1/16/2013 5:30 PM |
| trans-1,2-Dichloroethene | ND | 400 | U | ppbv | 400 | 1/15/2013 6:19 PM |
| trans-1,3-dichloropropene | ND | 400 | U | ppbv | 400 | 1/15/2013 6:19 PM |
| Trichloroethene | ND | 400 | U | ppbv | 400 | 1/15/2013 6:19 PM |
| Trichlorofluoromethane | ND | 400 | U | ppbv | 400 | 1/15/2013 6:19 PM |
| Vinyl acetate | ND | 400 | U | ppbv | 400 | 1/15/2013 6:19 PM |
| Vinyl chloride | ND | 400 | U | ppbv | 400 | 1/15/2013 6:19 PM |
| Xylenes, Total | 14,000 | 1,200 | | ppbv | 400 | 1/15/2013 6:19 PM |
| Surr: 4-Bromofluorobenzene | 103 | 70-130 | | %REC | 400 | 1/15/2013 6:19 PM |
| **Mass APH Air** | **Method:** | | | | | **Analyst: RH3** |
| **Air-Phase Petroleum Hydrocarbons** | | | | | | |
| C5-C8 Aliphatic Hydrocarbons | 1,500,000 | 190,000 | | µg/m³ | 1600 | 1/17/2013 4:23 AM |
| C9-C10 Aromatic Hydrocarbons | ND | 210,000 | U | µg/m³ | 1600 | 1/17/2013 4:23 AM |
| C9-C12 Aliphatic Hydrocarbons | 210,000 | 300,000 | J | µg/m³ | 1600 | 1/17/2013 4:23 AM |
| Surr: 4-Bromofluorobenzene | 96.8 | 70-130 | | %REC | 1600 | 1/17/2013 4:23 AM |

# RTI Laboratories - Analytical Report

**WO#: 1212959**

**Date Reported: 1/17/2013**
**Revision v1**

| | | | |
|---|---|---|---|
| **Client:** | Shaw Environmental & Infrastructure, Inc | **Collection Date:** | 12/17/2012 11:55:00 AM |
| **Project:** | Kirtland AFB | | |
| **Lab ID:** | 1212959-019 | **Matrix:** | Air |
| **Client Sample ID:** | VA2014 | | |

| Analysis | Result | RL | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **Noncondensable Gases and Light Hydrocarbons** | | **Method: ASTM-D2504** | | | | **Analyst: cr** |
| Carbon dioxide | 0.28 | 0.10 | | % v/v | 1 | 1/11/2013 3:13 PM |
| Carbon Monoxide | ND | 0.10 | U | % v/v | 1 | 1/11/2013 3:13 PM |
| Methane | ND | 0.50 | U | % v/v | 1 | 1/11/2013 3:13 PM |
| Nitrogen | 81 | 0.10 | | % v/v | 1 | 1/11/2013 3:13 PM |
| Oxygen | 22 | 0.10 | | % v/v | 1 | 1/11/2013 3:13 PM |
| **Volatile Organic Compounds** | | **Method: TO-15** | | | | **Analyst: RH3** |
| 1,1,1-Trichloroethane | ND | 20,000 | U | ppbv | 20000 | 1/14/2013 6:03 PM |
| 1,1,2,2-Tetrachloroethane | ND | 20,000 | U | ppbv | 20000 | 1/14/2013 6:03 PM |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ND | 20,000 | U | ppbv | 20000 | 1/14/2013 6:03 PM |
| 1,1,2-Trichloroethane | ND | 20,000 | U | ppbv | 20000 | 1/14/2013 6:03 PM |
| 1,1-Dichloroethane | ND | 20,000 | U | ppbv | 20000 | 1/14/2013 6:03 PM |
| 1,1-Dichloroethene | ND | 20,000 | U | ppbv | 20000 | 1/14/2013 6:03 PM |
| 1,2,4-Trichlorobenzene | ND | 20,000 | U | ppbv | 20000 | 1/14/2013 6:03 PM |
| 1,2,4-Trimethylbenzene | ND | 20,000 | U | ppbv | 20000 | 1/14/2013 6:03 PM |
| 1,2-Dibromoethane | ND | 20,000 | U | ppbv | 20000 | 1/14/2013 6:03 PM |
| 1,2-Dichlorobenzene | ND | 20,000 | U | ppbv | 20000 | 1/14/2013 6:03 PM |
| 1,2-Dichloroethane | ND | 20,000 | U | ppbv | 20000 | 1/14/2013 6:03 PM |
| 1,2-Dichloropropane | ND | 20,000 | U | ppbv | 20000 | 1/14/2013 6:03 PM |
| 1,3,5-Trimethylbenzene | ND | 20,000 | U | ppbv | 20000 | 1/14/2013 6:03 PM |
| 1,3-Butadiene | ND | 20,000 | U | ppbv | 20000 | 1/14/2013 6:03 PM |
| 1,3-Dichlorobenzene | ND | 20,000 | U | ppbv | 20000 | 1/14/2013 6:03 PM |
| 1,4-Dichlorobenzene | ND | 20,000 | U | ppbv | 20000 | 1/14/2013 6:03 PM |
| 2-Butanone | 41,000 | 20,000 | | ppbv | 20000 | 1/14/2013 6:03 PM |
| 2-Hexanone | ND | 20,000 | U | ppbv | 20000 | 1/14/2013 6:03 PM |
| 4-Methyl-2-pentanone | ND | 20,000 | U | ppbv | 20000 | 1/14/2013 6:03 PM |
| Acetone | 370,000 | 20,000 | | ppbv | 20000 | 1/14/2013 6:03 PM |
| Benzene | 41,000 | 20,000 | | ppbv | 20000 | 1/14/2013 6:03 PM |
| Benzyl chloride | ND | 20,000 | U | ppbv | 20000 | 1/14/2013 6:03 PM |
| Bromodichloromethane | ND | 20,000 | U | ppbv | 20000 | 1/14/2013 6:03 PM |
| Bromoform | ND | 20,000 | U | ppbv | 20000 | 1/14/2013 6:03 PM |
| Bromomethane | ND | 20,000 | U | ppbv | 20000 | 1/14/2013 6:03 PM |
| Carbon disulfide | ND | 20,000 | U | ppbv | 20000 | 1/14/2013 6:03 PM |
| Carbon tetrachloride | ND | 20,000 | U | ppbv | 20000 | 1/14/2013 6:03 PM |
| Chlorobenzene | ND | 20,000 | U | ppbv | 20000 | 1/14/2013 6:03 PM |
| Chlorodibromomethane | ND | 20,000 | U | ppbv | 20000 | 1/14/2013 6:03 PM |
| Chloroethane | ND | 20,000 | U | ppbv | 20000 | 1/14/2013 6:03 PM |
| Chloroform | ND | 20,000 | U | ppbv | 20000 | 1/14/2013 6:03 PM |
| Chloromethane | ND | 20,000 | U | ppbv | 20000 | 1/14/2013 6:03 PM |
| cis-1,2-Dichloroethene | ND | 20,000 | U | ppbv | 20000 | 1/14/2013 6:03 PM |
| cis-1,3-dichloropropene | ND | 20,000 | U | ppbv | 20000 | 1/14/2013 6:03 PM |

# RTI Laboratories - Analytical Report

**WO#: 1212959**

**Date Reported: 1/17/2013**
**Revision v1**

| | | | |
|---|---|---|---|
| **Client:** | Shaw Environmental & Infrastructure, Inc | **Collection Date:** | 12/17/2012 11:55:00 AM |
| **Project:** | Kirtland AFB | | |
| **Lab ID:** | 1212959-019 | **Matrix:** | Air |
| **Client Sample ID:** | VA2014 | | |

| Analysis | Result | RL | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| Cyclohexane | 220,000 | 40,000 | | ppbv | 20000 | 1/14/2013 6:03 PM |
| Dichlorodifluoromethane | ND | 20,000 | U | ppbv | 20000 | 1/14/2013 6:03 PM |
| Ethyl acetate | ND | 20,000 | U | ppbv | 20000 | 1/14/2013 6:03 PM |
| Ethylbenzene | ND | 40,000 | U | ppbv | 20000 | 1/14/2013 6:03 PM |
| Heptane | 330,000 | 20,000 | | ppbv | 20000 | 1/14/2013 6:03 PM |
| Hexachlorobutadiene | ND | 40,000 | U | ppbv | 20000 | 1/14/2013 6:03 PM |
| m,p-Xylene | ND | 40,000 | U | ppbv | 20000 | 1/14/2013 6:03 PM |
| Methylene chloride | ND | 100,000 | U | ppbv | 20000 | 1/14/2013 6:03 PM |
| n-Hexane | 88,000 | 40,000 | | ppbv | 20000 | 1/14/2013 6:03 PM |
| Naphthalene | ND | 20,000 | U | ppbv | 20000 | 1/14/2013 6:03 PM |
| o-Xylene | ND | 20,000 | U | ppbv | 20000 | 1/14/2013 6:03 PM |
| Propylene | ND | 20,000 | U | ppbv | 20000 | 1/14/2013 6:03 PM |
| Styrene | ND | 20,000 | U | ppbv | 20000 | 1/14/2013 6:03 PM |
| tert-Butyl Methyl Ether | ND | 20,000 | U | ppbv | 20000 | 1/14/2013 6:03 PM |
| Tetrachloroethene | ND | 20,000 | U | ppbv | 20000 | 1/14/2013 6:03 PM |
| Tetrahydrofuran | ND | 20,000 | U | ppbv | 20000 | 1/14/2013 6:03 PM |
| Toluene | 170,000 | 20,000 | | ppbv | 20000 | 1/14/2013 6:03 PM |
| trans-1,2-Dichloroethene | ND | 20,000 | U | ppbv | 20000 | 1/14/2013 6:03 PM |
| trans-1,3-dichloropropene | ND | 20,000 | U | ppbv | 20000 | 1/14/2013 6:03 PM |
| Trichloroethene | ND | 20,000 | U | ppbv | 20000 | 1/14/2013 6:03 PM |
| Trichlorofluoromethane | ND | 20,000 | U | ppbv | 20000 | 1/14/2013 6:03 PM |
| Vinyl acetate | ND | 20,000 | U | ppbv | 20000 | 1/14/2013 6:03 PM |
| Vinyl chloride | ND | 20,000 | U | ppbv | 20000 | 1/14/2013 6:03 PM |
| Xylenes, Total | ND | 60,000 | U | ppbv | 20000 | 1/14/2013 6:03 PM |
| Surr: 4-Bromofluorobenzene | 97.6 | 70-130 | | %REC | 20000 | 1/14/2013 6:03 PM |
| **Mass APH Air** | | **Method:** | | | | **Analyst: RH3** |
| **Air-Phase Petroleum Hydrocarbons** | | | | | | |
| C5-C8 Aliphatic Hydrocarbons | 14,000,000 | 2,300,000 | | µg/m³ | 20000 | 1/15/2013 12:44 AM |
| C9-C10 Aromatic Hydrocarbons | ND | 2,700,000 | U | µg/m³ | 20000 | 1/15/2013 12:44 AM |
| C9-C12 Aliphatic Hydrocarbons | ND | 3,800,000 | U | µg/m³ | 20000 | 1/15/2013 12:44 AM |
| Surr: 4-Bromofluorobenzene | 94.8 | 70-130 | | %REC | 20000 | 1/15/2013 12:44 AM |

# RTI Laboratories - Analytical Report

**WO#: 1212959**

**Date Reported: 1/17/2013**
**Revision v1**

| | | | |
|---|---|---|---|
| **Client:** | Shaw Environmental & Infrastructure, Inc | **Collection Date:** | 12/17/2012 12:35:00 PM |
| **Project:** | Kirtland AFB | | |
| **Lab ID:** | 1212959-020 | **Matrix:** | Air |
| **Client Sample ID:** | VA2015 | | |

| Analysis | Result | RL | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **Noncondensable Gases and Light Hydrocarbons** | | **Method: ASTM-D2504** | | | | **Analyst: cr** |
| Carbon dioxide | 4.4 | 0.10 | | % v/v | 1 | 1/11/2013 3:28 PM |
| Carbon Monoxide | ND | 0.10 | U | % v/v | 1 | 1/11/2013 3:28 PM |
| Methane | ND | 0.50 | U | % v/v | 1 | 1/11/2013 3:28 PM |
| Nitrogen | 82 | 0.10 | | % v/v | 1 | 1/11/2013 3:28 PM |
| Oxygen | 15 | 0.10 | | % v/v | 1 | 1/11/2013 3:28 PM |
| **Volatile Organic Compounds** | | **Method: TO-15** | | | | **Analyst: RH3** |
| 1,1,1-Trichloroethane | ND | 800 | U | ppbv | 800 | 1/14/2013 6:49 PM |
| 1,1,2,2-Tetrachloroethane | ND | 800 | U | ppbv | 800 | 1/14/2013 6:49 PM |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ND | 800 | U | ppbv | 800 | 1/14/2013 6:49 PM |
| 1,1,2-Trichloroethane | ND | 800 | U | ppbv | 800 | 1/14/2013 6:49 PM |
| 1,1-Dichloroethane | ND | 800 | U | ppbv | 800 | 1/14/2013 6:49 PM |
| 1,1-Dichloroethene | ND | 800 | U | ppbv | 800 | 1/14/2013 6:49 PM |
| 1,2,4-Trichlorobenzene | ND | 800 | U | ppbv | 800 | 1/14/2013 6:49 PM |
| 1,2,4-Trimethylbenzene | ND | 800 | U | ppbv | 800 | 1/14/2013 6:49 PM |
| 1,2-Dibromoethane | ND | 800 | U | ppbv | 800 | 1/14/2013 6:49 PM |
| 1,2-Dichlorobenzene | ND | 800 | U | ppbv | 800 | 1/14/2013 6:49 PM |
| 1,2-Dichloroethane | ND | 800 | U | ppbv | 800 | 1/14/2013 6:49 PM |
| 1,2-Dichloropropane | ND | 800 | U | ppbv | 800 | 1/14/2013 6:49 PM |
| 1,3,5-Trimethylbenzene | ND | 800 | U | ppbv | 800 | 1/14/2013 6:49 PM |
| 1,3-Butadiene | ND | 800 | U | ppbv | 800 | 1/14/2013 6:49 PM |
| 1,3-Dichlorobenzene | ND | 800 | U | ppbv | 800 | 1/14/2013 6:49 PM |
| 1,4-Dichlorobenzene | ND | 800 | U | ppbv | 800 | 1/14/2013 6:49 PM |
| 2-Butanone | ND | 800 | U | ppbv | 800 | 1/14/2013 6:49 PM |
| 2-Hexanone | ND | 800 | U | ppbv | 800 | 1/14/2013 6:49 PM |
| 4-Methyl-2-pentanone | ND | 800 | U | ppbv | 800 | 1/14/2013 6:49 PM |
| Acetone | 2,300 | 800 | | ppbv | 800 | 1/14/2013 6:49 PM |
| Benzene | 960 | 800 | | ppbv | 800 | 1/14/2013 6:49 PM |
| Benzyl chloride | ND | 800 | U | ppbv | 800 | 1/14/2013 6:49 PM |
| Bromodichloromethane | ND | 800 | U | ppbv | 800 | 1/14/2013 6:49 PM |
| Bromoform | ND | 800 | U | ppbv | 800 | 1/14/2013 6:49 PM |
| Bromomethane | ND | 800 | U | ppbv | 800 | 1/14/2013 6:49 PM |
| Carbon disulfide | ND | 800 | U | ppbv | 800 | 1/14/2013 6:49 PM |
| Carbon tetrachloride | ND | 800 | U | ppbv | 800 | 1/14/2013 6:49 PM |
| Chlorobenzene | ND | 800 | U | ppbv | 800 | 1/14/2013 6:49 PM |
| Chlorodibromomethane | ND | 800 | U | ppbv | 800 | 1/14/2013 6:49 PM |
| Chloroethane | ND | 800 | U | ppbv | 800 | 1/14/2013 6:49 PM |
| Chloroform | ND | 800 | U | ppbv | 800 | 1/14/2013 6:49 PM |
| Chloromethane | ND | 800 | U | ppbv | 800 | 1/14/2013 6:49 PM |
| cis-1,2-Dichloroethene | ND | 800 | U | ppbv | 800 | 1/14/2013 6:49 PM |
| cis-1,3-dichloropropene | ND | 800 | U | ppbv | 800 | 1/14/2013 6:49 PM |

# RTI Laboratories - Analytical Report

**WO#: 1212959**

**Date Reported: 1/17/2013**
**Revision v1**

| | | | |
|---|---|---|---|
| **Client:** | Shaw Environmental & Infrastructure, Inc | **Collection Date:** | 12/17/2012 12:35:00 PM |
| **Project:** | Kirtland AFB | | |
| **Lab ID:** | 1212959-020 | **Matrix:** | Air |
| **Client Sample ID:** | VA2015 | | |

| Analysis | Result | RL | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| Cyclohexane | 4,100 | 1,600 | | ppbv | 800 | 1/14/2013 6:49 PM |
| Dichlorodifluoromethane | ND | 800 | U | ppbv | 800 | 1/14/2013 6:49 PM |
| Ethyl acetate | ND | 800 | U | ppbv | 800 | 1/14/2013 6:49 PM |
| Ethylbenzene | 1,800 | 1,600 | | ppbv | 800 | 1/14/2013 6:49 PM |
| Heptane | 8,600 | 800 | | ppbv | 800 | 1/14/2013 6:49 PM |
| Hexachlorobutadiene | ND | 1,600 | U | ppbv | 800 | 1/14/2013 6:49 PM |
| m,p-Xylene | 4,700 | 1,600 | | ppbv | 800 | 1/14/2013 6:49 PM |
| Methylene chloride | ND | 4,000 | U | ppbv | 800 | 1/14/2013 6:49 PM |
| n-Hexane | 2,000 | 1,600 | | ppbv | 800 | 1/14/2013 6:49 PM |
| Naphthalene | ND | 800 | U | ppbv | 800 | 1/14/2013 6:49 PM |
| o-Xylene | 1,400 | 800 | | ppbv | 800 | 1/14/2013 6:49 PM |
| Propylene | ND | 800 | U | ppbv | 800 | 1/14/2013 6:49 PM |
| Styrene | ND | 800 | U | ppbv | 800 | 1/14/2013 6:49 PM |
| tert-Butyl Methyl Ether | ND | 800 | U | ppbv | 800 | 1/14/2013 6:49 PM |
| Tetrachloroethene | ND | 800 | U | ppbv | 800 | 1/14/2013 6:49 PM |
| Tetrahydrofuran | ND | 800 | U | ppbv | 800 | 1/14/2013 6:49 PM |
| Toluene | 13,000 | 800 | | ppbv | 800 | 1/14/2013 6:49 PM |
| trans-1,2-Dichloroethene | ND | 800 | U | ppbv | 800 | 1/14/2013 6:49 PM |
| trans-1,3-dichloropropene | ND | 800 | U | ppbv | 800 | 1/14/2013 6:49 PM |
| Trichloroethene | ND | 800 | U | ppbv | 800 | 1/14/2013 6:49 PM |
| Trichlorofluoromethane | ND | 800 | U | ppbv | 800 | 1/14/2013 6:49 PM |
| Vinyl acetate | ND | 800 | U | ppbv | 800 | 1/14/2013 6:49 PM |
| Vinyl chloride | ND | 800 | U | ppbv | 800 | 1/14/2013 6:49 PM |
| Xylenes, Total | 6,100 | 2,400 | | ppbv | 800 | 1/14/2013 6:49 PM |
| Surr: 4-Bromofluorobenzene | 97.3 | 70-130 | | %REC | 800 | 1/14/2013 6:49 PM |
| **Mass APH Air** | **Method:** | | | | | **Analyst: RH3** |
| **Air-Phase Petroleum Hydrocarbons** | | | | | | |
| C5-C8 Aliphatic Hydrocarbons | 700,000 | 190,000 | | µg/m³ | 1600 | 1/15/2013 1:27 AM |
| C9-C10 Aromatic Hydrocarbons | ND | 210,000 | U | µg/m³ | 1600 | 1/15/2013 1:27 AM |
| C9-C12 Aliphatic Hydrocarbons | 51,000 | 300,000 | J | µg/m³ | 1600 | 1/15/2013 1:27 AM |
| Surr: 4-Bromofluorobenzene | 97.6 | 70-130 | | %REC | 1600 | 1/15/2013 1:27 AM |

# RTI Laboratories - Analytical Report

**WO#: 1212959**

**Date Reported: 1/17/2013**
**Revision v1**

| | | | |
|---|---|---|---|
| **Client:** | Shaw Environmental & Infrastructure, Inc | **Collection Date:** | 12/17/2012 1:20:00 PM |
| **Project:** | Kirtland AFB | | |
| **Lab ID:** | 1212959-021 | **Matrix:** | Air |
| **Client Sample ID:** | VA2016 | | |

| 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 | 1/11/2013 4:11 PM |
| Carbon Monoxide | ND | 0.10 | U | % v/v | 1 | 1/11/2013 4:11 PM |
| Methane | ND | 0.50 | U | % v/v | 1 | 1/11/2013 4:11 PM |
| Nitrogen | 81 | 0.10 | | % v/v | 1 | 1/11/2013 4:11 PM |
| Oxygen | 22 | 0.10 | | % v/v | 1 | 1/11/2013 4:11 PM |
| **Volatile Organic Compounds** | | **Method: TO-15** | | | | **Analyst: RH3** |
| 1,1,1-Trichloroethane | ND | 40,000 | U | ppbv | 40000 | 1/14/2013 9:06 PM |
| 1,1,2,2-Tetrachloroethane | ND | 40,000 | U | ppbv | 40000 | 1/14/2013 9:06 PM |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ND | 40,000 | U | ppbv | 40000 | 1/14/2013 9:06 PM |
| 1,1,2-Trichloroethane | ND | 40,000 | U | ppbv | 40000 | 1/14/2013 9:06 PM |
| 1,1-Dichloroethane | ND | 40,000 | U | ppbv | 40000 | 1/14/2013 9:06 PM |
| 1,1-Dichloroethene | ND | 40,000 | U | ppbv | 40000 | 1/14/2013 9:06 PM |
| 1,2,4-Trichlorobenzene | ND | 40,000 | U | ppbv | 40000 | 1/14/2013 9:06 PM |
| 1,2,4-Trimethylbenzene | ND | 40,000 | U | ppbv | 40000 | 1/14/2013 9:06 PM |
| 1,2-Dibromoethane | ND | 40,000 | U | ppbv | 40000 | 1/14/2013 9:06 PM |
| 1,2-Dichlorobenzene | ND | 40,000 | U | ppbv | 40000 | 1/14/2013 9:06 PM |
| 1,2-Dichloroethane | ND | 40,000 | U | ppbv | 40000 | 1/14/2013 9:06 PM |
| 1,2-Dichloropropane | ND | 40,000 | U | ppbv | 40000 | 1/14/2013 9:06 PM |
| 1,3,5-Trimethylbenzene | ND | 40,000 | U | ppbv | 40000 | 1/14/2013 9:06 PM |
| 1,3-Butadiene | ND | 40,000 | U | ppbv | 40000 | 1/14/2013 9:06 PM |
| 1,3-Dichlorobenzene | ND | 40,000 | U | ppbv | 40000 | 1/14/2013 9:06 PM |
| 1,4-Dichlorobenzene | ND | 40,000 | U | ppbv | 40000 | 1/14/2013 9:06 PM |
| 2-Butanone | ND | 40,000 | U | ppbv | 40000 | 1/14/2013 9:06 PM |
| 2-Hexanone | ND | 40,000 | U | ppbv | 40000 | 1/14/2013 9:06 PM |
| 4-Methyl-2-pentanone | ND | 40,000 | U | ppbv | 40000 | 1/14/2013 9:06 PM |
| Acetone | 350,000 | 40,000 | | ppbv | 40000 | 1/14/2013 9:06 PM |
| Benzene | 160,000 | 40,000 | | ppbv | 40000 | 1/14/2013 9:06 PM |
| Benzyl chloride | ND | 40,000 | U | ppbv | 40000 | 1/14/2013 9:06 PM |
| Bromodichloromethane | ND | 40,000 | U | ppbv | 40000 | 1/14/2013 9:06 PM |
| Bromoform | ND | 40,000 | U | ppbv | 40000 | 1/14/2013 9:06 PM |
| Bromomethane | ND | 40,000 | U | ppbv | 40000 | 1/14/2013 9:06 PM |
| Carbon disulfide | ND | 40,000 | U | ppbv | 40000 | 1/14/2013 9:06 PM |
| Carbon tetrachloride | ND | 40,000 | U | ppbv | 40000 | 1/14/2013 9:06 PM |
| Chlorobenzene | ND | 40,000 | U | ppbv | 40000 | 1/14/2013 9:06 PM |
| Chlorodibromomethane | ND | 40,000 | U | ppbv | 40000 | 1/14/2013 9:06 PM |
| Chloroethane | ND | 40,000 | U | ppbv | 40000 | 1/14/2013 9:06 PM |
| Chloroform | ND | 40,000 | U | ppbv | 40000 | 1/14/2013 9:06 PM |
| Chloromethane | ND | 40,000 | U | ppbv | 40000 | 1/14/2013 9:06 PM |
| cis-1,2-Dichloroethene | ND | 40,000 | U | ppbv | 40000 | 1/14/2013 9:06 PM |
| cis-1,3-dichloropropene | ND | 40,000 | U | ppbv | 40000 | 1/14/2013 9:06 PM |

# RTI Laboratories - Analytical Report

**WO#: 1212959**

**Date Reported: 1/17/2013**
**Revision v1**

| | | | |
|---|---|---|---|
| **Client:** | Shaw Environmental & Infrastructure, Inc | **Collection Date:** | 12/17/2012 1:20:00 PM |
| **Project:** | Kirtland AFB | | |
| **Lab ID:** | 1212959-021 | **Matrix:** | Air |
| **Client Sample ID:** | VA2016 | | |

| Analysis | Result | RL | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| Cyclohexane | 660,000 | 80,000 | | ppbv | 40000 | 1/14/2013 9:06 PM |
| Dichlorodifluoromethane | ND | 40,000 | U | ppbv | 40000 | 1/14/2013 9:06 PM |
| Ethyl acetate | ND | 40,000 | U | ppbv | 40000 | 1/14/2013 9:06 PM |
| Ethylbenzene | ND | 80,000 | U | ppbv | 40000 | 1/14/2013 9:06 PM |
| Heptane | 380,000 | 40,000 | | ppbv | 40000 | 1/14/2013 9:06 PM |
| Hexachlorobutadiene | ND | 80,000 | U | ppbv | 40000 | 1/14/2013 9:06 PM |
| m,p-Xylene | ND | 80,000 | U | ppbv | 40000 | 1/14/2013 9:06 PM |
| Methylene chloride | ND | 200,000 | U | ppbv | 40000 | 1/14/2013 9:06 PM |
| n-Hexane | 760,000 | 80,000 | | ppbv | 40000 | 1/14/2013 9:06 PM |
| Naphthalene | ND | 40,000 | U | ppbv | 40000 | 1/14/2013 9:06 PM |
| o-Xylene | ND | 40,000 | U | ppbv | 40000 | 1/14/2013 9:06 PM |
| Propylene | ND | 40,000 | U | ppbv | 40000 | 1/14/2013 9:06 PM |
| Styrene | ND | 40,000 | U | ppbv | 40000 | 1/14/2013 9:06 PM |
| tert-Butyl Methyl Ether | ND | 40,000 | U | ppbv | 40000 | 1/14/2013 9:06 PM |
| Tetrachloroethene | ND | 40,000 | U | ppbv | 40000 | 1/14/2013 9:06 PM |
| Tetrahydrofuran | ND | 40,000 | U | ppbv | 40000 | 1/14/2013 9:06 PM |
| Toluene | 180,000 | 40,000 | | ppbv | 40000 | 1/14/2013 9:06 PM |
| trans-1,2-Dichloroethene | ND | 40,000 | U | ppbv | 40000 | 1/14/2013 9:06 PM |
| trans-1,3-dichloropropene | ND | 40,000 | U | ppbv | 40000 | 1/14/2013 9:06 PM |
| Trichloroethene | ND | 40,000 | U | ppbv | 40000 | 1/14/2013 9:06 PM |
| Trichlorofluoromethane | ND | 40,000 | U | ppbv | 40000 | 1/14/2013 9:06 PM |
| Vinyl acetate | ND | 40,000 | U | ppbv | 40000 | 1/14/2013 9:06 PM |
| Vinyl chloride | ND | 40,000 | U | ppbv | 40000 | 1/14/2013 9:06 PM |
| Xylenes, Total | ND | 120,000 | U | ppbv | 40000 | 1/14/2013 9:06 PM |
| Surr: 4-Bromofluorobenzene | 97.1 | 70-130 | | %REC | 40000 | 1/14/2013 9:06 PM |
| **Mass APH Air** | | **Method:** | | | | **Analyst: RH3** |
| **Air-Phase Petroleum Hydrocarbons** | | | | | | |
| C5-C8 Aliphatic Hydrocarbons | 31,000,000 | 4,700,000 | | µg/m³ | 40000 | 1/11/2013 10:27 PM |
| C9-C10 Aromatic Hydrocarbons | ND | 5,300,000 | U | µg/m³ | 40000 | 1/11/2013 10:27 PM |
| C9-C12 Aliphatic Hydrocarbons | ND | 7,600,000 | U | µg/m³ | 40000 | 1/11/2013 10:27 PM |
| Surr: 4-Bromofluorobenzene | 96.4 | 70-130 | | %REC | 40000 | 1/11/2013 10:27 PM |

# RTI Laboratories - Analytical Report

**WO#: 1212959**

**Date Reported: 1/17/2013**
**Revision v1**

| | | | |
|---|---|---|---|
| **Client:** | Shaw Environmental & Infrastructure, Inc | **Collection Date:** | 12/17/2012 1:43:00 PM |
| **Project:** | Kirtland AFB | | |
| **Lab ID:** | 1212959-022 | **Matrix:** | Air |
| **Client Sample ID:** | VA2017 | | |

| 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 | 1/11/2013 4:25 PM |
| Carbon Monoxide | ND | 0.10 | U | % v/v | 1 | 1/11/2013 4:25 PM |
| Methane | ND | 0.50 | U | % v/v | 1 | 1/11/2013 4:25 PM |
| Nitrogen | 82 | 0.10 | | % v/v | 1 | 1/11/2013 4:25 PM |
| Oxygen | 19 | 0.10 | | % v/v | 1 | 1/11/2013 4:25 PM |
| **Volatile Organic Compounds** | | **Method: TO-15** | | | | **Analyst: RH3** |
| 1,1,1-Trichloroethane | ND | 400 | U | ppbv | 400 | 1/14/2013 9:56 PM |
| 1,1,2,2-Tetrachloroethane | ND | 400 | U | ppbv | 400 | 1/14/2013 9:56 PM |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ND | 400 | U | ppbv | 400 | 1/14/2013 9:56 PM |
| 1,1,2-Trichloroethane | ND | 400 | U | ppbv | 400 | 1/14/2013 9:56 PM |
| 1,1-Dichloroethane | ND | 400 | U | ppbv | 400 | 1/14/2013 9:56 PM |
| 1,1-Dichloroethene | ND | 400 | U | ppbv | 400 | 1/14/2013 9:56 PM |
| 1,2,4-Trichlorobenzene | ND | 400 | U | ppbv | 400 | 1/14/2013 9:56 PM |
| 1,2,4-Trimethylbenzene | ND | 400 | U | ppbv | 400 | 1/14/2013 9:56 PM |
| 1,2-Dibromoethane | ND | 400 | U | ppbv | 400 | 1/14/2013 9:56 PM |
| 1,2-Dichlorobenzene | ND | 400 | U | ppbv | 400 | 1/14/2013 9:56 PM |
| 1,2-Dichloroethane | ND | 400 | U | ppbv | 400 | 1/14/2013 9:56 PM |
| 1,2-Dichloropropane | ND | 400 | U | ppbv | 400 | 1/14/2013 9:56 PM |
| 1,3,5-Trimethylbenzene | ND | 400 | U | ppbv | 400 | 1/14/2013 9:56 PM |
| 1,3-Butadiene | ND | 400 | U | ppbv | 400 | 1/14/2013 9:56 PM |
| 1,3-Dichlorobenzene | ND | 400 | U | ppbv | 400 | 1/14/2013 9:56 PM |
| 1,4-Dichlorobenzene | ND | 400 | U | ppbv | 400 | 1/14/2013 9:56 PM |
| 2-Butanone | ND | 400 | U | ppbv | 400 | 1/14/2013 9:56 PM |
| 2-Hexanone | ND | 400 | U | ppbv | 400 | 1/14/2013 9:56 PM |
| 4-Methyl-2-pentanone | ND | 400 | U | ppbv | 400 | 1/14/2013 9:56 PM |
| Acetone | 1,400 | 400 | | ppbv | 400 | 1/14/2013 9:56 PM |
| Benzene | 1,400 | 400 | | ppbv | 400 | 1/14/2013 9:56 PM |
| Benzyl chloride | ND | 400 | U | ppbv | 400 | 1/14/2013 9:56 PM |
| Bromodichloromethane | ND | 400 | U | ppbv | 400 | 1/14/2013 9:56 PM |
| Bromoform | ND | 400 | U | ppbv | 400 | 1/14/2013 9:56 PM |
| Bromomethane | ND | 400 | U | ppbv | 400 | 1/14/2013 9:56 PM |
| Carbon disulfide | ND | 400 | U | ppbv | 400 | 1/14/2013 9:56 PM |
| Carbon tetrachloride | ND | 400 | U | ppbv | 400 | 1/14/2013 9:56 PM |
| Chlorobenzene | ND | 400 | U | ppbv | 400 | 1/14/2013 9:56 PM |
| Chlorodibromomethane | ND | 400 | U | ppbv | 400 | 1/14/2013 9:56 PM |
| Chloroethane | ND | 400 | U | ppbv | 400 | 1/14/2013 9:56 PM |
| Chloroform | ND | 400 | U | ppbv | 400 | 1/14/2013 9:56 PM |
| Chloromethane | ND | 400 | U | ppbv | 400 | 1/14/2013 9:56 PM |
| cis-1,2-Dichloroethene | ND | 400 | U | ppbv | 400 | 1/14/2013 9:56 PM |
| cis-1,3-dichloropropene | ND | 400 | U | ppbv | 400 | 1/14/2013 9:56 PM |

# RTI Laboratories - Analytical Report

**WO#: 1212959**

**Date Reported: 1/17/2013**
**Revision v1**

| | | | |
|---|---|---|---|
| **Client:** | Shaw Environmental & Infrastructure, Inc | **Collection Date:** | 12/17/2012 1:43:00 PM |
| **Project:** | Kirtland AFB | | |
| **Lab ID:** | 1212959-022 | **Matrix:** | Air |
| **Client Sample ID:** | VA2017 | | |

| Analysis | Result | RL | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| Cyclohexane | 2,800 | 800 | | ppbv | 400 | 1/14/2013 9:56 PM |
| Dichlorodifluoromethane | ND | 400 | U | ppbv | 400 | 1/14/2013 9:56 PM |
| Ethyl acetate | ND | 400 | U | ppbv | 400 | 1/14/2013 9:56 PM |
| Ethylbenzene | 1,100 | 800 | | ppbv | 400 | 1/14/2013 9:56 PM |
| Heptane | 4,800 | 400 | | ppbv | 400 | 1/14/2013 9:56 PM |
| Hexachlorobutadiene | ND | 800 | U | ppbv | 400 | 1/14/2013 9:56 PM |
| m,p-Xylene | 3,200 | 800 | | ppbv | 400 | 1/14/2013 9:56 PM |
| Methylene chloride | ND | 2,000 | U | ppbv | 400 | 1/14/2013 9:56 PM |
| n-Hexane | 1,900 | 800 | | ppbv | 400 | 1/14/2013 9:56 PM |
| Naphthalene | ND | 400 | U | ppbv | 400 | 1/14/2013 9:56 PM |
| o-Xylene | 960 | 400 | | ppbv | 400 | 1/14/2013 9:56 PM |
| Propylene | ND | 400 | U | ppbv | 400 | 1/14/2013 9:56 PM |
| Styrene | ND | 400 | U | ppbv | 400 | 1/14/2013 9:56 PM |
| tert-Butyl Methyl Ether | ND | 400 | U | ppbv | 400 | 1/14/2013 9:56 PM |
| Tetrachloroethene | ND | 400 | U | ppbv | 400 | 1/14/2013 9:56 PM |
| Tetrahydrofuran | ND | 400 | U | ppbv | 400 | 1/14/2013 9:56 PM |
| Toluene | 9,800 | 400 | | ppbv | 400 | 1/14/2013 9:56 PM |
| trans-1,2-Dichloroethene | ND | 400 | U | ppbv | 400 | 1/14/2013 9:56 PM |
| trans-1,3-dichloropropene | ND | 400 | U | ppbv | 400 | 1/14/2013 9:56 PM |
| Trichloroethene | ND | 400 | U | ppbv | 400 | 1/14/2013 9:56 PM |
| Trichlorofluoromethane | ND | 400 | U | ppbv | 400 | 1/14/2013 9:56 PM |
| Vinyl acetate | ND | 400 | U | ppbv | 400 | 1/14/2013 9:56 PM |
| Vinyl chloride | ND | 400 | U | ppbv | 400 | 1/14/2013 9:56 PM |
| Xylenes, Total | 4,200 | 1,200 | | ppbv | 400 | 1/14/2013 9:56 PM |
| Surr: 4-Bromofluorobenzene | 96.9 | 70-130 | | %REC | 400 | 1/14/2013 9:56 PM |
| **Mass APH Air** | **Method:** | | | | | **Analyst: RH3** |
| **Air-Phase Petroleum Hydrocarbons** | | | | | | |
| C5-C8 Aliphatic Hydrocarbons | 410,000 | 190,000 | | µg/m³ | 1600 | 1/15/2013 4:33 AM |
| C9-C10 Aromatic Hydrocarbons | ND | 210,000 | U | µg/m³ | 1600 | 1/15/2013 4:33 AM |
| C9-C12 Aliphatic Hydrocarbons | 51,000 | 300,000 | J | µg/m³ | 1600 | 1/15/2013 4:33 AM |
| Surr: 4-Bromofluorobenzene | 95.2 | 70-130 | | %REC | 1600 | 1/15/2013 4:33 AM |

# RTI Laboratories - Analytical Report

**WO#: 1212959**

**Date Reported: 1/17/2013**
**Revision v1**

| | | | |
|---|---|---|---|
| **Client:** | Shaw Environmental & Infrastructure, Inc | **Collection Date:** | 12/17/2012 2:07:00 PM |
| **Project:** | Kirtland AFB | | |
| **Lab ID:** | 1212959-023 | **Matrix:** | Air |
| **Client Sample ID:** | VA2018 | | |

| 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 | 1/11/2013 4:40 PM |
| Carbon Monoxide | ND | 0.10 | U | % v/v | 1 | 1/11/2013 4:40 PM |
| Methane | ND | 0.50 | U | % v/v | 1 | 1/11/2013 4:40 PM |
| Nitrogen | 82 | 0.10 | | % v/v | 1 | 1/11/2013 4:40 PM |
| Oxygen | 19 | 0.10 | | % v/v | 1 | 1/11/2013 4:40 PM |
| **Volatile Organic Compounds** | | **Method: TO-15** | | | | **Analyst: RH3** |
| 1,1,1-Trichloroethane | ND | 400 | U | ppbv | 400 | 1/14/2013 11:34 PM |
| 1,1,2,2-Tetrachloroethane | ND | 400 | U | ppbv | 400 | 1/14/2013 11:34 PM |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ND | 400 | U | ppbv | 400 | 1/14/2013 11:34 PM |
| 1,1,2-Trichloroethane | ND | 400 | U | ppbv | 400 | 1/14/2013 11:34 PM |
| 1,1-Dichloroethane | ND | 400 | U | ppbv | 400 | 1/14/2013 11:34 PM |
| 1,1-Dichloroethene | ND | 400 | U | ppbv | 400 | 1/14/2013 11:34 PM |
| 1,2,4-Trichlorobenzene | ND | 400 | U | ppbv | 400 | 1/14/2013 11:34 PM |
| 1,2,4-Trimethylbenzene | ND | 400 | U | ppbv | 400 | 1/14/2013 11:34 PM |
| 1,2-Dibromoethane | ND | 400 | U | ppbv | 400 | 1/14/2013 11:34 PM |
| 1,2-Dichlorobenzene | ND | 400 | U | ppbv | 400 | 1/14/2013 11:34 PM |
| 1,2-Dichloroethane | ND | 400 | U | ppbv | 400 | 1/14/2013 11:34 PM |
| 1,2-Dichloropropane | ND | 400 | U | ppbv | 400 | 1/14/2013 11:34 PM |
| 1,3,5-Trimethylbenzene | ND | 400 | U | ppbv | 400 | 1/14/2013 11:34 PM |
| 1,3-Butadiene | ND | 400 | U | ppbv | 400 | 1/14/2013 11:34 PM |
| 1,3-Dichlorobenzene | ND | 400 | U | ppbv | 400 | 1/14/2013 11:34 PM |
| 1,4-Dichlorobenzene | ND | 400 | U | ppbv | 400 | 1/14/2013 11:34 PM |
| 2-Butanone | 640 | 400 | | ppbv | 400 | 1/14/2013 11:34 PM |
| 2-Hexanone | ND | 400 | U | ppbv | 400 | 1/14/2013 11:34 PM |
| 4-Methyl-2-pentanone | ND | 400 | U | ppbv | 400 | 1/14/2013 11:34 PM |
| Acetone | 2,200 | 400 | | ppbv | 400 | 1/14/2013 11:34 PM |
| Benzene | 900 | 400 | | ppbv | 400 | 1/14/2013 11:34 PM |
| Benzyl chloride | ND | 400 | U | ppbv | 400 | 1/14/2013 11:34 PM |
| Bromodichloromethane | ND | 400 | U | ppbv | 400 | 1/14/2013 11:34 PM |
| Bromoform | ND | 400 | U | ppbv | 400 | 1/14/2013 11:34 PM |
| Bromomethane | ND | 400 | U | ppbv | 400 | 1/14/2013 11:34 PM |
| Carbon disulfide | ND | 400 | U | ppbv | 400 | 1/14/2013 11:34 PM |
| Carbon tetrachloride | ND | 400 | U | ppbv | 400 | 1/14/2013 11:34 PM |
| Chlorobenzene | ND | 400 | U | ppbv | 400 | 1/14/2013 11:34 PM |
| Chlorodibromomethane | ND | 400 | U | ppbv | 400 | 1/14/2013 11:34 PM |
| Chloroethane | ND | 400 | U | ppbv | 400 | 1/14/2013 11:34 PM |
| Chloroform | ND | 400 | U | ppbv | 400 | 1/14/2013 11:34 PM |
| Chloromethane | ND | 400 | U | ppbv | 400 | 1/14/2013 11:34 PM |
| cis-1,2-Dichloroethene | ND | 400 | U | ppbv | 400 | 1/14/2013 11:34 PM |
| cis-1,3-dichloropropene | ND | 400 | U | ppbv | 400 | 1/14/2013 11:34 PM |

# RTI Laboratories - Analytical Report

**WO#: 1212959**

**Date Reported: 1/17/2013**
**Revision v1**

| | | | |
|---|---|---|---|
| **Client:** | Shaw Environmental & Infrastructure, Inc | **Collection Date:** | 12/17/2012 2:07:00 PM |
| **Project:** | Kirtland AFB | | |
| **Lab ID:** | 1212959-023 | **Matrix:** | Air |
| **Client Sample ID:** | VA2018 | | |

| Analysis | Result | RL | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| Cyclohexane | 2,500 | 800 | | ppbv | 400 | 1/14/2013 11:34 PM |
| Dichlorodifluoromethane | ND | 400 | U | ppbv | 400 | 1/14/2013 11:34 PM |
| Ethyl acetate | ND | 400 | U | ppbv | 400 | 1/14/2013 11:34 PM |
| Ethylbenzene | 1,700 | 800 | | ppbv | 400 | 1/14/2013 11:34 PM |
| Heptane | 4,200 | 400 | | ppbv | 400 | 1/14/2013 11:34 PM |
| Hexachlorobutadiene | ND | 800 | U | ppbv | 400 | 1/14/2013 11:34 PM |
| m,p-Xylene | 4,900 | 800 | | ppbv | 400 | 1/14/2013 11:34 PM |
| Methylene chloride | ND | 2,000 | U | ppbv | 400 | 1/14/2013 11:34 PM |
| n-Hexane | 1,400 | 800 | | ppbv | 400 | 1/14/2013 11:34 PM |
| Naphthalene | ND | 400 | U | ppbv | 400 | 1/14/2013 11:34 PM |
| o-Xylene | 1,400 | 400 | | ppbv | 400 | 1/14/2013 11:34 PM |
| Propylene | ND | 400 | U | ppbv | 400 | 1/14/2013 11:34 PM |
| Styrene | ND | 400 | U | ppbv | 400 | 1/14/2013 11:34 PM |
| tert-Butyl Methyl Ether | ND | 400 | U | ppbv | 400 | 1/14/2013 11:34 PM |
| Tetrachloroethene | ND | 400 | U | ppbv | 400 | 1/14/2013 11:34 PM |
| Tetrahydrofuran | ND | 400 | U | ppbv | 400 | 1/14/2013 11:34 PM |
| Toluene | 10,000 | 400 | | ppbv | 400 | 1/14/2013 11:34 PM |
| trans-1,2-Dichloroethene | ND | 400 | U | ppbv | 400 | 1/14/2013 11:34 PM |
| trans-1,3-dichloropropene | ND | 400 | U | ppbv | 400 | 1/14/2013 11:34 PM |
| Trichloroethene | ND | 400 | U | ppbv | 400 | 1/14/2013 11:34 PM |
| Trichlorofluoromethane | ND | 400 | U | ppbv | 400 | 1/14/2013 11:34 PM |
| Vinyl acetate | ND | 400 | U | ppbv | 400 | 1/14/2013 11:34 PM |
| Vinyl chloride | ND | 400 | U | ppbv | 400 | 1/14/2013 11:34 PM |
| Xylenes, Total | 6,400 | 1,200 | | ppbv | 400 | 1/14/2013 11:34 PM |
| Surr: 4-Bromofluorobenzene | 94.2 | 70-130 | | %REC | 400 | 1/14/2013 11:34 PM |
| **Mass APH Air** | **Method:** | | | | | **Analyst: RH3** |
| **Air-Phase Petroleum Hydrocarbons** | | | | | | |
| C5-C8 Aliphatic Hydrocarbons | 520,000 | 190,000 | | µg/m³ | 1600 | 1/15/2013 6:06 AM |
| C9-C10 Aromatic Hydrocarbons | ND | 210,000 | U | µg/m³ | 1600 | 1/15/2013 6:06 AM |
| C9-C12 Aliphatic Hydrocarbons | 97,000 | 300,000 | J | µg/m³ | 1600 | 1/15/2013 6:06 AM |
| Surr: 4-Bromofluorobenzene | 96.1 | 70-130 | | %REC | 1600 | 1/15/2013 6:06 AM |

# RTI Laboratories - Analytical Report

**WO#: 1212959**

**Date Reported: 1/17/2013**
**Revision v1**

| | | | |
|---|---|---|---|
| **Client:** | Shaw Environmental & Infrastructure, Inc | **Collection Date:** | 12/17/2012 2:42:00 PM |
| **Project:** | Kirtland AFB | | |
| **Lab ID:** | 1212959-024 | **Matrix:** | Air |
| **Client Sample ID:** | VA2019 | | |

| Analysis | Result | RL | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **Noncondensable Gases and Light Hydrocarbons** | | **Method: ASTM-D2504** | | | | **Analyst: cr** |
| Carbon dioxide | 6.8 | 0.10 | | % v/v | 1 | 1/11/2013 4:54 PM |
| Carbon Monoxide | ND | 0.10 | U | % v/v | 1 | 1/11/2013 4:54 PM |
| Methane | ND | 0.50 | U | % v/v | 1 | 1/11/2013 4:54 PM |
| Nitrogen | 84 | 0.10 | | % v/v | 1 | 1/11/2013 4:54 PM |
| Oxygen | 10 | 0.10 | | % v/v | 1 | 1/11/2013 4:54 PM |
| **Volatile Organic Compounds** | | **Method: TO-15** | | | | **Analyst: RH3** |
| 1,1,1-Trichloroethane | ND | 20,000 | U | ppbv | 20000 | 1/15/2013 1:06 AM |
| 1,1,2,2-Tetrachloroethane | ND | 20,000 | U | ppbv | 20000 | 1/15/2013 1:06 AM |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ND | 20,000 | U | ppbv | 20000 | 1/15/2013 1:06 AM |
| 1,1,2-Trichloroethane | ND | 20,000 | U | ppbv | 20000 | 1/15/2013 1:06 AM |
| 1,1-Dichloroethane | ND | 20,000 | U | ppbv | 20000 | 1/15/2013 1:06 AM |
| 1,1-Dichloroethene | ND | 20,000 | U | ppbv | 20000 | 1/15/2013 1:06 AM |
| 1,2,4-Trichlorobenzene | ND | 20,000 | U | ppbv | 20000 | 1/15/2013 1:06 AM |
| 1,2,4-Trimethylbenzene | ND | 20,000 | U | ppbv | 20000 | 1/15/2013 1:06 AM |
| 1,2-Dibromoethane | ND | 20,000 | U | ppbv | 20000 | 1/15/2013 1:06 AM |
| 1,2-Dichlorobenzene | ND | 20,000 | U | ppbv | 20000 | 1/15/2013 1:06 AM |
| 1,2-Dichloroethane | ND | 20,000 | U | ppbv | 20000 | 1/15/2013 1:06 AM |
| 1,2-Dichloropropane | ND | 20,000 | U | ppbv | 20000 | 1/15/2013 1:06 AM |
| 1,3,5-Trimethylbenzene | ND | 20,000 | U | ppbv | 20000 | 1/15/2013 1:06 AM |
| 1,3-Butadiene | ND | 20,000 | U | ppbv | 20000 | 1/15/2013 1:06 AM |
| 1,3-Dichlorobenzene | ND | 20,000 | U | ppbv | 20000 | 1/15/2013 1:06 AM |
| 1,4-Dichlorobenzene | ND | 20,000 | U | ppbv | 20000 | 1/15/2013 1:06 AM |
| 2-Butanone | 21,000 | 20,000 | | ppbv | 20000 | 1/15/2013 1:06 AM |
| 2-Hexanone | ND | 20,000 | U | ppbv | 20000 | 1/15/2013 1:06 AM |
| 4-Methyl-2-pentanone | ND | 20,000 | U | ppbv | 20000 | 1/15/2013 1:06 AM |
| Acetone | 140,000 | 20,000 | | ppbv | 20000 | 1/15/2013 1:06 AM |
| Benzene | 58,000 | 20,000 | | ppbv | 20000 | 1/15/2013 1:06 AM |
| Benzyl chloride | ND | 20,000 | U | ppbv | 20000 | 1/15/2013 1:06 AM |
| Bromodichloromethane | ND | 20,000 | U | ppbv | 20000 | 1/15/2013 1:06 AM |
| Bromoform | ND | 20,000 | U | ppbv | 20000 | 1/15/2013 1:06 AM |
| Bromomethane | ND | 20,000 | U | ppbv | 20000 | 1/15/2013 1:06 AM |
| Carbon disulfide | ND | 20,000 | U | ppbv | 20000 | 1/15/2013 1:06 AM |
| Carbon tetrachloride | ND | 20,000 | U | ppbv | 20000 | 1/15/2013 1:06 AM |
| Chlorobenzene | ND | 20,000 | U | ppbv | 20000 | 1/15/2013 1:06 AM |
| Chlorodibromomethane | ND | 20,000 | U | ppbv | 20000 | 1/15/2013 1:06 AM |
| Chloroethane | ND | 20,000 | U | ppbv | 20000 | 1/15/2013 1:06 AM |
| Chloroform | ND | 20,000 | U | ppbv | 20000 | 1/15/2013 1:06 AM |
| Chloromethane | ND | 20,000 | U | ppbv | 20000 | 1/15/2013 1:06 AM |
| cis-1,2-Dichloroethene | ND | 20,000 | U | ppbv | 20000 | 1/15/2013 1:06 AM |
| cis-1,3-dichloropropene | ND | 20,000 | U | ppbv | 20000 | 1/15/2013 1:06 AM |

# RTI Laboratories - Analytical Report

**WO#: 1212959**

**Date Reported: 1/17/2013**
**Revision v1**

| | | | |
|---|---|---|---|
| **Client:** | Shaw Environmental & Infrastructure, Inc | **Collection Date:** | 12/17/2012 2:42:00 PM |
| **Project:** | Kirtland AFB | | |
| **Lab ID:** | 1212959-024 | **Matrix:** | Air |
| **Client Sample ID:** | VA2019 | | |

| Analysis | Result | RL | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| Cyclohexane | 280,000 | 40,000 | | ppbv | 20000 | 1/15/2013 1:06 AM |
| Dichlorodifluoromethane | ND | 20,000 | U | ppbv | 20000 | 1/15/2013 1:06 AM |
| Ethyl acetate | ND | 20,000 | U | ppbv | 20000 | 1/15/2013 1:06 AM |
| Ethylbenzene | ND | 40,000 | U | ppbv | 20000 | 1/15/2013 1:06 AM |
| Heptane | 170,000 | 20,000 | | ppbv | 20000 | 1/15/2013 1:06 AM |
| Hexachlorobutadiene | ND | 40,000 | U | ppbv | 20000 | 1/15/2013 1:06 AM |
| m,p-Xylene | 27,000 | 40,000 | J | ppbv | 20000 | 1/15/2013 1:06 AM |
| Methylene chloride | ND | 100,000 | U | ppbv | 20000 | 1/15/2013 1:06 AM |
| n-Hexane | 260,000 | 40,000 | | ppbv | 20000 | 1/15/2013 1:06 AM |
| Naphthalene | ND | 20,000 | U | ppbv | 20000 | 1/15/2013 1:06 AM |
| o-Xylene | ND | 20,000 | U | ppbv | 20000 | 1/15/2013 1:06 AM |
| Propylene | ND | 20,000 | U | ppbv | 20000 | 1/15/2013 1:06 AM |
| Styrene | ND | 20,000 | U | ppbv | 20000 | 1/15/2013 1:06 AM |
| tert-Butyl Methyl Ether | ND | 20,000 | U | ppbv | 20000 | 1/15/2013 1:06 AM |
| Tetrachloroethene | ND | 20,000 | U | ppbv | 20000 | 1/15/2013 1:06 AM |
| Tetrahydrofuran | ND | 20,000 | U | ppbv | 20000 | 1/15/2013 1:06 AM |
| Toluene | 140,000 | 20,000 | | ppbv | 20000 | 1/15/2013 1:06 AM |
| trans-1,2-Dichloroethene | ND | 20,000 | U | ppbv | 20000 | 1/15/2013 1:06 AM |
| trans-1,3-dichloropropene | ND | 20,000 | U | ppbv | 20000 | 1/15/2013 1:06 AM |
| Trichloroethene | ND | 20,000 | U | ppbv | 20000 | 1/15/2013 1:06 AM |
| Trichlorofluoromethane | ND | 20,000 | U | ppbv | 20000 | 1/15/2013 1:06 AM |
| Vinyl acetate | ND | 20,000 | U | ppbv | 20000 | 1/15/2013 1:06 AM |
| Vinyl chloride | ND | 20,000 | U | ppbv | 20000 | 1/15/2013 1:06 AM |
| Xylenes, Total | 27,000 | 60,000 | J | ppbv | 20000 | 1/15/2013 1:06 AM |
| Surr: 4-Bromofluorobenzene | 96.0 | 70-130 | | %REC | 20000 | 1/15/2013 1:06 AM |
| **Mass APH Air** | | **Method:** | | | | **Analyst: RH3** |
| **Air-Phase Petroleum Hydrocarbons** | | | | | | |
| C5-C8 Aliphatic Hydrocarbons | 13,000,000 | 2,300,000 | | µg/m³ | 20000 | 1/15/2013 7:37 AM |
| C9-C10 Aromatic Hydrocarbons | ND | 2,700,000 | U | µg/m³ | 20000 | 1/15/2013 7:37 AM |
| C9-C12 Aliphatic Hydrocarbons | 650,000 | 3,800,000 | J | µg/m³ | 20000 | 1/15/2013 7:37 AM |
| Surr: 4-Bromofluorobenzene | 94.5 | 70-130 | | %REC | 20000 | 1/15/2013 7:37 AM |

# RTI Laboratories - Analytical Report

**WO#: 1212959**

**Date Reported: 1/17/2013**
**Revision v1**

| | | | |
|---|---|---|---|
| **Client:** | Shaw Environmental & Infrastructure, Inc | **Collection Date:** | 12/17/2012 3:06:00 PM |
| **Project:** | Kirtland AFB | | |
| **Lab ID:** | 1212959-025 | **Matrix:** | Air |
| **Client Sample ID:** | VA2020 | | |

| Analysis | Result | RL | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **Noncondensable Gases and Light Hydrocarbons** | | **Method: ASTM-D2504** | | | | **Analyst: cr** |
| Carbon dioxide | 0.066 | 0.10 | J | % v/v | 1 | 1/11/2013 5:08 PM |
| Carbon Monoxide | ND | 0.10 | U | % v/v | 1 | 1/11/2013 5:08 PM |
| Methane | ND | 0.50 | U | % v/v | 1 | 1/11/2013 5:08 PM |
| Nitrogen | 81 | 0.10 | | % v/v | 1 | 1/11/2013 5:08 PM |
| Oxygen | 22 | 0.10 | | % v/v | 1 | 1/11/2013 5:08 PM |
| **Volatile Organic Compounds** | | **Method: TO-15** | | | | **Analyst: RH3** |
| 1,1,1-Trichloroethane | ND | 20,000 | U | ppbv | 20000 | 1/15/2013 1:49 AM |
| 1,1,2,2-Tetrachloroethane | ND | 20,000 | U | ppbv | 20000 | 1/15/2013 1:49 AM |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ND | 20,000 | U | ppbv | 20000 | 1/15/2013 1:49 AM |
| 1,1,2-Trichloroethane | ND | 20,000 | U | ppbv | 20000 | 1/15/2013 1:49 AM |
| 1,1-Dichloroethane | ND | 20,000 | U | ppbv | 20000 | 1/15/2013 1:49 AM |
| 1,1-Dichloroethene | ND | 20,000 | U | ppbv | 20000 | 1/15/2013 1:49 AM |
| 1,2,4-Trichlorobenzene | ND | 20,000 | U | ppbv | 20000 | 1/15/2013 1:49 AM |
| 1,2,4-Trimethylbenzene | ND | 20,000 | U | ppbv | 20000 | 1/15/2013 1:49 AM |
| 1,2-Dibromoethane | ND | 20,000 | U | ppbv | 20000 | 1/15/2013 1:49 AM |
| 1,2-Dichlorobenzene | ND | 20,000 | U | ppbv | 20000 | 1/15/2013 1:49 AM |
| 1,2-Dichloroethane | ND | 20,000 | U | ppbv | 20000 | 1/15/2013 1:49 AM |
| 1,2-Dichloropropane | ND | 20,000 | U | ppbv | 20000 | 1/15/2013 1:49 AM |
| 1,3,5-Trimethylbenzene | ND | 20,000 | U | ppbv | 20000 | 1/15/2013 1:49 AM |
| 1,3-Butadiene | ND | 20,000 | U | ppbv | 20000 | 1/15/2013 1:49 AM |
| 1,3-Dichlorobenzene | ND | 20,000 | U | ppbv | 20000 | 1/15/2013 1:49 AM |
| 1,4-Dichlorobenzene | ND | 20,000 | U | ppbv | 20000 | 1/15/2013 1:49 AM |
| 2-Butanone | ND | 20,000 | U | ppbv | 20000 | 1/15/2013 1:49 AM |
| 2-Hexanone | ND | 20,000 | U | ppbv | 20000 | 1/15/2013 1:49 AM |
| 4-Methyl-2-pentanone | ND | 20,000 | U | ppbv | 20000 | 1/15/2013 1:49 AM |
| Acetone | 70,000 | 20,000 | | ppbv | 20000 | 1/15/2013 1:49 AM |
| Benzene | 79,000 | 20,000 | | ppbv | 20000 | 1/15/2013 1:49 AM |
| Benzyl chloride | ND | 20,000 | U | ppbv | 20000 | 1/15/2013 1:49 AM |
| Bromodichloromethane | ND | 20,000 | U | ppbv | 20000 | 1/15/2013 1:49 AM |
| Bromoform | ND | 20,000 | U | ppbv | 20000 | 1/15/2013 1:49 AM |
| Bromomethane | ND | 20,000 | U | ppbv | 20000 | 1/15/2013 1:49 AM |
| Carbon disulfide | ND | 20,000 | U | ppbv | 20000 | 1/15/2013 1:49 AM |
| Carbon tetrachloride | ND | 20,000 | U | ppbv | 20000 | 1/15/2013 1:49 AM |
| Chlorobenzene | ND | 20,000 | U | ppbv | 20000 | 1/15/2013 1:49 AM |
| Chlorodibromomethane | ND | 20,000 | U | ppbv | 20000 | 1/15/2013 1:49 AM |
| Chloroethane | ND | 20,000 | U | ppbv | 20000 | 1/15/2013 1:49 AM |
| Chloroform | ND | 20,000 | U | ppbv | 20000 | 1/15/2013 1:49 AM |
| Chloromethane | ND | 20,000 | U | ppbv | 20000 | 1/15/2013 1:49 AM |
| cis-1,2-Dichloroethene | ND | 20,000 | U | ppbv | 20000 | 1/15/2013 1:49 AM |
| cis-1,3-dichloropropene | ND | 20,000 | U | ppbv | 20000 | 1/15/2013 1:49 AM |

# RTI Laboratories - Analytical Report

**WO#: 1212959**

**Date Reported: 1/17/2013**
**Revision v1**

| | | | |
|---|---|---|---|
| **Client:** | Shaw Environmental & Infrastructure, Inc | **Collection Date:** | 12/17/2012 3:06:00 PM |
| **Project:** | Kirtland AFB | | |
| **Lab ID:** | 1212959-025 | **Matrix:** | Air |
| **Client Sample ID:** | VA2020 | | |

| Analysis | Result | RL | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| Cyclohexane | 320,000 | 40,000 | | ppbv | 20000 | 1/15/2013 1:49 AM |
| Dichlorodifluoromethane | ND | 20,000 | U | ppbv | 20000 | 1/15/2013 1:49 AM |
| Ethyl acetate | ND | 20,000 | U | ppbv | 20000 | 1/15/2013 1:49 AM |
| Ethylbenzene | ND | 40,000 | U | ppbv | 20000 | 1/15/2013 1:49 AM |
| Heptane | 180,000 | 20,000 | | ppbv | 20000 | 1/15/2013 1:49 AM |
| Hexachlorobutadiene | ND | 40,000 | U | ppbv | 20000 | 1/15/2013 1:49 AM |
| m,p-Xylene | 21,000 | 40,000 | J | ppbv | 20000 | 1/15/2013 1:49 AM |
| Methylene chloride | ND | 100,000 | U | ppbv | 20000 | 1/15/2013 1:49 AM |
| n-Hexane | 630,000 | 40,000 | | ppbv | 20000 | 1/15/2013 1:49 AM |
| Naphthalene | ND | 20,000 | U | ppbv | 20000 | 1/15/2013 1:49 AM |
| o-Xylene | ND | 20,000 | U | ppbv | 20000 | 1/15/2013 1:49 AM |
| Propylene | ND | 20,000 | U | ppbv | 20000 | 1/15/2013 1:49 AM |
| Styrene | ND | 20,000 | U | ppbv | 20000 | 1/15/2013 1:49 AM |
| tert-Butyl Methyl Ether | ND | 20,000 | U | ppbv | 20000 | 1/15/2013 1:49 AM |
| Tetrachloroethene | ND | 20,000 | U | ppbv | 20000 | 1/15/2013 1:49 AM |
| Tetrahydrofuran | ND | 20,000 | U | ppbv | 20000 | 1/15/2013 1:49 AM |
| Toluene | 100,000 | 20,000 | | ppbv | 20000 | 1/15/2013 1:49 AM |
| trans-1,2-Dichloroethene | ND | 20,000 | U | ppbv | 20000 | 1/15/2013 1:49 AM |
| trans-1,3-dichloropropene | ND | 20,000 | U | ppbv | 20000 | 1/15/2013 1:49 AM |
| Trichloroethene | ND | 20,000 | U | ppbv | 20000 | 1/15/2013 1:49 AM |
| Trichlorofluoromethane | ND | 20,000 | U | ppbv | 20000 | 1/15/2013 1:49 AM |
| Vinyl acetate | ND | 20,000 | U | ppbv | 20000 | 1/15/2013 1:49 AM |
| Vinyl chloride | ND | 20,000 | U | ppbv | 20000 | 1/15/2013 1:49 AM |
| Xylenes, Total | 21,000 | 60,000 | J | ppbv | 20000 | 1/15/2013 1:49 AM |
| Surr: 4-Bromofluorobenzene | 97.1 | 70-130 | | %REC | 20000 | 1/15/2013 1:49 AM |
| **Mass APH Air** | | **Method:** | | | | **Analyst: RH3** |
| **Air-Phase Petroleum Hydrocarbons** | | | | | | |
| C5-C8 Aliphatic Hydrocarbons | 18,000,000 | 2,300,000 | | µg/m³ | 20000 | 1/15/2013 1:00 PM |
| C9-C10 Aromatic Hydrocarbons | ND | 2,700,000 | U | µg/m³ | 20000 | 1/15/2013 1:00 PM |
| C9-C12 Aliphatic Hydrocarbons | ND | 3,800,000 | U | µg/m³ | 20000 | 1/15/2013 1:00 PM |
| Surr: 4-Bromofluorobenzene | 94.0 | 70-130 | | %REC | 20000 | 1/15/2013 1:00 PM |

# RTI Laboratories - Analytical Report

**WO#: 1212959**

**Date Reported: 1/17/2013**
**Revision v1**

| | | | |
|---|---|---|---|
| **Client:** | Shaw Environmental & Infrastructure, Inc | **Collection Date:** | 12/18/2012 8:54:00 AM |
| **Project:** | Kirtland AFB | | |
| **Lab ID:** | 1212959-026 | **Matrix:** | Air |
| **Client Sample ID:** | VA2021 | | |

| 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 | 1/11/2013 5:23 PM |
| Carbon Monoxide | ND | 0.10 | U | % v/v | 1 | 1/11/2013 5:23 PM |
| Methane | ND | 0.50 | U | % v/v | 1 | 1/11/2013 5:23 PM |
| Nitrogen | 85 | 0.10 | | % v/v | 1 | 1/11/2013 5:23 PM |
| Oxygen | 16 | 0.10 | | % v/v | 1 | 1/11/2013 5:23 PM |
| **Volatile Organic Compounds** | | **Method: TO-15** | | | | **Analyst: RH3** |
| 1,1,1-Trichloroethane | ND | 800 | U | ppbv | 800 | 1/15/2013 5:35 AM |
| 1,1,2,2-Tetrachloroethane | ND | 800 | U | ppbv | 800 | 1/15/2013 5:35 AM |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ND | 800 | U | ppbv | 800 | 1/15/2013 5:35 AM |
| 1,1,2-Trichloroethane | ND | 800 | U | ppbv | 800 | 1/15/2013 5:35 AM |
| 1,1-Dichloroethane | ND | 800 | U | ppbv | 800 | 1/15/2013 5:35 AM |
| 1,1-Dichloroethene | ND | 800 | U | ppbv | 800 | 1/15/2013 5:35 AM |
| 1,2,4-Trichlorobenzene | ND | 800 | U | ppbv | 800 | 1/15/2013 5:35 AM |
| 1,2,4-Trimethylbenzene | ND | 800 | U | ppbv | 800 | 1/15/2013 5:35 AM |
| 1,2-Dibromoethane | ND | 800 | U | ppbv | 800 | 1/15/2013 5:35 AM |
| 1,2-Dichlorobenzene | ND | 800 | U | ppbv | 800 | 1/15/2013 5:35 AM |
| 1,2-Dichloroethane | ND | 800 | U | ppbv | 800 | 1/15/2013 5:35 AM |
| 1,2-Dichloropropane | ND | 800 | U | ppbv | 800 | 1/15/2013 5:35 AM |
| 1,3,5-Trimethylbenzene | ND | 800 | U | ppbv | 800 | 1/15/2013 5:35 AM |
| 1,3-Butadiene | ND | 800 | U | ppbv | 800 | 1/15/2013 5:35 AM |
| 1,3-Dichlorobenzene | ND | 800 | U | ppbv | 800 | 1/15/2013 5:35 AM |
| 1,4-Dichlorobenzene | ND | 800 | U | ppbv | 800 | 1/15/2013 5:35 AM |
| 2-Butanone | 2,300 | 800 | | ppbv | 800 | 1/15/2013 5:35 AM |
| 2-Hexanone | ND | 800 | U | ppbv | 800 | 1/15/2013 5:35 AM |
| 4-Methyl-2-pentanone | ND | 800 | U | ppbv | 800 | 1/15/2013 5:35 AM |
| Acetone | 14,000 | 800 | | ppbv | 800 | 1/15/2013 5:35 AM |
| Benzene | 3,000 | 800 | | ppbv | 800 | 1/15/2013 5:35 AM |
| Benzyl chloride | ND | 800 | U | ppbv | 800 | 1/15/2013 5:35 AM |
| Bromodichloromethane | ND | 800 | U | ppbv | 800 | 1/15/2013 5:35 AM |
| Bromoform | ND | 800 | U | ppbv | 800 | 1/15/2013 5:35 AM |
| Bromomethane | ND | 800 | U | ppbv | 800 | 1/15/2013 5:35 AM |
| Carbon disulfide | ND | 800 | U | ppbv | 800 | 1/15/2013 5:35 AM |
| Carbon tetrachloride | ND | 800 | U | ppbv | 800 | 1/15/2013 5:35 AM |
| Chlorobenzene | ND | 800 | U | ppbv | 800 | 1/15/2013 5:35 AM |
| Chlorodibromomethane | ND | 800 | U | ppbv | 800 | 1/15/2013 5:35 AM |
| Chloroethane | ND | 800 | U | ppbv | 800 | 1/15/2013 5:35 AM |
| Chloroform | ND | 800 | U | ppbv | 800 | 1/15/2013 5:35 AM |
| Chloromethane | ND | 800 | U | ppbv | 800 | 1/15/2013 5:35 AM |
| cis-1,2-Dichloroethene | ND | 800 | U | ppbv | 800 | 1/15/2013 5:35 AM |
| cis-1,3-dichloropropene | ND | 800 | U | ppbv | 800 | 1/15/2013 5:35 AM |

# RTI Laboratories - Analytical Report

**WO#: 1212959**

**Date Reported: 1/17/2013**
**Revision v1**

| | | | |
|---|---|---|---|
| **Client:** | Shaw Environmental & Infrastructure, Inc | **Collection Date:** | 12/18/2012 8:54:00 AM |
| **Project:** | Kirtland AFB | | |
| **Lab ID:** | 1212959-026 | **Matrix:** | Air |
| **Client Sample ID:** | VA2021 | | |

| Analysis | Result | RL | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| Cyclohexane | 7,400 | 1,600 | | ppbv | 800 | 1/15/2013 5:35 AM |
| Dichlorodifluoromethane | ND | 800 | U | ppbv | 800 | 1/15/2013 5:35 AM |
| Ethyl acetate | ND | 800 | U | ppbv | 800 | 1/15/2013 5:35 AM |
| Ethylbenzene | 1,800 | 1,600 | | ppbv | 800 | 1/15/2013 5:35 AM |
| Heptane | 12,000 | 800 | | ppbv | 800 | 1/15/2013 5:35 AM |
| Hexachlorobutadiene | ND | 1,600 | U | ppbv | 800 | 1/15/2013 5:35 AM |
| m,p-Xylene | 4,600 | 1,600 | | ppbv | 800 | 1/15/2013 5:35 AM |
| Methylene chloride | ND | 4,000 | U | ppbv | 800 | 1/15/2013 5:35 AM |
| n-Hexane | 4,400 | 1,600 | | ppbv | 800 | 1/15/2013 5:35 AM |
| Naphthalene | ND | 800 | U | ppbv | 800 | 1/15/2013 5:35 AM |
| o-Xylene | 1,400 | 800 | | ppbv | 800 | 1/15/2013 5:35 AM |
| Propylene | ND | 800 | U | ppbv | 800 | 1/15/2013 5:35 AM |
| Styrene | ND | 800 | U | ppbv | 800 | 1/15/2013 5:35 AM |
| tert-Butyl Methyl Ether | ND | 800 | U | ppbv | 800 | 1/15/2013 5:35 AM |
| Tetrachloroethene | ND | 800 | U | ppbv | 800 | 1/15/2013 5:35 AM |
| Tetrahydrofuran | ND | 800 | U | ppbv | 800 | 1/15/2013 5:35 AM |
| Toluene | 20,000 | 800 | | ppbv | 800 | 1/15/2013 5:35 AM |
| trans-1,2-Dichloroethene | ND | 800 | U | ppbv | 800 | 1/15/2013 5:35 AM |
| trans-1,3-dichloropropene | ND | 800 | U | ppbv | 800 | 1/15/2013 5:35 AM |
| Trichloroethene | ND | 800 | U | ppbv | 800 | 1/15/2013 5:35 AM |
| Trichlorofluoromethane | ND | 800 | U | ppbv | 800 | 1/15/2013 5:35 AM |
| Vinyl acetate | ND | 800 | U | ppbv | 800 | 1/15/2013 5:35 AM |
| Vinyl chloride | ND | 800 | U | ppbv | 800 | 1/15/2013 5:35 AM |
| Xylenes, Total | 6,000 | 2,400 | | ppbv | 800 | 1/15/2013 5:35 AM |
| Surr: 4-Bromofluorobenzene | 96.8 | 70-130 | | %REC | 800 | 1/15/2013 5:35 AM |
| **Mass APH Air** | **Method:** | | | | | **Analyst: RH3** |
| **Air-Phase Petroleum Hydrocarbons** | | | | | | |
| C5-C8 Aliphatic Hydrocarbons | 730,000 | 94,000 | | µg/m³ | 800 | 1/15/2013 9:54 AM |
| C9-C10 Aromatic Hydrocarbons | ND | 110,000 | U | µg/m³ | 800 | 1/15/2013 9:54 AM |
| C9-C12 Aliphatic Hydrocarbons | 100,000 | 150,000 | J | µg/m³ | 800 | 1/15/2013 9:54 AM |
| Surr: 4-Bromofluorobenzene | 96.6 | 70-130 | | %REC | 800 | 1/15/2013 9:54 AM |

# RTI Laboratories - Analytical Report

**WO#: 1212959**

**Date Reported: 1/17/2013**
**Revision v1**

| | | | |
|---|---|---|---|
| **Client:** | Shaw Environmental & Infrastructure, Inc | **Collection Date:** | 12/18/2012 9:20:00 AM |
| **Project:** | Kirtland AFB | | |
| **Lab ID:** | 1212959-027 | **Matrix:** | Air |
| **Client Sample ID:** | VA2022 | | |

| 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 | 1/11/2013 5:37 PM |
| Carbon Monoxide | ND | 0.10 | U | % v/v | 1 | 1/11/2013 5:37 PM |
| Methane | ND | 0.50 | U | % v/v | 1 | 1/11/2013 5:37 PM |
| Nitrogen | 84 | 0.10 | | % v/v | 1 | 1/11/2013 5:37 PM |
| Oxygen | 17 | 0.10 | | % v/v | 1 | 1/11/2013 5:37 PM |
| **Volatile Organic Compounds** | | **Method: TO-15** | | | | **Analyst: RH3** |
| 1,1,1-Trichloroethane | ND | 800 | U | ppbv | 800 | 1/15/2013 12:47 PM |
| 1,1,2,2-Tetrachloroethane | ND | 800 | U | ppbv | 800 | 1/15/2013 12:47 PM |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ND | 800 | U | ppbv | 800 | 1/15/2013 12:47 PM |
| 1,1,2-Trichloroethane | ND | 800 | U | ppbv | 800 | 1/15/2013 12:47 PM |
| 1,1-Dichloroethane | ND | 800 | U | ppbv | 800 | 1/15/2013 12:47 PM |
| 1,1-Dichloroethene | ND | 800 | U | ppbv | 800 | 1/15/2013 12:47 PM |
| 1,2,4-Trichlorobenzene | ND | 800 | U | ppbv | 800 | 1/15/2013 12:47 PM |
| 1,2,4-Trimethylbenzene | ND | 800 | U | ppbv | 800 | 1/15/2013 12:47 PM |
| 1,2-Dibromoethane | ND | 800 | U | ppbv | 800 | 1/15/2013 12:47 PM |
| 1,2-Dichlorobenzene | ND | 800 | U | ppbv | 800 | 1/15/2013 12:47 PM |
| 1,2-Dichloroethane | ND | 800 | U | ppbv | 800 | 1/15/2013 12:47 PM |
| 1,2-Dichloropropane | ND | 800 | U | ppbv | 800 | 1/15/2013 12:47 PM |
| 1,3,5-Trimethylbenzene | ND | 800 | U | ppbv | 800 | 1/15/2013 12:47 PM |
| 1,3-Butadiene | ND | 800 | U | ppbv | 800 | 1/15/2013 12:47 PM |
| 1,3-Dichlorobenzene | ND | 800 | U | ppbv | 800 | 1/15/2013 12:47 PM |
| 1,4-Dichlorobenzene | ND | 800 | U | ppbv | 800 | 1/15/2013 12:47 PM |
| 2-Butanone | 1,000 | 800 | | ppbv | 800 | 1/15/2013 12:47 PM |
| 2-Hexanone | ND | 800 | U | ppbv | 800 | 1/15/2013 12:47 PM |
| 4-Methyl-2-pentanone | ND | 800 | U | ppbv | 800 | 1/15/2013 12:47 PM |
| Acetone | 6,700 | 800 | | ppbv | 800 | 1/15/2013 12:47 PM |
| Benzene | 2,200 | 800 | | ppbv | 800 | 1/15/2013 12:47 PM |
| Benzyl chloride | ND | 800 | U | ppbv | 800 | 1/15/2013 12:47 PM |
| Bromodichloromethane | ND | 800 | U | ppbv | 800 | 1/15/2013 12:47 PM |
| Bromoform | ND | 800 | U | ppbv | 800 | 1/15/2013 12:47 PM |
| Bromomethane | ND | 800 | U | ppbv | 800 | 1/15/2013 12:47 PM |
| Carbon disulfide | ND | 800 | U | ppbv | 800 | 1/15/2013 12:47 PM |
| Carbon tetrachloride | ND | 800 | U | ppbv | 800 | 1/15/2013 12:47 PM |
| Chlorobenzene | ND | 800 | U | ppbv | 800 | 1/15/2013 12:47 PM |
| Chlorodibromomethane | ND | 800 | U | ppbv | 800 | 1/15/2013 12:47 PM |
| Chloroethane | ND | 800 | U | ppbv | 800 | 1/15/2013 12:47 PM |
| Chloroform | ND | 800 | U | ppbv | 800 | 1/15/2013 12:47 PM |
| Chloromethane | ND | 800 | U | ppbv | 800 | 1/15/2013 12:47 PM |
| cis-1,2-Dichloroethene | ND | 800 | U | ppbv | 800 | 1/15/2013 12:47 PM |
| cis-1,3-dichloropropene | ND | 800 | U | ppbv | 800 | 1/15/2013 12:47 PM |

# RTI Laboratories - Analytical Report

**WO#: 1212959**

**Date Reported: 1/17/2013**
**Revision v1**

| | | | |
|---|---|---|---|
| **Client:** | Shaw Environmental & Infrastructure, Inc | **Collection Date:** | 12/18/2012 9:20:00 AM |
| **Project:** | Kirtland AFB | | |
| **Lab ID:** | 1212959-027 | **Matrix:** | Air |
| **Client Sample ID:** | VA2022 | | |

| Analysis | Result | RL | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| Cyclohexane | 5,900 | 1,600 | | ppbv | 800 | 1/15/2013 12:47 PM |
| Dichlorodifluoromethane | ND | 800 | U | ppbv | 800 | 1/15/2013 12:47 PM |
| Ethyl acetate | ND | 800 | U | ppbv | 800 | 1/15/2013 12:47 PM |
| Ethylbenzene | 1,600 | 1,600 | J | ppbv | 800 | 1/15/2013 12:47 PM |
| Heptane | 9,200 | 800 | | ppbv | 800 | 1/15/2013 12:47 PM |
| Hexachlorobutadiene | ND | 1,600 | U | ppbv | 800 | 1/15/2013 12:47 PM |
| m,p-Xylene | 4,100 | 1,600 | | ppbv | 800 | 1/15/2013 12:47 PM |
| Methylene chloride | 3,500 | 4,000 | J | ppbv | 800 | 1/15/2013 12:47 PM |
| n-Hexane | 3,300 | 1,600 | | ppbv | 800 | 1/15/2013 12:47 PM |
| Naphthalene | ND | 800 | U | ppbv | 800 | 1/15/2013 12:47 PM |
| o-Xylene | 1,200 | 800 | | ppbv | 800 | 1/15/2013 12:47 PM |
| Propylene | ND | 800 | U | ppbv | 800 | 1/15/2013 12:47 PM |
| Styrene | ND | 800 | U | ppbv | 800 | 1/15/2013 12:47 PM |
| tert-Butyl Methyl Ether | ND | 800 | U | ppbv | 800 | 1/15/2013 12:47 PM |
| Tetrachloroethene | ND | 800 | U | ppbv | 800 | 1/15/2013 12:47 PM |
| Tetrahydrofuran | ND | 800 | U | ppbv | 800 | 1/15/2013 12:47 PM |
| Toluene | 17,000 | 800 | | ppbv | 800 | 1/15/2013 12:47 PM |
| trans-1,2-Dichloroethene | ND | 800 | U | ppbv | 800 | 1/15/2013 12:47 PM |
| trans-1,3-dichloropropene | ND | 800 | U | ppbv | 800 | 1/15/2013 12:47 PM |
| Trichloroethene | ND | 800 | U | ppbv | 800 | 1/15/2013 12:47 PM |
| Trichlorofluoromethane | ND | 800 | U | ppbv | 800 | 1/15/2013 12:47 PM |
| Vinyl acetate | ND | 800 | U | ppbv | 800 | 1/15/2013 12:47 PM |
| Vinyl chloride | ND | 800 | U | ppbv | 800 | 1/15/2013 12:47 PM |
| Xylenes, Total | 5,400 | 2,400 | | ppbv | 800 | 1/15/2013 12:47 PM |
| Surr: 4-Bromofluorobenzene | 96.3 | 70-130 | | %REC | 800 | 1/15/2013 12:47 PM |
| **Mass APH Air** | **Method:** | | | | | **Analyst: RH3** |
| **Air-Phase Petroleum Hydrocarbons** | | | | | | |
| C5-C8 Aliphatic Hydrocarbons | 600,000 | 94,000 | | µg/m³ | 800 | 1/15/2013 10:39 AM |
| C9-C10 Aromatic Hydrocarbons | ND | 110,000 | U | µg/m³ | 800 | 1/15/2013 10:39 AM |
| C9-C12 Aliphatic Hydrocarbons | 79,000 | 150,000 | J | µg/m³ | 800 | 1/15/2013 10:39 AM |
| Surr: 4-Bromofluorobenzene | 96.7 | 70-130 | | %REC | 800 | 1/15/2013 10:39 AM |

# RTI Laboratories - Analytical Report

**WO#: 1212959**

**Date Reported: 1/17/2013**
**Revision v1**

| | | | |
|---|---|---|---|
| **Client:** | Shaw Environmental & Infrastructure, Inc | **Collection Date:** | 12/18/2012 2:16:00 PM |
| **Project:** | Kirtland AFB | | |
| **Lab ID:** | 1212959-028 | **Matrix:** | Air |
| **Client Sample ID:** | VA2025 | | |

| 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 | 1/11/2013 5:52 PM |
| Carbon Monoxide | ND | 0.10 | U | % v/v | 1 | 1/11/2013 5:52 PM |
| Methane | ND | 0.50 | U | % v/v | 1 | 1/11/2013 5:52 PM |
| Nitrogen | 81 | 0.10 | | % v/v | 1 | 1/11/2013 5:52 PM |
| Oxygen | 22 | 0.10 | | % v/v | 1 | 1/11/2013 5:52 PM |
| **Volatile Organic Compounds** | | **Method: TO-15** | | | | **Analyst: RH3** |
| 1,1,1-Trichloroethane | ND | 400 | U | ppbv | 400 | 1/15/2013 9:20 PM |
| 1,1,2,2-Tetrachloroethane | ND | 400 | U | ppbv | 400 | 1/15/2013 9:20 PM |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ND | 400 | U | ppbv | 400 | 1/15/2013 9:20 PM |
| 1,1,2-Trichloroethane | ND | 400 | U | ppbv | 400 | 1/15/2013 9:20 PM |
| 1,1-Dichloroethane | ND | 400 | U | ppbv | 400 | 1/15/2013 9:20 PM |
| 1,1-Dichloroethene | ND | 400 | U | ppbv | 400 | 1/15/2013 9:20 PM |
| 1,2,4-Trichlorobenzene | ND | 400 | U | ppbv | 400 | 1/15/2013 9:20 PM |
| 1,2,4-Trimethylbenzene | ND | 400 | U | ppbv | 400 | 1/15/2013 9:20 PM |
| 1,2-Dibromoethane | ND | 400 | U | ppbv | 400 | 1/15/2013 9:20 PM |
| 1,2-Dichlorobenzene | ND | 400 | U | ppbv | 400 | 1/15/2013 9:20 PM |
| 1,2-Dichloroethane | ND | 400 | U | ppbv | 400 | 1/15/2013 9:20 PM |
| 1,2-Dichloropropane | ND | 400 | U | ppbv | 400 | 1/15/2013 9:20 PM |
| 1,3,5-Trimethylbenzene | ND | 400 | U | ppbv | 400 | 1/15/2013 9:20 PM |
| 1,3-Butadiene | ND | 400 | U | ppbv | 400 | 1/15/2013 9:20 PM |
| 1,3-Dichlorobenzene | ND | 400 | U | ppbv | 400 | 1/15/2013 9:20 PM |
| 1,4-Dichlorobenzene | ND | 400 | U | ppbv | 400 | 1/15/2013 9:20 PM |
| 2-Butanone | ND | 400 | U | ppbv | 400 | 1/15/2013 9:20 PM |
| 2-Hexanone | ND | 400 | U | ppbv | 400 | 1/15/2013 9:20 PM |
| 4-Methyl-2-pentanone | ND | 400 | U | ppbv | 400 | 1/15/2013 9:20 PM |
| Acetone | ND | 400 | U | ppbv | 400 | 1/15/2013 9:20 PM |
| Benzene | 2,800 | 400 | | ppbv | 400 | 1/15/2013 9:20 PM |
| Benzyl chloride | ND | 400 | U | ppbv | 400 | 1/15/2013 9:20 PM |
| Bromodichloromethane | ND | 400 | U | ppbv | 400 | 1/15/2013 9:20 PM |
| Bromoform | ND | 400 | U | ppbv | 400 | 1/15/2013 9:20 PM |
| Bromomethane | ND | 400 | U | ppbv | 400 | 1/15/2013 9:20 PM |
| Carbon disulfide | ND | 400 | U | ppbv | 400 | 1/15/2013 9:20 PM |
| Carbon tetrachloride | ND | 400 | U | ppbv | 400 | 1/15/2013 9:20 PM |
| Chlorobenzene | ND | 400 | U | ppbv | 400 | 1/15/2013 9:20 PM |
| Chlorodibromomethane | ND | 400 | U | ppbv | 400 | 1/15/2013 9:20 PM |
| Chloroethane | ND | 400 | U | ppbv | 400 | 1/15/2013 9:20 PM |
| Chloroform | ND | 400 | U | ppbv | 400 | 1/15/2013 9:20 PM |
| Chloromethane | ND | 400 | U | ppbv | 400 | 1/15/2013 9:20 PM |
| cis-1,2-Dichloroethene | ND | 400 | U | ppbv | 400 | 1/15/2013 9:20 PM |
| cis-1,3-dichloropropene | ND | 400 | U | ppbv | 400 | 1/15/2013 9:20 PM |

# RTI Laboratories - Analytical Report

**WO#: 1212959**

**Date Reported: 1/17/2013**
**Revision v1**

| | | | |
|---|---|---|---|
| **Client:** | Shaw Environmental & Infrastructure, Inc | **Collection Date:** | 12/18/2012 2:16:00 PM |
| **Project:** | Kirtland AFB | | |
| **Lab ID:** | 1212959-028 | **Matrix:** | Air |
| **Client Sample ID:** | VA2025 | | |

| Analysis | Result | RL | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| Cyclohexane | 8,800 | 1,600 | | ppbv | 800 | 1/16/2013 6:57 PM |
| Dichlorodifluoromethane | ND | 400 | U | ppbv | 400 | 1/15/2013 9:20 PM |
| Ethyl acetate | ND | 400 | U | ppbv | 400 | 1/15/2013 9:20 PM |
| Ethylbenzene | 440 | 800 | J | ppbv | 400 | 1/15/2013 9:20 PM |
| Heptane | 10,000 | 400 | | ppbv | 400 | 1/15/2013 9:20 PM |
| Hexachlorobutadiene | ND | 800 | U | ppbv | 400 | 1/15/2013 9:20 PM |
| m,p-Xylene | 1,300 | 800 | | ppbv | 400 | 1/15/2013 9:20 PM |
| Methylene chloride | ND | 2,000 | U | ppbv | 400 | 1/15/2013 9:20 PM |
| n-Hexane | 6,200 | 1,600 | | ppbv | 800 | 1/16/2013 6:57 PM |
| Naphthalene | ND | 400 | U | ppbv | 400 | 1/15/2013 9:20 PM |
| o-Xylene | ND | 400 | U | ppbv | 400 | 1/15/2013 9:20 PM |
| Propylene | ND | 400 | U | ppbv | 400 | 1/15/2013 9:20 PM |
| Styrene | ND | 400 | U | ppbv | 400 | 1/15/2013 9:20 PM |
| tert-Butyl Methyl Ether | ND | 400 | U | ppbv | 400 | 1/15/2013 9:20 PM |
| Tetrachloroethene | ND | 400 | U | ppbv | 400 | 1/15/2013 9:20 PM |
| Tetrahydrofuran | ND | 400 | U | ppbv | 400 | 1/15/2013 9:20 PM |
| Toluene | 9,100 | 400 | | ppbv | 400 | 1/15/2013 9:20 PM |
| trans-1,2-Dichloroethene | ND | 400 | U | ppbv | 400 | 1/15/2013 9:20 PM |
| trans-1,3-dichloropropene | ND | 400 | U | ppbv | 400 | 1/15/2013 9:20 PM |
| Trichloroethene | ND | 400 | U | ppbv | 400 | 1/15/2013 9:20 PM |
| Trichlorofluoromethane | ND | 400 | U | ppbv | 400 | 1/15/2013 9:20 PM |
| Vinyl acetate | ND | 400 | U | ppbv | 400 | 1/15/2013 9:20 PM |
| Vinyl chloride | ND | 400 | U | ppbv | 400 | 1/15/2013 9:20 PM |
| Xylenes, Total | 1,300 | 1,200 | | ppbv | 400 | 1/15/2013 9:20 PM |
| Surr: 4-Bromofluorobenzene | 99.0 | 70-130 | | %REC | 400 | 1/15/2013 9:20 PM |
| **Mass APH Air** | **Method:** | | | | | **Analyst: RH3** |
| **Air-Phase Petroleum Hydrocarbons** | | | | | | |
| C5-C8 Aliphatic Hydrocarbons | 3,500,000 | 940,000 | | µg/m³ | 8000 | 1/16/2013 9:42 PM |
| C9-C10 Aromatic Hydrocarbons | ND | 1,100,000 | U | µg/m³ | 8000 | 1/16/2013 9:42 PM |
| C9-C12 Aliphatic Hydrocarbons | ND | 1,500,000 | U | µg/m³ | 8000 | 1/16/2013 9:42 PM |
| Surr: 4-Bromofluorobenzene | 95.4 | 70-130 | | %REC | 8000 | 1/16/2013 9:42 PM |

# RTI Laboratories - Analytical Report

**WO#: 1212959**

**Date Reported: 1/17/2013**
**Revision v1**

| | | | |
|---|---|---|---|
| **Client:** | Shaw Environmental & Infrastructure, Inc | **Collection Date:** | 12/18/2012 11:21:00 AM |
| **Project:** | Kirtland AFB | | |
| **Lab ID:** | 1212959-029 | **Matrix:** | Air |
| **Client Sample ID:** | VA2027 | | |

| Analysis | Result | RL | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **Noncondensable Gases and Light Hydrocarbons** | | **Method: ASTM-D2504** | | | | **Analyst: cr** |
| Carbon dioxide | 0.67 | 0.10 | | % v/v | 1 | 1/11/2013 6:14 PM |
| Carbon Monoxide | ND | 0.10 | U | % v/v | 1 | 1/11/2013 6:14 PM |
| Methane | ND | 0.50 | U | % v/v | 1 | 1/11/2013 6:14 PM |
| Nitrogen | 85 | 0.10 | | % v/v | 1 | 1/11/2013 6:14 PM |
| Oxygen | 19 | 0.10 | | % v/v | 1 | 1/11/2013 6:14 PM |
| **Volatile Organic Compounds** | | **Method: TO-15** | | | | **Analyst: RH3** |
| 1,1,1-Trichloroethane | ND | 400 | U | ppbv | 400 | 1/15/2013 5:30 PM |
| 1,1,2,2-Tetrachloroethane | ND | 400 | U | ppbv | 400 | 1/15/2013 5:30 PM |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ND | 400 | U | ppbv | 400 | 1/15/2013 5:30 PM |
| 1,1,2-Trichloroethane | ND | 400 | U | ppbv | 400 | 1/15/2013 5:30 PM |
| 1,1-Dichloroethane | ND | 400 | U | ppbv | 400 | 1/15/2013 5:30 PM |
| 1,1-Dichloroethene | ND | 400 | U | ppbv | 400 | 1/15/2013 5:30 PM |
| 1,2,4-Trichlorobenzene | ND | 400 | U | ppbv | 400 | 1/15/2013 5:30 PM |
| 1,2,4-Trimethylbenzene | ND | 400 | U | ppbv | 400 | 1/15/2013 5:30 PM |
| 1,2-Dibromoethane | ND | 400 | U | ppbv | 400 | 1/15/2013 5:30 PM |
| 1,2-Dichlorobenzene | ND | 400 | U | ppbv | 400 | 1/15/2013 5:30 PM |
| 1,2-Dichloroethane | ND | 400 | U | ppbv | 400 | 1/15/2013 5:30 PM |
| 1,2-Dichloropropane | ND | 400 | U | ppbv | 400 | 1/15/2013 5:30 PM |
| 1,3,5-Trimethylbenzene | ND | 400 | U | ppbv | 400 | 1/15/2013 5:30 PM |
| 1,3-Butadiene | ND | 400 | U | ppbv | 400 | 1/15/2013 5:30 PM |
| 1,3-Dichlorobenzene | ND | 400 | U | ppbv | 400 | 1/15/2013 5:30 PM |
| 1,4-Dichlorobenzene | ND | 400 | U | ppbv | 400 | 1/15/2013 5:30 PM |
| 2-Butanone | ND | 400 | U | ppbv | 400 | 1/15/2013 5:30 PM |
| 2-Hexanone | ND | 400 | U | ppbv | 400 | 1/15/2013 5:30 PM |
| 4-Methyl-2-pentanone | ND | 400 | U | ppbv | 400 | 1/15/2013 5:30 PM |
| Acetone | 1,000 | 400 | | ppbv | 400 | 1/15/2013 5:30 PM |
| Benzene | 10,000 | 400 | | ppbv | 400 | 1/15/2013 5:30 PM |
| Benzyl chloride | ND | 400 | U | ppbv | 400 | 1/15/2013 5:30 PM |
| Bromodichloromethane | ND | 400 | U | ppbv | 400 | 1/15/2013 5:30 PM |
| Bromoform | ND | 400 | U | ppbv | 400 | 1/15/2013 5:30 PM |
| Bromomethane | ND | 400 | U | ppbv | 400 | 1/15/2013 5:30 PM |
| Carbon disulfide | ND | 400 | U | ppbv | 400 | 1/15/2013 5:30 PM |
| Carbon tetrachloride | ND | 400 | U | ppbv | 400 | 1/15/2013 5:30 PM |
| Chlorobenzene | ND | 400 | U | ppbv | 400 | 1/15/2013 5:30 PM |
| Chlorodibromomethane | ND | 400 | U | ppbv | 400 | 1/15/2013 5:30 PM |
| Chloroethane | ND | 400 | U | ppbv | 400 | 1/15/2013 5:30 PM |
| Chloroform | ND | 400 | U | ppbv | 400 | 1/15/2013 5:30 PM |
| Chloromethane | ND | 400 | U | ppbv | 400 | 1/15/2013 5:30 PM |
| cis-1,2-Dichloroethene | ND | 400 | U | ppbv | 400 | 1/15/2013 5:30 PM |
| cis-1,3-dichloropropene | ND | 400 | U | ppbv | 400 | 1/15/2013 5:30 PM |

# RTI Laboratories - Analytical Report

**WO#: 1212959**

**Date Reported: 1/17/2013**
**Revision v1**

| | | | |
|---|---|---|---|
| **Client:** | Shaw Environmental & Infrastructure, Inc | **Collection Date:** | 12/18/2012 11:21:00 AM |
| **Project:** | Kirtland AFB | | |
| **Lab ID:** | 1212959-029 | **Matrix:** | Air |
| **Client Sample ID:** | VA2027 | | |

| Analysis | Result | RL | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| Cyclohexane | 3,100 | 800 | | ppbv | 400 | 1/15/2013 5:30 PM |
| Dichlorodifluoromethane | ND | 400 | U | ppbv | 400 | 1/15/2013 5:30 PM |
| Ethyl acetate | ND | 400 | U | ppbv | 400 | 1/15/2013 5:30 PM |
| Ethylbenzene | 700 | 800 | J | ppbv | 400 | 1/15/2013 5:30 PM |
| Heptane | 2,100 | 400 | | ppbv | 400 | 1/15/2013 5:30 PM |
| Hexachlorobutadiene | ND | 800 | U | ppbv | 400 | 1/15/2013 5:30 PM |
| m,p-Xylene | 1,700 | 800 | | ppbv | 400 | 1/15/2013 5:30 PM |
| Methylene chloride | 1,700 | 2,000 | J | ppbv | 400 | 1/15/2013 5:30 PM |
| n-Hexane | 2,800 | 800 | | ppbv | 400 | 1/15/2013 5:30 PM |
| Naphthalene | ND | 400 | U | ppbv | 400 | 1/15/2013 5:30 PM |
| o-Xylene | 510 | 400 | | ppbv | 400 | 1/15/2013 5:30 PM |
| Propylene | ND | 400 | U | ppbv | 400 | 1/15/2013 5:30 PM |
| Styrene | ND | 400 | U | ppbv | 400 | 1/15/2013 5:30 PM |
| tert-Butyl Methyl Ether | ND | 400 | U | ppbv | 400 | 1/15/2013 5:30 PM |
| Tetrachloroethene | ND | 400 | U | ppbv | 400 | 1/15/2013 5:30 PM |
| Tetrahydrofuran | ND | 400 | U | ppbv | 400 | 1/15/2013 5:30 PM |
| Toluene | 19,000 | 400 | | ppbv | 400 | 1/15/2013 5:30 PM |
| trans-1,2-Dichloroethene | ND | 400 | U | ppbv | 400 | 1/15/2013 5:30 PM |
| trans-1,3-dichloropropene | ND | 400 | U | ppbv | 400 | 1/15/2013 5:30 PM |
| Trichloroethene | ND | 400 | U | ppbv | 400 | 1/15/2013 5:30 PM |
| Trichlorofluoromethane | ND | 400 | U | ppbv | 400 | 1/15/2013 5:30 PM |
| Vinyl acetate | ND | 400 | U | ppbv | 400 | 1/15/2013 5:30 PM |
| Vinyl chloride | ND | 400 | U | ppbv | 400 | 1/15/2013 5:30 PM |
| Xylenes, Total | 2,200 | 1,200 | | ppbv | 400 | 1/15/2013 5:30 PM |
| Surr: 4-Bromofluorobenzene | 97.6 | 70-130 | | %REC | 400 | 1/15/2013 5:30 PM |
| **Mass APH Air** | **Method:** | | | | | **Analyst: RH3** |
| **Air-Phase Petroleum Hydrocarbons** | | | | | | |
| C5-C8 Aliphatic Hydrocarbons | 1,700,000 | 190,000 | | µg/m³ | 1600 | 1/16/2013 5:13 PM |
| C9-C10 Aromatic Hydrocarbons | ND | 210,000 | U | µg/m³ | 1600 | 1/16/2013 5:13 PM |
| C9-C12 Aliphatic Hydrocarbons | ND | 300,000 | U | µg/m³ | 1600 | 1/16/2013 5:13 PM |
| Surr: 4-Bromofluorobenzene | 95.6 | 70-130 | | %REC | 1600 | 1/16/2013 5:13 PM |

# RTI Laboratories - Analytical Report

**WO#: 1212959**

**Date Reported: 1/17/2013**
**Revision v1**

| | | | |
|---|---|---|---|
| **Client:** | Shaw Environmental & Infrastructure, Inc | **Collection Date:** | 12/17/2012 12:37:00 PM |
| **Project:** | Kirtland AFB | | |
| **Lab ID:** | 1212959-030 | **Matrix:** | Air |
| **Client Sample ID:** | VA2172 | | |

| 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 | 1/14/2013 12:27 PM |
| Carbon Monoxide | ND | 0.10 | U | % v/v | 1 | 1/14/2013 12:27 PM |
| Methane | ND | 0.50 | U | % v/v | 1 | 1/14/2013 12:27 PM |
| Nitrogen | 83 | 0.10 | | % v/v | 1 | 1/14/2013 12:27 PM |
| Oxygen | 23 | 0.10 | | % v/v | 1 | 1/14/2013 12:27 PM |
| **Volatile Organic Compounds** | | **Method: TO-15** | | | | **Analyst: RH3** |
| 1,1,1-Trichloroethane | ND | 400 | U | ppbv | 400 | 1/14/2013 8:24 PM |
| 1,1,2,2-Tetrachloroethane | ND | 400 | U | ppbv | 400 | 1/14/2013 8:24 PM |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ND | 400 | U | ppbv | 400 | 1/14/2013 8:24 PM |
| 1,1,2-Trichloroethane | ND | 400 | U | ppbv | 400 | 1/14/2013 8:24 PM |
| 1,1-Dichloroethane | ND | 400 | U | ppbv | 400 | 1/14/2013 8:24 PM |
| 1,1-Dichloroethene | ND | 400 | U | ppbv | 400 | 1/14/2013 8:24 PM |
| 1,2,4-Trichlorobenzene | ND | 400 | U | ppbv | 400 | 1/14/2013 8:24 PM |
| 1,2,4-Trimethylbenzene | ND | 400 | U | ppbv | 400 | 1/14/2013 8:24 PM |
| 1,2-Dibromoethane | ND | 400 | U | ppbv | 400 | 1/14/2013 8:24 PM |
| 1,2-Dichlorobenzene | ND | 400 | U | ppbv | 400 | 1/14/2013 8:24 PM |
| 1,2-Dichloroethane | ND | 400 | U | ppbv | 400 | 1/14/2013 8:24 PM |
| 1,2-Dichloropropane | ND | 400 | U | ppbv | 400 | 1/14/2013 8:24 PM |
| 1,3,5-Trimethylbenzene | ND | 400 | U | ppbv | 400 | 1/14/2013 8:24 PM |
| 1,3-Butadiene | ND | 400 | U | ppbv | 400 | 1/14/2013 8:24 PM |
| 1,3-Dichlorobenzene | ND | 400 | U | ppbv | 400 | 1/14/2013 8:24 PM |
| 1,4-Dichlorobenzene | ND | 400 | U | ppbv | 400 | 1/14/2013 8:24 PM |
| 2-Butanone | ND | 400 | U | ppbv | 400 | 1/14/2013 8:24 PM |
| 2-Hexanone | ND | 400 | U | ppbv | 400 | 1/14/2013 8:24 PM |
| 4-Methyl-2-pentanone | ND | 400 | U | ppbv | 400 | 1/14/2013 8:24 PM |
| Acetone | 2,300 | 400 | | ppbv | 400 | 1/14/2013 8:24 PM |
| Benzene | 1,600 | 400 | | ppbv | 400 | 1/14/2013 8:24 PM |
| Benzyl chloride | ND | 400 | U | ppbv | 400 | 1/14/2013 8:24 PM |
| Bromodichloromethane | ND | 400 | U | ppbv | 400 | 1/14/2013 8:24 PM |
| Bromoform | ND | 400 | U | ppbv | 400 | 1/14/2013 8:24 PM |
| Bromomethane | ND | 400 | U | ppbv | 400 | 1/14/2013 8:24 PM |
| Carbon disulfide | ND | 400 | U | ppbv | 400 | 1/14/2013 8:24 PM |
| Carbon tetrachloride | ND | 400 | U | ppbv | 400 | 1/14/2013 8:24 PM |
| Chlorobenzene | ND | 400 | U | ppbv | 400 | 1/14/2013 8:24 PM |
| Chlorodibromomethane | ND | 400 | U | ppbv | 400 | 1/14/2013 8:24 PM |
| Chloroethane | ND | 400 | U | ppbv | 400 | 1/14/2013 8:24 PM |
| Chloroform | ND | 400 | U | ppbv | 400 | 1/14/2013 8:24 PM |
| Chloromethane | ND | 400 | U | ppbv | 400 | 1/14/2013 8:24 PM |
| cis-1,2-Dichloroethene | ND | 400 | U | ppbv | 400 | 1/14/2013 8:24 PM |
| cis-1,3-dichloropropene | ND | 400 | U | ppbv | 400 | 1/14/2013 8:24 PM |

# RTI Laboratories - Analytical Report

**WO#: 1212959**

**Date Reported: 1/17/2013**
**Revision v1**

| | | | |
|---|---|---|---|
| **Client:** | Shaw Environmental & Infrastructure, Inc | **Collection Date:** | 12/17/2012 12:37:00 PM |
| **Project:** | Kirtland AFB | | |
| **Lab ID:** | 1212959-030 | **Matrix:** | Air |
| **Client Sample ID:** | VA2172 | | |

| Analysis | Result | RL | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| Cyclohexane | 1,100 | 800 | | ppbv | 400 | 1/14/2013 8:24 PM |
| Dichlorodifluoromethane | ND | 400 | U | ppbv | 400 | 1/14/2013 8:24 PM |
| Ethyl acetate | ND | 400 | U | ppbv | 400 | 1/14/2013 8:24 PM |
| Ethylbenzene | ND | 800 | U | ppbv | 400 | 1/14/2013 8:24 PM |
| Heptane | 1,200 | 400 | | ppbv | 400 | 1/14/2013 8:24 PM |
| Hexachlorobutadiene | ND | 800 | U | ppbv | 400 | 1/14/2013 8:24 PM |
| m,p-Xylene | 440 | 800 | J | ppbv | 400 | 1/14/2013 8:24 PM |
| Methylene chloride | 2,500 | 2,000 | | ppbv | 400 | 1/14/2013 8:24 PM |
| n-Hexane | 1,100 | 800 | | ppbv | 400 | 1/14/2013 8:24 PM |
| Naphthalene | ND | 400 | U | ppbv | 400 | 1/14/2013 8:24 PM |
| o-Xylene | ND | 400 | U | ppbv | 400 | 1/14/2013 8:24 PM |
| Propylene | ND | 400 | U | ppbv | 400 | 1/14/2013 8:24 PM |
| Styrene | ND | 400 | U | ppbv | 400 | 1/14/2013 8:24 PM |
| tert-Butyl Methyl Ether | ND | 400 | U | ppbv | 400 | 1/14/2013 8:24 PM |
| Tetrachloroethene | ND | 400 | U | ppbv | 400 | 1/14/2013 8:24 PM |
| Tetrahydrofuran | ND | 400 | U | ppbv | 400 | 1/14/2013 8:24 PM |
| Toluene | 5,500 | 400 | | ppbv | 400 | 1/14/2013 8:24 PM |
| trans-1,2-Dichloroethene | ND | 400 | U | ppbv | 400 | 1/14/2013 8:24 PM |
| trans-1,3-dichloropropene | ND | 400 | U | ppbv | 400 | 1/14/2013 8:24 PM |
| Trichloroethene | ND | 400 | U | ppbv | 400 | 1/14/2013 8:24 PM |
| Trichlorofluoromethane | ND | 400 | U | ppbv | 400 | 1/14/2013 8:24 PM |
| Vinyl acetate | ND | 400 | U | ppbv | 400 | 1/14/2013 8:24 PM |
| Vinyl chloride | ND | 400 | U | ppbv | 400 | 1/14/2013 8:24 PM |
| Xylenes, Total | 440 | 1,200 | J | ppbv | 400 | 1/14/2013 8:24 PM |
| Surr: 4-Bromofluorobenzene | 97.2 | 70-130 | | %REC | 400 | 1/14/2013 8:24 PM |
| **Mass APH Air** | **Method:** | | | | | **Analyst: RH3** |
| **Air-Phase Petroleum Hydrocarbons** | | | | | | |
| C5-C8 Aliphatic Hydrocarbons | 130,000 | 47,000 | | µg/m³ | 400 | 1/11/2013 9:03 PM |
| C9-C10 Aromatic Hydrocarbons | ND | 53,000 | U | µg/m³ | 400 | 1/11/2013 9:03 PM |
| C9-C12 Aliphatic Hydrocarbons | ND | 76,000 | U | µg/m³ | 400 | 1/11/2013 9:03 PM |
| Surr: 4-Bromofluorobenzene | 99.7 | 70-130 | | %REC | 400 | 1/11/2013 9:03 PM |

# RTI Laboratories - Analytical Report

**WO#: 1212959**

**Date Reported: 1/17/2013**
**Revision v1**

| | | | |
|---|---|---|---|
| **Client:** | Shaw Environmental & Infrastructure, Inc | **Collection Date:** | 12/17/2012 1:06:00 PM |
| **Project:** | Kirtland AFB | | |
| **Lab ID:** | 1212959-031 | **Matrix:** | Air |
| **Client Sample ID:** | VA2173 | | |

| Analysis | Result | RL | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **Noncondensable Gases and Light Hydrocarbons** | | **Method: ASTM-D2504** | | | | **Analyst: cr** |
| Carbon dioxide | 0.051 | 0.10 | J | % v/v | 1 | 1/14/2013 12:47 PM |
| Carbon Monoxide | ND | 0.10 | U | % v/v | 1 | 1/14/2013 12:47 PM |
| Methane | ND | 0.50 | U | % v/v | 1 | 1/14/2013 12:47 PM |
| Nitrogen | 83 | 0.10 | | % v/v | 1 | 1/14/2013 12:47 PM |
| Oxygen | 23 | 0.10 | | % v/v | 1 | 1/14/2013 12:47 PM |
| **Volatile Organic Compounds** | | **Method: TO-15** | | | | **Analyst: RH3** |
| 1,1,1-Trichloroethane | ND | 400 | U | ppbv | 400 | 1/14/2013 4:31 PM |
| 1,1,2,2-Tetrachloroethane | ND | 400 | U | ppbv | 400 | 1/14/2013 4:31 PM |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ND | 400 | U | ppbv | 400 | 1/14/2013 4:31 PM |
| 1,1,2-Trichloroethane | ND | 400 | U | ppbv | 400 | 1/14/2013 4:31 PM |
| 1,1-Dichloroethane | ND | 400 | U | ppbv | 400 | 1/14/2013 4:31 PM |
| 1,1-Dichloroethene | ND | 400 | U | ppbv | 400 | 1/14/2013 4:31 PM |
| 1,2,4-Trichlorobenzene | ND | 400 | U | ppbv | 400 | 1/14/2013 4:31 PM |
| 1,2,4-Trimethylbenzene | ND | 400 | U | ppbv | 400 | 1/14/2013 4:31 PM |
| 1,2-Dibromoethane | ND | 400 | U | ppbv | 400 | 1/14/2013 4:31 PM |
| 1,2-Dichlorobenzene | ND | 400 | U | ppbv | 400 | 1/14/2013 4:31 PM |
| 1,2-Dichloroethane | ND | 400 | U | ppbv | 400 | 1/14/2013 4:31 PM |
| 1,2-Dichloropropane | ND | 400 | U | ppbv | 400 | 1/14/2013 4:31 PM |
| 1,3,5-Trimethylbenzene | ND | 400 | U | ppbv | 400 | 1/14/2013 4:31 PM |
| 1,3-Butadiene | ND | 400 | U | ppbv | 400 | 1/14/2013 4:31 PM |
| 1,3-Dichlorobenzene | ND | 400 | U | ppbv | 400 | 1/14/2013 4:31 PM |
| 1,4-Dichlorobenzene | ND | 400 | U | ppbv | 400 | 1/14/2013 4:31 PM |
| 2-Butanone | ND | 400 | U | ppbv | 400 | 1/14/2013 4:31 PM |
| 2-Hexanone | ND | 400 | U | ppbv | 400 | 1/14/2013 4:31 PM |
| 4-Methyl-2-pentanone | ND | 400 | U | ppbv | 400 | 1/14/2013 4:31 PM |
| Acetone | 2,300 | 400 | | ppbv | 400 | 1/14/2013 4:31 PM |
| Benzene | 1,200 | 400 | | ppbv | 400 | 1/14/2013 4:31 PM |
| Benzyl chloride | ND | 400 | U | ppbv | 400 | 1/14/2013 4:31 PM |
| Bromodichloromethane | ND | 400 | U | ppbv | 400 | 1/14/2013 4:31 PM |
| Bromoform | ND | 400 | U | ppbv | 400 | 1/14/2013 4:31 PM |
| Bromomethane | ND | 400 | U | ppbv | 400 | 1/14/2013 4:31 PM |
| Carbon disulfide | ND | 400 | U | ppbv | 400 | 1/14/2013 4:31 PM |
| Carbon tetrachloride | ND | 400 | U | ppbv | 400 | 1/14/2013 4:31 PM |
| Chlorobenzene | ND | 400 | U | ppbv | 400 | 1/14/2013 4:31 PM |
| Chlorodibromomethane | ND | 400 | U | ppbv | 400 | 1/14/2013 4:31 PM |
| Chloroethane | ND | 400 | U | ppbv | 400 | 1/14/2013 4:31 PM |
| Chloroform | ND | 400 | U | ppbv | 400 | 1/14/2013 4:31 PM |
| Chloromethane | ND | 400 | U | ppbv | 400 | 1/14/2013 4:31 PM |
| cis-1,2-Dichloroethene | ND | 400 | U | ppbv | 400 | 1/14/2013 4:31 PM |
| cis-1,3-dichloropropene | ND | 400 | U | ppbv | 400 | 1/14/2013 4:31 PM |

# RTI Laboratories - Analytical Report

**WO#: 1212959**

**Date Reported: 1/17/2013**
**Revision v1**

| | | | |
|---|---|---|---|
| **Client:** | Shaw Environmental & Infrastructure, Inc | **Collection Date:** | 12/17/2012 1:06:00 PM |
| **Project:** | Kirtland AFB | | |
| **Lab ID:** | 1212959-031 | **Matrix:** | Air |
| **Client Sample ID:** | VA2173 | | |

| Analysis | Result | RL | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| Cyclohexane | 910 | 800 | | ppbv | 400 | 1/14/2013 4:31 PM |
| Dichlorodifluoromethane | ND | 400 | U | ppbv | 400 | 1/14/2013 4:31 PM |
| Ethyl acetate | ND | 400 | U | ppbv | 400 | 1/14/2013 4:31 PM |
| Ethylbenzene | ND | 800 | U | ppbv | 400 | 1/14/2013 4:31 PM |
| Heptane | 980 | 400 | | ppbv | 400 | 1/14/2013 4:31 PM |
| Hexachlorobutadiene | ND | 800 | U | ppbv | 400 | 1/14/2013 4:31 PM |
| m,p-Xylene | 460 | 800 | J | ppbv | 400 | 1/14/2013 4:31 PM |
| Methylene chloride | 2,600 | 2,000 | | ppbv | 400 | 1/14/2013 4:31 PM |
| n-Hexane | 980 | 800 | | ppbv | 400 | 1/14/2013 4:31 PM |
| Naphthalene | ND | 400 | U | ppbv | 400 | 1/14/2013 4:31 PM |
| o-Xylene | ND | 400 | U | ppbv | 400 | 1/14/2013 4:31 PM |
| Propylene | ND | 400 | U | ppbv | 400 | 1/14/2013 4:31 PM |
| Styrene | ND | 400 | U | ppbv | 400 | 1/14/2013 4:31 PM |
| tert-Butyl Methyl Ether | ND | 400 | U | ppbv | 400 | 1/14/2013 4:31 PM |
| Tetrachloroethene | ND | 400 | U | ppbv | 400 | 1/14/2013 4:31 PM |
| Tetrahydrofuran | ND | 400 | U | ppbv | 400 | 1/14/2013 4:31 PM |
| Toluene | 4,800 | 400 | | ppbv | 400 | 1/14/2013 4:31 PM |
| trans-1,2-Dichloroethene | ND | 400 | U | ppbv | 400 | 1/14/2013 4:31 PM |
| trans-1,3-dichloropropene | ND | 400 | U | ppbv | 400 | 1/14/2013 4:31 PM |
| Trichloroethene | ND | 400 | U | ppbv | 400 | 1/14/2013 4:31 PM |
| Trichlorofluoromethane | ND | 400 | U | ppbv | 400 | 1/14/2013 4:31 PM |
| Vinyl acetate | ND | 400 | U | ppbv | 400 | 1/14/2013 4:31 PM |
| Vinyl chloride | ND | 400 | U | ppbv | 400 | 1/14/2013 4:31 PM |
| Xylenes, Total | 460 | 1,200 | J | ppbv | 400 | 1/14/2013 4:31 PM |
| Surr: 4-Bromofluorobenzene | 97.0 | 70-130 | | %REC | 400 | 1/14/2013 4:31 PM |
| **Mass APH Air** | **Method:** | | | | | **Analyst: RH3** |
| **Air-Phase Petroleum Hydrocarbons** | | | | | | |
| C5-C8 Aliphatic Hydrocarbons | 130,000 | 47,000 | | µg/m³ | 400 | 1/15/2013 11:28 AM |
| C9-C10 Aromatic Hydrocarbons | ND | 53,000 | U | µg/m³ | 400 | 1/15/2013 11:28 AM |
| C9-C12 Aliphatic Hydrocarbons | 19,000 | 76,000 | J | µg/m³ | 400 | 1/15/2013 11:28 AM |
| Surr: 4-Bromofluorobenzene | 95.6 | 70-130 | | %REC | 400 | 1/15/2013 11:28 AM |

# RTI Laboratories - Analytical Report

**WO#: 1212959**

**Date Reported: 1/17/2013**
**Revision v1**

| | | | |
|---|---|---|---|
| **Client:** | Shaw Environmental & Infrastructure, Inc | **Collection Date:** | 12/17/2012 1:06:00 PM |
| **Project:** | Kirtland AFB | | |
| **Lab ID:** | 1212959-032 | **Matrix:** | Air |
| **Client Sample ID:** | VA2174 | | |

| Analysis | Result | RL | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **Noncondensable Gases and Light Hydrocarbons** | | **Method: ASTM-D2504** | | | | **Analyst: cr** |
| Carbon dioxide | 0.045 | 0.10 | J | % v/v | 1 | 1/14/2013 1:04 PM |
| Carbon Monoxide | ND | 0.10 | U | % v/v | 1 | 1/14/2013 1:04 PM |
| Methane | ND | 0.50 | U | % v/v | 1 | 1/14/2013 1:04 PM |
| Nitrogen | 83 | 0.10 | | % v/v | 1 | 1/14/2013 1:04 PM |
| Oxygen | 23 | 0.10 | | % v/v | 1 | 1/14/2013 1:04 PM |
| **Volatile Organic Compounds** | | **Method: TO-15** | | | | **Analyst: RH3** |
| 1,1,1-Trichloroethane | ND | 400 | U | ppbv | 400 | 1/14/2013 5:20 PM |
| 1,1,2,2-Tetrachloroethane | ND | 400 | U | ppbv | 400 | 1/14/2013 5:20 PM |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ND | 400 | U | ppbv | 400 | 1/14/2013 5:20 PM |
| 1,1,2-Trichloroethane | ND | 400 | U | ppbv | 400 | 1/14/2013 5:20 PM |
| 1,1-Dichloroethane | ND | 400 | U | ppbv | 400 | 1/14/2013 5:20 PM |
| 1,1-Dichloroethene | ND | 400 | U | ppbv | 400 | 1/14/2013 5:20 PM |
| 1,2,4-Trichlorobenzene | ND | 400 | U | ppbv | 400 | 1/14/2013 5:20 PM |
| 1,2,4-Trimethylbenzene | ND | 400 | U | ppbv | 400 | 1/14/2013 5:20 PM |
| 1,2-Dibromoethane | ND | 400 | U | ppbv | 400 | 1/14/2013 5:20 PM |
| 1,2-Dichlorobenzene | ND | 400 | U | ppbv | 400 | 1/14/2013 5:20 PM |
| 1,2-Dichloroethane | ND | 400 | U | ppbv | 400 | 1/14/2013 5:20 PM |
| 1,2-Dichloropropane | ND | 400 | U | ppbv | 400 | 1/14/2013 5:20 PM |
| 1,3,5-Trimethylbenzene | ND | 400 | U | ppbv | 400 | 1/14/2013 5:20 PM |
| 1,3-Butadiene | ND | 400 | U | ppbv | 400 | 1/14/2013 5:20 PM |
| 1,3-Dichlorobenzene | ND | 400 | U | ppbv | 400 | 1/14/2013 5:20 PM |
| 1,4-Dichlorobenzene | ND | 400 | U | ppbv | 400 | 1/14/2013 5:20 PM |
| 2-Butanone | ND | 400 | U | ppbv | 400 | 1/14/2013 5:20 PM |
| 2-Hexanone | ND | 400 | U | ppbv | 400 | 1/14/2013 5:20 PM |
| 4-Methyl-2-pentanone | ND | 400 | U | ppbv | 400 | 1/14/2013 5:20 PM |
| Acetone | 2,500 | 400 | | ppbv | 400 | 1/14/2013 5:20 PM |
| Benzene | 1,500 | 400 | | ppbv | 400 | 1/14/2013 5:20 PM |
| Benzyl chloride | ND | 400 | U | ppbv | 400 | 1/14/2013 5:20 PM |
| Bromodichloromethane | ND | 400 | U | ppbv | 400 | 1/14/2013 5:20 PM |
| Bromoform | ND | 400 | U | ppbv | 400 | 1/14/2013 5:20 PM |
| Bromomethane | ND | 400 | U | ppbv | 400 | 1/14/2013 5:20 PM |
| Carbon disulfide | ND | 400 | U | ppbv | 400 | 1/14/2013 5:20 PM |
| Carbon tetrachloride | ND | 400 | U | ppbv | 400 | 1/14/2013 5:20 PM |
| Chlorobenzene | ND | 400 | U | ppbv | 400 | 1/14/2013 5:20 PM |
| Chlorodibromomethane | ND | 400 | U | ppbv | 400 | 1/14/2013 5:20 PM |
| Chloroethane | ND | 400 | U | ppbv | 400 | 1/14/2013 5:20 PM |
| Chloroform | ND | 400 | U | ppbv | 400 | 1/14/2013 5:20 PM |
| Chloromethane | ND | 400 | U | ppbv | 400 | 1/14/2013 5:20 PM |
| cis-1,2-Dichloroethene | ND | 400 | U | ppbv | 400 | 1/14/2013 5:20 PM |
| cis-1,3-dichloropropene | ND | 400 | U | ppbv | 400 | 1/14/2013 5:20 PM |

# RTI Laboratories - Analytical Report

**WO#: 1212959**

**Date Reported: 1/17/2013**
**Revision v1**

| | | | |
|---|---|---|---|
| **Client:** | Shaw Environmental & Infrastructure, Inc | **Collection Date:** | 12/17/2012 1:06:00 PM |
| **Project:** | Kirtland AFB | | |
| **Lab ID:** | 1212959-032 | **Matrix:** | Air |
| **Client Sample ID:** | VA2174 | | |

| Analysis | Result | RL | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| Cyclohexane | 1,300 | 800 | | ppbv | 400 | 1/14/2013 5:20 PM |
| Dichlorodifluoromethane | ND | 400 | U | ppbv | 400 | 1/14/2013 5:20 PM |
| Ethyl acetate | ND | 400 | U | ppbv | 400 | 1/14/2013 5:20 PM |
| Ethylbenzene | ND | 800 | U | ppbv | 400 | 1/14/2013 5:20 PM |
| Heptane | 1,300 | 400 | | ppbv | 400 | 1/14/2013 5:20 PM |
| Hexachlorobutadiene | ND | 800 | U | ppbv | 400 | 1/14/2013 5:20 PM |
| m,p-Xylene | 530 | 800 | J | ppbv | 400 | 1/14/2013 5:20 PM |
| Methylene chloride | 4,500 | 2,000 | | ppbv | 400 | 1/14/2013 5:20 PM |
| n-Hexane | 1,700 | 800 | | ppbv | 400 | 1/14/2013 5:20 PM |
| Naphthalene | ND | 400 | U | ppbv | 400 | 1/14/2013 5:20 PM |
| o-Xylene | ND | 400 | U | ppbv | 400 | 1/14/2013 5:20 PM |
| Propylene | ND | 400 | U | ppbv | 400 | 1/14/2013 5:20 PM |
| Styrene | ND | 400 | U | ppbv | 400 | 1/14/2013 5:20 PM |
| tert-Butyl Methyl Ether | ND | 400 | U | ppbv | 400 | 1/14/2013 5:20 PM |
| Tetrachloroethene | ND | 400 | U | ppbv | 400 | 1/14/2013 5:20 PM |
| Tetrahydrofuran | ND | 400 | U | ppbv | 400 | 1/14/2013 5:20 PM |
| Toluene | 5,600 | 400 | | ppbv | 400 | 1/14/2013 5:20 PM |
| trans-1,2-Dichloroethene | ND | 400 | U | ppbv | 400 | 1/14/2013 5:20 PM |
| trans-1,3-dichloropropene | ND | 400 | U | ppbv | 400 | 1/14/2013 5:20 PM |
| Trichloroethene | ND | 400 | U | ppbv | 400 | 1/14/2013 5:20 PM |
| Trichlorofluoromethane | ND | 400 | U | ppbv | 400 | 1/14/2013 5:20 PM |
| Vinyl acetate | ND | 400 | U | ppbv | 400 | 1/14/2013 5:20 PM |
| Vinyl chloride | ND | 400 | U | ppbv | 400 | 1/14/2013 5:20 PM |
| Xylenes, Total | 530 | 1,200 | J | ppbv | 400 | 1/14/2013 5:20 PM |
| Surr: 4-Bromofluorobenzene | 97.2 | 70-130 | | %REC | 400 | 1/14/2013 5:20 PM |
| **Mass APH Air** | **Method:** | | | | | **Analyst: RH3** |
| **Air-Phase Petroleum Hydrocarbons** | | | | | | |
| C5-C8 Aliphatic Hydrocarbons | 150,000 | 47,000 | | µg/m³ | 400 | 1/15/2013 12:18 PM |
| C9-C10 Aromatic Hydrocarbons | ND | 53,000 | U | µg/m³ | 400 | 1/15/2013 12:18 PM |
| C9-C12 Aliphatic Hydrocarbons | ND | 76,000 | U | µg/m³ | 400 | 1/15/2013 12:18 PM |
| Surr: 4-Bromofluorobenzene | 94.8 | 70-130 | | %REC | 400 | 1/15/2013 12:18 PM |

# RTI Laboratories - Analytical Report

**WO#: 1212959**

**Date Reported: 1/17/2013**
**Revision v1**

| | | | |
|---|---|---|---|
| **Client:** | Shaw Environmental & Infrastructure, Inc | **Collection Date:** | 12/17/2012 1:57:00 PM |
| **Project:** | Kirtland AFB | | |
| **Lab ID:** | 1212959-033 | **Matrix:** | Air |
| **Client Sample ID:** | VA2175 | | |

| Analysis | Result | RL | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **Noncondensable Gases and Light Hydrocarbons** | | **Method: ASTM-D2504** | | | | **Analyst: cr** |
| Carbon dioxide | 0.41 | 0.10 | | % v/v | 1 | 1/14/2013 1:18 PM |
| Carbon Monoxide | ND | 0.10 | U | % v/v | 1 | 1/14/2013 1:18 PM |
| Methane | ND | 0.50 | U | % v/v | 1 | 1/14/2013 1:18 PM |
| Nitrogen | 84 | 0.10 | | % v/v | 1 | 1/14/2013 1:18 PM |
| Oxygen | 20 | 0.10 | | % v/v | 1 | 1/14/2013 1:18 PM |
| **Volatile Organic Compounds** | | **Method: TO-15** | | | | **Analyst: RH3** |
| 1,1,1-Trichloroethane | ND | 400 | U | ppbv | 400 | 1/14/2013 10:45 PM |
| 1,1,2,2-Tetrachloroethane | ND | 400 | U | ppbv | 400 | 1/14/2013 10:45 PM |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ND | 400 | U | ppbv | 400 | 1/14/2013 10:45 PM |
| 1,1,2-Trichloroethane | ND | 400 | U | ppbv | 400 | 1/14/2013 10:45 PM |
| 1,1-Dichloroethane | ND | 400 | U | ppbv | 400 | 1/14/2013 10:45 PM |
| 1,1-Dichloroethene | ND | 400 | U | ppbv | 400 | 1/14/2013 10:45 PM |
| 1,2,4-Trichlorobenzene | ND | 400 | U | ppbv | 400 | 1/14/2013 10:45 PM |
| 1,2,4-Trimethylbenzene | ND | 400 | U | ppbv | 400 | 1/14/2013 10:45 PM |
| 1,2-Dibromoethane | ND | 400 | U | ppbv | 400 | 1/14/2013 10:45 PM |
| 1,2-Dichlorobenzene | ND | 400 | U | ppbv | 400 | 1/14/2013 10:45 PM |
| 1,2-Dichloroethane | ND | 400 | U | ppbv | 400 | 1/14/2013 10:45 PM |
| 1,2-Dichloropropane | ND | 400 | U | ppbv | 400 | 1/14/2013 10:45 PM |
| 1,3,5-Trimethylbenzene | ND | 400 | U | ppbv | 400 | 1/14/2013 10:45 PM |
| 1,3-Butadiene | ND | 400 | U | ppbv | 400 | 1/14/2013 10:45 PM |
| 1,3-Dichlorobenzene | ND | 400 | U | ppbv | 400 | 1/14/2013 10:45 PM |
| 1,4-Dichlorobenzene | ND | 400 | U | ppbv | 400 | 1/14/2013 10:45 PM |
| 2-Butanone | ND | 400 | U | ppbv | 400 | 1/14/2013 10:45 PM |
| 2-Hexanone | ND | 400 | U | ppbv | 400 | 1/14/2013 10:45 PM |
| 4-Methyl-2-pentanone | ND | 400 | U | ppbv | 400 | 1/14/2013 10:45 PM |
| Acetone | 2,600 | 400 | | ppbv | 400 | 1/14/2013 10:45 PM |
| Benzene | 770 | 400 | | ppbv | 400 | 1/14/2013 10:45 PM |
| Benzyl chloride | ND | 400 | U | ppbv | 400 | 1/14/2013 10:45 PM |
| Bromodichloromethane | ND | 400 | U | ppbv | 400 | 1/14/2013 10:45 PM |
| Bromoform | ND | 400 | U | ppbv | 400 | 1/14/2013 10:45 PM |
| Bromomethane | ND | 400 | U | ppbv | 400 | 1/14/2013 10:45 PM |
| Carbon disulfide | ND | 400 | U | ppbv | 400 | 1/14/2013 10:45 PM |
| Carbon tetrachloride | ND | 400 | U | ppbv | 400 | 1/14/2013 10:45 PM |
| Chlorobenzene | ND | 400 | U | ppbv | 400 | 1/14/2013 10:45 PM |
| Chlorodibromomethane | ND | 400 | U | ppbv | 400 | 1/14/2013 10:45 PM |
| Chloroethane | ND | 400 | U | ppbv | 400 | 1/14/2013 10:45 PM |
| Chloroform | ND | 400 | U | ppbv | 400 | 1/14/2013 10:45 PM |
| Chloromethane | ND | 400 | U | ppbv | 400 | 1/14/2013 10:45 PM |
| cis-1,2-Dichloroethene | ND | 400 | U | ppbv | 400 | 1/14/2013 10:45 PM |
| cis-1,3-dichloropropene | ND | 400 | U | ppbv | 400 | 1/14/2013 10:45 PM |

# RTI Laboratories - Analytical Report

**WO#: 1212959**

**Date Reported: 1/17/2013**
**Revision v1**

| | | | |
|---|---|---|---|
| **Client:** | Shaw Environmental & Infrastructure, Inc | **Collection Date:** | 12/17/2012 1:57:00 PM |
| **Project:** | Kirtland AFB | | |
| **Lab ID:** | 1212959-033 | **Matrix:** | Air |
| **Client Sample ID:** | VA2175 | | |

| Analysis | Result | RL | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| Cyclohexane | 590 | 800 | J | ppbv | 400 | 1/14/2013 10:45 PM |
| Dichlorodifluoromethane | ND | 400 | U | ppbv | 400 | 1/14/2013 10:45 PM |
| Ethyl acetate | ND | 400 | U | ppbv | 400 | 1/14/2013 10:45 PM |
| Ethylbenzene | ND | 800 | U | ppbv | 400 | 1/14/2013 10:45 PM |
| Heptane | 690 | 400 | | ppbv | 400 | 1/14/2013 10:45 PM |
| Hexachlorobutadiene | ND | 800 | U | ppbv | 400 | 1/14/2013 10:45 PM |
| m,p-Xylene | ND | 800 | U | ppbv | 400 | 1/14/2013 10:45 PM |
| Methylene chloride | 2,700 | 2,000 | | ppbv | 400 | 1/14/2013 10:45 PM |
| n-Hexane | 650 | 800 | J | ppbv | 400 | 1/14/2013 10:45 PM |
| Naphthalene | ND | 400 | U | ppbv | 400 | 1/14/2013 10:45 PM |
| o-Xylene | ND | 400 | U | ppbv | 400 | 1/14/2013 10:45 PM |
| Propylene | ND | 400 | U | ppbv | 400 | 1/14/2013 10:45 PM |
| Styrene | ND | 400 | U | ppbv | 400 | 1/14/2013 10:45 PM |
| tert-Butyl Methyl Ether | ND | 400 | U | ppbv | 400 | 1/14/2013 10:45 PM |
| Tetrachloroethene | ND | 400 | U | ppbv | 400 | 1/14/2013 10:45 PM |
| Tetrahydrofuran | ND | 400 | U | ppbv | 400 | 1/14/2013 10:45 PM |
| Toluene | 3,400 | 400 | | ppbv | 400 | 1/14/2013 10:45 PM |
| trans-1,2-Dichloroethene | ND | 400 | U | ppbv | 400 | 1/14/2013 10:45 PM |
| trans-1,3-dichloropropene | ND | 400 | U | ppbv | 400 | 1/14/2013 10:45 PM |
| Trichloroethene | ND | 400 | U | ppbv | 400 | 1/14/2013 10:45 PM |
| Trichlorofluoromethane | ND | 400 | U | ppbv | 400 | 1/14/2013 10:45 PM |
| Vinyl acetate | ND | 400 | U | ppbv | 400 | 1/14/2013 10:45 PM |
| Vinyl chloride | ND | 400 | U | ppbv | 400 | 1/14/2013 10:45 PM |
| Xylenes, Total | ND | 1,200 | U | ppbv | 400 | 1/14/2013 10:45 PM |
| Surr: 4-Bromofluorobenzene | 96.4 | 70-130 | | %REC | 400 | 1/14/2013 10:45 PM |
| **Mass APH Air** | **Method:** | | | | | **Analyst: RH3** |
| **Air-Phase Petroleum Hydrocarbons** | | | | | | |
| C5-C8 Aliphatic Hydrocarbons | 74,000 | 23,000 | | µg/m³ | 200 | 1/15/2013 5:22 AM |
| C9-C10 Aromatic Hydrocarbons | ND | 27,000 | U | µg/m³ | 200 | 1/15/2013 5:22 AM |
| C9-C12 Aliphatic Hydrocarbons | ND | 38,000 | U | µg/m³ | 200 | 1/15/2013 5:22 AM |
| Surr: 4-Bromofluorobenzene | 96.2 | 70-130 | | %REC | 200 | 1/15/2013 5:22 AM |

# RTI Laboratories - Analytical Report

**WO#: 1212959**

**Date Reported: 1/17/2013**
**Revision v1**

| | | | |
|---|---|---|---|
| **Client:** | Shaw Environmental & Infrastructure, Inc | **Collection Date:** | 12/17/2012 2:34:00 PM |
| **Project:** | Kirtland AFB | | |
| **Lab ID:** | 1212959-034 | **Matrix:** | Air |
| **Client Sample ID:** | VA2176 | | |

| 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 | 1/14/2013 1:36 PM |
| Carbon Monoxide | ND | 0.10 | U | % v/v | 1 | 1/14/2013 1:36 PM |
| Methane | ND | 0.50 | U | % v/v | 1 | 1/14/2013 1:36 PM |
| Nitrogen | 85 | 0.10 | | % v/v | 1 | 1/14/2013 1:36 PM |
| Oxygen | 20 | 0.10 | | % v/v | 1 | 1/14/2013 1:36 PM |
| **Volatile Organic Compounds** | | **Method: TO-15** | | | | **Analyst: RH3** |
| 1,1,1-Trichloroethane | ND | 400 | U | ppbv | 400 | 1/15/2013 12:23 AM |
| 1,1,2,2-Tetrachloroethane | ND | 400 | U | ppbv | 400 | 1/15/2013 12:23 AM |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ND | 400 | U | ppbv | 400 | 1/15/2013 12:23 AM |
| 1,1,2-Trichloroethane | ND | 400 | U | ppbv | 400 | 1/15/2013 12:23 AM |
| 1,1-Dichloroethane | ND | 400 | U | ppbv | 400 | 1/15/2013 12:23 AM |
| 1,1-Dichloroethene | ND | 400 | U | ppbv | 400 | 1/15/2013 12:23 AM |
| 1,2,4-Trichlorobenzene | ND | 400 | U | ppbv | 400 | 1/15/2013 12:23 AM |
| 1,2,4-Trimethylbenzene | ND | 400 | U | ppbv | 400 | 1/15/2013 12:23 AM |
| 1,2-Dibromoethane | ND | 400 | U | ppbv | 400 | 1/15/2013 12:23 AM |
| 1,2-Dichlorobenzene | ND | 400 | U | ppbv | 400 | 1/15/2013 12:23 AM |
| 1,2-Dichloroethane | ND | 400 | U | ppbv | 400 | 1/15/2013 12:23 AM |
| 1,2-Dichloropropane | ND | 400 | U | ppbv | 400 | 1/15/2013 12:23 AM |
| 1,3,5-Trimethylbenzene | ND | 400 | U | ppbv | 400 | 1/15/2013 12:23 AM |
| 1,3-Butadiene | ND | 400 | U | ppbv | 400 | 1/15/2013 12:23 AM |
| 1,3-Dichlorobenzene | ND | 400 | U | ppbv | 400 | 1/15/2013 12:23 AM |
| 1,4-Dichlorobenzene | ND | 400 | U | ppbv | 400 | 1/15/2013 12:23 AM |
| 2-Butanone | ND | 400 | U | ppbv | 400 | 1/15/2013 12:23 AM |
| 2-Hexanone | ND | 400 | U | ppbv | 400 | 1/15/2013 12:23 AM |
| 4-Methyl-2-pentanone | ND | 400 | U | ppbv | 400 | 1/15/2013 12:23 AM |
| Acetone | 1,100 | 400 | | ppbv | 400 | 1/15/2013 12:23 AM |
| Benzene | 3,800 | 400 | | ppbv | 400 | 1/15/2013 12:23 AM |
| Benzyl chloride | ND | 400 | U | ppbv | 400 | 1/15/2013 12:23 AM |
| Bromodichloromethane | ND | 400 | U | ppbv | 400 | 1/15/2013 12:23 AM |
| Bromoform | ND | 400 | U | ppbv | 400 | 1/15/2013 12:23 AM |
| Bromomethane | ND | 400 | U | ppbv | 400 | 1/15/2013 12:23 AM |
| Carbon disulfide | ND | 400 | U | ppbv | 400 | 1/15/2013 12:23 AM |
| Carbon tetrachloride | ND | 400 | U | ppbv | 400 | 1/15/2013 12:23 AM |
| Chlorobenzene | ND | 400 | U | ppbv | 400 | 1/15/2013 12:23 AM |
| Chlorodibromomethane | ND | 400 | U | ppbv | 400 | 1/15/2013 12:23 AM |
| Chloroethane | ND | 400 | U | ppbv | 400 | 1/15/2013 12:23 AM |
| Chloroform | ND | 400 | U | ppbv | 400 | 1/15/2013 12:23 AM |
| Chloromethane | ND | 400 | U | ppbv | 400 | 1/15/2013 12:23 AM |
| cis-1,2-Dichloroethene | ND | 400 | U | ppbv | 400 | 1/15/2013 12:23 AM |
| cis-1,3-dichloropropene | ND | 400 | U | ppbv | 400 | 1/15/2013 12:23 AM |

# RTI Laboratories - Analytical Report

**WO#: 1212959**

**Date Reported: 1/17/2013**
**Revision v1**

| | | | |
|---|---|---|---|
| **Client:** | Shaw Environmental & Infrastructure, Inc | **Collection Date:** | 12/17/2012 2:34:00 PM |
| **Project:** | Kirtland AFB | | |
| **Lab ID:** | 1212959-034 | **Matrix:** | Air |
| **Client Sample ID:** | VA2176 | | |

| Analysis | Result | RL | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| Cyclohexane | 14,000 | 800 | | ppbv | 400 | 1/15/2013 12:23 AM |
| Dichlorodifluoromethane | ND | 400 | U | ppbv | 400 | 1/15/2013 12:23 AM |
| Ethyl acetate | ND | 400 | U | ppbv | 400 | 1/15/2013 12:23 AM |
| Ethylbenzene | ND | 800 | U | ppbv | 400 | 1/15/2013 12:23 AM |
| Heptane | 7,200 | 400 | | ppbv | 400 | 1/15/2013 12:23 AM |
| Hexachlorobutadiene | ND | 800 | U | ppbv | 400 | 1/15/2013 12:23 AM |
| m,p-Xylene | 660 | 800 | J | ppbv | 400 | 1/15/2013 12:23 AM |
| Methylene chloride | ND | 2,000 | U | ppbv | 400 | 1/15/2013 12:23 AM |
| n-Hexane | 10,000 | 800 | | ppbv | 400 | 1/15/2013 12:23 AM |
| Naphthalene | ND | 400 | U | ppbv | 400 | 1/15/2013 12:23 AM |
| o-Xylene | ND | 400 | U | ppbv | 400 | 1/15/2013 12:23 AM |
| Propylene | ND | 400 | U | ppbv | 400 | 1/15/2013 12:23 AM |
| Styrene | ND | 400 | U | ppbv | 400 | 1/15/2013 12:23 AM |
| tert-Butyl Methyl Ether | ND | 400 | U | ppbv | 400 | 1/15/2013 12:23 AM |
| Tetrachloroethene | ND | 400 | U | ppbv | 400 | 1/15/2013 12:23 AM |
| Tetrahydrofuran | ND | 400 | U | ppbv | 400 | 1/15/2013 12:23 AM |
| Toluene | 8,000 | 400 | | ppbv | 400 | 1/15/2013 12:23 AM |
| trans-1,2-Dichloroethene | ND | 400 | U | ppbv | 400 | 1/15/2013 12:23 AM |
| trans-1,3-dichloropropene | ND | 400 | U | ppbv | 400 | 1/15/2013 12:23 AM |
| Trichloroethene | ND | 400 | U | ppbv | 400 | 1/15/2013 12:23 AM |
| Trichlorofluoromethane | ND | 400 | U | ppbv | 400 | 1/15/2013 12:23 AM |
| Vinyl acetate | ND | 400 | U | ppbv | 400 | 1/15/2013 12:23 AM |
| Vinyl chloride | ND | 400 | U | ppbv | 400 | 1/15/2013 12:23 AM |
| Xylenes, Total | 660 | 1,200 | J | ppbv | 400 | 1/15/2013 12:23 AM |
| Surr: 4-Bromofluorobenzene | 97.0 | 70-130 | | %REC | 400 | 1/15/2013 12:23 AM |
| **Mass APH Air** | **Method:** | | | | | **Analyst: RH3** |
| **Air-Phase Petroleum Hydrocarbons** | | | | | | |
| C5-C8 Aliphatic Hydrocarbons | 84,000 | 23,000 | | µg/m³ | 200 | 1/15/2013 6:55 AM |
| C9-C10 Aromatic Hydrocarbons | ND | 27,000 | U | µg/m³ | 200 | 1/15/2013 6:55 AM |
| C9-C12 Aliphatic Hydrocarbons | 8,800 | 38,000 | J | µg/m³ | 200 | 1/15/2013 6:55 AM |
| Surr: 4-Bromofluorobenzene | 96.3 | 70-130 | | %REC | 200 | 1/15/2013 6:55 AM |

# RTI Laboratories - Analytical Report

**WO#: 1212959**

**Date Reported: 1/17/2013**
**Revision v1**

| | | | |
|---|---|---|---|
| **Client:** | Shaw Environmental & Infrastructure, Inc | **Collection Date:** | 12/17/2012 3:08:00 PM |
| **Project:** | Kirtland AFB | | |
| **Lab ID:** | 1212959-035 | **Matrix:** | Air |
| **Client Sample ID:** | VA2177 | | |

| 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 | 1/14/2013 2:01 PM |
| Carbon Monoxide | ND | 0.10 | U | % v/v | 1 | 1/14/2013 2:01 PM |
| Methane | ND | 0.50 | U | % v/v | 1 | 1/14/2013 2:01 PM |
| Nitrogen | 86 | 0.10 | | % v/v | 1 | 1/14/2013 2:01 PM |
| Oxygen | 20 | 0.10 | | % v/v | 1 | 1/14/2013 2:01 PM |
| **Volatile Organic Compounds** | | **Method: TO-15** | | | | **Analyst: RH3** |
| 1,1,1-Trichloroethane | ND | 400 | U | ppbv | 400 | 1/15/2013 3:21 AM |
| 1,1,2,2-Tetrachloroethane | ND | 400 | U | ppbv | 400 | 1/15/2013 3:21 AM |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ND | 400 | U | ppbv | 400 | 1/15/2013 3:21 AM |
| 1,1,2-Trichloroethane | ND | 400 | U | ppbv | 400 | 1/15/2013 3:21 AM |
| 1,1-Dichloroethane | ND | 400 | U | ppbv | 400 | 1/15/2013 3:21 AM |
| 1,1-Dichloroethene | ND | 400 | U | ppbv | 400 | 1/15/2013 3:21 AM |
| 1,2,4-Trichlorobenzene | ND | 400 | U | ppbv | 400 | 1/15/2013 3:21 AM |
| 1,2,4-Trimethylbenzene | ND | 400 | U | ppbv | 400 | 1/15/2013 3:21 AM |
| 1,2-Dibromoethane | ND | 400 | U | ppbv | 400 | 1/15/2013 3:21 AM |
| 1,2-Dichlorobenzene | ND | 400 | U | ppbv | 400 | 1/15/2013 3:21 AM |
| 1,2-Dichloroethane | ND | 400 | U | ppbv | 400 | 1/15/2013 3:21 AM |
| 1,2-Dichloropropane | ND | 400 | U | ppbv | 400 | 1/15/2013 3:21 AM |
| 1,3,5-Trimethylbenzene | ND | 400 | U | ppbv | 400 | 1/15/2013 3:21 AM |
| 1,3-Butadiene | ND | 400 | U | ppbv | 400 | 1/15/2013 3:21 AM |
| 1,3-Dichlorobenzene | ND | 400 | U | ppbv | 400 | 1/15/2013 3:21 AM |
| 1,4-Dichlorobenzene | ND | 400 | U | ppbv | 400 | 1/15/2013 3:21 AM |
| 2-Butanone | ND | 400 | U | ppbv | 400 | 1/15/2013 3:21 AM |
| 2-Hexanone | ND | 400 | U | ppbv | 400 | 1/15/2013 3:21 AM |
| 4-Methyl-2-pentanone | ND | 400 | U | ppbv | 400 | 1/15/2013 3:21 AM |
| Acetone | 750 | 400 | | ppbv | 400 | 1/15/2013 3:21 AM |
| Benzene | 720 | 400 | | ppbv | 400 | 1/15/2013 3:21 AM |
| Benzyl chloride | ND | 400 | U | ppbv | 400 | 1/15/2013 3:21 AM |
| Bromodichloromethane | ND | 400 | U | ppbv | 400 | 1/15/2013 3:21 AM |
| Bromoform | ND | 400 | U | ppbv | 400 | 1/15/2013 3:21 AM |
| Bromomethane | ND | 400 | U | ppbv | 400 | 1/15/2013 3:21 AM |
| Carbon disulfide | ND | 400 | U | ppbv | 400 | 1/15/2013 3:21 AM |
| Carbon tetrachloride | ND | 400 | U | ppbv | 400 | 1/15/2013 3:21 AM |
| Chlorobenzene | ND | 400 | U | ppbv | 400 | 1/15/2013 3:21 AM |
| Chlorodibromomethane | ND | 400 | U | ppbv | 400 | 1/15/2013 3:21 AM |
| Chloroethane | ND | 400 | U | ppbv | 400 | 1/15/2013 3:21 AM |
| Chloroform | ND | 400 | U | ppbv | 400 | 1/15/2013 3:21 AM |
| Chloromethane | ND | 400 | U | ppbv | 400 | 1/15/2013 3:21 AM |
| cis-1,2-Dichloroethene | ND | 400 | U | ppbv | 400 | 1/15/2013 3:21 AM |
| cis-1,3-dichloropropene | ND | 400 | U | ppbv | 400 | 1/15/2013 3:21 AM |

# RTI Laboratories - Analytical Report

**WO#: 1212959**

**Date Reported: 1/17/2013**
**Revision v1**

| | | | |
|---|---|---|---|
| **Client:** | Shaw Environmental & Infrastructure, Inc | **Collection Date:** | 12/17/2012 3:08:00 PM |
| **Project:** | Kirtland AFB | | |
| **Lab ID:** | 1212959-035 | **Matrix:** | Air |
| **Client Sample ID:** | VA2177 | | |

| Analysis | Result | RL | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| Cyclohexane | 620 | 800 | J | ppbv | 400 | 1/15/2013 3:21 AM |
| Dichlorodifluoromethane | ND | 400 | U | ppbv | 400 | 1/15/2013 3:21 AM |
| Ethyl acetate | ND | 400 | U | ppbv | 400 | 1/15/2013 3:21 AM |
| Ethylbenzene | ND | 800 | U | ppbv | 400 | 1/15/2013 3:21 AM |
| Heptane | 710 | 400 | | ppbv | 400 | 1/15/2013 3:21 AM |
| Hexachlorobutadiene | ND | 800 | U | ppbv | 400 | 1/15/2013 3:21 AM |
| m,p-Xylene | ND | 800 | U | ppbv | 400 | 1/15/2013 3:21 AM |
| Methylene chloride | 1,100 | 2,000 | J | ppbv | 400 | 1/15/2013 3:21 AM |
| n-Hexane | 670 | 800 | J | ppbv | 400 | 1/15/2013 3:21 AM |
| Naphthalene | ND | 400 | U | ppbv | 400 | 1/15/2013 3:21 AM |
| o-Xylene | ND | 400 | U | ppbv | 400 | 1/15/2013 3:21 AM |
| Propylene | ND | 400 | U | ppbv | 400 | 1/15/2013 3:21 AM |
| Styrene | ND | 400 | U | ppbv | 400 | 1/15/2013 3:21 AM |
| tert-Butyl Methyl Ether | ND | 400 | U | ppbv | 400 | 1/15/2013 3:21 AM |
| Tetrachloroethene | ND | 400 | U | ppbv | 400 | 1/15/2013 3:21 AM |
| Tetrahydrofuran | ND | 400 | U | ppbv | 400 | 1/15/2013 3:21 AM |
| Toluene | 2,800 | 400 | | ppbv | 400 | 1/15/2013 3:21 AM |
| trans-1,2-Dichloroethene | ND | 400 | U | ppbv | 400 | 1/15/2013 3:21 AM |
| trans-1,3-dichloropropene | ND | 400 | U | ppbv | 400 | 1/15/2013 3:21 AM |
| Trichloroethene | ND | 400 | U | ppbv | 400 | 1/15/2013 3:21 AM |
| Trichlorofluoromethane | ND | 400 | U | ppbv | 400 | 1/15/2013 3:21 AM |
| Vinyl acetate | ND | 400 | U | ppbv | 400 | 1/15/2013 3:21 AM |
| Vinyl chloride | ND | 400 | U | ppbv | 400 | 1/15/2013 3:21 AM |
| Xylenes, Total | ND | 1,200 | U | ppbv | 400 | 1/15/2013 3:21 AM |
| Surr: 4-Bromofluorobenzene | 97.4 | 70-130 | | %REC | 400 | 1/15/2013 3:21 AM |
| **Mass APH Air** | **Method:** | | | | | **Analyst: RH3** |
| **Air-Phase Petroleum Hydrocarbons** | | | | | | |
| C5-C8 Aliphatic Hydrocarbons | 73,000 | 23,000 | | µg/m³ | 200 | 1/15/2013 9:08 AM |
| C9-C10 Aromatic Hydrocarbons | ND | 27,000 | U | µg/m³ | 200 | 1/15/2013 9:08 AM |
| C9-C12 Aliphatic Hydrocarbons | ND | 38,000 | U | µg/m³ | 200 | 1/15/2013 9:08 AM |
| Surr: 4-Bromofluorobenzene | 96.9 | 70-130 | | %REC | 200 | 1/15/2013 9:08 AM |

# RTI Laboratories - Analytical Report

**WO#: 1212959**

**Date Reported: 1/17/2013**
**Revision v1**

| | | | |
|---|---|---|---|
| **Client:** | Shaw Environmental & Infrastructure, Inc | **Collection Date:** | 12/17/2012 3:46:00 PM |
| **Project:** | Kirtland AFB | | |
| **Lab ID:** | 1212959-036 | **Matrix:** | Air |
| **Client Sample ID:** | VA2178 | | |

| Analysis | Result | RL | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **Noncondensable Gases and Light Hydrocarbons** | | **Method: ASTM-D2504** | | | | **Analyst: cr** |
| Carbon dioxide | 0.81 | 0.10 | | % v/v | 1 | 1/14/2013 2:24 PM |
| Carbon Monoxide | ND | 0.10 | U | % v/v | 1 | 1/14/2013 2:24 PM |
| Methane | ND | 0.50 | U | % v/v | 1 | 1/14/2013 2:24 PM |
| Nitrogen | 86 | 0.10 | | % v/v | 1 | 1/14/2013 2:24 PM |
| Oxygen | 20 | 0.10 | | % v/v | 1 | 1/14/2013 2:24 PM |
| **Volatile Organic Compounds** | | **Method: TO-15** | | | | **Analyst: RH3** |
| 1,1,1-Trichloroethane | ND | 200 | U | ppbv | 200 | 1/15/2013 12:02 PM |
| 1,1,2,2-Tetrachloroethane | ND | 200 | U | ppbv | 200 | 1/15/2013 12:02 PM |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ND | 200 | U | ppbv | 200 | 1/15/2013 12:02 PM |
| 1,1,2-Trichloroethane | ND | 200 | U | ppbv | 200 | 1/15/2013 12:02 PM |
| 1,1-Dichloroethane | ND | 200 | U | ppbv | 200 | 1/15/2013 12:02 PM |
| 1,1-Dichloroethene | ND | 200 | U | ppbv | 200 | 1/15/2013 12:02 PM |
| 1,2,4-Trichlorobenzene | ND | 200 | U | ppbv | 200 | 1/15/2013 12:02 PM |
| 1,2,4-Trimethylbenzene | ND | 200 | U | ppbv | 200 | 1/15/2013 12:02 PM |
| 1,2-Dibromoethane | ND | 200 | U | ppbv | 200 | 1/15/2013 12:02 PM |
| 1,2-Dichlorobenzene | ND | 200 | U | ppbv | 200 | 1/15/2013 12:02 PM |
| 1,2-Dichloroethane | ND | 200 | U | ppbv | 200 | 1/15/2013 12:02 PM |
| 1,2-Dichloropropane | ND | 200 | U | ppbv | 200 | 1/15/2013 12:02 PM |
| 1,3,5-Trimethylbenzene | ND | 200 | U | ppbv | 200 | 1/15/2013 12:02 PM |
| 1,3-Butadiene | ND | 200 | U | ppbv | 200 | 1/15/2013 12:02 PM |
| 1,3-Dichlorobenzene | ND | 200 | U | ppbv | 200 | 1/15/2013 12:02 PM |
| 1,4-Dichlorobenzene | ND | 200 | U | ppbv | 200 | 1/15/2013 12:02 PM |
| 2-Butanone | ND | 200 | U | ppbv | 200 | 1/15/2013 12:02 PM |
| 2-Hexanone | ND | 200 | U | ppbv | 200 | 1/15/2013 12:02 PM |
| 4-Methyl-2-pentanone | ND | 200 | U | ppbv | 200 | 1/15/2013 12:02 PM |
| Acetone | 340 | 200 | | ppbv | 200 | 1/15/2013 12:02 PM |
| Benzene | 3,200 | 200 | | ppbv | 200 | 1/15/2013 12:02 PM |
| Benzyl chloride | ND | 200 | U | ppbv | 200 | 1/15/2013 12:02 PM |
| Bromodichloromethane | ND | 200 | U | ppbv | 200 | 1/15/2013 12:02 PM |
| Bromoform | ND | 200 | U | ppbv | 200 | 1/15/2013 12:02 PM |
| Bromomethane | ND | 200 | U | ppbv | 200 | 1/15/2013 12:02 PM |
| Carbon disulfide | ND | 200 | U | ppbv | 200 | 1/15/2013 12:02 PM |
| Carbon tetrachloride | ND | 200 | U | ppbv | 200 | 1/15/2013 12:02 PM |
| Chlorobenzene | ND | 200 | U | ppbv | 200 | 1/15/2013 12:02 PM |
| Chlorodibromomethane | ND | 200 | U | ppbv | 200 | 1/15/2013 12:02 PM |
| Chloroethane | ND | 200 | U | ppbv | 200 | 1/15/2013 12:02 PM |
| Chloroform | ND | 200 | U | ppbv | 200 | 1/15/2013 12:02 PM |
| Chloromethane | ND | 200 | U | ppbv | 200 | 1/15/2013 12:02 PM |
| cis-1,2-Dichloroethene | ND | 200 | U | ppbv | 200 | 1/15/2013 12:02 PM |
| cis-1,3-dichloropropene | ND | 200 | U | ppbv | 200 | 1/15/2013 12:02 PM |

# RTI Laboratories - Analytical Report

**WO#: 1212959**

**Date Reported: 1/17/2013**
**Revision v1**

| | | | |
|---|---|---|---|
| **Client:** | Shaw Environmental & Infrastructure, Inc | **Collection Date:** | 12/17/2012 3:46:00 PM |
| **Project:** | Kirtland AFB | | |
| **Lab ID:** | 1212959-036 | **Matrix:** | Air |
| **Client Sample ID:** | VA2178 | | |

| Analysis | Result | RL | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| Cyclohexane | 13,000 | 1,600 | | ppbv | 800 | 1/15/2013 10:46 PM |
| Dichlorodifluoromethane | ND | 200 | U | ppbv | 200 | 1/15/2013 12:02 PM |
| Ethyl acetate | ND | 200 | U | ppbv | 200 | 1/15/2013 12:02 PM |
| Ethylbenzene | 260 | 400 | J | ppbv | 200 | 1/15/2013 12:02 PM |
| Heptane | 5,500 | 200 | | ppbv | 200 | 1/15/2013 12:02 PM |
| Hexachlorobutadiene | ND | 400 | U | ppbv | 200 | 1/15/2013 12:02 PM |
| m,p-Xylene | 610 | 400 | | ppbv | 200 | 1/15/2013 12:02 PM |
| Methylene chloride | ND | 1,000 | U | ppbv | 200 | 1/15/2013 12:02 PM |
| n-Hexane | 8,200 | 400 | | ppbv | 200 | 1/15/2013 12:02 PM |
| Naphthalene | ND | 200 | U | ppbv | 200 | 1/15/2013 12:02 PM |
| o-Xylene | ND | 200 | U | ppbv | 200 | 1/15/2013 12:02 PM |
| Propylene | ND | 200 | U | ppbv | 200 | 1/15/2013 12:02 PM |
| Styrene | ND | 200 | U | ppbv | 200 | 1/15/2013 12:02 PM |
| tert-Butyl Methyl Ether | ND | 200 | U | ppbv | 200 | 1/15/2013 12:02 PM |
| Tetrachloroethene | ND | 200 | U | ppbv | 200 | 1/15/2013 12:02 PM |
| Tetrahydrofuran | ND | 200 | U | ppbv | 200 | 1/15/2013 12:02 PM |
| Toluene | 6,800 | 200 | | ppbv | 200 | 1/15/2013 12:02 PM |
| trans-1,2-Dichloroethene | ND | 200 | U | ppbv | 200 | 1/15/2013 12:02 PM |
| trans-1,3-dichloropropene | ND | 200 | U | ppbv | 200 | 1/15/2013 12:02 PM |
| Trichloroethene | ND | 200 | U | ppbv | 200 | 1/15/2013 12:02 PM |
| Trichlorofluoromethane | ND | 200 | U | ppbv | 200 | 1/15/2013 12:02 PM |
| Vinyl acetate | ND | 200 | U | ppbv | 200 | 1/15/2013 12:02 PM |
| Vinyl chloride | ND | 200 | U | ppbv | 200 | 1/15/2013 12:02 PM |
| Xylenes, Total | 610 | 600 | | ppbv | 200 | 1/15/2013 12:02 PM |
| Surr: 4-Bromofluorobenzene | 99.8 | 70-130 | | %REC | 200 | 1/15/2013 12:02 PM |
| **Mass APH Air** | **Method:** | | | | | **Analyst: RH3** |
| **Air-Phase Petroleum Hydrocarbons** | | | | | | |
| C5-C8 Aliphatic Hydrocarbons | 4,500,000 | 940,000 | | µg/m³ | 8000 | 1/15/2013 2:28 PM |
| C9-C10 Aromatic Hydrocarbons | ND | 1,100,000 | U | µg/m³ | 8000 | 1/15/2013 2:28 PM |
| C9-C12 Aliphatic Hydrocarbons | ND | 1,500,000 | U | µg/m³ | 8000 | 1/15/2013 2:28 PM |
| Surr: 4-Bromofluorobenzene | 94.2 | 70-130 | | %REC | 8000 | 1/15/2013 2:28 PM |

# RTI Laboratories - Analytical Report

**WO#: 1212959**

**Date Reported: 1/17/2013**
**Revision v1**

| | | | |
|---|---|---|---|
| **Client:** | Shaw Environmental & Infrastructure, Inc | **Collection Date:** | 12/17/2012 8:44:00 AM |
| **Project:** | Kirtland AFB | | |
| **Lab ID:** | 1212959-037 | **Matrix:** | Air |
| **Client Sample ID:** | VA2179 | | |

| Analysis | Result | RL | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **Noncondensable Gases and Light Hydrocarbons** | | **Method: ASTM-D2504** | | | | **Analyst: cr** |
| Carbon dioxide | 0.34 | 0.10 | | % v/v | 1 | 1/14/2013 2:38 PM |
| Carbon Monoxide | ND | 0.10 | U | % v/v | 1 | 1/14/2013 2:38 PM |
| Methane | ND | 0.50 | U | % v/v | 1 | 1/14/2013 2:38 PM |
| Nitrogen | 84 | 0.10 | | % v/v | 1 | 1/14/2013 2:38 PM |
| Oxygen | 21 | 0.10 | | % v/v | 1 | 1/14/2013 2:38 PM |
| **Volatile Organic Compounds** | | **Method: TO-15** | | | | **Analyst: RH3** |
| 1,1,1-Trichloroethane | ND | 200 | U | ppbv | 200 | 1/11/2013 5:12 PM |
| 1,1,2,2-Tetrachloroethane | ND | 200 | U | ppbv | 200 | 1/11/2013 5:12 PM |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ND | 200 | U | ppbv | 200 | 1/11/2013 5:12 PM |
| 1,1,2-Trichloroethane | ND | 200 | U | ppbv | 200 | 1/11/2013 5:12 PM |
| 1,1-Dichloroethane | ND | 200 | U | ppbv | 200 | 1/11/2013 5:12 PM |
| 1,1-Dichloroethene | ND | 200 | U | ppbv | 200 | 1/11/2013 5:12 PM |
| 1,2,4-Trichlorobenzene | ND | 200 | U | ppbv | 200 | 1/11/2013 5:12 PM |
| 1,2,4-Trimethylbenzene | ND | 200 | U | ppbv | 200 | 1/11/2013 5:12 PM |
| 1,2-Dibromoethane | ND | 200 | U | ppbv | 200 | 1/11/2013 5:12 PM |
| 1,2-Dichlorobenzene | ND | 200 | U | ppbv | 200 | 1/11/2013 5:12 PM |
| 1,2-Dichloroethane | ND | 200 | U | ppbv | 200 | 1/11/2013 5:12 PM |
| 1,2-Dichloropropane | ND | 200 | U | ppbv | 200 | 1/11/2013 5:12 PM |
| 1,3,5-Trimethylbenzene | ND | 200 | U | ppbv | 200 | 1/11/2013 5:12 PM |
| 1,3-Butadiene | ND | 200 | U | ppbv | 200 | 1/11/2013 5:12 PM |
| 1,3-Dichlorobenzene | ND | 200 | U | ppbv | 200 | 1/11/2013 5:12 PM |
| 1,4-Dichlorobenzene | ND | 200 | U | ppbv | 200 | 1/11/2013 5:12 PM |
| 2-Butanone | ND | 200 | U | ppbv | 200 | 1/11/2013 5:12 PM |
| 2-Hexanone | ND | 200 | U | ppbv | 200 | 1/11/2013 5:12 PM |
| 4-Methyl-2-pentanone | ND | 200 | U | ppbv | 200 | 1/11/2013 5:12 PM |
| Acetone | 270 | 200 | | ppbv | 200 | 1/11/2013 5:12 PM |
| Benzene | 390 | 200 | | ppbv | 200 | 1/11/2013 5:12 PM |
| Benzyl chloride | ND | 200 | U | ppbv | 200 | 1/11/2013 5:12 PM |
| Bromodichloromethane | ND | 200 | U | ppbv | 200 | 1/11/2013 5:12 PM |
| Bromoform | ND | 200 | U | ppbv | 200 | 1/11/2013 5:12 PM |
| Bromomethane | ND | 200 | U | ppbv | 200 | 1/11/2013 5:12 PM |
| Carbon disulfide | ND | 200 | U | ppbv | 200 | 1/11/2013 5:12 PM |
| Carbon tetrachloride | ND | 200 | U | ppbv | 200 | 1/11/2013 5:12 PM |
| Chlorobenzene | ND | 200 | U | ppbv | 200 | 1/11/2013 5:12 PM |
| Chlorodibromomethane | ND | 200 | U | ppbv | 200 | 1/11/2013 5:12 PM |
| Chloroethane | ND | 200 | U | ppbv | 200 | 1/11/2013 5:12 PM |
| Chloroform | ND | 200 | U | ppbv | 200 | 1/11/2013 5:12 PM |
| Chloromethane | ND | 200 | U | ppbv | 200 | 1/11/2013 5:12 PM |
| cis-1,2-Dichloroethene | ND | 200 | U | ppbv | 200 | 1/11/2013 5:12 PM |
| cis-1,3-dichloropropene | ND | 200 | U | ppbv | 200 | 1/11/2013 5:12 PM |

# RTI Laboratories - Analytical Report

**WO#: 1212959**

**Date Reported: 1/17/2013**
**Revision v1**

| | | | |
|---|---|---|---|
| **Client:** | Shaw Environmental & Infrastructure, Inc | **Collection Date:** | 12/17/2012 8:44:00 AM |
| **Project:** | Kirtland AFB | | |
| **Lab ID:** | 1212959-037 | **Matrix:** | Air |
| **Client Sample ID:** | VA2179 | | |

| Analysis | Result | RL | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| Cyclohexane | 360 | 400 | J | ppbv | 200 | 1/11/2013 5:12 PM |
| Dichlorodifluoromethane | ND | 200 | U | ppbv | 200 | 1/11/2013 5:12 PM |
| Ethyl acetate | ND | 200 | U | ppbv | 200 | 1/11/2013 5:12 PM |
| Ethylbenzene | ND | 400 | U | ppbv | 200 | 1/11/2013 5:12 PM |
| Heptane | 410 | 200 | | ppbv | 200 | 1/11/2013 5:12 PM |
| Hexachlorobutadiene | ND | 400 | U | ppbv | 200 | 1/11/2013 5:12 PM |
| m,p-Xylene | ND | 400 | U | ppbv | 200 | 1/11/2013 5:12 PM |
| Methylene chloride | ND | 1,000 | U | ppbv | 200 | 1/11/2013 5:12 PM |
| n-Hexane | 270 | 400 | J | ppbv | 200 | 1/11/2013 5:12 PM |
| Naphthalene | ND | 200 | U | ppbv | 200 | 1/11/2013 5:12 PM |
| o-Xylene | ND | 200 | U | ppbv | 200 | 1/11/2013 5:12 PM |
| Propylene | ND | 200 | U | ppbv | 200 | 1/11/2013 5:12 PM |
| Styrene | ND | 200 | U | ppbv | 200 | 1/11/2013 5:12 PM |
| tert-Butyl Methyl Ether | ND | 200 | U | ppbv | 200 | 1/11/2013 5:12 PM |
| Tetrachloroethene | ND | 200 | U | ppbv | 200 | 1/11/2013 5:12 PM |
| Tetrahydrofuran | ND | 200 | U | ppbv | 200 | 1/11/2013 5:12 PM |
| Toluene | 1,300 | 200 | | ppbv | 200 | 1/11/2013 5:12 PM |
| trans-1,2-Dichloroethene | ND | 200 | U | ppbv | 200 | 1/11/2013 5:12 PM |
| trans-1,3-dichloropropene | ND | 200 | U | ppbv | 200 | 1/11/2013 5:12 PM |
| Trichloroethene | ND | 200 | U | ppbv | 200 | 1/11/2013 5:12 PM |
| Trichlorofluoromethane | ND | 200 | U | ppbv | 200 | 1/11/2013 5:12 PM |
| Vinyl acetate | ND | 200 | U | ppbv | 200 | 1/11/2013 5:12 PM |
| Vinyl chloride | ND | 200 | U | ppbv | 200 | 1/11/2013 5:12 PM |
| Xylenes, Total | ND | 600 | U | ppbv | 200 | 1/11/2013 5:12 PM |
| Surr: 4-Bromofluorobenzene | 95.8 | 70-130 | | %REC | 200 | 1/11/2013 5:12 PM |
| **Mass APH Air** | **Method:** | | | | | **Analyst: RH3** |
| **Air-Phase Petroleum Hydrocarbons** | | | | | | |
| C5-C8 Aliphatic Hydrocarbons | 100,000 | 47,000 | | µg/m³ | 400 | 1/10/2013 4:41 PM |
| C9-C10 Aromatic Hydrocarbons | ND | 53,000 | U | µg/m³ | 400 | 1/10/2013 4:41 PM |
| C9-C12 Aliphatic Hydrocarbons | ND | 76,000 | U | µg/m³ | 400 | 1/10/2013 4:41 PM |
| Surr: 4-Bromofluorobenzene | 96.2 | 70-130 | | %REC | 400 | 1/10/2013 4:41 PM |

# RTI Laboratories - Analytical Report

**WO#: 1212959**

**Date Reported: 1/17/2013**
**Revision v1**

| | | | |
|---|---|---|---|
| **Client:** | Shaw Environmental & Infrastructure, Inc | **Collection Date:** | 12/17/2012 9:14:00 AM |
| **Project:** | Kirtland AFB | | |
| **Lab ID:** | 1212959-038 | **Matrix:** | Air |
| **Client Sample ID:** | VA2180 | | |

| 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 | 1/14/2013 2:55 PM |
| Carbon Monoxide | ND | 0.10 | U | % v/v | 1 | 1/14/2013 2:55 PM |
| Methane | ND | 0.50 | U | % v/v | 1 | 1/14/2013 2:55 PM |
| Nitrogen | 84 | 0.10 | | % v/v | 1 | 1/14/2013 2:55 PM |
| Oxygen | 22 | 0.10 | | % v/v | 1 | 1/14/2013 2:55 PM |
| **Volatile Organic Compounds** | | **Method: TO-15** | | | | **Analyst: RH3** |
| 1,1,1-Trichloroethane | ND | 200 | U | ppbv | 200 | 1/11/2013 6:00 PM |
| 1,1,2,2-Tetrachloroethane | ND | 200 | U | ppbv | 200 | 1/11/2013 6:00 PM |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ND | 200 | U | ppbv | 200 | 1/11/2013 6:00 PM |
| 1,1,2-Trichloroethane | ND | 200 | U | ppbv | 200 | 1/11/2013 6:00 PM |
| 1,1-Dichloroethane | ND | 200 | U | ppbv | 200 | 1/11/2013 6:00 PM |
| 1,1-Dichloroethene | ND | 200 | U | ppbv | 200 | 1/11/2013 6:00 PM |
| 1,2,4-Trichlorobenzene | ND | 200 | U | ppbv | 200 | 1/11/2013 6:00 PM |
| 1,2,4-Trimethylbenzene | ND | 200 | U | ppbv | 200 | 1/11/2013 6:00 PM |
| 1,2-Dibromoethane | ND | 200 | U | ppbv | 200 | 1/11/2013 6:00 PM |
| 1,2-Dichlorobenzene | ND | 200 | U | ppbv | 200 | 1/11/2013 6:00 PM |
| 1,2-Dichloroethane | ND | 200 | U | ppbv | 200 | 1/11/2013 6:00 PM |
| 1,2-Dichloropropane | ND | 200 | U | ppbv | 200 | 1/11/2013 6:00 PM |
| 1,3,5-Trimethylbenzene | ND | 200 | U | ppbv | 200 | 1/11/2013 6:00 PM |
| 1,3-Butadiene | ND | 200 | U | ppbv | 200 | 1/11/2013 6:00 PM |
| 1,3-Dichlorobenzene | ND | 200 | U | ppbv | 200 | 1/11/2013 6:00 PM |
| 1,4-Dichlorobenzene | ND | 200 | U | ppbv | 200 | 1/11/2013 6:00 PM |
| 2-Butanone | ND | 200 | U | ppbv | 200 | 1/11/2013 6:00 PM |
| 2-Hexanone | ND | 200 | U | ppbv | 200 | 1/11/2013 6:00 PM |
| 4-Methyl-2-pentanone | ND | 200 | U | ppbv | 200 | 1/11/2013 6:00 PM |
| Acetone | ND | 200 | U | ppbv | 200 | 1/11/2013 6:00 PM |
| Benzene | 490 | 200 | | ppbv | 200 | 1/11/2013 6:00 PM |
| Benzyl chloride | ND | 200 | U | ppbv | 200 | 1/11/2013 6:00 PM |
| Bromodichloromethane | ND | 200 | U | ppbv | 200 | 1/11/2013 6:00 PM |
| Bromoform | ND | 200 | U | ppbv | 200 | 1/11/2013 6:00 PM |
| Bromomethane | ND | 200 | U | ppbv | 200 | 1/11/2013 6:00 PM |
| Carbon disulfide | ND | 200 | U | ppbv | 200 | 1/11/2013 6:00 PM |
| Carbon tetrachloride | ND | 200 | U | ppbv | 200 | 1/11/2013 6:00 PM |
| Chlorobenzene | ND | 200 | U | ppbv | 200 | 1/11/2013 6:00 PM |
| Chlorodibromomethane | ND | 200 | U | ppbv | 200 | 1/11/2013 6:00 PM |
| Chloroethane | ND | 200 | U | ppbv | 200 | 1/11/2013 6:00 PM |
| Chloroform | ND | 200 | U | ppbv | 200 | 1/11/2013 6:00 PM |
| Chloromethane | ND | 200 | U | ppbv | 200 | 1/11/2013 6:00 PM |
| cis-1,2-Dichloroethene | ND | 200 | U | ppbv | 200 | 1/11/2013 6:00 PM |
| cis-1,3-dichloropropene | ND | 200 | U | ppbv | 200 | 1/11/2013 6:00 PM |

# RTI Laboratories - Analytical Report

**WO#: 1212959**

**Date Reported: 1/17/2013**
**Revision v1**

| | | | |
|---|---|---|---|
| **Client:** | Shaw Environmental & Infrastructure, Inc | **Collection Date:** | 12/17/2012 9:14:00 AM |
| **Project:** | Kirtland AFB | | |
| **Lab ID:** | 1212959-038 | **Matrix:** | Air |
| **Client Sample ID:** | VA2180 | | |

| Analysis | Result | RL | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| Cyclohexane | 470 | 400 | | ppbv | 200 | 1/11/2013 6:00 PM |
| Dichlorodifluoromethane | ND | 200 | U | ppbv | 200 | 1/11/2013 6:00 PM |
| Ethyl acetate | ND | 200 | U | ppbv | 200 | 1/11/2013 6:00 PM |
| Ethylbenzene | ND | 400 | U | ppbv | 200 | 1/11/2013 6:00 PM |
| Heptane | 540 | 200 | | ppbv | 200 | 1/11/2013 6:00 PM |
| Hexachlorobutadiene | ND | 400 | U | ppbv | 200 | 1/11/2013 6:00 PM |
| m,p-Xylene | ND | 400 | U | ppbv | 200 | 1/11/2013 6:00 PM |
| Methylene chloride | ND | 1,000 | U | ppbv | 200 | 1/11/2013 6:00 PM |
| n-Hexane | 360 | 400 | J | ppbv | 200 | 1/11/2013 6:00 PM |
| Naphthalene | ND | 200 | U | ppbv | 200 | 1/11/2013 6:00 PM |
| o-Xylene | ND | 200 | U | ppbv | 200 | 1/11/2013 6:00 PM |
| Propylene | ND | 200 | U | ppbv | 200 | 1/11/2013 6:00 PM |
| Styrene | ND | 200 | U | ppbv | 200 | 1/11/2013 6:00 PM |
| tert-Butyl Methyl Ether | ND | 200 | U | ppbv | 200 | 1/11/2013 6:00 PM |
| Tetrachloroethene | ND | 200 | U | ppbv | 200 | 1/11/2013 6:00 PM |
| Tetrahydrofuran | ND | 200 | U | ppbv | 200 | 1/11/2013 6:00 PM |
| Toluene | 1,500 | 200 | | ppbv | 200 | 1/11/2013 6:00 PM |
| trans-1,2-Dichloroethene | ND | 200 | U | ppbv | 200 | 1/11/2013 6:00 PM |
| trans-1,3-dichloropropene | ND | 200 | U | ppbv | 200 | 1/11/2013 6:00 PM |
| Trichloroethene | ND | 200 | U | ppbv | 200 | 1/11/2013 6:00 PM |
| Trichlorofluoromethane | ND | 200 | U | ppbv | 200 | 1/11/2013 6:00 PM |
| Vinyl acetate | ND | 200 | U | ppbv | 200 | 1/11/2013 6:00 PM |
| Vinyl chloride | ND | 200 | U | ppbv | 200 | 1/11/2013 6:00 PM |
| Xylenes, Total | ND | 600 | U | ppbv | 200 | 1/11/2013 6:00 PM |
| Surr: 4-Bromofluorobenzene | 94.8 | 70-130 | | %REC | 200 | 1/11/2013 6:00 PM |
| **Mass APH Air** | **Method:** | | | | | **Analyst: RH3** |
| **Air-Phase Petroleum Hydrocarbons** | | | | | | |
| C5-C8 Aliphatic Hydrocarbons | 100,000 | 47,000 | | µg/m³ | 400 | 1/10/2013 5:30 PM |
| C9-C10 Aromatic Hydrocarbons | ND | 53,000 | U | µg/m³ | 400 | 1/10/2013 5:30 PM |
| C9-C12 Aliphatic Hydrocarbons | ND | 76,000 | U | µg/m³ | 400 | 1/10/2013 5:30 PM |
| Surr: 4-Bromofluorobenzene | 98.7 | 70-130 | | %REC | 400 | 1/10/2013 5:30 PM |

# RTI Laboratories - Analytical Report

**WO#: 1212959**

**Date Reported: 1/17/2013**
**Revision v1**

| | | | |
|---|---|---|---|
| **Client:** | Shaw Environmental & Infrastructure, Inc | **Collection Date:** | 12/17/2012 9:45:00 AM |
| **Project:** | Kirtland AFB | | |
| **Lab ID:** | 1212959-039 | **Matrix:** | Air |
| **Client Sample ID:** | VA2181 | | |

| Analysis | Result | RL | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **Noncondensable Gases and Light Hydrocarbons** | | **Method: ASTM-D2504** | | | | **Analyst: cr** |
| Carbon dioxide | 0.35 | 0.10 | | % v/v | 1 | 1/14/2013 3:09 PM |
| Carbon Monoxide | ND | 0.10 | U | % v/v | 1 | 1/14/2013 3:09 PM |
| Methane | ND | 0.50 | U | % v/v | 1 | 1/14/2013 3:09 PM |
| Nitrogen | 83 | 0.10 | | % v/v | 1 | 1/14/2013 3:09 PM |
| Oxygen | 21 | 0.10 | | % v/v | 1 | 1/14/2013 3:09 PM |
| **Volatile Organic Compounds** | | **Method: TO-15** | | | | **Analyst: RH3** |
| 1,1,1-Trichloroethane | ND | 40 | U | ppbv | 40 | 1/14/2013 2:10 PM |
| 1,1,2,2-Tetrachloroethane | ND | 40 | U | ppbv | 40 | 1/14/2013 2:10 PM |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ND | 40 | U | ppbv | 40 | 1/14/2013 2:10 PM |
| 1,1,2-Trichloroethane | ND | 40 | U | ppbv | 40 | 1/14/2013 2:10 PM |
| 1,1-Dichloroethane | ND | 40 | U | ppbv | 40 | 1/14/2013 2:10 PM |
| 1,1-Dichloroethene | ND | 40 | U | ppbv | 40 | 1/14/2013 2:10 PM |
| 1,2,4-Trichlorobenzene | ND | 40 | U | ppbv | 40 | 1/14/2013 2:10 PM |
| 1,2,4-Trimethylbenzene | ND | 40 | U | ppbv | 40 | 1/14/2013 2:10 PM |
| 1,2-Dibromoethane | ND | 40 | U | ppbv | 40 | 1/14/2013 2:10 PM |
| 1,2-Dichlorobenzene | ND | 40 | U | ppbv | 40 | 1/14/2013 2:10 PM |
| 1,2-Dichloroethane | ND | 40 | U | ppbv | 40 | 1/14/2013 2:10 PM |
| 1,2-Dichloropropane | ND | 40 | U | ppbv | 40 | 1/14/2013 2:10 PM |
| 1,3,5-Trimethylbenzene | ND | 40 | U | ppbv | 40 | 1/14/2013 2:10 PM |
| 1,3-Butadiene | ND | 40 | U | ppbv | 40 | 1/14/2013 2:10 PM |
| 1,3-Dichlorobenzene | ND | 40 | U | ppbv | 40 | 1/14/2013 2:10 PM |
| 1,4-Dichlorobenzene | ND | 40 | U | ppbv | 40 | 1/14/2013 2:10 PM |
| 2-Butanone | ND | 40 | U | ppbv | 40 | 1/14/2013 2:10 PM |
| 2-Hexanone | ND | 40 | U | ppbv | 40 | 1/14/2013 2:10 PM |
| 4-Methyl-2-pentanone | ND | 40 | U | ppbv | 40 | 1/14/2013 2:10 PM |
| Acetone | ND | 40 | U | ppbv | 40 | 1/14/2013 2:10 PM |
| Benzene | 450 | 40 | | ppbv | 40 | 1/14/2013 2:10 PM |
| Benzyl chloride | ND | 40 | U | ppbv | 40 | 1/14/2013 2:10 PM |
| Bromodichloromethane | ND | 40 | U | ppbv | 40 | 1/14/2013 2:10 PM |
| Bromoform | ND | 40 | U | ppbv | 40 | 1/14/2013 2:10 PM |
| Bromomethane | ND | 40 | U | ppbv | 40 | 1/14/2013 2:10 PM |
| Carbon disulfide | ND | 40 | U | ppbv | 40 | 1/14/2013 2:10 PM |
| Carbon tetrachloride | ND | 40 | U | ppbv | 40 | 1/14/2013 2:10 PM |
| Chlorobenzene | ND | 40 | U | ppbv | 40 | 1/14/2013 2:10 PM |
| Chlorodibromomethane | ND | 40 | U | ppbv | 40 | 1/14/2013 2:10 PM |
| Chloroethane | ND | 40 | U | ppbv | 40 | 1/14/2013 2:10 PM |
| Chloroform | ND | 40 | U | ppbv | 40 | 1/14/2013 2:10 PM |
| Chloromethane | ND | 40 | U | ppbv | 40 | 1/14/2013 2:10 PM |
| cis-1,2-Dichloroethene | ND | 40 | U | ppbv | 40 | 1/14/2013 2:10 PM |
| cis-1,3-dichloropropene | ND | 40 | U | ppbv | 40 | 1/14/2013 2:10 PM |

# RTI Laboratories - Analytical Report

**WO#: 1212959**

**Date Reported: 1/17/2013**
**Revision v1**

| | | | |
|---|---|---|---|
| **Client:** | Shaw Environmental & Infrastructure, Inc | **Collection Date:** | 12/17/2012 9:45:00 AM |
| **Project:** | Kirtland AFB | | |
| **Lab ID:** | 1212959-039 | **Matrix:** | Air |
| **Client Sample ID:** | VA2181 | | |

| Analysis | Result | RL | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| Cyclohexane | 450 | 80 | | ppbv | 40 | 1/14/2013 2:10 PM |
| Dichlorodifluoromethane | ND | 40 | U | ppbv | 40 | 1/14/2013 2:10 PM |
| Ethyl acetate | ND | 40 | U | ppbv | 40 | 1/14/2013 2:10 PM |
| Ethylbenzene | 47 | 80 | J | ppbv | 40 | 1/14/2013 2:10 PM |
| Heptane | 540 | 40 | | ppbv | 40 | 1/14/2013 2:10 PM |
| Hexachlorobutadiene | ND | 80 | U | ppbv | 40 | 1/14/2013 2:10 PM |
| m,p-Xylene | 140 | 80 | | ppbv | 40 | 1/14/2013 2:10 PM |
| Methylene chloride | ND | 200 | U | ppbv | 40 | 1/14/2013 2:10 PM |
| n-Hexane | 320 | 80 | | ppbv | 40 | 1/14/2013 2:10 PM |
| Naphthalene | ND | 40 | U | ppbv | 40 | 1/14/2013 2:10 PM |
| o-Xylene | ND | 40 | U | ppbv | 40 | 1/14/2013 2:10 PM |
| Propylene | ND | 40 | U | ppbv | 40 | 1/14/2013 2:10 PM |
| Styrene | ND | 40 | U | ppbv | 40 | 1/14/2013 2:10 PM |
| tert-Butyl Methyl Ether | ND | 40 | U | ppbv | 40 | 1/14/2013 2:10 PM |
| Tetrachloroethene | ND | 40 | U | ppbv | 40 | 1/14/2013 2:10 PM |
| Tetrahydrofuran | ND | 40 | U | ppbv | 40 | 1/14/2013 2:10 PM |
| Toluene | 1,400 | 40 | | ppbv | 40 | 1/14/2013 2:10 PM |
| trans-1,2-Dichloroethene | ND | 40 | U | ppbv | 40 | 1/14/2013 2:10 PM |
| trans-1,3-dichloropropene | ND | 40 | U | ppbv | 40 | 1/14/2013 2:10 PM |
| Trichloroethene | ND | 40 | U | ppbv | 40 | 1/14/2013 2:10 PM |
| Trichlorofluoromethane | ND | 40 | U | ppbv | 40 | 1/14/2013 2:10 PM |
| Vinyl acetate | ND | 40 | U | ppbv | 40 | 1/14/2013 2:10 PM |
| Vinyl chloride | ND | 40 | U | ppbv | 40 | 1/14/2013 2:10 PM |
| Xylenes, Total | 140 | 120 | | ppbv | 40 | 1/14/2013 2:10 PM |
| Surr: 4-Bromofluorobenzene | 98.9 | 70-130 | | %REC | 40 | 1/14/2013 2:10 PM |
| **Mass APH Air** | **Method:** | | | | | **Analyst: RH3** |
| **Air-Phase Petroleum Hydrocarbons** | | | | | | |
| C5-C8 Aliphatic Hydrocarbons | 56,000 | 23,000 | | µg/m³ | 200 | 1/11/2013 5:11 PM |
| C9-C10 Aromatic Hydrocarbons | ND | 27,000 | U | µg/m³ | 200 | 1/11/2013 5:11 PM |
| C9-C12 Aliphatic Hydrocarbons | ND | 38,000 | U | µg/m³ | 200 | 1/11/2013 5:11 PM |
| Surr: 4-Bromofluorobenzene | 96.4 | 70-130 | | %REC | 200 | 1/11/2013 5:11 PM |

# RTI Laboratories - Analytical Report

**WO#: 1212959**

**Date Reported: 1/17/2013**
**Revision v1**

| | | | |
|---|---|---|---|
| **Client:** | Shaw Environmental & Infrastructure, Inc | **Collection Date:** | 12/18/2012 10:20:00 AM |
| **Project:** | Kirtland AFB | | |
| **Lab ID:** | 1212959-040 | **Matrix:** | Air |
| **Client Sample ID:** | VA2182 | | |

| 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 | 1/14/2013 3:53 PM |
| Carbon Monoxide | ND | 0.10 | U | % v/v | 1 | 1/14/2013 3:53 PM |
| Methane | ND | 0.50 | U | % v/v | 1 | 1/14/2013 3:53 PM |
| Nitrogen | 83 | 0.10 | | % v/v | 1 | 1/14/2013 3:53 PM |
| Oxygen | 23 | 0.10 | | % v/v | 1 | 1/14/2013 3:53 PM |
| **Volatile Organic Compounds** | | **Method: TO-15** | | | | **Analyst: RH3** |
| 1,1,1-Trichloroethane | ND | 400 | U | ppbv | 400 | 1/12/2013 2:12 AM |
| 1,1,2,2-Tetrachloroethane | ND | 400 | U | ppbv | 400 | 1/12/2013 2:12 AM |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ND | 400 | U | ppbv | 400 | 1/12/2013 2:12 AM |
| 1,1,2-Trichloroethane | ND | 400 | U | ppbv | 400 | 1/12/2013 2:12 AM |
| 1,1-Dichloroethane | ND | 400 | U | ppbv | 400 | 1/12/2013 2:12 AM |
| 1,1-Dichloroethene | ND | 400 | U | ppbv | 400 | 1/12/2013 2:12 AM |
| 1,2,4-Trichlorobenzene | ND | 400 | U | ppbv | 400 | 1/12/2013 2:12 AM |
| 1,2,4-Trimethylbenzene | ND | 400 | U | ppbv | 400 | 1/12/2013 2:12 AM |
| 1,2-Dibromoethane | ND | 400 | U | ppbv | 400 | 1/12/2013 2:12 AM |
| 1,2-Dichlorobenzene | ND | 400 | U | ppbv | 400 | 1/12/2013 2:12 AM |
| 1,2-Dichloroethane | ND | 400 | U | ppbv | 400 | 1/12/2013 2:12 AM |
| 1,2-Dichloropropane | ND | 400 | U | ppbv | 400 | 1/12/2013 2:12 AM |
| 1,3,5-Trimethylbenzene | ND | 400 | U | ppbv | 400 | 1/12/2013 2:12 AM |
| 1,3-Butadiene | ND | 400 | U | ppbv | 400 | 1/12/2013 2:12 AM |
| 1,3-Dichlorobenzene | ND | 400 | U | ppbv | 400 | 1/12/2013 2:12 AM |
| 1,4-Dichlorobenzene | ND | 400 | U | ppbv | 400 | 1/12/2013 2:12 AM |
| 2-Butanone | ND | 400 | U | ppbv | 400 | 1/12/2013 2:12 AM |
| 2-Hexanone | ND | 400 | U | ppbv | 400 | 1/12/2013 2:12 AM |
| 4-Methyl-2-pentanone | ND | 400 | U | ppbv | 400 | 1/12/2013 2:12 AM |
| Acetone | 620 | 400 | | ppbv | 400 | 1/12/2013 2:12 AM |
| Benzene | 980 | 400 | | ppbv | 400 | 1/12/2013 2:12 AM |
| Benzyl chloride | ND | 400 | U | ppbv | 400 | 1/12/2013 2:12 AM |
| Bromodichloromethane | ND | 400 | U | ppbv | 400 | 1/12/2013 2:12 AM |
| Bromoform | ND | 400 | U | ppbv | 400 | 1/12/2013 2:12 AM |
| Bromomethane | ND | 400 | U | ppbv | 400 | 1/12/2013 2:12 AM |
| Carbon disulfide | ND | 400 | U | ppbv | 400 | 1/12/2013 2:12 AM |
| Carbon tetrachloride | ND | 400 | U | ppbv | 400 | 1/12/2013 2:12 AM |
| Chlorobenzene | ND | 400 | U | ppbv | 400 | 1/12/2013 2:12 AM |
| Chlorodibromomethane | ND | 400 | U | ppbv | 400 | 1/12/2013 2:12 AM |
| Chloroethane | ND | 400 | U | ppbv | 400 | 1/12/2013 2:12 AM |
| Chloroform | ND | 400 | U | ppbv | 400 | 1/12/2013 2:12 AM |
| Chloromethane | ND | 400 | U | ppbv | 400 | 1/12/2013 2:12 AM |
| cis-1,2-Dichloroethene | ND | 400 | U | ppbv | 400 | 1/12/2013 2:12 AM |
| cis-1,3-dichloropropene | ND | 400 | U | ppbv | 400 | 1/12/2013 2:12 AM |

# RTI Laboratories - Analytical Report

**WO#: 1212959**

**Date Reported: 1/17/2013**
**Revision v1**

| | | | |
|---|---|---|---|
| **Client:** | Shaw Environmental & Infrastructure, Inc | **Collection Date:** | 12/18/2012 10:20:00 AM |
| **Project:** | Kirtland AFB | | |
| **Lab ID:** | 1212959-040 | **Matrix:** | Air |
| **Client Sample ID:** | VA2182 | | |

| Analysis | Result | RL | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| Cyclohexane | 960 | 800 | | ppbv | 400 | 1/12/2013 2:12 AM |
| Dichlorodifluoromethane | ND | 400 | U | ppbv | 400 | 1/12/2013 2:12 AM |
| Ethyl acetate | ND | 400 | U | ppbv | 400 | 1/12/2013 2:12 AM |
| Ethylbenzene | ND | 800 | U | ppbv | 400 | 1/12/2013 2:12 AM |
| Heptane | 1,100 | 400 | | ppbv | 400 | 1/12/2013 2:12 AM |
| Hexachlorobutadiene | ND | 800 | U | ppbv | 400 | 1/12/2013 2:12 AM |
| m,p-Xylene | ND | 800 | U | ppbv | 400 | 1/12/2013 2:12 AM |
| Methylene chloride | ND | 2,000 | U | ppbv | 400 | 1/12/2013 2:12 AM |
| n-Hexane | 750 | 800 | J | ppbv | 400 | 1/12/2013 2:12 AM |
| Naphthalene | ND | 400 | U | ppbv | 400 | 1/12/2013 2:12 AM |
| o-Xylene | ND | 400 | U | ppbv | 400 | 1/12/2013 2:12 AM |
| Propylene | ND | 400 | U | ppbv | 400 | 1/12/2013 2:12 AM |
| Styrene | ND | 400 | U | ppbv | 400 | 1/12/2013 2:12 AM |
| tert-Butyl Methyl Ether | ND | 400 | U | ppbv | 400 | 1/12/2013 2:12 AM |
| Tetrachloroethene | ND | 400 | U | ppbv | 400 | 1/12/2013 2:12 AM |
| Tetrahydrofuran | ND | 400 | U | ppbv | 400 | 1/12/2013 2:12 AM |
| Toluene | 3,200 | 400 | | ppbv | 400 | 1/12/2013 2:12 AM |
| trans-1,2-Dichloroethene | ND | 400 | U | ppbv | 400 | 1/12/2013 2:12 AM |
| trans-1,3-dichloropropene | ND | 400 | U | ppbv | 400 | 1/12/2013 2:12 AM |
| Trichloroethene | ND | 400 | U | ppbv | 400 | 1/12/2013 2:12 AM |
| Trichlorofluoromethane | ND | 400 | U | ppbv | 400 | 1/12/2013 2:12 AM |
| Vinyl acetate | ND | 400 | U | ppbv | 400 | 1/12/2013 2:12 AM |
| Vinyl chloride | ND | 400 | U | ppbv | 400 | 1/12/2013 2:12 AM |
| Xylenes, Total | ND | 1,200 | U | ppbv | 400 | 1/12/2013 2:12 AM |
| Surr: 4-Bromofluorobenzene | 94.2 | 70-130 | | %REC | 400 | 1/12/2013 2:12 AM |
| **Mass APH Air** | **Method:** | | | | | **Analyst: RH3** |
| **Air-Phase Petroleum Hydrocarbons** | | | | | | |
| C5-C8 Aliphatic Hydrocarbons | 76,000 | 23,000 | | µg/m³ | 200 | 1/15/2013 5:24 PM |
| C9-C10 Aromatic Hydrocarbons | ND | 27,000 | U | µg/m³ | 200 | 1/15/2013 5:24 PM |
| C9-C12 Aliphatic Hydrocarbons | ND | 38,000 | U | µg/m³ | 200 | 1/15/2013 5:24 PM |
| Surr: 4-Bromofluorobenzene | 96.3 | 70-130 | | %REC | 200 | 1/15/2013 5:24 PM |

# RTI Laboratories - Analytical Report

**WO#: 1212959**

**Date Reported: 1/17/2013**
**Revision v1**

| | | | |
|---|---|---|---|
| **Client:** | Shaw Environmental & Infrastructure, Inc | **Collection Date:** | 12/17/2012 10:56:00 AM |
| **Project:** | Kirtland AFB | | |
| **Lab ID:** | 1212959-041 | **Matrix:** | Air |
| **Client Sample ID:** | VA2183 | | |

| 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 | 1/14/2013 4:08 PM |
| Carbon Monoxide | ND | 0.10 | U | % v/v | 1 | 1/14/2013 4:08 PM |
| Methane | ND | 0.50 | U | % v/v | 1 | 1/14/2013 4:08 PM |
| Nitrogen | 84 | 0.10 | | % v/v | 1 | 1/14/2013 4:08 PM |
| Oxygen | 21 | 0.10 | | % v/v | 1 | 1/14/2013 4:08 PM |
| **Volatile Organic Compounds** | | **Method: TO-15** | | | | **Analyst: RH3** |
| 1,1,1-Trichloroethane | ND | 1,600 | U | ppbv | 1600 | 1/11/2013 11:10 PM |
| 1,1,2,2-Tetrachloroethane | ND | 1,600 | U | ppbv | 1600 | 1/11/2013 11:10 PM |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ND | 1,600 | U | ppbv | 1600 | 1/11/2013 11:10 PM |
| 1,1,2-Trichloroethane | ND | 1,600 | U | ppbv | 1600 | 1/11/2013 11:10 PM |
| 1,1-Dichloroethane | ND | 1,600 | U | ppbv | 1600 | 1/11/2013 11:10 PM |
| 1,1-Dichloroethene | ND | 1,600 | U | ppbv | 1600 | 1/11/2013 11:10 PM |
| 1,2,4-Trichlorobenzene | ND | 1,600 | U | ppbv | 1600 | 1/11/2013 11:10 PM |
| 1,2,4-Trimethylbenzene | ND | 1,600 | U | ppbv | 1600 | 1/11/2013 11:10 PM |
| 1,2-Dibromoethane | ND | 1,600 | U | ppbv | 1600 | 1/11/2013 11:10 PM |
| 1,2-Dichlorobenzene | ND | 1,600 | U | ppbv | 1600 | 1/11/2013 11:10 PM |
| 1,2-Dichloroethane | ND | 1,600 | U | ppbv | 1600 | 1/11/2013 11:10 PM |
| 1,2-Dichloropropane | ND | 1,600 | U | ppbv | 1600 | 1/11/2013 11:10 PM |
| 1,3,5-Trimethylbenzene | ND | 1,600 | U | ppbv | 1600 | 1/11/2013 11:10 PM |
| 1,3-Butadiene | ND | 1,600 | U | ppbv | 1600 | 1/11/2013 11:10 PM |
| 1,3-Dichlorobenzene | ND | 1,600 | U | ppbv | 1600 | 1/11/2013 11:10 PM |
| 1,4-Dichlorobenzene | ND | 1,600 | U | ppbv | 1600 | 1/11/2013 11:10 PM |
| 2-Butanone | ND | 1,600 | U | ppbv | 1600 | 1/11/2013 11:10 PM |
| 2-Hexanone | ND | 1,600 | U | ppbv | 1600 | 1/11/2013 11:10 PM |
| 4-Methyl-2-pentanone | ND | 1,600 | U | ppbv | 1600 | 1/11/2013 11:10 PM |
| Acetone | ND | 1,600 | U | ppbv | 1600 | 1/11/2013 11:10 PM |
| Benzene | 6,900 | 1,600 | | ppbv | 1600 | 1/11/2013 11:10 PM |
| Benzyl chloride | ND | 1,600 | U | ppbv | 1600 | 1/11/2013 11:10 PM |
| Bromodichloromethane | ND | 1,600 | U | ppbv | 1600 | 1/11/2013 11:10 PM |
| Bromoform | ND | 1,600 | U | ppbv | 1600 | 1/11/2013 11:10 PM |
| Bromomethane | ND | 1,600 | U | ppbv | 1600 | 1/11/2013 11:10 PM |
| Carbon disulfide | ND | 1,600 | U | ppbv | 1600 | 1/11/2013 11:10 PM |
| Carbon tetrachloride | ND | 1,600 | U | ppbv | 1600 | 1/11/2013 11:10 PM |
| Chlorobenzene | ND | 1,600 | U | ppbv | 1600 | 1/11/2013 11:10 PM |
| Chlorodibromomethane | ND | 1,600 | U | ppbv | 1600 | 1/11/2013 11:10 PM |
| Chloroethane | ND | 1,600 | U | ppbv | 1600 | 1/11/2013 11:10 PM |
| Chloroform | ND | 1,600 | U | ppbv | 1600 | 1/11/2013 11:10 PM |
| Chloromethane | ND | 1,600 | U | ppbv | 1600 | 1/11/2013 11:10 PM |
| cis-1,2-Dichloroethene | ND | 1,600 | U | ppbv | 1600 | 1/11/2013 11:10 PM |
| cis-1,3-dichloropropene | ND | 1,600 | U | ppbv | 1600 | 1/11/2013 11:10 PM |

# RTI Laboratories - Analytical Report

**WO#: 1212959**

**Date Reported: 1/17/2013**
**Revision v1**

| | | | |
|---|---|---|---|
| **Client:** | Shaw Environmental & Infrastructure, Inc | **Collection Date:** | 12/17/2012 10:56:00 AM |
| **Project:** | Kirtland AFB | | |
| **Lab ID:** | 1212959-041 | **Matrix:** | Air |
| **Client Sample ID:** | VA2183 | | |

| Analysis | Result | RL | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| Cyclohexane | 6,000 | 3,200 | | ppbv | 1600 | 1/11/2013 11:10 PM |
| Dichlorodifluoromethane | ND | 1,600 | U | ppbv | 1600 | 1/11/2013 11:10 PM |
| Ethyl acetate | ND | 1,600 | U | ppbv | 1600 | 1/11/2013 11:10 PM |
| Ethylbenzene | ND | 3,200 | U | ppbv | 1600 | 1/11/2013 11:10 PM |
| Heptane | ND | 1,600 | U | ppbv | 1600 | 1/11/2013 11:10 PM |
| Hexachlorobutadiene | ND | 3,200 | U | ppbv | 1600 | 1/11/2013 11:10 PM |
| m,p-Xylene | ND | 3,200 | U | ppbv | 1600 | 1/11/2013 11:10 PM |
| Methylene chloride | ND | 8,000 | U | ppbv | 1600 | 1/11/2013 11:10 PM |
| n-Hexane | 5,000 | 3,200 | | ppbv | 1600 | 1/11/2013 11:10 PM |
| Naphthalene | ND | 1,600 | U | ppbv | 1600 | 1/11/2013 11:10 PM |
| o-Xylene | ND | 1,600 | U | ppbv | 1600 | 1/11/2013 11:10 PM |
| Propylene | ND | 1,600 | U | ppbv | 1600 | 1/11/2013 11:10 PM |
| Styrene | ND | 1,600 | U | ppbv | 1600 | 1/11/2013 11:10 PM |
| tert-Butyl Methyl Ether | ND | 1,600 | U | ppbv | 1600 | 1/11/2013 11:10 PM |
| Tetrachloroethene | ND | 1,600 | U | ppbv | 1600 | 1/11/2013 11:10 PM |
| Tetrahydrofuran | ND | 1,600 | U | ppbv | 1600 | 1/11/2013 11:10 PM |
| Toluene | 8,500 | 1,600 | | ppbv | 1600 | 1/11/2013 11:10 PM |
| trans-1,2-Dichloroethene | ND | 1,600 | U | ppbv | 1600 | 1/11/2013 11:10 PM |
| trans-1,3-dichloropropene | ND | 1,600 | U | ppbv | 1600 | 1/11/2013 11:10 PM |
| Trichloroethene | ND | 1,600 | U | ppbv | 1600 | 1/11/2013 11:10 PM |
| Trichlorofluoromethane | ND | 1,600 | U | ppbv | 1600 | 1/11/2013 11:10 PM |
| Vinyl acetate | ND | 1,600 | U | ppbv | 1600 | 1/11/2013 11:10 PM |
| Vinyl chloride | ND | 1,600 | U | ppbv | 1600 | 1/11/2013 11:10 PM |
| Xylenes, Total | ND | 4,800 | U | ppbv | 1600 | 1/11/2013 11:10 PM |
| Surr: 4-Bromofluorobenzene | 95.0 | 70-130 | | %REC | 1600 | 1/11/2013 11:10 PM |
| **Mass APH Air** | **Method:** | | | | | **Analyst: RH3** |
| **Air-Phase Petroleum Hydrocarbons** | | | | | | |
| C5-C8 Aliphatic Hydrocarbons | 850,000 | 190,000 | | µg/m³ | 1600 | 1/10/2013 7:02 PM |
| C9-C10 Aromatic Hydrocarbons | ND | 210,000 | U | µg/m³ | 1600 | 1/10/2013 7:02 PM |
| C9-C12 Aliphatic Hydrocarbons | ND | 300,000 | U | µg/m³ | 1600 | 1/10/2013 7:02 PM |
| Surr: 4-Bromofluorobenzene | 96.7 | 70-130 | | %REC | 1600 | 1/10/2013 7:02 PM |

# RTI Laboratories - Analytical Report

**WO#: 1212959**

**Date Reported: 1/17/2013**
**Revision v1**

| | | | |
|---|---|---|---|
| **Client:** | Shaw Environmental & Infrastructure, Inc | **Collection Date:** | 12/17/2012 11:36:00 AM |
| **Project:** | Kirtland AFB | | |
| **Lab ID:** | 1212959-042 | **Matrix:** | Air |
| **Client Sample ID:** | VA2184 | | |

| 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 | 1/14/2013 4:23 PM |
| Carbon Monoxide | ND | 0.10 | U | % v/v | 1 | 1/14/2013 4:23 PM |
| Methane | ND | 0.50 | U | % v/v | 1 | 1/14/2013 4:23 PM |
| Nitrogen | 85 | 0.10 | | % v/v | 1 | 1/14/2013 4:23 PM |
| Oxygen | 20 | 0.10 | | % v/v | 1 | 1/14/2013 4:23 PM |
| **Volatile Organic Compounds** | | **Method: TO-15** | | | | **Analyst: RH3** |
| 1,1,1-Trichloroethane | ND | 400 | U | ppbv | 400 | 1/14/2013 3:41 PM |
| 1,1,2,2-Tetrachloroethane | ND | 400 | U | ppbv | 400 | 1/14/2013 3:41 PM |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ND | 400 | U | ppbv | 400 | 1/14/2013 3:41 PM |
| 1,1,2-Trichloroethane | ND | 400 | U | ppbv | 400 | 1/14/2013 3:41 PM |
| 1,1-Dichloroethane | ND | 400 | U | ppbv | 400 | 1/14/2013 3:41 PM |
| 1,1-Dichloroethene | ND | 400 | U | ppbv | 400 | 1/14/2013 3:41 PM |
| 1,2,4-Trichlorobenzene | ND | 400 | U | ppbv | 400 | 1/14/2013 3:41 PM |
| 1,2,4-Trimethylbenzene | ND | 400 | U | ppbv | 400 | 1/14/2013 3:41 PM |
| 1,2-Dibromoethane | ND | 400 | U | ppbv | 400 | 1/14/2013 3:41 PM |
| 1,2-Dichlorobenzene | ND | 400 | U | ppbv | 400 | 1/14/2013 3:41 PM |
| 1,2-Dichloroethane | ND | 400 | U | ppbv | 400 | 1/14/2013 3:41 PM |
| 1,2-Dichloropropane | ND | 400 | U | ppbv | 400 | 1/14/2013 3:41 PM |
| 1,3,5-Trimethylbenzene | ND | 400 | U | ppbv | 400 | 1/14/2013 3:41 PM |
| 1,3-Butadiene | ND | 400 | U | ppbv | 400 | 1/14/2013 3:41 PM |
| 1,3-Dichlorobenzene | ND | 400 | U | ppbv | 400 | 1/14/2013 3:41 PM |
| 1,4-Dichlorobenzene | ND | 400 | U | ppbv | 400 | 1/14/2013 3:41 PM |
| 2-Butanone | ND | 400 | U | ppbv | 400 | 1/14/2013 3:41 PM |
| 2-Hexanone | ND | 400 | U | ppbv | 400 | 1/14/2013 3:41 PM |
| 4-Methyl-2-pentanone | ND | 400 | U | ppbv | 400 | 1/14/2013 3:41 PM |
| Acetone | 6,800 | 400 | | ppbv | 400 | 1/14/2013 3:41 PM |
| Benzene | 14,000 | 400 | | ppbv | 400 | 1/14/2013 3:41 PM |
| Benzyl chloride | ND | 400 | U | ppbv | 400 | 1/14/2013 3:41 PM |
| Bromodichloromethane | ND | 400 | U | ppbv | 400 | 1/14/2013 3:41 PM |
| Bromoform | ND | 400 | U | ppbv | 400 | 1/14/2013 3:41 PM |
| Bromomethane | ND | 400 | U | ppbv | 400 | 1/14/2013 3:41 PM |
| Carbon disulfide | ND | 400 | U | ppbv | 400 | 1/14/2013 3:41 PM |
| Carbon tetrachloride | ND | 400 | U | ppbv | 400 | 1/14/2013 3:41 PM |
| Chlorobenzene | ND | 400 | U | ppbv | 400 | 1/14/2013 3:41 PM |
| Chlorodibromomethane | ND | 400 | U | ppbv | 400 | 1/14/2013 3:41 PM |
| Chloroethane | ND | 400 | U | ppbv | 400 | 1/14/2013 3:41 PM |
| Chloroform | ND | 400 | U | ppbv | 400 | 1/14/2013 3:41 PM |
| Chloromethane | ND | 400 | U | ppbv | 400 | 1/14/2013 3:41 PM |
| cis-1,2-Dichloroethene | ND | 400 | U | ppbv | 400 | 1/14/2013 3:41 PM |
| cis-1,3-dichloropropene | ND | 400 | U | ppbv | 400 | 1/14/2013 3:41 PM |

# RTI Laboratories - Analytical Report

**WO#: 1212959**

**Date Reported: 1/17/2013**
**Revision v1**

| | | | |
|---|---|---|---|
| **Client:** | Shaw Environmental & Infrastructure, Inc | **Collection Date:** | 12/17/2012 11:36:00 AM |
| **Project:** | Kirtland AFB | | |
| **Lab ID:** | 1212959-042 | **Matrix:** | Air |
| **Client Sample ID:** | VA2184 | | |

| Analysis | Result | RL | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| Cyclohexane | 13,000 | 800 | | ppbv | 400 | 1/14/2013 3:41 PM |
| Dichlorodifluoromethane | ND | 400 | U | ppbv | 400 | 1/14/2013 3:41 PM |
| Ethyl acetate | ND | 400 | U | ppbv | 400 | 1/14/2013 3:41 PM |
| Ethylbenzene | 670 | 800 | J | ppbv | 400 | 1/14/2013 3:41 PM |
| Heptane | 4,400 | 400 | | ppbv | 400 | 1/14/2013 3:41 PM |
| Hexachlorobutadiene | ND | 800 | U | ppbv | 400 | 1/14/2013 3:41 PM |
| m,p-Xylene | 1,400 | 800 | | ppbv | 400 | 1/14/2013 3:41 PM |
| Methylene chloride | 19,000 | 2,000 | | ppbv | 400 | 1/14/2013 3:41 PM |
| n-Hexane | 16,000 | 1,600 | | ppbv | 800 | 1/15/2013 4:49 AM |
| Naphthalene | ND | 400 | U | ppbv | 400 | 1/14/2013 3:41 PM |
| o-Xylene | 410 | 400 | | ppbv | 400 | 1/14/2013 3:41 PM |
| Propylene | ND | 400 | U | ppbv | 400 | 1/14/2013 3:41 PM |
| Styrene | ND | 400 | U | ppbv | 400 | 1/14/2013 3:41 PM |
| tert-Butyl Methyl Ether | ND | 400 | U | ppbv | 400 | 1/14/2013 3:41 PM |
| Tetrachloroethene | ND | 400 | U | ppbv | 400 | 1/14/2013 3:41 PM |
| Tetrahydrofuran | ND | 400 | U | ppbv | 400 | 1/14/2013 3:41 PM |
| Toluene | 22,000 | 800 | | ppbv | 800 | 1/15/2013 4:49 AM |
| trans-1,2-Dichloroethene | ND | 400 | U | ppbv | 400 | 1/14/2013 3:41 PM |
| trans-1,3-dichloropropene | ND | 400 | U | ppbv | 400 | 1/14/2013 3:41 PM |
| Trichloroethene | ND | 400 | U | ppbv | 400 | 1/14/2013 3:41 PM |
| Trichlorofluoromethane | ND | 400 | U | ppbv | 400 | 1/14/2013 3:41 PM |
| Vinyl acetate | ND | 400 | U | ppbv | 400 | 1/14/2013 3:41 PM |
| Vinyl chloride | ND | 400 | U | ppbv | 400 | 1/14/2013 3:41 PM |
| Xylenes, Total | 1,800 | 1,200 | | ppbv | 400 | 1/14/2013 3:41 PM |
| Surr: 4-Bromofluorobenzene | 98.8 | 70-130 | | %REC | 400 | 1/14/2013 3:41 PM |
| **Mass APH Air** | **Method:** | | | | | **Analyst: RH3** |
| **Air-Phase Petroleum Hydrocarbons** | | | | | | |
| C5-C8 Aliphatic Hydrocarbons | 380,000 | 94,000 | | µg/m³ | 800 | 1/11/2013 1:33 PM |
| C9-C10 Aromatic Hydrocarbons | ND | 110,000 | U | µg/m³ | 800 | 1/11/2013 1:33 PM |
| C9-C12 Aliphatic Hydrocarbons | ND | 150,000 | U | µg/m³ | 800 | 1/11/2013 1:33 PM |
| Surr: 4-Bromofluorobenzene | 95.3 | 70-130 | | %REC | 800 | 1/11/2013 1:33 PM |

# RTI Laboratories - Analytical Report

**WO#: 1212959**

**Date Reported: 1/17/2013**
**Revision v1**

| | | | |
|---|---|---|---|
| **Client:** | Shaw Environmental & Infrastructure, Inc | **Collection Date:** | 12/19/2012 8:45:00 AM |
| **Project:** | Kirtland AFB | | |
| **Lab ID:** | 1212959-043 | **Matrix:** | Air |
| **Client Sample ID:** | VA2201R | | |

| Analysis | Result | RL | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **Volatile Organic Compounds** | **Method: TO-15** | | | | | **Analyst: RH3** |
| 1,1,1-Trichloroethane | ND | 40 | U | ppbv | 40 | 1/16/2013 4:37 AM |
| 1,1,2,2-Tetrachloroethane | ND | 40 | U | ppbv | 40 | 1/16/2013 4:37 AM |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ND | 40 | U | ppbv | 40 | 1/16/2013 4:37 AM |
| 1,1,2-Trichloroethane | ND | 40 | U | ppbv | 40 | 1/16/2013 4:37 AM |
| 1,1-Dichloroethane | ND | 40 | U | ppbv | 40 | 1/16/2013 4:37 AM |
| 1,1-Dichloroethene | ND | 40 | U | ppbv | 40 | 1/16/2013 4:37 AM |
| 1,2,4-Trichlorobenzene | ND | 40 | U | ppbv | 40 | 1/16/2013 4:37 AM |
| 1,2,4-Trimethylbenzene | ND | 40 | U | ppbv | 40 | 1/16/2013 4:37 AM |
| 1,2-Dibromoethane | ND | 40 | U | ppbv | 40 | 1/16/2013 4:37 AM |
| 1,2-Dichlorobenzene | ND | 40 | U | ppbv | 40 | 1/16/2013 4:37 AM |
| 1,2-Dichloroethane | ND | 40 | U | ppbv | 40 | 1/16/2013 4:37 AM |
| 1,2-Dichloropropane | ND | 40 | U | ppbv | 40 | 1/16/2013 4:37 AM |
| 1,3,5-Trimethylbenzene | ND | 40 | U | ppbv | 40 | 1/16/2013 4:37 AM |
| 1,3-Butadiene | ND | 40 | U | ppbv | 40 | 1/16/2013 4:37 AM |
| 1,3-Dichlorobenzene | ND | 40 | U | ppbv | 40 | 1/16/2013 4:37 AM |
| 1,4-Dichlorobenzene | ND | 40 | U | ppbv | 40 | 1/16/2013 4:37 AM |
| 2-Butanone | ND | 40 | U | ppbv | 40 | 1/16/2013 4:37 AM |
| 2-Hexanone | ND | 40 | U | ppbv | 40 | 1/16/2013 4:37 AM |
| 4-Methyl-2-pentanone | ND | 40 | U | ppbv | 40 | 1/16/2013 4:37 AM |
| Acetone | 68 | 40 | | ppbv | 40 | 1/16/2013 4:37 AM |
| Benzene | 390 | 40 | | ppbv | 40 | 1/16/2013 4:37 AM |
| Benzyl chloride | ND | 40 | U | ppbv | 40 | 1/16/2013 4:37 AM |
| Bromodichloromethane | ND | 40 | U | ppbv | 40 | 1/16/2013 4:37 AM |
| Bromoform | ND | 40 | U | ppbv | 40 | 1/16/2013 4:37 AM |
| Bromomethane | ND | 40 | U | ppbv | 40 | 1/16/2013 4:37 AM |
| Carbon disulfide | ND | 40 | U | ppbv | 40 | 1/16/2013 4:37 AM |
| Carbon tetrachloride | ND | 40 | U | ppbv | 40 | 1/16/2013 4:37 AM |
| Chlorobenzene | ND | 40 | U | ppbv | 40 | 1/16/2013 4:37 AM |
| Chlorodibromomethane | ND | 40 | U | ppbv | 40 | 1/16/2013 4:37 AM |
| Chloroethane | ND | 40 | U | ppbv | 40 | 1/16/2013 4:37 AM |
| Chloroform | ND | 40 | U | ppbv | 40 | 1/16/2013 4:37 AM |
| Chloromethane | ND | 40 | U | ppbv | 40 | 1/16/2013 4:37 AM |
| cis-1,2-Dichloroethene | ND | 40 | U | ppbv | 40 | 1/16/2013 4:37 AM |
| cis-1,3-dichloropropene | ND | 40 | U | ppbv | 40 | 1/16/2013 4:37 AM |
| Cyclohexane | 300 | 80 | | ppbv | 40 | 1/16/2013 4:37 AM |
| Dichlorodifluoromethane | ND | 40 | U | ppbv | 40 | 1/16/2013 4:37 AM |
| Ethyl acetate | ND | 40 | U | ppbv | 40 | 1/16/2013 4:37 AM |
| Ethylbenzene | 52 | 80 | J | ppbv | 40 | 1/16/2013 4:37 AM |
| Heptane | 290 | 40 | | ppbv | 40 | 1/16/2013 4:37 AM |
| Hexachlorobutadiene | ND | 80 | U | ppbv | 40 | 1/16/2013 4:37 AM |
| m,p-Xylene | 160 | 80 | | ppbv | 40 | 1/16/2013 4:37 AM |
| Methylene chloride | ND | 200 | U | ppbv | 40 | 1/16/2013 4:37 AM |

# RTI Laboratories - Analytical Report

**WO#: 1212959**

**Date Reported: 1/17/2013**
**Revision v1**

| | | | |
|---|---|---|---|
| **Client:** | Shaw Environmental & Infrastructure, Inc | **Collection Date:** | 12/19/2012 8:45:00 AM |
| **Project:** | Kirtland AFB | | |
| **Lab ID:** | 1212959-043 | **Matrix:** | Air |
| **Client Sample ID:** | VA2201R | | |

| Analysis | Result | RL | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| n-Hexane | 190 | 80 | | ppbv | 40 | 1/16/2013 4:37 AM |
| Naphthalene | ND | 40 | U | ppbv | 40 | 1/16/2013 4:37 AM |
| o-Xylene | 44 | 40 | | ppbv | 40 | 1/16/2013 4:37 AM |
| Propylene | ND | 40 | U | ppbv | 40 | 1/16/2013 4:37 AM |
| Styrene | ND | 40 | U | ppbv | 40 | 1/16/2013 4:37 AM |
| tert-Butyl Methyl Ether | ND | 40 | U | ppbv | 40 | 1/16/2013 4:37 AM |
| Tetrachloroethene | ND | 40 | U | ppbv | 40 | 1/16/2013 4:37 AM |
| Tetrahydrofuran | ND | 40 | U | ppbv | 40 | 1/16/2013 4:37 AM |
| Toluene | 1,200 | 40 | | ppbv | 40 | 1/16/2013 4:37 AM |
| trans-1,2-Dichloroethene | ND | 40 | U | ppbv | 40 | 1/16/2013 4:37 AM |
| trans-1,3-dichloropropene | ND | 40 | U | ppbv | 40 | 1/16/2013 4:37 AM |
| Trichloroethene | ND | 40 | U | ppbv | 40 | 1/16/2013 4:37 AM |
| Trichlorofluoromethane | ND | 40 | U | ppbv | 40 | 1/16/2013 4:37 AM |
| Vinyl acetate | ND | 40 | U | ppbv | 40 | 1/16/2013 4:37 AM |
| Vinyl chloride | ND | 40 | U | ppbv | 40 | 1/16/2013 4:37 AM |
| Xylenes, Total | 200 | 120 | | ppbv | 40 | 1/16/2013 4:37 AM |
| Surr: 4-Bromofluorobenzene | 101 | 70-130 | | %REC | 40 | 1/16/2013 4:37 AM |
| **Mass APH Air** | **Method:** | | | | | **Analyst: RH3** |
| **Air-Phase Petroleum Hydrocarbons** | | | | | | |
| C5-C8 Aliphatic Hydrocarbons | 24,000 | 4,700 | | µg/m³ | 40 | 1/16/2013 2:13 PM |
| C9-C10 Aromatic Hydrocarbons | ND | 5,300 | U | µg/m³ | 40 | 1/16/2013 2:13 PM |
| C9-C12 Aliphatic Hydrocarbons | 2,800 | 7,600 | J | µg/m³ | 40 | 1/16/2013 2:13 PM |
| Surr: 4-Bromofluorobenzene | 95.5 | 70-130 | | %REC | 40 | 1/16/2013 2:13 PM |

# RTI Laboratories - Analytical Report

**WO#: 1212959**

**Date Reported: 1/17/2013**
**Revision v1**

| | | | |
|---|---|---|---|
| **Client:** | Shaw Environmental & Infrastructure, Inc | **Collection Date:** | 12/17/2012 8:00:00 AM |
| **Project:** | Kirtland AFB | | |
| **Lab ID:** | 1212959-044 | **Matrix:** | Air |
| **Client Sample ID:** | VA8110-TB | | |

| Analysis | Result | RL | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| **Volatile Organic Compounds** | **Method: TO-15** | | | | | **Analyst: RH3** |
| 1,1,1-Trichloroethane | ND | 1.0 | U | ppbv | 1 | 1/11/2013 4:23 PM |
| 1,1,2,2-Tetrachloroethane | ND | 1.0 | U | ppbv | 1 | 1/11/2013 4:23 PM |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ND | 1.0 | U | ppbv | 1 | 1/11/2013 4:23 PM |
| 1,1,2-Trichloroethane | ND | 1.0 | U | ppbv | 1 | 1/11/2013 4:23 PM |
| 1,1-Dichloroethane | ND | 1.0 | U | ppbv | 1 | 1/11/2013 4:23 PM |
| 1,1-Dichloroethene | ND | 1.0 | U | ppbv | 1 | 1/11/2013 4:23 PM |
| 1,2,4-Trichlorobenzene | ND | 1.0 | U | ppbv | 1 | 1/11/2013 4:23 PM |
| 1,2,4-Trimethylbenzene | ND | 1.0 | U | ppbv | 1 | 1/11/2013 4:23 PM |
| 1,2-Dibromoethane | ND | 1.0 | U | ppbv | 1 | 1/11/2013 4:23 PM |
| 1,2-Dichlorobenzene | ND | 1.0 | U | ppbv | 1 | 1/11/2013 4:23 PM |
| 1,2-Dichloroethane | ND | 1.0 | U | ppbv | 1 | 1/11/2013 4:23 PM |
| 1,2-Dichloropropane | ND | 1.0 | U | ppbv | 1 | 1/11/2013 4:23 PM |
| 1,3,5-Trimethylbenzene | ND | 1.0 | U | ppbv | 1 | 1/11/2013 4:23 PM |
| 1,3-Butadiene | ND | 1.0 | U | ppbv | 1 | 1/11/2013 4:23 PM |
| 1,3-Dichlorobenzene | ND | 1.0 | U | ppbv | 1 | 1/11/2013 4:23 PM |
| 1,4-Dichlorobenzene | ND | 1.0 | U | ppbv | 1 | 1/11/2013 4:23 PM |
| 2-Butanone | ND | 1.0 | U | ppbv | 1 | 1/11/2013 4:23 PM |
| 2-Hexanone | ND | 1.0 | U | ppbv | 1 | 1/11/2013 4:23 PM |
| 4-Methyl-2-pentanone | ND | 1.0 | U | ppbv | 1 | 1/11/2013 4:23 PM |
| Acetone | 4.6 | 1.0 | | ppbv | 1 | 1/11/2013 4:23 PM |
| Benzene | 1.9 | 1.0 | | ppbv | 1 | 1/11/2013 4:23 PM |
| Benzyl chloride | ND | 1.0 | U | ppbv | 1 | 1/11/2013 4:23 PM |
| Bromodichloromethane | ND | 1.0 | U | ppbv | 1 | 1/11/2013 4:23 PM |
| Bromoform | ND | 1.0 | U | ppbv | 1 | 1/11/2013 4:23 PM |
| Bromomethane | ND | 1.0 | U | ppbv | 1 | 1/11/2013 4:23 PM |
| Carbon disulfide | ND | 1.0 | U | ppbv | 1 | 1/11/2013 4:23 PM |
| Carbon tetrachloride | ND | 1.0 | U | ppbv | 1 | 1/11/2013 4:23 PM |
| Chlorobenzene | ND | 1.0 | U | ppbv | 1 | 1/11/2013 4:23 PM |
| Chlorodibromomethane | ND | 1.0 | U | ppbv | 1 | 1/11/2013 4:23 PM |
| Chloroethane | ND | 1.0 | U | ppbv | 1 | 1/11/2013 4:23 PM |
| Chloroform | ND | 1.0 | U | ppbv | 1 | 1/11/2013 4:23 PM |
| Chloromethane | ND | 1.0 | U | ppbv | 1 | 1/11/2013 4:23 PM |
| cis-1,2-Dichloroethene | ND | 1.0 | U | ppbv | 1 | 1/11/2013 4:23 PM |
| cis-1,3-dichloropropene | ND | 1.0 | U | ppbv | 1 | 1/11/2013 4:23 PM |
| Cyclohexane | ND | 2.0 | U | ppbv | 1 | 1/11/2013 4:23 PM |
| Dichlorodifluoromethane | ND | 1.0 | U | ppbv | 1 | 1/11/2013 4:23 PM |
| Ethyl acetate | ND | 1.0 | U | ppbv | 1 | 1/11/2013 4:23 PM |
| Ethylbenzene | ND | 2.0 | U | ppbv | 1 | 1/11/2013 4:23 PM |
| Heptane | ND | 1.0 | U | ppbv | 1 | 1/11/2013 4:23 PM |
| Hexachlorobutadiene | ND | 2.0 | U | ppbv | 1 | 1/11/2013 4:23 PM |
| m,p-Xylene | 1.1 | 2.0 | J | ppbv | 1 | 1/11/2013 4:23 PM |
| Methylene chloride | 2.3 | 5.0 | J | ppbv | 1 | 1/11/2013 4:23 PM |

# RTI Laboratories - Analytical Report

**WO#: 1212959**

**Date Reported: 1/17/2013**
**Revision v1**

| | | | |
|---|---|---|---|
| **Client:** | Shaw Environmental & Infrastructure, Inc | **Collection Date:** | 12/17/2012 8:00:00 AM |
| **Project:** | Kirtland AFB | | |
| **Lab ID:** | 1212959-044 | **Matrix:** | Air |
| **Client Sample ID:** | VA8110-TB | | |

| Analysis | Result | RL | Qual | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|
| n-Hexane | ND | 2.0 | U | ppbv | 1 | 1/11/2013 4:23 PM |
| Naphthalene | ND | 1.0 | U | ppbv | 1 | 1/11/2013 4:23 PM |
| o-Xylene | ND | 1.0 | U | ppbv | 1 | 1/11/2013 4:23 PM |
| Propylene | 4.1 | 1.0 | | ppbv | 1 | 1/11/2013 4:23 PM |
| Styrene | ND | 1.0 | U | ppbv | 1 | 1/11/2013 4:23 PM |
| tert-Butyl Methyl Ether | ND | 1.0 | U | ppbv | 1 | 1/11/2013 4:23 PM |
| Tetrachloroethene | ND | 1.0 | U | ppbv | 1 | 1/11/2013 4:23 PM |
| Tetrahydrofuran | ND | 1.0 | U | ppbv | 1 | 1/11/2013 4:23 PM |
| Toluene | 4.4 | 1.0 | | ppbv | 1 | 1/11/2013 4:23 PM |
| trans-1,2-Dichloroethene | ND | 1.0 | U | ppbv | 1 | 1/11/2013 4:23 PM |
| trans-1,3-dichloropropene | ND | 1.0 | U | ppbv | 1 | 1/11/2013 4:23 PM |
| Trichloroethene | ND | 1.0 | U | ppbv | 1 | 1/11/2013 4:23 PM |
| Trichlorofluoromethane | ND | 1.0 | U | ppbv | 1 | 1/11/2013 4:23 PM |
| Vinyl acetate | ND | 1.0 | U | ppbv | 1 | 1/11/2013 4:23 PM |
| Vinyl chloride | ND | 1.0 | U | ppbv | 1 | 1/11/2013 4:23 PM |
| Xylenes, Total | 1.1 | 3.0 | J | ppbv | 1 | 1/11/2013 4:23 PM |
| Surr: 4-Bromofluorobenzene | 94.2 | 70-130 | | %REC | 1 | 1/11/2013 4:23 PM |

# RTI Laboratories - QC SUMMARY REPORT

**WO#: 1212959**

**Date Reported: 1/17/2013**
**Revision v1**

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

**Project:** Kirtland AFB **Batch ID:** **R55307**

Sample ID: **MBLK-011013 TCD-A** Samp Type: **MBLK** Test Code: **ASTM-D2504** Units: **% v/v** Prep Date: RunNo: **55307**
Client ID: **PBW** Batch ID: **R55307** TestNo: **ASTM-D2504** Analysis Date: **1/10/2013** SeqNo: **1089984**

| 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-011013 TCD** Samp Type: **LCS** Test Code: **ASTM-D2504** Units: **% v/v** Prep Date: RunNo: **55307**
Client ID: **LCSW** Batch ID: **R55307** TestNo: **ASTM-D2504** Analysis Date: **1/10/2013** SeqNo: **1089986**

| 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 | 2.619 | 0.421 | 20 | |
| Carbon Monoxide | 2.7 | 0.10 | 2.500 | 0 | 109 | 70 | 130 | 2.716 | 0.0737 | 20 | |
| Methane | 1.9 | 0.50 | 2.000 | 0 | 94.8 | 70 | 130 | 2.113 | 10.8 | 20 | |
| Nitrogen | 2.8 | 0.10 | 2.500 | 0 | 111 | 70 | 130 | 2.804 | 0.680 | 20 | |
| Oxygen | 2.7 | 0.10 | 2.500 | 0 | 108 | 70 | 130 | 2.708 | 0.481 | 20 | |

Sample ID: **1212722-080BDUP** Samp Type: **DUP** Test Code: **ASTM-D2504** Units: **% v/v** Prep Date: RunNo: **55307**
Client ID: **ZZZZZZ** Batch ID: **R55307** TestNo: **ASTM-D2504** Analysis Date: **1/10/2013** SeqNo: **1089998**

| 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 | | | | | | 0.1320 | 0 | 20 | |
| Carbon Monoxide | ND | 0.10 | | | | | | 0 | 0 | 20 | U |
| Methane | ND | 0.50 | | | | | | 0 | 0 | 20 | U |
| Nitrogen | 83 | 0.10 | | | | | | 82.78 | 0.163 | 20 | |
| Oxygen | 22 | 0.10 | | | | | | 22.36 | 0.197 | 20 | |

Sample ID: **1212959-010BDUP** Samp Type: **DUP** Test Code: **ASTM-D2504** Units: **% v/v** Prep Date: RunNo: **55307**
Client ID: **VA2005** Batch ID: **R55307** TestNo: **ASTM-D2504** Analysis Date: **1/10/2013** SeqNo: **1090010**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | Low Limit | High Limit | RPD Ref Value | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Carbon dioxide | 0.44 | 0.10 | | | | | | 0.4400 | 0.227 | 20 | |
| Carbon Monoxide | ND | 0.10 | | | | | | 0 | 0 | 20 | U |

# RTI Laboratories - QC SUMMARY REPORT

**WO#: 1212959**

**Date Reported: 1/17/2013**
**Revision v1**

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

**Project:** Kirtland AFB **Batch ID:** **R55307**

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | **1212959-010BDUP** | Samp Type: | **DUP** | Test Code: | **ASTM-D2504** | Units: | **% v/v** | Prep Date: | | RunNo: | **55307** |
| Client ID: | **VA2005** | Batch ID: | **R55307** | TestNo: | **ASTM-D2504** | | | Analysis Date: | **1/10/2013** | SeqNo: | **1090010** |

| 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 | 85 | 0.10 | | | | | | 84.98 | 0.0577 | 20 | |
| Oxygen | 19 | 0.10 | | | | | | 19.33 | 0.0673 | 20 | |

# RTI Laboratories - QC SUMMARY REPORT

**WO#: 1212959**

**Date Reported: 1/17/2013**
**Revision v1**

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

**Project:** Kirtland AFB **Batch ID:** **R55326**

| Sample ID: | **MBLK VOA9 011013** | Samp Type: | **MBLK** | Test Code: | **MA_APH** | Units: | **µg/m³** | Prep Date: | | RunNo: | **55326** |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Client ID: | **PBW** | Batch ID: | **R55326** | TestNo: | **MA_APH** | | | Analysis Date: | **1/10/2013** | SeqNo: | **1090378** |

| 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 | 85 | | 89.50 | | 95.0 | 70 | 130 | | | | |

| Sample ID: | **1212959-001ADUP** | Samp Type: | **DUP** | Test Code: | **MA_APH** | Units: | **µg/m³** | Prep Date: | | RunNo: | **55326** |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Client ID: | **VA1945** | Batch ID: | **R55326** | TestNo: | **MA_APH** | | | Analysis Date: | **1/10/2013** | SeqNo: | **1090393** |

| 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 | | | | | | 605,800 | 5.84 | 30 | |
| C9-C10 Aromatic Hydrocarbons | ND | 110,000 | | | | | | 0 | 0 | 30 | U |
| C9-C12 Aliphatic Hydrocarbons | 38,000 | 150,000 | | | | | | 28,500 | 29.6 | 30 | J |
| Surr: 4-Bromofluorobenzene | 70,000 | | 71,600 | | 97.4 | 70 | 130 | | 0 | 30 | |

# RTI Laboratories - QC SUMMARY REPORT

**WO#: 1212959**

**Date Reported: 1/17/2013**
**Revision v1**

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

**Project:** Kirtland AFB **Batch ID:** **R55350**

Sample ID: **MBLK-011113 TCD-A** Samp Type: **MBLK** Test Code: **ASTM-D2504** Units: **% v/v** Prep Date: RunNo: **55350**
Client ID: **PBW** Batch ID: **R55350** TestNo: **ASTM-D2504** Analysis Date: **1/11/2013** SeqNo: **1090890**

| 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-011113 TCD** Samp Type: **LCS** Test Code: **ASTM-D2504** Units: **% v/v** Prep Date: RunNo: **55350**
Client ID: **LCSW** Batch ID: **R55350** TestNo: **ASTM-D2504** Analysis Date: **1/11/2013** SeqNo: **1090892**

| 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 | 102 | 70 | 130 | 2.563 | 0.156 | 20 | |
| Carbon Monoxide | 2.7 | 0.10 | 2.500 | 0 | 106 | 70 | 130 | 2.653 | 0.226 | 20 | |
| Methane | 2.1 | 0.50 | 2.000 | 0 | 106 | 70 | 130 | 2.061 | 2.96 | 20 | |
| Nitrogen | 2.7 | 0.10 | 2.500 | 0 | 109 | 70 | 130 | 2.728 | 0.110 | 20 | |
| Oxygen | 2.6 | 0.10 | 2.500 | 0 | 106 | 70 | 130 | 2.641 | 0.0379 | 20 | |

Sample ID: **1212959-020BDUP** Samp Type: **DUP** Test Code: **ASTM-D2504** Units: **% v/v** Prep Date: RunNo: **55350**
Client ID: **VA2015** Batch ID: **R55350** TestNo: **ASTM-D2504** Analysis Date: **1/11/2013** SeqNo: **1090904**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | Low Limit | High Limit | RPD Ref Value | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Carbon dioxide | 4.5 | 0.10 | | | | | | 4.447 | 0.359 | 20 | |
| Carbon Monoxide | ND | 0.10 | | | | | | 0 | 0 | 20 | U |
| Methane | ND | 0.50 | | | | | | 0 | 0 | 20 | U |
| Nitrogen | 82 | 0.10 | | | | | | 81.96 | 0.0403 | 20 | |
| Oxygen | 15 | 0.10 | | | | | | 15.35 | 0.0913 | 20 | |

Sample ID: **1212959-029BDUP** Samp Type: **DUP** Test Code: **ASTM-D2504** Units: **% v/v** Prep Date: RunNo: **55350**
Client ID: **VA2027** Batch ID: **R55350** TestNo: **ASTM-D2504** Analysis Date: **1/11/2013** SeqNo: **1090915**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | Low Limit | High Limit | RPD Ref Value | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Carbon dioxide | 0.67 | 0.10 | | | | | | 0.6720 | 0.447 | 20 | |
| Carbon Monoxide | ND | 0.10 | | | | | | 0 | 0 | 20 | U |

# RTI Laboratories - QC SUMMARY REPORT

**WO#: 1212959**

**Date Reported: 1/17/2013**
**Revision v1**

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

**Project:** Kirtland AFB **Batch ID:** **R55350**

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | **1212959-029BDUP** | Samp Type: | **DUP** | Test Code: | **ASTM-D2504** | Units: | **% v/v** | Prep Date: | | RunNo: | **55350** |
| Client ID: | **VA2027** | Batch ID: | **R55350** | TestNo: | **ASTM-D2504** | | | Analysis Date: | **1/11/2013** | SeqNo: | **1090915** |

| 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 | 84 | 0.10 | | | | | | 84.51 | 1.09 | 20 | |
| Oxygen | 19 | 0.10 | | | | | | 18.77 | 1.09 | 20 | |

# RTI Laboratories - QC SUMMARY REPORT

**WO#: 1212959**

**Date Reported: 1/17/2013**
**Revision v1**

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

**Project:** Kirtland AFB **Batch ID:** **R55362**

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | **MBLK/BV671 CC VO** | Samp Type: | **MBLK** | Test Code: | **EPA_TO15** | Units: | **ppbv** | Prep Date: | | RunNo: | **55362** |
| Client ID: | **PBW** | Batch ID: | **R55362** | TestNo: | **TO-15** | | | Analysis Date: | **1/11/2013** | SeqNo: | **1091076** |

| 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#: 1212959**

**Date Reported: 1/17/2013**
**Revision v1**

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

**Project:** Kirtland AFB **Batch ID:** **R55362**

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | **MBLK/BV671 CC VO** | Samp Type: | **MBLK** | Test Code: | **EPA_TO15** | Units: | **ppbv** | Prep Date: | | RunNo: | **55362** |
| Client ID: | **PBW** | Batch ID: | **R55362** | TestNo: | **TO-15** | | | Analysis Date: | **1/11/2013** | SeqNo: | **1091076** |

| 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 | | 94.0 | 70 | 130 | | | | |

# RTI Laboratories - QC SUMMARY REPORT

**WO#: 1212959**

**Date Reported: 1/17/2013**
**Revision v1**

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

**Project:** Kirtland AFB **Batch ID:** **R55362**

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | **1212959-041ADUP** | Samp Type: | **DUP** | Test Code: | **EPA_TO15** | Units: | **ppbv** | Prep Date: | | RunNo: | **55362** |
| Client ID: | **VA2183** | Batch ID: | **R55362** | TestNo: | **TO-15** | | | Analysis Date: | **1/11/2013** | SeqNo: | **1091085** |

| 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 | ND | 1,600 | | | | | | 0 | 0 | 25 | U |
| Benzene | 6,600 | 1,600 | | | | | | 6,880 | 4.76 | 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#: 1212959**

**Date Reported: 1/17/2013**
**Revision v1**

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

**Project:** Kirtland AFB **Batch ID:** **R55362**

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | **1212959-041ADUP** | Samp Type: | **DUP** | Test Code: | **EPA_TO15** | Units: | **ppbv** | Prep Date: | | RunNo: | **55362** |
| Client ID: | **VA2183** | Batch ID: | **R55362** | TestNo: | **TO-15** | | | Analysis Date: | **1/11/2013** | SeqNo: | **1091085** |

| 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 | 5,900 | 3,200 | | | | | | 6,000 | 2.16 | 25 | |
| Dichlorodifluoromethane | ND | 1,600 | | | | | | 0 | 0 | 25 | U |
| Ethyl acetate | ND | 1,600 | | | | | | 0 | 0 | 25 | U |
| Ethylbenzene | ND | 3,200 | | | | | | 0 | 0 | 25 | U |
| Heptane | ND | 1,600 | | | | | | 0 | 0 | 25 | U |
| Hexachlorobutadiene | ND | 3,200 | | | | | | 0 | 0 | 25 | U |
| m,p-Xylene | ND | 3,200 | | | | | | 0 | 0 | 25 | U |
| Methylene chloride | ND | 8,000 | | | | | | 0 | 0 | 25 | U |
| n-Hexane | 4,900 | 3,200 | | | | | | 5,008 | 2.92 | 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 | 8,300 | 1,600 | | | | | | 8,528 | 2.85 | 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 | ND | 4,800 | | | | | | 0 | 0 | 25 | U |
| Surr: 4-Bromofluorobenzene | 19,000 | | 20,000 | | 95.9 | 70 | 130 | | 0 | 25 | |

# RTI Laboratories - QC SUMMARY REPORT

**WO#: 1212959**

**Date Reported: 1/17/2013**
**Revision v1**

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

**Project:** Kirtland AFB **Batch ID:** **R55364**

| Sample ID: | **MBLK VOA9 011113** | Samp Type: | **MBLK** | Test Code: | **MA_APH** | Units: | **µg/m³** | Prep Date: | | RunNo: | **55364** |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Client ID: | **PBW** | Batch ID: | **R55364** | TestNo: | **MA_APH** | | | Analysis Date: | **1/11/2013** | SeqNo: | **1091131** |

| 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: | **1212959-025ADUP** | Samp Type: | **DUP** | Test Code: | **MA_APH** | Units: | **µg/m³** | Prep Date: | | RunNo: | **55364** |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Client ID: | **VA2020** | Batch ID: | **R55364** | TestNo: | **MA_APH** | | | Analysis Date: | **1/12/2013** | SeqNo: | **1091138** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | Low Limit | High Limit | RPD Ref Value | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| C5-C8 Aliphatic Hydrocarbons | 6,000,000 | 94,000 | | | | | | 5,875,000 | 1.81 | 30 | E |
| C9-C10 Aromatic Hydrocarbons | ND | 110,000 | | | | | | 0 | 0 | 30 | U |
| C9-C12 Aliphatic Hydrocarbons | 260,000 | 150,000 | | | | | | 261,000 | 0.489 | 30 | |
| Surr: 4-Bromofluorobenzene | 73,000 | | 71,600 | | 101 | 70 | 130 | | 0 | 30 | |

# RTI Laboratories - QC SUMMARY REPORT

**WO#: 1212959**

**Date Reported: 1/17/2013**
**Revision v1**

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

**Project:** Kirtland AFB **Batch ID:** **R55387**

Sample ID: **MBLK-011413 TCD-A** Samp Type: **MBLK** Test Code: **ASTM-D2504** Units: **% v/v** Prep Date: RunNo: **55387**
Client ID: **PBW** Batch ID: **R55387** TestNo: **ASTM-D2504** Analysis Date: **1/14/2013** SeqNo: **1091673**

| 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-011413 TCD** Samp Type: **LCS** Test Code: **ASTM-D2504** Units: **% v/v** Prep Date: RunNo: **55387**
Client ID: **LCSW** Batch ID: **R55387** TestNo: **ASTM-D2504** Analysis Date: **1/14/2013** SeqNo: **1091675**

| 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 | 2.591 | 0.385 | 20 | |
| Carbon Monoxide | 2.7 | 0.10 | 2.500 | 0 | 108 | 70 | 130 | 2.682 | 0.632 | 20 | |
| Methane | 2.1 | 0.50 | 2.000 | 0 | 104 | 70 | 130 | 2.079 | 0.386 | 20 | |
| Nitrogen | 2.8 | 0.10 | 2.500 | 0 | 111 | 70 | 130 | 2.868 | 2.94 | 20 | |
| Oxygen | 2.7 | 0.10 | 2.500 | 0 | 108 | 70 | 130 | 2.699 | 0.260 | 20 | |

Sample ID: **1212959-039BDUP** Samp Type: **DUP** Test Code: **ASTM-D2504** Units: **% v/v** Prep Date: RunNo: **55387**
Client ID: **VA2181** Batch ID: **R55387** TestNo: **ASTM-D2504** Analysis Date: **1/14/2013** SeqNo: **1091687**

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | Low Limit | High Limit | RPD Ref Value | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Carbon dioxide | 0.34 | 0.10 | | | | | | 0.3460 | 0.289 | 20 | |
| Carbon Monoxide | ND | 0.10 | | | | | | 0 | 0 | 20 | U |
| Methane | ND | 0.50 | | | | | | 0 | 0 | 20 | U |
| Nitrogen | 83 | 0.10 | | | | | | 83.48 | 0.133 | 20 | |
| Oxygen | 21 | 0.10 | | | | | | 21.30 | 0.127 | 20 | |

Sample ID: **1212959-042BDUP** Samp Type: **DUP** Test Code: **ASTM-D2504** Units: **% v/v** Prep Date: RunNo: **55387**
Client ID: **VA2184** Batch ID: **R55387** TestNo: **ASTM-D2504** Analysis Date: **1/14/2013** SeqNo: **1091692**

| 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 | | | | | | 0.2940 | 1.02 | 20 | |
| Carbon Monoxide | ND | 0.10 | | | | | | 0 | 0 | 20 | U |

# RTI Laboratories - QC SUMMARY REPORT

**WO#: 1212959**

**Date Reported: 1/17/2013**
**Revision v1**

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

**Project:** Kirtland AFB **Batch ID:** **R55387**

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | **1212959-042BDUP** | Samp Type: | **DUP** | Test Code: | **ASTM-D2504** | Units: | **% v/v** | Prep Date: | | RunNo: | **55387** |
| Client ID: | **VA2184** | Batch ID: | **R55387** | TestNo: | **ASTM-D2504** | | | Analysis Date: | **1/14/2013** | SeqNo: | **1091692** |

| 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 | 85 | 0.10 | | | | | | 84.69 | 0.113 | 20 | |
| Oxygen | 20 | 0.10 | | | | | | 20.27 | 0.138 | 20 | |

# RTI Laboratories - QC SUMMARY REPORT

**WO#: 1212959**

**Date Reported: 1/17/2013**
**Revision v1**

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

**Project:** Kirtland AFB **Batch ID:** **R55403**

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | **MBLK/DBV17 CC VO** | Samp Type: | **MBLK** | Test Code: | **EPA_TO15** | Units: | **ppbv** | Prep Date: | | RunNo: | **55403** |
| Client ID: | **PBW** | Batch ID: | **R55403** | TestNo: | **TO-15** | | | Analysis Date: | **1/14/2013** | SeqNo: | **1091968** |

| 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#: 1212959**

**Date Reported: 1/17/2013**
**Revision v1**

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

**Project:** Kirtland AFB **Batch ID:** **R55403**

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | **MBLK/DBV17 CC VO** | Samp Type: | **MBLK** | Test Code: | **EPA_TO15** | Units: | **ppbv** | Prep Date: | | RunNo: | **55403** |
| Client ID: | **PBW** | Batch ID: | **R55403** | TestNo: | **TO-15** | | | Analysis Date: | **1/14/2013** | SeqNo: | **1091968** |

| 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 | | 94.6 | 70 | 130 | | | | |

# RTI Laboratories - QC SUMMARY REPORT

**WO#: 1212959**

**Date Reported: 1/17/2013**
**Revision v1**

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

**Project:** Kirtland AFB **Batch ID:** **R55403**

| Sample ID: | **1212959-020ADUP** | Samp Type: | **DUP** | Test Code: | **EPA_TO15** | Units: | **ppbv** | Prep Date: | | RunNo: | **55403** |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Client ID: | **VA2015** | Batch ID: | **R55403** | TestNo: | **TO-15** | | | Analysis Date: | **1/14/2013** | SeqNo: | **1091977** |

| 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 | 2,600 | 800 | | | | | | 2,312 | 12.6 | 25 | |
| Benzene | 1,100 | 800 | | | | | | 960.0 | 10.3 | 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#: 1212959**

**Date Reported: 1/17/2013**
**Revision v1**

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

**Project:** Kirtland AFB **Batch ID:** **R55403**

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | **1212959-020ADUP** | Samp Type: | **DUP** | Test Code: | **EPA_TO15** | Units: | **ppbv** | Prep Date: | | RunNo: | **55403** |
| Client ID: | **VA2015** | Batch ID: | **R55403** | TestNo: | **TO-15** | | | Analysis Date: | **1/14/2013** | SeqNo: | **1091977** |

| 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 | 4,400 | 1,600 | | | | | | 4,096 | 7.52 | 25 | |
| Dichlorodifluoromethane | ND | 800 | | | | | | 0 | 0 | 25 | U |
| Ethyl acetate | ND | 800 | | | | | | 0 | 0 | 25 | U |
| Ethylbenzene | 1,900 | 1,600 | | | | | | 1,784 | 8.17 | 25 | |
| Heptane | 9,300 | 800 | | | | | | 8,648 | 6.88 | 25 | |
| Hexachlorobutadiene | ND | 1,600 | | | | | | 0 | 0 | 25 | U |
| m,p-Xylene | 5,100 | 1,600 | | | | | | 4,736 | 8.10 | 25 | |
| Methylene chloride | ND | 4,000 | | | | | | 0 | 0 | 25 | U |
| n-Hexane | 2,100 | 1,600 | | | | | | 1,992 | 7.35 | 25 | |
| Naphthalene | ND | 800 | | | | | | 0 | 0 | 25 | U |
| o-Xylene | 1,500 | 800 | | | | | | 1,360 | 7.37 | 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 | 14,000 | 800 | | | | | | 13,020 | 8.36 | 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 | 6,600 | 2,400 | | | | | | 6,096 | 7.94 | 25 | |
| Surr: 4-Bromofluorobenzene | 9,500 | | 10,000 | | 95.0 | 70 | 130 | | 0 | 25 | |

# RTI Laboratories - QC SUMMARY REPORT

**WO#: 1212959**

**Date Reported: 1/17/2013**
**Revision v1**

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

**Project:** Kirtland AFB **Batch ID:** **R55416**

| Sample ID: | **MBLK VOA9 011413** | Samp Type: | **MBLK** | Test Code: | **MA_APH** | Units: | **µg/m³** | Prep Date: | | RunNo: | **55416** |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Client ID: | **PBW** | Batch ID: | **R55416** | TestNo: | **MA_APH** | | | Analysis Date: | **1/14/2013** | SeqNo: | **1092177** |

| 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 | 83 | | 89.50 | | 92.4 | 70 | 130 | | | | |

| Sample ID: | **1212959-020ADUP** | Samp Type: | **DUP** | Test Code: | **MA_APH** | Units: | **µg/m³** | Prep Date: | | RunNo: | **55416** |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Client ID: | **VA2015** | Batch ID: | **R55416** | TestNo: | **MA_APH** | | | Analysis Date: | **1/15/2013** | SeqNo: | **1092181** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | Low Limit | High Limit | RPD Ref Value | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| C5-C8 Aliphatic Hydrocarbons | 720,000 | 190,000 | | | | | | 702,700 | 2.90 | 30 | |
| C9-C10 Aromatic Hydrocarbons | ND | 210,000 | | | | | | 0 | 0 | 30 | U |
| C9-C12 Aliphatic Hydrocarbons | 55,000 | 300,000 | | | | | | 51,420 | 5.83 | 30 | J |
| Surr: 4-Bromofluorobenzene | 140,000 | | 143,200 | | 96.7 | 70 | 130 | | 0 | 30 | |

# RTI Laboratories - QC SUMMARY REPORT

**WO#: 1212959**

**Date Reported: 1/17/2013**
**Revision v1**

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

**Project:** Kirtland AFB **Batch ID:** **R55438**

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | **MBLK/DBV88 CC VO** | Samp Type: | **MBLK** | Test Code: | **EPA_TO15** | Units: | **ppbv** | Prep Date: | | RunNo: | **55438** |
| Client ID: | **PBW** | Batch ID: | **R55438** | TestNo: | **TO-15** | | | Analysis Date: | **1/15/2013** | SeqNo: | **1092632** |

| 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#: 1212959**

**Date Reported: 1/17/2013**
**Revision v1**

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

**Project:** Kirtland AFB **Batch ID:** **R55438**

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | **MBLK/DBV88 CC VO** | Samp Type: | **MBLK** | Test Code: | **EPA_TO15** | Units: | **ppbv** | Prep Date: | | RunNo: | **55438** |
| Client ID: | **PBW** | Batch ID: | **R55438** | TestNo: | **TO-15** | | | Analysis Date: | **1/15/2013** | SeqNo: | **1092632** |

| 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 | | 94.3 | 70 | 130 | | | | |

# RTI Laboratories - QC SUMMARY REPORT

**WO#: 1212959**

**Date Reported: 1/17/2013**
**Revision v1**

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

**Project:** Kirtland AFB **Batch ID:** **R55438**

| Sample ID: | **1212959-006ADUP** | Samp Type: | **DUP** | Test Code: | **EPA_TO15** | Units: | **ppbv** | Prep Date: | | RunNo: | **55438** |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Client ID: | **VA1996** | Batch ID: | **R55438** | TestNo: | **TO-15** | | | Analysis Date: | **1/15/2013** | SeqNo: | **1092642** |

| 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 | 22,000 | 800 | | | | | | 20,620 | 6.53 | 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#: 1212959**

**Date Reported: 1/17/2013**
**Revision v1**

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

**Project:** Kirtland AFB **Batch ID:** **R55438**

| Sample ID: | **1212959-006ADUP** | Samp Type: | **DUP** | Test Code: | **EPA_TO15** | Units: | **ppbv** | Prep Date: | | RunNo: | **55438** |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Client ID: | **VA1996** | Batch ID: | **R55438** | TestNo: | **TO-15** | | | Analysis Date: | **1/15/2013** | SeqNo: | **1092642** |

| 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 | 80,000 | 1,600 | | | | | | 79,860 | 0.290 | 25 | E |
| Dichlorodifluoromethane | ND | 800 | | | | | | 0 | 0 | 25 | U |
| Ethyl acetate | ND | 800 | | | | | | 0 | 0 | 25 | U |
| Ethylbenzene | 1,700 | 1,600 | | | | | | 1,584 | 9.16 | 25 | |
| Heptane | 22,000 | 800 | | | | | | 21,200 | 3.08 | 25 | |
| Hexachlorobutadiene | ND | 1,600 | | | | | | 0 | 0 | 25 | U |
| m,p-Xylene | 5,200 | 1,600 | | | | | | 4,776 | 8.65 | 25 | |
| Methylene chloride | ND | 4,000 | | | | | | 0 | 0 | 25 | U |
| n-Hexane | 35,000 | 1,600 | | | | | | 34,010 | 4.06 | 25 | |
| Naphthalene | ND | 800 | | | | | | 0 | 0 | 25 | U |
| o-Xylene | 1,400 | 800 | | | | | | 1,280 | 8.96 | 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 | 40,000 | 800 | | | | | | 37,510 | 6.48 | 25 | E |
| 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 | 6,600 | 2,400 | | | | | | 6,056 | 8.72 | 25 | |
| Surr: 4-Bromofluorobenzene | 10,000 | | 10,000 | | 103 | 70 | 130 | | 0 | 25 | |

# RTI Laboratories - QC SUMMARY REPORT

**WO#: 1212959**

**Date Reported: 1/17/2013**
**Revision v1**

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

**Project:** Kirtland AFB **Batch ID:** **R55447**

| Sample ID: | **MBLK VOA9 011513** | Samp Type: | **MBLK** | Test Code: | **MA_APH** | Units: | **µg/m³** | Prep Date: | | RunNo: | **55447** |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Client ID: | **PBW** | Batch ID: | **R55447** | TestNo: | **MA_APH** | | | Analysis Date: | **1/15/2013** | SeqNo: | **1092769** |

| 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 | 83 | | 89.50 | | 93.2 | 70 | 130 | | | | |

| Sample ID: | **1212959-007ADUP** | Samp Type: | **DUP** | Test Code: | **MA_APH** | Units: | **µg/m³** | Prep Date: | | RunNo: | **55447** |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Client ID: | **VA1997** | Batch ID: | **R55447** | TestNo: | **MA_APH** | | | Analysis Date: | **1/16/2013** | SeqNo: | **1092772** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | Low Limit | High Limit | RPD Ref Value | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| C5-C8 Aliphatic Hydrocarbons | 290,000 | 94,000 | | | | | | 280,600 | 1.61 | 30 | |
| C9-C10 Aromatic Hydrocarbons | ND | 110,000 | | | | | | 0 | 0 | 30 | U |
| C9-C12 Aliphatic Hydrocarbons | 70,000 | 150,000 | | | | | | 73,220 | 4.85 | 30 | J |
| Surr: 4-Bromofluorobenzene | 69,000 | | 71,600 | | 96.6 | 70 | 130 | | 0 | 30 | |

# RTI Laboratories - QC SUMMARY REPORT

**WO#: 1212959**

**Date Reported: 1/17/2013**
**Revision v1**

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

**Project:** Kirtland AFB **Batch ID:** **R55470**

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | **MBLK/BV592 CC VO** | Samp Type: | **MBLK** | Test Code: | **EPA_TO15** | Units: | **ppbv** | Prep Date: | | RunNo: | **55470** |
| Client ID: | **PBW** | Batch ID: | **R55470** | TestNo: | **TO-15** | | | Analysis Date: | **1/16/2013** | SeqNo: | **1093214** |

| 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#: 1212959**

**Date Reported: 1/17/2013**
**Revision v1**

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

**Project:** Kirtland AFB **Batch ID:** **R55470**

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | **MBLK/BV592 CC VO** | Samp Type: | **MBLK** | Test Code: | **EPA_TO15** | Units: | **ppbv** | Prep Date: | | RunNo: | **55470** |
| Client ID: | **PBW** | Batch ID: | **R55470** | TestNo: | **TO-15** | | | Analysis Date: | **1/16/2013** | SeqNo: | **1093214** |

| 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 | | 96.0 | 70 | 130 | | | | |

# RTI Laboratories - QC SUMMARY REPORT

**WO#: 1212959**

**Date Reported: 1/17/2013**
**Revision v1**

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

**Project:** Kirtland AFB **Batch ID:** **R55470**

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | **1212959-028ADUP** | Samp Type: | **DUP** | Test Code: | **EPA_TO15** | Units: | **ppbv** | Prep Date: | | RunNo: | **55470** |
| Client ID: | **VA2025** | Batch ID: | **R55470** | TestNo: | **TO-15** | | | Analysis Date: | **1/16/2013** | SeqNo: | **1093225** |

| 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 | 1,200 | 800 | | | | | | 1,144 | 8.70 | 25 | |
| Benzene | 3,800 | 800 | | | | | | 3,576 | 7.33 | 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#: 1212959**

**Date Reported: 1/17/2013**
**Revision v1**

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

**Project:** Kirtland AFB **Batch ID:** **R55470**

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample ID: | **1212959-028ADUP** | Samp Type: | **DUP** | Test Code: | **EPA_TO15** | Units: | **ppbv** | Prep Date: | | RunNo: | **55470** |
| Client ID: | **VA2025** | Batch ID: | **R55470** | TestNo: | **TO-15** | | | Analysis Date: | **1/16/2013** | SeqNo: | **1093225** |

| 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 | 9,400 | 1,600 | | | | | | 8,824 | 6.15 | 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 | 9,900 | 800 | | | | | | 9,224 | 7.51 | 25 | |
| Hexachlorobutadiene | ND | 1,600 | | | | | | 0 | 0 | 25 | U |
| m,p-Xylene | 1,200 | 1,600 | | | | | | 1,096 | 9.72 | 25 | J |
| Methylene chloride | ND | 4,000 | | | | | | 0 | 0 | 25 | U |
| n-Hexane | 6,700 | 1,600 | | | | | | 6,232 | 6.58 | 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 | 11,000 | 800 | | | | | | 10,220 | 8.32 | 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 | 1,200 | 2,400 | | | | | | 1,096 | 9.72 | 25 | J |
| Surr: 4-Bromofluorobenzene | 10,000 | | 10,000 | | 99.5 | 70 | 130 | | 0 | 25 | |

# RTI Laboratories - QC SUMMARY REPORT

**WO#: 1212959**

**Date Reported: 1/17/2013**
**Revision v1**

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

**Project:** Kirtland AFB **Batch ID:** **R55474**

| Sample ID: | **MBLK VOA9 011613** | Samp Type: | **MBLK** | Test Code: | **MA_APH** | Units: | **µg/m³** | Prep Date: | | RunNo: | **55474** |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Client ID: | **PBW** | Batch ID: | **R55474** | TestNo: | **MA_APH** | | | Analysis Date: | **1/16/2013** | SeqNo: | **1093294** |

| 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 | | 94.2 | 70 | 130 | | | | |

| Sample ID: | **1212960-004ADUP** | Samp Type: | **DUP** | Test Code: | **MA_APH** | Units: | **µg/m³** | Prep Date: | | RunNo: | **55474** |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Client ID: | **ZZZZZZ** | Batch ID: | **R55474** | TestNo: | **MA_APH** | | | Analysis Date: | **1/17/2013** | SeqNo: | **1093306** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | Low Limit | High Limit | RPD Ref Value | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|
| C5-C8 Aliphatic Hydrocarbons | 820,000 | 94,000 | | | | | | 835,500 | 1.54 | 30 | |
| C9-C10 Aromatic Hydrocarbons | ND | 110,000 | | | | | | 0 | 0 | 30 | U |
| C9-C12 Aliphatic Hydrocarbons | 59,000 | 150,000 | | | | | | 47,680 | 20.8 | 30 | J |
| Surr: 4-Bromofluorobenzene | 71,000 | | 71,600 | | 98.5 | 70 | 130 | | 0 | 30 | |

# Injection Log

Directory: C:\HPCHEM\1\DATA\011113

| Line | Vial | FileName | Multiplier | SampleName | Misc Info | Injected |
|---|---|---|---|---|---|---|
| 1 | 1 | 01111301.d | 1. | BFB VOA1 011113 | TUNE BFB_TUNE | 11 Jan 2013 12:20 |
| 2 | 2 | 01111302.d | 1. | CCV VOA1 011113 | data not used | 11 Jan 2013 13:03 |
| 3 | 3 | 01111303.d | 1. | CCV VOA1 011113 | CCV EPA_TO15 | 11 Jan 2013 13:46 |
| 4 | 3 | 01111304.d | 1. | RLVS VOA1 011113 | RLVS EPA_TO15 | 11 Jan 2013 14:45 |
| 5 | 4 | 01111305.d | 1. | MBLK/BV671 CC VOA1 011113 | MBLK EPA_TO15 | 11 Jan 2013 15:35 |
| 6 | 5 | 01111306.d | 1. | 1212959-044A | SAMP EPA_TO15 | 11 Jan 2013 16:23 |
| 7 | 6 | 01111307.d | 200. | 1212959-037A | SAMP EPA_TO15 | 11 Jan 2013 17:12 |
| 8 | 7 | 01111308.d | 200. | 1212959-038A | SAMP EPA_TO15 | 11 Jan 2013 18:00 |
| 9 | 3 | 01111309.d | 800. | 1212959-001A | SAMP EPA_TO15 | 11 Jan 2013 18:45 |
| 10 | 3 | 01111310.d | 800. | 1212959-001A | data not used | 11 Jan 2013 19:30 |
| 11 | 4 | 01111311.d | 200. | 1212959-039A | data not used | 11 Jan 2013 20:15 |
| 12 | 6 | 01111312.d | 20000. | 1212959-002A | SAMP EPA_TO15 | 11 Jan 2013 20:57 |
| 13 | 7 | 01111313.d | 20000. | 1212959-003A | SAMP EPA_TO15 | 11 Jan 2013 21:39 |
| 14 | 8 | 01111314.d | 400. | 1212959-004A | SAMP EPA_TO15 | 11 Jan 2013 22:27 |
| 15 | 9 | 01111315.d | 1600. | 1212959-041A | SAMP EPA_TO15 | 11 Jan 2013 23:10 |
| 16 | 9 | 01111316.d | 1600. | 1212959-041ADUP | DUP EPA_TO15 | 11 Jan 2013 23:53 |
| 17 | 10 | 01111317.d | 400. | 1212959-011A | SAMP EPA_TO15 | 12 Jan 2013 00:42 |
| 18 | 11 | 01111318.d | 20000. | 1212959-012A | SAMP EPA_TO15 | 12 Jan 2013 01:24 |
| 19 | 12 | 01111319.d | 400. | 1212959-040A | SAMP EPA_TO15 | 12 Jan 2013 02:12 |
| 20 | 13 | 01111320.d | 1600. | 1212959-013A | SAMP EPA_TO15 | 12 Jan 2013 02:55 |
| 21 | 14 | 01111321.d | 400. | 1212959-014A | SAMP EPA_TO15 | 12 Jan 2013 03:44 |
| 22 | 15 | 01111322.d | 400. | 1212959-015A | SAMP EPA_TO15 | 12 Jan 2013 04:32 |
| 23 | 16 | 01111323.d | 400. | 1212959-016A | SAMP EPA_TO15 | 12 Jan 2013 05:21 |
| 24 | 1 | 01111324.d | 1. | RLVS2 VOA1 011113 | RLVS EPA_TO15 | 12 Jan 2013 06:03 |

# RTI Laboratories

# ANALYTICAL RUN Summary

*17-Jan-13*

**RunNo** 55362

| Seq No | Sample ID | Test Code | Sample Typ | File ID | Analysis Date | DF | Batch ID | Prep Date | SPKref | RPDref | pmoist |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1091073 | BFB VOA1 011113 | BFB_TUNE | TUNE | \\1\DATA\011113\ | 1/11/2013 12:20: | 1 | R55362 | | 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 | | 100.5 | 100.5 | | 100 | 0 | 0 | 0 | 0 | 0 | 101% | 50 | 200 | 0% | |
| 175 | M | | 7.1 | 7.1 | | 100 | 0 | 0 | 0 | 0 | 0 | 7% | 4 | 9 | 0% | |
| 176 | M | | 99.1 | 99.1 | | 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 | | 19.2 | 19.2 | | 100 | 0 | 0 | 0 | 0 | 0 | 19% | 8 | 40 | 0% | |
| 75 | M | | 47.4 | 47.4 | | 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 | | 6.9 | 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1091074 | CCV VOA1 011113 | EPA_TO15 | CCV | \\1\DATA\011113\ | 1/11/2013 1:46:0 | 1 | R55362 | | 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 | 11.46 | 11.46 | | 9.6 | 0 | 0 | 0.107 | 1 | 50 | 119% | 70 | 130 | 0% | |
| 1,1,2,2-Tetrachloroethane | A | ppbv | 10.91 | 10.91 | | 10 | 0 | 0 | 0.211 | 1 | 50 | 109% | 70 | 130 | 0% | |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | A | ppbv | 11.42 | 11.42 | | 9.8 | 0 | 0 | 0.108 | 1 | 50 | 117% | 70 | 130 | 0% | |
| 1,1,2-Trichloroethane | A | ppbv | 11.22 | 11.22 | | 9.8 | 0 | 0 | 0.2 | 1 | 50 | 114% | 70 | 130 | 0% | |
| 1,1-Dichloroethane | A | ppbv | 11.6 | 11.6 | | 9.7 | 0 | 0 | 0.111 | 1 | 50 | 120% | 70 | 130 | 0% | |
| 1,1-Dichloroethene | A | ppbv | 11.61 | 11.61 | | 9.9 | 0 | 0 | 0.097 | 1 | 50 | 117% | 70 | 130 | 0% | |
| 1,2,4-Trichlorobenzene | A | ppbv | 9.48 | 9.48 | | 9.1 | 0 | 0 | 0.271 | 1 | 50 | 104% | 70 | 130 | 0% | |
| 1,2,4-Trimethylbenzene | A | ppbv | 10.72 | 10.72 | | 9.8 | 0 | 0 | 0.245 | 1 | 50 | 109% | 70 | 130 | 0% | |
| 1,2-Dibromoethane | A | ppbv | 11.17 | 11.17 | | 9.6 | 0 | 0 | 0.186 | 1 | 50 | 116% | 70 | 130 | 0% | |
| 1,2-Dichlorobenzene | A | ppbv | 10.43 | 10.43 | | 9.7 | 0 | 0 | 0.208 | 1 | 50 | 108% | 70 | 130 | 0% | |
| 1,2-Dichloroethane | A | ppbv | 11.93 | 11.93 | | 9.7 | 0 | 0 | 0.196 | 1 | 50 | 123% | 70 | 130 | 0% | |
| 1,2-Dichloropropane | A | ppbv | 11.49 | 11.49 | | 9.8 | 0 | 0 | 0.224 | 1 | 50 | 117% | 70 | 130 | 0% | |
| 1,3,5-Trimethylbenzene | A | ppbv | 10.75 | 10.75 | | 9.7 | 0 | 0 | 0.24 | 1 | 50 | 111% | 70 | 130 | 0% | |
| 1,3-Butadiene | A | ppbv | 11.62 | 11.62 | | 9.8 | 0 | 0 | 0.152 | 1 | 50 | 119% | 70 | 130 | 0% | |
| 1,3-Dichlorobenzene | A | ppbv | 10.48 | 10.48 | | 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1091074 | CCV VOA1 011113 | EPA_TO15 | CCV | \\1\DATA\011113\ | 1/11/2013 1:46:0 | 1 | R55362 | | 0 | 0 | |

| Analyte | T | Units | RAW | Final | Text | Spike | SPKref | RPDref | MDL | PQL | UQL | %REC | LOW | HIGH | %RPD | Q |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,4-Dichlorobenzene | A | ppbv | 10.42 | 10.42 | | 9.6 | 0 | 0 | 0.194 | 1 | 50 | 109% | 70 | 130 | 0% | |
| 1,4-Dioxane | A | ppbv | 11.11 | 11.11 | | 9.6 | 0 | 0 | 0.128 | 1 | 50 | 116% | 70 | 130 | 0% | |
| 2-Butanone | A | ppbv | 11.91 | 11.91 | | 9.9 | 0 | 0 | 0.287 | 1 | 50 | 120% | 70 | 130 | 0% | |
| 2-Hexanone | A | ppbv | 11.83 | 11.83 | | 9.8 | 0 | 0 | 0.135 | 1 | 50 | 121% | 70 | 130 | 0% | |
| 2-Propanol | A | ppbv | 12 | 12 | | 10.1 | 0 | 0 | 0.329 | 1 | 50 | 119% | 70 | 130 | 0% | |
| 4-Methyl-2-pentanone | A | ppbv | 11.5 | 11.5 | | 10 | 0 | 0 | 0.157 | 1 | 50 | 115% | 70 | 130 | 0% | |
| Acetone | A | ppbv | 12.22 | 12.22 | | 10 | 0 | 0 | 0.43 | 1 | 50 | 122% | 70 | 130 | 0% | |
| Benzene | A | ppbv | 11.42 | 11.42 | | 9.6 | 0 | 0 | 0.126 | 1 | 50 | 119% | 70 | 130 | 0% | |
| Benzyl chloride | A | ppbv | 10.89 | 10.89 | | 9.7 | 0 | 0 | 0.155 | 1 | 50 | 112% | 70 | 130 | 0% | |
| Bromodichloromethane | A | ppbv | 11.18 | 11.18 | | 9.6 | 0 | 0 | 0.156 | 1 | 50 | 116% | 70 | 130 | 0% | |
| Bromoform | A | ppbv | 10.89 | 10.89 | | 9.6 | 0 | 0 | 0.197 | 1 | 50 | 113% | 70 | 130 | 0% | |
| Bromomethane | A | ppbv | 11.01 | 11.01 | | 9.3 | 0 | 0 | 0.075 | 1 | 50 | 118% | 70 | 130 | 0% | |
| Carbon disulfide | A | ppbv | 11.18 | 11.18 | | 9.7 | 0 | 0 | 0.093 | 1 | 50 | 115% | 70 | 130 | 0% | |
| Carbon tetrachloride | A | ppbv | 11.46 | 11.46 | | 9.5 | 0 | 0 | 0.114 | 1 | 50 | 121% | 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 | 11.47 | 11.47 | | 9.2 | 0 | 0 | 0.165 | 1 | 50 | 125% | 70 | 130 | 0% | |
| Chloroethane | A | ppbv | 10.58 | 10.58 | | 9.8 | 0 | 0 | 0.063 | 1 | 50 | 108% | 70 | 130 | 0% | |
| Chloroform | A | ppbv | 11.6 | 11.6 | | 9.4 | 0 | 0 | 0.126 | 1 | 50 | 123% | 70 | 130 | 0% | |
| Chloromethane | A | ppbv | 11.19 | 11.19 | | 9.8 | 0 | 0 | 0.104 | 1 | 50 | 114% | 70 | 130 | 0% | |
| cis-1,2-Dichloroethene | A | ppbv | 11.34 | 11.34 | | 9.8 | 0 | 0 | 0.107 | 1 | 50 | 116% | 70 | 130 | 0% | |
| cis-1,3-dichloropropene | A | ppbv | 11.11 | 11.11 | | 9.5 | 0 | 0 | 0.166 | 1 | 50 | 117% | 70 | 130 | 0% | |
| Cyclohexane | A | ppbv | 11.74 | 11.74 | | 9.8 | 0 | 0 | 0.684 | 2 | 50 | 120% | 70 | 130 | 0% | |
| Dichlorodifluoromethane | A | ppbv | 10.64 | 10.64 | | 9.2 | 0 | 0 | 0.086 | 1 | 50 | 116% | 70 | 130 | 0% | |
| Ethanol | A | ppbv | 10.74 | 10.74 | | 9.2 | 0 | 0 | 1.962 | 5 | 50 | 117% | 70 | 130 | 0% | |
| Ethyl acetate | A | ppbv | 11.48 | 11.48 | | 9.8 | 0 | 0 | 0.157 | 1 | 50 | 117% | 70 | 130 | 0% | |
| Ethylbenzene | A | ppbv | 11.17 | 11.17 | | 9.8 | 0 | 0 | 0.737 | 2 | 50 | 114% | 70 | 130 | 0% | |
| Heptane | A | ppbv | 12.08 | 12.08 | | 9.9 | 0 | 0 | 0.249 | 1 | 50 | 122% | 70 | 130 | 0% | |
| Hexachlorobutadiene | A | ppbv | 9.66 | 9.66 | | 9.4 | 0 | 0 | 0.374 | 2 | 50 | 103% | 70 | 130 | 0% | |
| m,p-Xylene | A | ppbv | 22.73 | 22.73 | | 19.2 | 0 | 0 | 0.524 | 2 | 100 | 118% | 70 | 130 | 0% | |
| Methylene chloride | A | ppbv | 11.58 | 11.58 | | 10 | 0 | 0 | 2.077 | 5 | 50 | 116% | 70 | 130 | 0% | |
| n-Hexane | A | ppbv | 11.9 | 11.9 | | 10.1 | 0 | 0 | 0.692 | 2 | 50 | 118% | 70 | 130 | 0% | |
| Naphthalene | A | ppbv | 9.78 | 9.78 | | 9.2 | 0 | 0 | 0.247 | 1 | 50 | 106% | 70 | 130 | 0% | |
| o-Xylene | A | ppbv | 11.28 | 11.28 | | 10 | 0 | 0 | 0.258 | 1 | 50 | 113% | 70 | 130 | 0% | |
| Propylene | A | ppbv | 11.6 | 11.6 | | 10.2 | 0 | 0 | 0.075 | 1 | 50 | 114% | 70 | 130 | 0% | |

| Seq No | Sample ID | Test Code | Sample Typ | File ID | Analysis Date | DF | Batch ID | Prep Date | SPKref | RPDref | pmoist |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1091074 | CCV VOA1 011113 | EPA_TO15 | CCV | [\1\DATA\011113\ | 1/11/2013 1:46:0 | 1 | R55362 | | 0 | 0 | |

| Analyte | T | Units | RAW | Final | Text | Spike | SPKref | RPDref | MDL | PQL | UQL | %REC | LOW | HIGH | %RPD | Q |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Styrene | A | ppbv | 11.13 | 11.13 | | 9.8 | 0 | 0 | 0.263 | 1 | 50 | 114% | 70 | 130 | 0% | |
| tert-Butyl Methyl Ether | A | ppbv | 11.99 | 11.99 | | 9.9 | 0 | 0 | 0.228 | 1 | 50 | 121% | 70 | 130 | 0% | |
| Tetrachloroethene | A | ppbv | 10.99 | 10.99 | | 9.6 | 0 | 0 | 0.148 | 1 | 50 | 114% | 70 | 130 | 0% | |
| Tetrahydrofuran | A | ppbv | 12.19 | 12.19 | | 10 | 0 | 0 | 0.201 | 1 | 50 | 122% | 70 | 130 | 0% | |
| Toluene | A | ppbv | 11.4 | 11.4 | | 9.8 | 0 | 0 | 0.158 | 1 | 50 | 116% | 70 | 130 | 0% | |
| trans-1,2-Dichloroethene | A | ppbv | 11.54 | 11.54 | | 9.8 | 0 | 0 | 0.117 | 1 | 50 | 118% | 70 | 130 | 0% | |
| trans-1,3-dichloropropene | A | ppbv | 10.66 | 10.66 | | 9.1 | 0 | 0 | 0.171 | 1 | 50 | 117% | 70 | 130 | 0% | |
| Trichloroethene | A | ppbv | 11.12 | 11.12 | | 9.6 | 0 | 0 | 0.119 | 1 | 50 | 116% | 70 | 130 | 0% | |
| Trichlorofluoromethane | A | ppbv | 11.08 | 11.08 | | 9.6 | 0 | 0 | 0.148 | 1 | 50 | 115% | 70 | 130 | 0% | |
| Vinyl acetate | A | ppbv | 12.63 | 12.63 | | 9.9 | 0 | 0 | 0.266 | 1 | 50 | 128% | 70 | 130 | 0% | |
| Vinyl chloride | A | ppbv | 10.92 | 10.92 | | 9.4 | 0 | 0 | 0.072 | 1 | 50 | 116% | 70 | 130 | 0% | |
| Xylenes, Total | C | ppbv | 34.01 | 34.01 | | 29.2 | 0 | 0 | 0.782 | 3 | 150 | 116% | 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 | 12.68 | 12.68 | | 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1091075 | RLVS VOA1 011113 | EPA_TO15 | RLVS | [\1\DATA\011113\ | 1/11/2013 2:45:0 | 1 | R55362 | | 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 | 0.99 | 0.99 | | 0.996 | 0 | 0 | 0.107 | 1 | 50 | 99% | 70 | 130 | 0% | |
| 1,1,2,2-Tetrachloroethane | A | ppbv | 1 | 1 | | 1 | 0 | 0 | 0.211 | 1 | 50 | 100% | 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 | 0.93 | 0.93 | | 0.98 | 0 | 0 | 0.2 | 1 | 50 | 95% | 70 | 130 | 0% | |
| 1,1-Dichloroethane | A | ppbv | 1.04 | 1.04 | | 0.97 | 0 | 0 | 0.111 | 1 | 50 | 107% | 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 | 1.26 | 1.26 | | 0.91 | 0 | 0 | 0.271 | 1 | 50 | 138% | 70 | 130 | 0% | S |
| 1,2,4-Trimethylbenzene | A | ppbv | 0.99 | 0.99 | | 0.98 | 0 | 0 | 0.245 | 1 | 50 | 101% | 70 | 130 | 0% | |
| 1,2-Dibromoethane | A | ppbv | 0.91 | 0.91 | | 0.96 | 0 | 0 | 0.186 | 1 | 50 | 95% | 70 | 130 | 0% | |
| 1,2-Dichlorobenzene | A | ppbv | 1.03 | 1.03 | | 0.97 | 0 | 0 | 0.208 | 1 | 50 | 106% | 70 | 130 | 0% | |
| 1,2-Dichloroethane | A | ppbv | 1.08 | 1.08 | | 0.97 | 0 | 0 | 0.196 | 1 | 50 | 111% | 70 | 130 | 0% | |
| 1,2-Dichloropropane | A | ppbv | 0.97 | 0.97 | | 0.98 | 0 | 0 | 0.224 | 1 | 50 | 99% | 70 | 130 | 0% | |

# Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\011113\01111303.D  Vial: 3
Acq On : 11 Jan 2013 1:46 pm  Operator: RACHEL HILL
Sample : CCV VOA1 011113  Inst : VOA 1
Misc : CCV EPA_TO15  Multiplr: 1.00
MS Integration Params: CLME.P

Method : C:\HPCHEM\1\METHODS\011013V1.M (RTE Integrator)
Title : TO15 ppbv
Last Update : Fri Jan 11 09:41:17 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 | 107 | 0.00 |
| 2 | T | Propylene | 1.061 | 1.206 | -13.7 | 108 | 0.00 |
| 3 | T | Dichlorodifluoromethane | 3.366 | 3.892 | -15.6 | 108 | 0.00 |
| 4 | T | 1,2-Dichloro-1,2,2,2-tetraf | 2.533 | 2.938 | -16.0 | 109 | 0.00 |
| 5 | T | Chloromethane | 1.215 | 1.431 | -17.8 | 108 | 0.00 |
| 6 | T | Vinyl chloride | 1.514 | 1.760 | -16.2 | 107 | 0.00 |
| 7 | T | 1,3-Butadiene | 1.027 | 1.218 | -18.6 | 107 | 0.00 |
| 8 | T | Bromomethane | 1.315 | 1.556 | -18.3 | 113 | 0.00 |
| 9 | T | Chloroethane | 0.741 | 0.852 | -15.0 | 109 | 0.00 |
| 10 | T | Trichlorofluoromethane | 3.363 | 3.882 | -15.4 | 110 | 0.00 |
| 11 | T | Ethanol | 0.376 | 0.439 | -16.8 | 114 | 0.00 |
| 12 | T | Freon113 | 2.325 | 2.709 | -16.5 | 109 | 0.00 |
| 13 | T | 1,1-Dichloroethene | 1.809 | 2.122 | -17.3 | 109 | 0.00 |
| 14 | T | Acetone | 1.783 | 2.179 | -22.2 | 110 | 0.00 |
| 15 | T | Carbon disulfide | 2.802 | 3.230 | -15.3 | 108 | 0.00 |
| 16 | T | 2-Propanol | 1.713 | 2.035 | -18.8 | 112 | 0.00 |
| 17 | T | Methylene chloride | 1.361 | 1.576 | -15.8 | 109 | 0.00 |
| 18 | T | tert-Butyl Methyl Ether | 2.965 | 3.591 | -21.1 | 110 | 0.00 |
| 19 | T | trans-1,2-Dichloroethene | 1.647 | 1.940 | -17.8 | 109 | 0.00 |
| 20 | T | n-Hexane | 1.916 | 2.258 | -17.8 | 108 | 0.00 |
| 21 | T | 1,1-Dichloroethane | 2.089 | 2.498 | -19.6 | 109 | 0.00 |
| 22 | T | Vinyl acetate | 2.880 | 3.674 | -27.6 | 111 | 0.00 |
| 23 | T | cis-1,2-Dichloroethene | 1.195 | 1.382 | -15.6 | 107 | 0.00 |
| 24 | T | 2-Butanone | 1.991 | 2.396 | -20.3 | 106 | 0.00 |
| 25 | T | Ethyl acetate | 2.517 | 2.948 | -17.1 | 103 | 0.00 |
| 26 | T | Tetrahydrofuran | 1.304 | 1.589 | -21.9 | 107 | 0.00 |
| 27 | T | Chloroform | 2.313 | 2.737 | -18.3 | 108 | 0.00 |
| 28 | T | 1,1,1-Trichloroethane | 2.443 | 2.917 | -19.4 | 108 | 0.00 |
| 29 | T | Cyclohexane | 2.037 | 2.441 | -19.8 | 107 | 0.00 |
| 30 | T | Carbon tetrachloride | 2.565 | 3.094 | -20.6 | 111 | 0.00 |
| 31 | T | Benzene | 3.396 | 4.042 | -19.0 | 108 | 0.00 |
| 32 | T | 1,2-Dichloroethane | 1.453 | 1.786 | -22.9 | 110 | 0.00 |
| 33 | I | 1,4-Difluorobenzene | 1.000 | 1.000 | 0.0 | 108 | 0.00 |
| 34 | T | Heptane | 0.650 | 0.793 | -22.0 | 109 | 0.00 |
| 35 | T | Trichloroethene | 0.497 | 0.576 | -15.9 | 109 | 0.00 |
| 36 | T | 1,2-Dichloropropane | 0.395 | 0.463 | -17.2 | 109 | 0.00 |
| 37 | T | 1,4-Dioxane | 0.194 | 0.224 | -15.5 | 110 | 0.00 |
| 38 | T | Bromodichloromethane | 0.715 | 0.833 | -16.5 | 109 | 0.00 |
| 39 | T | cis-1,3-Dichloropropene | 0.599 | 0.701 | -17.0 | 109 | 0.00 |
| 40 | T | 4-Methyl-2-pentanone | 0.292 | 0.335 | -14.7 | 109 | 0.00 |
| 41 | T | Toluene | 1.214 | 1.412 | -16.3 | 108 | 0.00 |
| 42 | T | trans-1,3-Dichloropropene | 0.548 | 0.641 | -17.0 | 109 | 0.00 |
| 43 | T | 1,1,2-Trichloroethane | 0.421 | 0.482 | -14.5 | 108 | 0.00 |
| 44 | T | Tetrachloroethene | 0.707 | 0.809 | -14.4 | 108 | 0.00 |
| 45 | T | 2-Hexanone | 0.591 | 0.714 | -20.8 | 109 | 0.00 |
| 46 | T | Chlorodibromomethane | 0.731 | 0.855 | -17.0 | 109 | 0.00 |
| 47 | T | 1,2-Dibromoethane | 0.632 | 0.735 | -16.3 | 108 | 0.00 |
| 48 | I | Chlorobenzene-d5 | 1.000 | 1.000 | 0.0 | 110 | 0.00 |
| 49 | T | Chlorobenzene | 1.119 | 1.267 | -13.2 | 107 | 0.00 |
| 50 | T | Ethylbenzene | 1.781 | 2.031 | -14.0 | 106 | 0.00 |
| 51 | T | m,p-Xylene | 1.374 | 1.627 | -18.4 | 105 | 0.00 |
| 52 | T | o-Xylene | 1.422 | 1.605 | -12.9 | 105 | 0.00 |
| 53 | T | Styrene | 1.069 | 1.214 | -13.6 | 105 | 0.00 |
| 54 | T | Bromoform | 0.872 | 0.989 | -13.4 | 108 | 0.00 |
| 55 | S | 4-Bromofluorobenzene | 0.571 | 0.580 | -1.6 | 112 | 0.00 |

(#) = Out of Range

Data File : C:\HPCHEM\1\DATA\011113\01111303.D Vial: 3
Acq On : 11 Jan 2013 1:46 pm Operator: RACHEL HILL
Sample : CCV VOA1 011113 Inst : VOA 1
Misc : CCV EPA_TO15 Multiplr: 1.00
MS Integration Params: CLME.P

Method : C:\HPCHEM\1\METHODS\011013V1.M (RTE Integrator)
Title : TO15 ppbv
Last Update : Fri Jan 11 09:41:17 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 | 0.901 | 0.983 | -9.1 | 105 | 0.00 |
| 57 | T | 4-Ethyltoluene | 1.778 | 1.981 | -11.4 | 105 | 0.00 |
| 58 | T | 1,3,5-Trimethylbenzene | 1.506 | 1.670 | -10.9 | 104 | 0.00 |
| 59 | T | 1,2,4-Trimethylbenzene | 1.407 | 1.539 | -9.4 | 104 | 0.00 |
| 60 | T | 1,3-Dichlorobenzene | 0.873 | 0.943 | -8.0 | 106 | 0.00 |
| 61 | T | 1,4-Dichlorobenzene | 0.819 | 0.889 | -8.5 | 106 | 0.00 |
| 62 | T | Benzyl chloride | 0.832 | 0.934 | -12.3 | 105 | 0.00 |
| 63 | T | 1,2-Dichlorobenzene | 0.727 | 0.782 | -7.6 | 105 | 0.00 |
| 64 | T | 1,2,4-Trichlorobenzene | 0.233 | 0.243 | -4.3 | 106 | 0.00 |
| 65 | T | Hexachlorobutadiene | 0.476 | 0.489 | -2.7 | 105 | 0.00 |
| 66 | | Naphthalene | 0.353 | 0.375 | -6.2 | 104 | 0.00 |

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\011113\01111303.D Vial: 3
Acq On : 11 Jan 2013 1:46 pm Operator: RACHEL HILL
Sample : CCV VOA1 011113 Inst : VOA 1
Misc : CCV EPA_TO15 Multiplr: 1.00
MS Integration Params: CLME.P
Quant Time: Jan 11 14:10 2013 Quant Results File: 011013V1.RES

Quant Method : C:\HPCHEM\1\METHODS\011013V1.M (RTE Integrator)
Title : TO15 ppbv
Last Update : Fri Jan 11 09:41:17 2013
Response via : Initial Calibration
DataAcq Meth : 011013V1

| Internal Standards | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 1) Bromochloromethane | 10.53 | 130 | 286139 | 12.50 | ppbv | 0.00 |
| 33) 1,4-Difluorobenzene | 11.62 | 114 | 983092 | 12.50 | ppbv | 0.00 |
| 48) Chlorobenzene-d5 | 15.47 | 117 | 820549 | 12.50 | ppbv | 0.00 |
| System Monitoring Compounds | | | | | | |
| 55) 4-Bromofluorobenzene | 17.12 | 95 | 475551 | 12.68 | ppbv | 0.00 |
| Spiked Amount 12.500 | Range 70 - 113 | | Recovery = 101.44% | | | |
| Target Compounds | | | | | | Qvalue |
| 2) Propylene | 5.44 | 41 | 281591 | 11.60 | ppbv | 99 |
| 3) Dichlorodifluoromethane | 5.51 | 85 | 819708 | 10.64 | ppbv | 99 |
| 4) 1,2-Dichloro-1,2,2,2-tetra | 5.78 | 135 | 638859 | 11.02 | ppbv # | 85 |
| 5) Chloromethane | 5.94 | 50 | 311293 | 11.19 | ppbv # | 97 |
| 6) Vinyl chloride | 6.15 | 62 | 378650 | 10.92 | ppbv | 99 |
| 7) 1,3-Butadiene | 6.21 | 39 | 273262 | 11.62 | ppbv | 91 |
| 8) Bromomethane | 6.78 | 94 | 331329 | 11.01 | ppbv | 98 |
| 9) Chloroethane | 6.93 | 64 | 179364 | 10.58 | ppbv | 98 |
| 10) Trichlorofluoromethane | 7.26 | 101 | 853085 | 11.08 | ppbv | 99 |
| 11) Ethanol | 7.50 | 45 | 92382 | 10.74 | ppbv | 99 |
| 12) Freon113 | 7.93 | 101 | 607780 | 11.42 | ppbv | 99 |
| 13) 1,1-Dichloroethene | 8.03 | 61 | 480844 | 11.61 | ppbv | 91 |
| 14) Acetone | 8.12 | 43 | 498702 | 12.22 | ppbv # | 96 |
| 15) Carbon disulfide | 8.40 | 76 | 717116 | 11.18 | ppbv # | 100 |
| 16) 2-Propanol | 8.18 | 45 | 470449 | 12.00 | ppbv # | 1 |
| 17) Methylene chloride | 8.69 | 49 | 360769 | 11.58 | ppbv | 88 |
| 18) tert-Butyl Methyl Ether | 8.89 | 73 | 813687 | 11.99 | ppbv | 97 |
| 19) trans-1,2-Dichloroethene | 8.97 | 61 | 435209 | 11.54 | ppbv | 89 |
| 20) n-Hexane | 9.16 | 57 | 521941 | 11.90 | ppbv | 97 |
| 21) 1,1-Dichloroethane | 9.53 | 63 | 554636 | 11.60 | ppbv | 98 |
| 22) Vinyl acetate | 9.47 | 43 | 832597 | 12.63 | ppbv | 98 |
| 23) cis-1,2-Dichloroethene | 10.22 | 96 | 310120 | 11.34 | ppbv | 88 |
| 24) 2-Butanone | 10.19 | 43 | 542986 | 11.91 | ppbv | 96 |
| 25) Ethyl acetate | 10.14 | 43 | 661396 | 11.48 | ppbv # | 99 |
| 26) Tetrahydrofuran | 10.53 | 42 | 363843 | 12.19 | ppbv | 96 |
| 27) Chloroform | 10.54 | 83 | 614110 | 11.60 | ppbv | 100 |
| 28) 1,1,1-Trichloroethane | 10.79 | 97 | 640954 | 11.46 | ppbv | 97 |
| 29) Cyclohexane | 10.80 | 56 | 547682 | 11.74 | ppbv | 90 |
| 30) Carbon tetrachloride | 10.95 | 117 | 672887 | 11.46 | ppbv | 99 |
| 31) Benzene | 11.23 | 78 | 888151 | 11.42 | ppbv | 97 |
| 32) 1,2-Dichloroethane | 11.31 | 62 | 396647 | 11.93 | ppbv | 98 |
| 34) Heptane | 11.28 | 43 | 617473 | 12.08 | ppbv | 95 |
| 35) Trichloroethene | 11.96 | 130 | 434960 | 11.12 | ppbv | 98 |
| 36) 1,2-Dichloropropane | 12.32 | 63 | 357112 | 11.49 | ppbv | 98 |
| 37) 1,4-Dioxane | 12.40 | 88 | 169374 | 11.11 | ppbv | 92 |
| 38) Bromodichloromethane | 12.61 | 83 | 629046 | 11.18 | ppbv | 100 |
| 39) cis-1,3-Dichloropropene | 13.16 | 75 | 523404 | 11.11 | ppbv | 99 |
| 40) 4-Methyl-2-pentanone | 13.27 | 58 | 263738 | 11.50 | ppbv | 95 |
| 41) Toluene | 13.56 | 91 | 1088144 | 11.40 | ppbv | 99 |
| 42) trans-1,3-Dichloropropene | 13.87 | 75 | 458975 | 10.66 | ppbv | 98 |
| 43) 1,1,2-Trichloroethane | 14.14 | 97 | 371192 | 11.22 | ppbv | 98 |
| 44) Tetrachloroethene | 14.26 | 166 | 610799 | 10.99 | ppbv | 99 |
| 45) 2-Hexanone | 14.34 | 43 | 550465 | 11.83 | ppbv | 97 |
| 46) Chlorodibromomethane | 14.69 | 129 | 659253 | 11.47 | ppbv | 99 |
| 47) 1,2-Dibromoethane | 14.92 | 107 | 554898 | 11.17 | ppbv | 100 |
| 49) Chlorobenzene | 15.51 | 112 | 823294 | 11.21 | ppbv | 98 |
| 50) Ethylbenzene | 15.56 | 91 | 1306779 | 11.17 | ppbv | 98 |
| 51) m,p-Xylene | 15.71 | 91 | 2050594 | 22.73 | ppbv | 97 |
| 52) o-Xylene | 16.30 | 91 | 1053334 | 11.28 | ppbv | 96 |

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

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\011113\01111303.D Vial: 3
Acq On : 11 Jan 2013 1:46 pm Operator: RACHEL HILL
Sample : CCV VOA1 011113 Inst : VOA 1
Misc : CCV EPA_TO15 Multiplr: 1.00
MS Integration Params: CLME.P
Quant Time: Jan 11 14:10 2013 Quant Results File: 011013V1.RES

Quant Method : C:\HPCHEM\1\METHODS\011013V1.M (RTE Integrator)
Title : TO15 ppbv
Last Update : Fri Jan 11 09:41:17 2013
Response via : Initial Calibration
DataAcq Meth : 011013V1

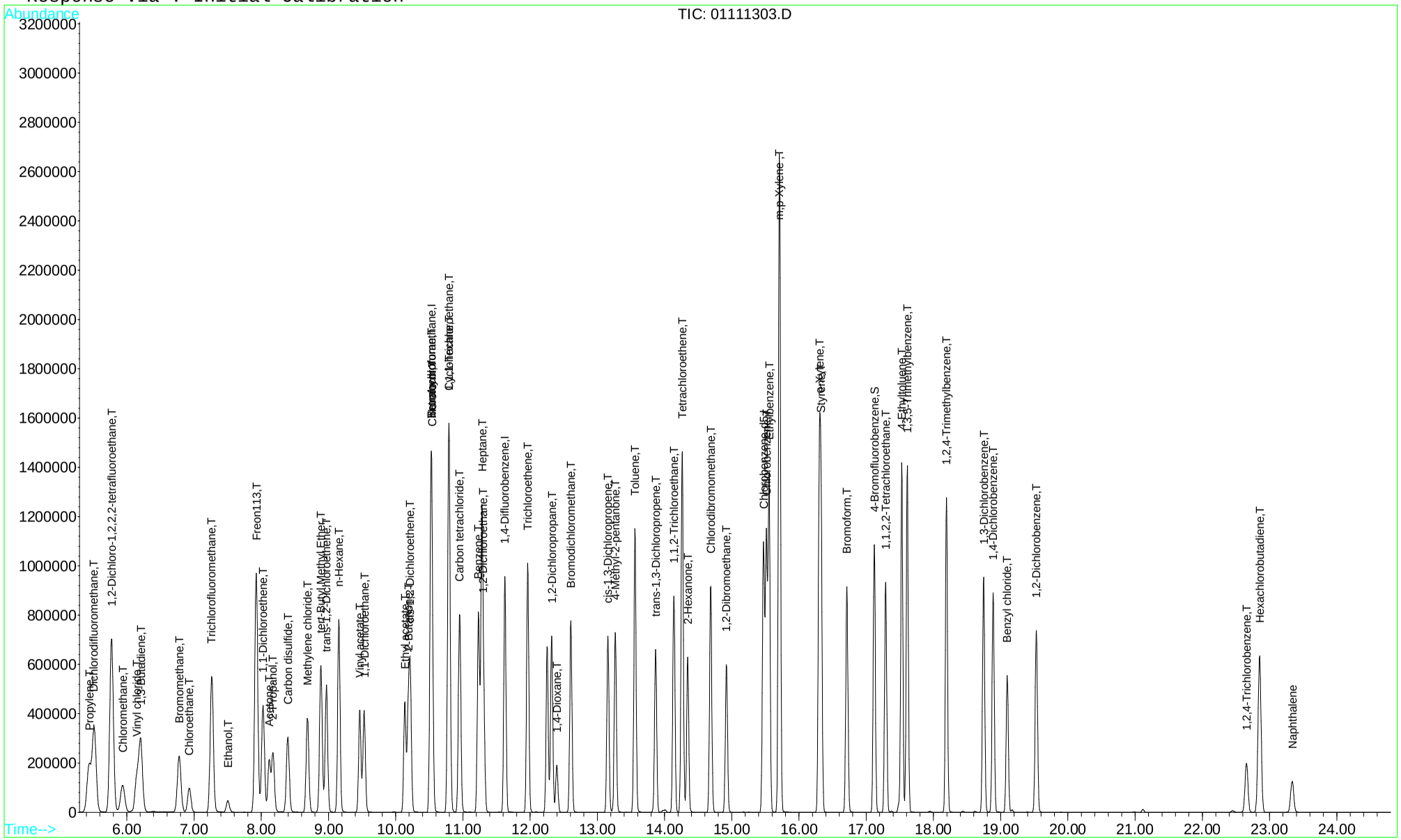
| | Compound | R.T. | QIon | Response | Conc | Unit | Qvalue |
|---|---|---|---|---|---|---|---|
| 53) | Styrene | 16.33 | 104 | 781037 | 11.13 | ppbv | 99 |
| 54) | Bromoform | 16.71 | 173 | 623291 | 10.89 | ppbv | 100 |
| 56) | 1,1,2,2-Tetrachloroethane | 17.29 | 83 | 645284 | 10.91 | ppbv | 100 |
| 57) | 4-Ethyltoluene | 17.53 | 105 | 1274114 | 10.92 | ppbv | 98 |
| 58) | 1,3,5-Trimethylbenzene | 17.61 | 105 | 1063256 | 10.75 | ppbv | 98 |
| 59) | 1,2,4-Trimethylbenzene | 18.19 | 105 | 990265 | 10.72 | ppbv | 98 |
| 60) | 1,3-Dichlorobenzene | 18.75 | 146 | 600700 | 10.48 | ppbv | 99 |
| 61) | 1,4-Dichlorobenzene | 18.89 | 146 | 560411 | 10.42 | ppbv | 99 |
| 62) | Benzyl chloride | 19.10 | 91 | 594988 | 10.89 | ppbv | 100 |
| 63) | 1,2-Dichlorobenzene | 19.53 | 146 | 498098 | 10.43 | ppbv | 99 |
| 64) | 1,2,4-Trichlorobenzene | 22.66 | 180 | 144912 | 9.48 | ppbv | 98 |
| 65) | Hexachlorobutadiene | 22.85 | 225 | 301937 | 9.66 | ppbv | 99 |
| 66) | Naphthalene | 23.34 | 128 | 226327 | 9.78 | ppbv | 100 |

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

# Quantitation Report

Data File : C:\HPCHEM\1\DATA\011113\01111303.D  Vial: 3
Acq On : 11 Jan 2013 1:46 pm  Operator: RACHEL HILL
Sample : CCV VOA1 011113  Inst : VOA 1
Misc : CCV EPA_TO15  Multiplr: 1.00
MS Integration Params: CLME.P
Quant Time: Jan 11 14:10 2013  Quant Results File: 011013V1.RES

Method : C:\HPCHEM\1\METHODS\011013V1.M (RTE Integrator)
Title : TO15 ppbv
Last Update : Fri Jan 11 09:41:17 2013
Response via : Initial Calibration



# Injection Log

Directory: C:\HPCHEM\1\DATA\011413

| Line | Vial | FileName | Multiplier | SampleName | Misc Info | Injected |
|---|---|---|---|---|---|---|
| 1 | 1 | 01141301.d | 1. | BFB VOA1 011413 | TUNE BFB_TUNE | 14 Jan 2013 09:31 |
| 2 | 2 | 01141302.d | 1. | CCV VOA1 011413 | ICV EPA_TO15 | 14 Jan 2013 10:14 |
| 3 | 4 | 01141303.d | 1. | MBLK/DBV17 CC VOA1 011413 | MBLK EPA_TO15 | 14 Jan 2013 11:07 |
| 4 | 5 | 01141304.d | 1. | MBLK/DBV57 CC VOA1 011413 | data not used | 14 Jan 2013 11:56 |
| 5 | 6 | 01141305.d | 1. | MBLK/DBV3 CC VOA1 011413 | data not used | 14 Jan 2013 12:44 |
| 6 | 7 | 01141306.d | 1. | RLVS VOA1 011413 | RLVS EPA_TO15 | 14 Jan 2013 13:27 |
| 7 | 8 | 01141307.d | 40. | 1212959-039A | SAMP EPA_TO15 | 14 Jan 2013 14:10 |
| 8 | 9 | 01141308.d | 40. | 1212959-005A | SAMP EPA_TO15 | 14 Jan 2013 14:52 |
| 9 | 10 | 01141309.d | 400. | 1212959-042A | SAMP EPA_TO15 | 14 Jan 2013 15:41 |
| 10 | 11 | 01141310.d | 400. | 1212959-031A | SAMP EPA_TO15 | 14 Jan 2013 16:31 |
| 11 | 6 | 01141311.d | 400. | 1212959-032A | SAMP EPA_TO15 | 14 Jan 2013 17:20 |
| 12 | 7 | 01141312.d | 20000. | 1212959-019A | SAMP EPA_TO15 | 14 Jan 2013 18:03 |
| 13 | 8 | 01141313.d | 800. | 1212959-020A | SAMP EPA_TO15 | 14 Jan 2013 18:49 |
| 14 | 8 | 01141314.d | 800. | 1212959-020ADUP | DUP EPA_TO15 | 14 Jan 2013 19:34 |
| 15 | 9 | 01141315.d | 400. | 1212959-030A | SAMP EPA_TO15 | 14 Jan 2013 20:24 |
| 16 | 10 | 01141316.d | 40000. | 1212959-021A | SAMP EPA_TO15 | 14 Jan 2013 21:06 |
| 17 | 11 | 01141317.d | 400. | 1212959-022A | SAMP EPA_TO15 | 14 Jan 2013 21:56 |
| 18 | 12 | 01141318.d | 400. | 1212959-033A | SAMP EPA_TO15 | 14 Jan 2013 22:45 |
| 19 | 13 | 01141319.d | 400. | 1212959-023A | SAMP EPA_TO15 | 14 Jan 2013 23:34 |
| 20 | 14 | 01141320.d | 400. | 1212959-034A | SAMP EPA_TO15 | 15 Jan 2013 00:23 |
| 21 | 15 | 01141321.d | 20000. | 1212959-024A | SAMP EPA_TO15 | 15 Jan 2013 01:06 |
| 22 | 16 | 01141322.d | 20000. | 1212959-025A | SAMP EPA_TO15 | 15 Jan 2013 01:49 |
| 23 | 16 | 01141323.d | 20000. | 1212959-025A | data not used | 15 Jan 2013 02:32 |
| 24 | 1 | 01141324.d | 400. | 1212959-035A | SAMP EPA_TO15 | 15 Jan 2013 03:21 |
| 25 | 2 | 01141325.d | 8000. | 1212959-036A | data not used | 15 Jan 2013 04:04 |
| 26 | 3 | 01141326.d | 800. | 1212959-042A | SAMP EPA_TO15 | 15 Jan 2013 04:49 |
| 27 | 4 | 01141327.d | 800. | 1212959-026A | SAMP EPA_TO15 | 15 Jan 2013 05:35 |
| 28 | 5 | 01141328.d | 800. | 1212959-026A | data not used | 15 Jan 2013 06:21 |
| 29 | 6 | 01141329.d | 400. | 1212959-010A | data not used | 15 Jan 2013 07:10 |
| 30 | 7 | 01141330.d | 1. | RLVS2 VOA1 011413 | RLVS EPA_TO15 | 15 Jan 2013 07:54 |

# RTI Laboratories

# ANALYTICAL RUN Summary

*17-Jan-13*

**RunNo** 55403

| Seq No | Sample ID | Test Code | Sample Typ | File ID | Analysis Date | DF | Batch ID | Prep Date | SPKref | RPDref | pmoist |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1091966 | BFB VOA1 011413 | BFB_TUNE | TUNE | \\1\DATA\011413\ | 1/14/2013 9:31:0 | 1 | R55403 | | 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 | | 100.3 | 100.3 | | 100 | 0 | 0 | 0 | 0 | 0 | 100% | 50 | 200 | 0% | |
| 175 | M | | 7.1 | 7.1 | | 100 | 0 | 0 | 0 | 0 | 0 | 7% | 4 | 9 | 0% | |
| 176 | M | | 99.1 | 99.1 | | 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 | | 18.6 | 18.6 | | 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 | | 6.7 | 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1091967 | CCV VOA1 011413 | EPA_TO15 | CCV | \\1\DATA\011413\ | 1/14/2013 10:14: | 1 | R55403 | | 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 | 11.58 | 11.58 | | 9.6 | 0 | 0 | 0.107 | 1 | 50 | 121% | 70 | 130 | 0% | |
| 1,1,2,2-Tetrachloroethane | A | ppbv | 11.64 | 11.64 | | 10 | 0 | 0 | 0.211 | 1 | 50 | 116% | 70 | 130 | 0% | |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | A | ppbv | 11.56 | 11.56 | | 9.8 | 0 | 0 | 0.108 | 1 | 50 | 118% | 70 | 130 | 0% | |
| 1,1,2-Trichloroethane | A | ppbv | 11.73 | 11.73 | | 9.8 | 0 | 0 | 0.2 | 1 | 50 | 120% | 70 | 130 | 0% | |
| 1,1-Dichloroethane | A | ppbv | 11.75 | 11.75 | | 9.7 | 0 | 0 | 0.111 | 1 | 50 | 121% | 70 | 130 | 0% | |
| 1,1-Dichloroethene | A | ppbv | 11.88 | 11.88 | | 9.9 | 0 | 0 | 0.097 | 1 | 50 | 120% | 70 | 130 | 0% | |
| 1,2,4-Trichlorobenzene | A | ppbv | 11 | 11 | | 9.1 | 0 | 0 | 0.271 | 1 | 50 | 121% | 70 | 130 | 0% | |
| 1,2,4-Trimethylbenzene | A | ppbv | 11.5 | 11.5 | | 9.8 | 0 | 0 | 0.245 | 1 | 50 | 117% | 70 | 130 | 0% | |
| 1,2-Dibromoethane | A | ppbv | 11.62 | 11.62 | | 9.6 | 0 | 0 | 0.186 | 1 | 50 | 121% | 70 | 130 | 0% | |
| 1,2-Dichlorobenzene | A | ppbv | 11.36 | 11.36 | | 9.7 | 0 | 0 | 0.208 | 1 | 50 | 117% | 70 | 130 | 0% | |
| 1,2-Dichloroethane | A | ppbv | 11.77 | 11.77 | | 9.7 | 0 | 0 | 0.196 | 1 | 50 | 121% | 70 | 130 | 0% | |
| 1,2-Dichloropropane | A | ppbv | 11.86 | 11.86 | | 9.8 | 0 | 0 | 0.224 | 1 | 50 | 121% | 70 | 130 | 0% | |
| 1,3,5-Trimethylbenzene | A | ppbv | 11.41 | 11.41 | | 9.7 | 0 | 0 | 0.24 | 1 | 50 | 118% | 70 | 130 | 0% | |
| 1,3-Butadiene | A | ppbv | 12.14 | 12.14 | | 9.8 | 0 | 0 | 0.152 | 1 | 50 | 124% | 70 | 130 | 0% | |
| 1,3-Dichlorobenzene | A | ppbv | 11.34 | 11.34 | | 9.7 | 0 | 0 | 0.202 | 1 | 50 | 117% | 70 | 130 | 0% | |

| Seq No | Sample ID | Test Code | Sample Typ | File ID | Analysis Date | DF | Batch ID | Prep Date | SPKref | RPDref | pmoist |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1091967 | CCV VOA1 011413 | EPA_TO15 | CCV | \\1\DATA\011413\ | 1/14/2013 10:14: | 1 | R55403 | | 0 | 0 | |

| Analyte | T | Units | RAW | Final | Text | Spike | SPKref | RPDref | MDL | PQL | UQL | %REC | LOW | HIGH | %RPD | Q |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,4-Dichlorobenzene | A | ppbv | 11.35 | 11.35 | | 9.6 | 0 | 0 | 0.194 | 1 | 50 | 118% | 70 | 130 | 0% | |
| 1,4-Dioxane | A | ppbv | 11.45 | 11.45 | | 9.6 | 0 | 0 | 0.128 | 1 | 50 | 119% | 70 | 130 | 0% | |
| 2-Butanone | A | ppbv | 12.38 | 12.38 | | 9.9 | 0 | 0 | 0.287 | 1 | 50 | 125% | 70 | 130 | 0% | |
| 2-Hexanone | A | ppbv | 12.07 | 12.07 | | 9.8 | 0 | 0 | 0.135 | 1 | 50 | 123% | 70 | 130 | 0% | |
| 2-Propanol | A | ppbv | 12.02 | 12.02 | | 10.1 | 0 | 0 | 0.329 | 1 | 50 | 119% | 70 | 130 | 0% | |
| 4-Methyl-2-pentanone | A | ppbv | 11.73 | 11.73 | | 10 | 0 | 0 | 0.157 | 1 | 50 | 117% | 70 | 130 | 0% | |
| Acetone | A | ppbv | 12.25 | 12.25 | | 10 | 0 | 0 | 0.43 | 1 | 50 | 123% | 70 | 130 | 0% | |
| Benzene | A | ppbv | 11.32 | 11.32 | | 9.6 | 0 | 0 | 0.126 | 1 | 50 | 118% | 70 | 130 | 0% | |
| Benzyl chloride | A | ppbv | 12.02 | 12.02 | | 9.7 | 0 | 0 | 0.155 | 1 | 50 | 124% | 70 | 130 | 0% | |
| Bromodichloromethane | A | ppbv | 11.63 | 11.63 | | 9.6 | 0 | 0 | 0.156 | 1 | 50 | 121% | 70 | 130 | 0% | |
| Bromoform | A | ppbv | 11.71 | 11.71 | | 9.6 | 0 | 0 | 0.197 | 1 | 50 | 122% | 70 | 130 | 0% | |
| Bromomethane | A | ppbv | 10.83 | 10.83 | | 9.3 | 0 | 0 | 0.075 | 1 | 50 | 116% | 70 | 130 | 0% | |
| Carbon disulfide | A | ppbv | 11.54 | 11.54 | | 9.7 | 0 | 0 | 0.093 | 1 | 50 | 119% | 70 | 130 | 0% | |
| Carbon tetrachloride | A | ppbv | 11.51 | 11.51 | | 9.5 | 0 | 0 | 0.114 | 1 | 50 | 121% | 70 | 130 | 0% | |
| Chlorobenzene | A | ppbv | 11.68 | 11.68 | | 9.9 | 0 | 0 | 0.275 | 1 | 50 | 118% | 70 | 130 | 0% | |
| Chlorodibromomethane | A | ppbv | 12.1 | 12.1 | | 9.8 | 0 | 0 | 0.165 | 1 | 50 | 123% | 70 | 130 | 0% | |
| Chloroethane | A | ppbv | 10.88 | 10.88 | | 9.8 | 0 | 0 | 0.063 | 1 | 50 | 111% | 70 | 130 | 0% | |
| Chloroform | A | ppbv | 11.74 | 11.74 | | 9.4 | 0 | 0 | 0.126 | 1 | 50 | 125% | 70 | 130 | 0% | |
| Chloromethane | A | ppbv | 11.56 | 11.56 | | 9.8 | 0 | 0 | 0.104 | 1 | 50 | 118% | 70 | 130 | 0% | |
| cis-1,2-Dichloroethene | A | ppbv | 11.58 | 11.58 | | 9.8 | 0 | 0 | 0.107 | 1 | 50 | 118% | 70 | 130 | 0% | |
| cis-1,3-dichloropropene | A | ppbv | 11.47 | 11.47 | | 9.5 | 0 | 0 | 0.166 | 1 | 50 | 121% | 70 | 130 | 0% | |
| Cyclohexane | A | ppbv | 11.95 | 11.95 | | 9.8 | 0 | 0 | 0.684 | 2 | 50 | 122% | 70 | 130 | 0% | |
| Dichlorodifluoromethane | A | ppbv | 11.18 | 11.18 | | 9.2 | 0 | 0 | 0.086 | 1 | 50 | 122% | 70 | 130 | 0% | |
| Ethanol | A | ppbv | 10.52 | 10.52 | | 9.2 | 0 | 0 | 1.962 | 5 | 50 | 114% | 70 | 130 | 0% | |
| Ethyl acetate | A | ppbv | 11.94 | 11.94 | | 9.8 | 0 | 0 | 0.157 | 1 | 50 | 122% | 70 | 130 | 0% | |
| Ethylbenzene | A | ppbv | 11.6 | 11.6 | | 9.8 | 0 | 0 | 0.737 | 2 | 50 | 118% | 70 | 130 | 0% | |
| Heptane | A | ppbv | 12.66 | 12.66 | | 9.9 | 0 | 0 | 0.249 | 1 | 50 | 128% | 70 | 130 | 0% | |
| Hexachlorobutadiene | A | ppbv | 10.86 | 10.86 | | 9.4 | 0 | 0 | 0.374 | 2 | 50 | 116% | 70 | 130 | 0% | |
| m,p-Xylene | A | ppbv | 23.4 | 23.4 | | 19.2 | 0 | 0 | 0.524 | 2 | 100 | 122% | 70 | 130 | 0% | |
| Methylene chloride | A | ppbv | 11.84 | 11.84 | | 10 | 0 | 0 | 2.077 | 5 | 50 | 118% | 70 | 130 | 0% | |
| n-Hexane | A | ppbv | 12.1 | 12.1 | | 10.1 | 0 | 0 | 0.692 | 2 | 50 | 120% | 70 | 130 | 0% | |
| Naphthalene | A | ppbv | 11.25 | 11.25 | | 9.2 | 0 | 0 | 0.247 | 1 | 50 | 122% | 70 | 130 | 0% | |
| o-Xylene | A | ppbv | 11.86 | 11.86 | | 10 | 0 | 0 | 0.258 | 1 | 50 | 119% | 70 | 130 | 0% | |
| Propylene | A | ppbv | 12.23 | 12.23 | | 10.2 | 0 | 0 | 0.075 | 1 | 50 | 120% | 70 | 130 | 0% | |

| Seq No | Sample ID | Test Code | Sample Typ | File ID | Analysis Date | DF | Batch ID | Prep Date | SPKref | RPDref | pmoist |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1091967 | CCV VOA1 011413 | EPA_TO15 | CCV | \1\DATA\011413\ | 1/14/2013 10:14: | 1 | R55403 | | 0 | 0 | |

| Analyte | T | Units | RAW | Final | Text | Spike | SPKref | RPDref | MDL | PQL | UQL | %REC | LOW | HIGH | %RPD | Q |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Styrene | A | ppbv | 11.76 | 11.76 | | 9.8 | 0 | 0 | 0.263 | 1 | 50 | 120% | 70 | 130 | 0% | |
| tert-Butyl Methyl Ether | A | ppbv | 11.84 | 11.84 | | 9.9 | 0 | 0 | 0.228 | 1 | 50 | 120% | 70 | 130 | 0% | |
| Tetrachloroethene | A | ppbv | 11.73 | 11.73 | | 9.6 | 0 | 0 | 0.148 | 1 | 50 | 122% | 70 | 130 | 0% | |
| Tetrahydrofuran | A | ppbv | 12.32 | 12.32 | | 10 | 0 | 0 | 0.201 | 1 | 50 | 123% | 70 | 130 | 0% | |
| Toluene | A | ppbv | 11.79 | 11.79 | | 9.8 | 0 | 0 | 0.158 | 1 | 50 | 120% | 70 | 130 | 0% | |
| trans-1,2-Dichloroethene | A | ppbv | 11.71 | 11.71 | | 9.8 | 0 | 0 | 0.117 | 1 | 50 | 119% | 70 | 130 | 0% | |
| trans-1,3-dichloropropene | A | ppbv | 11.15 | 11.15 | | 9.1 | 0 | 0 | 0.171 | 1 | 50 | 123% | 70 | 130 | 0% | |
| Trichloroethene | A | ppbv | 11.77 | 11.77 | | 9.6 | 0 | 0 | 0.119 | 1 | 50 | 123% | 70 | 130 | 0% | |
| Trichlorofluoromethane | A | ppbv | 11.35 | 11.35 | | 9.6 | 0 | 0 | 0.148 | 1 | 50 | 118% | 70 | 130 | 0% | |
| Vinyl acetate | A | ppbv | 12.34 | 12.34 | | 9.9 | 0 | 0 | 0.266 | 1 | 50 | 125% | 70 | 130 | 0% | |
| Vinyl chloride | A | ppbv | 11.35 | 11.35 | | 9.4 | 0 | 0 | 0.072 | 1 | 50 | 121% | 70 | 130 | 0% | |
| Xylenes, Total | C | ppbv | 35.26 | 35.26 | | 29.2 | 0 | 0 | 0.782 | 3 | 150 | 121% | 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 | 12.8 | 12.8 | | 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1091968 | MBLK/DBV17 CC VO | EPA_TO15 | MBLK | \1\DATA\011413\ | 1/14/2013 11:07: | 1 | R55403 | | 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\011413\01141302.D  Vial: 2
Acq On : 14 Jan 2013 10:14 am  Operator: RACHEL HILL
Sample : CCV VOA1 011413  Inst : VOA 1
Misc : ICV EPA_TO15  Multiplr: 1.00
MS Integration Params: CLME.P

Method : C:\HPCHEM\1\METHODS\011013V1.M (RTE Integrator)
Title : TO15 ppbv
Last Update : Fri Jan 11 09:41:17 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 | 112 | 0.00 |
| 2 | T | Propylene | 1.061 | 1.271 | -19.8 | 120 | 0.00 |
| 3 | T | Dichlorodifluoromethane | 3.366 | 4.090 | -21.5 | 120 | 0.00 |
| 4 | T | 1,2-Dichloro-1,2,2,2-tetraf | 2.533 | 3.104 | -22.5 | 121 | 0.00 |
| 5 | T | Chloromethane | 1.215 | 1.478 | -21.6 | 117 | 0.00 |
| 6 | T | Vinyl chloride | 1.514 | 1.828 | -20.7 | 117 | 0.00 |
| 7 | T | 1,3-Butadiene | 1.027 | 1.273 | -24.0 | 118 | 0.00 |
| 8 | T | Bromomethane | 1.315 | 1.531 | -16.4 | 117 | 0.00 |
| 9 | T | Chloroethane | 0.741 | 0.876 | -18.2 | 118 | 0.00 |
| 10 | T | Trichlorofluoromethane | 3.363 | 3.976 | -18.2 | 118 | 0.00 |
| 11 | T | Ethanol | 0.376 | 0.430 | -14.4 | 118 | 0.00 |
| 12 | T | Freon113 | 2.325 | 2.742 | -17.9 | 116 | 0.00 |
| 13 | T | 1,1-Dichloroethene | 1.809 | 2.170 | -20.0 | 118 | 0.00 |
| 14 | T | Acetone | 1.783 | 2.185 | -22.5 | 116 | 0.00 |
| 15 | T | Carbon disulfide | 2.802 | 3.335 | -19.0 | 118 | 0.00 |
| 16 | T | 2-Propanol | 1.713 | 2.039 | -19.0 | 118 | 0.00 |
| 17 | T | Methylene chloride | 1.361 | 1.611 | -18.4 | 117 | 0.00 |
| 18 | T | tert-Butyl Methyl Ether | 2.965 | 3.545 | -19.6 | 114 | 0.00 |
| 19 | T | trans-1,2-Dichloroethene | 1.647 | 1.969 | -19.6 | 116 | 0.00 |
| 20 | T | n-Hexane | 1.916 | 2.295 | -19.8 | 116 | 0.00 |
| 21 | T | 1,1-Dichloroethane | 2.089 | 2.531 | -21.2 | 116 | 0.00 |
| 22 | T | Vinyl acetate | 2.880 | 3.589 | -24.6 | 114 | 0.00 |
| 23 | T | cis-1,2-Dichloroethene | 1.195 | 1.412 | -18.2 | 115 | 0.00 |
| 24 | T | 2-Butanone | 1.991 | 2.491 | -25.1 | 116 | 0.00 |
| 25 | T | Ethyl acetate | 2.517 | 3.066 | -21.8 | 112 | 0.00 |
| 26 | T | Tetrahydrofuran | 1.304 | 1.606 | -23.2 | 114 | 0.00 |
| 27 | T | Chloroform | 2.313 | 2.771 | -19.8 | 114 | 0.00 |
| 28 | T | 1,1,1-Trichloroethane | 2.443 | 2.947 | -20.6 | 115 | 0.00 |
| 29 | T | Cyclohexane | 2.037 | 2.485 | -22.0 | 115 | 0.00 |
| 30 | T | Carbon tetrachloride | 2.565 | 3.108 | -21.2 | 117 | 0.00 |
| 31 | T | Benzene | 3.396 | 4.004 | -17.9 | 113 | 0.00 |
| 32 | T | 1,2-Dichloroethane | 1.453 | 1.762 | -21.3 | 114 | 0.00 |
| 33 | I | 1,4-Difluorobenzene | 1.000 | 1.000 | 0.0 | 110 | 0.00 |
| 34 | T | Heptane | 0.650 | 0.832 | -28.0 | 116 | 0.00 |
| 35 | T | Trichloroethene | 0.497 | 0.610 | -22.7 | 117 | 0.00 |
| 36 | T | 1,2-Dichloropropane | 0.395 | 0.478 | -21.0 | 114 | 0.00 |
| 37 | T | 1,4-Dioxane | 0.194 | 0.231 | -19.1 | 115 | 0.00 |
| 38 | T | Bromodichloromethane | 0.715 | 0.866 | -21.1 | 115 | 0.00 |
| 39 | T | cis-1,3-Dichloropropene | 0.599 | 0.723 | -20.7 | 114 | 0.00 |
| 40 | T | 4-Methyl-2-pentanone | 0.292 | 0.342 | -17.1 | 113 | 0.00 |
| 41 | T | Toluene | 1.214 | 1.460 | -20.3 | 114 | 0.00 |
| 42 | T | trans-1,3-Dichloropropene | 0.548 | 0.671 | -22.4 | 116 | 0.00 |
| 43 | T | 1,1,2-Trichloroethane | 0.421 | 0.504 | -19.7 | 115 | 0.00 |
| 44 | T | Tetrachloroethene | 0.707 | 0.864 | -22.2 | 117 | 0.00 |
| 45 | T | 2-Hexanone | 0.591 | 0.729 | -23.4 | 113 | 0.00 |
| 46 | T | Chlorodibromomethane | 0.731 | 0.902 | -23.4 | 117 | 0.00 |
| 47 | T | 1,2-Dibromoethane | 0.632 | 0.765 | -21.0 | 115 | 0.00 |
| 48 | I | Chlorobenzene-d5 | 1.000 | 1.000 | 0.0 | 113 | 0.00 |
| 49 | T | Chlorobenzene | 1.119 | 1.320 | -18.0 | 114 | 0.00 |
| 50 | T | Ethylbenzene | 1.781 | 2.109 | -18.4 | 113 | 0.00 |
| 51 | T | m,p-Xylene | 1.374 | 1.675 | -21.9 | 111 | 0.00 |
| 52 | T | o-Xylene | 1.422 | 1.687 | -18.6 | 113 | 0.00 |
| 53 | T | Styrene | 1.069 | 1.283 | -20.0 | 114 | 0.00 |
| 54 | T | Bromoform | 0.872 | 1.064 | -22.0 | 118 | 0.00 |
| 55 | S | 4-Bromofluorobenzene | 0.571 | 0.585 | -2.5 | 116 | 0.00 |

(#) = Out of Range

Data File : C:\HPCHEM\1\DATA\011413\01141302.D Vial: 2
Acq On : 14 Jan 2013 10:14 am Operator: RACHEL HILL
Sample : CCV VOA1 011413 Inst : VOA 1
Misc : ICV EPA_TO15 Multiplr: 1.00
MS Integration Params: CLME.P

Method : C:\HPCHEM\1\METHODS\011013V1.M (RTE Integrator)
Title : TO15 ppbv
Last Update : Fri Jan 11 09:41:17 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 | 0.901 | 1.049 | -16.4 | 114 | 0.00 |
| 57 | T | 4-Ethyltoluene | 1.778 | 2.109 | -18.6 | 114 | 0.00 |
| 58 | T | 1,3,5-Trimethylbenzene | 1.506 | 1.772 | -17.7 | 113 | 0.00 |
| 59 | T | 1,2,4-Trimethylbenzene | 1.407 | 1.652 | -17.4 | 114 | 0.00 |
| 60 | T | 1,3-Dichlorobenzene | 0.873 | 1.021 | -17.0 | 117 | 0.00 |
| 61 | T | 1,4-Dichlorobenzene | 0.819 | 0.968 | -18.2 | 118 | 0.00 |
| 62 | T | Benzyl chloride | 0.832 | 1.032 | -24.0 | 119 | 0.00 |
| 63 | T | 1,2-Dichlorobenzene | 0.727 | 0.851 | -17.1 | 117 | 0.00 |
| 64 | T | 1,2,4-Trichlorobenzene | 0.233 | 0.282 | -21.0 | 126 | 0.00 |
| 65 | T | Hexachlorobutadiene | 0.476 | 0.550 | -15.5 | 120 | 0.00 |
| 66 | | Naphthalene | 0.353 | 0.431 | -22.1 | 123 | 0.00 |

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\011413\01141302.D Vial: 2
Acq On : 14 Jan 2013 10:14 am Operator: RACHEL HILL
Sample : CCV VOA1 011413 Inst : VOA 1
Misc : ICV EPA_TO15 Multiplr: 1.00
MS Integration Params: CLME.P
Quant Time: Jan 14 10:39 2013 Quant Results File: 011013V1.RES

Quant Method : C:\HPCHEM\1\METHODS\011013V1.M (RTE Integrator)
Title : TO15 ppbv
Last Update : Fri Jan 11 09:41:17 2013
Response via : Initial Calibration
DataAcq Meth : 011013V1

| Internal Standards | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 1) Bromochloromethane | 10.52 | 130 | 300887 | 12.50 | ppbv | 0.00 |
| 33) 1,4-Difluorobenzene | 11.62 | 114 | 999418 | 12.50 | ppbv | 0.00 |
| 48) Chlorobenzene-d5 | 15.47 | 117 | 839070 | 12.50 | ppbv | 0.00 |

System Monitoring Compounds

| | | | | | | |
|---|---|---|---|---|---|---|
| 55) 4-Bromofluorobenzene | 17.11 | 95 | 490907 | 12.80 | ppbv | 0.00 |
| Spiked Amount 12.500 | Range 70 - 113 | | Recovery = 102.40% | | | |

| Target Compounds | | | | | | Qvalue |
|---|---|---|---|---|---|---|
| 2) Propylene | 5.43 | 41 | 312173 | 12.23 | ppbv | 99 |
| 3) Dichlorodifluoromethane | 5.51 | 85 | 905672 | 11.18 | ppbv | 99 |
| 4) 1,2-Dichloro-1,2,2,2-tetra | 5.77 | 135 | 709737 | 11.64 | ppbv # | 86 |
| 5) Chloromethane | 5.94 | 50 | 338051 | 11.56 | ppbv | 99 |
| 6) Vinyl chloride | 6.15 | 62 | 413697 | 11.35 | ppbv | 99 |
| 7) 1,3-Butadiene | 6.20 | 39 | 300307 | 12.14 | ppbv | 91 |
| 8) Bromomethane | 6.77 | 94 | 342643 | 10.83 | ppbv | 98 |
| 9) Chloroethane | 6.92 | 64 | 193902 | 10.88 | ppbv | 98 |
| 10) Trichlorofluoromethane | 7.26 | 101 | 918795 | 11.35 | ppbv | 99 |
| 11) Ethanol | 7.49 | 45 | 95177 | 10.52 | ppbv | 99 |
| 12) Freon113 | 7.92 | 101 | 646831 | 11.56 | ppbv | 99 |
| 13) 1,1-Dichloroethene | 8.02 | 61 | 517104 | 11.88 | ppbv | 90 |
| 14) Acetone | 8.11 | 43 | 525924 | 12.25 | ppbv # | 95 |
| 15) Carbon disulfide | 8.39 | 76 | 778604 | 11.54 | ppbv # | 100 |
| 16) 2-Propanol | 8.17 | 45 | 495716 | 12.02 | ppbv # | 1 |
| 17) Methylene chloride | 8.68 | 49 | 387677 | 11.84 | ppbv | 87 |
| 18) tert-Butyl Methyl Ether | 8.89 | 73 | 844789 | 11.84 | ppbv | 97 |
| 19) trans-1,2-Dichloroethene | 8.96 | 61 | 464534 | 11.71 | ppbv | 89 |
| 20) n-Hexane | 9.15 | 57 | 557847 | 12.10 | ppbv | 97 |
| 21) 1,1-Dichloroethane | 9.52 | 63 | 591000 | 11.75 | ppbv | 98 |
| 22) Vinyl acetate | 9.46 | 43 | 855322 | 12.34 | ppbv | 98 |
| 23) cis-1,2-Dichloroethene | 10.21 | 96 | 333175 | 11.58 | ppbv | 89 |
| 24) 2-Butanone | 10.18 | 43 | 593510 | 12.38 | ppbv | 94 |
| 25) Ethyl acetate | 10.13 | 43 | 723182 | 11.94 | ppbv # | 100 |
| 26) Tetrahydrofuran | 10.52 | 42 | 386679 | 12.32 | ppbv | 95 |
| 27) Chloroform | 10.53 | 83 | 653601 | 11.74 | ppbv | 100 |
| 28) 1,1,1-Trichloroethane | 10.78 | 97 | 680897 | 11.58 | ppbv | 97 |
| 29) Cyclohexane | 10.79 | 56 | 586152 | 11.95 | ppbv | 90 |
| 30) Carbon tetrachloride | 10.95 | 117 | 710719 | 11.51 | ppbv | 99 |
| 31) Benzene | 11.23 | 78 | 925358 | 11.32 | ppbv | 97 |
| 32) 1,2-Dichloroethane | 11.31 | 62 | 411464 | 11.77 | ppbv | 98 |
| 34) Heptane | 11.28 | 43 | 658235 | 12.66 | ppbv | 95 |
| 35) Trichloroethene | 11.96 | 130 | 468007 | 11.77 | ppbv | 99 |
| 36) 1,2-Dichloropropane | 12.32 | 63 | 374534 | 11.86 | ppbv | 98 |
| 37) 1,4-Dioxane | 12.39 | 88 | 177351 | 11.45 | ppbv | 92 |
| 38) Bromodichloromethane | 12.60 | 83 | 665084 | 11.63 | ppbv | 100 |
| 39) cis-1,3-Dichloropropene | 13.15 | 75 | 548993 | 11.47 | ppbv | 99 |
| 40) 4-Methyl-2-pentanone | 13.26 | 58 | 273682 | 11.73 | ppbv | 95 |
| 41) Toluene | 13.56 | 91 | 1143757 | 11.79 | ppbv | 99 |
| 42) trans-1,3-Dichloropropene | 13.86 | 75 | 488353 | 11.15 | ppbv | 99 |
| 43) 1,1,2-Trichloroethane | 14.13 | 97 | 394722 | 11.73 | ppbv | 98 |
| 44) Tetrachloroethene | 14.26 | 166 | 662859 | 11.73 | ppbv | 100 |
| 45) 2-Hexanone | 14.34 | 43 | 570870 | 12.07 | ppbv | 98 |
| 46) Chlorodibromomethane | 14.68 | 129 | 706968 | 12.10 | ppbv | 99 |
| 47) 1,2-Dibromoethane | 14.92 | 107 | 586913 | 11.62 | ppbv | 99 |
| 49) Chlorobenzene | 15.51 | 112 | 877165 | 11.68 | ppbv | 98 |
| 50) Ethylbenzene | 15.55 | 91 | 1387382 | 11.60 | ppbv | 97 |
| 51) m,p-Xylene | 15.71 | 91 | 2158430 | 23.40 | ppbv | 97 |
| 52) o-Xylene | 16.30 | 91 | 1132629 | 11.86 | ppbv | 96 |

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

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\011413\01141302.D Vial: 2
Acq On : 14 Jan 2013 10:14 am Operator: RACHEL HILL
Sample : CCV VOA1 011413 Inst : VOA 1
Misc : ICV EPA_TO15 Multiplr: 1.00
MS Integration Params: CLME.P
Quant Time: Jan 14 10:39 2013 Quant Results File: 011013V1.RES

Quant Method : C:\HPCHEM\1\METHODS\011013V1.M (RTE Integrator)
Title : TO15 ppbv
Last Update : Fri Jan 11 09:41:17 2013
Response via : Initial Calibration
DataAcq Meth : 011013V1

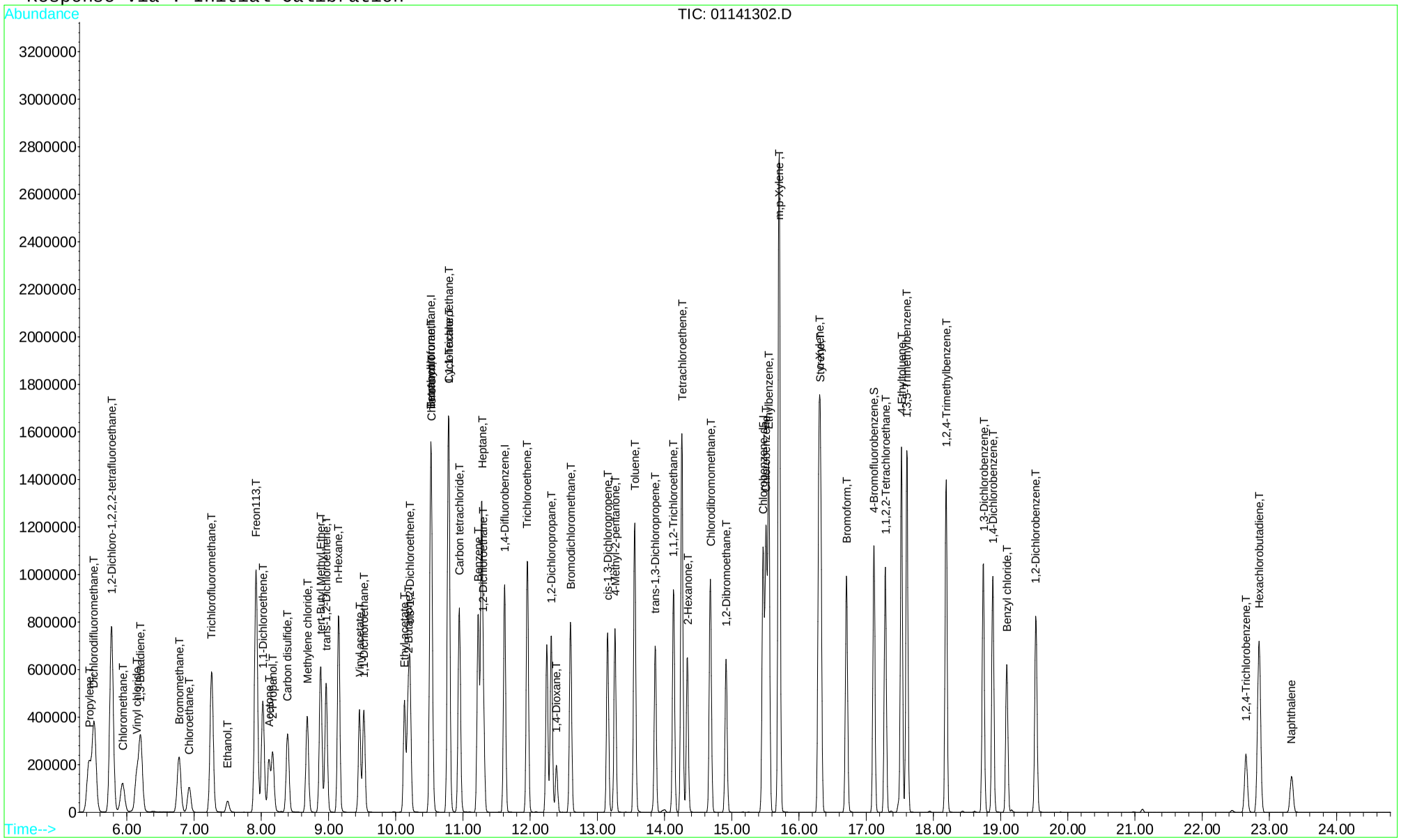
| | Compound | R.T. | QIon | Response | Conc | Unit | Qvalue |
|---|---|---|---|---|---|---|---|
| 53) | Styrene | 16.32 | 104 | 843789 | 11.76 | ppbv | 99 |
| 54) | Bromoform | 16.71 | 173 | 685618 | 11.71 | ppbv | 99 |
| 56) | 1,1,2,2-Tetrachloroethane | 17.29 | 83 | 704019 | 11.64 | ppbv | 99 |
| 57) | 4-Ethyltoluene | 17.53 | 105 | 1387126 | 11.62 | ppbv | 98 |
| 58) | 1,3,5-Trimethylbenzene | 17.60 | 105 | 1153960 | 11.41 | ppbv | 99 |
| 59) | 1,2,4-Trimethylbenzene | 18.19 | 105 | 1086466 | 11.50 | ppbv | 99 |
| 60) | 1,3-Dichlorobenzene | 18.74 | 146 | 664527 | 11.34 | ppbv | 99 |
| 61) | 1,4-Dichlorobenzene | 18.89 | 146 | 624079 | 11.35 | ppbv | 99 |
| 62) | Benzyl chloride | 19.09 | 91 | 671687 | 12.02 | ppbv | 99 |
| 63) | 1,2-Dichlorobenzene | 19.52 | 146 | 554287 | 11.36 | ppbv | 99 |
| 64) | 1,2,4-Trichlorobenzene | 22.65 | 180 | 171963 | 11.00 | ppbv | 98 |
| 65) | Hexachlorobutadiene | 22.85 | 225 | 347053 | 10.86 | ppbv | 99 |
| 66) | Naphthalene | 23.33 | 128 | 266325 | 11.25 | ppbv | 100 |

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

# Quantitation Report

Data File : C:\HPCHEM\1\DATA\011413\01141302.D  Vial: 2
Acq On : 14 Jan 2013 10:14 am  Operator: RACHEL HILL
Sample : CCV VOA1 011413  Inst : VOA 1
Misc : ICV EPA_TO15  Multiplr: 1.00
MS Integration Params: CLME.P
Quant Time: Jan 14 10:39 2013  Quant Results File: 011013V1.RES

Method : C:\HPCHEM\1\METHODS\011013V1.M (RTE Integrator)
Title : TO15 ppbv
Last Update : Fri Jan 11 09:41:17 2013
Response via : Initial Calibration



# Injection Log

Directory: C:\HPCHEM\1\DATA\011513

| Line | Vial | FileName | Multiplier | SampleName | Misc Info | Injected |
|---|---|---|---|---|---|---|
| 1 | 1 | 01151301.d | 1. | BFB VOA1 011513 | TUNE BFB_TUNE | 15 Jan 2013 08:56 |
| 2 | 2 | 01151302.d | 1. | CCV VOA1 011513 | CCV EPA_TO15 | 15 Jan 2013 09:39 |
| 3 | 6 | 01151305.d | 1. | RLVS VOA1 011513 | RLVS EPA_TO15 | 15 Jan 2013 10:25 |
| 4 | 7 | 01151306.d | 1. | MBLK/DBV88 CC VOA1 011513 | MBLK EPA_TO15 | 15 Jan 2013 11:14 |
| 5 | 8 | 01151307.d | 200. | 1212959-036A | SAMP EPA_TO15 | 15 Jan 2013 12:02 |
| 6 | 9 | 01151308.d | 800. | 1212959-027A | SAMP EPA_TO15 | 15 Jan 2013 12:47 |
| 7 | 10 | 01151309.d | 400. | 1212959-017A | SAMP EPA_TO15 | 15 Jan 2013 13:35 |
| 8 | 11 | 01151310.d | 40. | 1212959-010A | SAMP EPA_TO15 | 15 Jan 2013 14:17 |
| 9 | 12 | 01151311.d | 400. | 1212959-007A | SAMP EPA_TO15 | 15 Jan 2013 15:06 |
| 10 | 13 | 01151312.d | 400. | 1212959-043A | data not used | 15 Jan 2013 15:54 |
| 11 | 2 | 01151313.d | 400. | 1212959-008A | SAMP EPA_TO15 | 15 Jan 2013 16:42 |
| 12 | 3 | 01151314.d | 400. | 1212959-029A | SAMP EPA_TO15 | 15 Jan 2013 17:30 |
| 13 | 4 | 01151315.d | 400. | 1212959-018A | SAMP EPA_TO15 | 15 Jan 2013 18:19 |
| 14 | 6 | 01151316.d | 800. | 1212959-006A | SAMP EPA_TO15 | 15 Jan 2013 19:04 |
| 15 | 6 | 01151317.d | 800. | 1212959-006ADUP | DUP EPA_TO15 | 15 Jan 2013 19:49 |
| 16 | 7 | 01151318.d | 20000. | 1212959-009A | data not used | 15 Jan 2013 20:31 |
| 17 | 8 | 01151319.d | 400. | 1212959-028A | SAMP EPA_TO15 | 15 Jan 2013 21:20 |
| 18 | 9 | 01151320.d | 8000. | 1212959-013A | SAMP EPA_TO15 | 15 Jan 2013 22:01 |
| 19 | 10 | 01151321.d | 800. | 1212959-036A | SAMP EPA_TO15 | 15 Jan 2013 22:46 |
| 20 | 11 | 01151322.d | 1. | 1212960-001A | SAMP EPA_TO15 | 15 Jan 2013 23:34 |
| 21 | 12 | 01151323.d | 20000. | 1212960-002A | SAMP EPA_TO15 | 16 Jan 2013 00:16 |
| 22 | 13 | 01151324.d | 20000. | 1212960-003A | SAMP EPA_TO15 | 16 Jan 2013 00:58 |
| 23 | 14 | 01151325.d | 800. | 1212960-004A | SAMP EPA_TO15 | 16 Jan 2013 01:43 |
| 24 | 14 | 01151326.d | 800. | 1212960-004A | data not used | 16 Jan 2013 02:28 |
| 25 | 15 | 01151327.d | 8000. | 1212960-006A | SAMP EPA_TO15 | 16 Jan 2013 03:10 |
| 26 | 16 | 01151328.d | 800. | 1212960-007A | SAMP EPA_TO15 | 16 Jan 2013 03:55 |
| 27 | 1 | 01151329.d | 40. | 1212959-043A | SAMP EPA_TO15 | 16 Jan 2013 04:37 |
| 28 | 2 | 01151330.d | 8000. | 1212960-008A | SAMP EPA_TO15 | 16 Jan 2013 05:19 |
| 29 | 1 | 01151331.d | 1. | RLVS VOA1 011513 | RLVS EPA_TO15 | 16 Jan 2013 06:02 |
| 30 | 8 | 01151332.d | 1. | dbv cc95 | data not used | 16 Jan 2013 06:51 |

# RTI Laboratories

# ANALYTICAL RUN Summary

*17-Jan-13*

**RunNo** 55438

| Seq No | Sample ID | Test Code | Sample Typ | File ID | Analysis Date | DF | Batch ID | Prep Date | SPKref | RPDref | pmoist |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1092629 | BFB VOA1 011513 | BFB_TUNE | TUNE | \\1\DATA\011513\ | 1/15/2013 8:56:0 | 1 | R55438 | | 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 | | 99.8 | 99.8 | | 100 | 0 | 0 | 0 | 0 | 0 | 100% | 50 | 200 | 0% | |
| 175 | M | | 7.1 | 7.1 | | 100 | 0 | 0 | 0 | 0 | 0 | 7% | 4 | 9 | 0% | |
| 176 | M | | 100.2 | 100.2 | | 100 | 0 | 0 | 0 | 0 | 0 | 100% | 93 | 101 | 0% | |
| 177 | M | | 6.8 | 6.8 | | 100 | 0 | 0 | 0 | 0 | 0 | 7% | 5 | 9 | 0% | |
| 50 | M | | 19.2 | 19.2 | | 100 | 0 | 0 | 0 | 0 | 0 | 19% | 8 | 40 | 0% | |
| 75 | M | | 47 | 47 | | 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 | | 6.6 | 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1092630 | CCV VOA1 011513 | EPA_TO15 | CCV | \\1\DATA\011513\ | 1/15/2013 9:39:0 | 1 | R55438 | | 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 | 11.19 | 11.19 | | 9.6 | 0 | 0 | 0.107 | 1 | 50 | 117% | 70 | 130 | 0% | |
| 1,1,2,2-Tetrachloroethane | A | ppbv | 10.74 | 10.74 | | 10 | 0 | 0 | 0.211 | 1 | 50 | 107% | 70 | 130 | 0% | |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | A | ppbv | 11.18 | 11.18 | | 9.8 | 0 | 0 | 0.108 | 1 | 50 | 114% | 70 | 130 | 0% | |
| 1,1,2-Trichloroethane | A | ppbv | 10.83 | 10.83 | | 9.8 | 0 | 0 | 0.2 | 1 | 50 | 111% | 70 | 130 | 0% | |
| 1,1-Dichloroethane | A | ppbv | 11.39 | 11.39 | | 9.7 | 0 | 0 | 0.111 | 1 | 50 | 117% | 70 | 130 | 0% | |
| 1,1-Dichloroethene | A | ppbv | 11.39 | 11.39 | | 9.9 | 0 | 0 | 0.097 | 1 | 50 | 115% | 70 | 130 | 0% | |
| 1,2,4-Trichlorobenzene | A | ppbv | 9.09 | 9.09 | | 9.1 | 0 | 0 | 0.271 | 1 | 50 | 100% | 70 | 130 | 0% | |
| 1,2,4-Trimethylbenzene | A | ppbv | 10.71 | 10.71 | | 9.8 | 0 | 0 | 0.245 | 1 | 50 | 109% | 70 | 130 | 0% | |
| 1,2-Dibromoethane | A | ppbv | 10.71 | 10.71 | | 9.6 | 0 | 0 | 0.186 | 1 | 50 | 112% | 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 | 11.6 | 11.6 | | 9.7 | 0 | 0 | 0.196 | 1 | 50 | 120% | 70 | 130 | 0% | |
| 1,2-Dichloropropane | A | ppbv | 11.17 | 11.17 | | 9.8 | 0 | 0 | 0.224 | 1 | 50 | 114% | 70 | 130 | 0% | |
| 1,3,5-Trimethylbenzene | A | ppbv | 10.62 | 10.62 | | 9.7 | 0 | 0 | 0.24 | 1 | 50 | 109% | 70 | 130 | 0% | |
| 1,3-Butadiene | A | ppbv | 11.52 | 11.52 | | 9.8 | 0 | 0 | 0.152 | 1 | 50 | 118% | 70 | 130 | 0% | |
| 1,3-Dichlorobenzene | A | ppbv | 10.38 | 10.38 | | 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1092630 | CCV VOA1 011513 | EPA_TO15 | CCV | \\1\DATA\011513\ | 1/15/2013 9:39:0 | 1 | R55438 | | 0 | 0 | |

| Analyte | T | Units | RAW | Final | Text | Spike | SPKref | RPDref | MDL | PQL | UQL | %REC | LOW | HIGH | %RPD | Q |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,4-Dichlorobenzene | A | ppbv | 10.25 | 10.25 | | 9.6 | 0 | 0 | 0.194 | 1 | 50 | 107% | 70 | 130 | 0% | |
| 1,4-Dioxane | A | ppbv | 10.54 | 10.54 | | 9.6 | 0 | 0 | 0.128 | 1 | 50 | 110% | 70 | 130 | 0% | |
| 2-Butanone | A | ppbv | 12.02 | 12.02 | | 9.9 | 0 | 0 | 0.287 | 1 | 50 | 121% | 70 | 130 | 0% | |
| 2-Hexanone | A | ppbv | 11.5 | 11.5 | | 9.8 | 0 | 0 | 0.135 | 1 | 50 | 117% | 70 | 130 | 0% | |
| 2-Propanol | A | ppbv | 11.47 | 11.47 | | 10.1 | 0 | 0 | 0.329 | 1 | 50 | 114% | 70 | 130 | 0% | |
| 4-Methyl-2-pentanone | A | ppbv | 11.2 | 11.2 | | 10 | 0 | 0 | 0.157 | 1 | 50 | 112% | 70 | 130 | 0% | |
| Acetone | A | ppbv | 12.19 | 12.19 | | 10 | 0 | 0 | 0.43 | 1 | 50 | 122% | 70 | 130 | 0% | |
| Benzene | A | ppbv | 11.23 | 11.23 | | 9.6 | 0 | 0 | 0.126 | 1 | 50 | 117% | 70 | 130 | 0% | |
| Benzyl chloride | A | ppbv | 10.85 | 10.85 | | 9.7 | 0 | 0 | 0.155 | 1 | 50 | 112% | 70 | 130 | 0% | |
| Bromodichloromethane | A | ppbv | 10.74 | 10.74 | | 9.6 | 0 | 0 | 0.156 | 1 | 50 | 112% | 70 | 130 | 0% | |
| Bromoform | A | ppbv | 10.77 | 10.77 | | 9.6 | 0 | 0 | 0.197 | 1 | 50 | 112% | 70 | 130 | 0% | |
| Bromomethane | A | ppbv | 9.99 | 9.99 | | 9.3 | 0 | 0 | 0.075 | 1 | 50 | 107% | 70 | 130 | 0% | |
| Carbon disulfide | A | ppbv | 10.8 | 10.8 | | 9.7 | 0 | 0 | 0.093 | 1 | 50 | 111% | 70 | 130 | 0% | |
| Carbon tetrachloride | A | ppbv | 11.08 | 11.08 | | 9.5 | 0 | 0 | 0.114 | 1 | 50 | 117% | 70 | 130 | 0% | |
| Chlorobenzene | A | ppbv | 10.93 | 10.93 | | 9.9 | 0 | 0 | 0.275 | 1 | 50 | 110% | 70 | 130 | 0% | |
| Chlorodibromomethane | A | ppbv | 11.09 | 11.09 | | 9.2 | 0 | 0 | 0.165 | 1 | 50 | 121% | 70 | 130 | 0% | |
| Chloroethane | A | ppbv | 10.2 | 10.2 | | 9.8 | 0 | 0 | 0.063 | 1 | 50 | 104% | 70 | 130 | 0% | |
| Chloroform | A | ppbv | 11.35 | 11.35 | | 9.4 | 0 | 0 | 0.126 | 1 | 50 | 121% | 70 | 130 | 0% | |
| Chloromethane | A | ppbv | 11.11 | 11.11 | | 9.8 | 0 | 0 | 0.104 | 1 | 50 | 113% | 70 | 130 | 0% | |
| cis-1,2-Dichloroethene | A | ppbv | 11.13 | 11.13 | | 9.8 | 0 | 0 | 0.107 | 1 | 50 | 114% | 70 | 130 | 0% | |
| cis-1,3-dichloropropene | A | ppbv | 10.7 | 10.7 | | 9.5 | 0 | 0 | 0.166 | 1 | 50 | 113% | 70 | 130 | 0% | |
| Cyclohexane | A | ppbv | 11.66 | 11.66 | | 9.8 | 0 | 0 | 0.684 | 2 | 50 | 119% | 70 | 130 | 0% | |
| Dichlorodifluoromethane | A | ppbv | 10.24 | 10.24 | | 9.2 | 0 | 0 | 0.086 | 1 | 50 | 111% | 70 | 130 | 0% | |
| Ethanol | A | ppbv | 10.1 | 10.1 | | 9.2 | 0 | 0 | 1.962 | 5 | 50 | 110% | 70 | 130 | 0% | |
| Ethyl acetate | A | ppbv | 11.57 | 11.57 | | 9.8 | 0 | 0 | 0.157 | 1 | 50 | 118% | 70 | 130 | 0% | |
| Ethylbenzene | A | ppbv | 10.95 | 10.95 | | 9.8 | 0 | 0 | 0.737 | 2 | 50 | 112% | 70 | 130 | 0% | |
| Heptane | A | ppbv | 11.77 | 11.77 | | 9.9 | 0 | 0 | 0.249 | 1 | 50 | 119% | 70 | 130 | 0% | |
| Hexachlorobutadiene | A | ppbv | 9.74 | 9.74 | | 9.4 | 0 | 0 | 0.374 | 2 | 50 | 104% | 70 | 130 | 0% | |
| m,p-Xylene | A | ppbv | 22.29 | 22.29 | | 19.2 | 0 | 0 | 0.524 | 2 | 100 | 116% | 70 | 130 | 0% | |
| Methylene chloride | A | ppbv | 11.58 | 11.58 | | 10 | 0 | 0 | 2.077 | 5 | 50 | 116% | 70 | 130 | 0% | |
| n-Hexane | A | ppbv | 11.75 | 11.75 | | 10.1 | 0 | 0 | 0.692 | 2 | 50 | 116% | 70 | 130 | 0% | |
| Naphthalene | A | ppbv | 9.29 | 9.29 | | 9.2 | 0 | 0 | 0.247 | 1 | 50 | 101% | 70 | 130 | 0% | |
| o-Xylene | A | ppbv | 11.19 | 11.19 | | 10 | 0 | 0 | 0.258 | 1 | 50 | 112% | 70 | 130 | 0% | |
| Propylene | A | ppbv | 11.49 | 11.49 | | 10.2 | 0 | 0 | 0.075 | 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1092630 | CCV VOA1 011513 | EPA_TO15 | CCV | [\1\DATA\011513\ | 1/15/2013 9:39:0 | 1 | R55438 | | 0 | 0 | |

| Analyte | T | Units | RAW | Final | Text | Spike | SPKref | RPDref | MDL | PQL | UQL | %REC | LOW | HIGH | %RPD | Q |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Styrene | A | ppbv | 10.97 | 10.97 | | 9.8 | 0 | 0 | 0.263 | 1 | 50 | 112% | 70 | 130 | 0% | |
| tert-Butyl Methyl Ether | A | ppbv | 11.7 | 11.7 | | 9.9 | 0 | 0 | 0.228 | 1 | 50 | 118% | 70 | 130 | 0% | |
| Tetrachloroethene | A | ppbv | 10.53 | 10.53 | | 9.6 | 0 | 0 | 0.148 | 1 | 50 | 110% | 70 | 130 | 0% | |
| Tetrahydrofuran | A | ppbv | 12.46 | 12.46 | | 10 | 0 | 0 | 0.201 | 1 | 50 | 125% | 70 | 130 | 0% | |
| Toluene | A | ppbv | 11.06 | 11.06 | | 9.8 | 0 | 0 | 0.158 | 1 | 50 | 113% | 70 | 130 | 0% | |
| trans-1,2-Dichloroethene | A | ppbv | 11.33 | 11.33 | | 9.8 | 0 | 0 | 0.117 | 1 | 50 | 116% | 70 | 130 | 0% | |
| trans-1,3-dichloropropene | A | ppbv | 10.23 | 10.23 | | 9.1 | 0 | 0 | 0.171 | 1 | 50 | 112% | 70 | 130 | 0% | |
| Trichloroethene | A | ppbv | 10.54 | 10.54 | | 9.6 | 0 | 0 | 0.119 | 1 | 50 | 110% | 70 | 130 | 0% | |
| Trichlorofluoromethane | A | ppbv | 10.72 | 10.72 | | 9.6 | 0 | 0 | 0.148 | 1 | 50 | 112% | 70 | 130 | 0% | |
| Vinyl acetate | A | ppbv | 12.54 | 12.54 | | 9.9 | 0 | 0 | 0.266 | 1 | 50 | 127% | 70 | 130 | 0% | |
| Vinyl chloride | A | ppbv | 10.53 | 10.53 | | 9.4 | 0 | 0 | 0.072 | 1 | 50 | 112% | 70 | 130 | 0% | |
| Xylenes, Total | C | ppbv | 33.48 | 33.48 | | 29.2 | 0 | 0 | 0.782 | 3 | 150 | 115% | 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 | 12.68 | 12.68 | | 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1092631 | RLVS VOA1 011513 | EPA_TO15 | RLVS | [\1\DATA\011513\ | 1/15/2013 10:25: | 1 | R55438 | | 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 | 0.95 | 0.95 | | 1 | 0 | 0 | 0.211 | 1 | 50 | 95% | 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 | 0.89 | 0.89 | | 0.98 | 0 | 0 | 0.2 | 1 | 50 | 91% | 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 | 1.05 | 1.05 | | 0.99 | 0 | 0 | 0.097 | 1 | 50 | 106% | 70 | 130 | 0% | |
| 1,2,4-Trichlorobenzene | A | ppbv | 1.09 | 1.09 | | 0.91 | 0 | 0 | 0.271 | 1 | 50 | 120% | 70 | 130 | 0% | |
| 1,2,4-Trimethylbenzene | A | ppbv | 0.95 | 0.95 | | 0.98 | 0 | 0 | 0.245 | 1 | 50 | 97% | 70 | 130 | 0% | |
| 1,2-Dibromoethane | A | ppbv | 0.85 | 0.85 | | 0.96 | 0 | 0 | 0.186 | 1 | 50 | 89% | 70 | 130 | 0% | |
| 1,2-Dichlorobenzene | A | ppbv | 0.96 | 0.96 | | 0.97 | 0 | 0 | 0.208 | 1 | 50 | 99% | 70 | 130 | 0% | |
| 1,2-Dichloroethane | A | ppbv | 1.03 | 1.03 | | 0.97 | 0 | 0 | 0.196 | 1 | 50 | 106% | 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\011513\01151302.D  Vial: 2
Acq On : 15 Jan 2013 9:39 am  Operator: RACHEL HILL
Sample : CCV VOA1 011513  Inst : VOA 1
Misc : CCV EPA_TO15  Multiplr: 1.00
MS Integration Params: CLME.P

Method : C:\HPCHEM\1\METHODS\011013V1.M (RTE Integrator)
Title : TO15 ppbv
Last Update : Fri Jan 11 09:41:17 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 | 109 | 0.00 |
| 2 | T | Propylene | 1.061 | 1.195 | -12.6 | 109 | -0.01 |
| 3 | T | Dichlorodifluoromethane | 3.366 | 3.746 | -11.3 | 106 | 0.00 |
| 4 | T | 1,2-Dichloro-1,2,2,2-tetraf | 2.533 | 2.818 | -11.3 | 106 | 0.00 |
| 5 | T | Chloromethane | 1.215 | 1.421 | -17.0 | 109 | 0.00 |
| 6 | T | Vinyl chloride | 1.514 | 1.696 | -12.0 | 105 | 0.00 |
| 7 | T | 1,3-Butadiene | 1.027 | 1.208 | -17.6 | 108 | 0.00 |
| 8 | T | Bromomethane | 1.315 | 1.412 | -7.4 | 105 | 0.00 |
| 9 | T | Chloroethane | 0.741 | 0.821 | -10.8 | 107 | 0.00 |
| 10 | T | Trichlorofluoromethane | 3.363 | 3.754 | -11.6 | 108 | 0.00 |
| 11 | T | Ethanol | 0.376 | 0.412 | -9.6 | 109 | 0.00 |
| 12 | T | Freon113 | 2.325 | 2.653 | -14.1 | 109 | 0.00 |
| 13 | T | 1,1-Dichloroethene | 1.809 | 2.081 | -15.0 | 109 | 0.00 |
| 14 | T | Acetone | 1.783 | 2.175 | -22.0 | 112 | 0.00 |
| 15 | T | Carbon disulfide | 2.802 | 3.121 | -11.4 | 107 | 0.00 |
| 16 | T | 2-Propanol | 1.713 | 1.946 | -13.6 | 109 | 0.00 |
| 17 | T | Methylene chloride | 1.361 | 1.575 | -15.7 | 111 | 0.00 |
| 18 | T | tert-Butyl Methyl Ether | 2.965 | 3.503 | -18.1 | 109 | 0.00 |
| 19 | T | trans-1,2-Dichloroethene | 1.647 | 1.904 | -15.6 | 109 | 0.00 |
| 20 | T | n-Hexane | 1.916 | 2.228 | -16.3 | 109 | 0.00 |
| 21 | T | 1,1-Dichloroethane | 2.089 | 2.453 | -17.4 | 109 | 0.00 |
| 22 | T | Vinyl acetate | 2.880 | 3.648 | -26.7 | 112 | 0.00 |
| 23 | T | cis-1,2-Dichloroethene | 1.195 | 1.357 | -13.6 | 107 | 0.00 |
| 24 | T | 2-Butanone | 1.991 | 2.418 | -21.4 | 109 | 0.00 |
| 25 | T | Ethyl acetate | 2.517 | 2.970 | -18.0 | 105 | 0.00 |
| 26 | T | Tetrahydrofuran | 1.304 | 1.625 | -24.6 | 112 | 0.00 |
| 27 | T | Chloroform | 2.313 | 2.678 | -15.8 | 107 | 0.00 |
| 28 | T | 1,1,1-Trichloroethane | 2.443 | 2.848 | -16.6 | 108 | 0.00 |
| 29 | T | Cyclohexane | 2.037 | 2.424 | -19.0 | 109 | 0.00 |
| 30 | T | Carbon tetrachloride | 2.565 | 2.991 | -16.6 | 109 | 0.00 |
| 31 | T | Benzene | 3.396 | 3.974 | -17.0 | 108 | 0.00 |
| 32 | T | 1,2-Dichloroethane | 1.453 | 1.737 | -19.5 | 109 | 0.00 |
| 33 | I | 1,4-Difluorobenzene | 1.000 | 1.000 | 0.0 | 113 | 0.00 |
| 34 | T | Heptane | 0.650 | 0.773 | -18.9 | 111 | 0.00 |
| 35 | T | Trichloroethene | 0.497 | 0.546 | -9.9 | 108 | 0.00 |
| 36 | T | 1,2-Dichloropropane | 0.395 | 0.450 | -13.9 | 110 | 0.00 |
| 37 | T | 1,4-Dioxane | 0.194 | 0.213 | -9.8 | 109 | 0.00 |
| 38 | T | Bromodichloromethane | 0.715 | 0.800 | -11.9 | 109 | 0.00 |
| 39 | T | cis-1,3-Dichloropropene | 0.599 | 0.675 | -12.7 | 110 | 0.00 |
| 40 | T | 4-Methyl-2-pentanone | 0.292 | 0.327 | -12.0 | 110 | 0.00 |
| 41 | T | Toluene | 1.214 | 1.370 | -12.9 | 109 | 0.00 |
| 42 | T | trans-1,3-Dichloropropene | 0.548 | 0.616 | -12.4 | 109 | 0.00 |
| 43 | T | 1,1,2-Trichloroethane | 0.421 | 0.465 | -10.5 | 109 | 0.00 |
| 44 | T | Tetrachloroethene | 0.707 | 0.775 | -9.6 | 108 | 0.00 |
| 45 | T | 2-Hexanone | 0.591 | 0.694 | -17.4 | 111 | 0.00 |
| 46 | T | Chlorodibromomethane | 0.731 | 0.827 | -13.1 | 110 | 0.00 |
| 47 | T | 1,2-Dibromoethane | 0.632 | 0.705 | -11.6 | 109 | 0.00 |
| 48 | I | Chlorobenzene-d5 | 1.000 | 1.000 | 0.0 | 113 | 0.00 |
| 49 | T | Chlorobenzene | 1.119 | 1.235 | -10.4 | 108 | 0.00 |
| 50 | T | Ethylbenzene | 1.781 | 1.991 | -11.8 | 107 | 0.00 |
| 51 | T | m,p-Xylene | 1.374 | 1.595 | -16.1 | 106 | 0.00 |
| 52 | T | o-Xylene | 1.422 | 1.591 | -11.9 | 107 | 0.00 |
| 53 | T | Styrene | 1.069 | 1.197 | -12.0 | 107 | 0.00 |
| 54 | T | Bromoform | 0.872 | 0.979 | -12.3 | 110 | 0.00 |
| 55 | S | 4-Bromofluorobenzene | 0.571 | 0.580 | -1.6 | 115 | 0.00 |

(#) = Out of Range

Data File : C:\HPCHEM\1\DATA\011513\01151302.D Vial: 2
Acq On : 15 Jan 2013 9:39 am Operator: RACHEL HILL
Sample : CCV VOA1 011513 Inst : VOA 1
Misc : CCV EPA_TO15 Multiplr: 1.00
MS Integration Params: CLME.P

Method : C:\HPCHEM\1\METHODS\011013V1.M (RTE Integrator)
Title : TO15 ppbv
Last Update : Fri Jan 11 09:41:17 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 | 0.901 | 0.967 | -7.3 | 106 | 0.00 |
| 57 | T | 4-Ethyltoluene | 1.778 | 1.968 | -10.7 | 107 | 0.00 |
| 58 | T | 1,3,5-Trimethylbenzene | 1.506 | 1.648 | -9.4 | 106 | 0.00 |
| 59 | T | 1,2,4-Trimethylbenzene | 1.407 | 1.537 | -9.2 | 107 | 0.00 |
| 60 | T | 1,3-Dichlorobenzene | 0.873 | 0.935 | -7.1 | 108 | 0.00 |
| 61 | T | 1,4-Dichlorobenzene | 0.819 | 0.875 | -6.8 | 107 | 0.00 |
| 62 | T | Benzyl chloride | 0.832 | 0.931 | -11.9 | 108 | 0.00 |
| 63 | T | 1,2-Dichlorobenzene | 0.727 | 0.782 | -7.6 | 108 | 0.00 |
| 64 | T | 1,2,4-Trichlorobenzene | 0.233 | 0.233 | 0.0 | 105 | 0.00 |
| 65 | T | Hexachlorobutadiene | 0.476 | 0.493 | -3.6 | 108 | 0.00 |
| 66 | | Naphthalene | 0.353 | 0.356 | -0.8 | 102 | 0.00 |

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\011513\01151302.D Vial: 2
Acq On : 15 Jan 2013 9:39 am Operator: RACHEL HILL
Sample : CCV VOA1 011513 Inst : VOA 1
Misc : CCV EPA_TO15 Multiplr: 1.00
MS Integration Params: CLME.P
Quant Time: Jan 15 10:06 2013 Quant Results File: 011013V1.RES

Quant Method : C:\HPCHEM\1\METHODS\011013V1.M (RTE Integrator)
Title : TO15 ppbv
Last Update : Fri Jan 11 09:41:17 2013
Response via : Initial Calibration
DataAcq Meth : 011013V1

| Internal Standards | R.T. | QIon | Response | Conc | Units | | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 1) Bromochloromethane | 10.52 | 130 | 291480 | 12.50 | ppbv | | 0.00 |
| 33) 1,4-Difluorobenzene | 11.62 | 114 | 1025065 | 12.50 | ppbv | | 0.00 |
| 48) Chlorobenzene-d5 | 15.47 | 117 | 843194 | 12.50 | ppbv | | 0.00 |
| **System Monitoring Compounds** | | | | | | | |
| 55) 4-Bromofluorobenzene | 17.11 | 95 | 488712 | 12.68 | ppbv | | 0.00 |
| Spiked Amount 12.500 | Range 70 - 113 | | Recovery = 101.44% | | | | |
| **Target Compounds** | | | | | | | Qvalue |
| 2) Propylene | 5.43 | 41 | 284234 | 11.49 | ppbv | | 99 |
| 3) Dichlorodifluoromethane | 5.51 | 85 | 803566 | 10.24 | ppbv | | 99 |
| 4) 1,2-Dichloro-1,2,2,2-tetra | 5.76 | 135 | 624264 | 10.57 | ppbv | # | 84 |
| 5) Chloromethane | 5.93 | 50 | 314741 | 11.11 | ppbv | | 98 |
| 6) Vinyl chloride | 6.15 | 62 | 371796 | 10.53 | ppbv | | 99 |
| 7) 1,3-Butadiene | 6.20 | 39 | 275991 | 11.52 | ppbv | | 93 |
| 8) Bromomethane | 6.77 | 94 | 306173 | 9.99 | ppbv | # | 98 |
| 9) Chloroethane | 6.93 | 64 | 176077 | 10.20 | ppbv | | 98 |
| 10) Trichlorofluoromethane | 7.26 | 101 | 840255 | 10.72 | ppbv | | 99 |
| 11) Ethanol | 7.50 | 45 | 88479 | 10.10 | ppbv | | 99 |
| 12) Freon113 | 7.92 | 101 | 606239 | 11.18 | ppbv | | 99 |
| 13) 1,1-Dichloroethene | 8.02 | 61 | 480387 | 11.39 | ppbv | | 90 |
| 14) Acetone | 8.11 | 43 | 507071 | 12.19 | ppbv | # | 96 |
| 15) Carbon disulfide | 8.39 | 76 | 705999 | 10.80 | ppbv | # | 100 |
| 16) 2-Propanol | 8.17 | 45 | 458203 | 11.47 | ppbv | # | 1 |
| 17) Methylene chloride | 8.68 | 49 | 367350 | 11.58 | ppbv | | 86 |
| 18) tert-Butyl Methyl Ether | 8.88 | 73 | 808656 | 11.70 | ppbv | | 95 |
| 19) trans-1,2-Dichloroethene | 8.97 | 61 | 435146 | 11.33 | ppbv | | 88 |
| 20) n-Hexane | 9.15 | 57 | 524847 | 11.75 | ppbv | | 98 |
| 21) 1,1-Dichloroethane | 9.53 | 63 | 554922 | 11.39 | ppbv | | 98 |
| 22) Vinyl acetate | 9.46 | 43 | 842163 | 12.54 | ppbv | | 98 |
| 23) cis-1,2-Dichloroethene | 10.21 | 96 | 310109 | 11.13 | ppbv | | 88 |
| 24) 2-Butanone | 10.18 | 43 | 558268 | 12.02 | ppbv | | 94 |
| 25) Ethyl acetate | 10.13 | 43 | 678813 | 11.57 | ppbv | # | 99 |
| 26) Tetrahydrofuran | 10.52 | 42 | 378821 | 12.46 | ppbv | | 94 |
| 27) Chloroform | 10.53 | 83 | 611956 | 11.35 | ppbv | | 100 |
| 28) 1,1,1-Trichloroethane | 10.78 | 97 | 637449 | 11.19 | ppbv | | 97 |
| 29) Cyclohexane | 10.79 | 56 | 553941 | 11.66 | ppbv | | 90 |
| 30) Carbon tetrachloride | 10.95 | 117 | 662512 | 11.08 | ppbv | | 99 |
| 31) Benzene | 11.22 | 78 | 889545 | 11.23 | ppbv | | 97 |
| 32) 1,2-Dichloroethane | 11.30 | 62 | 392901 | 11.60 | ppbv | | 98 |
| 34) Heptane | 11.28 | 43 | 627656 | 11.77 | ppbv | | 94 |
| 35) Trichloroethene | 11.96 | 130 | 429854 | 10.54 | ppbv | | 99 |
| 36) 1,2-Dichloropropane | 12.31 | 63 | 361955 | 11.17 | ppbv | | 98 |
| 37) 1,4-Dioxane | 12.39 | 88 | 167533 | 10.54 | ppbv | | 91 |
| 38) Bromodichloromethane | 12.60 | 83 | 629993 | 10.74 | ppbv | | 100 |
| 39) cis-1,3-Dichloropropene | 13.15 | 75 | 525483 | 10.70 | ppbv | | 98 |
| 40) 4-Methyl-2-pentanone | 13.26 | 58 | 267812 | 11.20 | ppbv | | 94 |
| 41) Toluene | 13.56 | 91 | 1101329 | 11.06 | ppbv | | 98 |
| 42) trans-1,3-Dichloropropene | 13.86 | 75 | 459358 | 10.23 | ppbv | | 98 |
| 43) 1,1,2-Trichloroethane | 14.13 | 97 | 373780 | 10.83 | ppbv | | 98 |
| 44) Tetrachloroethene | 14.26 | 166 | 610372 | 10.53 | ppbv | | 99 |
| 45) 2-Hexanone | 14.34 | 43 | 557976 | 11.50 | ppbv | | 98 |
| 46) Chlorodibromomethane | 14.68 | 129 | 664482 | 11.09 | ppbv | | 99 |
| 47) 1,2-Dibromoethane | 14.92 | 107 | 555144 | 10.71 | ppbv | | 100 |
| 49) Chlorobenzene | 15.51 | 112 | 824865 | 10.93 | ppbv | | 97 |
| 50) Ethylbenzene | 15.55 | 91 | 1316421 | 10.95 | ppbv | | 98 |
| 51) m,p-Xylene | 15.71 | 91 | 2066026 | 22.29 | ppbv | | 97 |
| 52) o-Xylene | 16.30 | 91 | 1073362 | 11.19 | ppbv | # | 95 |

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

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\011513\01151302.D Vial: 2
Acq On : 15 Jan 2013 9:39 am Operator: RACHEL HILL
Sample : CCV VOA1 011513 Inst : VOA 1
Misc : CCV EPA_TO15 Multiplr: 1.00
MS Integration Params: CLME.P
Quant Time: Jan 15 10:06 2013 Quant Results File: 011013V1.RES

Quant Method : C:\HPCHEM\1\METHODS\011013V1.M (RTE Integrator)
Title : TO15 ppbv
Last Update : Fri Jan 11 09:41:17 2013
Response via : Initial Calibration
DataAcq Meth : 011013V1

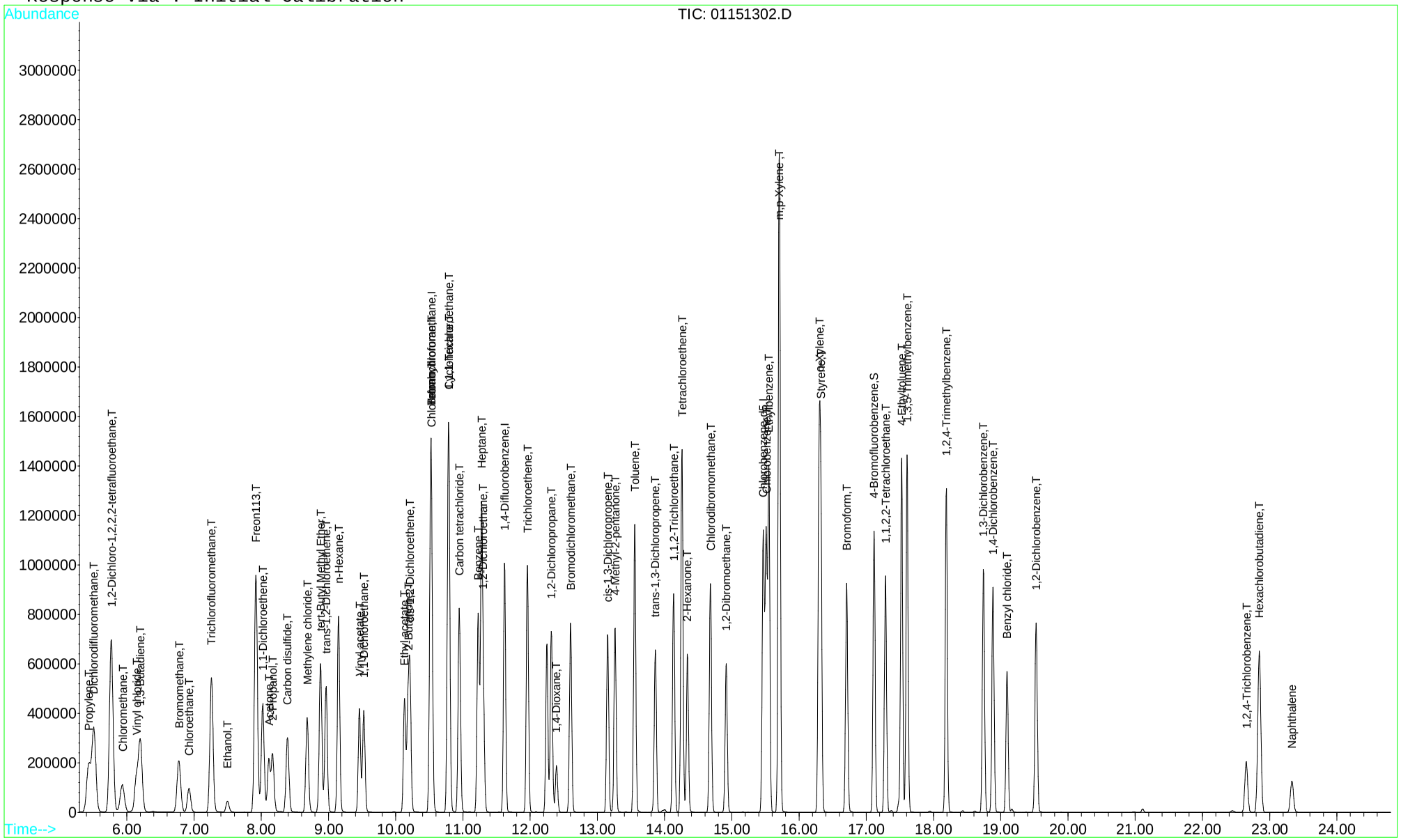
| | Compound | R.T. | QIon | Response | Conc | Unit | Qvalue |
|---|---|---|---|---|---|---|---|
| 53) | Styrene | 16.32 | 104 | 791541 | 10.97 | ppbv | 99 |
| 54) | Bromoform | 16.71 | 173 | 633825 | 10.77 | ppbv | 99 |
| 56) | 1,1,2,2-Tetrachloroethane | 17.29 | 83 | 652567 | 10.74 | ppbv | 99 |
| 57) | 4-Ethyltoluene | 17.53 | 105 | 1300862 | 10.85 | ppbv | 97 |
| 58) | 1,3,5-Trimethylbenzene | 17.61 | 105 | 1078591 | 10.62 | ppbv | 98 |
| 59) | 1,2,4-Trimethylbenzene | 18.19 | 105 | 1016290 | 10.71 | ppbv | 98 |
| 60) | 1,3-Dichlorobenzene | 18.74 | 146 | 611549 | 10.38 | ppbv | 99 |
| 61) | 1,4-Dichlorobenzene | 18.89 | 146 | 566313 | 10.25 | ppbv | 99 |
| 62) | Benzyl chloride | 19.09 | 91 | 609177 | 10.85 | ppbv | 99 |
| 63) | 1,2-Dichlorobenzene | 19.53 | 146 | 511985 | 10.44 | ppbv | 99 |
| 64) | 1,2,4-Trichlorobenzene | 22.65 | 180 | 142801 | 9.09 | ppbv | 99 |
| 65) | Hexachlorobutadiene | 22.85 | 225 | 312755 | 9.74 | ppbv | 99 |
| 66) | Naphthalene | 23.33 | 128 | 221013 | 9.29 | ppbv | 100 |

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

# Quantitation Report

Data File : C:\HPCHEM\1\DATA\011513\01151302.D  Vial: 2
Acq On : 15 Jan 2013 9:39 am  Operator: RACHEL HILL
Sample : CCV VOA1 011513  Inst : VOA 1
Misc : CCV EPA_TO15  Multiplr: 1.00
MS Integration Params: CLME.P
Quant Time: Jan 15 10:06 2013  Quant Results File: 011013V1.RES

Method : C:\HPCHEM\1\METHODS\011013V1.M (RTE Integrator)
Title : TO15 ppbv
Last Update : Fri Jan 11 09:41:17 2013
Response via : Initial Calibration



# Injection Log

Directory: C:\HPCHEM\1\DATA\011613

| Line | Vial | FileName | Multiplier | SampleName | Misc Info | Injected |
|---|---|---|---|---|---|---|
| 1 | 1 | 01161301.d | 1. | BFB VOA1 011613 | TUNE BFB_TUNE | 16 Jan 2013 09:00 |
| 2 | 2 | 01161302.d | 1. | CCV VOA1 011613 | CCV EPA_TO15 | 16 Jan 2013 09:43 |
| 3 | 6 | 01161303.d | 1. | RLVS VOA1 011613 | RLVS EPA_TO15 | 16 Jan 2013 10:59 |
| 4 | 7 | 01161304.d | 1. | MBLK/BV592 CC VOA1 011613 | MBLK EPA_TO15 | 16 Jan 2013 11:53 |
| 5 | 8 | 01161305.d | 1. | MBLK/BV1158 CC VOA1 011613 | data not used | 16 Jan 2013 12:41 |
| 6 | 9 | 01161306.d | 8000. | 1212959-006A | SAMP EPA_TO15 | 16 Jan 2013 13:56 |
| 7 | 10 | 01161307.d | 4. | 1212960-001A | SAMP EPA_TO15 | 16 Jan 2013 14:39 |
| 8 | 11 | 01161308.d | 40. | 1212960-005A | SAMP EPA_TO15 | 16 Jan 2013 15:21 |
| 9 | 11 | 01161309.d | 20000. | 1212960-009A | SAMP EPA_TO15 | 16 Jan 2013 16:03 |
| 10 | 12 | 01161310.d | 800. | 1212959-018A | data not used | 16 Jan 2013 16:48 |
| 11 | 13 | 01161311.d | 8000. | 1212959-018A | SAMP EPA_TO15 | 16 Jan 2013 17:30 |
| 12 | 14 | 01161312.d | 20000. | 1212960-008A | SAMP EPA_TO15 | 16 Jan 2013 18:12 |
| 13 | 15 | 01161313.d | 800. | 1212959-028A | SAMP EPA_TO15 | 16 Jan 2013 18:57 |
| 14 | 16 | 01161314.d | 800. | 1212959-028ADUP | DUP EPA_TO15 | 16 Jan 2013 19:42 |
| 15 | 16 | 01161315.d | 20000. | 1212960-006A | SAMP EPA_TO15 | 16 Jan 2013 20:24 |
| 16 | 17 | 01161316.d | 800. | 1212960-011A | SAMP EPA_TO15 | 16 Jan 2013 21:08 |
| 17 | 18 | 01161317.d | 800. | 1212960-010A | SAMP EPA_TO15 | 16 Jan 2013 21:53 |
| 18 | 19 | 01161318.d | 800. | 1212959-009A | SAMP EPA_TO15 | 16 Jan 2013 22:38 |
| 19 | 20 | 01161319.d | 800. | 1212959-009A | data not used | 16 Jan 2013 23:23 |
| 20 | 21 | 01161320.d | 8000. | 1212960-011A | SAMP EPA_TO15 | 17 Jan 2013 00:05 |
| 21 | 22 | 01161321.d | 8000. | 1212960-010A | SAMP EPA_TO15 | 17 Jan 2013 00:47 |
| 22 | 7 | 01161322.d | 1. | RLVS2 VOA1 011613 | data not used | 17 Jan 2013 01:33 |
| 23 | 8 | 01161323.d | 1. | RLVS2 VOA1 011613 | RLVS EPA_TO15 | 17 Jan 2013 07:44 |

# RTI Laboratories

# ANALYTICAL RUN Summary

*17-Jan-13*

**RunNo** 55470

| Seq No | Sample ID | Test Code | Sample Typ | File ID | Analysis Date | DF | Batch ID | Prep Date | SPKref | RPDref | pmoist |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1093211 | BFB VOA1 011613 | BFB_TUNE | TUNE | \\1\DATA\011613\ | 1/16/2013 9:00:0 | 1 | R55470 | | 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 | | 98.2 | 98.2 | | 100 | 0 | 0 | 0 | 0 | 0 | 98% | 50 | 200 | 0% | |
| 175 | M | | 7.1 | 7.1 | | 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 | | 6.8 | 6.8 | | 100 | 0 | 0 | 0 | 0 | 0 | 7% | 5 | 9 | 0% | |
| 50 | M | | 19.1 | 19.1 | | 100 | 0 | 0 | 0 | 0 | 0 | 19% | 8 | 40 | 0% | |
| 75 | M | | 47.3 | 47.3 | | 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 | | 6.8 | 6.8 | | 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1093212 | CCV VOA1 011613 | EPA_TO15 | CCV | \\1\DATA\011613\ | 1/16/2013 9:43:0 | 1 | R55470 | | 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 | 11.18 | 11.18 | | 9.6 | 0 | 0 | 0.107 | 1 | 50 | 116% | 70 | 130 | 0% | |
| 1,1,2,2-Tetrachloroethane | A | ppbv | 10.64 | 10.64 | | 10 | 0 | 0 | 0.211 | 1 | 50 | 106% | 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 | 10.84 | 10.84 | | 9.8 | 0 | 0 | 0.2 | 1 | 50 | 111% | 70 | 130 | 0% | |
| 1,1-Dichloroethane | A | ppbv | 11.48 | 11.48 | | 9.7 | 0 | 0 | 0.111 | 1 | 50 | 118% | 70 | 130 | 0% | |
| 1,1-Dichloroethene | A | ppbv | 11.43 | 11.43 | | 9.9 | 0 | 0 | 0.097 | 1 | 50 | 115% | 70 | 130 | 0% | |
| 1,2,4-Trichlorobenzene | A | ppbv | 9.68 | 9.68 | | 9.1 | 0 | 0 | 0.271 | 1 | 50 | 106% | 70 | 130 | 0% | |
| 1,2,4-Trimethylbenzene | A | ppbv | 10.66 | 10.66 | | 9.8 | 0 | 0 | 0.245 | 1 | 50 | 109% | 70 | 130 | 0% | |
| 1,2-Dibromoethane | A | ppbv | 10.75 | 10.75 | | 9.6 | 0 | 0 | 0.186 | 1 | 50 | 112% | 70 | 130 | 0% | |
| 1,2-Dichlorobenzene | A | ppbv | 10.34 | 10.34 | | 9.7 | 0 | 0 | 0.208 | 1 | 50 | 107% | 70 | 130 | 0% | |
| 1,2-Dichloroethane | A | ppbv | 11.68 | 11.68 | | 9.7 | 0 | 0 | 0.196 | 1 | 50 | 120% | 70 | 130 | 0% | |
| 1,2-Dichloropropane | A | ppbv | 11.11 | 11.11 | | 9.8 | 0 | 0 | 0.224 | 1 | 50 | 113% | 70 | 130 | 0% | |
| 1,3,5-Trimethylbenzene | A | ppbv | 10.49 | 10.49 | | 9.7 | 0 | 0 | 0.24 | 1 | 50 | 108% | 70 | 130 | 0% | |
| 1,3-Butadiene | A | ppbv | 11.5 | 11.5 | | 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1093212 | CCV VOA1 011613 | EPA_TO15 | CCV | \\1\DATA\011613\ | 1/16/2013 9:43:0 | 1 | R55470 | | 0 | 0 | |

| Analyte | T | Units | RAW | Final | Text | Spike | SPKref | RPDref | MDL | PQL | UQL | %REC | LOW | HIGH | %RPD | Q |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,4-Dichlorobenzene | A | ppbv | 10.39 | 10.39 | | 9.6 | 0 | 0 | 0.194 | 1 | 50 | 108% | 70 | 130 | 0% | |
| 1,4-Dioxane | A | ppbv | 10.71 | 10.71 | | 9.6 | 0 | 0 | 0.128 | 1 | 50 | 112% | 70 | 130 | 0% | |
| 2-Butanone | A | ppbv | 12.19 | 12.19 | | 9.9 | 0 | 0 | 0.287 | 1 | 50 | 123% | 70 | 130 | 0% | |
| 2-Hexanone | A | ppbv | 11.75 | 11.75 | | 9.8 | 0 | 0 | 0.135 | 1 | 50 | 120% | 70 | 130 | 0% | |
| 2-Propanol | A | ppbv | 11.76 | 11.76 | | 10.1 | 0 | 0 | 0.329 | 1 | 50 | 116% | 70 | 130 | 0% | |
| 4-Methyl-2-pentanone | A | ppbv | 11.22 | 11.22 | | 10 | 0 | 0 | 0.157 | 1 | 50 | 112% | 70 | 130 | 0% | |
| Acetone | A | ppbv | 12.18 | 12.18 | | 10 | 0 | 0 | 0.43 | 1 | 50 | 122% | 70 | 130 | 0% | |
| Benzene | A | ppbv | 11.18 | 11.18 | | 9.6 | 0 | 0 | 0.126 | 1 | 50 | 116% | 70 | 130 | 0% | |
| Benzyl chloride | A | ppbv | 10.88 | 10.88 | | 9.7 | 0 | 0 | 0.155 | 1 | 50 | 112% | 70 | 130 | 0% | |
| Bromodichloromethane | A | ppbv | 10.75 | 10.75 | | 9.6 | 0 | 0 | 0.156 | 1 | 50 | 112% | 70 | 130 | 0% | |
| Bromoform | A | ppbv | 10.71 | 10.71 | | 9.6 | 0 | 0 | 0.197 | 1 | 50 | 112% | 70 | 130 | 0% | |
| Bromomethane | A | ppbv | 9.89 | 9.89 | | 9.3 | 0 | 0 | 0.075 | 1 | 50 | 106% | 70 | 130 | 0% | |
| Carbon disulfide | A | ppbv | 10.97 | 10.97 | | 9.7 | 0 | 0 | 0.093 | 1 | 50 | 113% | 70 | 130 | 0% | |
| Carbon tetrachloride | A | ppbv | 11.23 | 11.23 | | 9.5 | 0 | 0 | 0.114 | 1 | 50 | 118% | 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 | 11.09 | 11.09 | | 9.2 | 0 | 0 | 0.165 | 1 | 50 | 121% | 70 | 130 | 0% | |
| Chloroethane | A | ppbv | 10.32 | 10.32 | | 9.8 | 0 | 0 | 0.063 | 1 | 50 | 105% | 70 | 130 | 0% | |
| Chloroform | A | ppbv | 11.38 | 11.38 | | 9.4 | 0 | 0 | 0.126 | 1 | 50 | 121% | 70 | 130 | 0% | |
| Chloromethane | A | ppbv | 10.78 | 10.78 | | 9.8 | 0 | 0 | 0.104 | 1 | 50 | 110% | 70 | 130 | 0% | |
| cis-1,2-Dichloroethene | A | ppbv | 11.16 | 11.16 | | 9.8 | 0 | 0 | 0.107 | 1 | 50 | 114% | 70 | 130 | 0% | |
| cis-1,3-dichloropropene | A | ppbv | 10.73 | 10.73 | | 9.5 | 0 | 0 | 0.166 | 1 | 50 | 113% | 70 | 130 | 0% | |
| Cyclohexane | A | ppbv | 11.67 | 11.67 | | 9.8 | 0 | 0 | 0.684 | 2 | 50 | 119% | 70 | 130 | 0% | |
| Dichlorodifluoromethane | A | ppbv | 10.27 | 10.27 | | 9.2 | 0 | 0 | 0.086 | 1 | 50 | 112% | 70 | 130 | 0% | |
| Ethanol | A | ppbv | 10.37 | 10.37 | | 9.2 | 0 | 0 | 1.962 | 5 | 50 | 113% | 70 | 130 | 0% | |
| Ethyl acetate | A | ppbv | 12.35 | 12.35 | | 9.8 | 0 | 0 | 0.157 | 1 | 50 | 126% | 70 | 130 | 0% | |
| Ethylbenzene | A | ppbv | 10.77 | 10.77 | | 9.8 | 0 | 0 | 0.737 | 2 | 50 | 110% | 70 | 130 | 0% | |
| Heptane | A | ppbv | 11.76 | 11.76 | | 9.9 | 0 | 0 | 0.249 | 1 | 50 | 119% | 70 | 130 | 0% | |
| Hexachlorobutadiene | A | ppbv | 9.85 | 9.85 | | 9.4 | 0 | 0 | 0.374 | 2 | 50 | 105% | 70 | 130 | 0% | |
| m,p-Xylene | A | ppbv | 22.06 | 22.06 | | 19.2 | 0 | 0 | 0.524 | 2 | 100 | 115% | 70 | 130 | 0% | |
| Methylene chloride | A | ppbv | 11.6 | 11.6 | | 10 | 0 | 0 | 2.077 | 5 | 50 | 116% | 70 | 130 | 0% | |
| n-Hexane | A | ppbv | 11.79 | 11.79 | | 10.1 | 0 | 0 | 0.692 | 2 | 50 | 117% | 70 | 130 | 0% | |
| Naphthalene | A | ppbv | 10.04 | 10.04 | | 9.2 | 0 | 0 | 0.247 | 1 | 50 | 109% | 70 | 130 | 0% | |
| o-Xylene | A | ppbv | 11.01 | 11.01 | | 10 | 0 | 0 | 0.258 | 1 | 50 | 110% | 70 | 130 | 0% | |
| Propylene | A | ppbv | 11.5 | 11.5 | | 10.2 | 0 | 0 | 0.075 | 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1093212 | CCV VOA1 011613 | EPA_TO15 | CCV | [\1\DATA\011613\ | 1/16/2013 9:43:0 | 1 | R55470 | | 0 | 0 | |

| Analyte | T | Units | RAW | Final | Text | Spike | SPKref | RPDref | MDL | PQL | UQL | %REC | LOW | HIGH | %RPD | Q |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Styrene | A | ppbv | 10.87 | 10.87 | | 9.8 | 0 | 0 | 0.263 | 1 | 50 | 111% | 70 | 130 | 0% | |
| tert-Butyl Methyl Ether | A | ppbv | 11.74 | 11.74 | | 9.9 | 0 | 0 | 0.228 | 1 | 50 | 119% | 70 | 130 | 0% | |
| Tetrachloroethene | A | ppbv | 10.63 | 10.63 | | 9.6 | 0 | 0 | 0.148 | 1 | 50 | 111% | 70 | 130 | 0% | |
| Tetrahydrofuran | A | ppbv | 12.44 | 12.44 | | 10 | 0 | 0 | 0.201 | 1 | 50 | 124% | 70 | 130 | 0% | |
| Toluene | A | ppbv | 11.02 | 11.02 | | 9.8 | 0 | 0 | 0.158 | 1 | 50 | 112% | 70 | 130 | 0% | |
| trans-1,2-Dichloroethene | A | ppbv | 11.49 | 11.49 | | 9.8 | 0 | 0 | 0.117 | 1 | 50 | 117% | 70 | 130 | 0% | |
| trans-1,3-dichloropropene | A | ppbv | 10.26 | 10.26 | | 9.1 | 0 | 0 | 0.171 | 1 | 50 | 113% | 70 | 130 | 0% | |
| Trichloroethene | A | ppbv | 10.62 | 10.62 | | 9.6 | 0 | 0 | 0.119 | 1 | 50 | 111% | 70 | 130 | 0% | |
| Trichlorofluoromethane | A | ppbv | 10.76 | 10.76 | | 9.6 | 0 | 0 | 0.148 | 1 | 50 | 112% | 70 | 130 | 0% | |
| Vinyl acetate | A | ppbv | 12.61 | 12.61 | | 9.9 | 0 | 0 | 0.266 | 1 | 50 | 127% | 70 | 130 | 0% | |
| Vinyl chloride | A | ppbv | 10.53 | 10.53 | | 9.4 | 0 | 0 | 0.072 | 1 | 50 | 112% | 70 | 130 | 0% | |
| Xylenes, Total | C | ppbv | 33.07 | 33.07 | | 29.2 | 0 | 0 | 0.782 | 3 | 150 | 113% | 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 | 12.96 | 12.96 | | 12.5 | 0 | 0 | 0 | 0 | 0 | 104% | 70 | 130 | 0% | |

| Seq No | Sample ID | Test Code | Sample Typ | File ID | Analysis Date | DF | Batch ID | Prep Date | SPKref | RPDref | pmoist |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1093213 | RLVS VOA1 011613 | EPA_TO15 | RLVS | [\1\DATA\011613\ | 1/16/2013 10:59: | 1 | R55470 | | 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 | 0.93 | 0.93 | | 0.996 | 0 | 0 | 0.107 | 1 | 50 | 93% | 70 | 130 | 0% | |
| 1,1,2,2-Tetrachloroethane | A | ppbv | 0.94 | 0.94 | | 1 | 0 | 0 | 0.211 | 1 | 50 | 94% | 70 | 130 | 0% | |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | A | ppbv | 0.96 | 0.96 | | 0.98 | 0 | 0 | 0.108 | 1 | 50 | 98% | 70 | 130 | 0% | |
| 1,1,2-Trichloroethane | A | ppbv | 0.88 | 0.88 | | 0.98 | 0 | 0 | 0.2 | 1 | 50 | 90% | 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 | 0.99 | 0.99 | | 0.99 | 0 | 0 | 0.097 | 1 | 50 | 100% | 70 | 130 | 0% | |
| 1,2,4-Trichlorobenzene | A | ppbv | 1.23 | 1.23 | | 0.91 | 0 | 0 | 0.271 | 1 | 50 | 135% | 70 | 130 | 0% | S |
| 1,2,4-Trimethylbenzene | A | ppbv | 0.93 | 0.93 | | 0.98 | 0 | 0 | 0.245 | 1 | 50 | 95% | 70 | 130 | 0% | |
| 1,2-Dibromoethane | A | ppbv | 0.85 | 0.85 | | 0.96 | 0 | 0 | 0.186 | 1 | 50 | 89% | 70 | 130 | 0% | |
| 1,2-Dichlorobenzene | A | ppbv | 1.01 | 1.01 | | 0.97 | 0 | 0 | 0.208 | 1 | 50 | 104% | 70 | 130 | 0% | |
| 1,2-Dichloroethane | A | ppbv | 1 | 1 | | 0.97 | 0 | 0 | 0.196 | 1 | 50 | 103% | 70 | 130 | 0% | |
| 1,2-Dichloropropane | A | ppbv | 0.9 | 0.9 | | 0.98 | 0 | 0 | 0.224 | 1 | 50 | 92% | 70 | 130 | 0% | |

# Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\011613\01161302.D  Vial: 2
Acq On : 16 Jan 2013 9:43 am  Operator: RACHEL HILL
Sample : CCV VOA1 011613  Inst : VOA 1
Misc : CCV EPA_TO15  Multiplr: 1.00
MS Integration Params: CLME.P

Method : C:\HPCHEM\1\METHODS\011013V1.M (RTE Integrator)
Title : TO15 ppbv
Last Update : Fri Jan 11 09:41:17 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 | 107 | 0.00 |
| 2 | T | Propylene | 1.061 | 1.196 | -12.7 | 107 | 0.00 |
| 3 | T | Dichlorodifluoromethane | 3.366 | 3.758 | -11.6 | 104 | 0.00 |
| 4 | T | 1,2-Dichloro-1,2,2,2-tetraf | 2.533 | 2.856 | -12.8 | 106 | 0.00 |
| 5 | T | Chloromethane | 1.215 | 1.378 | -13.4 | 103 | 0.00 |
| 6 | T | Vinyl chloride | 1.514 | 1.697 | -12.1 | 103 | 0.00 |
| 7 | T | 1,3-Butadiene | 1.027 | 1.206 | -17.4 | 106 | 0.00 |
| 8 | T | Bromomethane | 1.315 | 1.399 | -6.4 | 102 | 0.00 |
| 9 | T | Chloroethane | 0.741 | 0.830 | -12.0 | 106 | 0.00 |
| 10 | T | Trichlorofluoromethane | 3.363 | 3.768 | -12.0 | 106 | 0.00 |
| 11 | T | Ethanol | 0.376 | 0.423 | -12.5 | 110 | 0.00 |
| 12 | T | Freon113 | 2.325 | 2.658 | -14.3 | 107 | 0.00 |
| 13 | T | 1,1-Dichloroethene | 1.809 | 2.088 | -15.4 | 107 | 0.00 |
| 14 | T | Acetone | 1.783 | 2.173 | -21.9 | 109 | 0.00 |
| 15 | T | Carbon disulfide | 2.802 | 3.168 | -13.1 | 106 | 0.00 |
| 16 | T | 2-Propanol | 1.713 | 1.995 | -16.5 | 110 | 0.00 |
| 17 | T | Methylene chloride | 1.361 | 1.578 | -15.9 | 109 | 0.00 |
| 18 | T | tert-Butyl Methyl Ether | 2.965 | 3.516 | -18.6 | 107 | 0.00 |
| 19 | T | trans-1,2-Dichloroethene | 1.647 | 1.932 | -17.3 | 108 | 0.00 |
| 20 | T | n-Hexane | 1.916 | 2.237 | -16.8 | 107 | 0.00 |
| 21 | T | 1,1-Dichloroethane | 2.089 | 2.472 | -18.3 | 108 | 0.00 |
| 22 | T | Vinyl acetate | 2.880 | 3.670 | -27.4 | 111 | 0.00 |
| 23 | T | cis-1,2-Dichloroethene | 1.195 | 1.361 | -13.9 | 105 | 0.00 |
| 24 | T | 2-Butanone | 1.991 | 2.452 | -23.2 | 108 | 0.00 |
| 25 | T | Ethyl acetate | 2.517 | 3.173 | -26.1 | 110 | 0.00 |
| 26 | T | Tetrahydrofuran | 1.304 | 1.621 | -24.3 | 109 | 0.00 |
| 27 | T | Chloroform | 2.313 | 2.686 | -16.1 | 105 | 0.00 |
| 28 | T | 1,1,1-Trichloroethane | 2.443 | 2.846 | -16.5 | 106 | 0.00 |
| 29 | T | Cyclohexane | 2.037 | 2.425 | -19.0 | 107 | 0.00 |
| 30 | T | Carbon tetrachloride | 2.565 | 3.031 | -18.2 | 108 | 0.00 |
| 31 | T | Benzene | 3.396 | 3.957 | -16.5 | 106 | 0.00 |
| 32 | T | 1,2-Dichloroethane | 1.453 | 1.749 | -20.4 | 108 | 0.00 |
| 33 | I | 1,4-Difluorobenzene | 1.000 | 1.000 | 0.0 | 111 | 0.00 |
| 34 | T | Heptane | 0.650 | 0.773 | -18.9 | 109 | 0.00 |
| 35 | T | Trichloroethene | 0.497 | 0.550 | -10.7 | 107 | 0.00 |
| 36 | T | 1,2-Dichloropropane | 0.395 | 0.448 | -13.4 | 108 | 0.00 |
| 37 | T | 1,4-Dioxane | 0.194 | 0.216 | -11.3 | 109 | 0.00 |
| 38 | T | Bromodichloromethane | 0.715 | 0.801 | -12.0 | 107 | 0.00 |
| 39 | T | cis-1,3-Dichloropropene | 0.599 | 0.677 | -13.0 | 108 | 0.00 |
| 40 | T | 4-Methyl-2-pentanone | 0.292 | 0.327 | -12.0 | 109 | 0.00 |
| 41 | T | Toluene | 1.214 | 1.365 | -12.4 | 107 | 0.00 |
| 42 | T | trans-1,3-Dichloropropene | 0.548 | 0.617 | -12.6 | 108 | 0.00 |
| 43 | T | 1,1,2-Trichloroethane | 0.421 | 0.465 | -10.5 | 107 | 0.00 |
| 44 | T | Tetrachloroethene | 0.707 | 0.782 | -10.6 | 107 | 0.00 |
| 45 | T | 2-Hexanone | 0.591 | 0.709 | -20.0 | 111 | 0.00 |
| 46 | T | Chlorodibromomethane | 0.731 | 0.827 | -13.1 | 108 | 0.00 |
| 47 | T | 1,2-Dibromoethane | 0.632 | 0.707 | -11.9 | 107 | 0.00 |
| 48 | I | Chlorobenzene-d5 | 1.000 | 1.000 | 0.0 | 113 | 0.00 |
| 49 | T | Chlorobenzene | 1.119 | 1.214 | -8.5 | 106 | 0.00 |
| 50 | T | Ethylbenzene | 1.781 | 1.958 | -9.9 | 105 | 0.00 |
| 51 | T | m,p-Xylene | 1.374 | 1.579 | -14.9 | 105 | 0.00 |
| 52 | T | o-Xylene | 1.422 | 1.565 | -10.1 | 106 | 0.00 |
| 53 | T | Styrene | 1.069 | 1.186 | -10.9 | 106 | 0.00 |
| 54 | T | Bromoform | 0.872 | 0.973 | -11.6 | 109 | 0.00 |
| 55 | S | 4-Bromofluorobenzene | 0.571 | 0.592 | -3.7 | 118 | 0.00 |

(#) = Out of Range

Data File : C:\HPCHEM\1\DATA\011613\01161302.D Vial: 2
Acq On : 16 Jan 2013 9:43 am Operator: RACHEL HILL
Sample : CCV VOA1 011613 Inst : VOA 1
Misc : CCV EPA_TO15 Multiplr: 1.00
MS Integration Params: CLME.P

Method : C:\HPCHEM\1\METHODS\011013V1.M (RTE Integrator)
Title : TO15 ppbv
Last Update : Fri Jan 11 09:41:17 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 | 0.901 | 0.959 | -6.4 | 105 | 0.00 |
| 57 | T | 4-Ethyltoluene | 1.778 | 1.923 | -8.2 | 105 | 0.00 |
| 58 | T | 1,3,5-Trimethylbenzene | 1.506 | 1.629 | -8.2 | 104 | 0.00 |
| 59 | T | 1,2,4-Trimethylbenzene | 1.407 | 1.531 | -8.8 | 106 | 0.00 |
| 60 | T | 1,3-Dichlorobenzene | 0.873 | 0.939 | -7.6 | 108 | 0.00 |
| 61 | T | 1,4-Dichlorobenzene | 0.819 | 0.886 | -8.2 | 108 | 0.00 |
| 62 | T | Benzyl chloride | 0.832 | 0.934 | -12.3 | 108 | 0.00 |
| 63 | T | 1,2-Dichlorobenzene | 0.727 | 0.775 | -6.6 | 107 | 0.00 |
| 64 | T | 1,2,4-Trichlorobenzene | 0.233 | 0.248 | -6.4 | 112 | 0.00 |
| 65 | T | Hexachlorobutadiene | 0.476 | 0.499 | -4.8 | 110 | 0.00 |
| 66 | | Naphthalene | 0.353 | 0.385 | -9.1 | 110 | 0.00 |

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\011613\01161302.D Vial: 2
Acq On : 16 Jan 2013 9:43 am Operator: RACHEL HILL
Sample : CCV VOA1 011613 Inst : VOA 1
Misc : CCV EPA_TO15 Multiplr: 1.00
MS Integration Params: CLME.P
Quant Time: Jan 16 10:08 2013 Quant Results File: 011013V1.RES

Quant Method : C:\HPCHEM\1\METHODS\011013V1.M (RTE Integrator)
Title : TO15 ppbv
Last Update : Fri Jan 11 09:41:17 2013
Response via : Initial Calibration
DataAcq Meth : 011013V1

| Internal Standards | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 1) Bromochloromethane | 10.52 | 130 | 285696 | 12.50 | ppbv | 0.00 |
| 33) 1,4-Difluorobenzene | 11.63 | 114 | 1008938 | 12.50 | ppbv | 0.00 |
| 48) Chlorobenzene-d5 | 15.47 | 117 | 843166 | 12.50 | ppbv | 0.00 |

System Monitoring Compounds

| | | | | | | |
|---|---|---|---|---|---|---|
| 55) 4-Bromofluorobenzene | 17.12 | 95 | 499476 | 12.96 | ppbv | 0.00 |

Spiked Amount 12.500 Range 70 - 113 Recovery = 103.68%

| Target Compounds | | | | | | Qvalue |
|---|---|---|---|---|---|---|
| 2) Propylene | 5.44 | 41 | 278809 | 11.50 | ppbv | 99 |
| 3) Dichlorodifluoromethane | 5.51 | 85 | 790292 | 10.27 | ppbv | 99 |
| 4) 1,2-Dichloro-1,2,2,2-tetra | 5.77 | 135 | 620031 | 10.71 | ppbv # | 85 |
| 5) Chloromethane | 5.93 | 50 | 299283 | 10.78 | ppbv | 99 |
| 6) Vinyl chloride | 6.15 | 62 | 364510 | 10.53 | ppbv | 98 |
| 7) 1,3-Butadiene | 6.21 | 39 | 270042 | 11.50 | ppbv | 92 |
| 8) Bromomethane | 6.78 | 94 | 297284 | 9.89 | ppbv # | 98 |
| 9) Chloroethane | 6.93 | 64 | 174611 | 10.32 | ppbv | 98 |
| 10) Trichlorofluoromethane | 7.26 | 101 | 826858 | 10.76 | ppbv | 99 |
| 11) Ethanol | 7.50 | 45 | 89044 | 10.37 | ppbv | 100 |
| 12) Freon113 | 7.92 | 101 | 595439 | 11.20 | ppbv | 99 |
| 13) 1,1-Dichloroethene | 8.02 | 61 | 472527 | 11.43 | ppbv | 90 |
| 14) Acetone | 8.12 | 43 | 496573 | 12.18 | ppbv # | 96 |
| 15) Carbon disulfide | 8.39 | 76 | 702406 | 10.97 | ppbv # | 100 |
| 16) 2-Propanol | 8.17 | 45 | 460595 | 11.76 | ppbv # | 1 |
| 17) Methylene chloride | 8.69 | 49 | 360627 | 11.60 | ppbv | 86 |
| 18) tert-Butyl Methyl Ether | 8.88 | 73 | 795458 | 11.74 | ppbv | 96 |
| 19) trans-1,2-Dichloroethene | 8.97 | 61 | 432784 | 11.49 | ppbv | 88 |
| 20) n-Hexane | 9.15 | 57 | 516385 | 11.79 | ppbv | 98 |
| 21) 1,1-Dichloroethane | 9.53 | 63 | 548136 | 11.48 | ppbv | 98 |
| 22) Vinyl acetate | 9.47 | 43 | 830343 | 12.61 | ppbv | 98 |
| 23) cis-1,2-Dichloroethene | 10.21 | 96 | 304776 | 11.16 | ppbv | 88 |
| 24) 2-Butanone | 10.18 | 43 | 554805 | 12.19 | ppbv | 94 |
| 25) Ethyl acetate | 10.13 | 43 | 710711 | 12.35 | ppbv # | 100 |
| 26) Tetrahydrofuran | 10.52 | 42 | 370531 | 12.44 | ppbv | 93 |
| 27) Chloroform | 10.54 | 83 | 601574 | 11.38 | ppbv | 100 |
| 28) 1,1,1-Trichloroethane | 10.78 | 97 | 624434 | 11.18 | ppbv | 96 |
| 29) Cyclohexane | 10.79 | 56 | 543265 | 11.67 | ppbv | 90 |
| 30) Carbon tetrachloride | 10.95 | 117 | 658208 | 11.23 | ppbv | 99 |
| 31) Benzene | 11.23 | 78 | 868193 | 11.18 | ppbv | 97 |
| 32) 1,2-Dichloroethane | 11.31 | 62 | 387741 | 11.68 | ppbv | 98 |
| 34) Heptane | 11.28 | 43 | 617301 | 11.76 | ppbv | 95 |
| 35) Trichloroethene | 11.96 | 130 | 426480 | 10.62 | ppbv | 98 |
| 36) 1,2-Dichloropropane | 12.32 | 63 | 354304 | 11.11 | ppbv | 98 |
| 37) 1,4-Dioxane | 12.39 | 88 | 167531 | 10.71 | ppbv | 91 |
| 38) Bromodichloromethane | 12.60 | 83 | 620390 | 10.75 | ppbv | 99 |
| 39) cis-1,3-Dichloropropene | 13.15 | 75 | 518873 | 10.73 | ppbv | 99 |
| 40) 4-Methyl-2-pentanone | 13.27 | 58 | 264107 | 11.22 | ppbv | 94 |
| 41) Toluene | 13.56 | 91 | 1079831 | 11.02 | ppbv | 99 |
| 42) trans-1,3-Dichloropropene | 13.86 | 75 | 453401 | 10.26 | ppbv | 98 |
| 43) 1,1,2-Trichloroethane | 14.14 | 97 | 368091 | 10.84 | ppbv | 98 |
| 44) Tetrachloroethene | 14.26 | 166 | 606121 | 10.63 | ppbv | 99 |
| 45) 2-Hexanone | 14.34 | 43 | 560752 | 11.75 | ppbv | 98 |
| 46) Chlorodibromomethane | 14.68 | 129 | 653953 | 11.09 | ppbv | 99 |
| 47) 1,2-Dibromoethane | 14.92 | 107 | 548150 | 10.75 | ppbv | 99 |
| 49) Chlorobenzene | 15.51 | 112 | 810407 | 10.74 | ppbv | 97 |
| 50) Ethylbenzene | 15.55 | 91 | 1294513 | 10.77 | ppbv | 96 |
| 51) m,p-Xylene | 15.71 | 91 | 2045042 | 22.06 | ppbv | 97 |
| 52) o-Xylene | 16.30 | 91 | 1055944 | 11.01 | ppbv # | 95 |

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

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\011613\01161302.D Vial: 2
Acq On : 16 Jan 2013 9:43 am Operator: RACHEL HILL
Sample : CCV VOA1 011613 Inst : VOA 1
Misc : CCV EPA_TO15 Multiplr: 1.00
MS Integration Params: CLME.P
Quant Time: Jan 16 10:08 2013 Quant Results File: 011013V1.RES

Quant Method : C:\HPCHEM\1\METHODS\011013V1.M (RTE Integrator)
Title : TO15 ppbv
Last Update : Fri Jan 11 09:41:17 2013
Response via : Initial Calibration
DataAcq Meth : 011013V1

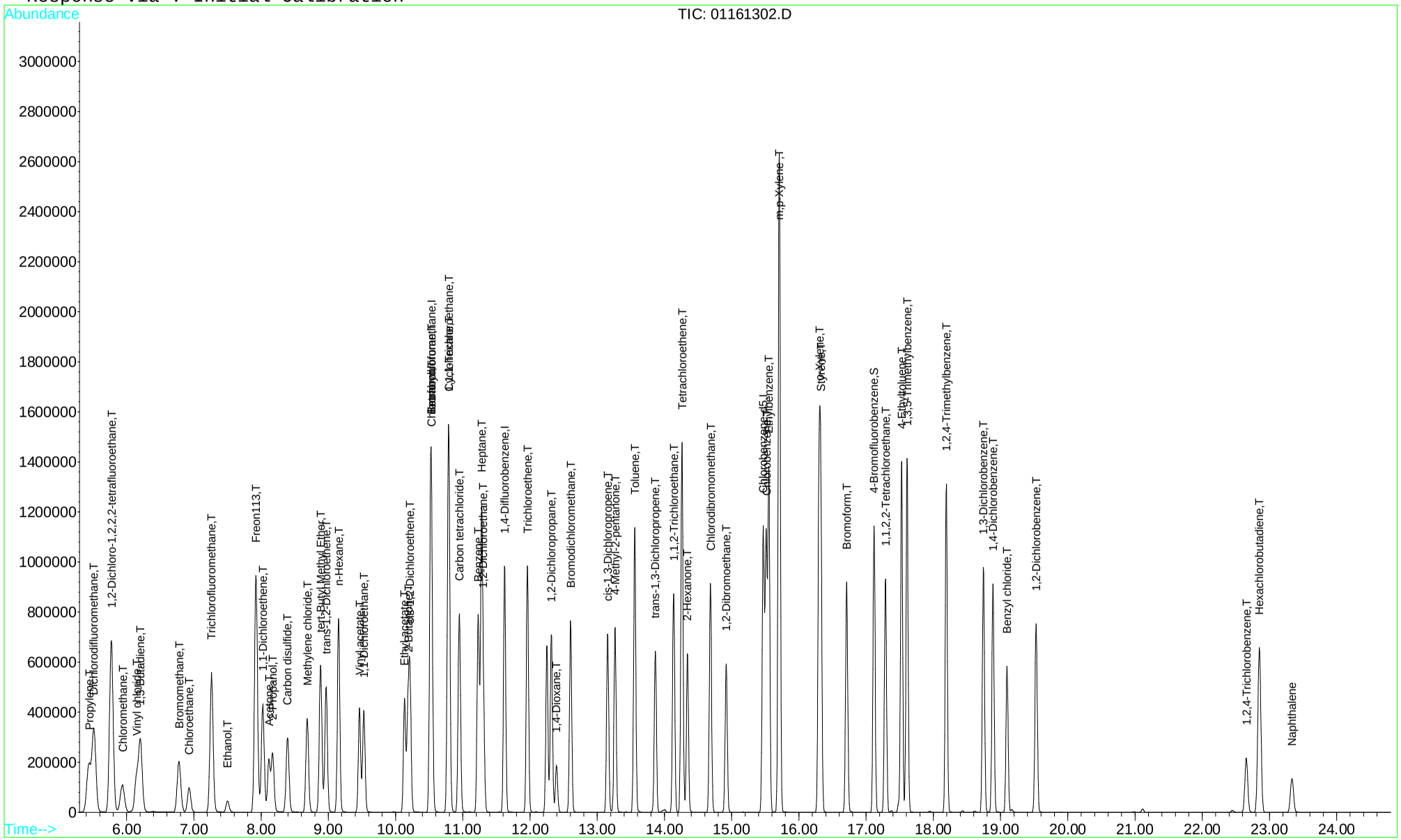
| | Compound | R.T. | QIon | Response | Conc | Unit | Qvalue |
|---|---|---|---|---|---|---|---|
| 53) | Styrene | 16.33 | 104 | 784295 | 10.87 | ppbv | 99 |
| 54) | Bromoform | 16.71 | 173 | 629921 | 10.71 | ppbv | 99 |
| 56) | 1,1,2,2-Tetrachloroethane | 17.29 | 83 | 646628 | 10.64 | ppbv | 99 |
| 57) | 4-Ethyltoluene | 17.53 | 105 | 1271447 | 10.60 | ppbv | 98 |
| 58) | 1,3,5-Trimethylbenzene | 17.61 | 105 | 1065944 | 10.49 | ppbv | 98 |
| 59) | 1,2,4-Trimethylbenzene | 18.19 | 105 | 1011848 | 10.66 | ppbv | 98 |
| 60) | 1,3-Dichlorobenzene | 18.74 | 146 | 614582 | 10.43 | ppbv | 98 |
| 61) | 1,4-Dichlorobenzene | 18.89 | 146 | 573907 | 10.39 | ppbv | 99 |
| 62) | Benzyl chloride | 19.09 | 91 | 611188 | 10.88 | ppbv | 99 |
| 63) | 1,2-Dichlorobenzene | 19.53 | 146 | 507279 | 10.34 | ppbv | 99 |
| 64) | 1,2,4-Trichlorobenzene | 22.66 | 180 | 152099 | 9.68 | ppbv | 98 |
| 65) | Hexachlorobutadiene | 22.85 | 225 | 316319 | 9.85 | ppbv | 100 |
| 66) | Naphthalene | 23.34 | 128 | 238715 | 10.04 | ppbv | 100 |

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

# Quantitation Report

Data File : C:\HPCHEM\1\DATA\011613\01161302.D  Vial: 2
Acq On : 16 Jan 2013 9:43 am  Operator: RACHEL HILL
Sample : CCV VOA1 011613  Inst : VOA 1
Misc : CCV EPA_TO15  Multiplr: 1.00
MS Integration Params: CLME.P
Quant Time: Jan 16 10:08 2013  Quant Results File: 011013V1.RES

Method : C:\HPCHEM\1\METHODS\011013V1.M (RTE Integrator)
Title : TO15 ppbv
Last Update : Fri Jan 11 09:41:17 2013
Response via : Initial Calibration



Response Factor Report VOA 1

Method : C:\HPCHEM\1\METHODS\011013V1.M (RTE Integrator)
Title : TO15 ppbv
Last Update : Fri Jan 11 09:41:17 2013
Response via : Initial Calibration

Calibration Files
2 =01101303.D 4 =01101304.D 5 =01101305.D
6 =01101306.D 7 =01101307.D 8 =01101308.D

| | | Compound | 2 | 4 | 5 | 6 | 7 | 8 | Avg | %RSD |
|---|---|---|---|---|---|---|---|---|---|---|
| 1) | I | Bromochloromethane | ----------ISTD---------- | | | | | | | |
| 2) | T | Propylene | 1.234 | 1.189 | 1.074 | 1.044 | 0.988 | 0.954 | 1.061 | 10.74 |
| 3) | T | Dichlorodifluoromet | 3.341 | 3.834 | 3.478 | 3.420 | 3.245 | 3.156 | 3.366 | 7.38 |
| 4) | T | 1,2-Dichloro-1,2,2, | 2.472 | 2.884 | 2.622 | 2.588 | 2.471 | 2.400 | 2.533 | 7.50 |
| 5) | T | Chloromethane | 1.369 | 1.421 | 1.256 | 1.212 | 1.133 | 1.076 | 1.215 | 11.89 |
| 6) | T | Vinyl chloride | 1.509 | 1.755 | 1.598 | 1.564 | 1.460 | 1.385 | 1.514 | 9.42 |
| 7) | T | 1,3-Butadiene | 1.059 | 1.215 | 1.091 | 1.063 | 0.979 | 0.918 | 1.027 | 11.37 |
| 8) | T | Bromomethane | 1.350 | 1.467 | 1.331 | 1.365 | 1.305 | 1.230 | 1.315 | 7.64 |
| 9) | T | Chloroethane | 0.701 | 0.831 | 0.769 | 0.750 | 0.720 | 0.723 | 0.741 | 6.51 |
| 10) | T | Trichlorofluorometh | 3.584 | 3.776 | 3.507 | 3.444 | 3.262 | 3.087 | 3.363 | 9.15 |
| 11) | T | Ethanol | 0.435 | 0.410 | 0.391 | 0.384 | 0.351 | 0.333 | 0.376 | 10.76 |
| 12) | T | Freon113 | 2.351 | 2.645 | 2.496 | 2.443 | 2.286 | 2.105 | 2.325 | 10.19 |
| 13) | T | 1,1-Dichloroethene | 1.867 | 2.071 | 1.924 | 1.874 | 1.761 | 1.624 | 1.809 | 10.04 |
| 14) | T | Acetone | 2.128 | 2.119 | 1.984 | 1.911 | 1.676 | 1.502 | 1.783 | 19.98 |
| 15) | T | Carbon disulfide | 2.817 | 3.182 | 2.946 | 2.849 | 2.706 | 2.592 | 2.802 | 7.95 |
| 16) | T | 2-Propanol | 1.850 | 1.936 | 1.841 | 1.780 | 1.614 | 1.528 | 1.713 | 10.81 |
| 17) | T | Methylene chloride | 1.658 | 1.547 | 1.424 | 1.382 | 1.265 | 1.156 | 1.361 | 15.01 |
| 18) | T | tert-Butyl Methyl E | 3.164 | 3.484 | 3.290 | 3.188 | 2.816 | 2.519 | 2.965 | 14.68 |
| 19) | T | trans-1,2-Dichloroe | 1.726 | 1.900 | 1.764 | 1.721 | 1.584 | 1.463 | 1.647 | 11.14 |
| 20) | T | n-Hexane | 1.948 | 2.226 | 2.061 | 2.003 | 1.851 | 1.705 | 1.916 | 10.96 |
| 21) | T | 1,1-Dichloroethane | 2.217 | 2.440 | 2.279 | 2.196 | 1.976 | 1.823 | 2.089 | 12.81 |
| 22) | T | Vinyl acetate | 2.491 | 3.532 | 3.328 | 3.220 | 2.808 | 2.513 | 2.880 | 16.80 |
| 23) | T | cis-1,2-Dichloroeth | 1.187 | 1.376 | 1.283 | 1.255 | 1.150 | 1.083 | 1.195 | 9.94 |
| 24) | T | 2-Butanone | 1.998 | 2.410 | 2.203 | 2.223 | 1.925 | 1.657 | 1.991 | 16.00 |
| 25) | T | Ethyl acetate | 2.516 | 3.064 | 2.739 | 2.701 | 2.434 | 2.133 | 2.517 | 14.25 |
| 26) | T | Tetrahydrofuran | 1.346 | 1.580 | 1.477 | 1.408 | 1.238 | 1.111 | 1.304 | 16.43 |
| 27) | T | Chloroform | 2.367 | 2.716 | 2.533 | 2.468 | 2.227 | 2.035 | 2.313 | 13.00 |
| 28) | T | 1,1,1-Trichloroetha | 2.410 | 2.871 | 2.706 | 2.640 | 2.382 | 2.156 | 2.443 | 13.29 |
| 29) | T | Cyclohexane | 2.059 | 2.424 | 2.251 | 2.195 | 1.988 | 1.795 | 2.037 | 14.43 |
| 30) | T | Carbon tetrachlorid | 2.409 | 2.985 | 2.815 | 2.770 | 2.530 | 2.331 | 2.565 | 11.93 |
| 31) | T | Benzene | 3.600 | 3.984 | 3.743 | 3.619 | 3.228 | 2.932 | 3.396 | 13.85 |
| 32) | T | 1,2-Dichloroethane | 1.544 | 1.728 | 1.632 | 1.568 | 1.387 | 1.230 | 1.453 | 15.94 |
| 33) | I | 1,4-Difluorobenzene | ----------ISTD---------- | | | | | | | |
| 34) | T | Heptane | 0.641 | 0.790 | 0.731 | 0.701 | 0.652 | 0.562 | 0.650 | 16.36 |
| 35) | T | Trichloroethene | 0.455 | 0.574 | 0.538 | 0.530 | 0.504 | 0.459 | 0.497 | 10.84 |
| 36) | T | 1,2-Dichloropropane | 0.381 | 0.463 | 0.437 | 0.427 | 0.391 | 0.349 | 0.395 | 12.83 |
| 37) | T | 1,4-Dioxane | 0.175 | 0.221 | 0.214 | 0.207 | 0.193 | 0.178 | 0.194 | 10.62 |
| 38) | T | Bromodichloromethan | 0.648 | 0.829 | 0.794 | 0.775 | 0.721 | 0.652 | 0.715 | 12.46 |
| 39) | T | cis-1,3-Dichloropro | 0.528 | 0.696 | 0.665 | 0.649 | 0.601 | 0.549 | 0.599 | 12.34 |
| 40) | T | 4-Methyl-2-pentanon | 0.256 | 0.334 | 0.322 | 0.311 | 0.290 | 0.270 | 0.292 | 10.90 |
| 41) | T | Toluene | 1.189 | 1.416 | 1.345 | 1.306 | 1.202 | 1.080 | 1.214 | 13.07 |
| 42) | T | trans-1,3-Dichlorop | 0.450 | 0.639 | 0.611 | 0.593 | 0.555 | 0.510 | 0.548 | 13.08 |
| 43) | T | 1,1,2-Trichloroetha | 0.388 | 0.483 | 0.459 | 0.450 | 0.422 | 0.385 | 0.421 | 10.82 |
| 44) | T | Tetrachloroethene | 0.673 | 0.813 | 0.764 | 0.744 | 0.710 | 0.644 | 0.707 | 10.46 |
| 45) | T | 2-Hexanone | 0.499 | 0.708 | 0.672 | 0.646 | 0.592 | 0.534 | 0.591 | 14.73 |
| 46) | T | Chlorodibromomethan | 0.611 | 0.850 | 0.815 | 0.800 | 0.750 | 0.677 | 0.731 | 13.41 |
| 47) | T | 1,2-Dibromoethane | 0.575 | 0.735 | 0.701 | 0.679 | 0.632 | 0.573 | 0.632 | 12.12 |
| 48) | I | Chlorobenzene-d5 | ----------ISTD---------- | | | | | | | |
| 49) | T | Chlorobenzene | 1.090 | 1.300 | 1.247 | 1.205 | 1.122 | 0.992 | 1.119 | 13.37 |
| 50) | T | Ethylbenzene | 1.842 | 2.109 | 2.007 | 1.925 | 1.768 | 1.524 | 1.781 | 15.97 |
| 51) | T | m,p-Xylene | 1.456 | 1.707 | 1.622 | 1.502 | 1.340 | 1.113 | 1.374 | 21.17 |
| 52) | T | o-Xylene | 1.455 | 1.678 | 1.616 | 1.535 | 1.408 | 1.224 | 1.422 | 15.76 |
| 53) | T | Styrene | 0.929 | 1.271 | 1.224 | 1.178 | 1.088 | 0.964 | 1.069 | 15.49 |
| 54) | T | Bromoform | 0.679 | 1.013 | 0.992 | 0.958 | 0.899 | 0.815 | 0.872 | 14.67 |
| 55) | S | 4-Bromofluorobenzen | 0.550 | 0.570 | 0.566 | 0.569 | 0.572 | 0.580 | 0.571 | 2.19 |
| 56) | T | 1,1,2,2-Tetrachloro | 0.898 | 1.036 | 0.992 | 0.952 | 0.893 | 0.811 | 0.901 | 11.90 |
| 57) | T | 4-Ethyltoluene | 1.825 | 2.078 | 1.984 | 1.897 | 1.759 | 1.552 | 1.778 | 14.23 |

(#) = Out of Range ### Number of calibration levels exceeded format ###

Method : C:\HPCHEM\1\METHODS\011013V1.M (RTE Integrator)
Title : TO15 ppbv
Last Update : Fri Jan 11 09:41:17 2013
Response via : Initial Calibration

Calibration Files
2 =01101303.D 4 =01101304.D 5 =01101305.D
6 =01101306.D 7 =01101307.D 8 =01101308.D

| | | Compound | 2 | 4 | 5 | 6 | 7 | 8 | Avg | %RSD |
|---|---|---|---|---|---|---|---|---|---|---|
| 58) | T | 1,3,5-Trimethylbenz | 1.582 | 1.768 | 1.689 | 1.590 | 1.474 | 1.302 | 1.506 | 14.69 |
| 59) | T | 1,2,4-Trimethylbenz | 1.393 | 1.632 | 1.565 | 1.502 | 1.390 | 1.261 | 1.407 | 12.90 |
| 60) | T | 1,3-Dichlorobenzene | 0.848 | 0.985 | 0.958 | 0.915 | 0.858 | 0.801 | 0.873 | 9.77 |
| 61) | T | 1,4-Dichlorobenzene | 0.784 | 0.929 | 0.901 | 0.864 | 0.803 | 0.751 | 0.819 | 10.02 |
| 62) | T | Benzyl chloride | 0.486 | 0.979 | 0.958 | 0.917 | 0.874 | 0.825 | 0.832 | 20.08 |
| 63) | T | 1,2-Dichlorobenzene | 0.734 | 0.820 | 0.787 | 0.752 | 0.710 | 0.662 | 0.727 | 9.38 |
| 64) | T | 1,2,4-Trichlorobenz | 0.256 | 0.252 | 0.239 | 0.228 | 0.218 | 0.217 | 0.233 | 7.03 |
| 65) | T | Hexachlorobutadiene | 0.601 | 0.516 | 0.472 | 0.454 | 0.442 | 0.431 | 0.476 | 13.42 |
| 66) | | Naphthalene | 0.350 | 0.396 | 0.367 | 0.347 | 0.337 | 0.338 | 0.353 | 6.36 |

(#) = Out of Range ### Number of calibration levels exceeded format ###

Compound List Report VOA 1

Method : C:\HPCHEM\1\METHODS\011013V1.M (RTE Integrator)
Title : TO15 ppbv
Last Update : Fri Jan 11 09:41:17 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 | 10.53 | 1.000 | A | 2 | A | B |
| 2 | T | Propylene | 41 | 5.44 | 0.517 | A | 2 | A | B |
| 3 | T | Dichlorodifluoromethane | 85 | 5.52 | 0.524 | A | 3 | A | B |
| 4 | T | 1,2-Dichloro-1,2,2,2-tetrafluo | 135 | 5.77 | 0.548 | A | 2 | A | B |
| 5 | T | Chloromethane | 50 | 5.93 | 0.564 | A | 3 | A | B |
| 6 | T | Vinyl chloride | 62 | 6.15 | 0.584 | A | 2 | A | B |
| 7 | T | 1,3-Butadiene | 39 | 6.21 | 0.590 | A | 2 | A | B |
| 8 | T | Bromomethane | 94 | 6.78 | 0.644 | A | 3 | A | B |
| 9 | T | Chloroethane | 64 | 6.93 | 0.659 | A | 3 | A | B |
| 10 | T | Trichlorofluoromethane | 101 | 7.26 | 0.690 | A | 3 | A | B |
| 11 | T | Ethanol | 45 | 7.50 | 0.713 | A | 2 | A | B |
| 12 | T | Freon113 | 101 | 7.93 | 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 | 8.40 | 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 | 0.825 | 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 | 8.97 | 0.852 | A | 2 | A | B |
| 20 | T | n-Hexane | 57 | 9.16 | 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 | 0.899 | A | 2 | A | B |
| 23 | T | cis-1,2-Dichloroethene | 96 | 10.22 | 0.971 | A | 3 | A | B |
| 24 | T | 2-Butanone | 43 | 10.19 | 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 | 10.79 | 1.025 | A | 3 | A | B |
| 29 | T | Cyclohexane | 56 | 10.79 | 1.025 | A | 2 | A | B |
| 30 | T | Carbon tetrachloride | 117 | 10.96 | 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 | 12.61 | 1.085 | A | 2 | A | B |
| 39 | T | cis-1,3-Dichloropropene | 75 | 13.16 | 1.132 | A | 2 | A | B |
| 40 | T | 4-Methyl-2-pentanone | 58 | 13.27 | 1.141 | A | 3 | A | B |
| 41 | T | Toluene | 91 | 13.56 | 1.166 | 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 | 14.27 | 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 | 1.283 | A | 2 | A | B |
| 48 | I | Chlorobenzene-d5 | 117 | 15.47 | 1.000 | A | 2 | A | B |
| 49 | T | Chlorobenzene | 112 | 15.52 | 1.003 | A | 3 | A | B |
| 50 | T | Ethylbenzene | 91 | 15.56 | 1.005 | A | 2 | A | B |
| 51 | T | m,p-Xylene | 91 | 15.71 | 1.015 | A | 2 | A | B |
| 52 | T | o-Xylene | 91 | 16.31 | 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 | 1.117 | 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 | 18.75 | 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 | 22.85 | 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
-----------------------------------------------------------------------
          011013V1.M     Fri Jan 11 10:38:51 2013
```

# Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\011013B\01101312.D  Vial: 3
Acq On : 10 Jan 2013 7:54 pm  Operator: RACHEL HILL
Sample : ICV VOA1 011013  Inst : VOA 1
Misc : ICV EPA_TO15  Multiplr: 1.00
MS Integration Params: CLME.P

Method : C:\HPCHEM\1\METHODS\011013V1.M (RTE Integrator)
Title : TO15 ppbv
Last Update : Fri Jan 11 09:41:17 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 | 118 | 0.00 |
| 2 | T | Propylene | 1.061 | 1.167 | -10.0 | 116 | -0.02 |
| 3 | T | Dichlorodifluoromethane | 3.366 | 4.009 | -19.1 | 124 | -0.01 |
| 4 | T | 1,2-Dichloro-1,2,2,2-tetraf | 2.533 | 2.990 | -18.0 | 122 | 0.00 |
| 5 | T | Chloromethane | 1.215 | 1.368 | -12.6 | 114 | 0.00 |
| 6 | T | Vinyl chloride | 1.514 | 1.751 | -15.7 | 118 | 0.00 |
| 7 | T | 1,3-Butadiene | 1.027 | 1.165 | -13.4 | 113 | 0.00 |
| 8 | T | Bromomethane | 1.315 | 1.490 | -13.3 | 120 | -0.01 |
| 9 | T | Chloroethane | 0.741 | 0.841 | -13.5 | 120 | -0.01 |
| 10 | T | Trichlorofluoromethane | 3.363 | 3.895 | -15.8 | 122 | 0.00 |
| 11 | T | Ethanol | 0.376 | 0.404 | -7.4 | 117 | 0.00 |
| 12 | T | Freon113 | 2.325 | 2.671 | -14.9 | 119 | 0.00 |
| 13 | T | 1,1-Dichloroethene | 1.809 | 2.079 | -14.9 | 119 | 0.00 |
| 14 | T | Acetone | 1.783 | 2.060 | -15.5 | 115 | 0.00 |
| 15 | T | Carbon disulfide | 2.802 | 3.250 | -16.0 | 121 | 0.00 |
| 16 | T | 2-Propanol | 1.713 | 1.935 | -13.0 | 118 | 0.00 |
| 17 | T | Methylene chloride | 1.361 | 1.487 | -9.3 | 114 | 0.00 |
| 18 | T | tert-Butyl Methyl Ether | 2.965 | 3.525 | -18.9 | 119 | 0.00 |
| 19 | T | trans-1,2-Dichloroethene | 1.647 | 1.880 | -14.1 | 117 | 0.00 |
| 20 | T | n-Hexane | 1.916 | 2.150 | -12.2 | 114 | 0.00 |
| 21 | T | 1,1-Dichloroethane | 2.089 | 2.431 | -16.4 | 118 | 0.00 |
| 22 | T | Vinyl acetate | 2.880 | 3.409 | -18.4 | 114 | 0.00 |
| 23 | T | cis-1,2-Dichloroethene | 1.195 | 1.373 | -14.9 | 118 | 0.00 |
| 24 | T | 2-Butanone | 1.991 | 2.299 | -15.5 | 113 | 0.00 |
| 25 | T | Ethyl acetate | 2.517 | 2.852 | -13.3 | 110 | 0.00 |
| 26 | T | Tetrahydrofuran | 1.304 | 1.462 | -12.1 | 109 | 0.00 |
| 27 | T | Chloroform | 2.313 | 2.681 | -15.9 | 117 | 0.00 |
| 28 | T | 1,1,1-Trichloroethane | 2.443 | 2.870 | -17.5 | 118 | 0.00 |
| 29 | T | Cyclohexane | 2.037 | 2.295 | -12.7 | 112 | 0.00 |
| 30 | T | Carbon tetrachloride | 2.565 | 3.052 | -19.0 | 121 | 0.00 |
| 31 | T | Benzene | 3.396 | 3.944 | -16.1 | 117 | 0.00 |
| 32 | T | 1,2-Dichloroethane | 1.453 | 1.709 | -17.6 | 117 | 0.00 |
| 33 | I | 1,4-Difluorobenzene | 1.000 | 1.000 | 0.0 | 122 | 0.00 |
| 34 | T | Heptane | 0.650 | 0.717 | -10.3 | 111 | 0.00 |
| 35 | T | Trichloroethene | 0.497 | 0.561 | -12.9 | 119 | 0.00 |
| 36 | T | 1,2-Dichloropropane | 0.395 | 0.437 | -10.6 | 115 | 0.00 |
| 37 | T | 1,4-Dioxane | 0.194 | 0.212 | -9.3 | 117 | 0.00 |
| 38 | T | Bromodichloromethane | 0.715 | 0.811 | -13.4 | 119 | 0.00 |
| 39 | T | cis-1,3-Dichloropropene | 0.599 | 0.678 | -13.2 | 119 | 0.00 |
| 40 | T | 4-Methyl-2-pentanone | 0.292 | 0.312 | -6.8 | 114 | 0.00 |
| 41 | T | Toluene | 1.214 | 1.361 | -12.1 | 117 | 0.00 |
| 42 | T | trans-1,3-Dichloropropene | 0.548 | 0.625 | -14.1 | 119 | 0.00 |
| 43 | T | 1,1,2-Trichloroethane | 0.421 | 0.467 | -10.9 | 118 | 0.00 |
| 44 | T | Tetrachloroethene | 0.707 | 0.780 | -10.3 | 117 | 0.00 |
| 45 | T | 2-Hexanone | 0.591 | 0.643 | -8.8 | 111 | 0.00 |
| 46 | T | Chlorodibromomethane | 0.731 | 0.839 | -14.8 | 120 | 0.00 |
| 47 | T | 1,2-Dibromoethane | 0.632 | 0.710 | -12.3 | 118 | 0.00 |
| 48 | I | Chlorobenzene-d5 | 1.000 | 1.000 | 0.0 | 119 | 0.00 |
| 49 | T | Chlorobenzene | 1.119 | 1.275 | -13.9 | 117 | 0.00 |
| 50 | T | Ethylbenzene | 1.781 | 2.041 | -14.6 | 116 | 0.00 |
| 51 | T | m,p-Xylene | 1.374 | 1.613 | -17.4 | 113 | 0.00 |
| 52 | T | o-Xylene | 1.422 | 1.623 | -14.1 | 116 | 0.00 |
| 53 | T | Styrene | 1.069 | 1.228 | -14.9 | 115 | 0.00 |
| 54 | T | Bromoform | 0.872 | 1.011 | -15.9 | 119 | 0.00 |
| 55 | S | 4-Bromofluorobenzene | 0.571 | 0.567 | 0.7 | 119 | 0.00 |

(#) = Out of Range

Data File : C:\HPCHEM\1\DATA\011013B\01101312.D Vial: 3
Acq On : 10 Jan 2013 7:54 pm Operator: RACHEL HILL
Sample : ICV VOA1 011013 Inst : VOA 1
Misc : ICV EPA_TO15 Multiplr: 1.00
MS Integration Params: CLME.P

Method : C:\HPCHEM\1\METHODS\011013V1.M (RTE Integrator)
Title : TO15 ppbv
Last Update : Fri Jan 11 09:41:17 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 | 0.901 | 1.004 | -11.4 | 116 | 0.00 |
| 57 | T | 4-Ethyltoluene | 1.778 | 2.018 | -13.5 | 116 | 0.00 |
| 58 | T | 1,3,5-Trimethylbenzene | 1.506 | 1.713 | -13.7 | 116 | 0.00 |
| 59 | T | 1,2,4-Trimethylbenzene | 1.407 | 1.598 | -13.6 | 117 | 0.00 |
| 60 | T | 1,3-Dichlorobenzene | 0.873 | 0.973 | -11.5 | 118 | 0.00 |
| 61 | T | 1,4-Dichlorobenzene | 0.819 | 0.922 | -12.6 | 118 | 0.00 |
| 62 | T | Benzyl chloride | 0.832 | 0.979 | -17.7 | 119 | 0.00 |
| 63 | T | 1,2-Dichlorobenzene | 0.727 | 0.812 | -11.7 | 118 | 0.00 |
| 64 | T | 1,2,4-Trichlorobenzene | 0.233 | 0.248 | -6.4 | 118 | 0.00 |
| 65 | T | Hexachlorobutadiene | 0.476 | 0.475 | 0.2 | 110 | 0.00 |
| 66 | | Naphthalene | 0.353 | 0.387 | -9.6 | 117 | 0.00 |

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\011013B\01101312.D Vial: 3
Acq On : 10 Jan 2013 7:54 pm Operator: RACHEL HILL
Sample : ICV VOA1 011013 Inst : VOA 1
Misc : ICV EPA_TO15 Multiplr: 1.00
MS Integration Params: CLME.P
Quant Time: Jan 11 9:42 2013 Quant Results File: 011013V1.RES

Quant Method : C:\HPCHEM\1\METHODS\011013V1.M (RTE Integrator)
Title : TO15 ppbv
Last Update : Fri Jan 11 09:41:17 2013
Response via : Initial Calibration
DataAcq Meth : 011013V1

| Internal Standards | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 1) Bromochloromethane | 10.52 | 130 | 316706 | 12.50 | ppbv | 0.00 |
| 33) 1,4-Difluorobenzene | 11.62 | 114 | 1105182 | 12.50 | ppbv | 0.00 |
| 48) Chlorobenzene-d5 | 15.47 | 117 | 888776 | 12.50 | ppbv | 0.00 |

System Monitoring Compounds

| | | | | | | |
|---|---|---|---|---|---|---|
| 55) 4-Bromofluorobenzene | 17.12 | 95 | 504371 | 12.42 | ppbv | 0.00 |

Spiked Amount 12.500 Range 70 - 113 Recovery = 99.36%

| Target Compounds | | | | | | Qvalue |
|---|---|---|---|---|---|---|
| 2) Propylene | 5.42 | 41 | 301706 | 11.23 | ppbv | 98 |
| 3) Dichlorodifluoromethane | 5.50 | 85 | 934574 | 10.96 | ppbv | 100 |
| 4) 1,2-Dichloro-1,2,2,2-tetra | 5.76 | 135 | 719606 | 11.21 | ppbv # | 85 |
| 5) Chloromethane | 5.93 | 50 | 329308 | 10.70 | ppbv | 100 |
| 6) Vinyl chloride | 6.14 | 62 | 417137 | 10.87 | ppbv | 99 |
| 7) 1,3-Butadiene | 6.20 | 39 | 289253 | 11.11 | ppbv | 89 |
| 8) Bromomethane | 6.77 | 94 | 351177 | 10.54 | ppbv | 99 |
| 9) Chloroethane | 6.92 | 64 | 196110 | 10.45 | ppbv | 99 |
| 10) Trichlorofluoromethane | 7.25 | 101 | 947381 | 11.12 | ppbv | 99 |
| 11) Ethanol | 7.49 | 45 | 94208 | 9.89 | ppbv | 99 |
| 12) Freon113 | 7.92 | 101 | 663114 | 11.26 | ppbv | 99 |
| 13) 1,1-Dichloroethene | 8.02 | 61 | 521511 | 11.38 | ppbv | 92 |
| 14) Acetone | 8.11 | 43 | 522014 | 11.55 | ppbv # | 97 |
| 15) Carbon disulfide | 8.39 | 76 | 798745 | 11.25 | ppbv # | 99 |
| 16) 2-Propanol | 8.17 | 45 | 495185 | 11.41 | ppbv # | 1 |
| 17) Methylene chloride | 8.68 | 49 | 376793 | 10.93 | ppbv | 92 |
| 18) tert-Butyl Methyl Ether | 8.88 | 73 | 884197 | 11.77 | ppbv | 99 |
| 19) trans-1,2-Dichloroethene | 8.96 | 61 | 466822 | 11.18 | ppbv | 90 |
| 20) n-Hexane | 9.15 | 57 | 550116 | 11.33 | ppbv | 96 |
| 21) 1,1-Dichloroethane | 9.52 | 63 | 597472 | 11.29 | ppbv | 99 |
| 22) Vinyl acetate | 9.46 | 43 | 855201 | 11.72 | ppbv | 99 |
| 23) cis-1,2-Dichloroethene | 10.21 | 96 | 340871 | 11.26 | ppbv | 90 |
| 24) 2-Butanone | 10.18 | 43 | 576644 | 11.43 | ppbv | 96 |
| 25) Ethyl acetate | 10.13 | 43 | 708046 | 11.10 | ppbv # | 100 |
| 26) Tetrahydrofuran | 10.52 | 42 | 370537 | 11.22 | ppbv | 99 |
| 27) Chloroform | 10.54 | 83 | 665618 | 11.36 | ppbv | 100 |
| 28) 1,1,1-Trichloroethane | 10.78 | 97 | 697997 | 11.28 | ppbv | 98 |
| 29) Cyclohexane | 10.79 | 56 | 569820 | 11.04 | ppbv | 92 |
| 30) Carbon tetrachloride | 10.95 | 117 | 734683 | 11.30 | ppbv | 99 |
| 31) Benzene | 11.23 | 78 | 959181 | 11.15 | ppbv | 98 |
| 32) 1,2-Dichloroethane | 11.31 | 62 | 419981 | 11.41 | ppbv | 98 |
| 34) Heptane | 11.28 | 43 | 627592 | 10.92 | ppbv | 96 |
| 35) Trichloroethene | 11.96 | 130 | 476055 | 10.82 | ppbv | 98 |
| 36) 1,2-Dichloropropane | 12.32 | 63 | 378646 | 10.84 | ppbv | 99 |
| 37) 1,4-Dioxane | 12.40 | 88 | 179877 | 10.50 | ppbv | 93 |
| 38) Bromodichloromethane | 12.60 | 83 | 687985 | 10.88 | ppbv | 100 |
| 39) cis-1,3-Dichloropropene | 13.15 | 75 | 569128 | 10.75 | ppbv | 99 |
| 40) 4-Methyl-2-pentanone | 13.26 | 58 | 275664 | 10.69 | ppbv | 96 |
| 41) Toluene | 13.56 | 91 | 1179013 | 10.99 | ppbv | 99 |
| 42) trans-1,3-Dichloropropene | 13.87 | 75 | 503028 | 10.39 | ppbv | 98 |
| 43) 1,1,2-Trichloroethane | 14.14 | 97 | 404631 | 10.88 | ppbv | 98 |
| 44) Tetrachloroethene | 14.26 | 166 | 662076 | 10.60 | ppbv | 100 |
| 45) 2-Hexanone | 14.34 | 43 | 556930 | 10.65 | ppbv | 96 |
| 46) Chlorodibromomethane | 14.68 | 129 | 726536 | 11.24 | ppbv | 99 |
| 47) 1,2-Dibromoethane | 14.92 | 107 | 602212 | 10.78 | ppbv | 99 |
| 49) Chlorobenzene | 15.51 | 112 | 897570 | 11.29 | ppbv | 98 |
| 50) Ethylbenzene | 15.55 | 91 | 1422154 | 11.23 | ppbv | 98 |
| 51) m,p-Xylene | 15.71 | 91 | 2201892 | 22.53 | ppbv | 97 |
| 52) o-Xylene | 16.30 | 91 | 1154054 | 11.41 | ppbv | 97 |

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

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\011013B\01101312.D Vial: 3
Acq On : 10 Jan 2013 7:54 pm Operator: RACHEL HILL
Sample : ICV VOA1 011013 Inst : VOA 1
Misc : ICV EPA_TO15 Multiplr: 1.00
MS Integration Params: CLME.P
Quant Time: Jan 11 9:42 2013 Quant Results File: 011013V1.RES

Quant Method : C:\HPCHEM\1\METHODS\011013V1.M (RTE Integrator)
Title : TO15 ppbv
Last Update : Fri Jan 11 09:41:17 2013
Response via : Initial Calibration
DataAcq Meth : 011013V1

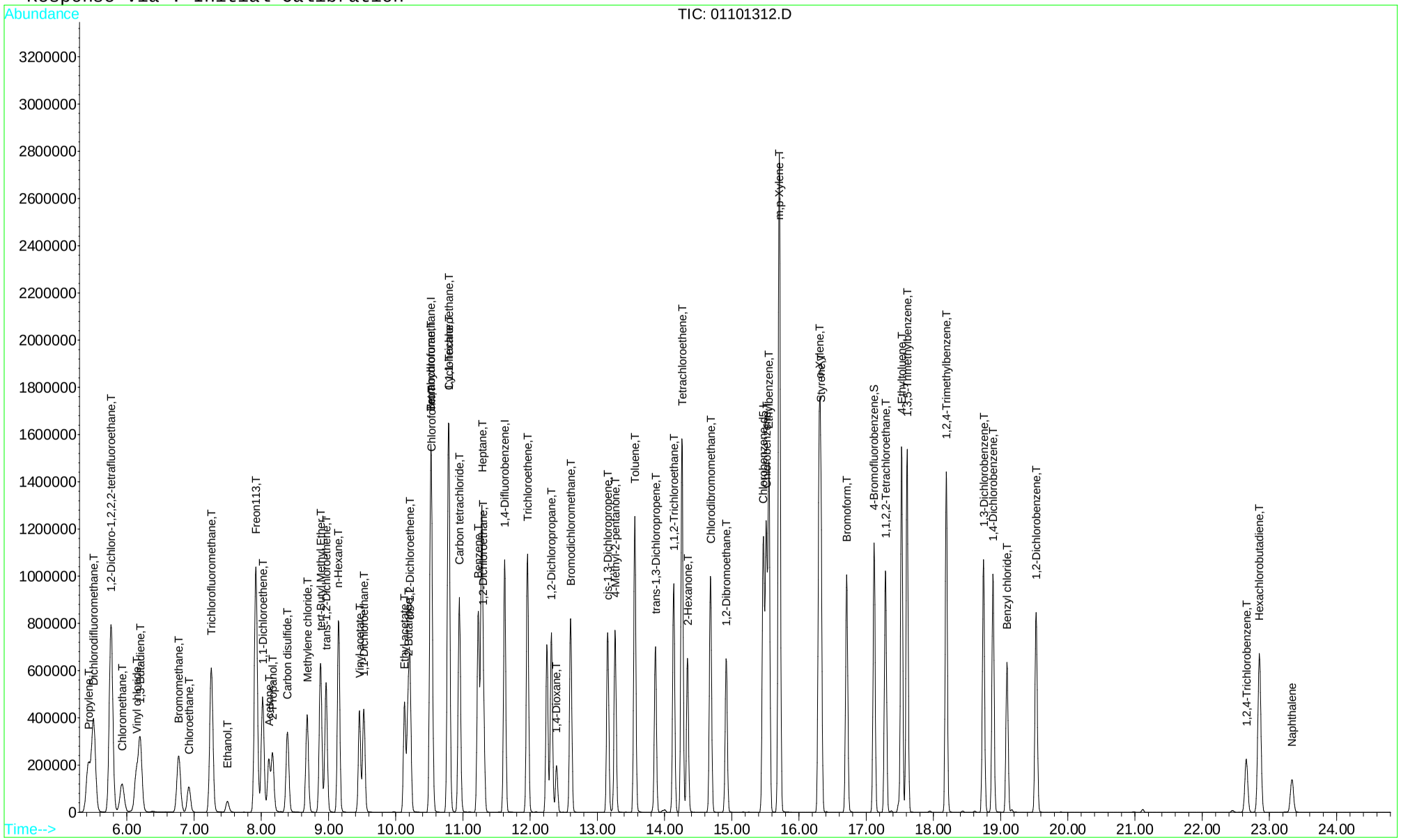
| | Compound | R.T. | QIon | Response | Conc | Unit | Qvalue |
|---|---|---|---|---|---|---|---|
| 53) | Styrene | 16.33 | 104 | 855638 | 11.25 | ppbv | 99 |
| 54) | Bromoform | 16.71 | 173 | 690332 | 11.13 | ppbv | 100 |
| 56) | 1,1,2,2-Tetrachloroethane | 17.29 | 83 | 713663 | 11.14 | ppbv | 100 |
| 57) | 4-Ethyltoluene | 17.53 | 105 | 1406413 | 11.13 | ppbv | 98 |
| 58) | 1,3,5-Trimethylbenzene | 17.61 | 105 | 1181252 | 11.03 | ppbv | 98 |
| 59) | 1,2,4-Trimethylbenzene | 18.19 | 105 | 1113230 | 11.13 | ppbv | 98 |
| 60) | 1,3-Dichlorobenzene | 18.74 | 146 | 670949 | 10.81 | ppbv | 99 |
| 61) | 1,4-Dichlorobenzene | 18.89 | 146 | 629014 | 10.80 | ppbv | 99 |
| 62) | Benzyl chloride | 19.10 | 91 | 674921 | 11.40 | ppbv | 99 |
| 63) | 1,2-Dichlorobenzene | 19.53 | 146 | 559950 | 10.83 | ppbv | 99 |
| 64) | 1,2,4-Trichlorobenzene | 22.66 | 180 | 160401 | 9.69 | ppbv | 98 |
| 65) | Hexachlorobutadiene | 22.85 | 225 | 317275 | 9.37 | ppbv | 99 |
| 66) | Naphthalene | 23.34 | 128 | 253301 | 10.11 | ppbv | 100 |

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

# Quantitation Report

Data File : C:\HPCHEM\1\DATA\011013B\01101312.D  Vial: 3
Acq On : 10 Jan 2013 7:54 pm  Operator: RACHEL HILL
Sample : ICV VOA1 011013  Inst : VOA 1
Misc : ICV EPA_TO15  Multiplr: 1.00
MS Integration Params: CLME.P
Quant Time: Jan 11 9:42 2013  Quant Results File: 011013V1.RES

Method : C:\HPCHEM\1\METHODS\011013V1.M (RTE Integrator)
Title : TO15 ppbv
Last Update : Fri Jan 11 09:41:17 2013
Response via : Initial Calibration



# Injection Log

Directory: C:\HPCHEM\1\DATA\011013

| Line | Vial | FileName | Multiplier | SampleName | Misc Info | Injected |
|---|---|---|---|---|---|---|
| 1 | 2 | 01101301.d | 1. | BFB VOA9 011013 | TUNE BFB_TUNE | 10 Jan 2013 08:27 |
| 2 | 2 | 01101302.d | 1. | CCV VOA9 011013 | CCV MA_APH | 10 Jan 2013 09:09 |
| 3 | 3 | 01101303.d | 1. | RLVS VOA9 011013 | RLVS MA_APH | 10 Jan 2013 09:53 |
| 4 | 4 | 01101304.d | 1. | MBLK VOA9 011013 | MBLK MA_APH | 10 Jan 2013 10:49 |
| 5 | 5 | 01101305.d | 8000. | 1212722-032A | SAMP MA_APH | 10 Jan 2013 11:31 |
| 6 | 6 | 01101306.d | 800. | 1212722-001A | SAMP MA_APH | 10 Jan 2013 12:17 |
| 7 | 7 | 01101307.d | 20000. | 1212722-002A | SAMP MA_APH | 10 Jan 2013 13:00 |
| 8 | 8 | 01101308.d | 20000. | 1212722-003A | SAMP MA_APH | 10 Jan 2013 13:42 |
| 9 | 9 | 01101309.d | 8000. | 1212722-052A | SAMP MA_APH | 10 Jan 2013 14:25 |
| 10 | 10 | 01101310.d | 8000. | 1212722-053A | data not used | 10 Jan 2013 15:07 |
| 11 | 11 | 01101311.d | 800. | 1212722-001A | data not used | 10 Jan 2013 15:52 |
| 12 | 12 | 01101312.d | 400. | 1212959-037A | SAMP MA_APH | 10 Jan 2013 16:41 |
| 13 | 13 | 01101313.d | 400. | 1212959-038A | SAMP MA_APH | 10 Jan 2013 17:30 |
| 14 | 14 | 01101314.d | 400. | 1212959-039A | data not used | 10 Jan 2013 18:19 |
| 15 | 15 | 01101315.d | 1600. | 1212959-041A | SAMP MA_APH | 10 Jan 2013 19:02 |
| 16 | 16 | 01101316.d | 800. | 1212959-001A | SAMP MA_APH | 10 Jan 2013 19:48 |
| 17 | 17 | 01101317.d | 800. | 1212959-001ADUP | DUP MA_APH | 10 Jan 2013 20:34 |
| 18 | 18 | 01101318.d | 20000. | 1212959-002A | SAMP MA_APH | 10 Jan 2013 21:16 |
| 19 | 19 | 01101319.d | 20000. | 1212959-003A | SAMP MA_APH | 10 Jan 2013 21:59 |
| 20 | 20 | 01101320.d | 1600. | 1212959-004A | data not used | 10 Jan 2013 22:43 |
| 21 | 21 | 01101321.d | 20000. | 1212722-053A | SAMP MA_APH | 10 Jan 2013 23:26 |
| 22 | 3 | 01101322.d | 1. | RLVS2 VOA9 011013 | RLVS MA_APH | 11 Jan 2013 00:10 |

# RTI Laboratories

# ANALYTICAL RUN Summary

*16-Jan-13*

**RunNo** 55326

| Seq No | Sample ID | Test Code | Sample Typ | File ID | Analysis Date | DF | Batch ID | Prep Date | SPKref | RPDref | pmoist |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1090375 | BFB VOA9 011013 | BFB_TUNE | TUNE | \\1\DATA\011013\ | 1/10/2013 8:27:0 | 1 | R55326 | | 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 | | 59.4 | 59.4 | | 100 | 0 | 0 | 0 | 0 | 0 | 59% | 50 | 200 | 0% | |
| 175 | M | | 8.1 | 8.1 | | 100 | 0 | 0 | 0 | 0 | 0 | 8% | 4 | 9 | 0% | |
| 176 | M | | 100.9 | 100.9 | | 100 | 0 | 0 | 0 | 0 | 0 | 101% | 93 | 101 | 0% | |
| 177 | M | | 6.6 | 6.6 | | 100 | 0 | 0 | 0 | 0 | 0 | 7% | 5 | 9 | 0% | |
| 50 | M | | 24.2 | 24.2 | | 100 | 0 | 0 | 0 | 0 | 0 | 24% | 8 | 40 | 0% | |
| 75 | M | | 46.6 | 46.6 | | 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 | | 7 | 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1090376 | CCV VOA9 011013 | MA_APH | CCV | \\1\DATA\011013\ | 1/10/2013 9:09:0 | 1 | R55326 | | 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 | 259.9 | 259.9 | | 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 | 309.23 | 309.23 | | 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 | 425.89 | 425.89 | | 378 | 0 | 0 | 0 | 0 | 0 | 113% | 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 | 88.61 | 88.61 | | 89.5 | 0 | 0 | 0 | 0 | 0 | 99% | 70 | 130 | 0% | |

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\011013\01101302.D Vial: 2
Acq On : 10 Jan 2013 9:09 am Operator: RACHEL HILL
Sample : CCV VOA9 011013 Inst : GC/MS Ins
Misc : ICV MA_APH Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\HPCHEM\1\METHODS\010613V9.M (RTE Integrator)
Title : MASS APH
Last Update : Mon Jan 07 17:03:40 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 | 32.202 | -10.3 | 105 | 0.00 |
| 2 | L1 | C5-C8 Aliphatic HC {2} | 36.400 | 40.444 | -11.1 | 102 | 0.00 |
| 3 | L1 | C5-C8 Aliphatic HC {3} | 41.800 | 46.110 | -10.3 | 100 | 0.00 |
| 4 | L1 | C5-C8 Aliphatic HC {4} | 35.400 | 39.284 | -11.0 | 103 | 0.00 |
| 5 | L1 | C5-C8 Aliphatic HC {5} | 42.200 | 47.000 | -11.4 | 101 | 0.00 |
| 6 | L1 | C5-C8 Aliphatic HC {6} | 49.000 | 54.952 | -12.1 | 101 | 0.00 |
| 7 | L1 | C5-C8 Aliphatic HC - TOTAL | 234.000 | 259.900 | -11.1 | 102 | 0.00 |
| 8 | L1 | C9-C12 Aliphatic HC | 54.600 | 61.475 | -12.6 | 101 | 0.00 |
| 9 | L1 | C9-C12 Aliphatic HC {2} | 54.600 | 57.492 | -5.3 | 102 | 0.00 |
| 10 | L1 | C9-C12 Aliphatic HC {3} | 61.200 | 69.026 | -12.8 | 101 | 0.00 |
| 11 | L1 | C9-C12 Aliphatic HC {4} | 60.800 | 69.891 | -15.0 | 104 | 0.00 |
| 12 | L1 | C9-C12 Aliphatic HC {5} | 70.000 | 79.515 | -13.6 | 101 | 0.00 |
| 13 | L1 | C9-C12 Aliphatic HC {6} | 77.000 | 88.662 | -15.1 | 98 | 0.00 |
| 14 | L1 | C9-C12 Aliphatic HC - TOTAL | 378.000 | 425.890 | -12.7 | 101 | 0.00 |
| 15 | L1 | C9-C10 Aromatic HC | 51.700 | 59.519 | -15.1 | 104 | 0.00 |
| 16 | L1 | C9-C10 Aromatic HC {2} | 51.200 | 59.096 | -15.4 | 104 | 0.00 |
| 17 | L1 | C9-C10 Aromatic HC {3} | 52.200 | 60.598 | -16.1 | 104 | 0.00 |
| 18 | L1 | C9-C10 Aromatic HC {4} | 58.700 | 68.325 | -16.4 | 105 | 0.00 |
| 19 | L1 | C9-C10 Aromatic HC {5} | 52.600 | 60.904 | -15.8 | 105 | 0.00 |
| 20 | L1 | C9-C10 Aromatic HC {6} | 58.700 | 69.091 | -17.7 | 107 | 0.00 |
| 21 | L1 | C9-C10 Aromatic HC - TOTAL | 266.000 | 309.233 | -16.3 | 105 | 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 | 108 | 0.00 |
| 41 | S | 4-Bromofluorobenzene | 89.500 | 88.607 | 1.0 | 108 | 0.00 |

(#) = Out of Range SPCC's out = 0 CCC's out = 0
01061304.D 010613V9.M Fri Jan 11 12:12:48 2013

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\011013\01101302.D Vial: 2
Acq On : 10 Jan 2013 9:09 am Operator: RACHEL HILL
Sample : CCV VOA9 011013 Inst : GC/MS Ins
Misc : ICV MA_APH Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jan 11 11:16 2013 Quant Results File: 010613V9.RES

Quant Method : C:\HPCHEM\1\METHODS\010613V9.M (RTE Integrator)
Title : MASS APH
Last Update : Mon Jan 07 17:03:40 2013
Response via : Initial Calibration
DataAcq Meth : 010613V9

| Internal Standards | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 40) Chlorobenzene-d5 | 16.17 | 117 | 282540 | 12.50 | ug/m3 | 0.00 |

System Monitoring Compounds

| | | | | | | |
|---|---|---|---|---|---|---|
| 41) 4-Bromofluorobenzene | 18.00 | 95 | 178138 | 88.61 | ug/m3 | 0.00 |

Spiked Amount 89.500 Range 70 - 130 Recovery = 99.01%

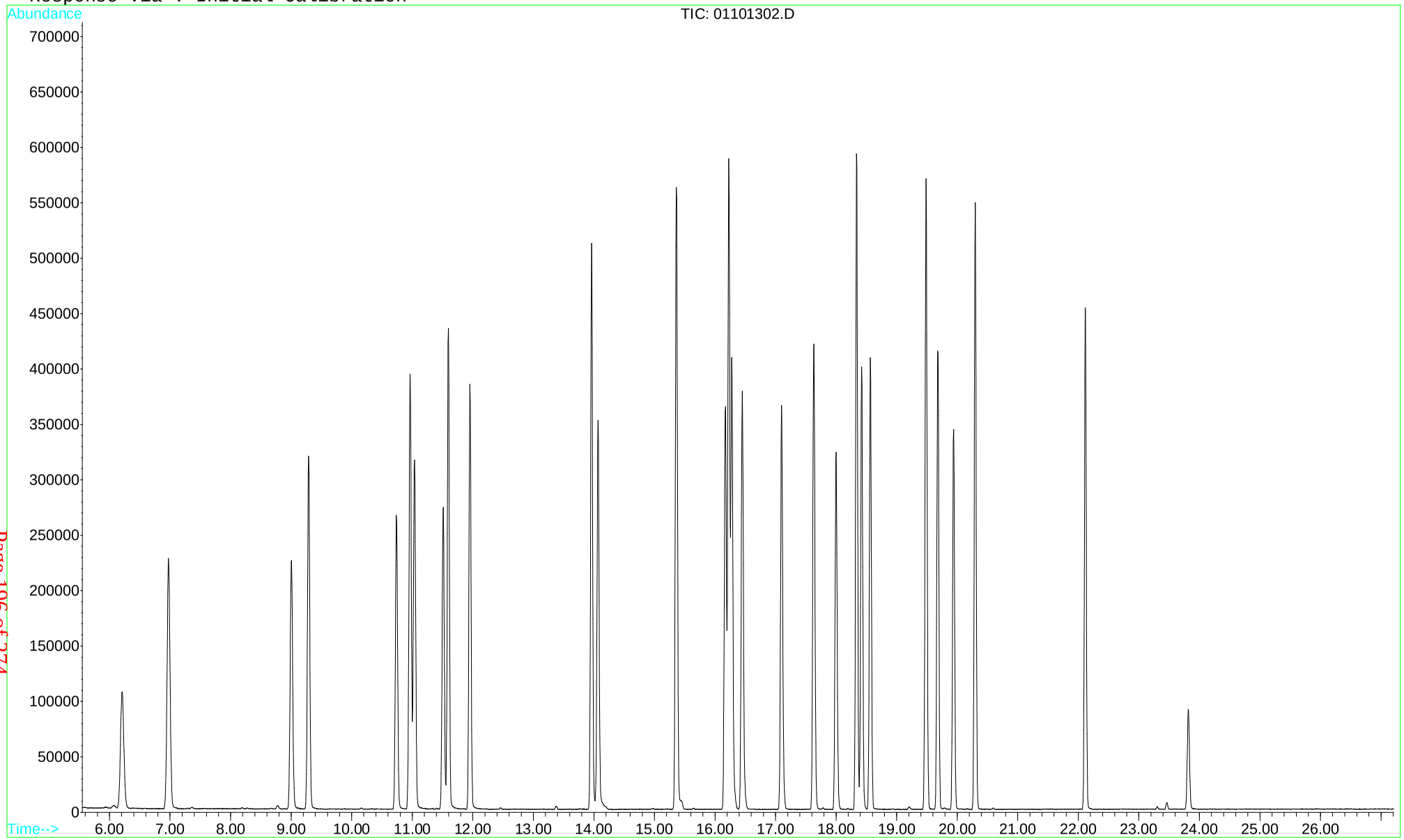
| Target Compounds | | | | | | Qvalue |
|---|---|---|---|---|---|---|
| 1) C5-C8 Aliphatic HC | 6.97 | TIC | 772777 | 32.20 | ug/m3 | 100 |
| 2) C5-C8 Aliphatic HC {2} | 9.29 | TIC | 826796 | 40.44 | ug/m3 | 100 |
| 3) C5-C8 Aliphatic HC {3} | 10.97 | TIC | 1040258 | 46.11 | ug/m3 | 100 |
| 4) C5-C8 Aliphatic HC {4} | 11.04 | TIC | 821499 | 39.28 | ug/m3 | 100 |
| 5) C5-C8 Aliphatic HC {5} | 11.60 | TIC | 1009145 | 47.00 | ug/m3 | 100 |
| 6) C5-C8 Aliphatic HC {6} | 13.96 | TIC | 1150996 | 54.95 | ug/m3 | 100 |
| 7) C5-C8 Aliphatic HC - TOTAL | 6.97 | TIC | 5621471m | 259.90 | ug/m3 | |
| 8) C9-C12 Aliphatic HC | 15.36 | TIC | 1372314 | 61.48 | ug/m3 | 100 |
| 9) C9-C12 Aliphatic HC {2} | 16.23 | TIC | 834448m | 57.49 | ug/m3 | |
| 10) C9-C12 Aliphatic HC {3} | 18.34 | TIC | 1316791 | 69.03 | ug/m3 | 100 |
| 11) C9-C12 Aliphatic HC {4} | 19.49 | TIC | 1308631 | 69.89 | ug/m3 | 100 |
| 12) C9-C12 Aliphatic HC {5} | 20.30 | TIC | 1177649 | 79.51 | ug/m3 | 100 |
| 13) C9-C12 Aliphatic HC {6} | 22.11 | TIC | 972958 | 88.66 | ug/m3 | 100 |
| 14) C9-C12 Aliphatic HC - TOTA | 15.36 | TIC | 6982791m | 425.89 | ug/m3 | |
| 15) C9-C10 Aromatic HC | 17.63 | 120 | 101805 | 59.52 | ug/m3 | 100 |
| 16) C9-C10 Aromatic HC {2} | 18.42 | 120 | 105111 | 59.10 | ug/m3 | 100 |
| 17) C9-C10 Aromatic HC {3} | 18.57 | 120 | 155892 | 60.60 | ug/m3 | 100 |
| 18) C9-C10 Aromatic HC {4} | 19.68 | 120 | 34098 | 68.32 | ug/m3 | 100 |
| 19) C9-C10 Aromatic HC {5} | 19.94 | 120 | 117263 | 60.90 | ug/m3 | 100 |
| 20) C9-C10 Aromatic HC {6} | 19.68 | 134 | 91552 | 69.09 | ug/m3 | 100 |
| 21) C9-C10 Aromatic HC - TOTAL | 18.00 | TIC | 605721m | 309.23 | ug/m3 | |

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

Quantitation Report

Data File : C:\HPCHEM\1\DATA\011013\01101302.D Vial: 2
Acq On : 10 Jan 2013 9:09 am Operator: RACHEL HILL
Sample : CCV VOA9 011013 Inst : GC/MS Ins
Misc : ICV MA_APH Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jan 11 11:16 2013 Quant Results File: 010613V9.RES

Method : C:\HPCHEM\1\METHODS\010613V9.M (RTE Integrator)
Title : MASS APH
Last Update : Mon Jan 07 17:03:40 2013
Response via : Initial Calibration



# Injection Log

Directory: C:\HPCHEM\1\DATA\011113

| Line | Vial | FileName | Multiplier | SampleName | Misc Info | Injected |
|---|---|---|---|---|---|---|
| 1 | 2 | 01111301.d | 1. | BFB VOA9 011113 | TUNE BFB_TUNE | 11 Jan 2013 09:42 |
| 2 | 2 | 01111302.d | 1. | CCV VOA9 011113 | CCV MA_APH | 11 Jan 2013 10:25 |
| 3 | 3 | 01111303.d | 1. | RLVS VOA9 011113 | RLVS MA_APH | 11 Jan 2013 11:12 |
| 4 | 4 | 01111304.d | 1. | MBLK VOA9 011113 | MBLK MA_APH | 11 Jan 2013 12:07 |
| 5 | 5 | 01111305.d | 1600. | 1212959-005A | data not used | 11 Jan 2013 12:51 |
| 6 | 6 | 01111306.d | 800. | 1212959-042A | SAMP MA_APH | 11 Jan 2013 13:33 |
| 7 | 7 | 01111307.d | 40000. | 1212959-019A | data not used | 11 Jan 2013 14:15 |
| 8 | 8 | 01111308.d | 80000. | 1212959-020A | data not used | 11 Jan 2013 14:58 |
| 9 | 9 | 01111309.d | 8000. | 1212959-030A | data not used | 11 Jan 2013 15:40 |
| 10 | 10 | 01111310.d | 8000. | 1212959-031A | data not used | 11 Jan 2013 16:22 |
| 11 | 1 | 01111311.d | 200. | 1212959-039A | SAMP MA_APH | 11 Jan 2013 17:11 |
| 12 | 2 | 01111312.d | 400. | 1212959-004A | SAMP MA_APH | 11 Jan 2013 18:00 |
| 13 | 3 | 01111313.d | 400. | 1212959-005A | data not used | 11 Jan 2013 18:49 |
| 14 | 4 | 01111314.d | 8000. | 1212959-019A | data not used | 11 Jan 2013 19:31 |
| 15 | 7 | 01111315.d | 8000. | 1212959-020A | data not used | 11 Jan 2013 20:14 |
| 16 | 5 | 01111316.d | 400. | 1212959-030A | SAMP MA_APH | 11 Jan 2013 21:03 |
| 17 | 8 | 01111317.d | 8000. | 1212959-032A | data not used | 11 Jan 2013 21:45 |
| 18 | 9 | 01111318.d | 40000. | 1212959-021A | SAMP MA_APH | 11 Jan 2013 22:27 |
| 19 | 10 | 01111319.d | 8000. | 1212959-022A | data not used | 11 Jan 2013 23:10 |
| 20 | 11 | 01111320.d | 8000. | 1212959-033A | data not used | 11 Jan 2013 23:52 |
| 21 | 12 | 01111321.d | 8000. | 1212959-023A | data not used | 12 Jan 2013 00:34 |
| 22 | 21 | 01111322.d | 1600. | 1212959-034A | data not used | 12 Jan 2013 01:18 |
| 23 | 21 | 01111323.d | 1600. | 1212959-034A | data not used | 12 Jan 2013 02:02 |
| 24 | 22 | 01111324.d | 8000. | 1212959-024A | data not used | 12 Jan 2013 02:45 |
| 25 | 23 | 01111325.d | 800. | 1212959-025A | SAMP MA_APH | 12 Jan 2013 03:31 |
| 26 | 23 | 01111326.d | 800. | 1212959-025ADUP | DUP MA_APH | 12 Jan 2013 04:16 |
| 27 | 24 | 01111327.d | 1600. | 1212959-035A | data not used | 12 Jan 2013 05:00 |
| 28 | 25 | 01111328.d | 1600. | 1212959-036A | data not used | 12 Jan 2013 05:44 |
| 29 | 26 | 01111329.d | 400. | 1212959-026A | data not used | 12 Jan 2013 06:33 |
| 30 | 29 | 01111330.d | 400. | 1212959-027A | data not used | 12 Jan 2013 07:21 |
| 31 | 3 | 01111331.d | 1. | RLVS2 VOA9 011113 | RLVS MA_APH | 12 Jan 2013 08:04 |

# RTI Laboratories

# ANALYTICAL RUN Summary

*17-Jan-13*

**RunNo** 55364

| Seq No | Sample ID | Test Code | Sample Typ | File ID | Analysis Date | DF | Batch ID | Prep Date | SPKref | RPDref | pmoist |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1091128 | BFB VOA9 011113 | BFB_TUNE | TUNE | \\1\DATA\011113\ | 1/11/2013 9:42:0 | 1 | R55364 | | 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 | | 56.7 | 56.7 | | 100 | 0 | 0 | 0 | 0 | 0 | 57% | 50 | 200 | 0% | |
| 175 | M | | 8.7 | 8.7 | | 100 | 0 | 0 | 0 | 0 | 0 | 9% | 4 | 9 | 0% | |
| 176 | M | | 98.3 | 98.3 | | 100 | 0 | 0 | 0 | 0 | 0 | 98% | 93 | 101 | 0% | |
| 177 | M | | 7.2 | 7.2 | | 100 | 0 | 0 | 0 | 0 | 0 | 7% | 5 | 9 | 0% | |
| 50 | M | | 24.1 | 24.1 | | 100 | 0 | 0 | 0 | 0 | 0 | 24% | 8 | 40 | 0% | |
| 75 | M | | 47.2 | 47.2 | | 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 | | 7.7 | 7.7 | | 100 | 0 | 0 | 0 | 0 | 0 | 8% | 5 | 9 | 0% | |

| Seq No | Sample ID | Test Code | Sample Typ | File ID | Analysis Date | DF | Batch ID | Prep Date | SPKref | RPDref | pmoist |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1091129 | CCV VOA9 011113 | MA_APH | CCV | \\1\DATA\011113\ | 1/11/2013 10:25: | 1 | R55364 | | 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 | 265.82 | 265.82 | | 234 | 0 | 0 | 0 | 0 | 0 | 114% | 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 | 311.06 | 311.06 | | 266 | 0 | 0 | 0 | 0 | 0 | 117% | 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 | 428.86 | 428.86 | | 378 | 0 | 0 | 0 | 0 | 0 | 113% | 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 | 88.63 | 88.63 | | 89.5 | 0 | 0 | 0 | 0 | 0 | 99% | 70 | 130 | 0% | |

# Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\011113\01111302.D  Vial: 2
Acq On : 11 Jan 2013 10:25 am  Operator: RACHEL HILL
Sample : CCV VOA9 011113  Inst : GC/MS Ins
Misc : CCV MA_APH  Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\HPCHEM\1\METHODS\010613V9.M (RTE Integrator)
Title : MASS APH
Last Update : Mon Jan 07 17:03:40 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 | 33.618 | -15.1 | 109 | 0.00 |
| 2 | L1 | C5-C8 Aliphatic HC {2} | 36.400 | 40.966 | -12.5 | 104 | 0.00 |
| 3 | L1 | C5-C8 Aliphatic HC {3} | 41.800 | 46.608 | -11.5 | 101 | 0.00 |
| 4 | L1 | C5-C8 Aliphatic HC {4} | 35.400 | 40.710 | -15.0 | 107 | 0.00 |
| 5 | L1 | C5-C8 Aliphatic HC {5} | 42.200 | 47.866 | -13.4 | 103 | 0.00 |
| 6 | L1 | C5-C8 Aliphatic HC {6} | 49.000 | 56.087 | -14.5 | 103 | 0.00 |
| 7 | L1 | C5-C8 Aliphatic HC - TOTAL | 234.000 | 265.820 | -13.6 | 104 | 0.00 |
| 8 | L1 | C9-C12 Aliphatic HC | 54.600 | 61.679 | -13.0 | 102 | 0.00 |
| 9 | L1 | C9-C12 Aliphatic HC {2} | 54.600 | 57.909 | -6.1 | 103 | 0.00 |
| 10 | L1 | C9-C12 Aliphatic HC {3} | 61.200 | 69.985 | -14.4 | 103 | 0.00 |
| 11 | L1 | C9-C12 Aliphatic HC {4} | 60.800 | 70.715 | -16.3 | 105 | 0.00 |
| 12 | L1 | C9-C12 Aliphatic HC {5} | 70.000 | 78.889 | -12.7 | 101 | 0.00 |
| 13 | L1 | C9-C12 Aliphatic HC {6} | 77.000 | 89.909 | -16.8 | 99 | 0.00 |
| 14 | L1 | C9-C12 Aliphatic HC - TOTAL | 378.000 | 428.863 | -13.5 | 102 | 0.00 |
| 15 | L1 | C9-C10 Aromatic HC | 51.700 | 59.791 | -15.6 | 104 | 0.00 |
| 16 | L1 | C9-C10 Aromatic HC {2} | 51.200 | 59.548 | -16.3 | 105 | 0.00 |
| 17 | L1 | C9-C10 Aromatic HC {3} | 52.200 | 61.162 | -17.2 | 105 | 0.00 |
| 18 | L1 | C9-C10 Aromatic HC {4} | 58.700 | 68.237 | -16.2 | 104 | 0.00 |
| 19 | L1 | C9-C10 Aromatic HC {5} | 52.600 | 61.169 | -16.3 | 106 | 0.00 |
| 20 | L1 | C9-C10 Aromatic HC {6} | 58.700 | 69.393 | -18.2 | 108 | 0.00 |
| 21 | L1 | C9-C10 Aromatic HC - TOTAL | 266.000 | 311.064 | -16.9 | 105 | 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 | 111 | 0.00 |
| 41 | S | 4-Bromofluorobenzene | 89.500 | 88.626 | 1.0 | 111 | 0.00 |

(#) = Out of Range  SPCC's out = 0  CCC's out = 0

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\011113\01111302.D Vial: 2
Acq On : 11 Jan 2013 10:25 am Operator: RACHEL HILL
Sample : CCV VOA9 011113 Inst : GC/MS Ins
Misc : CCV MA_APH Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jan 14 10:23 2013 Quant Results File: 010613V9.RES

Quant Method : C:\HPCHEM\1\METHODS\010613V9.M (RTE Integrator)
Title : MASS APH
Last Update : Mon Jan 07 17:03:40 2013
Response via : Initial Calibration
DataAcq Meth : 010613V9

| Internal Standards | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 40) Chlorobenzene-d5 | 16.17 | 117 | 290072 | 12.50 | ug/m3 | 0.00 |

System Monitoring Compounds

| | | | | | | |
|---|---|---|---|---|---|---|
| 41) 4-Bromofluorobenzene | 18.01 | 95 | 182927 | 88.63 | ug/m3 | 0.00 |

Spiked Amount 89.500 Range 70 - 130 Recovery = 99.03%

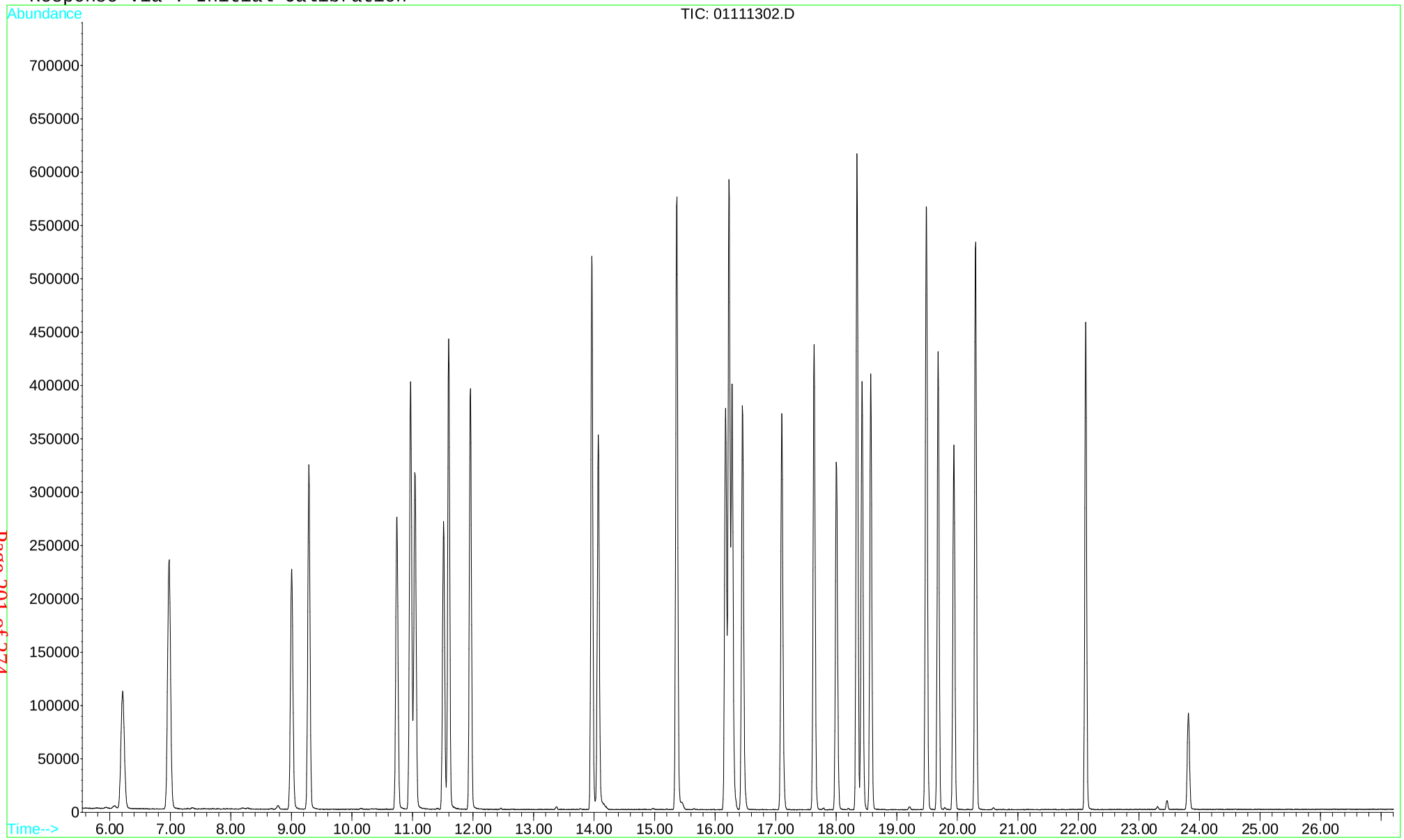
| Target Compounds | | | | | | Qvalue |
|---|---|---|---|---|---|---|
| 1) C5-C8 Aliphatic HC | 6.98 | TIC | 806749 | 33.62 | ug/m3 | 100 |
| 2) C5-C8 Aliphatic HC {2} | 9.29 | TIC | 837473 | 40.97 | ug/m3 | 100 |
| 3) C5-C8 Aliphatic HC {3} | 10.97 | TIC | 1051488 | 46.61 | ug/m3 | 100 |
| 4) C5-C8 Aliphatic HC {4} | 11.04 | TIC | 851329 | 40.71 | ug/m3 | 100 |
| 5) C5-C8 Aliphatic HC {5} | 11.60 | TIC | 1027731 | 47.87 | ug/m3 | 100 |
| 6) C5-C8 Aliphatic HC {6} | 13.96 | TIC | 1174760 | 56.09 | ug/m3 | 100 |
| 7) C5-C8 Aliphatic HC - TOTAL | 6.98 | TIC | 5749530m | 265.82 | ug/m3 | |
| 8) C9-C12 Aliphatic HC | 15.37 | TIC | 1376866 | 61.68 | ug/m3 | 100 |
| 9) C9-C12 Aliphatic HC {2} | 16.23 | TIC | 840499m | 57.91 | ug/m3 | |
| 10) C9-C12 Aliphatic HC {3} | 18.34 | TIC | 1335081 | 69.98 | ug/m3 | 100 |
| 11) C9-C12 Aliphatic HC {4} | 19.49 | TIC | 1324069 | 70.72 | ug/m3 | 100 |
| 12) C9-C12 Aliphatic HC {5} | 20.30 | TIC | 1168385 | 78.89 | ug/m3 | 100 |
| 13) C9-C12 Aliphatic HC {6} | 22.12 | TIC | 986640 | 89.91 | ug/m3 | 100 |
| 14) C9-C12 Aliphatic HC - TOTA | 15.37 | TIC | 7031540m | 428.86 | ug/m3 | |
| 15) C9-C10 Aromatic HC | 17.63 | 120 | 102270 | 59.79 | ug/m3 | 100 |
| 16) C9-C10 Aromatic HC {2} | 18.43 | 120 | 105915 | 59.55 | ug/m3 | 100 |
| 17) C9-C10 Aromatic HC {3} | 18.57 | 120 | 157344 | 61.16 | ug/m3 | 100 |
| 18) C9-C10 Aromatic HC {4} | 19.68 | 120 | 34054 | 68.24 | ug/m3 | 100 |
| 19) C9-C10 Aromatic HC {5} | 19.94 | 120 | 117773 | 61.17 | ug/m3 | 100 |
| 20) C9-C10 Aromatic HC {6} | 19.68 | 134 | 91952 | 69.39 | ug/m3 | 100 |
| 21) C9-C10 Aromatic HC - TOTAL | 18.00 | TIC | 609308m | 311.06 | ug/m3 | |

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

Quantitation Report

Data File : C:\HPCHEM\1\DATA\011113\01111302.D  Vial: 2
Acq On : 11 Jan 2013 10:25 am  Operator: RACHEL HILL
Sample : CCV VOA9 011113  Inst : GC/MS Ins
Misc : CCV MA_APH  Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jan 14 10:23 2013  Quant Results File: 010613V9.RES

Method : C:\HPCHEM\1\METHODS\010613V9.M (RTE Integrator)
Title : MASS APH
Last Update : Mon Jan 07 17:03:40 2013
Response via : Initial Calibration



# Injection Log

Directory: C:\HPCHEM\1\DATA\011413B

| Line | Vial | FileName | Multiplier | SampleName | Misc Info | Injected |
|---|---|---|---|---|---|---|
| 1 | 1 | 01141301.d | 1. | BFB VOA9 011413 | TUNE BFB_TUNE | 14 Jan 2013 13:25 |
| 2 | 2 | 01141302.d | 1. | ICAL1 VOA9 011413 | DATA NOT USED | 14 Jan 2013 14:34 |
| 3 | 3 | 01141303.d | 1. | ICAL1 VOA9 011413 | ICAL1MA_APH | 14 Jan 2013 15:17 |
| 4 | 4 | 01141304.d | 1. | ICAL2 VOA9 011413 | ICAL2MA_APH | 14 Jan 2013 16:00 |
| 5 | 5 | 01141305.d | 1. | ICAL3 VOA9 011413 | ICAL3MA_APH | 14 Jan 2013 16:42 |
| 6 | 6 | 01141306.d | 1. | ICAL4 VOA9 011413 | ICAL4MA_APH | 14 Jan 2013 17:25 |
| 7 | 7 | 01141307.d | 1. | ICAL5 VOA9 011413 | ICAL5MA_APH | 14 Jan 2013 18:09 |
| 8 | 8 | 01141308.d | 1. | ICAL6 VOA9 011413 | ICAL6MA_APH | 14 Jan 2013 18:53 |
| 9 | 9 | 01141309.d | 1. | ICAL7 VOA9 011413 | ICAL7MA_APH | 14 Jan 2013 19:38 |
| 10 | 2 | 01141310.d | 1. | BFB2 VOA9 011413 | TUNE BFB_TUNE | 14 Jan 2013 20:20 |
| 11 | 2 | 01141311.d | 1. | ICV VOA9 011413 | ICV MA_APH | 14 Jan 2013 21:03 |
| 12 | 3 | 01141312.d | 1. | RLVS VOA9 011413 | data not used | 14 Jan 2013 21:47 |
| 13 | 4 | 01141313.d | 1. | RLVS VOA9 011413 | RLVS MA_APH | 14 Jan 2013 22:29 |
| 14 | 4 | 01141314.d | 1. | MBLK VOA9 011413 | MBLK MA_APH | 14 Jan 2013 23:18 |
| 15 | 11 | 01141315.d | 40. | 1212959-005A | SAMP MA_APH | 15 Jan 2013 00:01 |
| 16 | 12 | 01141316.d | 20000. | 1212959-019A | SAMP MA_APH | 15 Jan 2013 00:44 |
| 17 | 13 | 01141317.d | 1600. | 1212959-020A | SAMP MA_APH | 15 Jan 2013 01:27 |
| 18 | 13 | 01141318.d | 1600. | 1212959-020ADUP | DUP MA_APH | 15 Jan 2013 02:11 |
| 19 | 14 | 01141319.d | 200. | 1212959-031A | data not used | 15 Jan 2013 03:00 |
| 20 | 15 | 01141320.d | 200. | 1212959-032A | data not used | 15 Jan 2013 03:49 |
| 21 | 16 | 01141321.d | 1600. | 1212959-022A | SAMP MA_APH | 15 Jan 2013 04:33 |
| 22 | 17 | 01141322.d | 200. | 1212959-033A | SAMP MA_APH | 15 Jan 2013 05:22 |
| 23 | 18 | 01141323.d | 1600. | 1212959-023A | SAMP MA_APH | 15 Jan 2013 06:06 |
| 24 | 19 | 01141324.d | 200. | 1212959-034A | SAMP MA_APH | 15 Jan 2013 06:55 |
| 25 | 10 | 01141325.d | 20000. | 1212959-024A | SAMP MA_APH | 15 Jan 2013 07:37 |
| 26 | 11 | 01141326.d | 8000. | 1212959-025A | data not used | 15 Jan 2013 08:20 |
| 27 | 12 | 01141327.d | 200. | 1212959-035A | SAMP MA_APH | 15 Jan 2013 09:08 |
| 28 | 21 | 01141328.d | 800. | 1212959-026A | SAMP MA_APH | 15 Jan 2013 09:54 |
| 29 | 22 | 01141329.d | 800. | 1212959-027A | SAMP MA_APH | 15 Jan 2013 10:39 |
| 30 | 23 | 01141330.d | 400. | 1212959-031A | SAMP MA_APH | 15 Jan 2013 11:28 |
| 31 | 24 | 01141331.d | 400. | 1212959-032A | SAMP MA_APH | 15 Jan 2013 12:18 |
| 32 | 25 | 01141332.d | 20000. | 1212959-025A | SAMP MA_APH | 15 Jan 2013 13:00 |
| 33 | 26 | 01141333.d | 800. | 1212959-011A | SAMP MA_APH | 15 Jan 2013 13:45 |
| 34 | 27 | 01141334.d | 8000. | 1212959-036A | SAMP MA_APH | 15 Jan 2013 14:28 |
| 35 | 27 | 01141335.d | 20000. | 1212959-012A | SAMP MA_APH | 15 Jan 2013 15:10 |
| 36 | 28 | 01141336.d | 800. | 1212959-013A | SAMP MA_APH | 15 Jan 2013 15:52 |
| 37 | 29 | 01141337.d | 40. | 1212959-010A | SAMP MA_APH | 15 Jan 2013 16:35 |
| 38 | 30 | 01141338.d | 200. | 1212959-040A | SAMP MA_APH | 15 Jan 2013 17:24 |
| 39 | 4 | 01141339.d | 1. | RLVS2 VOA9 011413 | RLVS MA_APH | 15 Jan 2013 18:06 |
| 40 | 2 | 01141340.d | 1. | BFB VOA9 011513 | TUNE BFB_TUNE | 15 Jan 2013 18:48 |
| 41 | 2 | 01141341.d | 1. | CCV VOA9 011513 | ICV MA_APH | 15 Jan 2013 19:31 |
| 42 | 4 | 01141342.d | 1. | RLVS VOA9 011513 | RLVS MA_APH | 15 Jan 2013 20:14 |
| 43 | 4 | 01141343.d | 1. | MBLK VOA9 011513 | MBLK MA_APH | 15 Jan 2013 21:03 |
| 44 | 1 | 01141344.d | 400. | 1212959-014A | SAMP MA_APH | 15 Jan 2013 21:53 |
| 45 | 2 | 01141345.d | 400. | 1212959-015A | SAMP MA_APH | 15 Jan 2013 22:42 |
| 46 | 3 | 01141346.d | 400. | 1212959-016A | SAMP MA_APH | 15 Jan 2013 23:31 |
| 47 | 4 | 01141347.d | 400. | 1212959-017A | SAMP MA_APH | 16 Jan 2013 00:20 |
| 48 | 5 | 01141348.d | 800. | 1212959-007A | SAMP MA_APH | 16 Jan 2013 01:06 |
| 49 | 5 | 01141349.d | 800. | 1212959-007A | SAMP MA_APH | 16 Jan 2013 01:51 |
| 50 | 6 | 01141350.d | 400. | 1212959-008A | SAMP MA_APH | 16 Jan 2013 02:41 |
| 51 | 7 | 01141351.d | 20000. | 1212960-005A | SAMP MA_APH | 16 Jan 2013 03:23 |
| 52 | 7 | 01141352.d | 20000. | 1212960-005A | SAMP MA_APH | 16 Jan 2013 04:06 |
| 53 | 8 | 01141353.d | 8000. | 1212960-010A | SAMP MA_APH | 16 Jan 2013 04:50 |
| 54 | 9 | 01141354.d | 8000. | 1212960-011A | SAMP MA_APH | 16 Jan 2013 05:33 |
| 55 | 10 | 01141355.d | 20000. | 1212960-009A | SAMP MA_APH | 16 Jan 2013 06:16 |

# Injection Log

Directory: C:\HPCHEM\1\DATA\011413B

| Line | Vial | FileName | Multiplier | SampleName | Misc Info | Injected |
|---|---|---|---|---|---|---|
| 56 | 4 | 01141356.d | 1. | RLVS2 VOA9 011513 | RLVS MA_APH | 16 Jan 2013 06:59 |

# RTI Laboratories

# ANALYTICAL RUN Summary

*18-Jan-13*

**RunNo** 55416

| Seq No | Sample ID | Test Code | Sample Typ | File ID | Analysis Date | DF | Batch ID | Prep Date | SPKref | RPDref | pmoist |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1092174 | BFB2 VOA9 011413 | BFB_TUNE | TUNE | .1\DATA\011413 | E1/14/2013 8:20:0 | 1 | R55416 | | 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 | | 63.9 | 63.9 | | 100 | 0 | 0 | 0 | 0 | 0 | 64% | 50 | 200 | 0% | |
| 175 | M | | 7.8 | 7.8 | | 100 | 0 | 0 | 0 | 0 | 0 | 8% | 4 | 9 | 0% | |
| 176 | M | | 101 | 101 | | 100 | 0 | 0 | 0 | 0 | 0 | 101% | 93 | 101 | 0% | |
| 177 | M | | 6.7 | 6.7 | | 100 | 0 | 0 | 0 | 0 | 0 | 7% | 5 | 9 | 0% | |
| 50 | M | | 22.6 | 22.6 | | 100 | 0 | 0 | 0 | 0 | 0 | 23% | 8 | 40 | 0% | |
| 75 | M | | 44 | 44 | | 100 | 0 | 0 | 0 | 0 | 0 | 44% | 30 | 66 | 0% | |
| 95 | M | | 100 | 100 | | 100 | 0 | 0 | 0 | 0 | 0 | 100% | 100 | 100 | 0% | |
| 96 | M | | 6.8 | 6.8 | | 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1092175 | ICV VOA9 011413 | MA_APH | ICV | .1\DATA\011413 | E1/14/2013 9:03:0 | 1 | R55416 | | 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 | 260.02 | 260.02 | | 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 | 305.44 | 305.44 | | 266 | 0 | 0 | 0 | 0 | 0 | 115% | 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 | 430.8 | 430.8 | | 378 | 0 | 0 | 0 | 0 | 0 | 114% | 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 | 87.89 | 87.89 | | 89.5 | 0 | 0 | 0 | 0 | 0 | 98% | 70 | 130 | 0% | |

# Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\011413B\01141311.D  Vial: 2
Acq On : 14 Jan 2013 9:03 pm  Operator: RACHEL HILL
Sample : ICV VOA9 011413  Inst : GC/MS Ins
Misc : ICV MA_APH  Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\HPCHEM\1\METHODS\011413V9.M (RTE Integrator)
Title : MASS APH
Last Update : Tue Jan 15 09:31:11 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 | 31.797 | -8.9 | 105 | 0.00 |
| 2 | L1 | C5-C8 Aliphatic HC {2} | 36.400 | 40.446 | -11.1 | 103 | 0.00 |
| 3 | L1 | C5-C8 Aliphatic HC {3} | 41.800 | 46.395 | -11.0 | 103 | 0.00 |
| 4 | L1 | C5-C8 Aliphatic HC {4} | 35.400 | 39.425 | -11.4 | 103 | 0.00 |
| 5 | L1 | C5-C8 Aliphatic HC {5} | 42.200 | 46.782 | -10.9 | 103 | 0.00 |
| 6 | L1 | C5-C8 Aliphatic HC {6} | 49.000 | 55.303 | -12.9 | 103 | 0.00 |
| 7 | L1 | C5-C8 Aliphatic HC - TOTAL | 234.000 | 260.020 | -11.1 | 103 | 0.00 |
| 8 | L1 | C9-C12 Aliphatic HC | 54.600 | 62.011 | -13.6 | 103 | 0.00 |
| 9 | L1 | C9-C12 Aliphatic HC {2} | 54.600 | 56.941 | -4.3 | 107 | 0.00 |
| 10 | L1 | C9-C12 Aliphatic HC {3} | 61.200 | 70.087 | -14.5 | 103 | 0.00 |
| 11 | L1 | C9-C12 Aliphatic HC {4} | 60.800 | 70.610 | -16.1 | 105 | 0.00 |
| 12 | L1 | C9-C12 Aliphatic HC {5} | 70.000 | 81.131 | -15.9 | 102 | 0.00 |
| 13 | L1 | C9-C12 Aliphatic HC {6} | 77.000 | 90.703 | -17.8 | 99 | 0.00 |
| 14 | L1 | C9-C12 Aliphatic HC - TOTAL | 378.000 | 430.802 | -14.0 | 103 | 0.00 |
| 15 | L1 | C9-C10 Aromatic HC | 51.700 | 58.638 | -13.4 | 103 | 0.00 |
| 16 | L1 | C9-C10 Aromatic HC {2} | 51.200 | 57.853 | -13.0 | 102 | 0.00 |
| 17 | L1 | C9-C10 Aromatic HC {3} | 52.200 | 59.663 | -14.3 | 103 | 0.00 |
| 18 | L1 | C9-C10 Aromatic HC {4} | 58.700 | 68.386 | -16.5 | 105 | 0.00 |
| 19 | L1 | C9-C10 Aromatic HC {5} | 52.600 | 60.567 | -15.1 | 104 | 0.00 |
| 20 | L1 | C9-C10 Aromatic HC {6} | 58.700 | 68.576 | -16.8 | 104 | 0.00 |
| 21 | L1 | C9-C10 Aromatic HC - TOTAL | 266.000 | 305.442 | -14.8 | 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 | 110 | 0.00 |
| 41 | S | 4-Bromofluorobenzene | 89.500 | 87.885 | 1.8 | 109 | 0.00 |

(#) = Out of Range  SPCC's out = 0  CCC's out = 0

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\011413B\01141311.D Vial: 2
Acq On : 14 Jan 2013 9:03 pm Operator: RACHEL HILL
Sample : ICV VOA9 011413 Inst : GC/MS Ins
Misc : ICV MA_APH Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jan 15 9:33 2013 Quant Results File: 011413V9.RES

Quant Method : C:\HPCHEM\1\METHODS\011413V9.M (RTE Integrator)
Title : MASS APH
Last Update : Tue Jan 15 09:31:11 2013
Response via : Initial Calibration
DataAcq Meth : 011413V9

| Internal Standards | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 40) Chlorobenzene-d5 | 16.17 | 117 | 294557 | 12.50 | ug/m3 | 0.00 |

System Monitoring Compounds

| | | | | | | |
|---|---|---|---|---|---|---|
| 41) 4-Bromofluorobenzene | 18.00 | 95 | 188702 | 87.89 | ug/m3 | 0.00 |

Spiked Amount 89.500 Range 70 - 130 Recovery = 98.20%

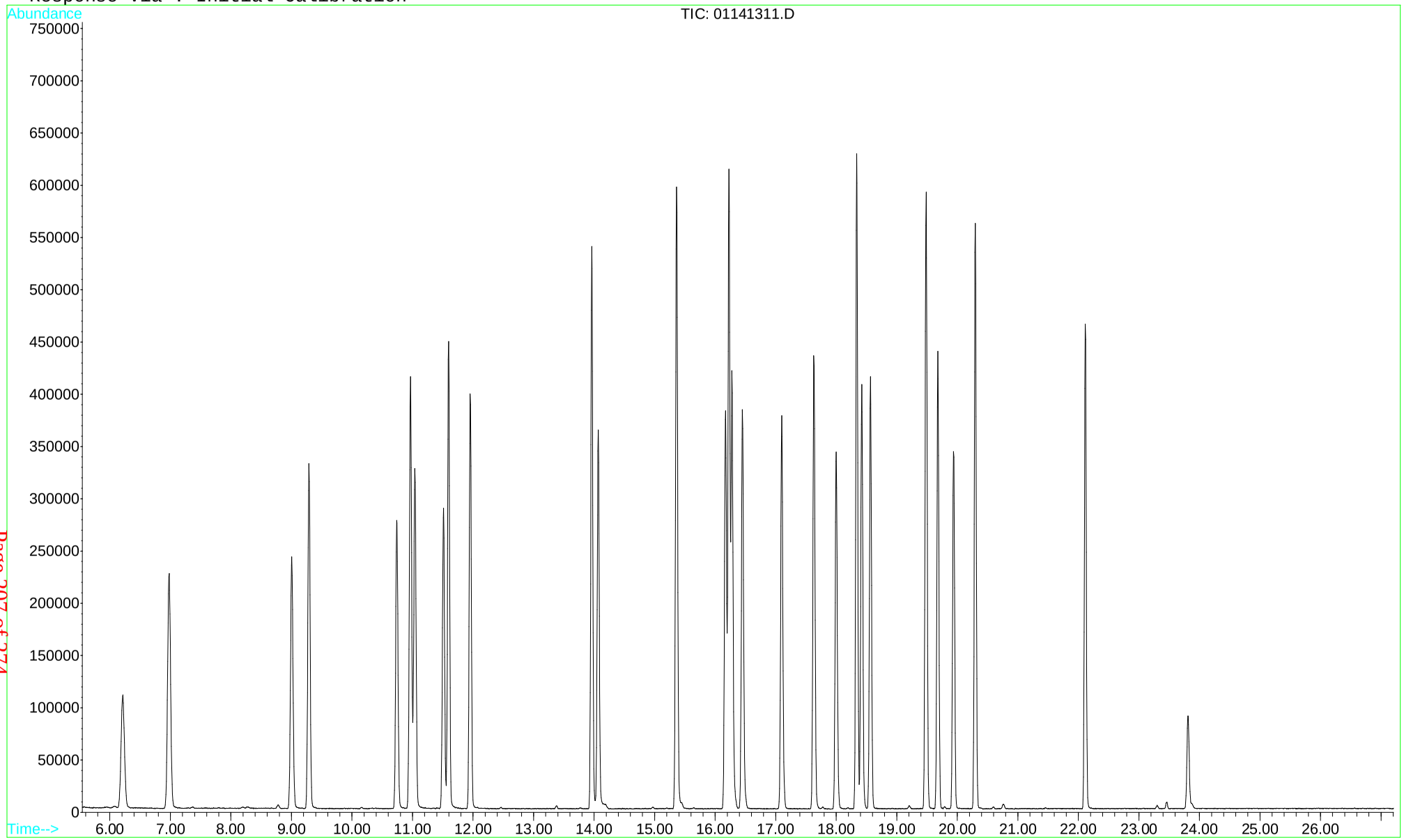
| Target Compounds | | | | | | Qvalue |
|---|---|---|---|---|---|---|
| 1) C5-C8 Aliphatic HC | 6.98 | TIC | 777662 | 31.80 | ug/m3 | 100 |
| 2) C5-C8 Aliphatic HC {2} | 9.29 | TIC | 856390 | 40.45 | ug/m3 | 100 |
| 3) C5-C8 Aliphatic HC {3} | 10.97 | TIC | 1076396 | 46.39 | ug/m3 | 100 |
| 4) C5-C8 Aliphatic HC {4} | 11.04 | TIC | 857953 | 39.43 | ug/m3 | 100 |
| 5) C5-C8 Aliphatic HC {5} | 11.60 | TIC | 1037512 | 46.78 | ug/m3 | 100 |
| 6) C5-C8 Aliphatic HC {6} | 13.96 | TIC | 1197966 | 55.30 | ug/m3 | 100 |
| 7) C5-C8 Aliphatic HC - TOTAL | 6.98 | TIC | 5803879m | 260.02 | ug/m3 | |
| 8) C9-C12 Aliphatic HC | 15.36 | TIC | 1426234 | 62.01 | ug/m3 | 100 |
| 9) C9-C12 Aliphatic HC {2} | 16.23 | TIC | 874055m | 56.94 | ug/m3 | |
| 10) C9-C12 Aliphatic HC {3} | 18.34 | TIC | 1378210 | 70.09 | ug/m3 | 100 |
| 11) C9-C12 Aliphatic HC {4} | 19.49 | TIC | 1360844 | 70.61 | ug/m3 | 100 |
| 12) C9-C12 Aliphatic HC {5} | 20.30 | TIC | 1217078 | 81.13 | ug/m3 | 100 |
| 13) C9-C12 Aliphatic HC {6} | 22.11 | TIC | 996119 | 90.70 | ug/m3 | 100 |
| 14) C9-C12 Aliphatic HC - TOTA | 15.36 | TIC | 7252540m | 430.80 | ug/m3 | |
| 15) C9-C10 Aromatic HC | 17.63 | 120 | 104159 | 58.64 | ug/m3 | 100 |
| 16) C9-C10 Aromatic HC {2} | 18.42 | 120 | 106803 | 57.85 | ug/m3 | 100 |
| 17) C9-C10 Aromatic HC {3} | 18.57 | 120 | 159232 | 59.66 | ug/m3 | 100 |
| 18) C9-C10 Aromatic HC {4} | 19.68 | 120 | 35286 | 68.39 | ug/m3 | 100 |
| 19) C9-C10 Aromatic HC {5} | 19.94 | 120 | 120243 | 60.57 | ug/m3 | 100 |
| 20) C9-C10 Aromatic HC {6} | 19.68 | 134 | 94319 | 68.58 | ug/m3 | 100 |
| 21) C9-C10 Aromatic HC - TOTAL | 18.00 | TIC | 620042m | 305.44 | ug/m3 | |

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

Quantitation Report

Data File : C:\HPCHEM\1\DATA\011413B\01141311.D Vial: 2
Acq On : 14 Jan 2013 9:03 pm Operator: RACHEL HILL
Sample : ICV VOA9 011413 Inst : GC/MS Ins
Misc : ICV MA_APH Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jan 15 9:33 2013 Quant Results File: 011413V9.RES

Method : C:\HPCHEM\1\METHODS\011413V9.M (RTE Integrator)
Title : MASS APH
Last Update : Tue Jan 15 09:31:11 2013
Response via : Initial Calibration



# Injection Log

Directory: C:\HPCHEM\1\DATA\011413B

| Line | Vial | FileName | Multiplier | SampleName | Misc Info | Injected |
|---|---|---|---|---|---|---|
| 1 | 1 | 01141301.d | 1. | BFB VOA9 011413 | TUNE BFB_TUNE | 14 Jan 2013 13:25 |
| 2 | 2 | 01141302.d | 1. | ICAL1 VOA9 011413 | DATA NOT USED | 14 Jan 2013 14:34 |
| 3 | 3 | 01141303.d | 1. | ICAL1 VOA9 011413 | ICAL1MA_APH | 14 Jan 2013 15:17 |
| 4 | 4 | 01141304.d | 1. | ICAL2 VOA9 011413 | ICAL2MA_APH | 14 Jan 2013 16:00 |
| 5 | 5 | 01141305.d | 1. | ICAL3 VOA9 011413 | ICAL3MA_APH | 14 Jan 2013 16:42 |
| 6 | 6 | 01141306.d | 1. | ICAL4 VOA9 011413 | ICAL4MA_APH | 14 Jan 2013 17:25 |
| 7 | 7 | 01141307.d | 1. | ICAL5 VOA9 011413 | ICAL5MA_APH | 14 Jan 2013 18:09 |
| 8 | 8 | 01141308.d | 1. | ICAL6 VOA9 011413 | ICAL6MA_APH | 14 Jan 2013 18:53 |
| 9 | 9 | 01141309.d | 1. | ICAL7 VOA9 011413 | ICAL7MA_APH | 14 Jan 2013 19:38 |
| 10 | 2 | 01141310.d | 1. | BFB2 VOA9 011413 | TUNE BFB_TUNE | 14 Jan 2013 20:20 |
| 11 | 2 | 01141311.d | 1. | ICV VOA9 011413 | ICV MA_APH | 14 Jan 2013 21:03 |
| 12 | 3 | 01141312.d | 1. | RLVS VOA9 011413 | data not used | 14 Jan 2013 21:47 |
| 13 | 4 | 01141313.d | 1. | RLVS VOA9 011413 | RLVS MA_APH | 14 Jan 2013 22:29 |
| 14 | 4 | 01141314.d | 1. | MBLK VOA9 011413 | MBLK MA_APH | 14 Jan 2013 23:18 |
| 15 | 11 | 01141315.d | 40. | 1212959-005A | SAMP MA_APH | 15 Jan 2013 00:01 |
| 16 | 12 | 01141316.d | 20000. | 1212959-019A | SAMP MA_APH | 15 Jan 2013 00:44 |
| 17 | 13 | 01141317.d | 1600. | 1212959-020A | SAMP MA_APH | 15 Jan 2013 01:27 |
| 18 | 13 | 01141318.d | 1600. | 1212959-020ADUP | DUP MA_APH | 15 Jan 2013 02:11 |
| 19 | 14 | 01141319.d | 200. | 1212959-031A | data not used | 15 Jan 2013 03:00 |
| 20 | 15 | 01141320.d | 200. | 1212959-032A | data not used | 15 Jan 2013 03:49 |
| 21 | 16 | 01141321.d | 1600. | 1212959-022A | SAMP MA_APH | 15 Jan 2013 04:33 |
| 22 | 17 | 01141322.d | 200. | 1212959-033A | SAMP MA_APH | 15 Jan 2013 05:22 |
| 23 | 18 | 01141323.d | 1600. | 1212959-023A | SAMP MA_APH | 15 Jan 2013 06:06 |
| 24 | 19 | 01141324.d | 200. | 1212959-034A | SAMP MA_APH | 15 Jan 2013 06:55 |
| 25 | 10 | 01141325.d | 20000. | 1212959-024A | SAMP MA_APH | 15 Jan 2013 07:37 |
| 26 | 11 | 01141326.d | 8000. | 1212959-025A | data not used | 15 Jan 2013 08:20 |
| 27 | 12 | 01141327.d | 200. | 1212959-035A | SAMP MA_APH | 15 Jan 2013 09:08 |
| 28 | 21 | 01141328.d | 800. | 1212959-026A | SAMP MA_APH | 15 Jan 2013 09:54 |
| 29 | 22 | 01141329.d | 800. | 1212959-027A | SAMP MA_APH | 15 Jan 2013 10:39 |
| 30 | 23 | 01141330.d | 400. | 1212959-031A | SAMP MA_APH | 15 Jan 2013 11:28 |
| 31 | 24 | 01141331.d | 400. | 1212959-032A | SAMP MA_APH | 15 Jan 2013 12:18 |
| 32 | 25 | 01141332.d | 20000. | 1212959-025A | SAMP MA_APH | 15 Jan 2013 13:00 |
| 33 | 26 | 01141333.d | 800. | 1212959-011A | SAMP MA_APH | 15 Jan 2013 13:45 |
| 34 | 27 | 01141334.d | 8000. | 1212959-036A | SAMP MA_APH | 15 Jan 2013 14:28 |
| 35 | 27 | 01141335.d | 20000. | 1212959-012A | SAMP MA_APH | 15 Jan 2013 15:10 |
| 36 | 28 | 01141336.d | 800. | 1212959-013A | SAMP MA_APH | 15 Jan 2013 15:52 |
| 37 | 29 | 01141337.d | 40. | 1212959-010A | SAMP MA_APH | 15 Jan 2013 16:35 |
| 38 | 30 | 01141338.d | 200. | 1212959-040A | SAMP MA_APH | 15 Jan 2013 17:24 |
| 39 | 4 | 01141339.d | 1. | RLVS2 VOA9 011413 | RLVS MA_APH | 15 Jan 2013 18:06 |
| 40 | 2 | 01141340.d | 1. | BFB VOA9 011513 | TUNE BFB_TUNE | 15 Jan 2013 18:48 |
| 41 | 2 | 01141341.d | 1. | CCV VOA9 011513 | ICV MA_APH | 15 Jan 2013 19:31 |
| 42 | 4 | 01141342.d | 1. | RLVS VOA9 011513 | RLVS MA_APH | 15 Jan 2013 20:14 |
| 43 | 4 | 01141343.d | 1. | MBLK VOA9 011513 | MBLK MA_APH | 15 Jan 2013 21:03 |
| 44 | 1 | 01141344.d | 400. | 1212959-014A | data not used | 15 Jan 2013 21:53 |
| 45 | 2 | 01141345.d | 400. | 1212959-015A | SAMP MA_APH | 15 Jan 2013 22:42 |
| 46 | 3 | 01141346.d | 400. | 1212959-016A | data not used | 15 Jan 2013 23:31 |
| 47 | 4 | 01141347.d | 400. | 1212959-017A | data not used | 16 Jan 2013 00:20 |
| 48 | 5 | 01141348.d | 800. | 1212959-007A | SAMP MA_APH | 16 Jan 2013 01:06 |
| 49 | 5 | 01141349.d | 800. | 1212959-007ADUP | DUP MA_APH | 16 Jan 2013 01:51 |
| 50 | 6 | 01141350.d | 400. | 1212959-008A | SAMP MA_APH | 16 Jan 2013 02:41 |
| 51 | 7 | 01141351.d | 20000. | 1212960-005A | data not used | 16 Jan 2013 03:23 |
| 52 | 7 | 01141352.d | 20000. | 1212960-005A | data not used | 16 Jan 2013 04:06 |
| 53 | 8 | 01141353.d | 8000. | 1212960-010A | SAMP MA_APH | 16 Jan 2013 04:50 |
| 54 | 9 | 01141354.d | 8000. | 1212960-011A | SAMP MA_APH | 16 Jan 2013 05:33 |
| 55 | 10 | 01141355.d | 20000. | 1212960-009A | SAMP MA_APH | 16 Jan 2013 06:16 |

# Injection Log

Directory: C:\HPCHEM\1\DATA\011413B

| Line | Vial | FileName | Multiplier | SampleName | Misc Info | Injected |
|---|---|---|---|---|---|---|
| 56 | 4 | 01141356.d | 1. | RLVS2 VOA9 011513 | RLVS MA_APH | 16 Jan 2013 06:59 |

# RTI Laboratories

# ANALYTICAL RUN Summary

*17-Jan-13*

**RunNo** 55447

| Seq No | Sample ID | Test Code | Sample Typ | File ID | Analysis Date | DF | Batch ID | Prep Date | SPKref | RPDref | pmoist |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1092766 | BFB VOA9 011513 | BFB_TUNE | TUNE | .1\DATA\011413E | 1/15/2013 6:48:0 | 1 | R55447 | | 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 | | 7.6 | 7.6 | | 100 | 0 | 0 | 0 | 0 | 0 | 8% | 4 | 9 | 0% | |
| 176 | M | | 96.5 | 96.5 | | 100 | 0 | 0 | 0 | 0 | 0 | 97% | 93 | 101 | 0% | |
| 177 | M | | 7.2 | 7.2 | | 100 | 0 | 0 | 0 | 0 | 0 | 7% | 5 | 9 | 0% | |
| 50 | M | | 23.5 | 23.5 | | 100 | 0 | 0 | 0 | 0 | 0 | 24% | 8 | 40 | 0% | |
| 75 | M | | 46.2 | 46.2 | | 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 | | 8 | 8 | | 100 | 0 | 0 | 0 | 0 | 0 | 8% | 5 | 9 | 0% | |

| Seq No | Sample ID | Test Code | Sample Typ | File ID | Analysis Date | DF | Batch ID | Prep Date | SPKref | RPDref | pmoist |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1092767 | CCV VOA9 011513 | MA_APH | CCV | .1\DATA\011413E | 1/15/2013 7:31:0 | 1 | R55447 | | 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 | 247.62 | 247.62 | | 234 | 0 | 0 | 0 | 0 | 0 | 106% | 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 | 290.09 | 290.09 | | 266 | 0 | 0 | 0 | 0 | 0 | 109% | 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 | 414.47 | 414.47 | | 378 | 0 | 0 | 0 | 0 | 0 | 110% | 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 | 86.6 | 86.6 | | 89.5 | 0 | 0 | 0 | 0 | 0 | 97% | 70 | 130 | 0% | |

# Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\011413B\01141341.D  Vial: 2
Acq On : 15 Jan 2013 7:31 pm  Operator: RACHEL HILL
Sample : CCV VOA9 011513  Inst : GC/MS Ins
Misc : ICV MA_APH  Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\HPCHEM\1\METHODS\011413V9.M (RTE Integrator)
Title : MASS APH
Last Update : Tue Jan 15 09:31:11 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 | 29.800 | -2.1 | 98 | -0.01 |
| 2 | L1 | C5-C8 Aliphatic HC {2} | 36.400 | 38.300 | -5.2 | 98 | 0.00 |
| 3 | L1 | C5-C8 Aliphatic HC {3} | 41.800 | 44.112 | -5.5 | 98 | 0.00 |
| 4 | L1 | C5-C8 Aliphatic HC {4} | 35.400 | 37.969 | -7.3 | 99 | 0.00 |
| 5 | L1 | C5-C8 Aliphatic HC {5} | 42.200 | 45.011 | -6.7 | 99 | 0.00 |
| 6 | L1 | C5-C8 Aliphatic HC {6} | 49.000 | 52.595 | -7.3 | 97 | 0.00 |
| 7 | L1 | C5-C8 Aliphatic HC - TOTAL | 234.000 | 247.618 | -5.8 | 98 | -0.01 |
| 8 | L1 | C9-C12 Aliphatic HC | 54.600 | 59.333 | -8.7 | 98 | 0.00 |
| 9 | L1 | C9-C12 Aliphatic HC {2} | 54.600 | 52.597 | 3.7 | 99 | 0.00 |
| 10 | L1 | C9-C12 Aliphatic HC {3} | 61.200 | 67.389 | -10.1 | 99 | 0.00 |
| 11 | L1 | C9-C12 Aliphatic HC {4} | 60.800 | 68.193 | -12.2 | 101 | 0.00 |
| 12 | L1 | C9-C12 Aliphatic HC {5} | 70.000 | 79.066 | -13.0 | 99 | 0.00 |
| 13 | L1 | C9-C12 Aliphatic HC {6} | 77.000 | 89.239 | -15.9 | 97 | 0.00 |
| 14 | L1 | C9-C12 Aliphatic HC - TOTAL | 378.000 | 414.468 | -9.6 | 99 | 0.00 |
| 15 | L1 | C9-C10 Aromatic HC | 51.700 | 56.199 | -8.7 | 98 | 0.00 |
| 16 | L1 | C9-C10 Aromatic HC {2} | 51.200 | 55.492 | -8.4 | 98 | 0.00 |
| 17 | L1 | C9-C10 Aromatic HC {3} | 52.200 | 56.724 | -8.7 | 98 | 0.00 |
| 18 | L1 | C9-C10 Aromatic HC {4} | 58.700 | 63.837 | -8.8 | 98 | 0.00 |
| 19 | L1 | C9-C10 Aromatic HC {5} | 52.600 | 57.044 | -8.4 | 98 | 0.00 |
| 20 | L1 | C9-C10 Aromatic HC {6} | 58.700 | 64.735 | -10.3 | 98 | 0.00 |
| 21 | L1 | C9-C10 Aromatic HC - TOTAL | 266.000 | 290.091 | -9.1 | 98 | 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 | 105 | 0.00 |
| 41 | S | 4-Bromofluorobenzene | 89.500 | 86.605 | 3.2 | 102 | 0.00 |

(#) = Out of Range  SPCC's out = 0  CCC's out = 0

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\011413B\01141341.D Vial: 2
Acq On : 15 Jan 2013 7:31 pm Operator: RACHEL HILL
Sample : CCV VOA9 011513 Inst : GC/MS Ins
Misc : ICV MA_APH Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jan 16 11:00 2013 Quant Results File: 011413V9.RES

Quant Method : C:\HPCHEM\1\METHODS\011413V9.M (RTE Integrator)
Title : MASS APH
Last Update : Tue Jan 15 09:31:11 2013
Response via : Initial Calibration
DataAcq Meth : 011413V9

| Internal Standards | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 40) Chlorobenzene-d5 | 16.17 | 117 | 279332 | 12.50 | ug/m3 | 0.00 |

System Monitoring Compounds

| | | | | | | |
|---|---|---|---|---|---|---|
| 41) 4-Bromofluorobenzene | 18.00 | 95 | 176341 | 86.60 | ug/m3 | 0.00 |

Spiked Amount 89.500 Range 70 - 130 Recovery = 96.76%

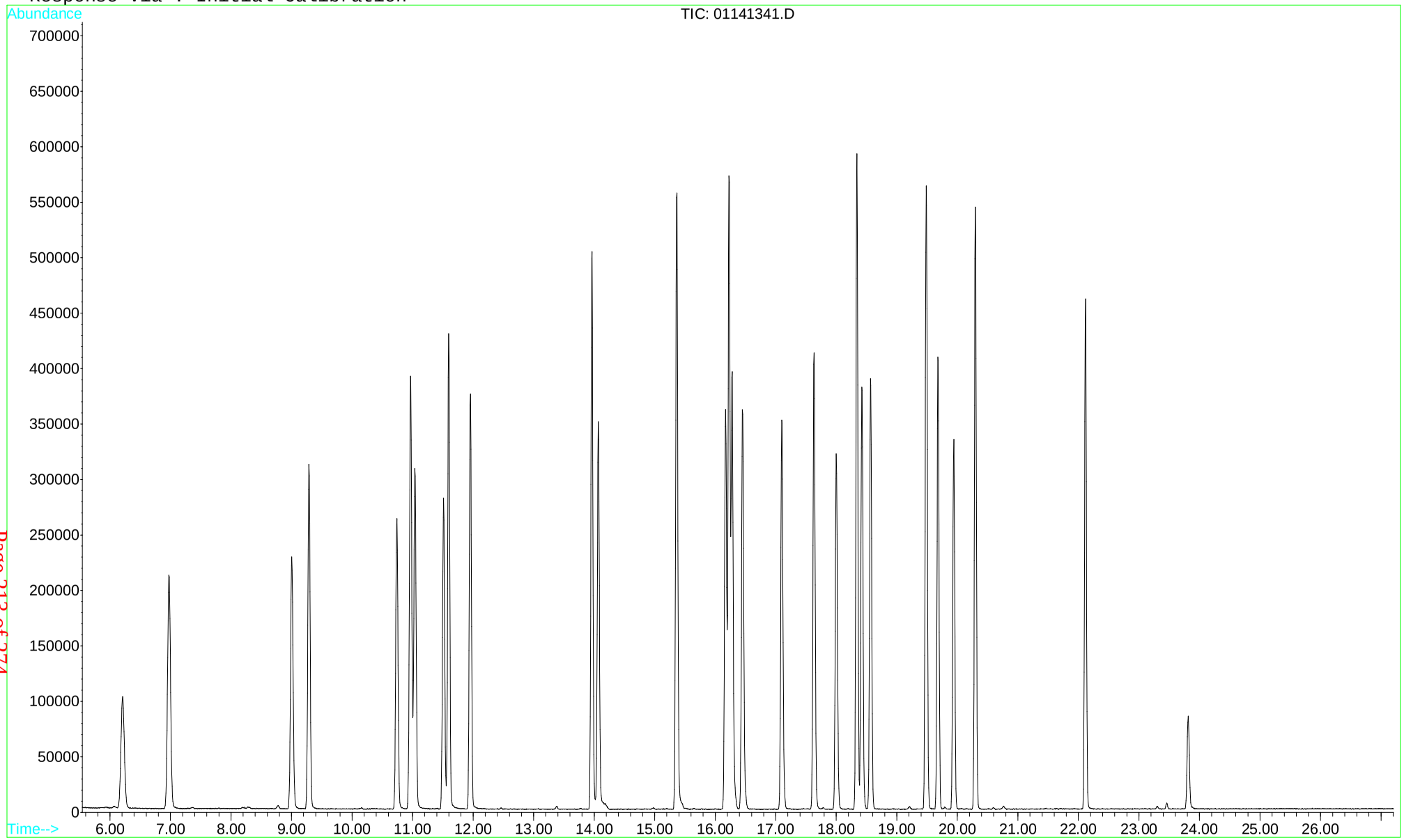
| Target Compounds | | | | | | Qvalue |
|---|---|---|---|---|---|---|
| 1) C5-C8 Aliphatic HC | 6.97 | TIC | 728829 | 29.80 | ug/m3 | 100 |
| 2) C5-C8 Aliphatic HC {2} | 9.29 | TIC | 810951 | 38.30 | ug/m3 | 100 |
| 3) C5-C8 Aliphatic HC {3} | 10.96 | TIC | 1023448 | 44.11 | ug/m3 | 100 |
| 4) C5-C8 Aliphatic HC {4} | 11.04 | TIC | 826261 | 37.97 | ug/m3 | 100 |
| 5) C5-C8 Aliphatic HC {5} | 11.60 | TIC | 998239 | 45.01 | ug/m3 | 100 |
| 6) C5-C8 Aliphatic HC {6} | 13.97 | TIC | 1139311 | 52.60 | ug/m3 | 100 |
| 7) C5-C8 Aliphatic HC - TOTAL | 6.97 | TIC | 5527039m | 247.62 | ug/m3 | |
| 8) C9-C12 Aliphatic HC | 15.37 | TIC | 1364625 | 59.33 | ug/m3 | 100 |
| 9) C9-C12 Aliphatic HC {2} | 16.23 | TIC | 807377m | 52.60 | ug/m3 | |
| 10) C9-C12 Aliphatic HC {3} | 18.34 | TIC | 1325155 | 67.39 | ug/m3 | 100 |
| 11) C9-C12 Aliphatic HC {4} | 19.48 | TIC | 1314253 | 68.19 | ug/m3 | 100 |
| 12) C9-C12 Aliphatic HC {5} | 20.30 | TIC | 1186103 | 79.07 | ug/m3 | 100 |
| 13) C9-C12 Aliphatic HC {6} | 22.12 | TIC | 980045 | 89.24 | ug/m3 | 100 |
| 14) C9-C12 Aliphatic HC - TOTA | 15.37 | TIC | 6977558m | 414.47 | ug/m3 | |
| 15) C9-C10 Aromatic HC | 17.63 | 120 | 99826 | 56.20 | ug/m3 | 100 |
| 16) C9-C10 Aromatic HC {2} | 18.43 | 120 | 102444 | 55.49 | ug/m3 | 100 |
| 17) C9-C10 Aromatic HC {3} | 18.56 | 120 | 151387 | 56.72 | ug/m3 | 100 |
| 18) C9-C10 Aromatic HC {4} | 19.68 | 120 | 32939 | 63.84 | ug/m3 | 100 |
| 19) C9-C10 Aromatic HC {5} | 19.94 | 120 | 113249 | 57.04 | ug/m3 | 100 |
| 20) C9-C10 Aromatic HC {6} | 19.68 | 134 | 89035 | 64.73 | ug/m3 | 100 |
| 21) C9-C10 Aromatic HC - TOTAL | 18.00 | TIC | 588880m | 290.09 | ug/m3 | |

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

Quantitation Report

Data File : C:\HPCHEM\1\DATA\011413B\01141341.D Vial: 2
Acq On : 15 Jan 2013 7:31 pm Operator: RACHEL HILL
Sample : CCV VOA9 011513 Inst : GC/MS Ins
Misc : ICV MA_APH Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jan 16 11:00 2013 Quant Results File: 011413V9.RES

Method : C:\HPCHEM\1\METHODS\011413V9.M (RTE Integrator)
Title : MASS APH
Last Update : Tue Jan 15 09:31:11 2013
Response via : Initial Calibration



# Injection Log

Directory: C:\HPCHEM\1\DATA\011613

| Line | Vial | FileName | Multiplier | SampleName | Misc Info | Injected |
|---|---|---|---|---|---|---|
| 1 | 1 | 01161301.d | 1. | BFB VOA9 011613 | TUNE BFB_TUNE | 16 Jan 2013 08:56 |
| 2 | 2 | 01161302.d | 1. | CCV VOA9 011613 | CCV MA_APH | 16 Jan 2013 09:39 |
| 3 | 3 | 01161303.d | 1. | RLVS VOA9 011613 | RLVS MA_APH | 16 Jan 2013 10:26 |
| 4 | 4 | 01161304.d | 1. | MBLK VOA9 011613 | MBLK MA_APH | 16 Jan 2013 11:16 |
| 5 | 5 | 01161305.d | 800. | 1212960-005A | data not used | 16 Jan 2013 12:01 |
| 6 | 6 | 01161306.d | 40. | 1212960-005A | SAMP MA_APH | 16 Jan 2013 12:44 |
| 7 | 7 | 01161307.d | 800. | 1212959-009A | SAMP MA_APH | 16 Jan 2013 13:30 |
| 8 | 8 | 01161308.d | 40. | 1212959-043A | SAMP MA_APH | 16 Jan 2013 14:13 |
| 9 | 9 | 01161309.d | 800. | 1212959-016A | SAMP MA_APH | 16 Jan 2013 14:58 |
| 10 | 10 | 01161310.d | 800. | 1212959-014A | SAMP MA_APH | 16 Jan 2013 15:44 |
| 11 | 3 | 01161311.d | 800. | 1212959-029A | data not used | 16 Jan 2013 16:29 |
| 12 | 4 | 01161312.d | 1600. | 1212959-029A | SAMP MA_APH | 16 Jan 2013 17:13 |
| 13 | 4 | 01161313.d | 800. | 1212959-017A | data not used | 16 Jan 2013 17:59 |
| 14 | 5 | 01161314.d | 800. | 1212959-018A | data not used | 16 Jan 2013 18:44 |
| 15 | 6 | 01161315.d | 8000. | 1212959-006A | SAMP MA_APH | 16 Jan 2013 19:28 |
| 16 | 7 | 01161316.d | 800. | 1212959-028A | data not used | 16 Jan 2013 20:13 |
| 17 | 7 | 01161317.d | 800. | 1212959-028A | data not used | 16 Jan 2013 20:59 |
| 18 | 7 | 01161318.d | 8000. | 1212959-028A | SAMP MA_APH | 16 Jan 2013 21:42 |
| 19 | 8 | 01161319.d | 20000. | 1212960-002A | SAMP MA_APH | 16 Jan 2013 22:26 |
| 20 | 9 | 01161320.d | 20000. | 1212960-003A | SAMP MA_APH | 16 Jan 2013 23:09 |
| 21 | 10 | 01161321.d | 800. | 1212960-004A | SAMP MA_APH | 16 Jan 2013 23:55 |
| 22 | 10 | 01161322.d | 800. | 1212960-004ADUP | DUP MA_APH | 17 Jan 2013 00:40 |
| 23 | 11 | 01161323.d | 8000. | 1212960-006A | SAMP MA_APH | 17 Jan 2013 01:23 |
| 24 | 12 | 01161324.d | 800. | 1212960-007A | SAMP MA_APH | 17 Jan 2013 02:08 |
| 25 | 21 | 01161325.d | 8000. | 1212960-008A | data not used | 17 Jan 2013 02:56 |
| 26 | 4 | 01161326.d | 1600. | 1212959-017A | SAMP MA_APH | 17 Jan 2013 03:39 |
| 27 | 5 | 01161327.d | 1600. | 1212959-018A | SAMP MA_APH | 17 Jan 2013 04:23 |
| 28 | 21 | 01161328.d | 8000. | 1212960-008A | SAMP MA_APH | 17 Jan 2013 07:37 |
| 29 | 3 | 01161329.d | 1. | RLVS2 VOA9 011613 | data not used | 17 Jan 2013 08:20 |
| 30 | 4 | 01161330.d | 1. | RLVS2 VOA9 011613 | RLVS MA_APH | 17 Jan 2013 09:14 |

# RTI Laboratories

# ANALYTICAL RUN Summary

*17-Jan-13*

**RunNo** 55474

| Seq No | Sample ID | Test Code | Sample Typ | File ID | Analysis Date | DF | Batch ID | Prep Date | SPKref | RPDref | pmoist |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1093291 | BFB VOA9 011613 | BFB_TUNE | TUNE | \\1\DATA\011613\ | 1/16/2013 8:56:0 | 1 | R55474 | | 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 | | 66.1 | 66.1 | | 100 | 0 | 0 | 0 | 0 | 0 | 66% | 50 | 200 | 0% | |
| 175 | M | | 7.7 | 7.7 | | 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 | | 6.8 | 6.8 | | 100 | 0 | 0 | 0 | 0 | 0 | 7% | 5 | 9 | 0% | |
| 50 | M | | 21.8 | 21.8 | | 100 | 0 | 0 | 0 | 0 | 0 | 22% | 8 | 40 | 0% | |
| 75 | M | | 45.3 | 45.3 | | 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 | | 6.5 | 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1093292 | CCV VOA9 011613 | MA_APH | CCV | \\1\DATA\011613\ | 1/16/2013 9:39:0 | 1 | R55474 | | 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 | 254.84 | 254.84 | | 234 | 0 | 0 | 0 | 0 | 0 | 109% | 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 | 304.77 | 304.77 | | 266 | 0 | 0 | 0 | 0 | 0 | 115% | 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 | 430.56 | 430.56 | | 378 | 0 | 0 | 0 | 0 | 0 | 114% | 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 | 86.77 | 86.77 | | 89.5 | 0 | 0 | 0 | 0 | 0 | 97% | 70 | 130 | 0% | |

# Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\011613\01161302.D  Vial: 2
Acq On : 16 Jan 2013 9:39 am  Operator: RACHEL HILL
Sample : CCV VOA9 011613  Inst : GC/MS Ins
Misc : CCV MA_APH  Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\HPCHEM\1\METHODS\011413V9.M (RTE Integrator)
Title : MASS APH
Last Update : Tue Jan 15 09:31:11 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 | 31.122 | -6.6 | 102 | 0.00 |
| 2 | L1 | C5-C8 Aliphatic HC {2} | 36.400 | 39.415 | -8.3 | 100 | 0.00 |
| 3 | L1 | C5-C8 Aliphatic HC {3} | 41.800 | 45.986 | -10.0 | 102 | 0.00 |
| 4 | L1 | C5-C8 Aliphatic HC {4} | 35.400 | 37.909 | -7.1 | 99 | 0.00 |
| 5 | L1 | C5-C8 Aliphatic HC {5} | 42.200 | 46.395 | -9.9 | 102 | 0.00 |
| 6 | L1 | C5-C8 Aliphatic HC {6} | 49.000 | 54.088 | -10.4 | 100 | 0.00 |
| 7 | L1 | C5-C8 Aliphatic HC - TOTAL | 234.000 | 254.837 | -8.9 | 101 | 0.00 |
| 8 | L1 | C9-C12 Aliphatic HC | 54.600 | 61.258 | -12.2 | 102 | 0.00 |
| 9 | L1 | C9-C12 Aliphatic HC {2} | 54.600 | 53.277 | 2.4 | 100 | 0.00 |
| 10 | L1 | C9-C12 Aliphatic HC {3} | 61.200 | 69.638 | -13.8 | 103 | 0.00 |
| 11 | L1 | C9-C12 Aliphatic HC {4} | 60.800 | 70.449 | -15.9 | 105 | -0.01 |
| 12 | L1 | C9-C12 Aliphatic HC {5} | 70.000 | 83.425 | -19.2 | 105 | -0.01 |
| 13 | L1 | C9-C12 Aliphatic HC {6} | 77.000 | 94.983 | -23.4 | 103 | 0.00 |
| 14 | L1 | C9-C12 Aliphatic HC - TOTAL | 378.000 | 430.560 | -13.9 | 103 | 0.00 |
| 15 | L1 | C9-C10 Aromatic HC | 51.700 | 59.077 | -14.3 | 103 | 0.00 |
| 16 | L1 | C9-C10 Aromatic HC {2} | 51.200 | 57.908 | -13.1 | 102 | 0.00 |
| 17 | L1 | C9-C10 Aromatic HC {3} | 52.200 | 59.641 | -14.3 | 103 | 0.00 |
| 18 | L1 | C9-C10 Aromatic HC {4} | 58.700 | 67.909 | -15.7 | 104 | -0.01 |
| 19 | L1 | C9-C10 Aromatic HC {5} | 52.600 | 59.756 | -13.6 | 103 | 0.00 |
| 20 | L1 | C9-C10 Aromatic HC {6} | 58.700 | 68.333 | -16.4 | 104 | 0.00 |
| 21 | L1 | C9-C10 Aromatic HC - TOTAL | 266.000 | 304.767 | -14.6 | 103 | -0.01 |
| 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 | 109 | 0.00 |
| 41 | S | 4-Bromofluorobenzene | 89.500 | 86.770 | 3.1 | 106 | -0.01 |

(#) = Out of Range  SPCC's out = 0  CCC's out = 0

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\011613\01161302.D Vial: 2
Acq On : 16 Jan 2013 9:39 am Operator: RACHEL HILL
Sample : CCV VOA9 011613 Inst : GC/MS Ins
Misc : CCV MA_APH Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jan 16 15:30 2013 Quant Results File: 011413V9.RES

Quant Method : C:\HPCHEM\1\METHODS\011413V9.M (RTE Integrator)
Title : MASS APH
Last Update : Tue Jan 15 09:31:11 2013
Response via : Initial Calibration
DataAcq Meth : 011413V9

| Internal Standards | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 40) Chlorobenzene-d5 | 16.17 | 117 | 291363 | 12.50 | ug/m3 | 0.00 |

System Monitoring Compounds

| | | | | | | |
|---|---|---|---|---|---|---|
| 41) 4-Bromofluorobenzene | 18.00 | 95 | 184287 | 86.77 | ug/m3 | -0.01 |

Spiked Amount 89.500 Range 70 - 130 Recovery = 96.95%

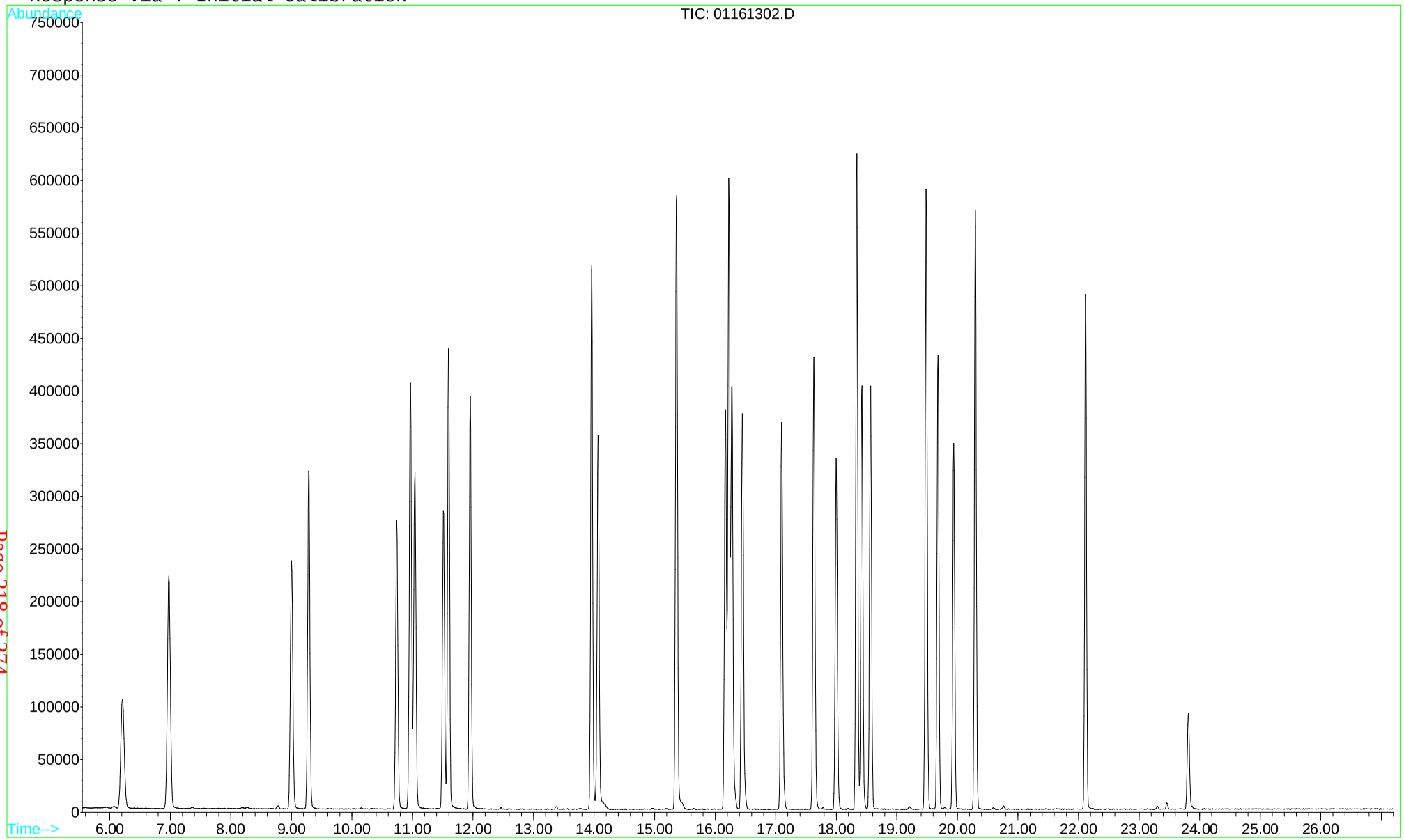
| Target Compounds | | | | | | Qvalue |
|---|---|---|---|---|---|---|
| 1) C5-C8 Aliphatic HC | 6.98 | TIC | 761164 | 31.12 | ug/m3 | 100 |
| 2) C5-C8 Aliphatic HC {2} | 9.28 | TIC | 834552 | 39.41 | ug/m3 | 100 |
| 3) C5-C8 Aliphatic HC {3} | 10.97 | TIC | 1066921 | 45.99 | ug/m3 | 100 |
| 4) C5-C8 Aliphatic HC {4} | 11.04 | TIC | 824954 | 37.91 | ug/m3 | 100 |
| 5) C5-C8 Aliphatic HC {5} | 11.59 | TIC | 1028928 | 46.40 | ug/m3 | 100 |
| 6) C5-C8 Aliphatic HC {6} | 13.96 | TIC | 1171658 | 54.09 | ug/m3 | 100 |
| 7) C5-C8 Aliphatic HC - TOTAL | 6.98 | TIC | 5688177m | 254.84 | ug/m3 | |
| 8) C9-C12 Aliphatic HC | 15.36 | TIC | 1408910 | 61.26 | ug/m3 | 100 |
| 9) C9-C12 Aliphatic HC {2} | 16.22 | TIC | 817804m | 53.28 | ug/m3 | |
| 10) C9-C12 Aliphatic HC {3} | 18.34 | TIC | 1369387 | 69.64 | ug/m3 | 100 |
| 11) C9-C12 Aliphatic HC {4} | 19.48 | TIC | 1357747 | 70.45 | ug/m3 | 100 |
| 12) C9-C12 Aliphatic HC {5} | 20.29 | TIC | 1251497 | 83.43 | ug/m3 | 100 |
| 13) C9-C12 Aliphatic HC {6} | 22.12 | TIC | 1043125 | 94.98 | ug/m3 | 100 |
| 14) C9-C12 Aliphatic HC - TOTA | 15.36 | TIC | 7248470m | 430.56 | ug/m3 | |
| 15) C9-C10 Aromatic HC | 17.63 | 120 | 104938 | 59.08 | ug/m3 | 100 |
| 16) C9-C10 Aromatic HC {2} | 18.42 | 120 | 106905 | 57.91 | ug/m3 | 100 |
| 17) C9-C10 Aromatic HC {3} | 18.57 | 120 | 159171 | 59.64 | ug/m3 | 100 |
| 18) C9-C10 Aromatic HC {4} | 19.67 | 120 | 35040 | 67.91 | ug/m3 | 100 |
| 19) C9-C10 Aromatic HC {5} | 19.94 | 120 | 118633 | 59.76 | ug/m3 | 100 |
| 20) C9-C10 Aromatic HC {6} | 19.68 | 134 | 93984 | 68.33 | ug/m3 | 100 |
| 21) C9-C10 Aromatic HC - TOTAL | 18.00 | TIC | 618671m | 304.77 | ug/m3 | |

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

Quantitation Report

Data File : C:\HPCHEM\1\DATA\011613\01161302.D Vial: 2
Acq On : 16 Jan 2013 9:39 am Operator: RACHEL HILL
Sample : CCV VOA9 011613 Inst : GC/MS Ins
Misc : CCV MA_APH Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jan 16 15:30 2013 Quant Results File: 011413V9.RES

Method : C:\HPCHEM\1\METHODS\011413V9.M (RTE Integrator)
Title : MASS APH
Last Update : Tue Jan 15 09:31:11 2013
Response via : Initial Calibration



Response Factor Report GC/MS Ins

Method : C:\HPCHEM\1\METHODS\010613V9.M (RTE Integrator)
Title : MASS APH
Last Update : Mon Jan 07 17:03:40 2013
Response via : Initial Calibration

Calibration Files
1 =01061303.D 2 =01061304.D 3 =01061305.D
4 =01061306.D 5 =01061307.D 6 =01061308.D

| | | Compound | 1 | 2 | 3 | 4 | 5 | 6 | Avg | | %RSD |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1) | L1 | C5-C8 Aliphatic HC | 2.527 | 2.531 | 2.512 | 2.453 | 2.402 | 2.253 | 2.400 | E4 | 6.55 |
| 2) | L1 | C5-C8 Aliphatic HC | 2.290 | 2.223 | 2.247 | 1.962 | 2.056 | 1.799 | 2.044 | E4 | 10.88 |
| 3) | L1 | C5-C8 Aliphatic HC | 2.505 | 2.493 | 2.481 | 2.192 | 2.283 | 1.980 | 2.256 | E4 | 11.57 |
| 4) | L1 | C5-C8 Aliphatic HC | 2.339 | 2.245 | 2.301 | 2.011 | 2.070 | 1.843 | 2.091 | E4 | 10.08 |
| 5) | L1 | C5-C8 Aliphatic HC | 2.411 | 2.362 | 2.348 | 2.100 | 2.151 | 1.882 | 2.147 | E4 | 11.52 |
| 6) | L1 | C5-C8 Aliphatic HC | 2.409 | 2.319 | 2.314 | 2.034 | 2.078 | 1.820 | 2.095 | E4 | 12.96 |
| 7) | L1 | C5-C8 Aliphatic HC | 2.412 | 2.358 | 2.360 | 2.114 | 2.165 | 1.913 | 2.163 | E4 | 10.74 |
| 8) | L1 | C9-C12 Aliphatic HC | 2.594 | 2.484 | 2.462 | 2.157 | 2.239 | 1.907 | 2.232 | E4 | 13.70 |
| 9) | L1 | C9-C12 Aliphatic HC | 1.211 | 1.498 | 1.507 | 1.379 | 1.576 | 1.488 | 1.451 | E4 | 8.32 |
| 10) | L1 | C9-C12 Aliphatic HC | 2.184 | 2.121 | 2.134 | 1.854 | 1.907 | 1.648 | 1.908 | E4 | 13.61 |
| 11) | L1 | C9-C12 Aliphatic HC | 2.175 | 2.065 | 2.072 | 1.825 | 1.857 | 1.600 | 1.872 | E4 | 13.35 |
| 12) | L1 | C9-C12 Aliphatic HC | 1.634 | 1.660 | 1.669 | 1.483 | 1.480 | 1.223 | 1.481 | E4 | 13.13 |
| 13) | L1 | C9-C12 Aliphatic HC | 1.119 | 1.291 | 1.280 | 1.093 | 1.149 | 0.869 | 1.097 | E4 | 15.46 |
| 14) | L1 | C9-C12 Aliphatic HC | 1.783 | 1.821 | 1.821 | 1.601 | 1.666 | 1.417 | 1.640 | E4 | 11.49 |
| 15) | L1 | C9-C10 Aromatic HC | 1.948 | 1.894 | 1.900 | 1.671 | 1.723 | 1.473 | 1.710 | E3 | 13.18 |
| 16) | L1 | C9-C10 Aromatic HC | 1.940 | 1.966 | 1.973 | 1.740 | 1.799 | 1.562 | 1.779 | E3 | 11.31 |
| 17) | L1 | C9-C10 Aromatic HC | 2.815 | 2.863 | 2.852 | 2.577 | 2.568 | 2.223 | 2.573 | E3 | 11.85 |
| 18) | L1 | C9-C10 Aromatic HC | 5.113 | 5.557 | 5.658 | 4.942 | 5.074 | 4.383 | 4.991 | E2 | 10.89 |
| 19) | L1 | C9-C10 Aromatic HC | 1.982 | 2.122 | 2.148 | 1.926 | 1.964 | 1.707 | 1.925 | E3 | 10.13 |
| 20) | L1 | C9-C10 Aromatic HC | 1.372 | 1.456 | 1.505 | 1.328 | 1.352 | 1.168 | 1.325 | E3 | 11.10 |
| 21) | L1 | C9-C10 Aromatic HC | 2.112 | 2.172 | 2.184 | 1.940 | 1.974 | 1.714 | 1.959 | E3 | 11.37 |
| 22) | | C5-C8 Aliphatic | 2.412 | 2.358 | 2.360 | 2.114 | 2.165 | 1.913 | 2.163 | E4 | 10.74 |
| 23) | L1 | non C5-C8 | 1.783 | 1.778 | 1.767 | 1.745 | 1.689 | 1.644 | 1.714 | E4 | 4.36 |
| 24) | L1 | non C5-C8 {2} | 1.620 | 1.735 | 1.753 | 1.494 | 1.609 | 1.337 | 1.550 | E4 | 11.62 |
| 25) | L1 | non C5-C8 {3} | 0.978 | 0.982 | 1.024 | 1.067 | 1.056 | 1.078 | 1.039 | E4 | 4.37 |
| 26) | L1 | non C5-C8 {4} | 2.161 | 2.115 | 2.109 | 1.710 | 1.900 | 1.563 | 1.869 | E4 | 14.52 |
| 27) | L1 | non C5-C8 {5} | 1.431 | 1.473 | 1.527 | 1.602 | 1.580 | 1.612 | 1.553 | E4 | 5.06 |
| 28) | L1 | non C5-C8 {6} | 2.181 | 2.183 | 2.198 | 1.839 | 2.014 | 1.665 | 1.955 | E4 | 13.00 |
| 29) | L1 | non C5-C8 - TOTAL | 1.454 | 1.600 | 1.660 | 1.550 | 1.650 | 1.494 | 1.555 | E4 | 5.43 |
| 30) | | C9-C12 Aliphatic | 1.783 | 1.821 | 1.821 | 1.601 | 1.666 | 1.417 | 1.640 | E4 | 11.49 |
| 31) | L1 | non C9-C12 | 1.370 | 1.345 | 1.489 | 1.480 | 1.452 | 1.478 | 1.461 | E4 | 5.95 |
| 32) | L1 | non C9-C12 {2} | 1.975 | 1.947 | 1.814 | 1.728 | 1.646 | 1.264 | 1.739 | E4 | 13.73 |
| 33) | L1 | non C9-C12 {3} | 1.981 | 1.973 | 1.991 | 1.731 | 1.822 | 1.576 | 1.798 | E4 | 11.11 |
| 34) | L1 | non C9-C12 {4} | 1.945 | 1.908 | 1.933 | 1.680 | 1.776 | 1.523 | 1.747 | E4 | 11.39 |
| 35) | L1 | non C9-C12 {5} | 7.978 | 8.155 | 8.558 | 9.107 | 8.953 | 9.453 | 8.873 | E3 | 7.82 |
| 36) | L1 | non C9-C12 - TOTAL | 1.175 | 1.232 | 1.263 | 1.193 | 1.212 | 1.063 | 1.184 | E4 | 5.47 |
| 37) | L1 | C9-C10 Aromatic | 2.112 | 2.172 | 2.184 | 1.940 | 1.974 | 1.714 | 1.959 | E3 | 11.37 |
| 38) | L1 | C9-C10 Aromatic {2} | 2.112 | 2.172 | 2.184 | 1.940 | 1.974 | 1.714 | 1.959 | E3 | 11.37 |
| 39) | L1 | C9-C10 Aromatic - T | 2.112 | 2.172 | 2.184 | 1.940 | 1.974 | 1.714 | 1.959 | E3 | 11.37 |
| 40) | I | Chlorobenzene-d5 | ----------ISTD---------- | | | | | | | | |
| 41) | S | 4-Bromofluorobenzen | 0.087 | 0.088 | 0.088 | 0.088 | 0.088 | 0.091 | 0.089 | | 2.30 |

(#) = Out of Range ### Number of calibration levels exceeded format ###

Compound List Report GC/MS Ins

Method : C:\HPCHEM\1\METHODS\010613V9.M (RTE Integrator)
Title : MASS APH
Last Update : Mon Jan 07 17:03:40 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

010613V9.M Tue Jan 08 09:28:44 2013

# Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\010613B\01061312.D  Vial: 3
Acq On : 7 Jan 2013 9:21 am  Operator: RACHEL HILL
Sample : ICV VOA9 010613  Inst : GC/MS Ins
Misc : ICV MA_APH  Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\HPCHEM\1\METHODS\010613V9.M (RTE Integrator)
Title : MASS APH
Last Update : Mon Jan 07 17:03:40 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 | 31.929 | -9.3 | 104 | 0.00 |
| 2 | L1 | C5-C8 Aliphatic HC {2} | 36.400 | 36.695 | -0.8 | 93 | 0.00 |
| 3 | L1 | C5-C8 Aliphatic HC {3} | 41.800 | 42.017 | -0.5 | 91 | 0.00 |
| 4 | L1 | C5-C8 Aliphatic HC {4} | 35.400 | 35.940 | -1.5 | 95 | 0.00 |
| 5 | L1 | C5-C8 Aliphatic HC {5} | 42.200 | 42.515 | -0.7 | 92 | 0.00 |
| 6 | L1 | C5-C8 Aliphatic HC {6} | 49.000 | 50.924 | -3.9 | 94 | 0.00 |
| 7 | L1 | C5-C8 Aliphatic HC - TOTAL | 234.000 | 240.197 | -2.6 | 94 | 0.00 |
| 8 | L1 | C9-C12 Aliphatic HC | 54.600 | 56.039 | -2.6 | 92 | 0.00 |
| 9 | L1 | C9-C12 Aliphatic HC {2} | 54.600 | 47.100 | 13.7 | 84 | 0.00 |
| 10 | L1 | C9-C12 Aliphatic HC {3} | 61.200 | 64.415 | -5.3 | 95 | 0.00 |
| 11 | L1 | C9-C12 Aliphatic HC {4} | 60.800 | 65.348 | -7.5 | 97 | -0.01 |
| 12 | L1 | C9-C12 Aliphatic HC {5} | 70.000 | 73.844 | -5.5 | 94 | -0.01 |
| 13 | L1 | C9-C12 Aliphatic HC {6} | 77.000 | 82.622 | -7.3 | 91 | 0.00 |
| 14 | L1 | C9-C12 Aliphatic HC - TOTAL | 378.000 | 389.572 | -3.1 | 93 | 0.00 |
| 15 | L1 | C9-C10 Aromatic HC | 51.700 | 53.797 | -4.1 | 94 | 0.00 |
| 16 | L1 | C9-C10 Aromatic HC {2} | 51.200 | 53.501 | -4.5 | 95 | 0.00 |
| 17 | L1 | C9-C10 Aromatic HC {3} | 52.200 | 55.258 | -5.9 | 95 | 0.00 |
| 18 | L1 | C9-C10 Aromatic HC {4} | 58.700 | 63.259 | -7.8 | 97 | 0.00 |
| 19 | L1 | C9-C10 Aromatic HC {5} | 52.600 | 56.245 | -6.9 | 97 | 0.00 |
| 20 | L1 | C9-C10 Aromatic HC {6} | 58.700 | 64.279 | -9.5 | 100 | 0.00 |
| 21 | L1 | C9-C10 Aromatic HC - TOTAL | 266.000 | 283.018 | -6.4 | 96 | -0.01 |
| 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 | 114 | 0.00 |
| 41 | S | 4-Bromofluorobenzene | 89.500 | 88.899 | 0.7 | 114 | -0.01 |

(#) = Out of Range  SPCC's out = 0  CCC's out = 0

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\010613B\01061312.D Vial: 3
Acq On : 7 Jan 2013 9:21 am Operator: RACHEL HILL
Sample : ICV VOA9 010613 Inst : GC/MS Ins
Misc : ICV MA_APH Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jan 8 9:04 2013 Quant Results File: 010613V9.RES

Quant Method : C:\HPCHEM\1\METHODS\010613V9.M (RTE Integrator)
Title : MASS APH
Last Update : Mon Jan 07 17:03:40 2013
Response via : Initial Calibration
DataAcq Meth : 010613V9

| Internal Standards | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 40) Chlorobenzene-d5 | 16.17 | 117 | 296856 | 12.50 | ug/m3 | 0.00 |

System Monitoring Compounds

| | | | | | | |
|---|---|---|---|---|---|---|
| 41) 4-Bromofluorobenzene | 18.00 | 95 | 187782 | 88.90 | ug/m3 | -0.01 |

Spiked Amount 89.500 Range 70 - 130 Recovery = 99.33%

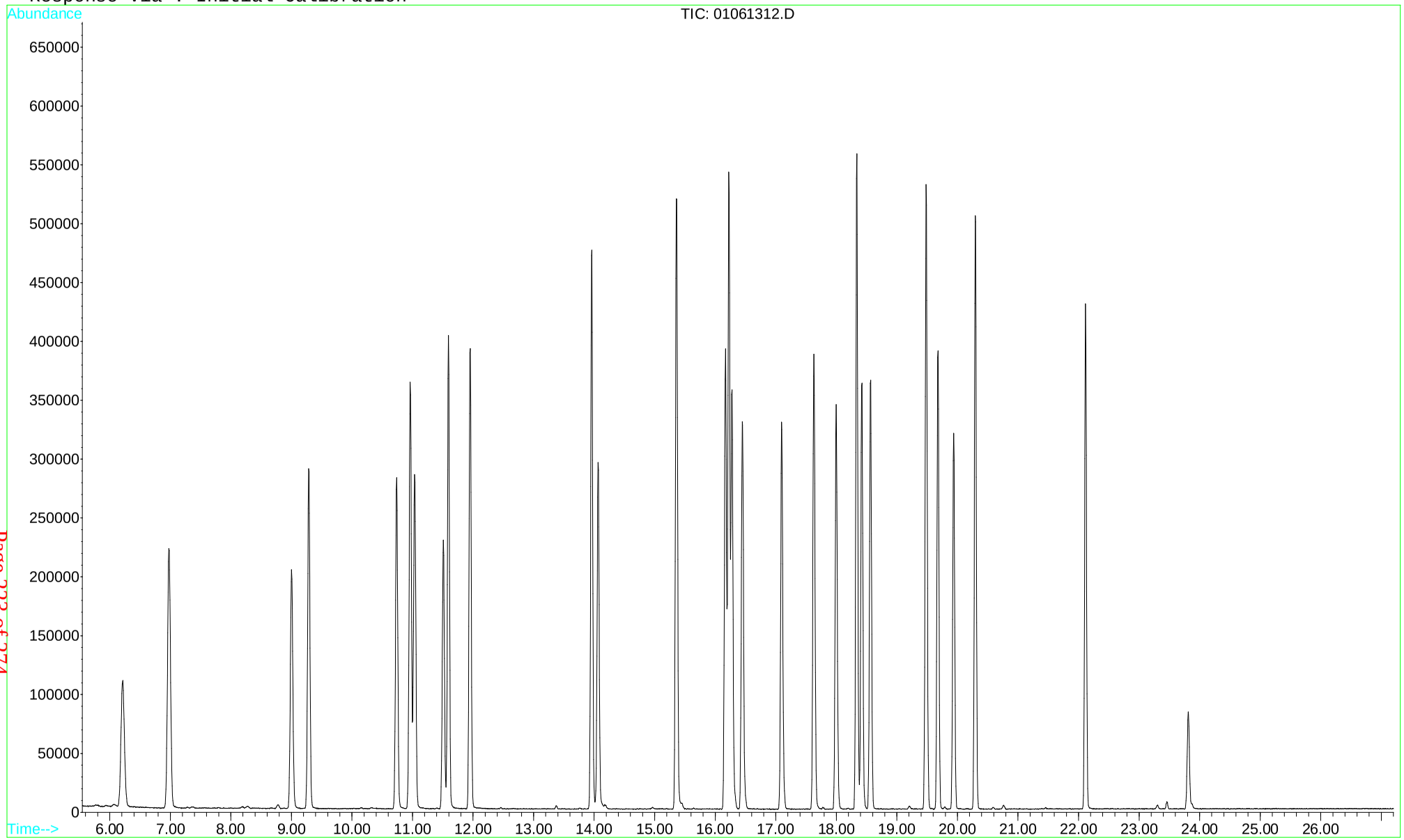
| Target Compounds | | | | | | Qvalue |
|---|---|---|---|---|---|---|
| 1) C5-C8 Aliphatic HC | 6.98 | TIC | 766212 | 31.93 | ug/m3 | 100 |
| 2) C5-C8 Aliphatic HC {2} | 9.28 | TIC | 750153 | 36.69 | ug/m3 | 100 |
| 3) C5-C8 Aliphatic HC {3} | 10.96 | TIC | 947916 | 42.02 | ug/m3 | 100 |
| 4) C5-C8 Aliphatic HC {4} | 11.03 | TIC | 751567 | 35.94 | ug/m3 | 100 |
| 5) C5-C8 Aliphatic HC {5} | 11.59 | TIC | 912837 | 42.51 | ug/m3 | 100 |
| 6) C5-C8 Aliphatic HC {6} | 13.96 | TIC | 1066620 | 50.92 | ug/m3 | 100 |
| 7) C5-C8 Aliphatic HC - TOTAL | 6.98 | TIC | 5195305m | 240.20 | ug/m3 | |
| 8) C9-C12 Aliphatic HC | 15.36 | TIC | 1250969 | 56.04 | ug/m3 | 100 |
| 9) C9-C12 Aliphatic HC {2} | 16.22 | TIC | 683627m | 47.10 | ug/m3 | |
| 10) C9-C12 Aliphatic HC {3} | 18.34 | TIC | 1228825 | 64.41 | ug/m3 | 100 |
| 11) C9-C12 Aliphatic HC {4} | 19.48 | TIC | 1223582 | 65.35 | ug/m3 | 100 |
| 12) C9-C12 Aliphatic HC {5} | 20.29 | TIC | 1093665 | 73.84 | ug/m3 | 100 |
| 13) C9-C12 Aliphatic HC {6} | 22.12 | TIC | 906668 | 82.62 | ug/m3 | 100 |
| 14) C9-C12 Aliphatic HC - TOTA | 15.36 | TIC | 6387336m | 389.57 | ug/m3 | |
| 15) C9-C10 Aromatic HC | 17.63 | 120 | 92018 | 53.80 | ug/m3 | 100 |
| 16) C9-C10 Aromatic HC {2} | 18.42 | 120 | 95159 | 53.50 | ug/m3 | 100 |
| 17) C9-C10 Aromatic HC {3} | 18.57 | 120 | 142155 | 55.26 | ug/m3 | 100 |
| 18) C9-C10 Aromatic HC {4} | 19.68 | 120 | 31570 | 63.26 | ug/m3 | 100 |
| 19) C9-C10 Aromatic HC {5} | 19.94 | 120 | 108294 | 56.25 | ug/m3 | 100 |
| 20) C9-C10 Aromatic HC {6} | 19.68 | 134 | 85175 | 64.28 | ug/m3 | 100 |
| 21) C9-C10 Aromatic HC - TOTAL | 18.00 | TIC | 554371m | 283.02 | ug/m3 | |

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

Quantitation Report

Data File : C:\HPCHEM\1\DATA\010613B\01061312.D Vial: 3
Acq On : 7 Jan 2013 9:21 am Operator: RACHEL HILL
Sample : ICV VOA9 010613 Inst : GC/MS Ins
Misc : ICV MA_APH Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jan 8 9:04 2013 Quant Results File: 010613V9.RES

Method : C:\HPCHEM\1\METHODS\010613V9.M (RTE Integrator)
Title : MASS APH
Last Update : Mon Jan 07 17:03:40 2013
Response via : Initial Calibration



Response Factor Report GC/MS Ins

Method : C:\HPCHEM\1\METHODS\011413V9.M (RTE Integrator)
Title : MASS APH
Last Update : Tue Jan 15 09:31:11 2013
Response via : Initial Calibration

Calibration Files
1 =01141303.D 2 =01141304.D 3 =01141305.D
4 =01141306.D 5 =01141307.D 6 =01141308.D

| | | Compound | 1 | 2 | 3 | 4 | 5 | 6 | Avg | | %RSD |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1) | L1 | C5-C8 Aliphatic HC | 2.728 | 2.546 | 2.521 | 2.469 | 2.418 | 2.284 | 2.446 | E4 | 7.60 |
| 2) | L1 | C5-C8 Aliphatic HC | 2.335 | 2.282 | 2.263 | 2.149 | 2.061 | 1.920 | 2.117 | E4 | 9.29 |
| 3) | L1 | C5-C8 Aliphatic HC | 2.590 | 2.496 | 2.473 | 2.313 | 2.311 | 2.076 | 2.320 | E4 | 9.67 |
| 4) | L1 | C5-C8 Aliphatic HC | 2.365 | 2.364 | 2.308 | 2.248 | 2.073 | 2.000 | 2.176 | E4 | 8.93 |
| 5) | L1 | C5-C8 Aliphatic HC | 2.441 | 2.388 | 2.396 | 2.247 | 2.186 | 2.002 | 2.218 | E4 | 9.79 |
| 6) | L1 | C5-C8 Aliphatic HC | 2.441 | 2.385 | 2.342 | 2.185 | 2.117 | 1.921 | 2.166 | E4 | 11.52 |
| 7) | L1 | C5-C8 Aliphatic HC | 2.476 | 2.406 | 2.378 | 2.261 | 2.188 | 2.019 | 2.232 | E4 | 9.54 |
| 8) | L1 | C9-C12 Aliphatic HC | 2.573 | 2.538 | 2.494 | 2.351 | 2.246 | 2.034 | 2.300 | E4 | 11.71 |
| 9) | L1 | C9-C12 Aliphatic HC | 1.265 | 1.499 | 1.620 | 1.594 | 1.642 | 1.566 | 1.535 | E4 | 8.31 |
| 10) | L1 | C9-C12 Aliphatic HC | 2.151 | 2.181 | 2.155 | 2.022 | 1.935 | 1.730 | 1.966 | E4 | 11.66 |
| 11) | L1 | C9-C12 Aliphatic HC | 2.181 | 2.132 | 2.091 | 1.970 | 1.858 | 1.692 | 1.927 | E4 | 12.07 |
| 12) | L1 | C9-C12 Aliphatic HC | 1.563 | 1.706 | 1.665 | 1.557 | 1.439 | 1.313 | 1.500 | E4 | 11.37 |
| 13) | L1 | C9-C12 Aliphatic HC | 1.039 | 1.309 | 1.285 | 1.193 | 1.060 | 0.906 | 1.098 | E4 | 15.40 |
| 14) | L1 | C9-C12 Aliphatic HC | 1.754 | 1.862 | 1.849 | 1.745 | 1.656 | 1.500 | 1.683 | E4 | 10.08 |
| 15) | L1 | C9-C10 Aromatic HC | 1.951 | 1.965 | 1.929 | 1.840 | 1.733 | 1.569 | 1.776 | E3 | 11.44 |
| 16) | L1 | C9-C10 Aromatic HC | 1.927 | 2.038 | 2.029 | 1.904 | 1.837 | 1.646 | 1.846 | E3 | 10.20 |
| 17) | L1 | C9-C10 Aromatic HC | 2.822 | 2.958 | 2.937 | 2.750 | 2.647 | 2.375 | 2.669 | E3 | 10.80 |
| 18) | L1 | C9-C10 Aromatic HC | 5.224 | 5.752 | 5.694 | 5.281 | 5.146 | 4.702 | 5.160 | E2 | 9.91 |
| 19) | L1 | C9-C10 Aromatic HC | 1.987 | 2.196 | 2.170 | 2.055 | 1.979 | 1.830 | 1.985 | E3 | 9.23 |
| 20) | L1 | C9-C10 Aromatic HC | 1.397 | 1.547 | 1.529 | 1.424 | 1.356 | 1.250 | 1.375 | E3 | 10.88 |
| 21) | L1 | C9-C10 Aromatic HC | 2.120 | 2.257 | 2.228 | 2.092 | 2.003 | 1.827 | 2.030 | E3 | 10.37 |
| 22) | | C5-C8 Aliphatic | 2.476 | 2.406 | 2.378 | 2.261 | 2.188 | 2.019 | 2.232 | E4 | 9.54 |
| 23) | L1 | non C5-C8 | 1.922 | 1.777 | 1.751 | 1.703 | 1.685 | 1.638 | 1.723 | E4 | 6.32 |
| 24) | L1 | non C5-C8 {2} | 1.605 | 1.802 | 1.794 | 1.681 | 1.616 | 1.491 | 1.630 | E4 | 8.72 |
| 25) | L1 | non C5-C8 {3} | 1.083 | 0.985 | 1.037 | 1.032 | 1.041 | 1.069 | 1.046 | E4 | 3.20 |
| 26) | L1 | non C5-C8 {4} | 2.090 | 2.182 | 2.176 | 1.978 | 1.922 | 1.739 | 1.963 | E4 | 10.49 |
| 27) | L1 | non C5-C8 {5} | 1.588 | 1.425 | 1.535 | 1.550 | 1.556 | 1.581 | 1.547 | E4 | 3.76 |
| 28) | L1 | non C5-C8 {6} | 2.129 | 2.255 | 2.262 | 2.081 | 2.019 | 1.817 | 2.041 | E4 | 10.14 |
| 29) | L1 | non C5-C8 - TOTAL | 1.535 | 1.619 | 1.689 | 1.646 | 1.650 | 1.590 | 1.612 | E4 | 3.44 |
| 30) | | C9-C12 Aliphatic | 1.754 | 1.862 | 1.849 | 1.745 | 1.656 | 1.500 | 1.683 | E4 | 10.08 |
| 31) | L1 | non C9-C12 | 1.551 | 1.399 | 1.481 | 1.455 | 1.489 | 1.547 | 1.497 | E4 | 3.90 |
| 32) | L1 | non C9-C12 {2} | 1.966 | 1.920 | 1.925 | 1.907 | 1.789 | 1.440 | 1.830 | E4 | 9.89 |
| 33) | L1 | non C9-C12 {3} | 1.973 | 2.052 | 2.036 | 1.913 | 1.841 | 1.684 | 1.871 | E4 | 9.31 |
| 34) | L1 | non C9-C12 {4} | 1.928 | 1.994 | 1.964 | 1.845 | 1.789 | 1.631 | 1.813 | E4 | 9.55 |
| 35) | L1 | non C9-C12 {5} | 9.329 | 8.577 | 9.030 | 9.063 | 9.265 | 9.563 | 9.257 | E3 | 4.75 |
| 36) | L1 | non C9-C12 - TOTAL | 1.266 | 1.271 | 1.300 | 1.272 | 1.251 | 1.145 | 1.243 | E4 | 4.32 |
| 37) | L1 | C9-C10 Aromatic | 2.120 | 2.257 | 2.228 | 2.092 | 2.003 | 1.827 | 2.030 | E3 | 10.37 |
| 38) | L1 | C9-C10 Aromatic {2} | 2.120 | 2.257 | 2.228 | 2.092 | 2.003 | 1.827 | 2.030 | E3 | 10.37 |
| 39) | L1 | C9-C10 Aromatic - T | 2.120 | 2.257 | 2.228 | 2.092 | 2.003 | 1.827 | 2.030 | E3 | 10.37 |
| 40) | I | Chlorobenzene-d5 | ----------ISTD---------- | | | | | | | | |
| 41) | S | 4-Bromofluorobenzen | 0.089 | 0.091 | 0.090 | 0.090 | 0.092 | 0.092 | 0.091 | | 2.05 |

(#) = Out of Range ### Number of calibration levels exceeded format ###

Compound List Report GC/MS Ins

Method : C:\HPCHEM\1\METHODS\011413V9.M (RTE Integrator)
Title : MASS APH
Last Update : Tue Jan 15 09:31:11 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

011413V9.M Tue Jan 15 12:54:17 2013

# Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\011413B\01141311.D  Vial: 2
Acq On : 14 Jan 2013 9:03 pm  Operator: RACHEL HILL
Sample : ICV VOA9 011413  Inst : GC/MS Ins
Misc : ICV MA_APH  Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\HPCHEM\1\METHODS\011413V9.M (RTE Integrator)
Title : MASS APH
Last Update : Tue Jan 15 09:31:11 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 | 31.797 | -8.9 | 105 | 0.00 |
| 2 | L1 | C5-C8 Aliphatic HC {2} | 36.400 | 40.446 | -11.1 | 103 | 0.00 |
| 3 | L1 | C5-C8 Aliphatic HC {3} | 41.800 | 46.395 | -11.0 | 103 | 0.00 |
| 4 | L1 | C5-C8 Aliphatic HC {4} | 35.400 | 39.425 | -11.4 | 103 | 0.00 |
| 5 | L1 | C5-C8 Aliphatic HC {5} | 42.200 | 46.782 | -10.9 | 103 | 0.00 |
| 6 | L1 | C5-C8 Aliphatic HC {6} | 49.000 | 55.303 | -12.9 | 103 | 0.00 |
| 7 | L1 | C5-C8 Aliphatic HC - TOTAL | 234.000 | 260.020 | -11.1 | 103 | 0.00 |
| 8 | L1 | C9-C12 Aliphatic HC | 54.600 | 62.011 | -13.6 | 103 | 0.00 |
| 9 | L1 | C9-C12 Aliphatic HC {2} | 54.600 | 56.941 | -4.3 | 107 | 0.00 |
| 10 | L1 | C9-C12 Aliphatic HC {3} | 61.200 | 70.087 | -14.5 | 103 | 0.00 |
| 11 | L1 | C9-C12 Aliphatic HC {4} | 60.800 | 70.610 | -16.1 | 105 | 0.00 |
| 12 | L1 | C9-C12 Aliphatic HC {5} | 70.000 | 81.131 | -15.9 | 102 | 0.00 |
| 13 | L1 | C9-C12 Aliphatic HC {6} | 77.000 | 90.703 | -17.8 | 99 | 0.00 |
| 14 | L1 | C9-C12 Aliphatic HC - TOTAL | 378.000 | 430.802 | -14.0 | 103 | 0.00 |
| 15 | L1 | C9-C10 Aromatic HC | 51.700 | 58.638 | -13.4 | 103 | 0.00 |
| 16 | L1 | C9-C10 Aromatic HC {2} | 51.200 | 57.853 | -13.0 | 102 | 0.00 |
| 17 | L1 | C9-C10 Aromatic HC {3} | 52.200 | 59.663 | -14.3 | 103 | 0.00 |
| 18 | L1 | C9-C10 Aromatic HC {4} | 58.700 | 68.386 | -16.5 | 105 | 0.00 |
| 19 | L1 | C9-C10 Aromatic HC {5} | 52.600 | 60.567 | -15.1 | 104 | 0.00 |
| 20 | L1 | C9-C10 Aromatic HC {6} | 58.700 | 68.576 | -16.8 | 104 | 0.00 |
| 21 | L1 | C9-C10 Aromatic HC - TOTAL | 266.000 | 305.442 | -14.8 | 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 | 110 | 0.00 |
| 41 | S | 4-Bromofluorobenzene | 89.500 | 87.885 | 1.8 | 109 | 0.00 |

(#) = Out of Range  SPCC's out = 0  CCC's out = 0

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\011413B\01141311.D Vial: 2
Acq On : 14 Jan 2013 9:03 pm Operator: RACHEL HILL
Sample : ICV VOA9 011413 Inst : GC/MS Ins
Misc : ICV MA_APH Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jan 15 9:33 2013 Quant Results File: 011413V9.RES

Quant Method : C:\HPCHEM\1\METHODS\011413V9.M (RTE Integrator)
Title : MASS APH
Last Update : Tue Jan 15 09:31:11 2013
Response via : Initial Calibration
DataAcq Meth : 011413V9

| Internal Standards | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 40) Chlorobenzene-d5 | 16.17 | 117 | 294557 | 12.50 | ug/m3 | 0.00 |

System Monitoring Compounds

| | | | | | | |
|---|---|---|---|---|---|---|
| 41) 4-Bromofluorobenzene | 18.00 | 95 | 188702 | 87.89 | ug/m3 | 0.00 |

Spiked Amount 89.500 Range 70 - 130 Recovery = 98.20%

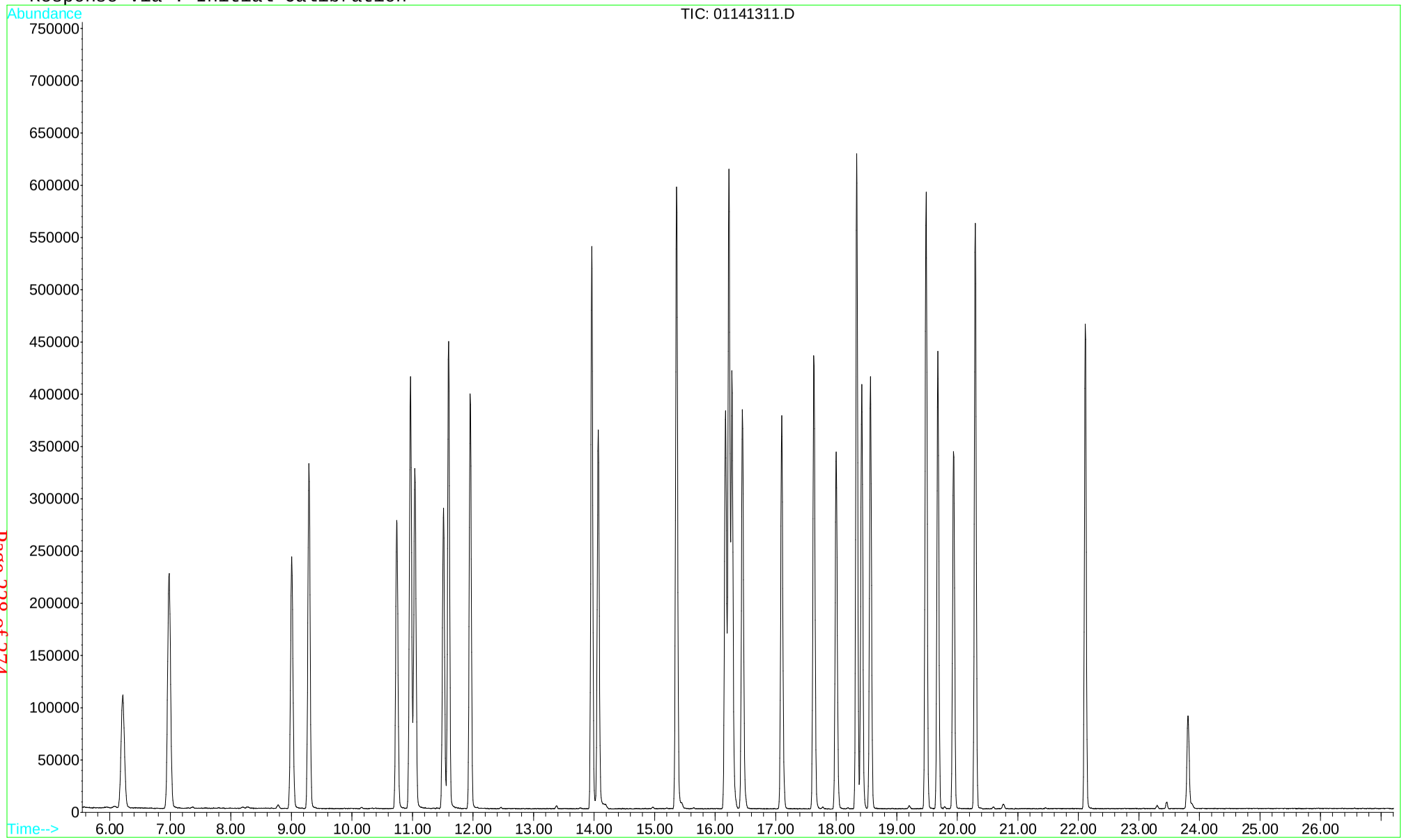
| Target Compounds | | | | | | Qvalue |
|---|---|---|---|---|---|---|
| 1) C5-C8 Aliphatic HC | 6.98 | TIC | 777662 | 31.80 | ug/m3 | 100 |
| 2) C5-C8 Aliphatic HC {2} | 9.29 | TIC | 856390 | 40.45 | ug/m3 | 100 |
| 3) C5-C8 Aliphatic HC {3} | 10.97 | TIC | 1076396 | 46.39 | ug/m3 | 100 |
| 4) C5-C8 Aliphatic HC {4} | 11.04 | TIC | 857953 | 39.43 | ug/m3 | 100 |
| 5) C5-C8 Aliphatic HC {5} | 11.60 | TIC | 1037512 | 46.78 | ug/m3 | 100 |
| 6) C5-C8 Aliphatic HC {6} | 13.96 | TIC | 1197966 | 55.30 | ug/m3 | 100 |
| 7) C5-C8 Aliphatic HC - TOTAL | 6.98 | TIC | 5803879m | 260.02 | ug/m3 | |
| 8) C9-C12 Aliphatic HC | 15.36 | TIC | 1426234 | 62.01 | ug/m3 | 100 |
| 9) C9-C12 Aliphatic HC {2} | 16.23 | TIC | 874055m | 56.94 | ug/m3 | |
| 10) C9-C12 Aliphatic HC {3} | 18.34 | TIC | 1378210 | 70.09 | ug/m3 | 100 |
| 11) C9-C12 Aliphatic HC {4} | 19.49 | TIC | 1360844 | 70.61 | ug/m3 | 100 |
| 12) C9-C12 Aliphatic HC {5} | 20.30 | TIC | 1217078 | 81.13 | ug/m3 | 100 |
| 13) C9-C12 Aliphatic HC {6} | 22.11 | TIC | 996119 | 90.70 | ug/m3 | 100 |
| 14) C9-C12 Aliphatic HC - TOTA | 15.36 | TIC | 7252540m | 430.80 | ug/m3 | |
| 15) C9-C10 Aromatic HC | 17.63 | 120 | 104159 | 58.64 | ug/m3 | 100 |
| 16) C9-C10 Aromatic HC {2} | 18.42 | 120 | 106803 | 57.85 | ug/m3 | 100 |
| 17) C9-C10 Aromatic HC {3} | 18.57 | 120 | 159232 | 59.66 | ug/m3 | 100 |
| 18) C9-C10 Aromatic HC {4} | 19.68 | 120 | 35286 | 68.39 | ug/m3 | 100 |
| 19) C9-C10 Aromatic HC {5} | 19.94 | 120 | 120243 | 60.57 | ug/m3 | 100 |
| 20) C9-C10 Aromatic HC {6} | 19.68 | 134 | 94319 | 68.58 | ug/m3 | 100 |
| 21) C9-C10 Aromatic HC - TOTAL | 18.00 | TIC | 620042m | 305.44 | ug/m3 | |

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

Quantitation Report

Data File : C:\HPCHEM\1\DATA\011413B\01141311.D Vial: 2
Acq On : 14 Jan 2013 9:03 pm Operator: RACHEL HILL
Sample : ICV VOA9 011413 Inst : GC/MS Ins
Misc : ICV MA_APH Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Jan 15 9:33 2013 Quant Results File: 011413V9.RES

Method : C:\HPCHEM\1\METHODS\011413V9.M (RTE Integrator)
Title : MASS APH
Last Update : Tue Jan 15 09:31:11 2013
Response via : Initial Calibration



# Injection Log

Directory: C:\HPCHEM\2\DATA\011013

| Line | Vial | FileName | Multiplier | SampleName | Misc Info | Injected |
|---|---|---|---|---|---|---|
| 1 | 1 | 01101301.d | 1. | MBLK-011013 TCD-A | | 10 Jan 2013 11:21 |
| 2 | 1 | 01101302.d | 1. | CCV-011013 TCD-A | | 10 Jan 2013 11:39 |
| 3 | 1 | 01101303.d | 1. | LCS-011013 TCD | | 10 Jan 2013 11:53 |
| 4 | 1 | 01101304.d | 1. | CRQL-011013 TCD-A | | 10 Jan 2013 12:07 |
| 5 | 1 | 01101305.d | 1. | 1212722-071B | | 10 Jan 2013 12:22 |
| 6 | 1 | 01101306.d | 1. | 1212722-072B | | 10 Jan 2013 12:38 |
| 7 | 1 | 01101307.d | 1. | 1212722-073B | | 10 Jan 2013 12:52 |
| 8 | 1 | 01101308.d | 1. | 1212722-074B | | 10 Jan 2013 13:18 |
| 9 | 1 | 01101309.d | 1. | 1212722-075B | | 10 Jan 2013 13:33 |
| 10 | 1 | 01101310.d | 1. | 1212722-076B | | 10 Jan 2013 13:47 |
| 11 | 1 | 01101311.d | 1. | 1212722-077B | | 10 Jan 2013 14:29 |
| 12 | 1 | 01101312.d | 1. | 1212722-078B | | 10 Jan 2013 14:43 |
| 13 | 1 | 01101313.d | 1. | 1212722-079B | | 10 Jan 2013 14:57 |
| 14 | 1 | 01101314.d | 1. | 1212722-080B | | 10 Jan 2013 15:13 |
| 15 | 1 | 01101315.d | 1. | 1212722-080BDUP | | 10 Jan 2013 15:27 |
| 16 | 1 | 01101316.d | 1. | CCV-011013 TCD-B | | 10 Jan 2013 15:41 |
| 17 | 1 | 01101317.d | 1. | 1212959-001B | | 10 Jan 2013 15:56 |
| 18 | 1 | 01101318.d | 1. | 1212959-002B | | 10 Jan 2013 16:10 |
| 19 | 1 | 01101319.d | 1. | 1212959-003B | | 10 Jan 2013 16:24 |
| 20 | 1 | 01101320.d | 1. | 1212959-004B | | 10 Jan 2013 16:38 |
| 21 | 1 | 01101321.d | 1. | 1212959-005B | | 10 Jan 2013 16:52 |
| 22 | 2 | 01101322.d | 1. | 1212959-006B | | 10 Jan 2013 17:07 |
| 23 | 3 | 01101323.d | 1. | 1212959-007B | | 10 Jan 2013 17:22 |
| 24 | 4 | 01101324.d | 1. | 1212959-008B | | 10 Jan 2013 17:36 |
| 25 | 5 | 01101325.d | 1. | 1212959-009B | | 10 Jan 2013 17:50 |
| 26 | 6 | 01101326.d | 1. | 1212959-010B | | 10 Jan 2013 18:04 |
| 27 | 3 | 01101327.d | 1. | 1212959-010BDUP | | 10 Jan 2013 18:18 |
| 28 | 1 | 01101328.d | 1. | CCV-011013 TCD-C | | 10 Jan 2013 18:33 |
| 29 | 1 | 01101329.d | 1. | CRQL-011013 TCD-B | | 10 Jan 2013 18:47 |

# RTI Laboratories

# ANALYTICAL RUN Summary

*16-Jan-13*

**RunNo** 55307

| Seq No | Sample ID | Test Code | Sample Typ | File ID | Analysis Date | DF | Batch ID | Prep Date | SPKref | RPDref | pmoist |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1089984 | MBLK-011013 TCD-A | ASTM-D2504 | MBLK | ıTA\011013\0110 | 1/10/2013 11:21: | 1 | R55307 | | 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 | 0.013 | 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1089985 | CCV-011013 TCD-A | ASTM-D2504 | CCV | ıTA\011013\0110 | 1/10/2013 11:39: | 1 | R55307 | | 0 | 0 | |

| Analyte | T | Units | RAW | Final | Text | Spike | SPKref | RPDref | MDL | PQL | UQL | %REC | LOW | HIGH | %RPD | Q |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Carbon dioxide | A | % v/v | 2.619 | 2.619 | | 2.5 | 0 | 0 | 0.025 | 0.1 | 0 | 105% | 85 | 115 | 0% | |
| Carbon Monoxide | A | % v/v | 2.716 | 2.716 | | 2.5 | 0 | 0 | 0.025 | 0.1 | 0 | 109% | 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 | 2.113 | 2.113 | | 2 | 0 | 0 | 0.025 | 0.5 | 0 | 106% | 85 | 115 | 0% | |
| Nitrogen | A | % v/v | 2.804 | 2.804 | | 2.5 | 0 | 0 | 0.025 | 0.1 | 0 | 112% | 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1089986 | LCS-011013 TCD | ASTM-D2504 | LCS | ıTA\011013\0110 | 1/10/2013 11:53: | 1 | R55307 | | 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 | 2.608 | 2.608 | | 2.5 | 0 | 2.619 | 0.025 | 0.1 | 0 | 104% | 70 | 130 | 0% | |
| Carbon Monoxide | A | % v/v | 2.714 | 2.714 | | 2.5 | 0 | 2.716 | 0.025 | 0.1 | 0 | 109% | 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1089999 | CCV-011013 TCD-B | ASTM-D2504 | CCV | ıTA\011013\0110 | 1/10/2013 3:41:0 | 1 | R55307 | | 0 | 0 | |

| Analyte | T | Units | RAW | Final | Text | Spike | SPKref | RPDref | MDL | PQL | UQL | %REC | LOW | HIGH | %RPD | Q |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Carbon dioxide | A | % v/v | 2.589 | 2.589 | | 2.5 | 0 | 0 | 0.025 | 0.1 | 0 | 104% | 85 | 115 | 0% | |
| Carbon Monoxide | A | % v/v | 2.682 | 2.682 | | 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 | 2.085 | 2.085 | | 2 | 0 | 0 | 0.025 | 0.5 | 0 | 104% | 85 | 115 | 0% | |
| Nitrogen | A | % v/v | 2.757 | 2.757 | | 2.5 | 0 | 0 | 0.025 | 0.1 | 0 | 110% | 85 | 115 | 0% | |
| Oxygen | A | % v/v | 2.665 | 2.665 | | 2.5 | 0 | 0 | 0.025 | 0.1 | 0 | 107% | 85 | 115 | 0% | |

| Seq No | Sample ID | Test Code | Sample Typ | File ID | Analysis Date | DF | Batch ID | Prep Date | SPKref | RPDref | pmoist |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1090000 | 1212959-001B (Container-01 of 01) | ASTM-D2504 | SAMP | ıTA\011013\0110 | 1/10/2013 3:56:0 | 1 | R55307 | | 0 | 0 | |

| Analyte | T | Units | RAW | Final | Text | Spike | SPKref | RPDref | MDL | PQL | UQL | %REC | LOW | HIGH | %RPD | Q |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Carbon dioxide | A | % v/v | 6.442 | 6.442 | | 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 | 84.442 | 84.442 | | 0 | 0 | 0 | 0.025 | 0.1 | 0 | 0% | 0 | 0 | 0% | |
| Oxygen | A | % v/v | 13.381 | 13.381 | | 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1090001 | 1212959-002B (Container-01 of 01) | ASTM-D2504 | SAMP | ıTA\011013\0110 | 1/10/2013 4:10:0 | 1 | R55307 | | 0 | 0 | |

| Analyte | T | Units | RAW | Final | Text | Spike | SPKref | RPDref | MDL | PQL | UQL | %REC | LOW | HIGH | %RPD | Q |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Carbon dioxide | A | % v/v | 9.69 | 9.69 | | 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 | 85.57 | 85.57 | | 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1090009 | 1212959-010B (Container-01 of 01) | ASTM-D2504 | SAMP | ıTA\011013\0110 | 1/10/2013 6:04:0 | 1 | R55307 | | 0 | 0 | |

| Analyte | T | Units | RAW | Final | Text | Spike | SPKref | RPDref | MDL | PQL | UQL | %REC | LOW | HIGH | %RPD | Q |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Carbon dioxide | A | % v/v | 0.44 | 0.44 | | 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 | 84.975 | 84.975 | | 0 | 0 | 0 | 0.025 | 0.1 | 0 | 0% | 0 | 0 | 0% | |
| Oxygen | A | % v/v | 19.333 | 19.333 | | 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1090010 | 1212959-010BDUP | ASTM-D2504 | DUP | ıTA\011013\0110 | 1/10/2013 6:18:0 | 1 | R55307 | | 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 | 0.441 | 0.441 | | 0 | 0 | 0.44 | 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 | 84.926 | 84.926 | | 0 | 0 | 84.975 | 0.025 | 0.1 | 0 | 0% | 0 | 0 | 0% | |
| Oxygen | A | % v/v | 19.32 | 19.32 | | 0 | 0 | 19.333 | 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1090011 | CCV-011013 TCD-C | ASTM-D2504 | CCV | ıTA\011013\0110 | 1/10/2013 6:33:0 | 1 | R55307 | | 0 | 0 | |

| Analyte | T | Units | RAW | Final | Text | Spike | SPKref | RPDref | MDL | PQL | UQL | %REC | LOW | HIGH | %RPD | Q |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Carbon dioxide | A | % v/v | 2.583 | 2.583 | | 2.5 | 0 | 0 | 0.025 | 0.1 | 0 | 103% | 85 | 115 | 0% | |
| Carbon Monoxide | A | % v/v | 2.673 | 2.673 | | 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 | 1.997 | 1.997 | | 2 | 0 | 0 | 0.025 | 0.5 | 0 | 100% | 85 | 115 | 0% | M |
| Nitrogen | A | % v/v | 2.75 | 2.75 | | 2.5 | 0 | 0 | 0.025 | 0.1 | 0 | 110% | 85 | 115 | 0% | |
| Oxygen | A | % v/v | 2.658 | 2.658 | | 2.5 | 0 | 0 | 0.025 | 0.1 | 0 | 106% | 85 | 115 | 0% | |

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\2\DATA\011013\01101302.D Vial: 1
Acq On : 10 Jan 2013 11:39 am Operator:
Sample : CCV-011013 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 | 2.708 | -8.3 | 0 | 0.06 |
| 2 | Nitrogen | 2.500 | 2.804 | -12.2 | 0 | 0.05 |
| 3 | Carbon Monoxide | 2.500 | 2.716 | -8.6 | 0 | 0.06 |
| 4 | Methane | 2.000 | 2.113 | -5.6 | 0 | 0.06 |
| 5 | Carbon dioxide | 2.500 | 2.619 | -4.8 | 0 | 0.09 |

Evaluate Continuing Calibration Report - Not Founds

Data File : C:\HPCHEM\2\DATA\011013\01101302.D Vial: 1
Acq On : 10 Jan 2013 11:39 am Operator:
Sample : CCV-011013 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) |
|---|---|---|---|---|---|---|

(#) = Out of Range SPCC's out = 0 CCC's out = 0
09141202.D 122712.M Thu Jan 10 18:53:28 2013

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\2\DATA\011013\01101302.D Vial: 1
Acq On : 10 Jan 2013 11:39 am Operator:
Sample : CCV-011013 TCD-A Inst : GC/TCD
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Jan 10 11:50 2013 Quant Results File: 122712.RES

Quant Method : C:\HPCHEM\2\METHODS\122712.M (Chemstation Integrator)
Title :
Last Update : Wed Jan 02 16:55:28 2013
Response via : Initial Calibration
DataAcq Meth : TCD.M

Volume Inj. :
Signal Phase :
Signal Info :

| | Compound | R.T. | Response | Conc Units |
|---|---|---|---|---|
| | Target Compounds | | | |
| 1) | Oxygen | 2.16 | 389322 | 2.708 % v/v |
| 2) | Nitrogen | 2.35 | 475904 | 2.804 % v/v |
| 3) | Carbon Monoxide | 3.04f | 436991 | 2.716 % v/v |
| 4) | Methane | 5.66f | 295938 | 2.113 % v/v |
| 5) | Carbon dioxide | 9.27f | 530245 | 2.619 % v/v |

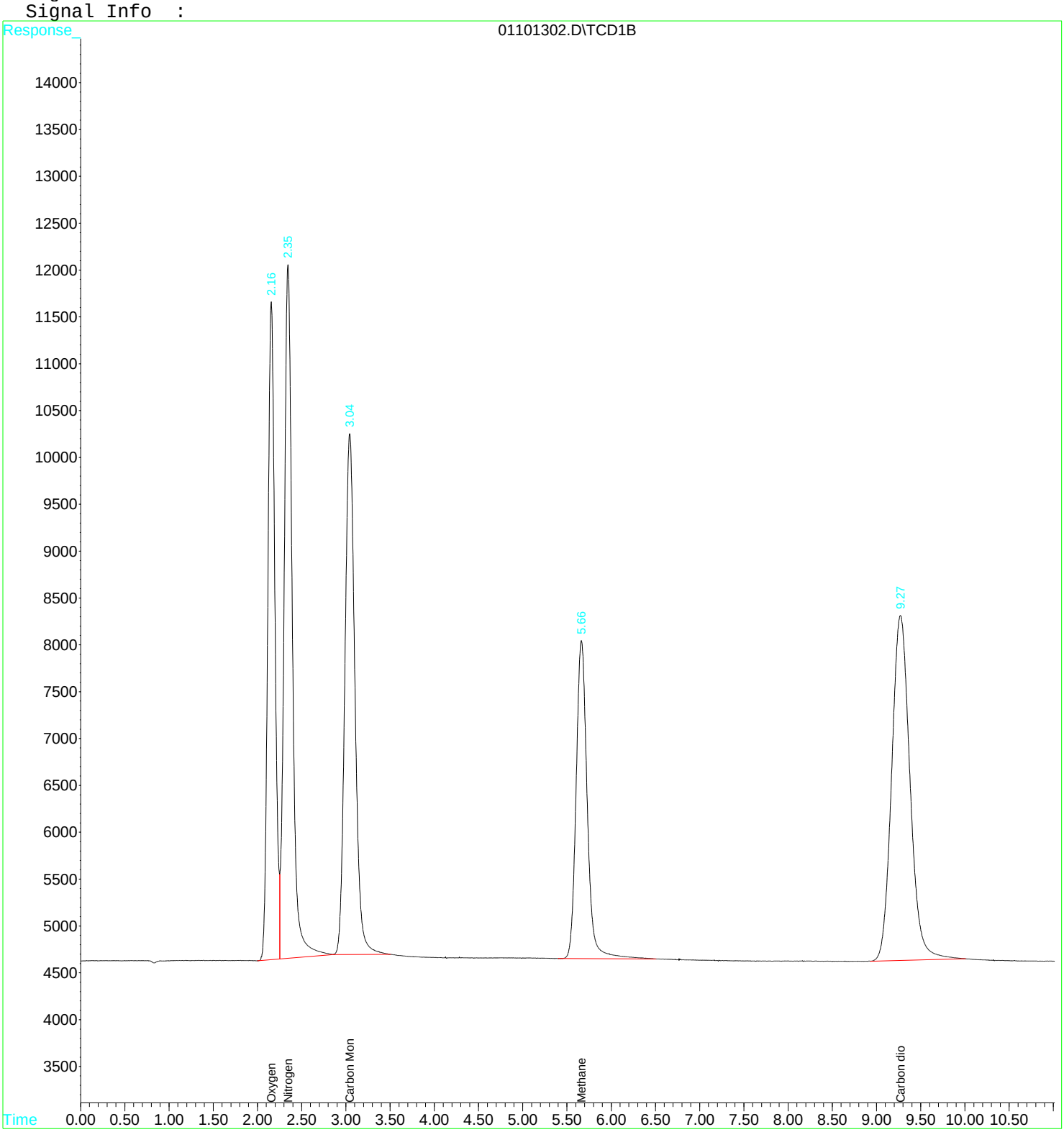
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\2\DATA\011013\01101302.D Vial: 1
Acq On : 10 Jan 2013 11:39 am Operator:
Sample : CCV-011013 TCD-A Inst : GC/TCD
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Jan 10 11:50 2013 Quant Results File: 122712.RES

Quant Method : C:\HPCHEM\2\METHODS\122712.M (Chemstation Integrator)
Title :
Last Update : Wed Jan 02 16:55:28 2013
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\011013\01101316.D Vial: 1
Acq On : 10 Jan 2013 3:41 pm Operator:
Sample : CCV-011013 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 | 2.665 | -6.6 | 0 | 0.05 |
| 2 | Nitrogen | 2.500 | 2.757 | -10.3 | 0 | 0.04 |
| 3 | Carbon Monoxide | 2.500 | 2.682 | -7.3 | 0 | 0.06 |
| 4 | Methane | 2.000 | 2.085 | -4.2 | 0 | 0.06 |
| 5 | Carbon dioxide | 2.500 | 2.589 | -3.6 | 0 | 0.09 |

Evaluate Continuing Calibration Report - Not Founds

Data File : C:\HPCHEM\2\DATA\011013\01101316.D Vial: 1
Acq On : 10 Jan 2013 3:41 pm Operator:
Sample : CCV-011013 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) |
|---|---|---|---|---|---|

(#) = Out of Range SPCC's out = 0 CCC's out = 0
09141202.D 122712.M Thu Jan 10 18:53:43 2013

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\2\DATA\011013\01101316.D Vial: 1
Acq On : 10 Jan 2013 3:41 pm Operator:
Sample : CCV-011013 TCD-B Inst : GC/TCD
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Jan 10 15:54 2013 Quant Results File: 122712.RES

Quant Method : C:\HPCHEM\2\METHODS\122712.M (Chemstation Integrator)
Title :
Last Update : Wed Jan 02 16:55:28 2013
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 | 383074 | 2.665 % v/v |
| 2) | Nitrogen | 2.34 | 467925 | 2.757 % v/v |
| 3) | Carbon Monoxide | 3.04f | 431446 | 2.682 % v/v |
| 4) | Methane | 5.66f | 291987 | 2.085 % v/v |
| 5) | Carbon dioxide | 9.27f | 524045 | 2.589 % v/v |

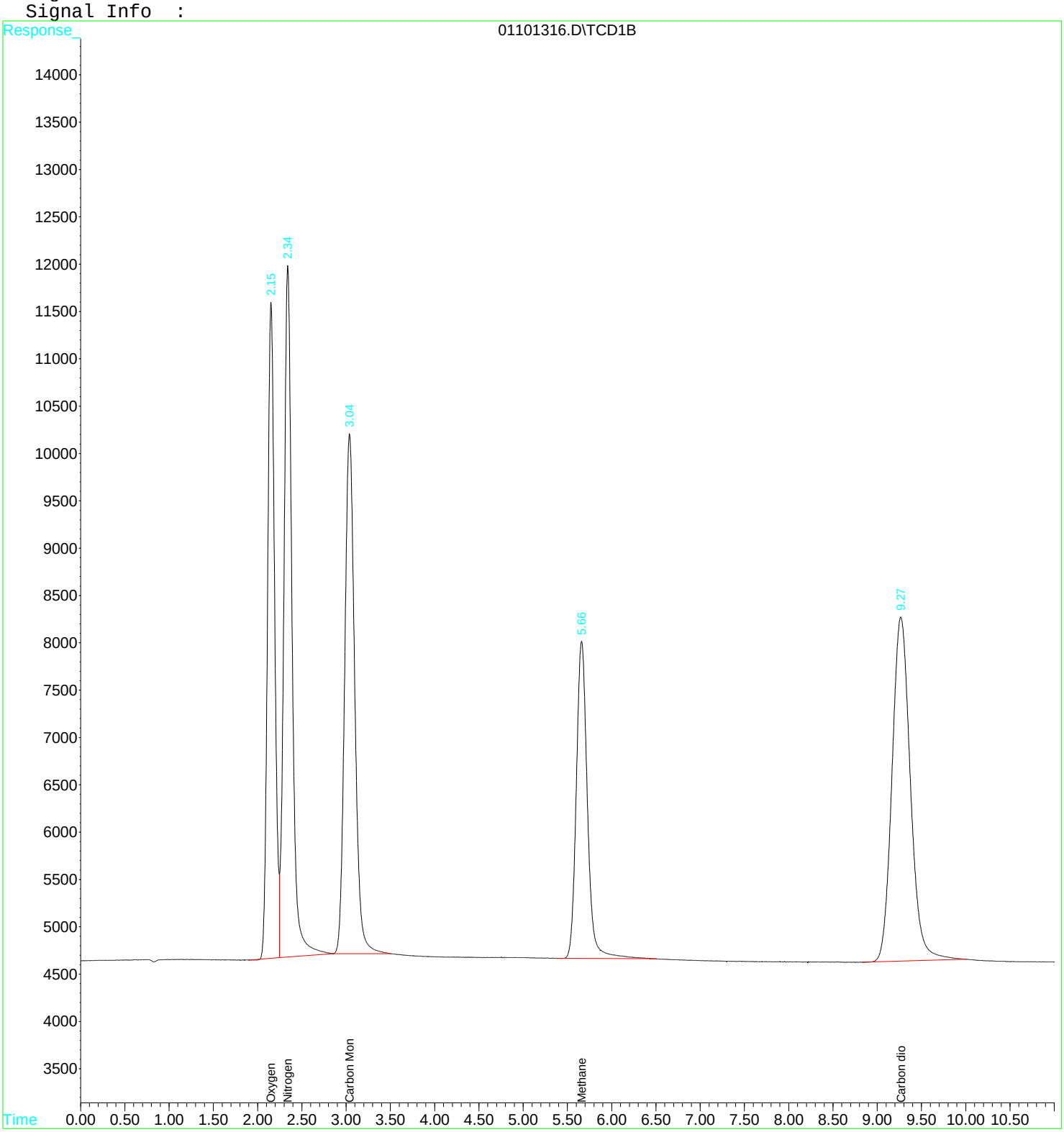
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\2\DATA\011013\01101316.D Vial: 1
Acq On : 10 Jan 2013 3:41 pm Operator:
Sample : CCV-011013 TCD-B Inst : GC/TCD
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Jan 10 15:54 2013 Quant Results File: 122712.RES

Quant Method : C:\HPCHEM\2\METHODS\122712.M (Chemstation Integrator)
Title :
Last Update : Wed Jan 02 16:55:28 2013
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\011013\01101328.D Vial: 1
Acq On : 10 Jan 2013 6:33 pm Operator:
Sample : CCV-011013 TCD-C 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 | 2.658 | -6.3 | 0 | 0.05 |
| 2 | Nitrogen | 2.500 | 2.750 | -10.0 | 0 | 0.04 |
| 3 | Carbon Monoxide | 2.500 | 2.673 | -6.9 | 0 | 0.06 |
| 4 | Methane | 2.000 | 1.997 | 0.1 | 0 | 0.06 |
| 5 | Carbon dioxide | 2.500 | 2.583 | -3.3 | 0 | 0.09 |

Evaluate Continuing Calibration Report - Not Founds

Data File : C:\HPCHEM\2\DATA\011013\01101328.D Vial: 1
Acq On : 10 Jan 2013 6:33 pm Operator:
Sample : CCV-011013 TCD-C 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) |
|---|---|---|---|---|---|

(#) = Out of Range SPCC's out = 0 CCC's out = 0
09141202.D 122712.M Thu Jan 10 18:54:29 2013

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\2\DATA\011013\01101328.D Vial: 1
Acq On : 10 Jan 2013 6:33 pm Operator:
Sample : CCV-011013 TCD-C Inst : GC/TCD
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Jan 10 18:54 2013 Quant Results File: 122712.RES

Quant Method : C:\HPCHEM\2\METHODS\122712.M (Chemstation Integrator)
Title :
Last Update : Wed Jan 02 16:55:28 2013
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 | 382087 | 2.658 % v/v |
| 2) | Nitrogen | 2.34 | 466672 | 2.750 % v/v |
| 3) | Carbon Monoxide | 3.04f | 429998 | 2.673 % v/v |
| 4) | Methane | 5.66f | 279676 | 1.997 % v/vm |
| 5) | Carbon dioxide | 9.27f | 522909 | 2.583 % v/v |

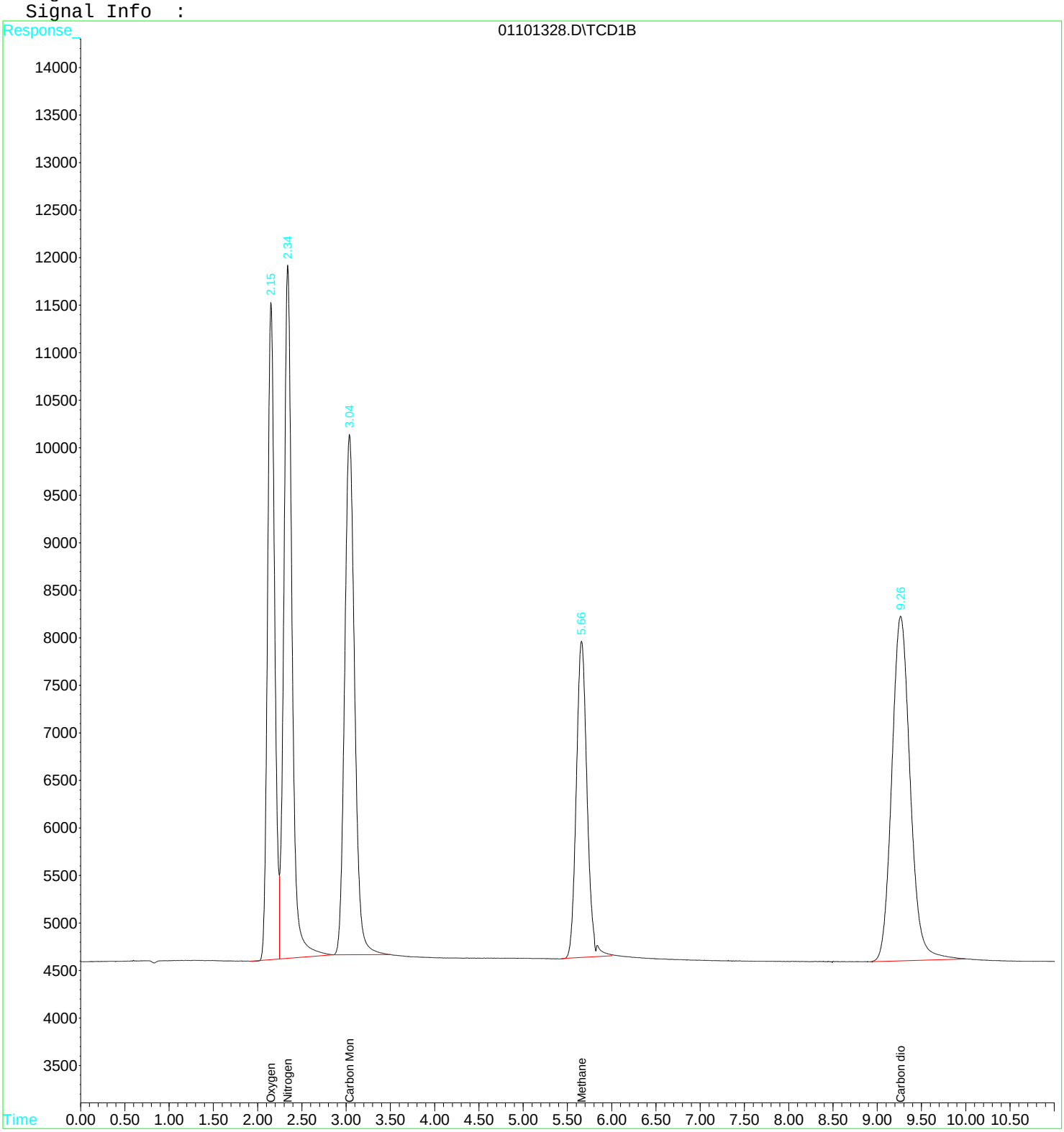
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\2\DATA\011013\01101328.D Vial: 1
Acq On : 10 Jan 2013 6:33 pm Operator:
Sample : CCV-011013 TCD-C Inst : GC/TCD
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Jan 10 18:54 2013 Quant Results File: 122712.RES

Quant Method : C:\HPCHEM\2\METHODS\122712.M (Chemstation Integrator)
Title :
Last Update : Wed Jan 02 16:55:28 2013
Response via : Multiple Level Calibration
DataAcq Meth : TCD.M

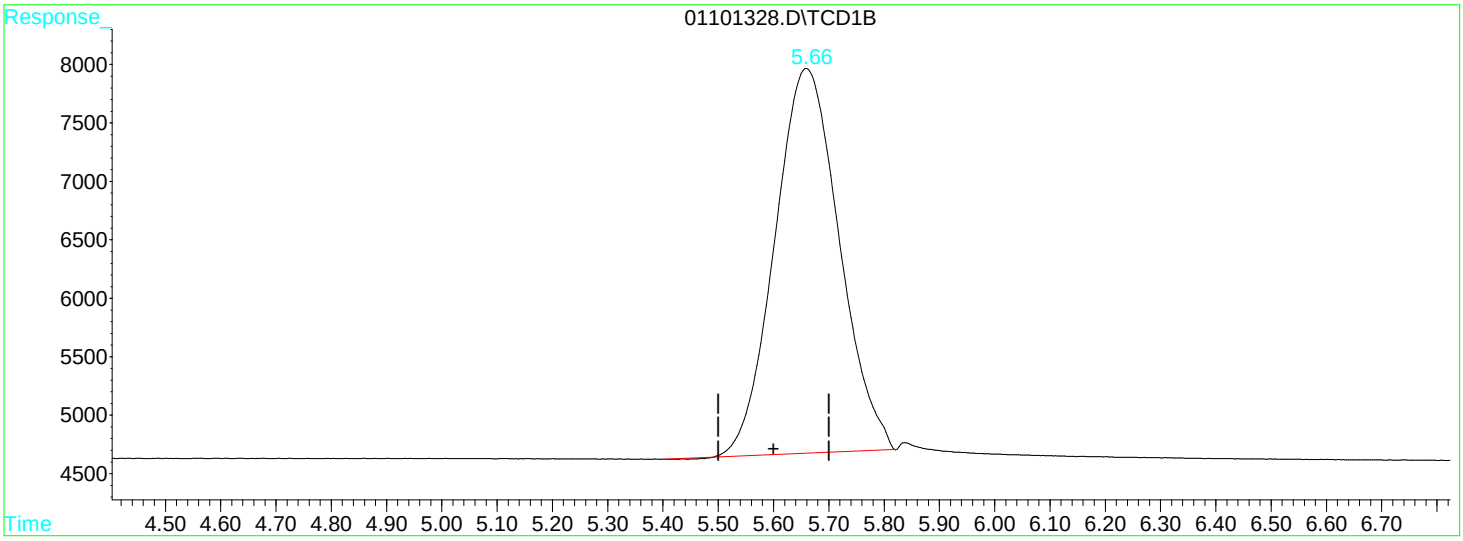
Volume Inj. :
Signal Phase :
Signal Info :



Quantitation Report (Qedit)

```
Data File : C:\HPCHEM\2\DATA\011013\01101328.D          Vial: 1
Acq On    : 10 Jan 2013   6:33 pm                   Operator:
Sample    : CCV-011013 TCD-C                        Inst    : GC/TCD
Misc      :                                         Multiplr: 1.00
IntFile   : autoint1.e
Quant Time: Jan 10 18:44 2013  Quant Results File: temp.res

Method       : C:\HPCHEM\2\METHODS\122712.M (Chemstation Integrator)
Title        :
Last Update  : Thu Dec 27 18:13:53 2012
Response via : Multiple Level Calibration
```




QEdit

(4) Methane

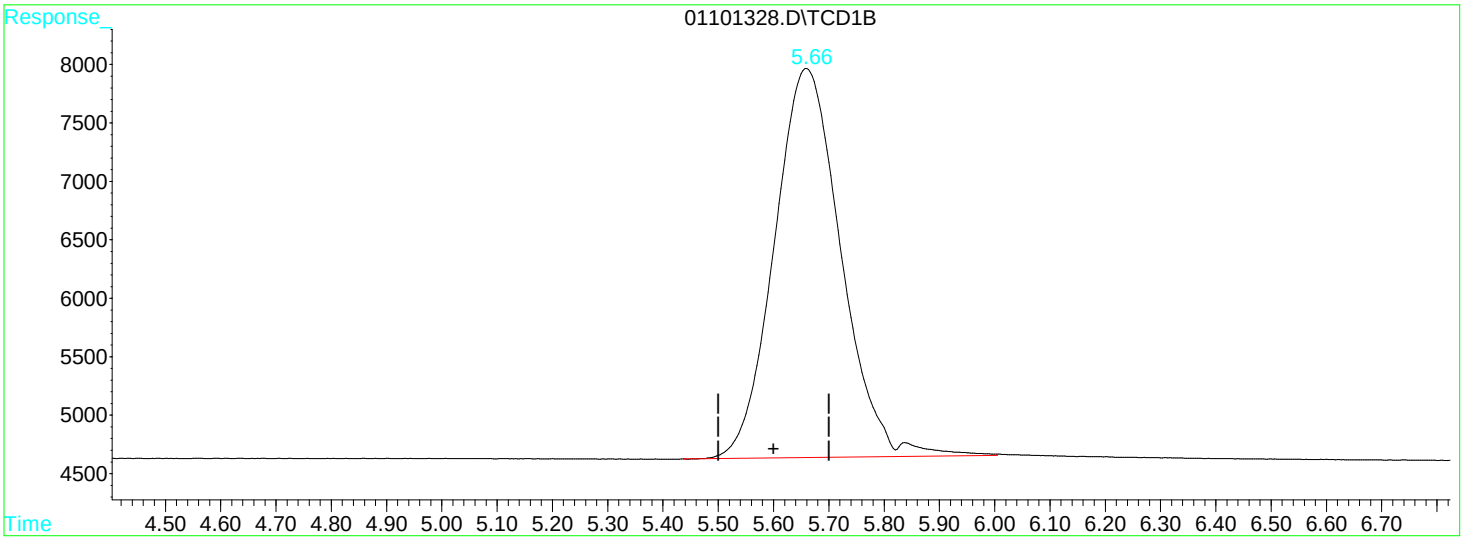
5.66min 1.902% v/v

response 266437

Quantitation Report (Qedit)

```
Data File : C:\HPCHEM\2\DATA\011013\01101328.D          Vial: 1
Acq On    : 10 Jan 2013   6:33 pm                   Operator:
Sample    : CCV-011013 TCD-C                        Inst    : GC/TCD
Misc      :                                         Multiplr: 1.00
IntFile   : autoint1.e
Quant Time: Jan 10 18:54 2013  Quant Results File: temp.res

Method       : C:\HPCHEM\2\METHODS\122712.M (Chemstation Integrator)
Title        :
Last Update  : Thu Dec 27 18:13:53 2012
Response via : Multiple Level Calibration
```




(4) Methane

5.66min 1.997% v/v m

response 279676

QEdit

```
Reason for Manual Integration:

Software incorrectly integrated peak.
 -ccr
```

# Injection Log

Directory: C:\HPCHEM\2\DATA\011113

| Line | Vial | FileName | Multiplier | SampleName | Misc Info | Injected |
|---|---|---|---|---|---|---|
| 1 | 1 | 01111301.d | 1. | MBLK-011113 TCD-A | | 11 Jan 2013 11:05 |
| 2 | 1 | 01111302.d | 1. | CCV-011113 TCD-A | | 11 Jan 2013 11:20 |
| 3 | 1 | 01111303.d | 1. | LCS-011113 TCD | | 11 Jan 2013 11:35 |
| 4 | 1 | 01111304.d | 1. | CRQL-011113 TCD-A | | 11 Jan 2013 11:49 |
| 5 | 1 | 01111305.d | 1. | 1212959-011B | | 11 Jan 2013 12:06 |
| 6 | 1 | 01111306.d | 1. | 1212959-012B | | 11 Jan 2013 12:21 |
| 7 | 1 | 01111307.d | 1. | 1212959-013B | | 11 Jan 2013 12:35 |
| 8 | 1 | 01111308.d | 1. | 1212959-014B | | 11 Jan 2013 12:50 |
| 9 | 1 | 01111309.d | 1. | 1212959-015B | | 11 Jan 2013 13:04 |
| 10 | 1 | 01111310.d | 1. | 1212959-016B | | 11 Jan 2013 13:18 |
| 11 | 1 | 01111311.d | 1. | 1212959-017B | | 11 Jan 2013 14:23 |
| 12 | 1 | 01111312.d | 1. | 1212959-018B | | 11 Jan 2013 14:59 |
| 13 | 1 | 01111313.d | 1. | 1212959-019B | | 11 Jan 2013 15:13 |
| 14 | 1 | 01111314.d | 1. | 1212959-020B | | 11 Jan 2013 15:28 |
| 15 | 1 | 01111315.d | 1. | 1212959-020BDUP | | 11 Jan 2013 15:42 |
| 16 | 1 | 01111316.d | 1. | CCV-011113 TCD-B | | 11 Jan 2013 15:56 |
| 17 | 1 | 01111317.d | 1. | 1212959-021B | | 11 Jan 2013 16:11 |
| 18 | 1 | 01111318.d | 1. | 1212959-022B | | 11 Jan 2013 16:25 |
| 19 | 1 | 01111319.d | 1. | 1212959-023B | | 11 Jan 2013 16:40 |
| 20 | 1 | 01111320.d | 1. | 1212959-024B | | 11 Jan 2013 16:54 |
| 21 | 1 | 01111321.d | 1. | 1212959-025B | | 11 Jan 2013 17:08 |
| 22 | 2 | 01111322.d | 1. | 1212959-026B | | 11 Jan 2013 17:23 |
| 23 | 3 | 01111323.d | 1. | 1212959-027B | | 11 Jan 2013 17:37 |
| 24 | 4 | 01111324.d | 1. | 1212959-028B | | 11 Jan 2013 17:52 |
| 25 | 5 | 01111325.d | 1. | 1212959-029B | | 11 Jan 2013 18:14 |
| 26 | 3 | 01111326.d | 1. | 1212959-029BDUP | | 11 Jan 2013 18:29 |
| 27 | 1 | 01111327.d | 1. | CCV-011113 TCD-C | | 11 Jan 2013 18:43 |
| 28 | 1 | 01111328.d | 1. | CRQL-011113 TCD-B | | 11 Jan 2013 18:57 |

# RTI Laboratories

# ANALYTICAL RUN Summary

*17-Jan-13*

**RunNo** 55350

| Seq No | Sample ID | Test Code | Sample Typ | File ID | Analysis Date | DF | Batch ID | Prep Date | SPKref | RPDref | pmoist |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1090890 | MBLK-011113 TCD-A | ASTM-D2504 | MBLK | ıTA\011113\0111 | 1/11/2013 11:05: | 1 | R55350 | | 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 | 0.011 | 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1090891 | CCV-011113 TCD-A | ASTM-D2504 | CCV | ıTA\011113\0111 | 1/11/2013 11:20: | 1 | R55350 | | 0 | 0 | |

| Analyte | T | Units | RAW | Final | Text | Spike | SPKref | RPDref | MDL | PQL | UQL | %REC | LOW | HIGH | %RPD | Q |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Carbon dioxide | A | % v/v | 2.563 | 2.563 | | 2.5 | 0 | 0 | 0.025 | 0.1 | 0 | 103% | 85 | 115 | 0% | |
| Carbon Monoxide | A | % v/v | 2.653 | 2.653 | | 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 | 2.728 | 2.728 | | 2.5 | 0 | 0 | 0.025 | 0.1 | 0 | 109% | 85 | 115 | 0% | |
| Oxygen | A | % v/v | 2.641 | 2.641 | | 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1090892 | LCS-011113 TCD | ASTM-D2504 | LCS | ıTA\011113\0111 | 1/11/2013 11:35: | 1 | R55350 | | 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 | 2.559 | 2.559 | | 2.5 | 0 | 2.563 | 0.025 | 0.1 | 0 | 102% | 70 | 130 | 0% | |
| Carbon Monoxide | A | % v/v | 2.659 | 2.659 | | 2.5 | 0 | 2.653 | 0.025 | 0.1 | 0 | 106% | 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1090905 | CCV-011113 TCD-B | ASTM-D2504 | CCV | ıTA\011113\0111 | 1/11/2013 3:56:0 | 1 | R55350 | | 0 | 0 | |

| Analyte | T | Units | RAW | Final | Text | Spike | SPKref | RPDref | MDL | PQL | UQL | %REC | LOW | HIGH | %RPD | Q |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Carbon dioxide | A | % v/v | 2.556 | 2.556 | | 2.5 | 0 | 0 | 0.025 | 0.1 | 0 | 102% | 85 | 115 | 0% | |
| Carbon Monoxide | A | % v/v | 2.649 | 2.649 | | 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 | 2.035 | 2.035 | | 2 | 0 | 0 | 0.025 | 0.5 | 0 | 102% | 85 | 115 | 0% | |
| Nitrogen | A | % v/v | 2.717 | 2.717 | | 2.5 | 0 | 0 | 0.025 | 0.1 | 0 | 109% | 85 | 115 | 0% | |
| Oxygen | A | % v/v | 2.629 | 2.629 | | 2.5 | 0 | 0 | 0.025 | 0.1 | 0 | 105% | 85 | 115 | 0% | |

| Seq No | Sample ID | Test Code | Sample Typ | File ID | Analysis Date | DF | Batch ID | Prep Date | SPKref | RPDref | pmoist |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1090906 | 1212959-021B (Container-01 of 01) | ASTM-D2504 | SAMP | ıTA\011113\0111 | 1/11/2013 4:11:0 | 1 | R55350 | | 0 | 0 | |

| Analyte | T | Units | RAW | Final | Text | Spike | SPKref | RPDref | MDL | PQL | UQL | %REC | LOW | HIGH | %RPD | Q |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Carbon dioxide | A | % v/v | 0.39 | 0.39 | | 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 | 80.534 | 80.534 | | 0 | 0 | 0 | 0.025 | 0.1 | 0 | 0% | 0 | 0 | 0% | |
| Oxygen | A | % v/v | 21.845 | 21.845 | | 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1090907 | 1212959-022B (Container-01 of 01) | ASTM-D2504 | SAMP | ıTA\011113\0111 | 1/11/2013 4:25:0 | 1 | R55350 | | 0 | 0 | |

| Analyte | T | Units | RAW | Final | Text | Spike | SPKref | RPDref | MDL | PQL | UQL | %REC | LOW | HIGH | %RPD | Q |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Carbon dioxide | A | % v/v | 1.479 | 1.479 | | 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 | 81.653 | 81.653 | | 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1090915 | 1212959-029BDUP | ASTM-D2504 | DUP | ıTA\011113\0111 | 1/11/2013 6:29:0 | 1 | R55350 | | 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 | 0.669 | 0.669 | | 0 | 0 | 0.672 | 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 | 83.591 | 83.591 | | 0 | 0 | 84.506 | 0.025 | 0.1 | 0 | 0% | 0 | 0 | 1% | |
| Oxygen | A | % v/v | 18.564 | 18.564 | | 0 | 0 | 18.768 | 0.025 | 0.1 | 0 | 0% | 0 | 0 | 1% | |

| Seq No | Sample ID | Test Code | Sample Typ | File ID | Analysis Date | DF | Batch ID | Prep Date | SPKref | RPDref | pmoist |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1090916 | CCV-011113 TCD-C | ASTM-D2504 | CCV | ıTA\011113\0111 | 1/11/2013 6:43:0 | 1 | R55350 | | 0 | 0 | |

| Analyte | T | Units | RAW | Final | Text | Spike | SPKref | RPDref | MDL | PQL | UQL | %REC | LOW | HIGH | %RPD | Q |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Carbon dioxide | A | % v/v | 2.586 | 2.586 | | 2.5 | 0 | 0 | 0.025 | 0.1 | 0 | 103% | 85 | 115 | 0% | |
| Carbon Monoxide | A | % v/v | 2.676 | 2.676 | | 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 | 2.082 | 2.082 | | 2 | 0 | 0 | 0.025 | 0.5 | 0 | 104% | 85 | 115 | 0% | |
| Nitrogen | A | % v/v | 2.751 | 2.751 | | 2.5 | 0 | 0 | 0.025 | 0.1 | 0 | 110% | 85 | 115 | 0% | |
| Oxygen | A | % v/v | 2.663 | 2.663 | | 2.5 | 0 | 0 | 0.025 | 0.1 | 0 | 107% | 85 | 115 | 0% | |

| Seq No | Sample ID | Test Code | Sample Typ | File ID | Analysis Date | DF | Batch ID | Prep Date | SPKref | RPDref | pmoist |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1090917 | CRQL-011113 TCD-B | ASTM-D2504 | CRQL | ıTA\011113\0111 | 1/11/2013 6:57:0 | 1 | R55350 | | 0 | 0 | |

| Analyte | T | Units | RAW | Final | Text | Spike | SPKref | RPDref | MDL | PQL | UQL | %REC | LOW | HIGH | %RPD | Q |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Carbon dioxide | A | % v/v | 0.319 | 0.319 | | 0.3 | 0 | 0 | 0.025 | 0.1 | 0 | 106% | 80 | 120 | 0% | M |
| Carbon Monoxide | A | % v/v | 0.148 | 0.148 | | 0.14 | 0 | 0 | 0.025 | 0.1 | 0 | 106% | 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 | 0.092 | 0.092 | | 0.09 | 0 | 0 | 0.025 | 0.5 | 0 | 102% | 80 | 120 | 0% | |
| Nitrogen | A | % v/v | 1.443 | 1.443 | | 1.39 | 0 | 0 | 0.025 | 0.1 | 0 | 104% | 80 | 120 | 0% | |
| Oxygen | A | % v/v | 0.079 | 0.079 | | 0.08 | 0 | 0 | 0.025 | 0.1 | 0 | 99% | 80 | 120 | 0% | |

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\2\DATA\011113\01111302.D Vial: 1
Acq On : 11 Jan 2013 11:20 am Operator:
Sample : CCV-011113 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 | 2.641 | -5.6 | 0 | 0.05 |
| 2 | Nitrogen | 2.500 | 2.728 | -9.1 | 0 | 0.04 |
| 3 | Carbon Monoxide | 2.500 | 2.653 | -6.1 | 0 | 0.05 |
| 4 | Methane | 2.000 | 2.061 | -3.0 | 0 | 0.05 |
| 5 | Carbon dioxide | 2.500 | 2.563 | -2.5 | 0 | 0.07 |

Evaluate Continuing Calibration Report - Not Founds

Data File : C:\HPCHEM\2\DATA\011113\01111302.D Vial: 1
Acq On : 11 Jan 2013 11:20 am Operator:
Sample : CCV-011113 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) |
|---|---|---|---|---|---|---|

(#) = Out of Range SPCC's out = 0 CCC's out = 0
09141202.D 122712.M Fri Jan 11 19:03:13 2013

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\2\DATA\011113\01111302.D Vial: 1
Acq On : 11 Jan 2013 11:20 am Operator:
Sample : CCV-011113 TCD-A Inst : GC/TCD
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Jan 11 11:34 2013 Quant Results File: 122712.RES

Quant Method : C:\HPCHEM\2\METHODS\122712.M (Chemstation Integrator)
Title :
Last Update : Wed Jan 02 16:55:28 2013
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 | 379711 | 2.641 % v/v |
| 2) | Nitrogen | 2.34 | 462990 | 2.728 % v/v |
| 3) | Carbon Monoxide | 3.03f | 426839 | 2.653 % v/v |
| 4) | Methane | 5.65f | 288713 | 2.061 % v/v |
| 5) | Carbon dioxide | 9.25f | 518919 | 2.563 % v/v |

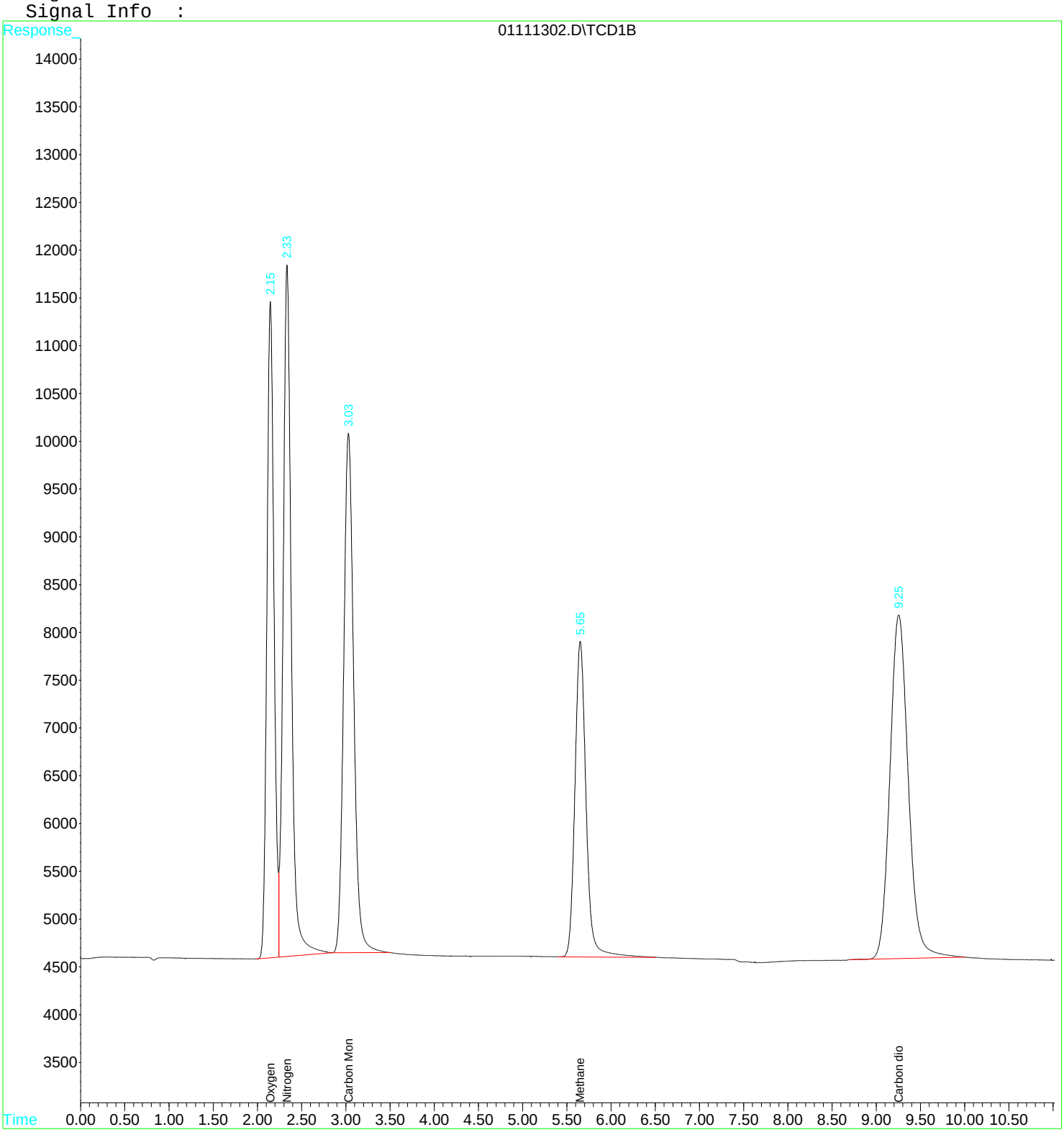
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\2\DATA\011113\01111302.D Vial: 1
Acq On : 11 Jan 2013 11:20 am Operator:
Sample : CCV-011113 TCD-A Inst : GC/TCD
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Jan 11 11:34 2013 Quant Results File: 122712.RES

Quant Method : C:\HPCHEM\2\METHODS\122712.M (Chemstation Integrator)
Title :
Last Update : Wed Jan 02 16:55:28 2013
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\011113\01111316.D Vial: 1
Acq On : 11 Jan 2013 3:56 pm Operator:
Sample : CCV-011113 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 | 2.629 | -5.2 | 0 | 0.04 |
| 2 | Nitrogen | 2.500 | 2.717 | -8.7 | 0 | 0.03 |
| 3 | Carbon Monoxide | 2.500 | 2.649 | -6.0 | 0 | 0.05 |
| 4 | Methane | 2.000 | 2.035 | -1.8 | 0 | 0.05 |
| 5 | Carbon dioxide | 2.500 | 2.556 | -2.2 | 0 | 0.08 |

Evaluate Continuing Calibration Report - Not Founds

Data File : C:\HPCHEM\2\DATA\011113\01111316.D Vial: 1
Acq On : 11 Jan 2013 3:56 pm Operator:
Sample : CCV-011113 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) |
|---|---|---|---|---|---|---|

(#) = Out of Range SPCC's out = 0 CCC's out = 0
09141202.D 122712.M Fri Jan 11 19:03:23 2013

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\2\DATA\011113\01111316.D Vial: 1
Acq On : 11 Jan 2013 3:56 pm Operator:
Sample : CCV-011113 TCD-B Inst : GC/TCD
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Jan 11 16:08 2013 Quant Results File: 122712.RES

Quant Method : C:\HPCHEM\2\METHODS\122712.M (Chemstation Integrator)
Title :
Last Update : Wed Jan 02 16:55:28 2013
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 | 377859 | 2.629 | % v/v |
| 2) | Nitrogen | 2.33 | 461117 | 2.717 | % v/v |
| 3) | Carbon Monoxide | 3.03 | 426128 | 2.649 | % v/v |
| 4) | Methane | 5.65f | 285080 | 2.035 | % v/v |
| 5) | Carbon dioxide | 9.26f | 517448 | 2.556 | % v/v |

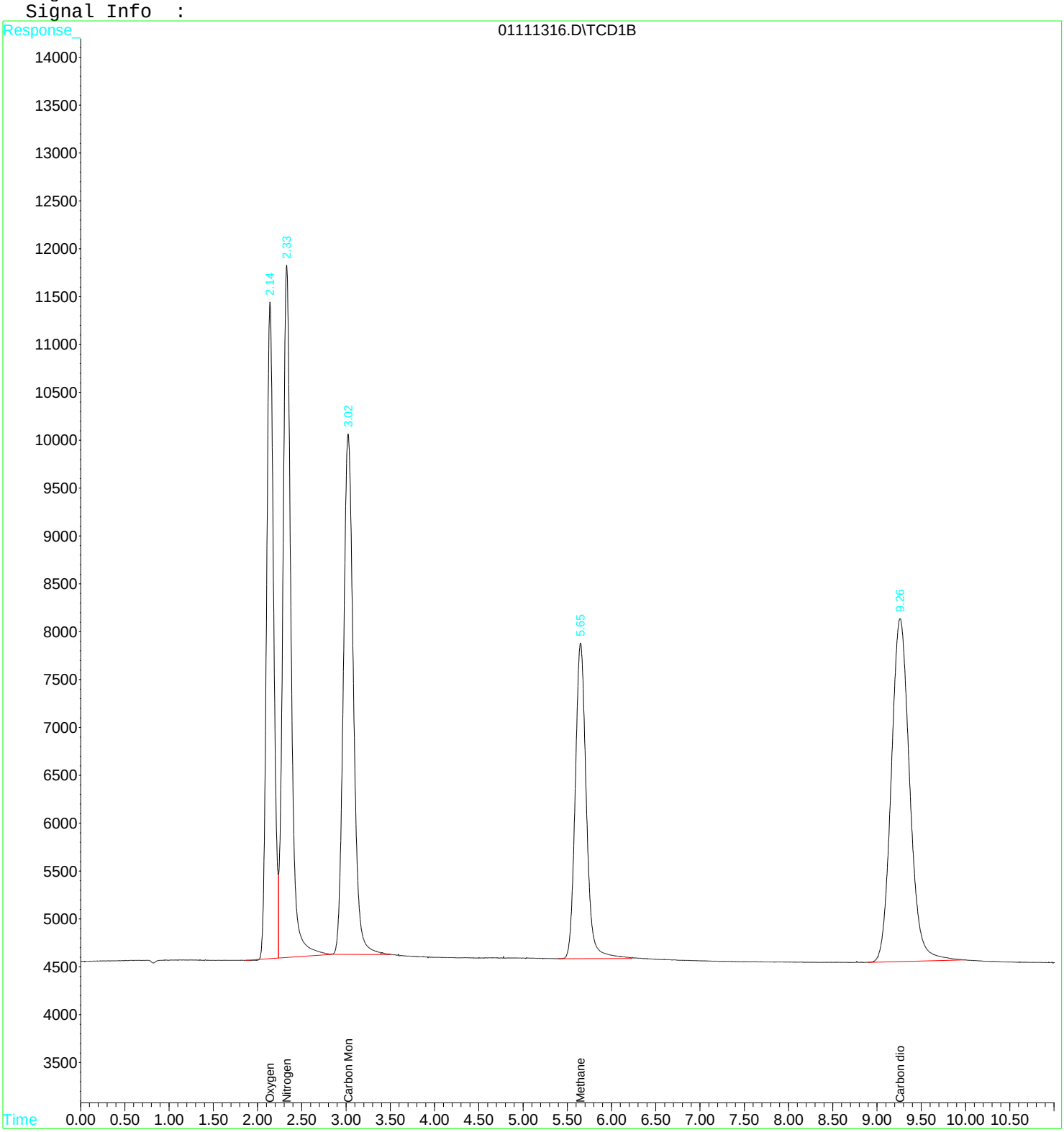
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\2\DATA\011113\01111316.D Vial: 1
Acq On : 11 Jan 2013 3:56 pm Operator:
Sample : CCV-011113 TCD-B Inst : GC/TCD
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Jan 11 16:08 2013 Quant Results File: 122712.RES

Quant Method : C:\HPCHEM\2\METHODS\122712.M (Chemstation Integrator)
Title :
Last Update : Wed Jan 02 16:55:28 2013
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\011113\01111327.D Vial: 1
Acq On : 11 Jan 2013 6:43 pm Operator:
Sample : CCV-011113 TCD-C 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 | 2.663 | -6.5 | 0 | 0.05 |
| 2 | Nitrogen | 2.500 | 2.751 | -10.0 | 0 | 0.04 |
| 3 | Carbon Monoxide | 2.500 | 2.676 | -7.0 | 0 | 0.06 |
| 4 | Methane | 2.000 | 2.082 | -4.1 | 0 | 0.06 |
| 5 | Carbon dioxide | 2.500 | 2.586 | -3.4 | 0 | 0.08 |

Evaluate Continuing Calibration Report - Not Founds

Data File : C:\HPCHEM\2\DATA\011113\01111327.D Vial: 1
Acq On : 11 Jan 2013 6:43 pm Operator:
Sample : CCV-011113 TCD-C 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) |
|---|---|---|---|---|---|

(#) = Out of Range SPCC's out = 0 CCC's out = 0
09141202.D 122712.M Fri Jan 11 19:03:44 2013

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\2\DATA\011113\01111327.D Vial: 1
Acq On : 11 Jan 2013 6:43 pm Operator:
Sample : CCV-011113 TCD-C Inst : GC/TCD
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Jan 11 18:54 2013 Quant Results File: 122712.RES

Quant Method : C:\HPCHEM\2\METHODS\122712.M (Chemstation Integrator)
Title :
Last Update : Wed Jan 02 16:55:28 2013
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 | 382867 | 2.663 % v/v |
| 2) | Nitrogen | 2.34 | 466949 | 2.751 % v/v |
| 3) | Carbon Monoxide | 3.04f | 430536 | 2.676 % v/v |
| 4) | Methane | 5.66f | 291688 | 2.082 % v/v |
| 5) | Carbon dioxide | 9.26f | 523534 | 2.586 % v/v |

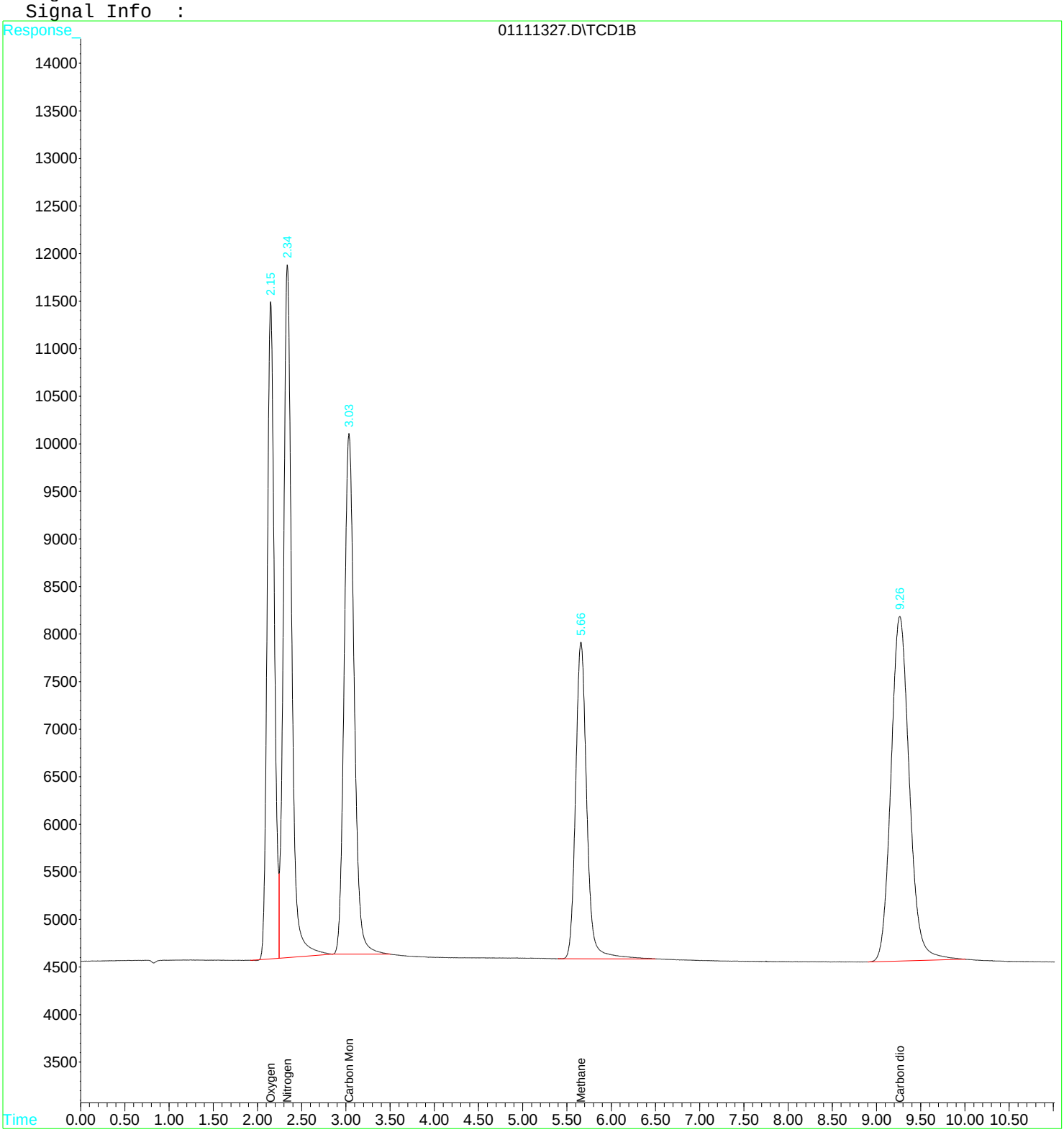
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\2\DATA\011113\01111327.D Vial: 1
Acq On : 11 Jan 2013 6:43 pm Operator:
Sample : CCV-011113 TCD-C Inst : GC/TCD
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Jan 11 18:54 2013 Quant Results File: 122712.RES

Quant Method : C:\HPCHEM\2\METHODS\122712.M (Chemstation Integrator)
Title :
Last Update : Wed Jan 02 16:55:28 2013
Response via : Multiple Level Calibration
DataAcq Meth : TCD.M

Volume Inj. :
Signal Phase :
Signal Info :



# Injection Log

Directory: C:\HPCHEM\2\DATA\011413

| Line | Vial | FileName | Multiplier | SampleName | Misc Info | Injected |
|---|---|---|---|---|---|---|
| 1 | 1 | 01141301.d | 1. | MBLK-011413 TCD-A | | 14 Jan 2013 11:11 |
| 2 | 1 | 01141302.d | 1. | CCV-011413 TCD-A | | 14 Jan 2013 11:26 |
| 3 | 1 | 01141303.d | 1. | LCS-011413 TCD | | 14 Jan 2013 11:42 |
| 4 | 1 | 01141304.d | 1. | CRQL-011413 TCD-A | | 14 Jan 2013 12:07 |
| 5 | 1 | 01141305.d | 1. | 1212959-030B | | 14 Jan 2013 12:27 |
| 6 | 1 | 01141306.d | 1. | 1212959-031B | | 14 Jan 2013 12:47 |
| 7 | 1 | 01141307.d | 1. | 1212959-032B | | 14 Jan 2013 13:04 |
| 8 | 1 | 01141308.d | 1. | 1212959-033B | | 14 Jan 2013 13:18 |
| 9 | 1 | 01141309.d | 1. | 1212959-034B | | 14 Jan 2013 13:36 |
| 10 | 1 | 01141310.d | 1. | 1212959-035B | | 14 Jan 2013 14:01 |
| 11 | 1 | 01141311.d | 1. | 1212959-036B | | 14 Jan 2013 14:24 |
| 12 | 1 | 01141312.d | 1. | 1212959-037B | | 14 Jan 2013 14:38 |
| 13 | 1 | 01141313.d | 1. | 1212959-038B | | 14 Jan 2013 14:55 |
| 14 | 1 | 01141314.d | 1. | 1212959-039B | | 14 Jan 2013 15:09 |
| 15 | 1 | 01141315.d | 1. | 1212959-039BDUP | | 14 Jan 2013 15:23 |
| 16 | 1 | 01141316.d | 1. | CCV-011413 TCD-B | | 14 Jan 2013 15:37 |
| 17 | 1 | 01141317.d | 1. | 1212959-040B | | 14 Jan 2013 15:53 |
| 18 | 1 | 01141318.d | 1. | 1212959-041B | | 14 Jan 2013 16:08 |
| 19 | 1 | 01141319.d | 1. | 1212959-042B | | 14 Jan 2013 16:23 |
| 20 | 1 | 01141320.d | 1. | 1212959-042BDUP | | 14 Jan 2013 16:39 |
| 21 | 1 | 01141321.d | 1. | CCV-011413 TCD-C | | 14 Jan 2013 17:15 |
| 22 | 1 | 01141322.d | 1. | CRQL-011413 TCD-B | | 14 Jan 2013 17:29 |

# RTI Laboratories

# ANALYTICAL RUN Summary

*17-Jan-13*

**RunNo** 55387

| Seq No | Sample ID | Test Code | Sample Typ | File ID | Analysis Date | DF | Batch ID | Prep Date | SPKref | RPDref | pmoist |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1091673 | MBLK-011413 TCD-A | ASTM-D2504 | MBLK | ıTA\011413\0114 | 1/14/2013 11:11: | 1 | R55387 | | 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 | 0.011 | 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1091674 | CCV-011413 TCD-A | ASTM-D2504 | CCV | ıTA\011413\0114 | 1/14/2013 11:26: | 1 | R55387 | | 0 | 0 | |

| Analyte | T | Units | RAW | Final | Text | Spike | SPKref | RPDref | MDL | PQL | UQL | %REC | LOW | HIGH | %RPD | Q |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Carbon dioxide | A | % v/v | 2.591 | 2.591 | | 2.5 | 0 | 0 | 0.025 | 0.1 | 0 | 104% | 85 | 115 | 0% | |
| Carbon Monoxide | A | % v/v | 2.682 | 2.682 | | 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 | 2.079 | 2.079 | | 2 | 0 | 0 | 0.025 | 0.5 | 0 | 104% | 85 | 115 | 0% | |
| Nitrogen | A | % v/v | 2.868 | 2.868 | | 2.5 | 0 | 0 | 0.025 | 0.1 | 0 | 115% | 85 | 115 | 0% | |
| Oxygen | A | % v/v | 2.699 | 2.699 | | 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1091675 | LCS-011413 TCD | ASTM-D2504 | LCS | ıTA\011413\0114 | 1/14/2013 11:42: | 1 | R55387 | | 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 | 2.601 | 2.601 | | 2.5 | 0 | 2.591 | 0.025 | 0.1 | 0 | 104% | 70 | 130 | 0% | |
| Carbon Monoxide | A | % v/v | 2.699 | 2.699 | | 2.5 | 0 | 2.682 | 0.025 | 0.1 | 0 | 108% | 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1091688 | CCV-011413 TCD-B | ASTM-D2504 | CCV | ıTA\011413\0114 | 1/14/2013 3:37:0 | 1 | R55387 | | 0 | 0 | |

| Analyte | T | Units | RAW | Final | Text | Spike | SPKref | RPDref | MDL | PQL | UQL | %REC | LOW | HIGH | %RPD | Q |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Carbon dioxide | A | % v/v | 2.621 | 2.621 | | 2.5 | 0 | 0 | 0.025 | 0.1 | 0 | 105% | 85 | 115 | 0% | |
| Carbon Monoxide | A | % v/v | 2.709 | 2.709 | | 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 | 2.084 | 2.084 | | 2 | 0 | 0 | 0.025 | 0.5 | 0 | 104% | 85 | 115 | 0% | |
| Nitrogen | A | % v/v | 2.773 | 2.773 | | 2.5 | 0 | 0 | 0.025 | 0.1 | 0 | 111% | 85 | 115 | 0% | |
| Oxygen | A | % v/v | 2.674 | 2.674 | | 2.5 | 0 | 0 | 0.025 | 0.1 | 0 | 107% | 85 | 115 | 0% | |

| Seq No | Sample ID | Test Code | Sample Typ | File ID | Analysis Date | DF | Batch ID | Prep Date | SPKref | RPDref | pmoist |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1091689 | 1212959-040B (Container-01 of 01) | ASTM-D2504 | SAMP | ıTA\011413\0114 | 1/14/2013 3:53:0 | 1 | R55387 | | 0 | 0 | |

| Analyte | T | Units | RAW | Final | Text | Spike | SPKref | RPDref | MDL | PQL | UQL | %REC | LOW | HIGH | %RPD | Q |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Carbon dioxide | A | % v/v | 0.047 | 0.047 | | 0 | 0 | 0 | 0.025 | 0.1 | 0 | 0% | 0 | 0 | 0% | J |
| 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 | 82.749 | 82.749 | | 0 | 0 | 0 | 0.025 | 0.1 | 0 | 0% | 0 | 0 | 0% | |
| Oxygen | A | % v/v | 22.724 | 22.724 | | 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1091690 | 1212959-041B (Container-01 of 01) | ASTM-D2504 | SAMP | ıTA\011413\0114 | 1/14/2013 4:08:0 | 1 | R55387 | | 0 | 0 | |

| Analyte | T | Units | RAW | Final | Text | Spike | SPKref | RPDref | MDL | PQL | UQL | %REC | LOW | HIGH | %RPD | Q |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Carbon dioxide | A | % v/v | 0.181 | 0.181 | | 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 | 83.997 | 83.997 | | 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1091693 | CCV-011413 TCD-C | ASTM-D2504 | CCV | ıTA\011413\0114 | 1/14/2013 5:15:0 | 1 | R55387 | | 0 | 0 | |

| Analyte | T | Units | RAW | Final | Text | Spike | SPKref | RPDref | MDL | PQL | UQL | %REC | LOW | HIGH | %RPD | Q |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Carbon dioxide | A | % v/v | 2.609 | 2.609 | | 2.5 | 0 | 0 | 0.025 | 0.1 | 0 | 104% | 85 | 115 | 0% | |
| Carbon Monoxide | A | % v/v | 2.7 | 2.7 | | 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 | 2.104 | 2.104 | | 2 | 0 | 0 | 0.025 | 0.5 | 0 | 105% | 85 | 115 | 0% | |
| Nitrogen | A | % v/v | 2.775 | 2.775 | | 2.5 | 0 | 0 | 0.025 | 0.1 | 0 | 111% | 85 | 115 | 0% | |
| Oxygen | A | % v/v | 2.688 | 2.688 | | 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1091694 | CRQL-011413 TCD-B | ASTM-D2504 | CRQL | ıTA\011413\0114 | 1/14/2013 5:29:0 | 1 | R55387 | | 0 | 0 | |

| Analyte | T | Units | RAW | Final | Text | Spike | SPKref | RPDref | MDL | PQL | UQL | %REC | LOW | HIGH | %RPD | Q |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Carbon dioxide | A | % v/v | 0.32 | 0.32 | | 0.3 | 0 | 0 | 0.025 | 0.1 | 0 | 107% | 80 | 120 | 0% | |
| Carbon Monoxide | A | % v/v | 0.148 | 0.148 | | 0.14 | 0 | 0 | 0.025 | 0.1 | 0 | 106% | 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 | 0.092 | 0.092 | | 0.09 | 0 | 0 | 0.025 | 0.5 | 0 | 102% | 80 | 120 | 0% | |
| Nitrogen | A | % v/v | 1.464 | 1.464 | | 1.39 | 0 | 0 | 0.025 | 0.1 | 0 | 105% | 80 | 120 | 0% | |
| Oxygen | A | % v/v | 0.08 | 0.08 | | 0.08 | 0 | 0 | 0.025 | 0.1 | 0 | 100% | 80 | 120 | 0% | |

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\2\DATA\011413\01141302.D Vial: 1
Acq On : 14 Jan 2013 11:26 am Operator:
Sample : CCV-011413 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 | 2.699 | -8.0 | 0 | 0.06 |
| 2 | Nitrogen | 2.500 | 2.868 | -14.7 | 0 | 0.05 |
| 3 | Carbon Monoxide | 2.500 | 2.682 | -7.3 | 0 | 0.07 |
| 4 | Methane | 2.000 | 2.079 | -4.0 | 0 | 0.07 |
| 5 | Carbon dioxide | 2.500 | 2.591 | -3.6 | 0 | 0.10 |

Evaluate Continuing Calibration Report - Not Founds

Data File : C:\HPCHEM\2\DATA\011413\01141302.D Vial: 1
Acq On : 14 Jan 2013 11:26 am Operator:
Sample : CCV-011413 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) |
|---|---|---|---|---|---|---|

(#) = Out of Range SPCC's out = 0 CCC's out = 0
09141202.D 122712.M Mon Jan 14 18:00:08 2013

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\2\DATA\011413\01141302.D Vial: 1
Acq On : 14 Jan 2013 11:26 am Operator:
Sample : CCV-011413 TCD-A Inst : GC/TCD
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Jan 14 13:34 2013 Quant Results File: 122712.RES

Quant Method : C:\HPCHEM\2\METHODS\122712.M (Chemstation Integrator)
Title :
Last Update : Mon Jan 14 13:11:57 2013
Response via : Initial Calibration
DataAcq Meth : TCD.M

Volume Inj. :
Signal Phase :
Signal Info :

| | Compound | R.T. | Response | Conc Units |
|---|---|---|---|---|
| | Target Compounds | | | |
| 1) | Oxygen | 2.16 | 387988 | 2.699 % v/v |
| 2) | Nitrogen | 2.35 | 486675 | 2.868 % v/v |
| 3) | Carbon Monoxide | 3.05f | 431439 | 2.682 % v/v |
| 4) | Methane | 5.67f | 291206 | 2.079 % v/v |
| 5) | Carbon dioxide | 9.28 | 524524 | 2.591 % v/v |

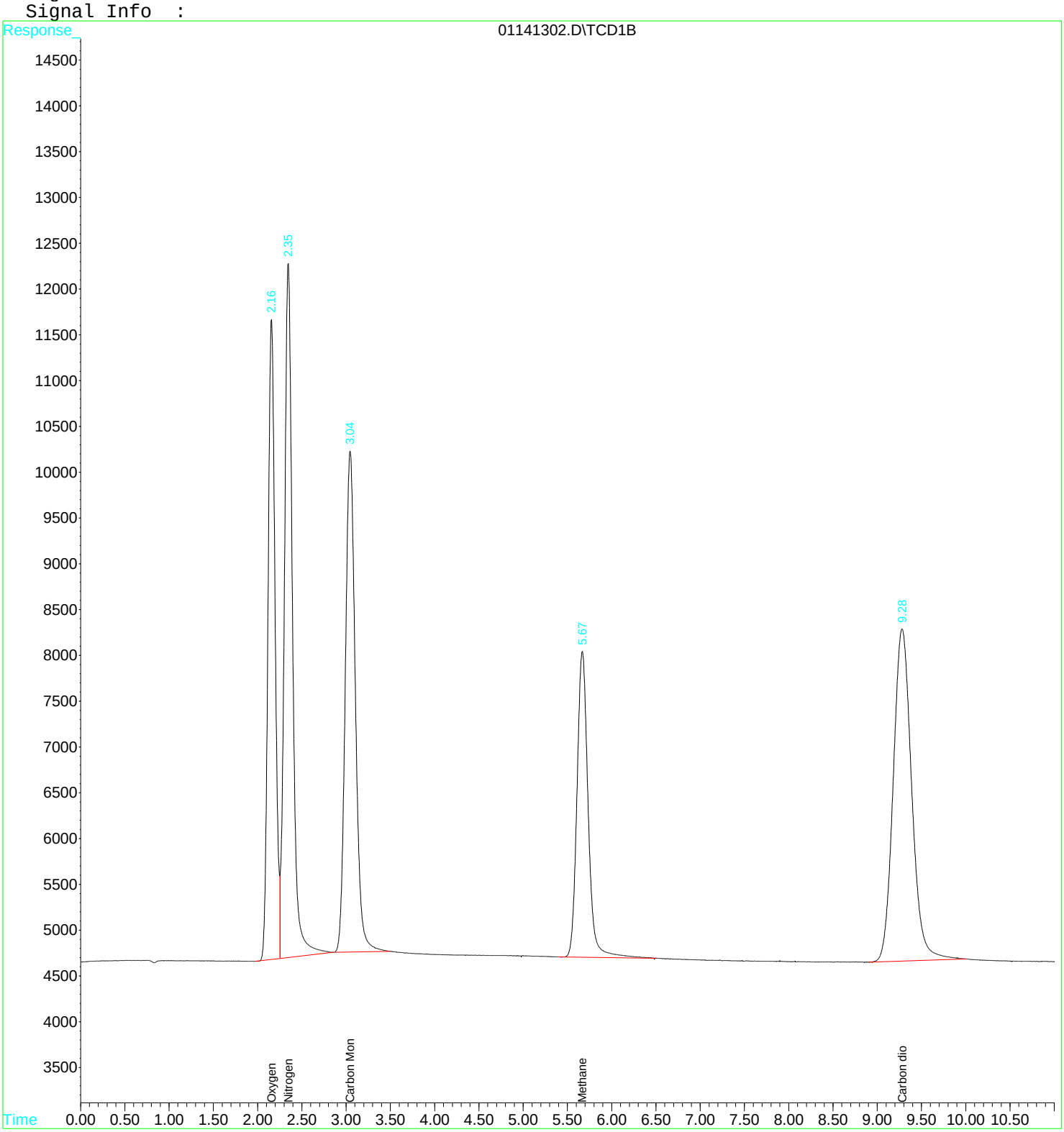
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\2\DATA\011413\01141302.D Vial: 1
Acq On : 14 Jan 2013 11:26 am Operator:
Sample : CCV-011413 TCD-A Inst : GC/TCD
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Jan 14 13:34 2013 Quant Results File: 122712.RES

Quant Method : C:\HPCHEM\2\METHODS\122712.M (Chemstation Integrator)
Title :
Last Update : Mon Jan 14 13:11:57 2013
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\011413\01141316.D Vial: 1
Acq On : 14 Jan 2013 3:37 pm Operator:
Sample : CCV-011413 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 | 2.674 | -7.0 | 0 | 0.06 |
| 2 | Nitrogen | 2.500 | 2.773 | -10.9 | 0 | 0.05 |
| 3 | Carbon Monoxide | 2.500 | 2.709 | -8.4 | 0 | 0.07 |
| 4 | Methane | 2.000 | 2.084 | -4.2 | 0 | 0.07 |
| 5 | Carbon dioxide | 2.500 | 2.621 | -4.8 | 0 | 0.11 |

Evaluate Continuing Calibration Report - Not Founds

Data File : C:\HPCHEM\2\DATA\011413\01141316.D Vial: 1
Acq On : 14 Jan 2013 3:37 pm Operator:
Sample : CCV-011413 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) |
|---|---|---|---|---|---|---|

(#) = Out of Range SPCC's out = 0 CCC's out = 0
09141202.D 122712.M Mon Jan 14 18:00:27 2013

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\2\DATA\011413\01141316.D Vial: 1
Acq On : 14 Jan 2013 3:37 pm Operator:
Sample : CCV-011413 TCD-B Inst : GC/TCD
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Jan 14 15:51 2013 Quant Results File: 122712.RES

Quant Method : C:\HPCHEM\2\METHODS\122712.M (Chemstation Integrator)
Title :
Last Update : Mon Jan 14 13:11:57 2013
Response via : Initial Calibration
DataAcq Meth : TCD.M

Volume Inj. :
Signal Phase :
Signal Info :

| | Compound | R.T. | Response | Conc Units |
|---|---|---|---|---|
| | Target Compounds | | | |
| 1) | Oxygen | 2.16 | 384381 | 2.674 % v/v |
| 2) | Nitrogen | 2.35 | 470565 | 2.773 % v/v |
| 3) | Carbon Monoxide | 3.05f | 435772 | 2.709 % v/v |
| 4) | Methane | 5.67f | 291935 | 2.084 % v/v |
| 5) | Carbon dioxide | 9.29 | 530561 | 2.621 % v/v |

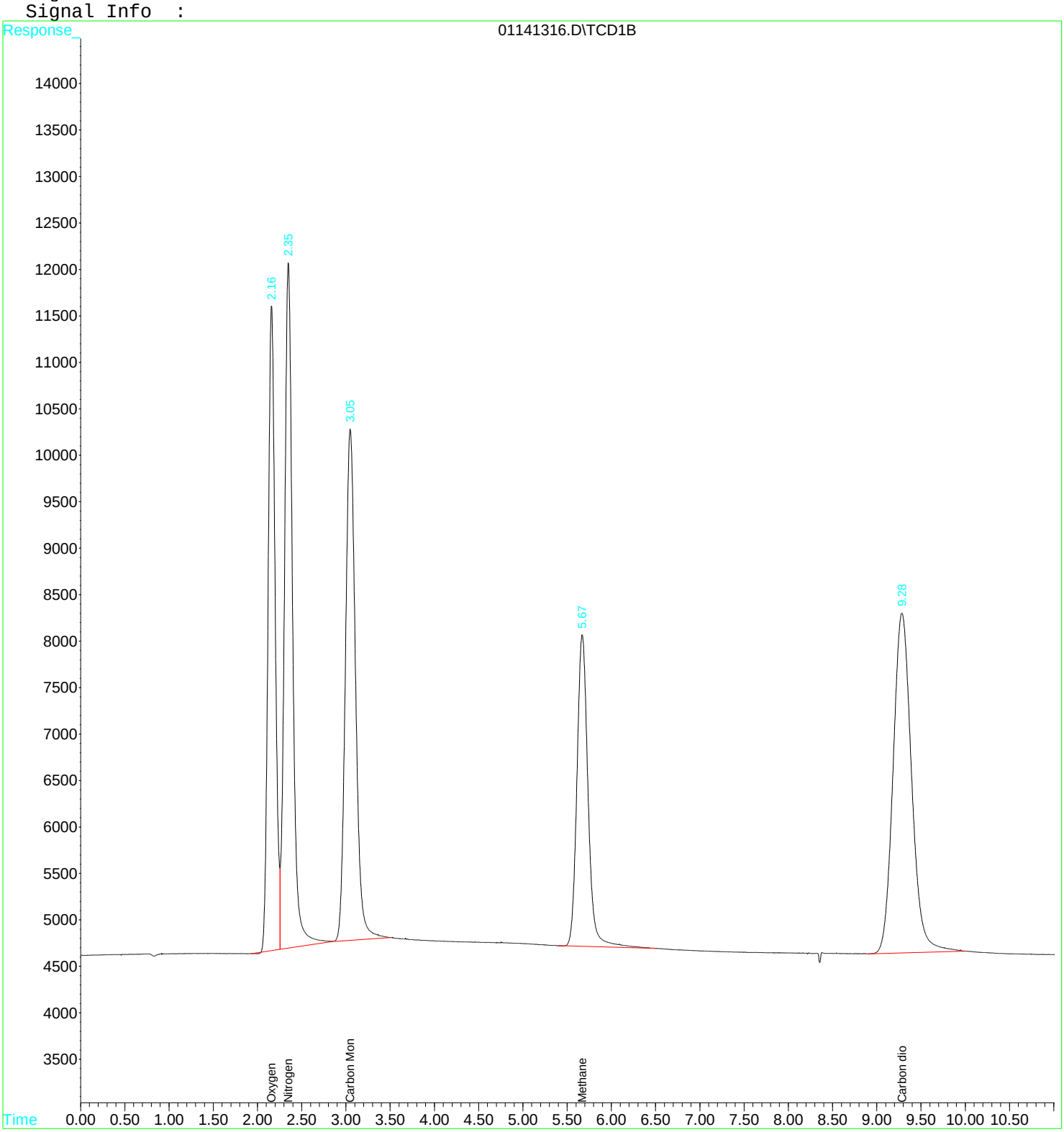
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\2\DATA\011413\01141316.D Vial: 1
Acq On : 14 Jan 2013 3:37 pm Operator:
Sample : CCV-011413 TCD-B Inst : GC/TCD
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Jan 14 15:51 2013 Quant Results File: 122712.RES

Quant Method : C:\HPCHEM\2\METHODS\122712.M (Chemstation Integrator)
Title :
Last Update : Mon Jan 14 13:11:57 2013
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\011413\01141321.D Vial: 1
Acq On : 14 Jan 2013 5:15 pm Operator:
Sample : CCV-011413 TCD-C 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 | 2.688 | -7.5 | 0 | 0.06 |
| 2 | Nitrogen | 2.500 | 2.775 | -11.0 | 0 | 0.05 |
| 3 | Carbon Monoxide | 2.500 | 2.700 | -8.0 | 0 | 0.07 |
| 4 | Methane | 2.000 | 2.104 | -5.2 | 0 | 0.07 |
| 5 | Carbon dioxide | 2.500 | 2.609 | -4.4 | 0 | 0.10 |

Evaluate Continuing Calibration Report - Not Founds

Data File : C:\HPCHEM\2\DATA\011413\01141321.D Vial: 1
Acq On : 14 Jan 2013 5:15 pm Operator:
Sample : CCV-011413 TCD-C 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) |
|---|---|---|---|---|---|---|

(#) = Out of Range SPCC's out = 0 CCC's out = 0
09141202.D 122712.M Mon Jan 14 18:00:39 2013

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\2\DATA\011413\01141321.D Vial: 1
Acq On : 14 Jan 2013 5:15 pm Operator:
Sample : CCV-011413 TCD-C Inst : GC/TCD
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Jan 14 17:27 2013 Quant Results File: 122712.RES

Quant Method : C:\HPCHEM\2\METHODS\122712.M (Chemstation Integrator)
Title :
Last Update : Mon Jan 14 13:11:57 2013
Response via : Initial Calibration
DataAcq Meth : TCD.M

Volume Inj. :
Signal Phase :
Signal Info :

| | Compound | R.T. | Response | Conc Units |
|---|---|---|---|---|
| | Target Compounds | | | |
| 1) | Oxygen | 2.16 | 386330 | 2.688 % v/v |
| 2) | Nitrogen | 2.35 | 470924 | 2.775 % v/v |
| 3) | Carbon Monoxide | 3.05f | 434367 | 2.700 % v/v |
| 4) | Methane | 5.67f | 294661 | 2.104 % v/v |
| 5) | Carbon dioxide | 9.28 | 528109 | 2.609 % v/v |

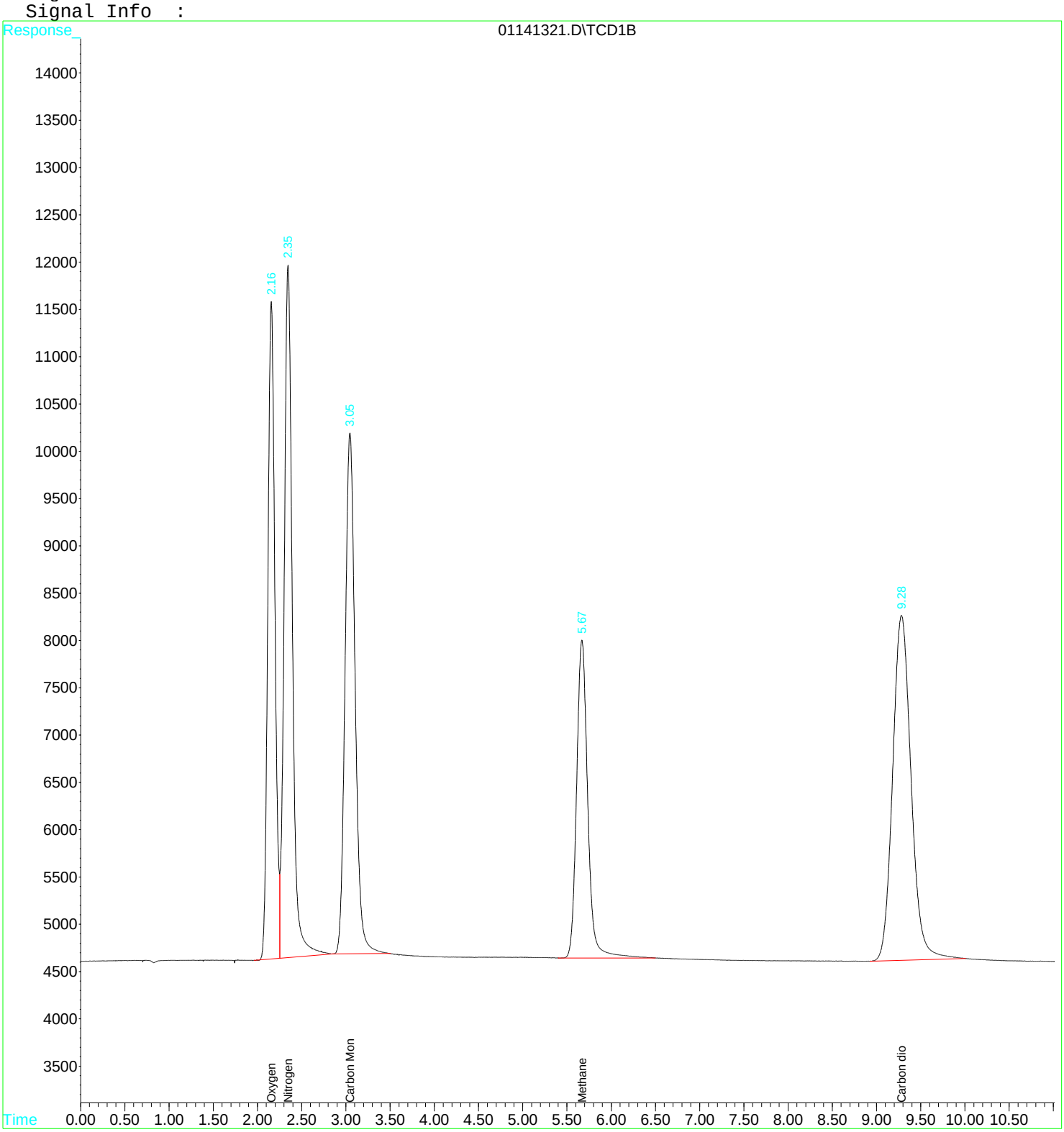
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\2\DATA\011413\01141321.D Vial: 1
Acq On : 14 Jan 2013 5:15 pm Operator:
Sample : CCV-011413 TCD-C Inst : GC/TCD
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Jan 14 17:27 2013 Quant Results File: 122712.RES

Quant Method : C:\HPCHEM\2\METHODS\122712.M (Chemstation Integrator)
Title :
Last Update : Mon Jan 14 13:11:57 2013
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

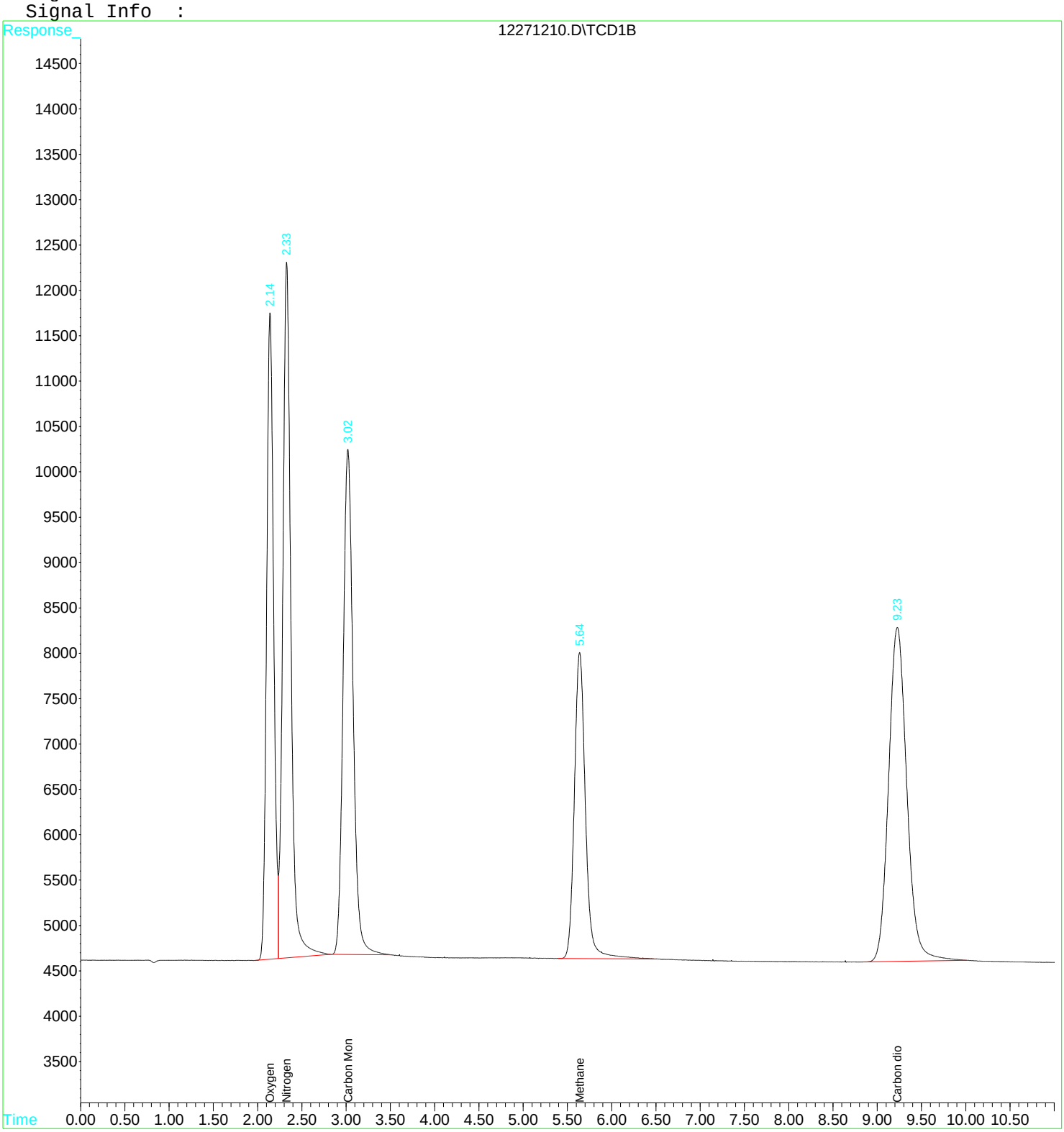
Volume Inj. :
Signal Phase :
Signal Info :

| | 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 :